## 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.*

## Wister School

| | | | |
|---|---|---|---|
| Governance | CHARTER | Report Type | Elementary |
| Address | 67 E. Bringhurst St.<br>Philadelphia, Pa 19144 | Enrollment | 522 |
| | | Grade Range | '00-05' |
| Phone/Fax | N/A / N/A | Admissions Category | Neighborhood |
| Website | Http://Www.Masterycharter.Org/Schools/Elementary-Schools/John-Wister-Elementary/ | Turnaround Model | Renaissance Charter |

## Building/System FCI Tiers

**Facility Condition Index (FCI) = Cost of Assessed Deficiencies / Replacement Value**

| < 15% | 15 to 25% | 25 to 45% | 45 to 60% | > 60% |
|---|---|---|---|---|
| **Buildings** | | | | |
| Minimal Current Capital Funding Required | Refurbish Systems in building | Replace Systems in building. | Building should be considered for major renovation. | Building should be considered for closing/replacement. |
| **Systems** | | | | |
| Perform routine maintenance on system | System requires minor repairs | System should be studied to determine repair vs. replacement. | System is nearing end of its life expectancy and should be considered for replacement | System should be replaced as part of the Capital Program |

## Building and Grounds

| | FCI | Repair Costs | Replacement Cost |
|---|---|---|---|
| **Overall** | **45.11%** | **$22,482,848** | **$49,841,072** |
| Building | 46.24 % | $22,014,447 | $47,612,533 |
| Grounds | 21.02 % | $468,401 | $2,228,539 |

## Major Building Systems

| Building System | System FCI | Repair Costs | Replacement Cost |
|---|---|---|---|
| **Roof** (Shows physical condition of roof) | 89.33 % | $1,118,716 | $1,252,383 |
| **Exterior Walls** (Shows condition of the structural condition of the exterior facade) | 09.60 % | $332,176 | $3,459,021 |
| **Windows** (Shows functionality of exterior windows) | 118.50 % | $1,999,981 | $1,687,807 |
| **Exterior Doors** (Shows condition of exterior doors) | 215.30 % | $292,567 | $135,887 |
| **Interior Doors** (Classroom doors) | 105.53 % | $347,127 | $328,940 |
| **Interior Walls** (Paint and Finishes) | 00.00 % | $0 | $1,844,312 |
| **Plumbing Fixtures** | 37.21 % | $471,516 | $1,267,027 |
| **Boilers** | 14.03 % | $245,555 | $1,749,659 |
| **Chillers/Cooling Towers** | 48.30 % | $1,108,098 | $2,294,143 |
| **Radiators/Unit Ventilators/HVAC** | 107.68 % | $4,338,156 | $4,028,808 |
| **Heating/Cooling Controls** | 157.69 % | $1,995,045 | $1,265,153 |
| **Electrical Service and Distribution** | 87.35 % | $794,010 | $909,036 |
| **Lighting** | 28.86 % | $937,894 | $3,250,036 |
| **Communications and Security** (Cameras, Pa System and Fire Alarm) | 61.73 % | $751,502 | $1,217,358 |

*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

# S643001;Wister

Final

## Site Assessment Report

February 1, 2017


PARSONS

# Table of Contents

## Site Executive Summary

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

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

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

| | |
|---|---|
| Gross Area (SF): | 93,715 |
| Year Built: | 1955 |
| Last Renovation: | |
| Replacement Value: | $49,841,072 |
| Repair Cost: | $22,482,847.87 |
| Total FCI: | 45.11 % |
| Total RSLI: | 72.02 % |

**Description:**

Facility Assessment

December 2015

**School District of Philadelphia**

**John Wister Elementary School**

**67 East Bringhurst Street**

**Philadelphia, PA 19144**

93,715 SF / 517 Students / LN 06

The John Wister Elementary School building is located at 67 East Bringhurst Street in Philadelphia, PA. The 3 story, 93,715 square foot building was originally constructed in 1955. A 2 story classroom addition of approximately 18,200 SF was built in 1967, extending the classroom wing to the southeast. It appears that the kitchen is also an addition of unknown construction date, adjacent to the

gym/cafeteria at the northeast end of the building. The building has a partial basement. The science and technology classrooms and the library have been renovated circa 2000.

The school capacity is listed at 517 students with 2015/16 enrollment of 373 serving grades K-5.

The school plan is L shaped with the long leg housing classrooms, offices, and the library running SE to NW. The perpendicular 1 story leg houses a spacious lobby, auditorium, gym, kitchen and boiler/mechanical rooms in the basement.

Mr. Lorenza Davis, a Building Engineer from a nearby school, accompanied the team on its tour of the school.

**ARCHITECTURAL/STRUCTURAL SYSTEMS**

The building bears on concrete foundations that are not showing visible signs of significant settlement or damage. Most of the first floor is constructed over crawl space with utility distribution tunnels. The 1970 addition is a half a level lower than the original building. The main structure is cast in place concrete framing. The auditorium and gym roofs are supported on steel joists with concrete plank. Exterior walls are brick on CMU. Several elevations have large murals decorating the exterior walls. In general, masonry is in fair condition. There are numerous holes in the brick from removed security grilles. There is also some loss of mortar at various locations, and some cracking, possibly due to minor settlement. The expansion joint between original construction and the addition is caulked and in poor condition. Columns at the addition are stone clad. Windows are single pane glass and acrylic glazing in aluminum frames. Operable units are hopper style or single hung. Glazing at toilet rooms is frosted. Windows are not energy efficient and are in poor condition with failed gaskets, difficult operation and discolored glazing. Windows have security grilles. Exterior doors are hollow metal in hollow metal frames with glazing, in functional condition. Door appearance is poor. Roofing is low slope built-up with a granular cap sheet. Roofs are in poor condition with some patching evident, wrinkling and splitting, and considerable loss of granules on the wear surface. Perimeter flashing is foil faced modified bitumen torch applied membranes. Roof to wall flashing is copper. Exterior walls are protected by metal cap flashing. Drainage is via interior roof drains with no overflow drains or scuppers. Roof access is via stairwell to a door at the main roof. There is a fixed ladder to the addition roof. The auditorium/gym roof is accessed via interior fixed ladder to an upper platform with an exterior door. There are no ladders to lower entry lobby and kitchen roofs. Generally, the building is not accessible per ADA requirements.

Partition walls are typically CMU in good condition. Glass block borrowed lites are installed at corridor walls of the office. A vestibule at the front entry is an aluminum and glass storefront type system with hollow metal doors. Interior classroom and office doors are generally original solid core wood veneer in hollow metal frames with lights. Classroom doors at original construction have glass block sidelites and transom lites. Select doors have security grilles installed over the door openings. Doors do not have ADA hardware and are in overall fair condition. Doors at the auditorium are broken. Wardrobe doors are typically removed. Doors leading to exit stairways are hollow metal with slot lights in hollow metal frames in functional condition with panic hardware. Doors swing in the direction of exit and are recessed, therefore they do not reduce exit width when opened.

Fittings include: toilet accessories are typically missing; toilet partitions are a mixture of baked enamel, stone and plastic in fair to poor condition; obsolete chalk boards; marker boards; bulletin boards; interior identifying signage is typically missing or is painted on walls or doors; and metal storage lockers are installed in some classrooms.

Stair construction is concrete filled metal pans. Tread and landing finishes vary and include textured resilient, paint, and terrazzo. Handrails are aluminum. Handrails do not meet modern codes for configuration with no extensions at landings. Handrail clearance at intermediate landings is a problem at the southeast stair.

Interior wall finishes are typically paint in good condition. Painted and mosaic murals decorate the lobby. Toilet rooms and some stairwells have ceramic tile walls. There are limited areas of interior brick in good condition. Flooring in classrooms and corridors is a mixture of VCT, 9” VAT and terrazzo in varied condition. In general, the VCT is in good condition, while the 9” VAT has some damage and/or missing tile. The auditorium has 9” VAT flooring. Carpet is installed in the library and is in fair condition with some damage and staining noted. Toilet rooms have terrazzo, ceramic tile, or painted concrete floors. Tiled floors are in fair condition. Terrazzo and painted toilet room floors are in poor condition. The kitchen has quarry tile flooring in good condition. The cafeteria/gym and stage have wood flooring that appears to be original and is in need of refinishing. Ceilings are typically painted structure in fair to good condition with some staining evident, likely from roof leaks. The 1967 addition and kitchen have 2x4 suspended acoustical tile ceilings. Grid is generally yellowed and in some cases rusted. Many water damaged tiles were observed. Glued on acoustical tile is installed in the lobby, auditorium, and offices. Tile is in fair to poor condition with many loose and stained tile noted. There are some areas of wood soffits in the auditorium ceiling.

The building has no elevator.

Institutional Equipment includes: a motorized projection screen at the multipurpose room that is adequate; manual projection screens in classrooms; Smartboards in about half of the classrooms; and library shelving that is adequate. Other equipment includes kitchen equipment in fair to good condition and basketball backstops in the gym in good condition.

Furnishings include: plastic laminate and wood veneer fixed casework in classrooms, generally in fair to poor condition; display cabinets in corridors; auditorium seating in fair condition with some damage observed; and window roller shades that are typically in use as a display surface.

