

## 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.

### Strawberry Mansion High School

Governance	DISTRICT	Report Type	High
Address	3133 Ridge Ave. Philadelphia, Pa 19121	Enrollment	332
Phone/Fax	215-684-5089 / 215-684-5380	Grade Range	'09-12'
Website	Www.Philasd.Org/Schools/Strawberry	Admissions Category	Neighborhood
		Turnaround Model	Turnaround

### Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 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
<b>Overall</b>	<b>29.41%</b>	<b>\$36,778,748</b>	<b>\$125,062,797</b>
Building	29.47 %	\$36,458,604	\$123,708,870
Grounds	23.65 %	\$320,143	\$1,353,927

### Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
<b>Roof</b> (Shows physical condition of roof)	00.00 %	\$0	\$2,344,840
<b>Exterior Walls</b> (Shows condition of the structural condition of the exterior facade)	05.86 %	\$630,457	\$10,756,800
<b>Windows</b> (Shows functionality of exterior windows)	00.00 %	\$0	\$6,852,480
<b>Exterior Doors</b> (Shows condition of exterior doors)	41.26 %	\$119,172	\$288,840
<b>Interior Doors</b> (Classroom doors)	87.28 %	\$817,148	\$936,240
<b>Interior Walls</b> (Paint and Finishes)	00.00 %	\$0	\$2,982,470
<b>Plumbing Fixtures</b>	00.00 %	\$0	\$3,366,480
<b>Boilers</b>	10.11 %	\$470,082	\$4,648,830
<b>Chillers/Cooling Towers</b>	62.35 %	\$3,800,523	\$6,095,520
<b>Radiators/Unit Ventilators/HVAC</b>	40.95 %	\$4,383,579	\$10,704,510
<b>Heating/Cooling Controls</b>	136.09 %	\$4,574,602	\$3,361,500
<b>Electrical Service and Distribution</b>	123.67 %	\$2,987,095	\$2,415,300
<b>Lighting</b>	41.01 %	\$3,541,581	\$8,635,320
<b>Communications and Security</b> (Cameras, Pa System and Fire Alarm)	05.83 %	\$188,495	\$3,234,510

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

# **S414001;Strawberry Mansion and Hill**

Final

## **Site Assessment Report**

February 1, 2017



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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 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):	249,000
Year Built:	1964
Last Renovation:	
Replacement Value:	\$125,062,797
Repair Cost:	\$36,778,747.57
Total FCI:	29.41 %
Total RSLI:	63.44 %



### Description:

Facility Assessment

October 2015

**School District of Philadelphia**  
**Strawberry Mansion High School**  
**3133 Ridge Avenue**  
**Philadelphia, PA 19132**

249,000 SF / 1,762 Students / LN 04

The Strawberry Mansion High School identified as B414001 is located on the southern section of the campus that includes the high school and the Leslie Pinckney Hill School. Leslie Pinckney will not be included in this report.

Currently shaped like an asymmetrical U, the southern and eastern sections were built in 1964. The industrial design of the L-shaped, concrete- and steel-framed building includes brick facades with a concrete foundation. The northern wing has four stories and the southern wing a single story above a shared basement level. A two-story, post-and-beam Modern connection to Leslie Pinckney from the southwest corner was added later.

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The main entrance faces the Southwestern exterior facing the small plaza shared by Leslie and the high school. This School serves students in grades 9 to 12. This school consist of four stories and a full basement with a total gross square footage of 249,000 GSF.

This school has several classrooms, a library, kitchen and student commons, Gym, Auditorium and cafeteria, with supporting administrative spaces. Specially note the existing paintings on the inside of the school near the entrances and administrative hallway.

The information for this report was collected during a site visit on October 1, 2015.

Mr. Rudy Helton, Building Engineer, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Ms. Linda Cliatt-Wayman, Principal, also participated in the interview and shared information about the school with the assessment team.

### **Architectural / Structural Systems**

The superstructure is a combination of masonry and steel support. The concrete floor and metal decking roof construction is in good condition and no recommendations are warranted at this time.

The main entrance of this school faces Ridge Avenue and there are several supporting egress paths and secondary entrances that face both West Dauphin Street and North Thirty-First Street.

The basement and sub-basement mechanical space is showing signs of structural issues as a result of massive water infiltration. The Sub-Basement is completely submerged and the basement level ranges between 1 to 3 inches of water throughout. As indicated in the photos the concrete finish is showing signs of severe damage as a result of the infiltration. This deficiency provides a budgetary consideration to repair the concrete finishes. This deficiency is expected to completed only after the recommended study is complete and the work is expected to be coordinated as part of an overall effort to restore the basement and sub-basement areas.

The built-up roofing system was installed in 2005 and is in very good condition. There were no reported issues during the time of the inspection therefore no recommendations are required for the roof at this time.

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

The exterior brick finish is in very good condition and makes up a major portion of the exterior finish. During the time of the inspection it was reported that the finish was selectively point and tuckered within the past ten years. There were no issues that surfaced therefore no recommendations for the brick finish at this time.

The elevated classrooms on the Northern section of the school are supported with custom concrete columns. The area is in good condition with a few minor exceptions such as the E.F.I.S. finish that acts as the ceiling to this covered student common area under the elevated section of this school. As indicated in the photos repairs were underway at one time however the work appears to have stopped. This deficiency provides a budgetary consideration for repair and resurfacing of the E.F.I.S. finish.

The exterior window application is a double pane aluminum framed weather guard unit. This system is in good condition and is expected to have a life cycle that exceeds the purview of this report. There are no recommendations required for the exterior windows at this time.

The loading dock exterior overhead door system is damaged. The protective safety devices have been damaged and no longer function. The doors themselves are damaged and one opens only partially, overall they are in poor condition. This deficiency recommends that the doors be removed and replaced with modern advanced performance in commercial and industrial applications where climate control, durability and ease of maintenance are primary concerns such as a loading dock with a primary purpose of food supply for the students.

A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. Some of the corridor doors in the hallways have been removed to support security. Others are void as they are held open with interior hardscape plants. The existing 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.



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There are several movable partitions that remain in classrooms such as the system in room 412. 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.

Interior doors are typically wood in metal frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways. Doors are generally in good condition considering the age of the application. However, the wooden doors are breaking down as the finish is peeling from several of the doors. Others have had locksets damaged and removed leaving the holes and new holes and locksets added. It appears as if modifications to each door due to abuse or security has added to the condition issues. With this in mind 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.

Several of the interior service doors located mainly in the basement and sub-basement level are rusted and damaged. The doors no longer can support the design fire rating required for such spaces. This system is in very poor condition and universal upgrades are recommended. Remove and replace each service door with a suitable replacement to meet current requirements. This deficiency is expected to be completed as part of an effort to reclaim the basement and sub-basement areas of this school.

There are several tack boards in the hallways and classrooms for student displays. As indicated in the photos these boards are damaged either from age or abuse. Overall the systems are beyond the expected service life for this application. Remove and replace tack boards is recommended.

This school has both chalk and white boards in the classrooms that are current. There are no project or recommendations required the chalk boards at this time.

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

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

The interior wall finishes mainly consist of a painted CMU finish however, there are small sections of wall tile and a main lobby with marble walls. The auditorium has a section with limited wooden wall finish and a small section of wooden ceiling panels near the stage area. Other ceilings are painted plaster or drywall while in the mechanical spaces and gyms the ceilings are unfinished. The interior wall and ceiling finishes are well maintained and are in good condition. There are no recommendations required at this time.

The floor finish for this school is a combination of carpet in the administrative area, Terrazzo in the lobby, tile in the kitchen and service line areas, vinyl tile classrooms and hallways with a few concrete hallways and classrooms. Overall the floor finishes are in good condition and there were no reported issues during the time of the inspection. However, suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

The High School Gyms has a wooden floor finish that appears to be in good condition. There were no issues that surfaced during the time of the inspection. There are no recommendations for the wooden floor finish in the Gyms. The small section of wooden floor finish on the stage is well maintained and in good condition. There are no recommendations for the stage floor finish required at this time.

The ceiling finish is a combination of 12x12 splined, painted plaster or drywall and exposed conditions. The ceiling finish is in good condition and there are no recommendations required at this time.

The loading dock is located on the North Thirty-First Street and has a small concrete drive that leads to two overhead doors. The doors are recommended for upgrade in this report. The loading dock area is not clearly marked and safety barriers are required to be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies. This deficiency provides a budgetary consideration to add the safety barriers and modify the loading dock.

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

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

Fixed equipment in this school such as the scoreboards and backboards are in good condition. There are no recommendations 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. Most lavatories have dual wheel handle faucets and urinals and water closets have manual lever recessed flush valves. Custodial closets have cast iron service sinks or mop basins. There are some stainless steel s counter top sinks and newer science classrooms with integral lab equipment sinks and some emergency eyewash/showers. There are dual level stainless steel water coolers with integral refrigeration and china drinking fountains with no refrigeration. There is a grease trap in the basement to receive kitchen waste. Water heating is provided by four gas Paloma instantaneous water heaters in the basement mechanical room, each with a small inline circulating pump and a common inline recirculating pump for the distribution system. There is an Alyan triplex domestic water booster pump system. The domestic water installation includes a water softener system. Four older duplex sump pumps are located in various portions of the mechanical room. There is a significant problem with ground water infiltration through the walls into the mechanical room, with some standing water in areas and rusted electrical panels and other exposed metal surfaces.

Water piping is original installation 1964 rigid copper. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron, with some hubless cast iron where additions or damage has occurred. The water service is a six inch line and meter with backflow preventer from Ridge Ave. Gas service is a four inch line connected at Ridge Ave. The water and gas meters are in a space adjacent to the mechanical room. Gas piping is galvanized with threaded fittings.

The water heaters and domestic booster pump system should be serviceable up to fifteen more years. Domestic water piping should be replaced based on age and normal service life. Sanitary and waste piping should be inspected and repaired or replaced as required. Plumbing fixtures should be serviceable twenty five more years.

**HVAC-**The building is heated by steam generated by four HB Smith cast iron sectional boilers. The boilers are model Mills 650 oil fired three hundred fifty hp each installed in 1980. Each unit has a Powerflame burner and control panel, separate oil pump and is connected to a common field fabricated vent system routed through an existing chimney to a roof cap. One of the boilers is inoperable and has damage with the breeching separated from the unit. There are two steel oil tanks in a space adjacent to the mechanical room within a concrete block enclosure, capacity and condition unknown. A duplex fuel oil pump system in the mechanical room provides circulation. Four older boilers and several tanks and air compressors are abandoned in adjacent spaces. A Shipco condensate return and boiler feed unit serves the boilers.

There are unit ventilators in classrooms and some other area, installed in 2007. The units have steam heating coils and include outside air damper, filter, blower and motor, control valve and controls. Steam radiation units are located at entrances, toilet rooms, and other areas requiring heat. Single zone air handling units provide heating and ventilation to larger spaces in the building. There is a mezzanine mechanical room adjacent to the main lobby that houses several older units and a mechanical room near the culinary kitchen that contains two suspended Carrier units, installed in 2007. These units serve the culinary dining and kitchen area. One unit is missing a belt (AH-4). The computer lab and IMC each have a horizontal Carrier unit above the ceiling. These units were also installed in 2007, and all four newer Carrier units have a DX cooling coil with condensing units on a low roof. The mezzanine mechanical space consists of two long rooms with a common corridor between them. The corridor serves as an outside air plenum with louvers and dampers at each end. There are five air handling units in one room and seven in the other room and six floor mounted utility fan sets in these two mechanical rooms. The units that are labeled indicate they serve boys and girls gyms, boys and girls locker rooms and the auditorium. Reportedly these are the only five units that are utilized. The fans provide toilet and locker room exhaust. These fans and air handling units are all from the original 1964 installation. Most air handling units are missing belt guards.

There is no central air conditioning. In addition to the DX split systems described previously the building has some window air conditioners and ductless split systems for the IT room and security office with the condensing units mounted on the exterior wall and the low roof. The main kitchen has an exhaust only hood with fire suppression system. The culinary kitchen has a grease exhaust



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hood with fire suppression, a steam removal hood above the dishwasher and a heat removal hood above warming equipment. The boiler room has two combustion air louvers with motorized dampers for combustion air. Approximately ten centrifugal roof ventilators provide toilet exhaust and fume hood exhaust.

Steam and condensate return piping is insulated welded black steel. Fuel oil piping is black steel with screwed fittings. All piping is from the original 1964 installation. The steam piping reportedly has widespread leaks above 3 psig operating pressure and should be replaced.

There are old pneumatic control systems with a duplex controls air compressor in the mechanical room. Boilers are individually controlled by the burner control panels. The four Carrier newer air handling units have direct digital controls, but there is no central automation system.

The boilers and boiler feed unit should be scheduled for replacement during the next five years. The unit ventilators have remaining service life of fifteen to twenty years. The steam piping system should be replaced. The twelve single zone air handling units in the mezzanine mechanical rooms have exceeded the service life and should be replaced. A new direct digital control and building automation system should be installed.

**FIRE PROTECTION-** There are standpipes in stairwells with fire hose connections and exterior fire department connections. There are sprinklers only in a fifth level former shop area.

### **ELECTRICAL SYSTEMS**

**Electrical Service--**The building is served by a 13.2 kV underground service from PECO Energy Company from W. Dauphin Street to a line circuit breaker located and metering compartment in Basement Room 005, which feeds two 1000 kVA, 13.2 kV-208/120V substations, one for LP Hill School and one for Strawberry Mansion High School. Each substation has a 3000A main circuit breaker section and three distribution sections. The substations are original 1964 equipment, except for the 1000 kVA Schaffnermtc transformer in each substation, which was replaced in 2014. Both substations have exceeded their useful life expectancy and need to be replaced.

The Strawberry Mansion substation feeds power and lighting distribution panelboards, boiler room panelboard and three elevators. Most of panelboards in the Boiler Room and Main Electrical Room are obsolete or have exceeded their useful life and need to be replaced, including (5) 600A Distribution Panelboards, (2) 400A Distribution Panelboards, (2) 225A Panelboards, and (4) 100A Panelboards. There are also (8) 225A Panelboards and (36) 100A Panelboards located in corridors, gymnasiums and cafeteria that also have reached the end of their useful life.