**MECHANICAL SYSTEMS**

Fixtures are a mixture of various styles and vintages. Many fixtures are out of service, stained, or cracked. Flush valves are installed in pipe chases. Lavatories are mostly enameled cast iron and many are rusty. Faucets are separate hot and cold with momentary action valves. Half the toilet fixtures should be replaced. The cafeteria kitchen has a single basin cook sink, a triple basin wash sink with sanitization chemical injection and grease trap, and one lavatory. Sinks are commercial stainless steel and in good condition and should last 15 more years. Classrooms in the original construction have (or had) cast iron sinks with fountains, and the addition classrooms have stainless steel sinks. Cast iron service sinks with stainless rims are located in cleaning closets. They are heavily stained, and the third floor sink leaks from the vacuum breaker and drains slowly. Classroom and service sinks should be replaced. There were showers in the gym toilet rooms, but the boys' have been removed and replaced with urinals and the girls' still has one. Water fountains include porcelain and painted steel units in corridors. They have exceeded their service life and should be replaced with accessible fixtures.

Water enters the building in the boiler room througha 4 inch line. There is a compound water meter and Y-strainer but the back flow preventer has been removed and replaced with a spool piece. The water meter bypass line has a 2 inch back flow preventer. A new backflow preventer should be installed. Domestic hot water is heated by 2 Paloma model 24M-DN tankless natural gas water heaters manufactured in 1986. Each heater has a circulation pump. Heaters have exceeded their expected life span by 20 years and should be replaced due to age. Domestic water distribution pipe is soldered copper. Somehow there are rust streaks in porcelain fixtures, so perhaps some of the domestic piping is steel. Stained fixtures indicate corroding pipes, so domestic water distribution pipes should be replaced. The building does not have a domestic water pressure booster.

Sanitary drain pipes are threaded galvanized steel. There are problems with drains clogging in the building at classroom sinks, service sinks, and drinking fountains. Drain pipes are likely original and should be replaced due to age. There is no sewage ejector.

Rain water drain pipes are threaded galvanized steel and run inside the building. They appear original and are in fair condition. Some areas have been repaired with banded couplings. Roof top drains have cast iron strainers. Drain pipes should be serviceable for 10 - 15 more years. There is a floor sump in the basement with two replacement end suction pumps.

The building is heated by steam and hot water via unit vents, fan coil unit heaters, and finned tube convection units with air handlers for gym and auditorium.

Steam is generated by 3 Smith model 450 16 section boilers with Power Flame oil burners. They have capacity 2223 MBH (66 HP). Burners were manufactured in 1990. Boilers may be older but certificated could not be found. One boiler has a chronic leak from a water drum with lots of rust and scale built up around it. It should be replaced. Boilers 2 and 3 were running at 5 psi during the inspection. Hot water is generated by a steam to water heat exchanger in the room behind the boiler room. The heat exchanger has its own condensate sump with two pumps and there is another condensate collection tank in the boiler room that serves as the feedwater tank. Both feed pumps connect to a single line serving all 3 boilers. Both condensate tanks were venting steam excessively and the entire basement was damp from humidity. The steam traps need to be surveyed and repaired. The building has an underground storage tank for oil with 12,000 gallon capacity. Two oil circulation pumps are in the east corner of the boiler room and sounded good while running but they leak a little bit and have not been cleaned in a very long while. Gas service enters the building in a 2 inch line from northwest side of the building. Mr. Davis detected a natural gas leak in the kitchen by odor. The gas supply was shut off, the gas company was notified, and a workman arrived before we left the location.

Cooling is only provided by 13 window unit air conditioners and 1 ductless split system, approximately 28 ton total capacity. A chiller system should be installed for the entire building with 230 ton capacity.

Classrooms are heated and vented by unit ventilators. The styles are different between the original construction and the classroom addition, but they are all beyond their life expectancy and lack cooling capability. They should be replaced due to age. Classroom excess air exhausts through transfer ducts in closets to the corridors and then to vertical duct chases to gravity vents on the roof. The gym and auditorium are supplied by equipment located in a mechanical room upstairs between them. There are separate supply and exhaust fans for both, and fans are 1.5 HP each. The kitchen has a large horizontal unit vent along its ceiling. These units have all

exceeded their service life and lack cooling capacity so should be replaced. There is a gas burning range (8 burners, 2 ovens) and a convection oven. They are installed under an exhaust hood, but it does not have a fire suppression system. A fire suppression system should be installed for the range and oven. Toilet rooms have dedicated exhaust fans, but some locations are missing the fans or they are inoperable. Some toilet rooms still had unpleasant odors present on Saturday. Toilet exhaust fans should be replaced. The original building has steam heat and the classroom addition has hot water. The steam and condensate pipes are heavily rusted throughout the building and should be replaced. Steam hammer was occurring and easily audible in the health suite. Hydronic circulation is provided by two 7.5 HP circulation pumps. One was running well at the time of inspection. They are both in good condition and appear to have been replaced recently, so they should last 15-20 year more.

Classroom unit vents are flanked by finned tube convection units installed in bookcases. Toilet rooms, entryways, small offices, and store rooms have convectors as their only source of heat. Unit vents are mostly original, many have badly bent fins, and some are very rust. They should all be replaced.

Controls for heating are pneumatic. There is an air compressor with one pump and tank, but the filter dryer is inoperative because the power cable is removed. The pneumatic control panel is located in the basement and all of the gauges read zero. Classrooms have pneumatic thermostats which are falling apart and unit vents have pneumatic actuators. The whole system is obsolete and should be replaced with a digital control system when the HVAC equipment is overhauled.

The building does not have sprinklers or stand pipes. A fire protection sprinkler system should be installed.

**ELECTRICAL SYSTEMS**

Most probably an underground lateral service from a pole mounted transformer on Wakefield Street serves this school. The electrical equipment is located in the basement. The basement houses the utility main disconnect switch, utility metering PECO 01019314820 and 600A 120/240V distribution section. At the basement there are several disconnect switches indicating that electrical loads have been removed/relocated from the 600A, 120/240V original distribution section. The existing service has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system. The electrical service needs to be upgraded. The new service will be 277/480V, 3 phase power, and approximate 1600A and will be located in the vicinity of the existing electrical service. The new electrical service would feed a 480V Motor Control Center (MCC) and HVAC (Heating, Ventilation and Air Conditioning) equipment, and a 480V 3 phase to 120/208V 3 phase, 500KVA step-down transformer to feed receptacles, lighting and other smaller loads.

There are 120/240V panel-boards in each floor for lighting and receptacles, panelboard ages varies from 10 to 50 years old. Since the electrical service is going to be upgraded and the voltage system will change. Replace existing panelboards. There is (1) 75KVA (estimated) phase converter from 240V to 120/208V which normally feeds newest mechanical equipment.

The number of receptacles in 80% of the classrooms are inadequate. Teachers use extension cords. The teacher's whiteboard wall and the opposite of it need to be provided with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

Most of the classrooms are illuminated with pendant mounted, wraparound fluorescent fixtures, the first, second and third floor corridors are illuminated with 1'x4' recessed fluorescent fixtures, the basement corridor and the stairways are illuminated with surface mounted fluorescent fixtures, the entrance and the auditorium are illuminated with pendant, up/down light, white acrylic lens, deep bowl architectural lighting fixture, mechanical rooms are illuminated with industrial/strip fluorescent fixtures. Fluorescent fixtures in the corridors and stairways have been retrofitted with T-8 fluorescent lamps all other areas the fluorescent fixtures are with T-12 lamps. T-12 lamps are becoming more expensive, difficult to find and consume more energy. Therefore replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps.

The Fire Alarm system is manufactured by Edwards GS and interface with the fire alarm control panel manufactured by S.H. Couch Co Inc. The system is approximately 30 years old. The present Fire Alarm system does not meet current code and needs to be replaced. Fire alarm system is tested every day in the morning.

The present telephone system is adequate. During the assessment, randomly, we verified that each wall mounted handset is provided with dial tone. An independent and separate PA system does not exist, or is not working. School uses the telephone systems for public announcement. System is working adequately for most part. The present clocks and control panel are manufactured by Standard. Clock system is old and difficult to find parts and repair, most of the classrooms are provided with stand-alone clocks. Replace clock system with wireless, synchronized, battery operated system. There is not television system. The security system consists of surveillance (5) CCTV cameras at the first floor. To have the complete coverage of the interior of the school building additional surveillance CCTV cameras are required. During the assessment, we did not have access to the IT room. School district standard is to provide adequate UPS in the IT room.

The emergency power system consists of a gas powered generator, manufactured by Generac, rated 15KW, 120/240V. The present emergency power system serves the corridor, exit signs, stair ways, gymnasium, auditorium and boiler room. The gas powered generator was installed in 1994 and is expected to provide 10 more years of useful service life. Present emergency system does not have the capacity to carry future emergency loads. Provide new outdoor, diesel powered generator. The emergency lighting is obtained with dedicated fixtures connected to the emergency generator. Exit signs are located at each exit door and corridors and are connected to the school emergency system.

The lightning protection is obtained with air terminals at the school chimney. A study should be conducted to determine if the existing lightning system provide the proper protection to the school building. The stage theatrical lighting is composed of two rows of upstage and one row of front floodlight fixtures. Theatrical lighting fixtures are controlled by a local panelboard. Modern school auditorium requires front, upstage, high side, back, theatrical lighting and to create different scenes theatrical lighting fixtures are controlled by a dimming system. Provide theatrical lighting and dimming control system. The sound system is by GS General Sound System. During the assessment the GS General Sound System cabinet was not accessible indicating that is not frequently use. Most probably the stage sound system is provided by a portable system. Provide a permanent installed modern sound system.