Distribution Panelboards AP01AR, AP01AL, AP02AR and AP02AL in the Boiler Room are located on an exterior wall and their enclosures are corroding, even though they are less than 10 years old. Distribution Panelboard AP02AR enclosure has rusted through at the bottom and should be replaced to avoid premature equipment replacement. The remaining three panelboards should be cleaned, primed and painted after wall repairs are completed.

The motor control center in the fan room serving the gymnasiums and auditorium was installed in 2006 and has an estimated remaining useful life of over 20 years.

**Receptacles--** Most classrooms are typically supplied with only a few duplex receptacles and are not adequate. Additional duplex receptacles should be provided in each classroom using surface metal raceway and spaced along all walls to eliminate the use of extension cords to connect equipment. There are approximately 20 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 for protection of personnel.

Computer rooms and science labs on the Second Floor have been upgraded and provided with adequate receptacles. Receptacles located at lab benches with sinks in science rooms are GFCI type.

**Lighting—**Except for those areas that have been renovated, all 4 foot fluorescent fixtures have T12 lamps, which are now obsolete. Spaces that have updated lighting fixtures with T8 lamps include Culinary Arts, IMC, Main Office, some corridors on the First Floor, and some computer rooms and science labs on the Second Floor. Approximately, 202,000 SF, or 81% of building area still needs to have a lighting system upgrade.

Corridors, classrooms, stairwells and restrooms generally have surface mounted fluorescent wraparound fixtures with acrylic prismatic lenses. Typically, there are multiple light switches in each classroom. There are no occupancy sensors in classrooms for lighting

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control.

The auditorium has quartz downlights and LED fixtures. There are four (4) rows of theatrical electrics above the stage that need to be replaced. Stage and auditorium lighting is controlled by a Federal Pacific Electric 600A dimmer board located on stage right. The theatrical dimming system has served its useful life and needs to be replaced.

Lighting in the kitchen has surface mounted vapor-tight fluorescent fixtures. The kitchen office, food prep area and dining room have fluorescent lensed wraparound fixtures with T12 lamps.

The Boiler Room and Main Electrical Room has industrial fluorescent fixtures with T12 lamps. There are also incandescent fixtures in the Boiler Room and at the entrance to elevator machine rooms.

The two gymnasiums have stem mounted 400W metal halide industrial fixtures that are in good condition with a remaining useful life of 5 to 8 years. Lighting fixtures in the locker rooms, locker room restrooms and weight room are industrial fluorescent with (2) T12 lamps. Fixtures are in poor condition, with many not illuminated.

Wall mounted lighting fixtures are located above the doors at exit discharges and ceiling mounted fixtures under the canopy at the main entrance. The compact fluorescent fixtures with wire guards under the canopy at the main entrance should be replaced with vandal-resistant for aesthetics, improved energy efficiency and reduced maintenance costs. Building mounted high intensity discharge (HID) wall-pack lighting fixtures provide area illumination of the site. HID fixtures are also mounted on the underside of the Second Floor at the north end of building. Exterior lighting fixtures are controlled by time clocks.

Fire Alarm System-- The fire alarm system is an addressable type by General Electric, Edwards EST 3. The fire alarm control panel (FACP) is located in the Main Electrical Room, with a remote annunciator panel located in Security Office Room 010. The system includes smoke detectors in elevator lobbies and machine room, and manual pull stations and audible and visual notification appliances. A remote fire alarm annunciator panel is provided in the Main Office. There are only a few classrooms that have notification appliances, most do not. It is recommended that the FACP be upgraded to accommodate the several notification appliances that need to be added in classrooms, conference rooms and multi-occupant rooms.

Telephone/LAN-- A telephone and data outlet is provided in each classroom. Wireless access points are provided in classrooms and as needed for complete Wi-Fi coverage throughout the entire school. The Main Distribution Frame (MDF) is located in a room inside the Main Office. There are also two Intermediate Distribution Frames (IDFs) on each floor to serve the classrooms. Each computer room also has its own wall mounted data hub.

Public Address/Paging/Sound Systems-- The paging system is accessed through the telephone system via 250W amplifiers and zone controls located in the MDF. Each classroom has a wall mounted or recessed ceiling paging speaker. There are also ceiling or wall mounted speakers in corridors paging speakers in corridor ceilings. This system is estimated to have 15 years of useful life remaining. A portable sound system is used in the auditorium; there is no permanent sound system.

Clock and Program System--The original speaker in the combination clock/speaker assembly in classrooms is obsolete and has been abandoned in place. The speakers were replaced with either ceiling recessed or wall mounted speakers. The analog clocks in the clock/speaker assembly and throughout the school are Primex battery wireless GPS clocks that are synchronized by a Primex transmitter.

Television System-- There is television distribution system in the classrooms.

Video Surveillance and Security Systems-- Interior video surveillance cameras provide coverage of all corridors, auditorium, gymnasium, cafeteria and stairwells. Exterior cameras are building mounted and provide coverage of the main entrance, east side and school yard. There are a total of 89 surveillance cameras that are monitored on six (6) monitors in the Security Office Room 010, which houses the video surveillance equipment and six (6) digital video recorders. Motion sensors are provided in corridors to monitor activity/intrusion. Only some exterior doors are provided with magnetic door contacts to detect ingress/egress. Video surveillance system equipment is in good condition.

Emergency Power System--There is a Generac 100 kW/125 kVA, 208/120V, 3 phase, 4 wire standby generator with natural gas fuel supply and Generac GTS, 105A automatic transfer switch (ATS) located in Basement Room 005 that powers 208/120V emergency and standby power loads served by Normal Panel ED and Emergency Panel ED. The generator was installed in 1989 and has logged 540 hours of operation. The generator and ATS should be scheduled for renewal in 2020.

There is a separate Cummins generator set located on the north side of the building with weatherproof housing in a fenced enclosure

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that feeds Infrastructure Technology Core Site equipment via a 400A Cummins bypass/isolation ATS and 45 kVA isolation transformer located in Basement 005. This equipment was installed in 2011 and has a remaining useful life of 16 years.

Emergency Lighting System / Exit Lighting—Emergency egress lighting and exit signs are served from six (6) normal-emergency lighting panelboards that are fed from Normal Panel ED and Emergency Panel ED connected to the standby power system. All of these panelboards were installed in 1989 and will reach the end of their useful life within 5 years.

Except in a few locations that have been remodeled, exit signs have reached the end of their useful life, with many showing signs of damage or age. Exit signs located in classroom corridors on floors 2 through 5 are back mounted above the stairwell doors and not visible when looking down the corridors. Many exit signs need to be provided in classroom corridors. All existing exit signs should be replaced with vandal-resistant LED type.

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

Conveying Systems--There are three (3) 12,000 pound capacity Security Elevator electric traction passenger elevators in the building. Elevator 1 is at the north end, Elevator 2 in the center, and Elevator at the south end. The elevator MCE controllers and cabs have been updated, and the elevator hoist machines are original 1964, but have been well maintained. It is estimated that the elevators have 8 to 10 years of useful life remaining before modernization and upgrade.

### GROUNDS

The sidewalks and the concrete paving is in fair condition. Most of the concrete paving is under the Northern elevated section of the school. The general sidewalks are along the street side and not considered to be a part of this assessment.

The parking lots are in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a parking lot renewal program that includes all aspects of the current ADA legislation. Universal upgrades are recommended.

The site fence is in fair condition with no issues. However, the fence gates have been removed as part of an open campus effort under different administration. There are no recommendations considering the current condition and purpose of the site fence system.

Site Lighting— Site lighting is provided by wall mounted HID lighting fixtures on the building that are aimed to illuminate the site. There are no pole mounted lighting fixtures on the site. Since the distance between the north wing of Strawberry Mansion and LP Hill School is approximately 275 feet, it is recommended that additional site lighting be provided to illuminate the parking lot using two (2) light poles, each with four (4) LED floodlighting luminaires. The site lighting would be time clock controlled.

### RECOMMENDATIONS

- Replace auditorium seating
- Study water intrusion in basement and design a remediation solution
- Remove and replace stage curtain
- Loading dock equipment upgrade
- Remove VAT and replace with VCT
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Remove and replace tackboards
- Remove and replace service doors
- Upgrade classroom doors
- Upgrade exterior doors
- Upgrade corridor doors
- Remove folding wood partitions
- E.F.I.S. Repair
- Repair Basement concrete walls
- Upgrade asphalt parking area
- Remove the existing window air conditioning units and install air-cooled chillers on the roof with chilled water distribution piping, pumps, chemical treatment and controls located in a mechanical room on the basement level. Total capacity 600 tons.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.

## Site Assessment Report - S414001;Strawberry Mansion and Hill

- Replace twelve air handling units in mezzanine mechanical rooms with new central station air handling units with steam and chilled water coils, filters, outside and return air dampers, valves and controls, blowers and motors. Connect to existing duct systems, steam and chilled water systems and control system.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Install two new eight thousand gallon exterior oil storage tanks on grade to replace indoor storage tanks.
- Replace incoming line circuit breaker, load interrupter switch and 3000A main switchboard with three distribution sections and 12 feeder circuit breakers that serves LP Hill School.
- Replace load interrupter switch and 3000A main switchboard with three distribution sections and 11 feeder circuit breakers that serves Strawberry Mansion High School.
- Replace electrical distribution equipment in the Main Electrical Room and Boiler Room that is obsolete or has exceeded its useful life, including (5) 600A Distribution Panelboards, (2) 400A Distribution Panelboards, (2) 225A Panelboards, and (4) 100A Panelboards.
- Replace (8) 225A Panelboards and (36) 100A Panelboards located in corridors, gymnasiums and cafeteria that have reached the end of their useful life. Replacement to include panelboard feeder conductors.
- Distribution Panelboards AP01AR, AP01AL, AP02AR and AP02AL in the Boiler Room are located on an exterior wall and their enclosures are corroding. Replace enclosure for Distribution Panelboard AP02AR and clean, prime and paint the remaining three distribution panelboards after wall repairs are completed.
- Add surface raceway system with 4 to 6 duplex receptacles in each classroom that does not have an adequate number of receptacles (estimate total of 68 classrooms).
- Replace approximately 20 duplex receptacles in the kitchen with ground-fault circuit-interrupting (GFCI) type receptacles to comply with National Electrical Code (NEC) Article 210.8 for protection of personnel.
- Provide lighting system upgrade for an estimated 202,000 SF (81%) of building area that has fluorescent fixtures with obsolete T12 lamps.
- Replace theatrical lighting system on the stage in the auditorium and the 600A theatrical dimmer board.
- Replace 16 surface mounted compact fluorescent fixtures under the canopy at the main entrance with vandal-resistant LED fixtures for improved energy efficiency and reduced maintenance costs.
- Provide fire alarm system control panel upgrade and a fire alarm notification appliance in each classroom, conference room and multiple occupancy room that does not have an appliance (estimate adding 85 notification appliances).
- Replace standby 100 kW generator and automatic transfer switch within 3 to 5 years.
- Replace all exit signs with vandal-resistant LED type exit signs. Provide additional exit signs in corridors on classroom floors so that signage is visible in corridors. Estimate 105 exit signs.
- Provide two (2) light poles, each with four (4) LED floodlighting luminaires on the north side of the building between the north wing of Strawberry Mansion and LP Hill School to provide better illumination of the parking lot. The site lighting would be time clock controlled.

### Attributes:

#### General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S414001		

## 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.

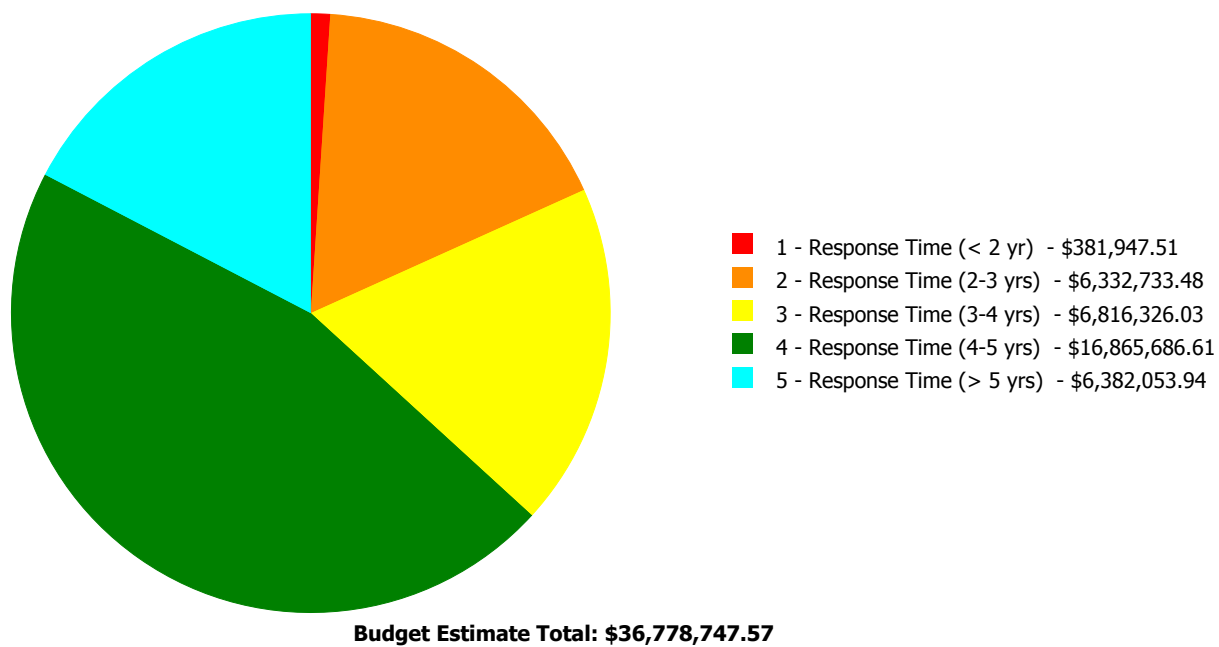
### Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	49.00 %	3.50 %	\$283,035.04
A20 - Basement Construction	49.00 %	141.84 %	\$5,039,748.52
B10 - Superstructure	49.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	53.38 %	4.19 %	\$749,628.86
B30 - Roofing	50.03 %	0.00 %	\$0.00
C10 - Interior Construction	40.23 %	24.06 %	\$1,659,816.20
C20 - Stairs	40.97 %	11.95 %	\$46,708.38
C30 - Interior Finishes	67.03 %	13.43 %	\$1,516,666.80
D10 - Conveying	28.57 %	0.00 %	\$0.00
D20 - Plumbing	75.07 %	43.76 %	\$2,116,269.49
D30 - HVAC	78.30 %	53.32 %	\$13,228,786.69
D40 - Fire Protection	100.72 %	177.49 %	\$3,562,056.18
D50 - Electrical	97.21 %	47.26 %	\$6,916,976.75
E10 - Equipment	34.29 %	10.64 %	\$421,724.03
E20 - Furnishings	30.00 %	172.93 %	\$917,187.40
G20 - Site Improvements	40.50 %	20.93 %	\$236,192.97
G40 - Site Electrical Utilities	80.48 %	37.25 %	\$83,950.26
<b>Totals:</b>	<b>63.44 %</b>	<b>29.41 %</b>	<b>\$36,778,747.57</b>