The school perimeter is illuminated with wall mounted fixtures providing total perimeter coverage. There are six outdoor surveillance CCTV cameras. Add more outdoor surveillance CCTV cameras to provide a complete coverage of the building perimeter. The exterior of the school is provided with two loud speakers, one is facing the play area and the other is facing the parking lot. No additional outdoor loud speakers are required.

**GROUNDS SYSTEMS**

The asphalt parking lot is located in the northeast corner of the site. Striping is faded. There are no parking bumpers. There is no designated accessible parking with an accessible route to the building. Asphalt is in fair to poor condition with some settled areas, ponding, alligatoring, deeper cracking and vegetation in the asphalt. The parking area is segregated from playgrounds with low picket fencing. The western side has a retaining wall at the grade separation to adjacent playgrounds. Asphalt playgrounds are in fair condition with some settled areas, ponding, alligatoring, deeper cracking and vegetation in the asphalt. Other pedestrian paving is concrete along city streets and a large swath from Wakefield St. to the main entry. Exterior steps

Fencing types include metal picket and chain link and brick. Fencing adjacent to commercial property at the south end is topped with razor wire. Playground equipment is installed over a padded play surface at the front of the building and at the back. There is a rectangle of artificial turf at the back of the building.  There is a rusted flagpole in the front yard and pole mounted basketball hoops with backboards in the back. A retaining wall topped by chain link fence runs south of the building along the west property line and shows no signs of distress.

Landscaping consists of mature and newly planted street trees at the site perimeter and some on-site mature trees and shrubs. There is a lawn area with several large stumps around the kitchen and another couple of small lawn areas near the entry. There is no irrigation system.

RECOMMENDATIONS

- Replace roofing
- Install ladders from gym/auditorium roof to lower roofs at kitchen and entry areas
- Repair exterior walls: point brick, particularly around windows; install expansion joint between the original construction and the addition
- Replace exterior windows
- Replace exterior doors
- Reconfigure toilet rooms on each floor and at the cafeteria/auditorium for accessibility; provide new toilet partitions and toilet accessories including grab bars. Provide unisex accessible toilets on each floor for faculty/staff and in the nurse office.
- Replace handrails in stairwells
- Replace 9” VAT with 12” VCT
- Refinish wood floors
- Replace library carpeting
- Replace interior signage
- Replace glued acoustical tile ceilings where they occur
- Replace damaged/stained 2x4 acoustical tiles in existing grid. Replace damaged grid
- Replace chalkboards with marker boards
- Install an interior ramp from entrance to 1$^{st}$ floor school level
- Install an elevator between the original building and the classroom addition with landings/stops at each level.

- Refurbish auditorium seating
- Replace classroom cabinetry

MECHANICAL

- Replace half of water closets due to age, stains, cracks, 28
- Replace half of urinals due to appearance and age, 12
- Replace half of toilet lavatories and classroom sinks due to age and appearance, 20 lav and 11 sinks
- Replace service sinks due to age and appearance, 5
- Replace fountains due to accessibility, 5
- Install backflow preventer at water entry, 4 inch
- Replace domestic tankless water heaters due to age, 2
- Replace sanitary drain pipes due to age, 97,000 s.f.
- Repair or replace boiler due to water leak, 66 HP
- Survey and repair steam traps, 69,000 s.f.
- Install 230 ton chiller system, 69,000 s.f.
- Replace unit ventilators, 51
- Replace auditorium AHU, 298 seats
- Replace gym AHU, 4,400 s.f.
- Replace missing, inoperable, and inadequate toilet exhaust fans, 11
- Replace steam pipe due to age and rust, 69,000 s.f.
- Replace finned tube convection units, 300 l.f.
- Convert pneumatic controls to DDC, 93,000 s.f.
- Install fire protection sprinkler system, 93,000 s.f.
- Install fire suppression system for kitchen range and oven in exhaust hood

ELECTRICAL

- Provide a new electrical service 277/480V, 3 phase power, 1600 Amperes and 500KVA step-down transformer.
- Replace the entire distribution system with new panels and new wiring/conduits. Approximate (12) 208/120V panel boards.
- Provide (2)25FT of surface raceways with receptacles spaced 24” on center/classroom and 4 wall mount receptacles/classroom. Approximate 512 receptacles.
- Replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps. Approximate 870 fixtures.
- Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 125 devices
- Replace clock system with wireless, synchronized, battery operated, clock system. Approximate 70 clocks.
- Provide indoor surveillance CCTV cameras for complete coverage of the school building interior. Approximate 30
- Provide 100KW, outdoor, diesel powered generator.
- Prepare a study to determine if the air terminals mounted on the chimney provide the proper protection to the school building.
- Provide theatrical lighting and dimming control system.
- Provide a permanent installed modern sound system.
- Provide outdoor surveillance CCTV cameras to the building exterior for full coverage of the perimeter. Approximate 4 CCTV cameras.

GROUNDS

- Resurface asphalt parking lot & playground
- Repair site steps. Install additional landings/steps at exterior doors where step exceeds 8”
- Install ramp to front entry doors

**Attributes:**

**General Attributes:**

| | | | |
|---|---|---|---|
| Active: | Open | Bldg Lot Tm: | Lot 5 / Tm 3 |
| Status: | Accepted by SDP | Team: | Tm 3 |
| Site ID: | S643001 | | |

## 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 | 40.00 % | 0.00 % | $0.00 |
| A20 - Basement Construction | 40.00 % | 0.00 % | $0.00 |
| B10 - Superstructure | 40.00 % | 0.67 % | $56,207.07 |
| B20 - Exterior Enclosure | 62.52 % | 49.69 % | $2,624,723.33 |
| B30 - Roofing | 109.51 % | 89.33 % | $1,118,716.26 |
| C10 - Interior Construction | 57.56 % | 103.35 % | $2,376,829.90 |
| C20 - Stairs | 40.00 % | 102.05 % | $134,850.11 |
| C30 - Interior Finishes | 75.36 % | 10.98 % | $587,384.58 |
| D10 - Conveying | 105.71 % | 304.96 % | $1,251,764.48 |
| D20 - Plumbing | 88.54 % | 75.16 % | $1,438,212.47 |
| D30 - HVAC | 94.83 % | 73.74 % | $7,686,853.34 |
| D40 - Fire Protection | 105.71 % | 185.92 % | $1,404,369.51 |
| D50 - Electrical | 110.11 % | 49.17 % | $2,708,678.16 |
| E10 - Equipment | 51.93 % | 19.68 % | $293,594.70 |
| E20 - Furnishings | 105.00 % | 166.45 % | $332,263.31 |
| G20 - Site Improvements | 39.47 % | 22.83 % | $394,649.67 |
| G40 - Site Electrical Utilities | 46.31 % | 14.74 % | $73,750.98 |
| **Totals:** | **72.02 %** | **45.11 %** | **$22,482,847.87** |

### 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) |
|---|---|---|---|---|---|---|---|
| B643001;Wister | 93,715 | 46.24 | $1,479,963.03 | $8,958,242.77 | $3,387,013.32 | $1,857,231.38 | $6,331,996.72 |
| G643001;Grounds | 115,000 | 21.02 | $9,093.63 | $29,005.10 | $430,301.92 | $0.00 | $0.00 |
| **Total:** | | **45.11** | **$1,489,056.66** | **$8,987,247.87** | **$3,817,315.24** | **$1,857,231.38** | **$6,331,996.72** |

### Deficiencies By Priority


**Budget Estimate Total: $22,482,847.87**

## Executive Summary

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

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

| | |
|---|---|
| Function: | Elementary School |
| Gross Area (SF): | 93,715 |
| Year Built: | 1955 |
| Last Renovation: | |
| Replacement Value: | $47,612,533 |
| Repair Cost: | $22,014,447.22 |
| Total FCI: | 46.24 % |
| Total RSLI: | 73.47 % |

**Description:**

**Attributes:**

**General Attributes:**

| | | | |
|---|---|---|---|
| Active: | Open | Bldg ID: | B643001 |
| Sewage Ejector: | No | Status: | Accepted by SDP |
| Site ID: | S643001 | | |

## 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 | 40.00 % | 0.00 % | $0.00 |
| A20 - Basement Construction | 40.00 % | 0.00 % | $0.00 |
| B10 - Superstructure | 40.00 % | 0.67 % | $56,207.07 |
| B20 - Exterior Enclosure | 62.52 % | 49.69 % | $2,624,723.33 |
| B30 - Roofing | 109.51 % | 89.33 % | $1,118,716.26 |
| C10 - Interior Construction | 57.56 % | 103.35 % | $2,376,829.90 |
| C20 - Stairs | 40.00 % | 102.05 % | $134,850.11 |
| C30 - Interior Finishes | 75.36 % | 10.98 % | $587,384.58 |
| D10 - Conveying | 105.71 % | 304.96 % | $1,251,764.48 |
| D20 - Plumbing | 88.54 % | 75.16 % | $1,438,212.47 |
| D30 - HVAC | 94.83 % | 73.74 % | $7,686,853.34 |
| D40 - Fire Protection | 105.71 % | 185.92 % | $1,404,369.51 |
| D50 - Electrical | 110.11 % | 49.17 % | $2,708,678.16 |
| E10 - Equipment | 51.93 % | 19.68 % | $293,594.70 |
| E20 - Furnishings | 105.00 % | 166.45 % | $332,263.31 |
| **Totals:** | **73.47 %** | **46.24 %** | **$22,014,447.22** |

## Condition Detail

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

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

## System Listing

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

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

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

| System Code | System Description | Unit Price $ | UoM | Qty | Life | Year Installed | Calc Next Renewal Year | Next Renewal Year | RSLI% | FCI% | RSL | eCR | Deficiency $ | Replacement Value $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1010 | Standard Foundations | $18.40 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.00 % | 40 | | | $1,724,356 |
| A1030 | Slab on Grade | $7.73 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.00 % | 40 | | | $724,417 |
| A2010 | Basement Excavation | $6.55 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.00 % | 40 | | | $613,833 |
| A2020 | Basement Walls | $12.70 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.00 % | 40 | | | $1,190,181 |
| B1010 | Floor Construction | $75.10 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.80 % | 40 | | $56,207.07 | $7,037,997 |
| B1020 | Roof Construction | $13.88 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 0.00 % | 40 | | | $1,300,764 |
| B2010 | Exterior Walls | $36.91 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 9.60 % | 40 | | $332,176.08 | $3,459,021 |
| B2020 | Exterior Windows | $18.01 | S.F. | 93,715 | 40 | 1955 | 1995 | 2057 | 105.00 % | 118.50 % | 42 | | $1,999,980.50 | $1,687,807 |
| B2030 | Exterior Doors | $1.45 | S.F. | 93,715 | 25 | 1990 | 2015 | 2042 | 108.00 % | 215.30 % | 27 | | $292,566.75 | $135,887 |
| B3010105 | Built-Up | $37.76 | S.F. | 33,018 | 20 | 1995 | 2015 | 2037 | 110.00 % | 89.73 % | 22 | | $1,118,716.26 | $1,246,760 |
| B3010120 | Single Ply Membrane | $38.73 | S.F. | | 20 | | | | 0.00 % | 0.00 % | | | | $0 |
| B3010130 | Preformed Metal Roofing | $54.22 | S.F. | | 30 | | | | 0.00 % | 0.00 % | | | | $0 |
| B3010140 | Shingle & Tile | $38.73 | S.F. | | 25 | | | | 0.00 % | 0.00 % | | | | $0 |
| B3020 | Roof Openings | $0.06 | S.F. | 93,715 | 20 | | | | 0.00 % | 0.00 % | | | | $5,623 |
| C1010 | Partitions | $17.91 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 117.21 % | 40 | | $1,967,335.90 | $1,678,436 |
| C1020 | Interior Doors | $3.51 | S.F. | 93,715 | 40 | 1955 | 1995 | 2057 | 105.00 % | 105.53 % | 42 | | $347,127.31 | $328,940 |
| C1030 | Fittings | $3.12 | S.F. | 93,715 | 40 | 1955 | 1995 | 2057 | 105.00 % | 21.33 % | 42 | | $62,366.69 | $292,391 |
| C2010 | Stair Construction | $1.41 | S.F. | 93,715 | 100 | 1955 | 2055 | | 40.00 % | 102.05 % | 40 | | $134,850.11 | $132,138 |

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| System Code | System Description | Unit Price $ | UoM | Qty | Life | Year Installed | Calc Next Renewal Year | Next Renewal Year | RSLI% | FCI% | RSL | eCR | Deficiency $ | Replacement Value $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C3010230 | Paint & Covering | $17.70 | S.F. | 93,715 | 10 | 2012 | 2022 | 2022 | 70.00 % | 0.00 % | 7 | | | $1,658,756 |
| C3010231 | Vinyl Wall Covering | $0.00 | S.F. | | 15 | | | | 0.00 % | 0.00 % | | | | $0 |
| C3010232 | Wall Tile | $1.98 | S.F. | 93,715 | 30 | 1955 | 1985 | 2047 | 106.67 % | 0.00 % | 32 | | | $185,556 |
| C3020411 | Carpet | $7.30 | S.F. | 1,800 | 10 | 2000 | 2010 | 2027 | 120.00 % | 153.30 % | 12 | | $20,143.38 | $13,140 |
| C3020412 | Terrazzo & Tile | $75.52 | S.F. | 9,400 | 50 | 1955 | 2005 | 2067 | 104.00 % | 0.00 % | 52 | | | $709,888 |
| C3020413 | Vinyl Flooring | $9.68 | S.F. | 73,115 | 20 | 1955 | 1975 | 2037 | 110.00 % | 62.79 % | 22 | | $444,383.37 | $707,753 |
| C3020414 | Wood Flooring | $22.27 | S.F. | 4,700 | 25 | 1955 | 1980 | 2042 | 108.00 % | 48.35 % | 27 | | $50,604.62 | $104,669 |
| C3020415 | Concrete Floor Finishes | $0.97 | S.F. | 4,700 | 50 | 1955 | 2005 | 2067 | 104.00 % | 0.00 % | 52 | | | $4,559 |
| C3030 | Ceiling Finishes | $20.97 | S.F. | 93,715 | 25 | 1955 | 1980 | 2028 | 52.00 % | 3.68 % | 13 | | $72,253.21 | $1,965,204 |
| D1010 | Elevators and Lifts | $4.38 | S.F. | 93,715 | 35 | | | 2052 | 105.71 % | 304.96 % | 37 | | $1,251,764.48 | $410,472 |
| D2010 | Plumbing Fixtures | $13.52 | S.F. | 93,715 | 35 | 1955 | 1990 | 2047 | 91.43 % | 37.21 % | 32 | | $471,516.46 | $1,267,027 |
| D2020 | Domestic Water Distribution | $1.68 | S.F. | 93,715 | 25 | 1955 | 1980 | 2042 | 108.00 % | 352.37 % | 27 | | $554,774.98 | $157,441 |
| D2030 | Sanitary Waste | $2.90 | S.F. | 93,715 | 25 | 1955 | 1980 | 2042 | 108.00 % | 151.57 % | 27 | | $411,921.03 | $271,774 |
| D2040 | Rain Water Drainage | $2.32 | S.F. | 93,715 | 30 | 1955 | 1985 | 2025 | 33.33 % | 0.00 % | 10 | | | $217,419 |
| D3020 | Heat Generating Systems | $18.67 | S.F. | 93,715 | 35 | 1990 | 2025 | | 28.57 % | 14.03 % | 10 | | $245,555.06 | $1,749,659 |
| D3030 | Cooling Generating Systems | $24.48 | S.F. | 93,715 | 30 | | | 2047 | 106.67 % | 48.30 % | 32 | | $1,108,098.20 | $2,294,143 |
| D3040 | Distribution Systems | $42.99 | S.F. | 93,715 | 25 | 1955 | 1980 | 2042 | 108.00 % | 107.68 % | 27 | | $4,338,155.58 | $4,028,808 |
| D3050 | Terminal & Package Units | $11.60 | S.F. | 93,715 | 20 | 1955 | 1975 | 2037 | 110.00 % | 0.00 % | 22 | | | $1,087,094 |
| D3060 | Controls & Instrumentation | $13.50 | S.F. | 93,715 | 20 | 1955 | 1975 | 2037 | 110.00 % | 157.69 % | 22 | | $1,995,044.50 | $1,265,153 |
| D4010 | Sprinklers | $7.05 | S.F. | 93,715 | 35 | | | 2052 | 105.71 % | 212.56 % | 37 | | $1,404,369.51 | $660,691 |
| D4020 | Standpipes | $1.01 | S.F. | 93,715 | 35 | | | 2052 | 105.71 % | 0.00 % | 37 | | | $94,652 |
| D5010 | Electrical Service/Distribution | $9.70 | S.F. | 93,715 | 30 | 1955 | 1985 | 2047 | 106.67 % | 87.35 % | 32 | | $794,009.71 | $909,036 |
| D5020 | Lighting and Branch Wiring | $34.68 | S.F. | 93,715 | 20 | 1955 | 1975 | 2037 | 110.00 % | 28.86 % | 22 | | $937,894.16 | $3,250,036 |
| D5030 | Communications and Security | $12.99 | S.F. | 93,715 | 15 | 1955 | 1970 | 2032 | 113.33 % | 61.73 % | 17 | | $751,502.10 | $1,217,358 |
| D5090 | Other Electrical Systems | $1.41 | S.F. | 93,715 | 30 | 1955 | 1985 | 2047 | 106.67 % | 170.48 % | 32 | | $225,272.19 | $132,138 |
| E1020 | Institutional Equipment | $4.82 | S.F. | 93,715 | 35 | 1955 | 1990 | 2052 | 105.71 % | 65.00 % | 37 | | $293,594.70 | $451,706 |
| E1090 | Other Equipment | $11.10 | S.F. | 93,715 | 35 | 1990 | 2025 | | 28.57 % | 0.00 % | 10 | | | $1,040,237 |
| E2010 | Fixed Furnishings | $2.13 | S.F. | 93,715 | 40 | 1955 | 1995 | 2057 | 105.00 % | 166.45 % | 42 | | $332,263.31 | $199,613 |
| | | | | | | | | **Total** | **73.47 %** | **46.24 %** | | | **$22,014,447.22** | **$47,612,533** |