### 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)
B414001;Strawberry Mansion	249,000	29.47	\$381,947.51	\$6,332,733.48	\$6,496,182.80	\$16,865,686.61	\$6,382,053.94
G414001;Grounds	85,700	23.65	\$0.00	\$0.00	\$320,143.23	\$0.00	\$0.00
<b>Total:</b>		<b>29.41</b>	<b>\$381,947.51</b>	<b>\$6,332,733.48</b>	<b>\$6,816,326.03</b>	<b>\$16,865,686.61</b>	<b>\$6,382,053.94</b>

### Deficiencies By Priority





## 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:	High School
Gross Area (SF):	249,000
Year Built:	1964
Last Renovation:	
Replacement Value:	\$123,708,870
Repair Cost:	\$36,458,604.34
Total FCI:	29.47 %
Total RSLI:	63.62 %



### Description:

#### Attributes:

##### General Attributes:

Active:	Open	Bldg ID:	B414001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S414001		

## 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	49.00 %	3.50 %	\$283,035.04
A20 - Basement Construction	49.00 %	141.84 %	\$5,039,748.52
B10 - Superstructure	49.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	53.38 %	4.19 %	\$749,628.86
B30 - Roofing	50.03 %	0.00 %	\$0.00
C10 - Interior Construction	40.23 %	24.06 %	\$1,659,816.20
C20 - Stairs	40.97 %	11.95 %	\$46,708.38
C30 - Interior Finishes	67.03 %	13.43 %	\$1,516,666.80
D10 - Conveying	28.57 %	0.00 %	\$0.00
D20 - Plumbing	75.07 %	43.76 %	\$2,116,269.49
D30 - HVAC	78.30 %	53.32 %	\$13,228,786.69
D40 - Fire Protection	100.72 %	177.49 %	\$3,562,056.18
D50 - Electrical	97.21 %	47.26 %	\$6,916,976.75
E10 - Equipment	34.29 %	10.64 %	\$421,724.03
E20 - Furnishings	30.00 %	172.93 %	\$917,187.40
<b>Totals:</b>	<b>63.62 %</b>	<b>29.47 %</b>	<b>\$36,458,604.34</b>

### 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	\$27.30	S.F.	249,000	100	1964	2064		49.00 %	0.00 %	49			\$6,797,700
A1030	Slab on Grade	\$5.17	S.F.	249,000	100	1964	2064		49.00 %	21.99 %	49		\$283,035.04	\$1,287,330
A2010	Basement Excavation	\$4.36	S.F.	249,000	100	1964	2064		49.00 %	0.00 %	49			\$1,085,640
A2020	Basement Walls	\$9.91	S.F.	249,000	100	1964	2064		49.00 %	204.24 %	49		\$5,039,748.52	\$2,467,590
B1010	Floor Construction	\$85.34	S.F.	249,000	100	1964	2064		49.00 %	0.00 %	49			\$21,249,660
B1020	Roof Construction	\$14.39	S.F.	62,000	100	1964	2064		49.00 %	0.00 %	49			\$892,180
B2010	Exterior Walls	\$43.20	S.F.	249,000	100	1964	2064		49.00 %	5.86 %	49		\$630,457.05	\$10,756,800
B2020	Exterior Windows	\$27.52	S.F.	249,000	40	2000	2040		62.50 %	0.00 %	25			\$6,852,480
B2030	Exterior Doors	\$1.16	S.F.	249,000	25	1990	2015		0.00 %	41.26 %	0		\$119,171.81	\$288,840
B3010105	Built-Up	\$37.76	S.F.	62,000	20	2005	2025		50.00 %	0.00 %	10			\$2,341,120
B3020	Roof Openings	\$0.06	S.F.	62,000	30	2005	2035		66.67 %	0.00 %	20			\$3,720
C1010	Partitions	\$21.05	S.F.	249,000	100	1964	2064		49.00 %	13.66 %	49		\$716,139.99	\$5,241,450
C1020	Interior Doors	\$3.76	S.F.	249,000	40	1964	2004	2020	12.50 %	87.28 %	5		\$817,147.81	\$936,240
C1030	Fittings	\$2.90	S.F.	249,000	40	1964	2004	2020	12.50 %	17.52 %	5		\$126,528.40	\$722,100
C2010	Stair Construction	\$1.18	S.F.	249,000	100	1964	2064		49.00 %	15.90 %	49		\$46,708.38	\$293,820
C2020	Stair Finishes	\$0.39	S.F.	249,000	30	1964	1994	2020	16.67 %	0.00 %	5			\$97,110
C3010230	Paint & Covering	\$13.21	S.F.	220,000	10	1964	1974	2027	120.00 %	0.00 %	12			\$2,906,200
C3010232	Wall Tile	\$2.63	S.F.	29,000	30	1964	1994	2027	40.00 %	0.00 %	12			\$76,270

# Site Assessment Report - B414001;Strawberry Mansion

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 \$
C3020411	Carpet	\$7.30	S.F.	3,000	10	2014	2024	2027	120.00 %	0.00 %	12			\$21,900
C3020412	Terrazzo & Tile	\$75.52	S.F.	10,000	50	1964	2014	2027	24.00 %	0.00 %	12			\$755,200
C3020413	Vinyl Flooring	\$9.68	S.F.	200,000	20	1964	1984	2027	60.00 %	78.34 %	12		\$1,516,666.80	\$1,936,000
C3020414	Wood Flooring	\$22.27	S.F.	16,000	25	1964	1989	2027	48.00 %	0.00 %	12			\$356,320
C3020415	Concrete Floor Finishes	\$0.97	S.F.	20,000	50	1964	2014	2027	24.00 %	0.00 %	12			\$19,400
C3030	Ceiling Finishes	\$20.97	S.F.	249,000	25	1964	1989	2027	48.00 %	0.00 %	12			\$5,221,530
D1010	Elevators and Lifts	\$1.28	S.F.	249,000	35	1964	1999	2025	28.57 %	0.00 %	10			\$318,720
D2010	Plumbing Fixtures	\$13.52	S.F.	249,000	35	2005	2040		71.43 %	0.00 %	25			\$3,366,480
D2020	Domestic Water Distribution	\$1.68	S.F.	249,000	25	1964	1989	2042	108.00 %	247.57 %	27		\$1,035,615.99	\$418,320
D2030	Sanitary Waste	\$2.32	S.F.	249,000	30	1964	1994	2047	106.67 %	187.07 %	32		\$1,080,653.50	\$577,680
D2040	Rain Water Drainage	\$1.90	S.F.	249,000	30	1964	1994	2025	33.33 %	0.00 %	10			\$473,100
D3020	Heat Generating Systems	\$18.67	S.F.	249,000	35	1980	2015	2020	14.29 %	10.11 %	5		\$470,081.97	\$4,648,830
D3030	Cooling Generating Systems	\$24.48	S.F.	249,000	30			2047	106.67 %	62.35 %	32		\$3,800,523.21	\$6,095,520
D3040	Distribution Systems	\$42.99	S.F.	249,000	25	2007	2032	2035	80.00 %	40.95 %	20		\$4,383,579.14	\$10,704,510
D3050	Terminal & Package Units	\$11.60	S.F.		20				0.00 %	0.00 %				\$0
D3060	Controls & Instrumentation	\$13.50	S.F.	249,000	20	1964	1984	2037	110.00 %	136.09 %	22		\$4,574,602.37	\$3,361,500
D4010	Sprinklers	\$7.05	S.F.	249,000	35	1964	1999	2050	100.00 %	202.91 %	35		\$3,562,056.18	\$1,755,450
D4020	Standpipes	\$1.01	S.F.	249,000	35	1964	1999	2052	105.71 %	0.00 %	37			\$251,490
D5010	Electrical Service/Distribution	\$9.70	S.F.	249,000	30	1964	1994	2045	100.00 %	123.67 %	30		\$2,987,094.78	\$2,415,300
D5020	Lighting and Branch Wiring	\$34.68	S.F.	249,000	20	1964	1984	2035	100.00 %	41.01 %	20		\$3,541,580.55	\$8,635,320
D5030	Communications and Security	\$12.99	S.F.	249,000	15	1964	1979	2028	86.67 %	5.83 %	13		\$188,494.61	\$3,234,510
D5090	Other Electrical Systems	\$1.41	S.F.	249,000	30	1964	1994	2047	106.67 %	56.91 %	32		\$199,806.81	\$351,090
E1020	Institutional Equipment	\$4.82	S.F.	249,000	35	1964	1999	2027	34.29 %	30.19 %	12		\$362,293.39	\$1,200,180
E1090	Other Equipment	\$11.10	S.F.	249,000	35	1964	1999	2027	34.29 %	2.15 %	12		\$59,430.64	\$2,763,900
E2010	Fixed Furnishings	\$2.13	S.F.	249,000	40	1964	2004	2027	30.00 %	172.93 %	12		\$917,187.40	\$530,370
Total									63.62 %	29.47 %			\$36,458,604.34	\$123,708,870

### 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.

<b>System:</b>	C3010 - Wall Finishes	This system contains no images
<b>Note:</b>	Painted CMU Finish 70% Unfinished walls 15% Custom Painted Finish 5% (Dedicated interior walls for Local Art) Custom Marble wall finish 10%	
<b>System:</b>	C3020 - Floor Finishes	This system contains no images
<b>Note:</b>	Carpet 1% Tile /Terrazzo 4% Vinyl Tile 80% Wood 7% Concrete 8%	
<b>System:</b>	D5010 - Electrical Service/Distribution	This system contains no images
<b>Note:</b>	There is one (1) 1000 kVA substation transformer and two (2) secondary transformers as follows: (1) 112.5 kVA, 208V-480V (1) 45 kVA, 208V-208/120V	



## 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
<b>Total:</b>	<b>\$36,458,604</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8,166,747</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,631,450</b>	<b>\$49,256,802</b>
<b>* A - Substructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>* A10 - Foundations</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A1010 - Standard Foundations</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A1030 - Slab on Grade</b>	\$283,035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$283,035
<b>* A20 - Basement Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A2010 - Basement Excavation</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A2020 - Basement Walls</b>	\$5,039,749	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,039,749
<b>B - Shell</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B10 - Superstructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B1010 - Floor Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B1020 - Roof Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B20 - Exterior Enclosure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B2010 - Exterior Walls</b>	\$630,457	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$630,457
<b>B2020 - Exterior Windows</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B2030 - Exterior Doors</b>	\$119,172	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$119,172
<b>B30 - Roofing</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B3010 - Roof Coverings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B3010105 - Built-Up</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,460,896	\$3,460,896
<b>B3020 - Roof Openings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C - Interiors</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C10 - Interior Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C1010 - Partitions</b>	\$716,140	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$716,140
<b>C1020 - Interior Doors</b>	\$817,148	\$0	\$0	\$0	\$0	\$1,193,895	\$0	\$0	\$0	\$0	\$0	\$2,011,042
<b>C1030 - Fittings</b>	\$126,528	\$0	\$0	\$0	\$0	\$920,823	\$0	\$0	\$0	\$0	\$0	\$1,047,351
<b>C20 - Stairs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

# Site Assessment Report - B414001;Strawberry Mansion

C2010 - Stair Construction	\$46,708	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$46,708
C2020 - Stair Finishes	\$0	\$0	\$0	\$0	\$0	\$123,835	\$0	\$0	\$0	\$0	\$0	\$123,835
C30 - Interior Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010 - Wall Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010230 - Paint & Covering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020411 - Carpet	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020413 - Vinyl Flooring	\$1,516,667	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,516,667
C3020414 - Wood Flooring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3030 - Ceiling Finishes	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$471,166	\$471,166
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2020 - Domestic Water Distribution	\$1,035,616	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,035,616
D2030 - Sanitary Waste	\$1,080,654	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,080,654
D2040 - Rain Water Drainage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$699,388	\$699,388
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$470,082	\$0	\$0	\$0	\$0	\$5,928,195	\$0	\$0	\$0	\$0	\$0	\$6,398,277
D3030 - Cooling Generating Systems	\$3,800,523	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,800,523
D3040 - Distribution Systems	\$4,383,579	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,383,579
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$4,574,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,574,602
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$3,562,056	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,562,056
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	\$2,987,095	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,987,095
D5020 - Lighting and Branch Wiring	\$3,541,581	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,541,581