## System Notes

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

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

**Note:** Paint 90%
Tile 10%

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

**Note:** Carpet 2%
Terrazzo/Tile 10%
Vinyl 78%
Wood 5%
Concrete 5%

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

**Note:** Painted structure 65%
2x4 suspended acoustical tile 25%
12" or 1x2 glue-on acoustical tile 10%

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


**Note:** There is a phase converter rated 75KVA (estimated)

## Renewal Schedule

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

*Inflation Rate: 3%*

| System | Current Deficiencies | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total:** | **$22,014,447** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$2,244,066** | **$0** | **$0** | **$4,445,737** | **$28,704,250** |
| *** A - Substructure** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A10 - Foundations** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A1010 - Standard Foundations** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A1030 - Slab on Grade** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A20 - Basement Construction** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A2010 - Basement Excavation** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **A2020 - Basement Walls** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B - Shell** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B10 - Superstructure** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B1010 - Floor Construction** | $56,207 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$56,207** |
| **B1020 - Roof Construction** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B20 - Exterior Enclosure** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B2010 - Exterior Walls** | $332,176 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$332,176** |
| **B2020 - Exterior Windows** | $1,999,981 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,999,981** |
| **B2030 - Exterior Doors** | $292,567 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$292,567** |
| **B30 - Roofing** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B3010 - Roof Coverings** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B3010105 - Built-Up** | $1,118,716 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,118,716** |
| **B3010120 - Single Ply Membrane** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B3010130 - Preformed Metal Roofing** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B3010140 - Shingle & Tile** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **B3020 - Roof Openings** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C - Interiors** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C10 - Interior Construction** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C1010 - Partitions** | $1,967,336 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,967,336** |

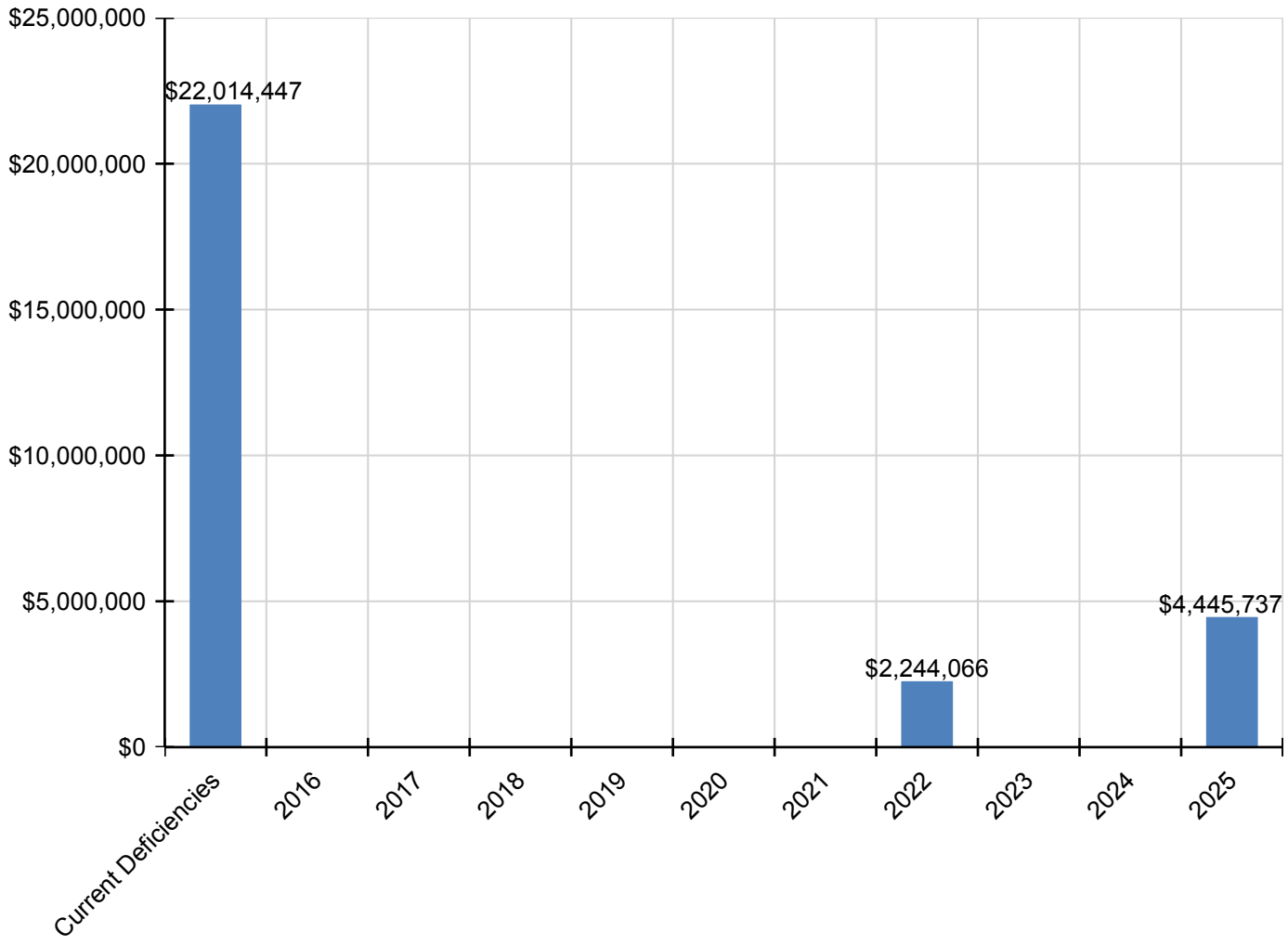
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C1020 - Interior Doors** | $347,127 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$347,127** |
| **C1030 - Fittings** | $62,367 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$62,367** |
| **C20 - Stairs** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C2010 - Stair Construction** | $134,850 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$134,850** |
| **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 | $2,244,066 | $0 | $0 | $0 | **$2,244,066** |
| **C3010231 - Vinyl Wall Covering** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C3010232 - Wall Tile** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C3020 - Floor Finishes** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C3020411 - Carpet** | $20,143 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$20,143** |
| **C3020412 - Terrazzo & Tile** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C3020413 - Vinyl Flooring** | $444,383 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$444,383** |
| **C3020414 - Wood Flooring** | $50,605 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$50,605** |
| **C3020415 - Concrete Floor Finishes** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **C3030 - Ceiling Finishes** | $72,253 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$72,253** |
| **D - Services** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D10 - Conveying** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D1010 - Elevators and Lifts** | $1,251,764 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,251,764** |
| **D20 - Plumbing** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D2010 - Plumbing Fixtures** | $471,516 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$471,516** |
| **D2020 - Domestic Water Distribution** | $554,775 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$554,775** |
| **D2030 - Sanitary Waste** | $411,921 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$411,921** |
| **D2040 - Rain Water Drainage** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $321,412 | **$321,412** |
| **D30 - HVAC** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D3020 - Heat Generating Systems** | $245,555 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $2,586,535 | **$2,832,090** |
| **D3030 - Cooling Generating Systems** | $1,108,098 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,108,098** |
| **D3040 - Distribution Systems** | $4,338,156 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$4,338,156** |
| **D3050 - Terminal & Package Units** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D3060 - Controls & Instrumentation** | $1,995,045 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,995,045** |
| **D40 - Fire Protection** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **D4010 - Sprinklers** | $1,404,370 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$1,404,370** |
| **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** | $794,010 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$794,010** |
| **D5020 - Lighting and Branch Wiring** | $937,894 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$937,894** |
| **D5030 - Communications and Security** | $751,502 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$751,502** |
| **D5090 - Other Electrical Systems** | $225,272 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$225,272** |
| **E - Equipment & Furnishings** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **E10 - Equipment** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **E1020 - Institutional Equipment** | $293,595 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$293,595** |
| **E1090 - Other Equipment** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $1,537,790 | **$1,537,790** |
| **E20 - Furnishings** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **E2010 - Fixed Furnishings** | $332,263 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$332,263** |