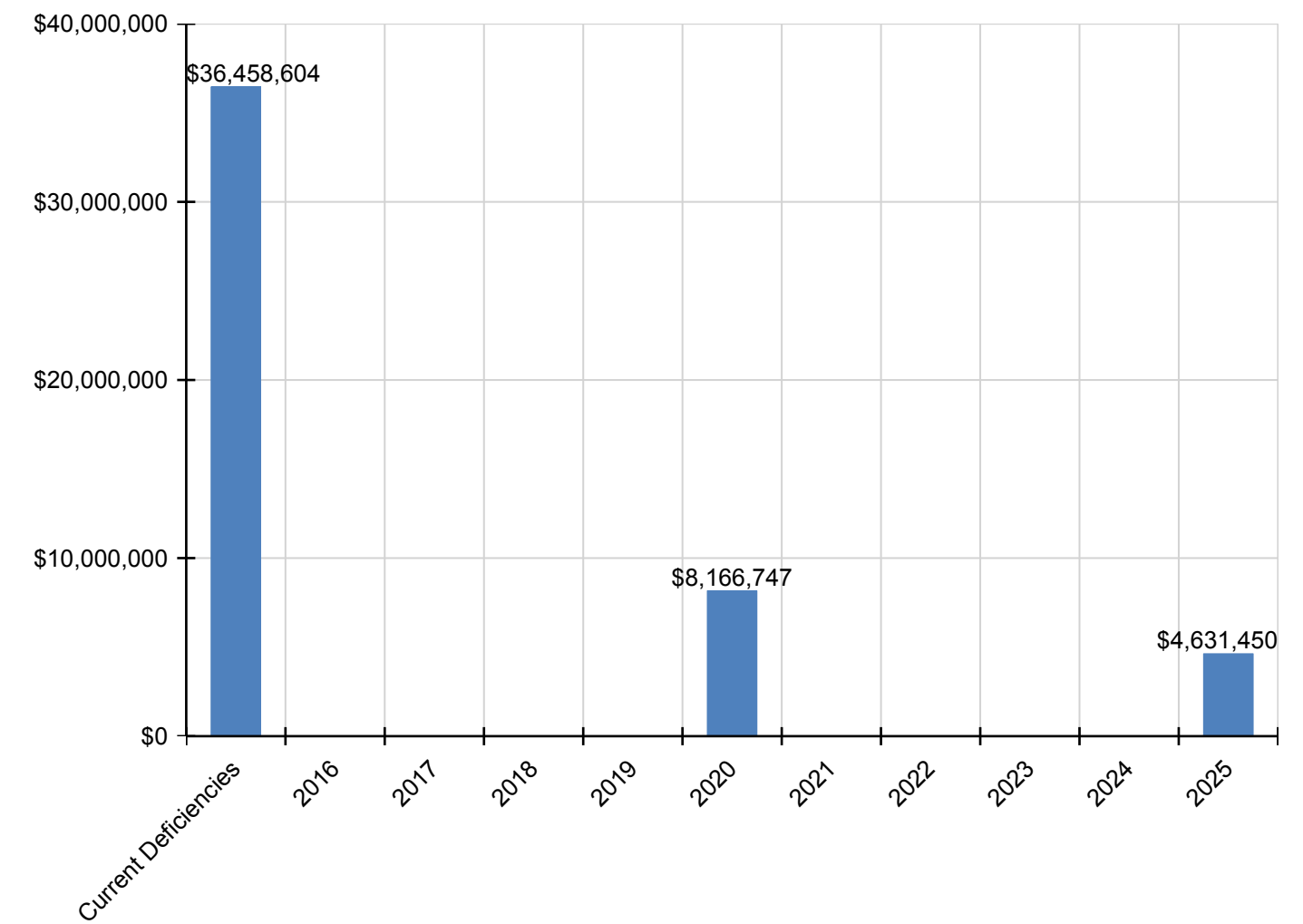
## Site Assessment Report - B414001;Strawberry Mansion

D5030 - Communications and Security	\$188,495	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$188,495
D5090 - Other Electrical Systems	\$199,807	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$199,807
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	\$362,293	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$362,293
E1090 - Other Equipment	\$59,431	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,431
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$917,187	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$917,187

\* Indicates non-renewable system

Forecasted Sustainment Requirement

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

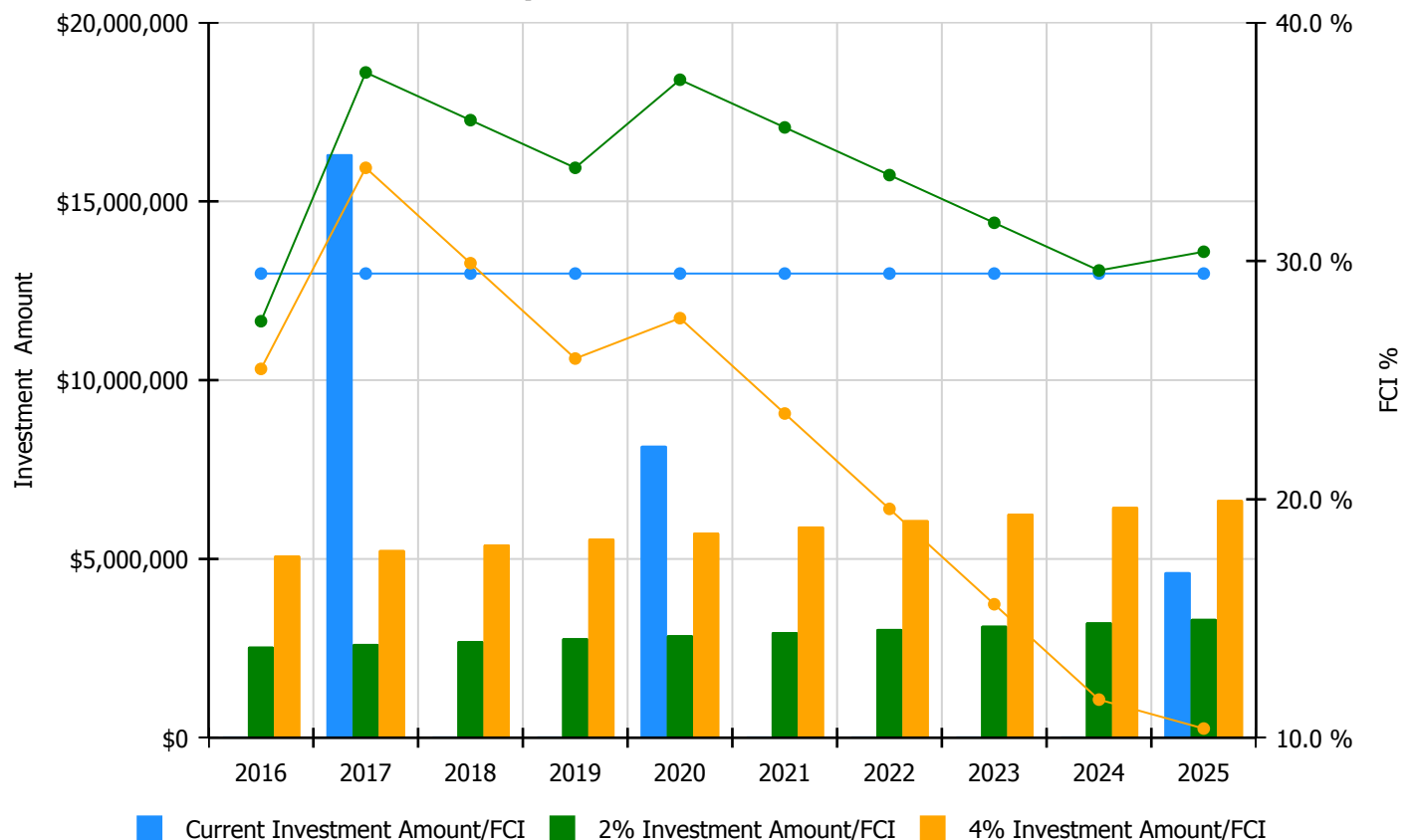


## 10 Year FCI Forecast by Investment Scenario

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

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

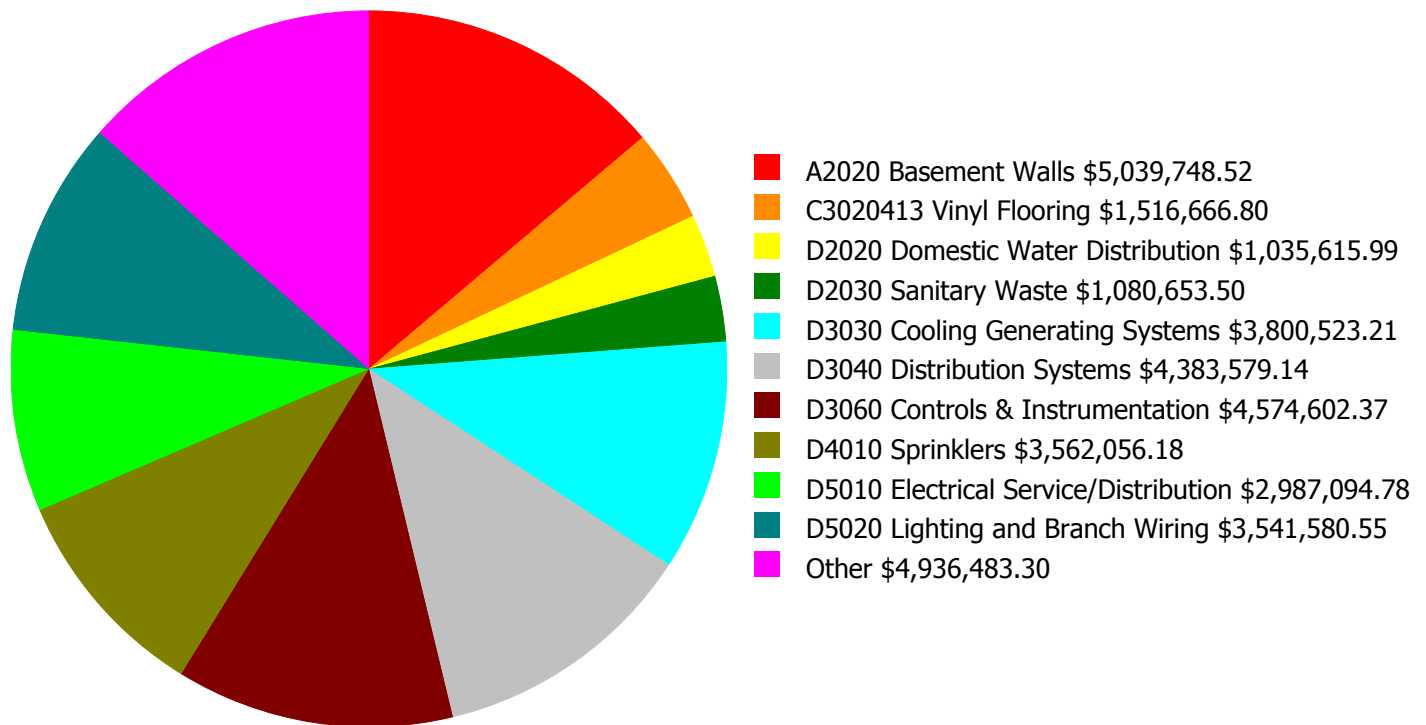
### Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 29.47%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$2,548,403.00	27.47 %	\$5,096,805.00	25.47 %
2017	\$16,318,838	\$2,624,855.00	37.91 %	\$5,249,710.00	33.91 %
2018	\$0	\$2,703,600.00	35.91 %	\$5,407,201.00	29.91 %
2019	\$0	\$2,784,708.00	33.91 %	\$5,569,417.00	25.91 %
2020	\$8,166,747	\$2,868,250.00	37.60 %	\$5,736,499.00	27.60 %
2021	\$0	\$2,954,297.00	35.60 %	\$5,908,594.00	23.60 %
2022	\$0	\$3,042,926.00	33.60 %	\$6,085,852.00	19.60 %
2023	\$0	\$3,134,214.00	31.60 %	\$6,268,428.00	15.60 %
2024	\$0	\$3,228,240.00	29.60 %	\$6,456,481.00	11.60 %
2025	\$4,631,450	\$3,325,088.00	30.39 %	\$6,650,175.00	10.39 %
<b>Total:</b>	<b>\$29,117,036</b>	<b>\$29,214,581.00</b>		<b>\$58,429,162.00</b>	

## 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.

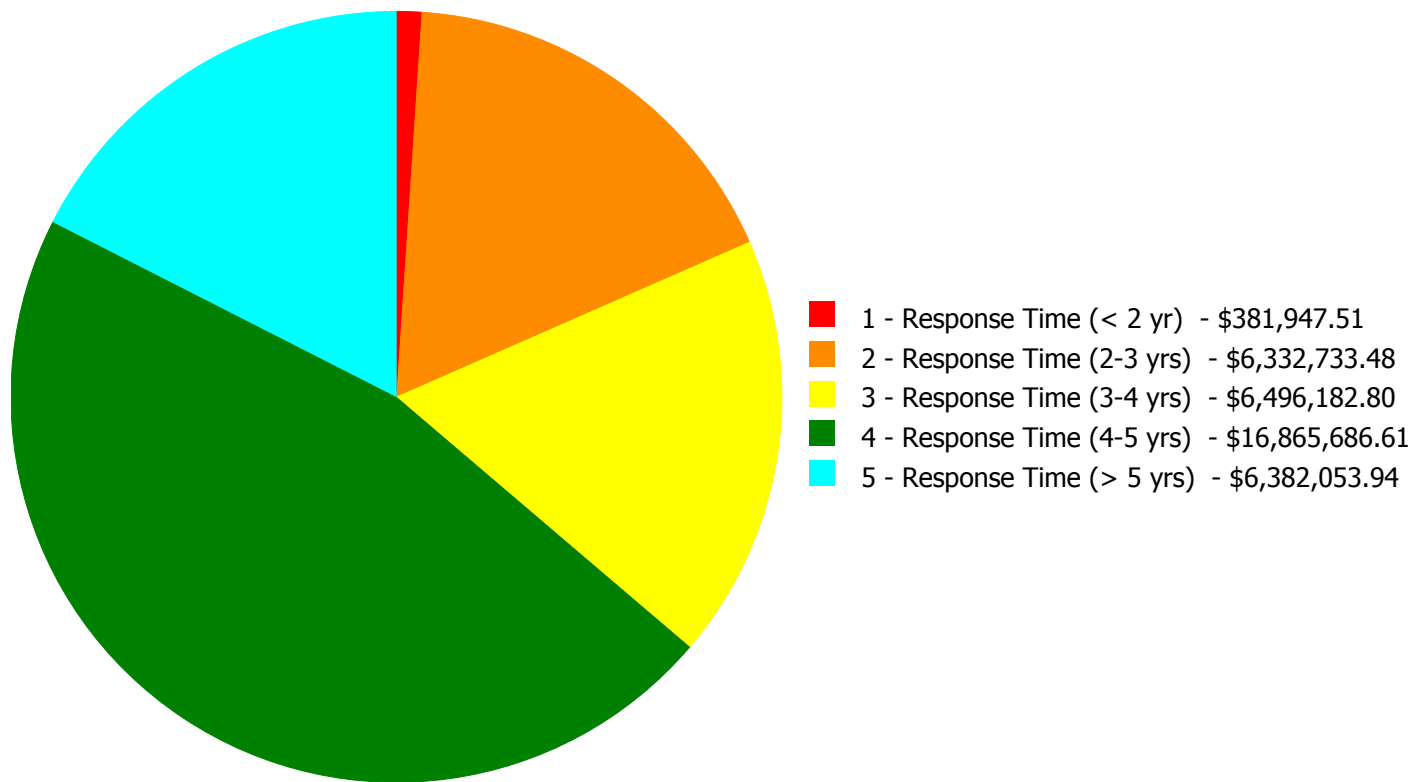


**Budget Estimate Total: \$36,458,604.34**



## 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: \$36,458,604.34**

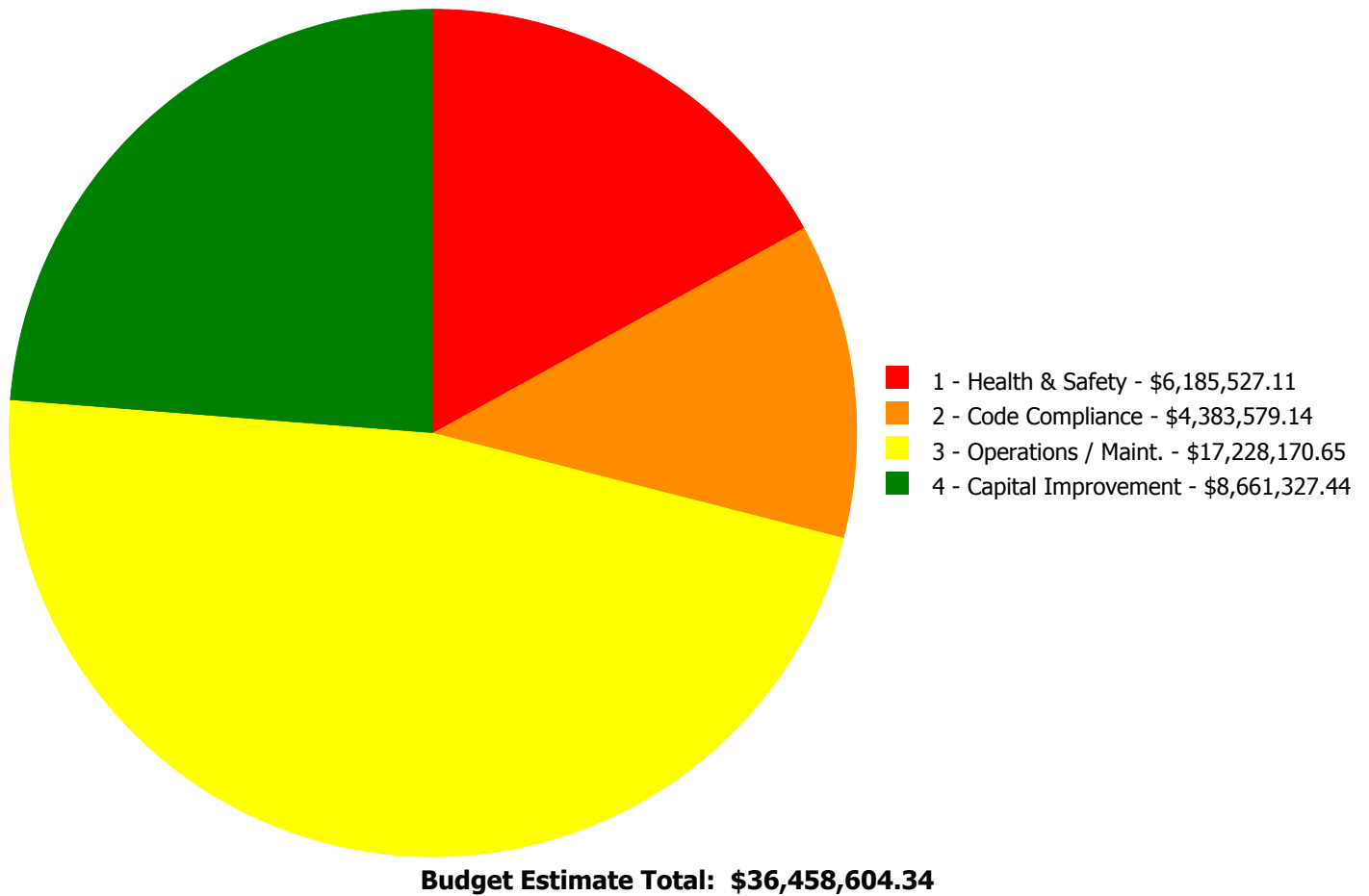
## Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
A1030	Slab on Grade	\$0.00	\$283,035.04	\$0.00	\$0.00	\$0.00	\$283,035.04
A2020	Basement Walls	\$0.00	\$5,039,748.52	\$0.00	\$0.00	\$0.00	\$5,039,748.52
B2010	Exterior Walls	\$0.00	\$0.00	\$0.00	\$630,457.05	\$0.00	\$630,457.05
B2030	Exterior Doors	\$0.00	\$28,098.60	\$91,073.21	\$0.00	\$0.00	\$119,171.81
C1010	Partitions	\$381,947.51	\$0.00	\$0.00	\$334,192.48	\$0.00	\$716,139.99
C1020	Interior Doors	\$0.00	\$817,147.81	\$0.00	\$0.00	\$0.00	\$817,147.81
C1030	Fittings	\$0.00	\$0.00	\$0.00	\$0.00	\$126,528.40	\$126,528.40
C2010	Stair Construction	\$0.00	\$0.00	\$46,708.38	\$0.00	\$0.00	\$46,708.38
C3020413	Vinyl Flooring	\$0.00	\$0.00	\$0.00	\$0.00	\$1,516,666.80	\$1,516,666.80
D2020	Domestic Water Distribution	\$0.00	\$0.00	\$0.00	\$1,035,615.99	\$0.00	\$1,035,615.99
D2030	Sanitary Waste	\$0.00	\$0.00	\$0.00	\$1,080,653.50	\$0.00	\$1,080,653.50
D3020	Heat Generating Systems	\$0.00	\$0.00	\$0.00	\$470,081.97	\$0.00	\$470,081.97
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$3,800,523.21	\$3,800,523.21
D3040	Distribution Systems	\$0.00	\$0.00	\$0.00	\$4,383,579.14	\$0.00	\$4,383,579.14
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$4,574,602.37	\$0.00	\$4,574,602.37
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$3,562,056.18	\$0.00	\$3,562,056.18
D5010	Electrical Service/Distribution	\$0.00	\$164,703.51	\$2,822,391.27	\$0.00	\$0.00	\$2,987,094.78
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$3,248,529.29	\$271,903.13	\$21,148.13	\$3,541,580.55
D5030	Communications and Security	\$0.00	\$0.00	\$188,494.61	\$0.00	\$0.00	\$188,494.61
D5090	Other Electrical Systems	\$0.00	\$0.00	\$98,986.04	\$100,820.77	\$0.00	\$199,806.81
E1020	Institutional Equipment	\$0.00	\$0.00	\$0.00	\$362,293.39	\$0.00	\$362,293.39
E1090	Other Equipment	\$0.00	\$0.00	\$0.00	\$59,430.64	\$0.00	\$59,430.64
E2010	Fixed Furnishings	\$0.00	\$0.00	\$0.00	\$0.00	\$917,187.40	\$917,187.40
<b>Total:</b>		\$381,947.51	\$6,332,733.48	\$6,496,182.80	\$16,865,686.61	\$6,382,053.94	\$36,458,604.34

## 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:



## 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:** Corridors

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

**Priority:** 1 - Response Time (< 2 yr)

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

**Qty:** 80.00

**Unit of Measure:** S.F.

**Estimate:** \$381,947.51

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. Some of the corridor doors in the hallways have been removed to support security. Others are void as they are held open with interior hardscape plants. The existing 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.

---

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

**System: A1030 - Slab on Grade**

This deficiency has no image.

**Location:** Basement Mechanical Room

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Provide dewatering sump basin w/duplex pumps and under slab drain tile

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** \$283,035.04

**Assessor Name:** System

**Date Created:** 06/06/2016

**Notes:** Provide dewatering sump basin w/duplex pumps and under slab drain tile

---

**System: A2020 - Basement Walls**



**Location:** Basement Mechanical

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Repair concrete wall in poor condition including rebar dowelling - insert the SF of wall area

**Qty:** 20,000.00

**Unit of Measure:** S.F.

**Estimate:** \$4,581,589.56

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The basement and sub-basement mechanical space is showing signs of structural issues as a result of massive water infiltration. The Sub-Basement is completely submerged and the basement level ranges between 1 to 3 inches of water throughout. As indicated in the photos the concrete finish is showing signs of severe damage as a result of the infiltration. This deficiency provides a budgetary consideration to repair the concrete finishes. This deficiency is expected to be completed only after the recommended study is complete and the work is expected to be coordinated as part of an overall effort to restore the basement and sub-basement areas.

---

**System: A2020 - Basement Walls**



**Location:** Basement

**Distress:** Failing

**Category:** 3 - Operations / Maint.

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

**Correction:** Repair concrete wall in poor condition including rebar dowelling - insert the SF of wall area

**Qty:** 2,000.00

**Unit of Measure:** S.F.

**Estimate:** \$458,158.96

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The basement and sub-basement mechanical space is showing signs of structural issues as a result of massive water infiltration. The Sub-Basement is completely submerged and the basement level ranges between 1 to 3 inches of water throughout. As indicated in the photos the concrete finish is showing signs of severe damage as a result of the infiltration. This deficiency provides a budgetary consideration to repair the concrete finishes. This deficiency is expected to be completed only after the recommended study is complete and the work is expected to be coordinated as part of an overall effort to restore the basement and sub-basement areas.

---

**System: B2030 - Exterior Doors**



**Location:** Loading Dock

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and replace overhead door - pick the closest type and size and add for the operator if required

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$28,098.60

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The loading dock exterior overhead door system is damaged. The protective safety devices have been damaged and no longer function. The doors themselves are damaged and one opens only partially, overall they are in poor condition. This deficiency recommends that the doors be removed and replaced with modern advanced performance in commercial and industrial applications where climate control, durability and ease of maintenance are primary concerns such as a loading dock with a primary purpose of food supply for the students.

---

**System: C1020 - Interior Doors**



**Location:** Classroom Doors

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 150.00

**Unit of Measure:** Ea.

**Estimate:** \$715,588.07

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** Interior doors are typically wood in metal frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways.

Doors are generally in good condition considering the age of the application. However, the wooden doors are breaking down as the finish is peeling from several of the doors. Others have had locksets damaged and removed leaving the holes and new holes and locksets

added. It appears as if modifications to each door due to abuse or security has added to the condition issues. With this in mind 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: C1020 - Interior Doors**



**Location:** Service Doors

**Distress:** Failing

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and replace hollow metal frames and doors

**Qty:** 20.00

**Unit of Measure:** Ea.

**Estimate:** \$101,559.74

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** Several of the interior service doors located mainly in the basement and sub-basement level are rusted and damaged. The doors no longer can support the design fire rating required for such spaces. This system is in very poor condition and universal upgrades are recommended. Remove and replace each service door with a suitable replacement to meet current requirements. This deficiency is expected to be completed as part of an effort to reclaim the basement and sub-basement areas of this school.

---

**System: D5010 - Electrical Service/Distribution**



**Location:** Boiler Room

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and Replace Panelboard - 400 amp

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** \$164,703.51

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Distribution Panelboards AP01AR, AP01AL, AP02AR and AP02AL in the Boiler Room are located on an exterior wall and their enclosures are corroding. Replace enclosure for Distribution Panelboard AP02AR and clean, prime and paint the remaining three distribution panelboards after wall repairs are completed.

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

**System: B2030 - Exterior Doors**



**Location:** Exterior Elevation

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and replace exterior doors - per leaf

**Qty:** 10.00

**Unit of Measure:** Ea.

**Estimate:** \$91,073.21

**Assessor Name:** System

**Date Created:** 10/02/2015

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

---

**System: C2010 - Stair Construction**



**Location:** Stairs

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 3,000.00

**Unit of Measure:** L.F.

**Estimate:** \$46,708.38

**Assessor Name:** System

**Date Created:** 10/02/2015

**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: D5010 - Electrical Service/Distribution**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Electrical Distribution System (U)

**Qty:** 44.00

**Unit of Measure:** Ea.

**Estimate:** \$1,153,912.36

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace (8) 225A Panelboards and (36) 100A Panelboards located in corridors, gymnasiums and cafeteria that have reached the end of their useful life. Replacement to include panelboard feeder conductors.

---

**System: D5010 - Electrical Service/Distribution**



**Location:** Main Electrical Room and Boiler Room

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Electrical Distribution System (U)

**Qty:** 13.00

**Unit of Measure:** Ea.

**Estimate:** \$694,772.76

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace electrical distribution equipment in the Main Electrical Room and Boiler Room that is obsolete or has exceeded its useful life, including (5) 600A Distribution Panelboards, (2) 400A Distribution Panelboards, (2) 225A Panelboards, and (4) 100A Panelboards.

---

**System: D5010 - Electrical Service/Distribution**



**Location:** Basement Room 005

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Substation

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$575,030.06

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace incoming line circuit breaker, load interrupter switch and 3000A main switchboard with three distribution sections and 12 feeder circuit breakers that serves LP Hill School.

---

**System: D5010 - Electrical Service/Distribution**



**Location:** Basement Room 005

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Substation

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$398,676.09

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace load interrupter switch and 3000A main switchboard with three distribution sections and 11 feeder circuit breakers that serves Strawberry Mansion High School.

---

**System: D5020 - Lighting and Branch Wiring**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Lighting Fixtures (SF)

**Qty:** 202,000.00

**Unit of Measure:** S.F.

**Estimate:** \$3,248,529.29

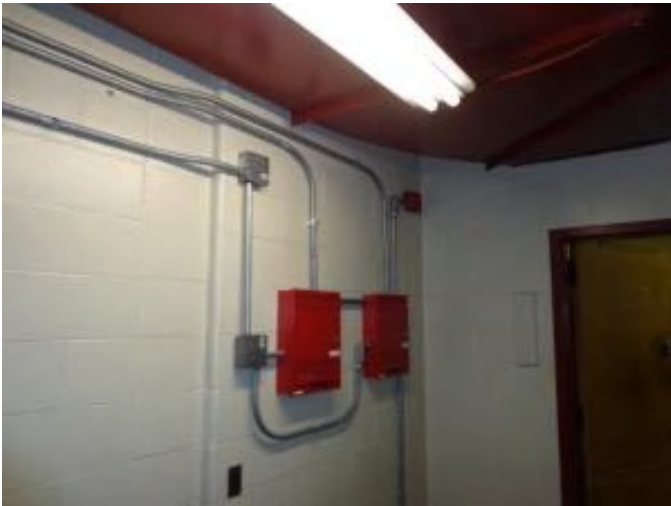
**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Provide lighting system upgrade for an estimated 202,000 SF (81%) of building area that has fluorescent fixtures with obsolete T12 lamps.