** Indicates non-renewable system*

## Forecasted Sustainment Requirement

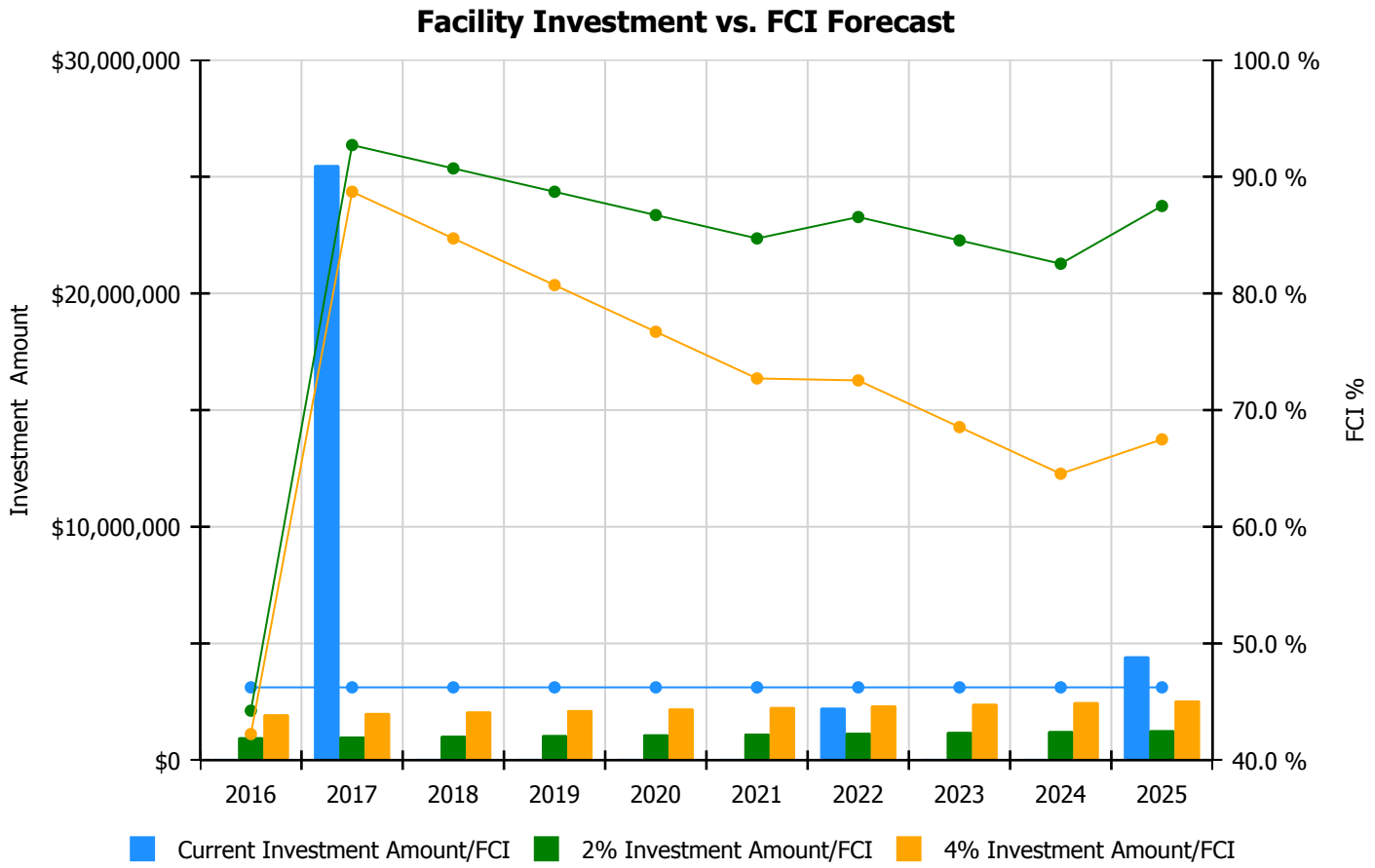
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



## 10 Year FCI Forecast by Investment Scenario

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

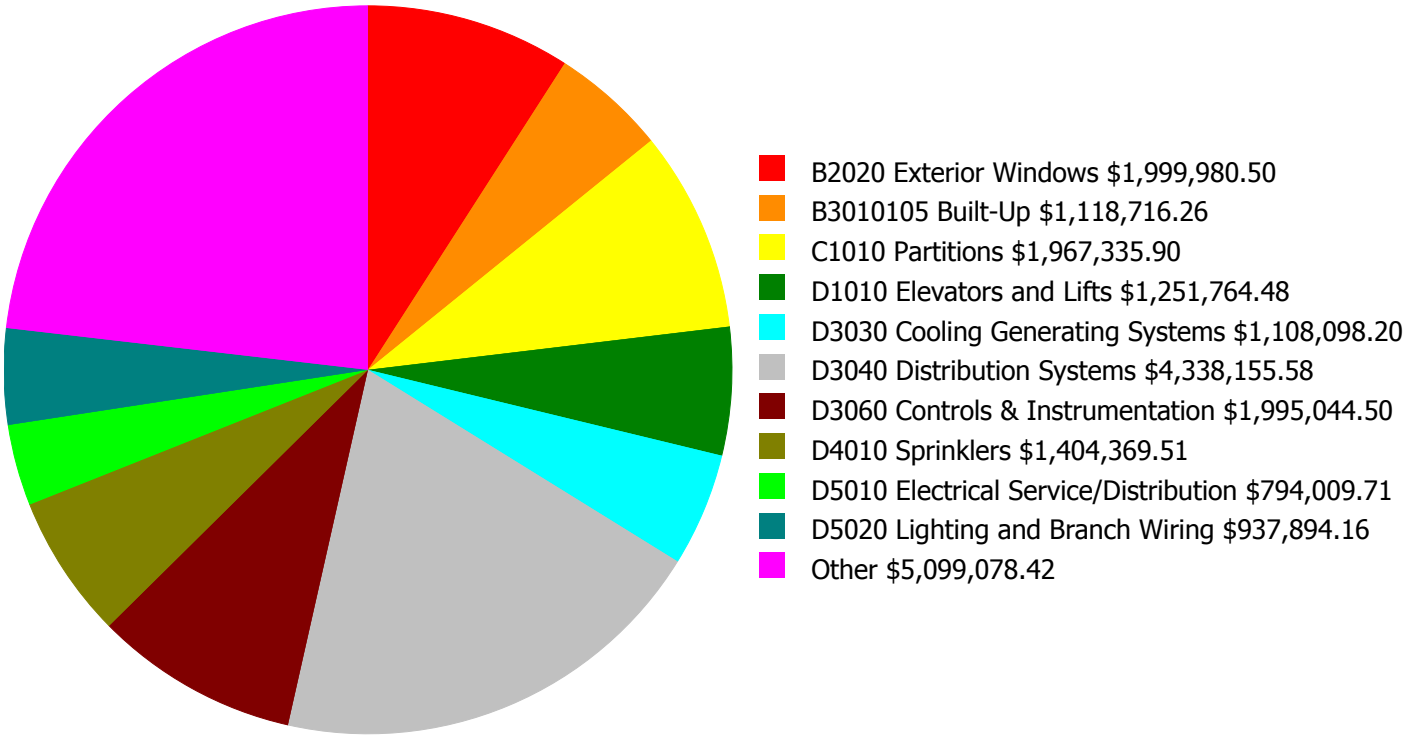
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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




| Year | Investment Amount Current FCI - 46.24% | 2% Investment | | 4% Investment | |
|---|---|---|---|---|---|
| | | Amount | FCI | Amount | FCI |
| 2016 | $0 | $980,818.00 | 44.24 % | $1,961,636.00 | 42.24 % |
| 2017 | $25,495,773 | $1,010,243.00 | 92.71 % | $2,020,485.00 | 88.71 % |
| 2018 | $0 | $1,040,550.00 | 90.71 % | $2,081,100.00 | 84.71 % |
| 2019 | $0 | $1,071,767.00 | 88.71 % | $2,143,533.00 | 80.71 % |
| 2020 | $0 | $1,103,920.00 | 86.71 % | $2,207,839.00 | 76.71 % |
| 2021 | $0 | $1,137,037.00 | 84.71 % | $2,274,074.00 | 72.71 % |
| 2022 | $2,244,066 | $1,171,148.00 | 86.54 % | $2,342,296.00 | 72.54 % |
| 2023 | $0 | $1,206,283.00 | 84.54 % | $2,412,565.00 | 68.54 % |
| 2024 | $0 | $1,242,471.00 | 82.54 % | $2,484,942.00 | 64.54 % |
| 2025 | $4,445,737 | $1,279,745.00 | 87.49 % | $2,559,491.00 | 67.49 % |
| **Total:** | **$32,185,576** | **$11,243,982.00** | | **$22,487,961.00** | |

## Deficiency Summary by System

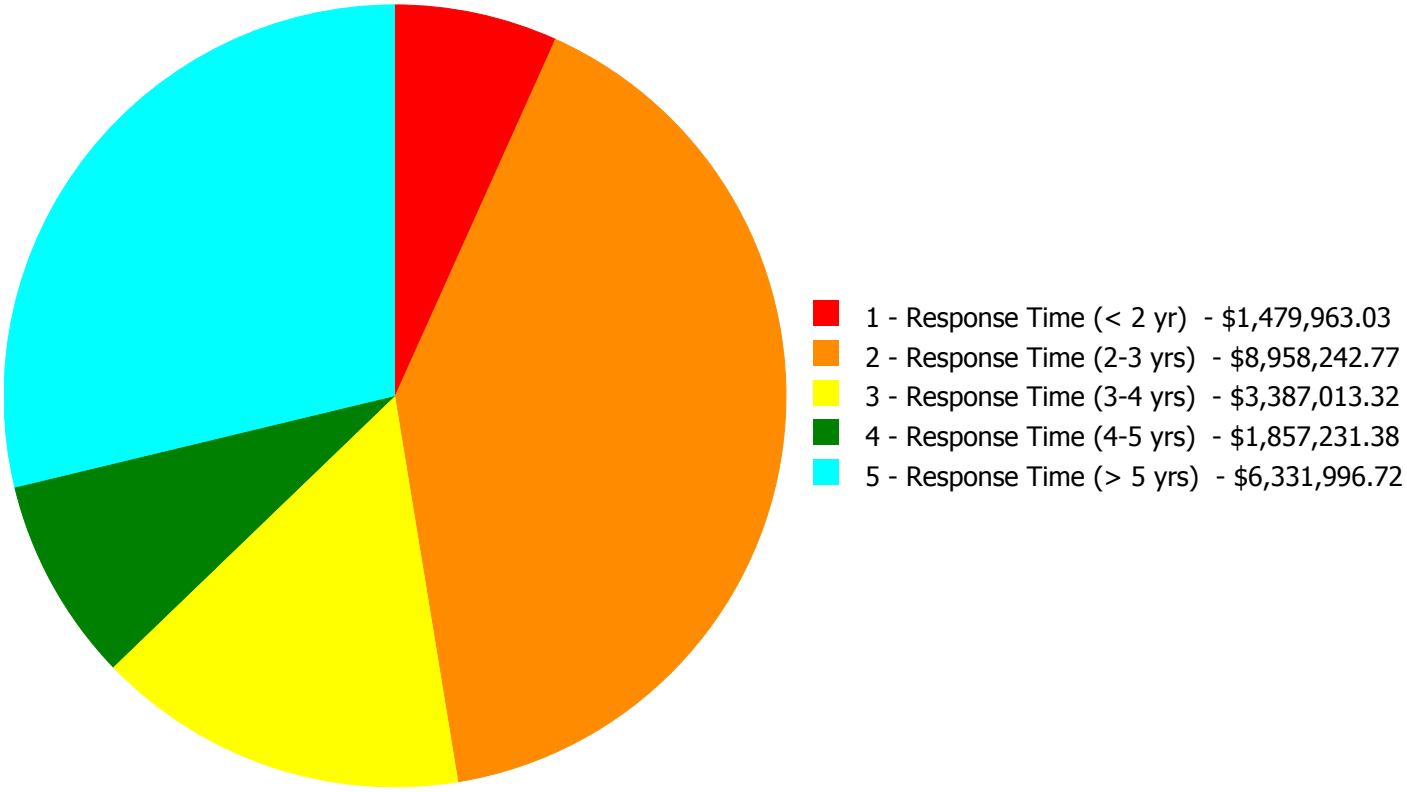
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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