---

**System: D5030 - Communications and Security**



**Location:** Classrooms and multi-occupant rooms

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

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

**Correction:** Add fire alarm device

**Qty:** 85.00

**Unit of Measure:** Ea.

**Estimate:** \$188,494.61

**Assessor Name:** System

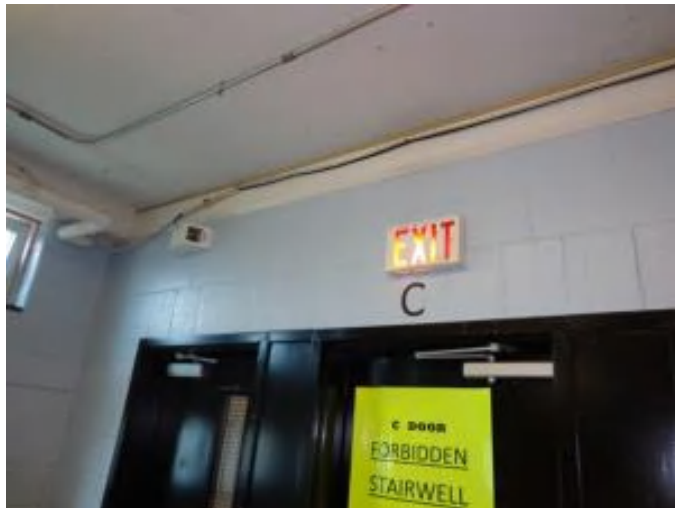
**Date Created:** 12/31/2015

**Notes:** Provide fire alarm system control panel upgrade and a fire alarm notification appliance in each classroom, conference room and multiple occupancy room that does not have an appliance (estimate adding 85 notification appliances).

---



**System: D5090 - Other Electrical Systems**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Emergency/Exit Lighting

**Qty:** 105.00

**Unit of Measure:** Ea.

**Estimate:** \$98,986.04

**Assessor Name:** System

**Date Created:** 12/31/2015

**Notes:** Replace all exit signs with vandal-resistant LED type exit signs. Provide additional exit signs in corridors on classroom floors so that signage is visible in corridors. Estimate 105 exit signs

---

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

**System: B2010 - Exterior Walls**



**Location:** North Wing Exterior

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and replace exterior insulating finish system (EIFS)

**Qty:** 10,000.00

**Unit of Measure:** S.F.

**Estimate:** \$630,457.05

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The elevated classrooms on the Northern section of the school are supported with custom concrete columns. The area is in good condition with a few minor exceptions such as the E.F.I.S. finish that acts as the ceiling to this covered student common area under the elevated section of this school. As indicated in the photos repairs were underway at one time however the work appears to have stopped. This deficiency provides a budgetary consideration for repair and resurfacing of the E.F.I.S. finish.

---

**System: C1010 - Partitions**



**Location:** Classrooms

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 15,000.00

**Unit of Measure:** S.F.

**Estimate:** \$334,192.48

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** There are several movable partitions that remain in classrooms such as the system in room 412. 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: D2020 - Domestic Water Distribution**



**Location:** entire building

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace domestic water piping (250 KSF)

**Qty:** 249,000.00

**Unit of Measure:** S.F.

**Estimate:** \$1,035,615.99

**Assessor Name:** System

**Date Created:** 01/08/2016

**Notes:** Replace domestic hot and cold water piping including valves, fittings, hangars and insulation



**System: D2030 - Sanitary Waste**



**Location:** entire building

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Inspect sanitary waste piping and replace damaged sections. (+200KSF)

**Qty:** 249,000.00

**Unit of Measure:** S.F.

**Estimate:** \$1,080,653.50

**Assessor Name:** System

**Date Created:** 01/08/2016

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

---

**System: D3020 - Heat Generating Systems**



**Location:** exterior

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

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

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$470,081.97

**Assessor Name:** System

**Date Created:** 01/08/2016

**Notes:** Install two new eight thousand gallon exterior oil storage tanks on grade to replace indoor storage tanks.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ office

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace HVAC unit for Admin (2000 students).

**Qty:** 1,762.00

**Unit of Measure:** Student

**Estimate:** \$735,917.64

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mezzanine mechanical with new central station air handling unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ office

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace HVAC unit for Admin (2000 students).

**Qty:** 1,762.00

**Unit of Measure:** Student

**Estimate:** \$735,917.64

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mezzanine mechanical with new central station air handling unit for office.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ auditorium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 400.00

**Unit of Measure:** Seat

**Estimate:** \$666,186.60

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing unit on mezzanine mechanical for auditorium with new central station unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ auditorium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 400.00

**Unit of Measure:** Seat

**Estimate:** \$666,186.60

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing unit on mezzanine mechanical for auditorium with new central station unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ gymnasium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace HVAC unit for Gymnasium (single station)

**Qty:** 6,000.00

**Unit of Measure:** S.F.

**Estimate:** \$227,475.37

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit for boys gym with new central station air handling unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ gymnasium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace HVAC unit for Gymnasium (single station)

**Qty:** 6,000.00

**Unit of Measure:** S.F.

**Estimate:** \$227,475.37

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit for girls gym with new central station air handling unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ locker room

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/08/2016

**Notes:** Replace air handling unit on mechanical mezzanine with new central station air handling unit for boys locker room.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ locker room

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace air handling unit on mechanical mezzanine with new central station air handling unit for girls locker room.

---



**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ music

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mmezzanine mechanical with new central station air handling unit for music area.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical/ music

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mmezzanine mechanical with new central station air handling unit for music area.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mezzanine mechanical with new central station air handling unit.

---

**System: D3040 - Distribution Systems**



**Location:** mezzanine mechanical

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Replace indoor AHU, CV, DT (15T)

**Qty:** 10.00

**Unit of Measure:** TonAC

**Estimate:** \$187,403.32

**Assessor Name:** System

**Date Created:** 01/26/2016

**Notes:** Replace existing air handling unit on mezzanine mechanical with new central station air handling unit.

---

**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 (250KSF)

**Qty:** 249,000.00

**Unit of Measure:** S.F.

**Estimate:** \$4,574,602.37

**Assessor Name:** System

**Date Created:** 01/08/2016

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

---

**System: D4010 - Sprinklers**



**Location:** entire building

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

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

**Correction:** Install a fire protection sprinkler system

**Qty:** 249,000.00

**Unit of Measure:** S.F.

**Estimate:** \$3,562,056.18

**Assessor Name:** System

**Date Created:** 01/08/2016

**Notes:** Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.

---



**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:** 2,040.00

**Unit of Measure:** L.F.

**Estimate:** \$265,053.73

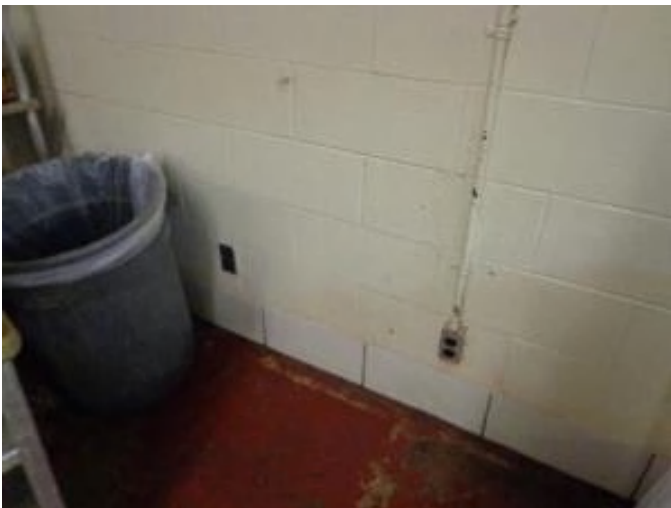
**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Add surface raceway system with 4 to 6 duplex receptacles in each classroom that does not have an adequate number of receptacles (estimate total of 68 classrooms).

---

**System: D5020 - Lighting and Branch Wiring**



**Location:** Kitchen

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

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

**Correction:** Replace Wiring Device

**Qty:** 20.00

**Unit of Measure:** Ea.

**Estimate:** \$6,849.40

**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace approximately 20 duplex receptacles in the kitchen with ground-fault circuit-interrupting (GFCI) type receptacles to comply with National Electrical Code (NEC) Article 210.8 for protection of personnel.

---

**System: D5090 - Other Electrical Systems**



**Location:** Basement Room 005

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace standby generator system

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$100,820.77

**Assessor Name:** System

**Date Created:** 12/31/2015

**Notes:** Replace standby 100 kW generator and automatic transfer switch within 3 to 5 years.

---

**System: E1020 - Institutional Equipment**



**Location:** Stage

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Add/Replace Stage Theatrical Lighting System

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$362,293.39

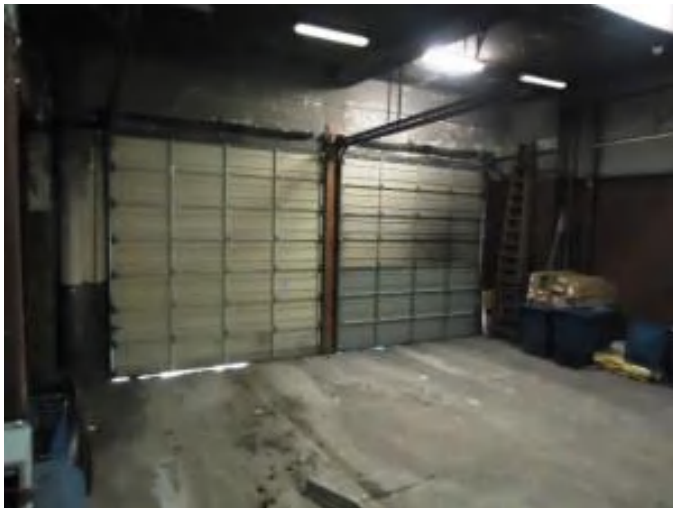
**Assessor Name:** System

**Date Created:** 12/30/2015

**Notes:** Replace theatrical lighting system on the stage in the auditorium and the 600A theatrical dimmer board.

---

**System: E1090 - Other Equipment**



**Location:** Loading Dock

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

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

**Correction:** Loading dock equipment - remove and replace dock leveler - delete the pipe bollards if not needed

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$59,430.64

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The loading dock is located on the North Thirty-First Street and has a small concrete drive that leads to two overhead doors. The doors are recommended for upgrade in this report. The loading dock area is not clearly marked and safety barriers are required to be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies. This deficiency provides a budgetary consideration to add the safety barriers and modify the loading dock.

---

**Priority 5 - Response Time (> 5 yrs):**

**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:** 350.00

**Unit of Measure:** Ea.

**Estimate:** \$94,819.37

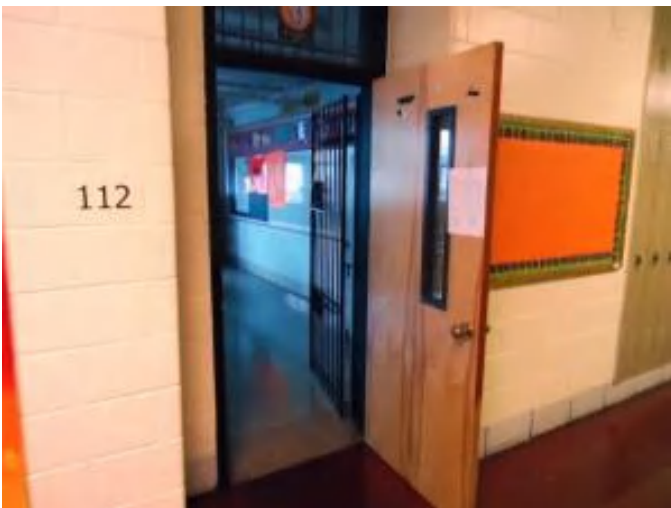
**Assessor Name:** System

**Date Created:** 10/02/2015

**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:** Classrooms Hallways

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Remove and replace tackboards - select size

**Qty:** 40.00

**Unit of Measure:** Ea.

**Estimate:** \$31,709.03

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** There are several tack boards in the hallways and classrooms for student displays. As indicated in the photos these boards are damaged either from age or abuse. Overall the systems are beyond the expected service life for this application. Remove and replace tack boards is recommended.

**System: C3020413 - Vinyl Flooring**



**Location:** Building Wide

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

**Priority:** 5 - Response Time (> 5 yrs)

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

**Qty:** 100,000.00

**Unit of Measure:** S.F.

**Estimate:** \$1,516,666.80

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The floor finish for this school is a combination of carpet in the administrative area, Terrazzo in the lobby, tile in the kitchen and service line areas, vinyl tile classrooms and hallways with a few concrete hallways and classrooms. Overall the floor finishes are in good condition and there were no reported issues during the time of the inspection. However, suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

---

**System: D3030 - Cooling Generating Systems**



**Location:** mechanical room, roof

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Install chilled water system with distribution piping and pumps. (+250KSF)

**Qty:** 250,000.00

**Unit of Measure:** S.F.

**Estimate:** \$3,800,523.21

**Assessor Name:** System

**Date Created:** 01/08/2016

**Notes:** Remove the existing window air conditioning units and install air-cooled chillers on the roof with chilled water distribution piping, pumps, chemical treatment and controls located in a mechanical room on the basement level. Total capacity 600 tons.



**System: D5020 - Lighting and Branch Wiring**



**Location:** Main Entrance Canopy

**Distress:** Energy Efficiency

**Category:** 4 - Capital Improvement

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Replace lighting fixtures

**Qty:** 16.00

**Unit of Measure:** Ea.

**Estimate:** \$21,148.13

**Assessor Name:** System

**Date Created:** 12/31/2015

**Notes:** Replace 16 surface mounted compact fluorescent fixtures under the canopy at the main entrance with vandal-resistant LED fixtures for improved energy efficiency and reduced maintenance costs.