**Budget Estimate Total: $22,014,447.22**

## 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: $22,014,447.22**

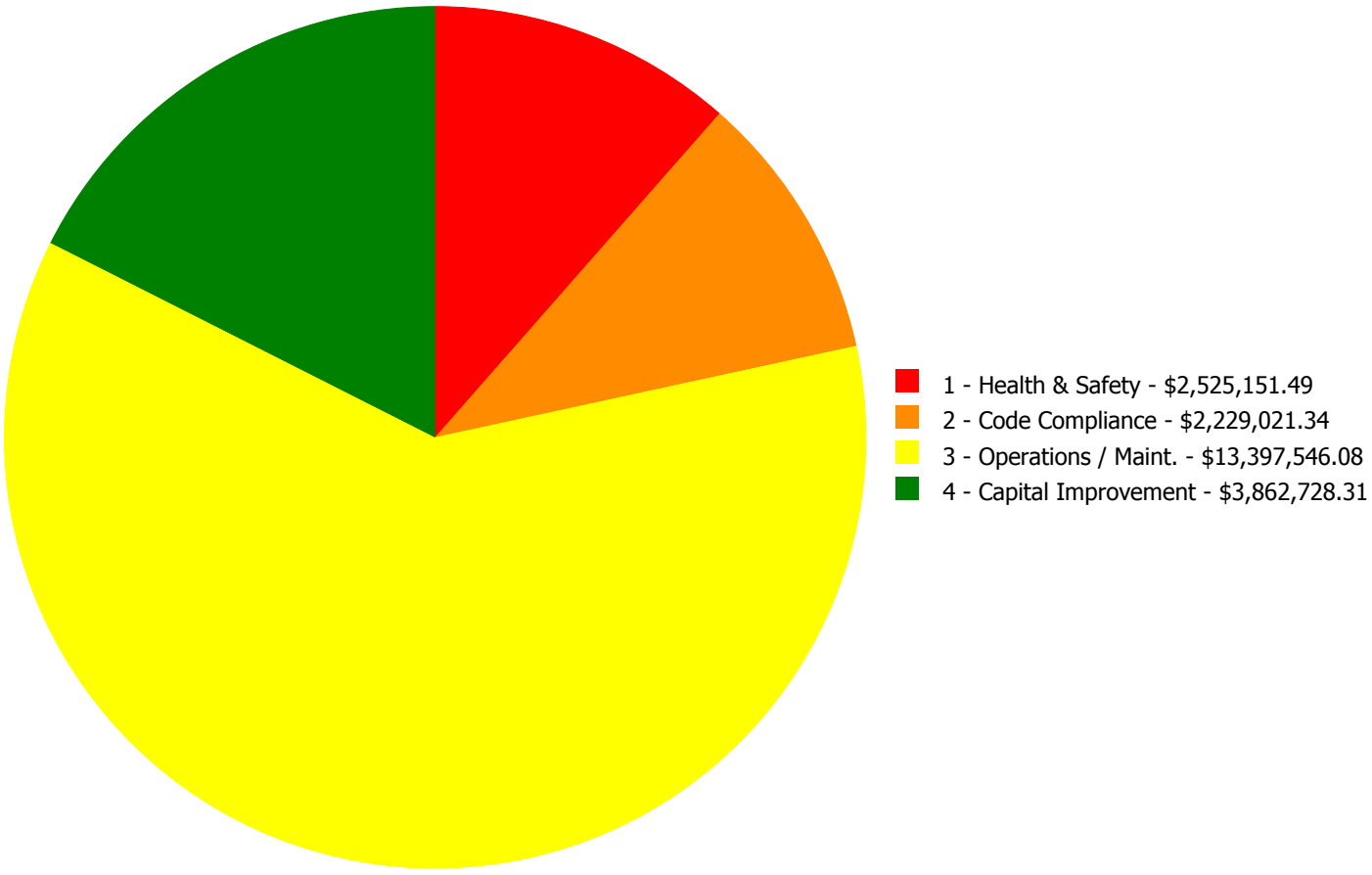
## Deficiency By Priority Investment Table

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 |
|---|---|---|---|---|---|---|---|
| B1010 | Floor Construction | $0.00 | $0.00 | $56,207.07 | $0.00 | $0.00 | $56,207.07 |
| B2010 | Exterior Walls | $0.00 | $332,176.08 | $0.00 | $0.00 | $0.00 | $332,176.08 |
| B2020 | Exterior Windows | $0.00 | $1,999,980.50 | $0.00 | $0.00 | $0.00 | $1,999,980.50 |
| B2030 | Exterior Doors | $0.00 | $0.00 | $0.00 | $292,566.75 | $0.00 | $292,566.75 |
| B3010105 | Built-Up | $1,118,716.26 | $0.00 | $0.00 | $0.00 | $0.00 | $1,118,716.26 |
| C1010 | Partitions | $0.00 | $1,967,335.90 | $0.00 | $0.00 | $0.00 | $1,967,335.90 |
| C1020 | Interior Doors | $0.00 | $347,127.31 | $0.00 | $0.00 | $0.00 | $347,127.31 |
| C1030 | Fittings | $0.00 | $62,366.69 | $0.00 | $0.00 | $0.00 | $62,366.69 |
| C2010 | Stair Construction | $134,850.11 | $0.00 | $0.00 | $0.00 | $0.00 | $134,850.11 |
| C3020411 | Carpet | $0.00 | $0.00 | $0.00 | $20,143.38 | $0.00 | $20,143.38 |
| C3020413 | Vinyl Flooring | $0.00 | $444,383.37 | $0.00 | $0.00 | $0.00 | $444,383.37 |
| C3020414 | Wood Flooring | $0.00 | $0.00 | $50,604.62 | $0.00 | $0.00 | $50,604.62 |
| C3030 | Ceiling Finishes | $0.00 | $72,253.21 | $0.00 | $0.00 | $0.00 | $72,253.21 |
| D1010 | Elevators and Lifts | $0.00 | $1,251,764.48 | $0.00 | $0.00 | $0.00 | $1,251,764.48 |
| D2010 | Plumbing Fixtures | $0.00 | $471,516.46 | $0.00 | $0.00 | $0.00 | $471,516.46 |
| D2020 | Domestic Water Distribution | $0.00 | $14,294.27 | $0.00 | $48,947.09 | $491,533.62 | $554,774.98 |
| D2030 | Sanitary Waste | $0.00 | $0.00 | $411,921.03 | $0.00 | $0.00 | $411,921.03 |
| D3020 | Heat Generating Systems | $0.00 | $0.00 | $245,555.06 | $0.00 | $0.00 | $245,555.06 |
| D3030 | Cooling Generating Systems | $0.00 | $0.00 | $0.00 | $0.00 | $1,108,098.20 | $1,108,098.20 |
| D3040 | Distribution Systems | $226,396.66 | $0.00 | $783,763.53 | $0.00 | $3,327,995.39 | $4,338,155.58 |
| D3060 | Controls & Instrumentation | $0.00 | $1,995,044.50 | $0.00 | $0.00 | $0.00 | $1,995,044.50 |
| D4010 | Sprinklers | $0.00 | $0.00 | $0.00 | $0.00 | $1,404,369.51 | $1,404,369.51 |
| D5010 | Electrical Service/Distribution | $0.00 | $0.00 | $794,009.71 | $0.00 | $0.00 | $794,009.71 |
| D5020 | Lighting and Branch Wiring | $0.00 | $0.00 | $188,093.95 | $749,800.21 | $0.00 | $937,894.16 |
| D5030 | Communications and Security | $0.00 | $0.00 | $299,322.85 | $452,179.25 | $0.00 | $751,502.10 |
| D5090 | Other Electrical Systems | $0.00 | $0.00 | $225,272.19 | $0.00 | $0.00 | $225,272.19 |
| E1020 | Institutional Equipment | $0.00 | $0.00 | $0.00 | $293,594.70 | $0.00 | $293,594.70 |
| E2010 | Fixed Furnishings | $0.00 | $0.00 | $332,263.31 | $0.00 | $0.00 | $332,263.31 |
| | **Total:** | $1,479,963.03 | $8,958,242.77 | $3,387,013.32 | $1,857,231.38 | $6,331,996.72 | $22,014,447.22 |