---

**System: E2010 - Fixed Furnishings**



**Location:** Auditorium

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

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

**Qty:** 1,000.00

**Unit of Measure:** Ea.

**Estimate:** \$901,905.51

**Assessor Name:** System

**Date Created:** 10/02/2015

**Notes:** The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school.

Ensure that ADA requirements are followed with the new seating layout.

---

**System: E2010 - Fixed Furnishings**



**Location:** Curtain

**Distress:** Failing

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

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

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$15,281.89

**Assessor Name:** System

**Date Created:** 10/02/2015

**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.

---

## Site Assessment Report - B414001;Strawberry Mansion

### Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Traction geared elevators, passenger, 5000 lb, 5 floors, 200 FPM	3.00	Ea.	Elevator Machine Rooms 1, 2 and 3	Security Elevator	NA	NA		30			\$188,475.00	\$621,967.50
D2020 Domestic Water Distribution	Pump, pressure booster system, 5 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	mechanical room	alyan				25	2005	2030	\$10,972.50	\$12,069.75
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 12,200 MBH, 364.5 BHP, includes burners, controls and insulated jacket, packaged	4.00	Ea.	mechanical room	hb smith	650			35	1980	2015	\$275,340.50	\$1,211,498.20
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Main Electrical Room 005	Allis-Chalmers	Type IBSF	337037		30			\$42,849.00	\$47,133.90
D5010 Electrical Service/Distribution	Motor control center, starters, class 1, type B, combination MCP, FVNR, with control XFMR, size 1, 10 HP, 12" high, incl starters & structures	23.00	Ea.	Second Floor Gym & Auditorium Mechanical Room	Siemens	NA	NA		30			\$2,670.30	\$67,558.59
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	2.00	Ea.	Corridor adjacent to Kitchen	Penn Panel & Box Co.	Type CDP-42-4AB	S.O. No. 060101-011		30	2006	2036	\$12,109.50	\$26,640.90
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	Culinary Arts Office 013	Siemens	Type P1	S.O. No. 79-25706		30	2006	2036	\$12,109.50	\$13,320.45
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	2.00	Ea.	Corridor adjacent to Kitchen	Penn Panel & Box Co.	Type CDP-42-4L	S.O. No. 060101-009		30	2006	2036	\$12,109.50	\$26,640.90
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 5 stories, 50' horizontal	2.00	Ea.	Main Electrical Room 005	Penn Panel & Box Co.	NA	NA		30			\$20,524.05	\$45,152.91
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 5 stories, 50' horizontal	4.00	Ea.	Sub-Basement Boiler Room	Penn Panel & Box Co.	Type CDP-42-4AB	S.O. No. 060101-003		30	2006	2036	\$20,524.05	\$90,305.82
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 5 stories, 50' horizontal	4.00	Ea.	Sub-Basement Boiler Room	Penn Panel & Box Co.	Type CDP-42-4AB	S.O. No. 060107-001		30	2006	2036	\$20,524.05	\$90,305.82
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 5 stories, 50' horizontal	4.00	Ea.	Sub-Basement Boiler Room	Penn Panel & Box Co.	Type CDP-42-4L	S.O. No. 060101-005		30	2006	2036	\$20,524.05	\$90,305.82
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 5 stories, 50' horizontal	4.00	Ea.	Sub-Basement Boiler Room	Penn Panel & Box Co.	Type CDP-42-4L	S.O. No. 060101-001		30	2006	2036	\$20,524.05	\$90,305.82
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 005	Federal Pacific	Type CDP	AG-297328		30			\$18,536.85	\$20,390.54
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	2.00	Ea.	Main Electrical Room 005	Federal Pacific Electric	Type CDP	AG-297329		30			\$18,536.85	\$40,781.07



## Site Assessment Report - B414001;Strawberry Mansion

D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Sub-Basement Boiler Room	ITE	Type CDP-7	S.O. No. 79-24465 A01		30			\$18,536.85	\$20,390.54
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	2.00	Ea.	Main Electrical Room 005	Federal Pacific Electric	Type CDP	AG-297329		30			\$18,536.85	\$40,781.07
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 2000 A	4.00	Ea.	Main Electrical Room 005	Allis-Chalmers	Type LA-75A	NA		30			\$47,537.55	\$209,165.22
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 600 A	1.00	Ea.	Sub-Basement Boiler Room	ITE	Type CDP-4	S.O. No. 15-77544-054		30			\$16,891.20	\$18,580.32
D5010 Electrical Service/Distribution	Transformer, dry-type, 3 phase 5 kV primary 277/480 volt secondary, 1000 kVA	1.00	Ea.	Main Electrical Room 005	Schaffnermtc	NA	361000D09B A02-42392		30	2014	2044	\$97,497.00	\$107,246.70
												<b>Total:</b>	<b>\$2,890,541.84</b>

## 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): 85,700

Year Built: 1964

Last Renovation:

Replacement Value: \$1,353,927

Repair Cost: \$320,143.23

Total FCI: 23.65 %

Total RSLI: 47.15 %



### Description:

#### Attributes:

##### General Attributes:

Bldg ID:	S414001	Site ID:	S414001
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## 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	40.50 %	20.93 %	\$236,192.97
G40 - Site Electrical Utilities	80.48 %	37.25 %	\$83,950.26
<b>Totals:</b>	<b>47.15 %</b>	<b>23.65 %</b>	<b>\$320,143.23</b>

### 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	\$7.65	S.F.	62,000	30	1964	1994	2027	40.00 %	49.80 %	12		\$236,192.97	\$474,300
G2030	Pedestrian Paving	\$11.52	S.F.	23,700	40	1964	2004	2027	30.00 %	0.00 %	12			\$273,024
G2040	Site Development	\$4.36	S.F.	85,700	25	1964	1989	2027	48.00 %	0.00 %	12			\$373,652
G2050	Landscaping & Irrigation	\$3.78	S.F.	2,000	15	1964	1979	2027	80.00 %	0.00 %	12			\$7,560
G4020	Site Lighting	\$1.86	S.F.	85,700	30	1964	1994	2045	100.00 %	52.67 %	30		\$83,950.26	\$159,402
G4030	Site Communications & Security	\$0.77	S.F.	85,700	30	1964	1994	2025	33.33 %	0.00 %	10			\$65,989
<b>Total</b>									<b>47.15 %</b>	<b>23.65 %</b>			<b>\$320,143.23</b>	<b>\$1,353,927</b>

## 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.

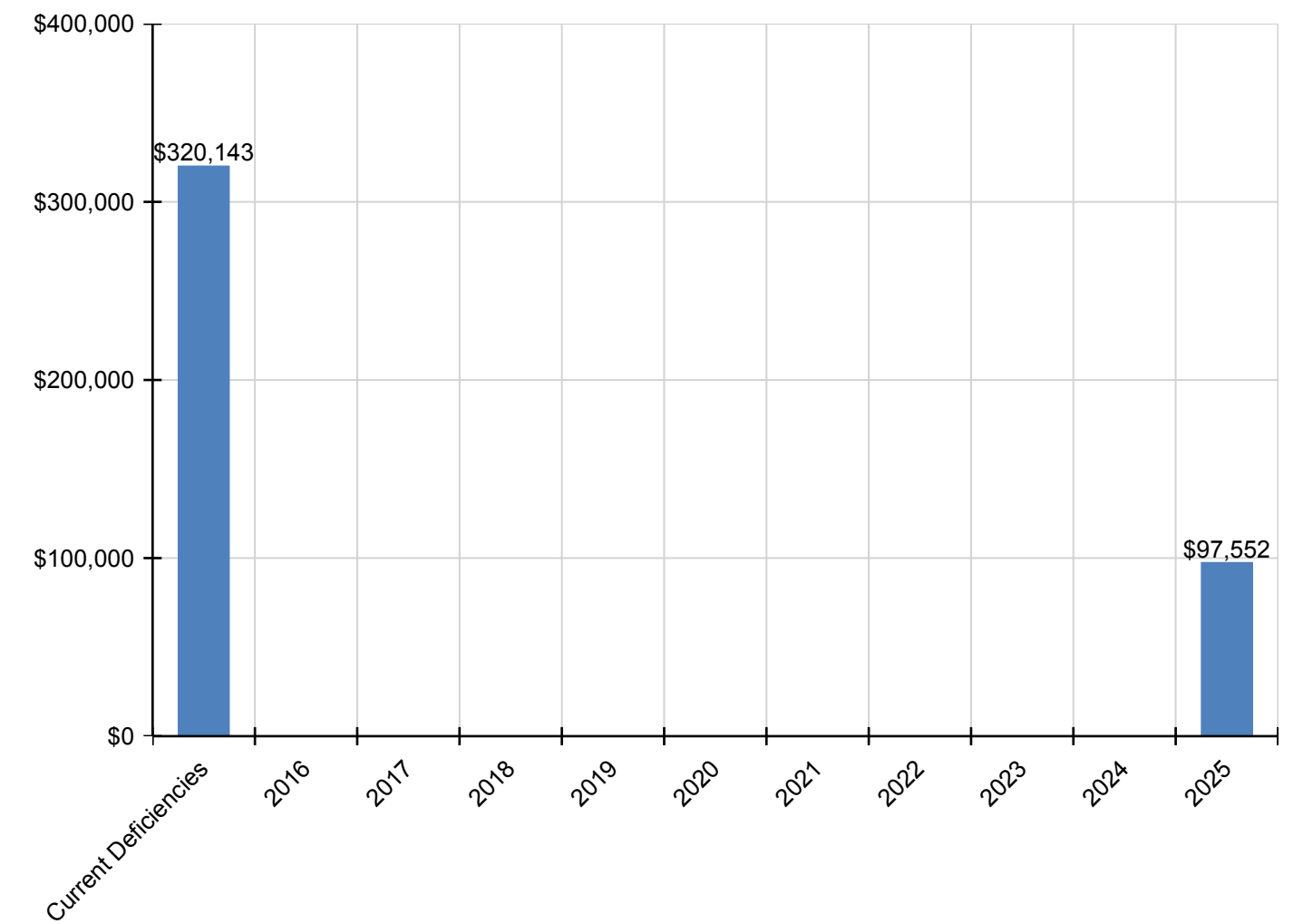
*Inflation Rate: 3%*

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
<b>Total:</b>	<b>\$320,143</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$97,552</b>	<b>\$417,695</b>
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	\$236,193	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$236,193
G2030 - Pedestrian Paving	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2040 - Site Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2050 - Landscaping & Irrigation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G40 - Site Electrical Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G4020 - Site Lighting	\$83,950	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83,950
G4030 - Site Communications & Security	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$97,552	\$97,552

*\* Indicates non-renewable system*

Forecasted Sustainment Requirement

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



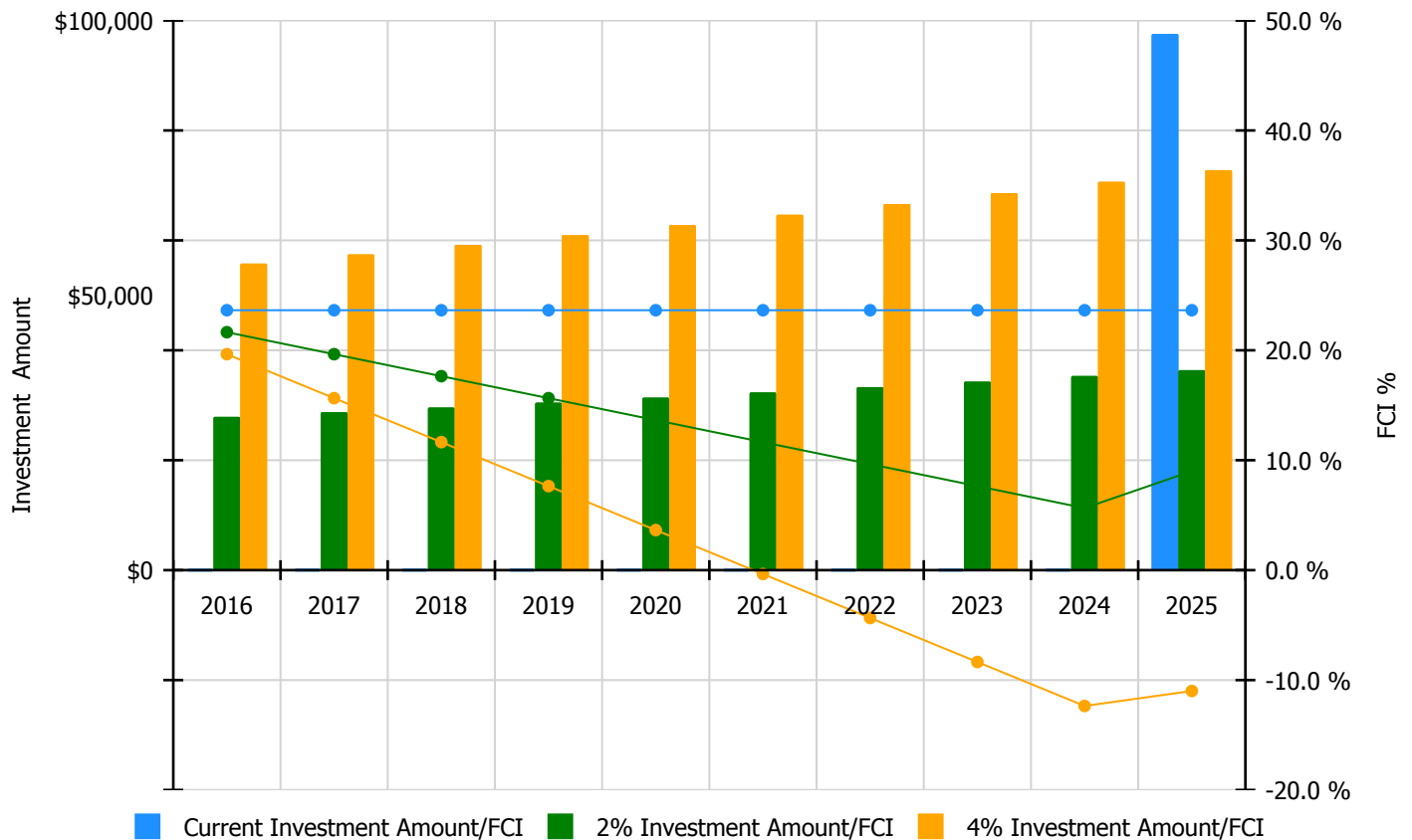


## 10 Year FCI Forecast by Investment Scenario

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

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

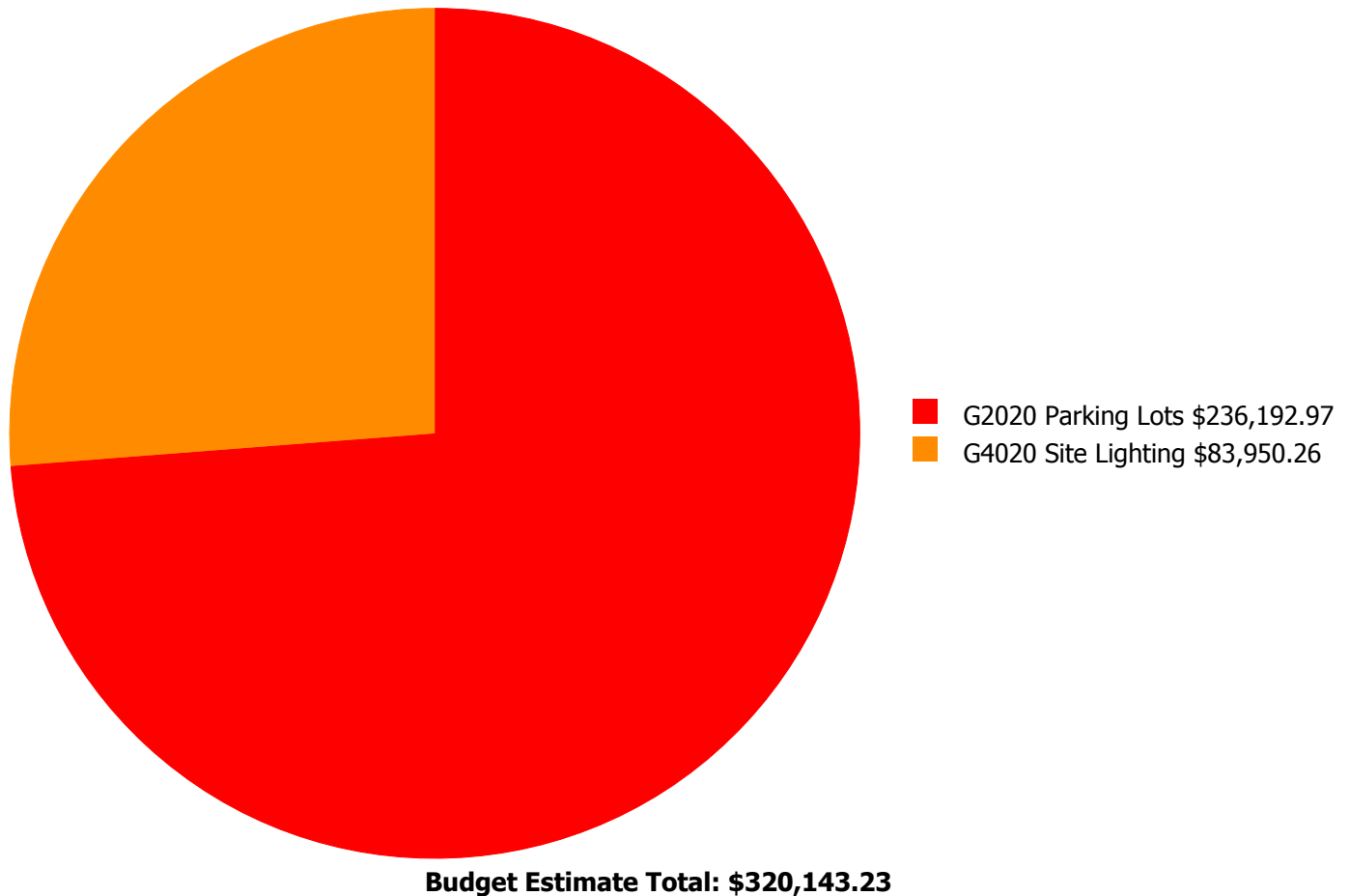
**Facility Investment vs. FCI Forecast**



Year	Investment Amount Current FCI - 23.65%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$27,891.00	21.65 %	\$55,782.00	19.65 %
2017	\$0	\$28,728.00	19.65 %	\$57,455.00	15.65 %
2018	\$0	\$29,589.00	17.65 %	\$59,179.00	11.65 %
2019	\$0	\$30,477.00	15.65 %	\$60,954.00	7.65 %
2020	\$0	\$31,391.00	13.65 %	\$62,783.00	3.65 %
2021	\$0	\$32,333.00	11.65 %	\$64,666.00	-0.35 %
2022	\$0	\$33,303.00	9.65 %	\$66,606.00	-4.35 %
2023	\$0	\$34,302.00	7.65 %	\$68,605.00	-8.35 %
2024	\$0	\$35,331.00	5.65 %	\$70,663.00	-12.35 %
2025	\$97,552	\$36,391.00	9.01 %	\$72,783.00	-10.99 %
<b>Total:</b>	<b>\$97,552</b>	<b>\$319,736.00</b>		<b>\$639,476.00</b>	

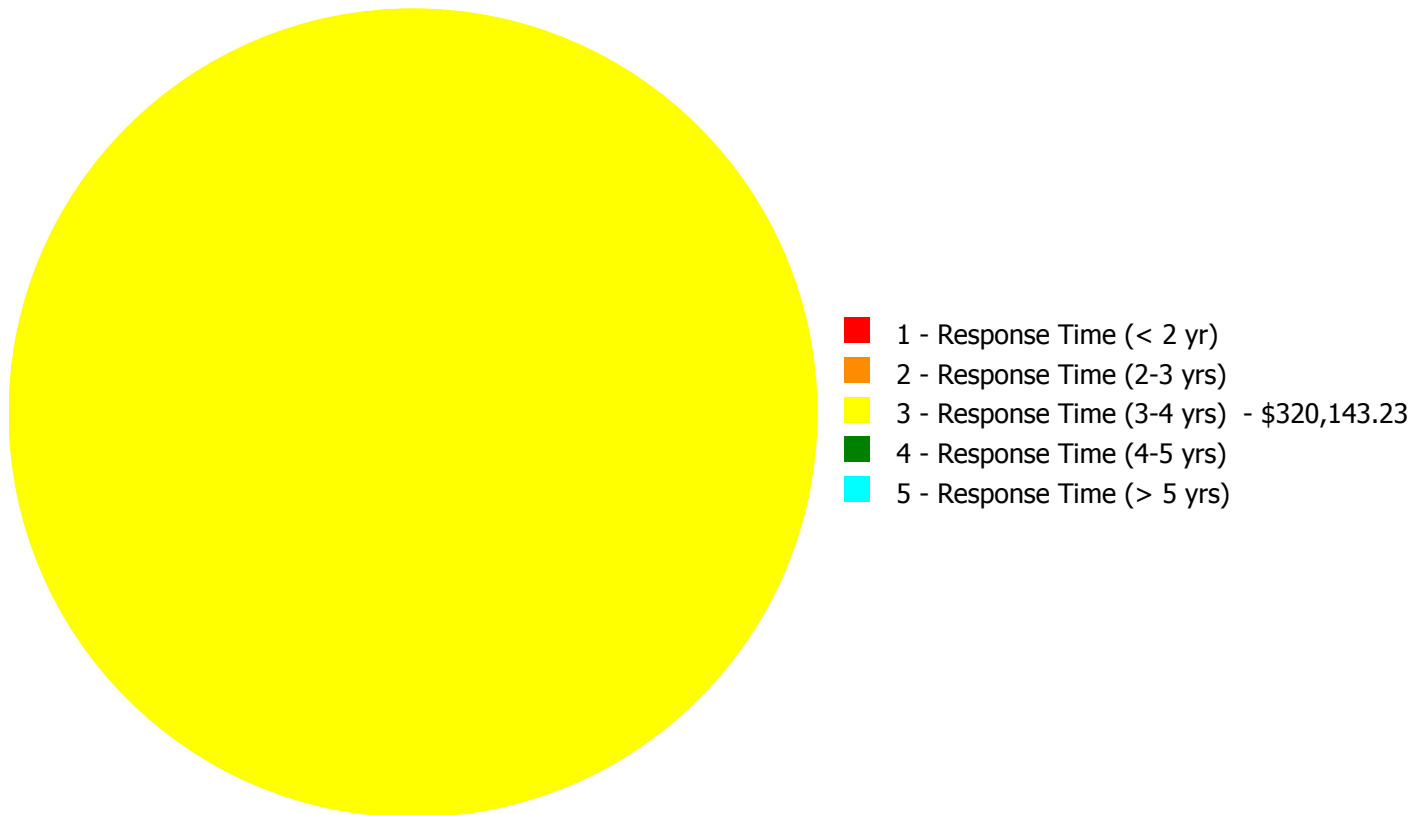
## Deficiency Summary by System

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.



## 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: \$320,143.23**

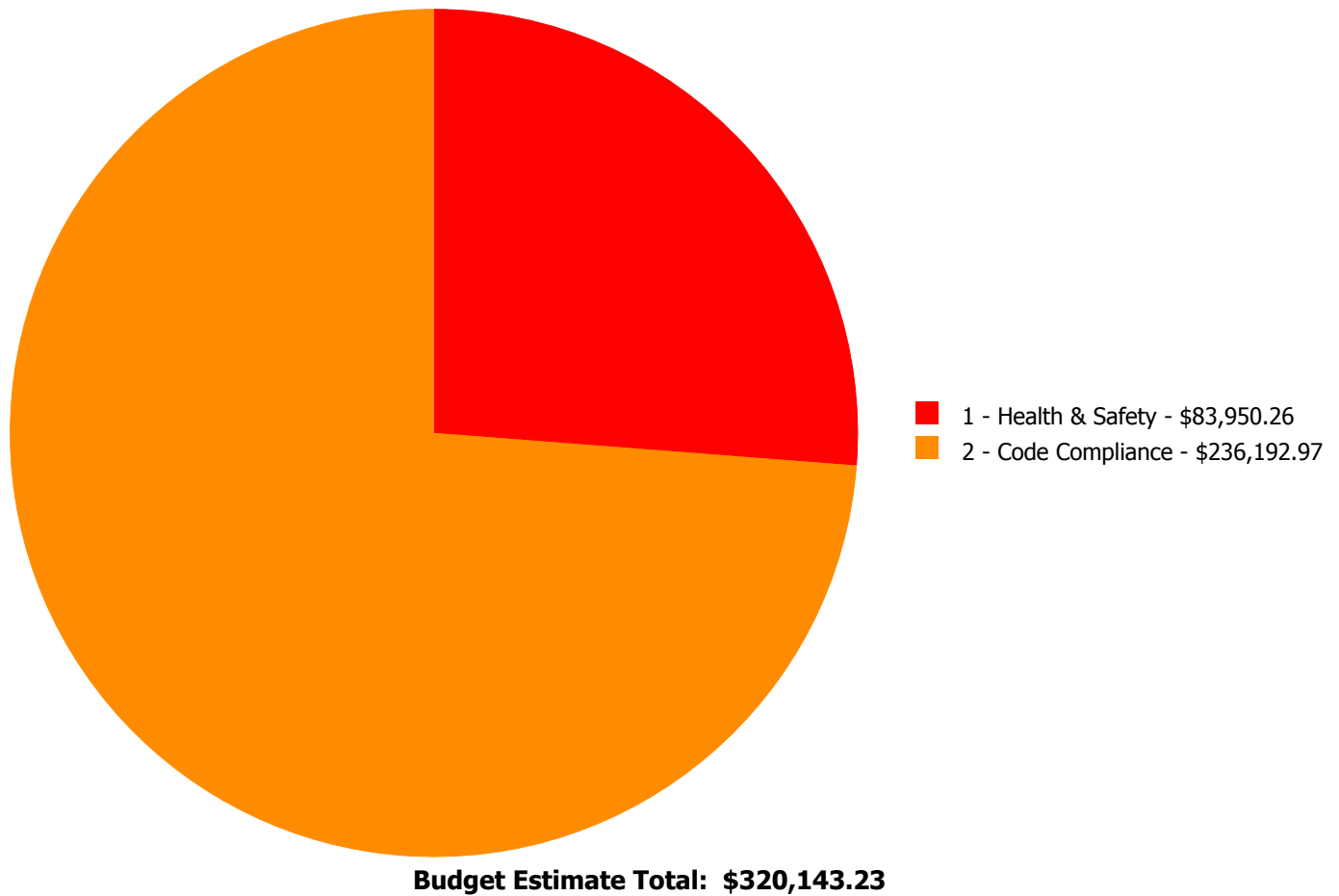
## Deficiency By Priority Investment Table

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	\$236,192.97	\$0.00	\$0.00	\$236,192.97
G4020	Site Lighting	\$0.00	\$0.00	\$83,950.26	\$0.00	\$0.00	\$83,950.26
	<b>Total:</b>	\$0.00	\$0.00	\$320,143.23	\$0.00	\$0.00	\$320,143.23

## 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:



## Deficiency Details by Priority

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

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

#### System: G2020 - Parking Lots



**Location:** Parking Lot

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Resurface parking lot - grind and resurface including striping

**Qty:** 62,000.00

**Unit of Measure:** S.F.

**Estimate:** \$236,192.97

**Assessor Name:** Craig Anding

**Date Created:** 10/02/2015

**Notes:** Replace parking lot and address accessibility issues with paved surfaces.

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#### System: G4020 - Site Lighting



**Location:** Parking Lot - north side

**Distress:** Security Issue

**Category:** 1 - Health & Safety

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

**Correction:** Add Site Lighting - pole mounted - select the proper light and pole

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$83,950.26

**Assessor Name:** Gerald Petric

**Date Created:** 12/31/2015

**Notes:** Provide two (2) light poles, each with four (4) LED floodlighting luminaires on the north side of the building between the north wing of Strawberry Mansion and LP Hill School to provide better illumination of the parking lot. The site lighting would be time clock controlled.

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## 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 <a href="http://www.abma.com/">http://www.abma.com/</a>
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



## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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

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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

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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.

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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.

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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	Photovoltaic system



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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

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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

## Site Assessment Report - S414001;Strawberry Mansion and Hill

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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