## Deficiency Summary by Category

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




**Budget Estimate Total: $22,014,447.22**

## Deficiency Details by Priority

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

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

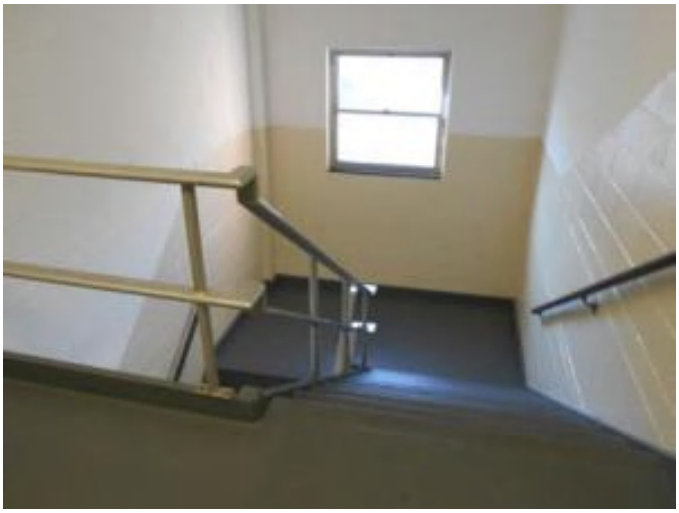
**System: B3010105 - Built-Up**

**Location:** Roofs
**Distress:** Building Envelope Integrity
**Category:** 3 - Operations / Maint.
**Priority:** 1 - Response Time (< 2 yr)
**Correction:** Remove and Replace Built Up Roof
**Qty:** 33,018.00
**Unit of Measure:** S.F.
**Estimate:** $1,118,716.26
**Assessor Name:** System
**Date Created:** 02/18/2016

**Notes:** Replace roofs at the end of expected service life. Roofs are in poor condition with some patching evident, wrinkling and splitting, and considerable loss of granules on the wear surface.

---

**System: C2010 - Stair Construction**



**Location:** Interior stairs
**Distress:** Building / MEP Codes
**Category:** 2 - Code Compliance
**Priority:** 1 - Response Time (< 2 yr)
**Correction:** Replace inadequate or install proper stair railing - select appropriate material
**Qty:** 400.00
**Unit of Measure:** L.F.
**Estimate:** $134,850.11
**Assessor Name:** System
**Date Created:** 02/17/2016

**Notes:** Handrails in stairwells do not conform to modern codes. There are pinch points at intermediate landings in some stairwells. Barrier rails at landings are too low. Handrails do not extend at landings or return to walls.

---

**System: D3040 - Distribution Systems**

**Location:** Original building

**Distress:** Failing

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

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

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

**Qty:** 69,000.00

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

**Estimate:** $226,396.66

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Survey and repair steam traps

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

**System: B2010 - Exterior Walls**

**Location:** Around the building

**Distress:** Damaged

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

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

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

**Qty:** 10,000.00

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

**Estimate:** $322,894.72

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Repair exterior walls, particularly around windows where security grilles have been removed. Repoint mortar joints and fill anchor holes.

---

**System: B2010 - Exterior Walls**

**Location:** Northwest wing

**Distress:** OSHA

**Category:** 2 - Code Compliance

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

**Correction:** Add fixed ladders to wall

**Qty:** 18.00

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

**Estimate:** $4,992.92

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Install fixed ladders to low roofs at kitchen and lobby to provide safe access for inspection and maintenance of roofs and roof mounted equipment.

---

**System: B2010 - Exterior Walls**

**Location:** At addition

**Distress:** Building Envelope Integrity

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

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

**Correction:** Remove and replace expansion joints at exterior walls

**Qty:** 48.00

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

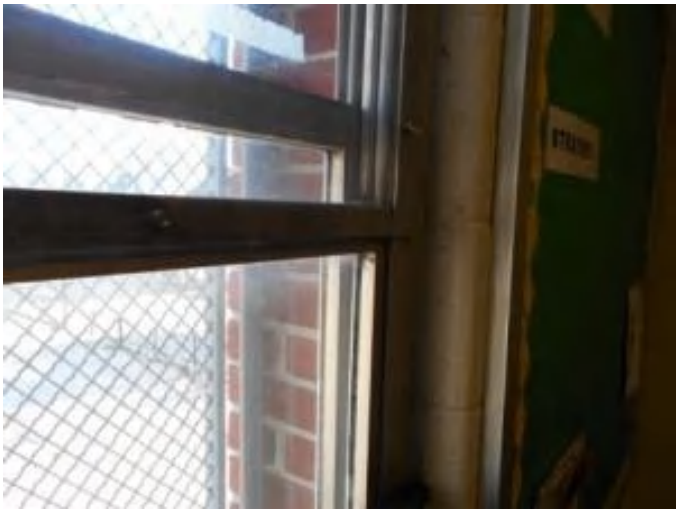
**Estimate:** $4,288.44

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Provide expansion joint between original building and addition. Caulk joint is failing.

**System: B2020 - Exterior Windows**



**Location:** Exterior windows

**Distress:** Building Envelope Integrity

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

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

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

**Qty:** 315.00

**Unit of Measure:** Ea.

**Estimate:** $1,999,980.50

**Assessor Name:** System

**Date Created:** 02/18/2016

**Notes:** Windows are not energy efficient and are in poor condition with failed gaskets, difficult operation and discolored glazing.

**System: C1010 - Partitions**

**Location:** Student restrooms

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Build new gang restroom to meet code or occupant needs - select type and number of fixtures and toilet partitions for mens or womens

**Qty:** 8.00

**Unit of Measure:** Ea.

**Estimate:** $1,686,032.01

**Assessor Name:** System

**Date Created:** 02/18/2016

**Notes:** Student restrooms do not comply with ADA codes for accessibility. Renovate restrooms for each sex on each floor of the building, as well as locker/toilet rooms at the cafeteria/gym/auditorium wing for accessibility. This deficiency/correction will also address condition issues in toilet rooms where flooring and toilet partitions are in poor condition.

---

**System: C1010 - Partitions**

**Location:** TBD

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Build new single restroom to meet code requirements

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** $281,303.89

**Assessor Name:** System

**Date Created:** 02/18/2016

**Notes:** Provide unisex accessible toilet rooms for faculty and staff at each level of the building. Provide accessible toilet room at nurse office.

---

**System: C1020 - Interior Doors**

**Location:** Interior doors

**Distress:** Beyond Service Life

**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:** 100.00

**Unit of Measure:** Ea.

**Estimate:** $347,127.31

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Doors are in fair to poor condition, and do not have ADA compliant hardware. Master key system in building is not functional and needs an overhaul. Replace interior doors in existing frames.

**System: C1030 - Fittings**

**Location:** Classrooms

**Distress:** Obsolete

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

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

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

**Qty:** 24.00

**Unit of Measure:** Ea.

**Estimate:** $35,275.44

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Replace chalkboards with marker boards

**System: C1030 - Fittings**

**Location:** Interiors throughout

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 100.00

**Unit of Measure:** Ea.

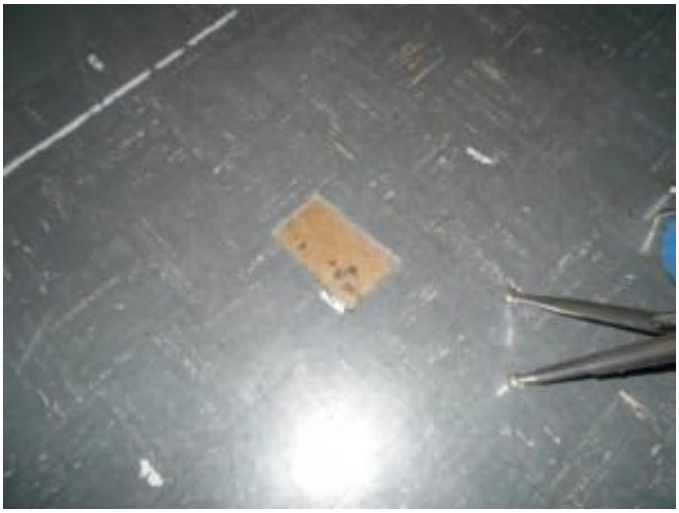
**Estimate:** $27,091.25

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Install code compliant interior signage throughout the building.

**System: C3020413 - Vinyl Flooring**



**Location:** Auditorium, classrooms, corridors

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

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

**Qty:** 29,300.00

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

**Estimate:** $444,383.37

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Replace 9" VAT with 12" VCT wherever it occurs.

**System: C3030 - Ceiling Finishes**

**Location:** Auditorium, lobby, misc. spaces

**Distress:** Damaged

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

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

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

**Qty:** 5,500.00

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

**Estimate:** $68,633.43

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Replace glued acoustical tile ceilings where they occur. Ceilings are presumed original and have exceeded their expected life. Staining and loss of adhesion is widespread.

**System: C3030 - Ceiling Finishes**

**Location:** Classroom addition

**Distress:** Damaged

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

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

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

**Qty:** 240.00

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

**Estimate:** $3,619.78

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Replace damaged 2 x 4 ceiling tiles. Replace a small area of damaged grid.

**System: D1010 - Elevators and Lifts**

**Location:** Between addition and main building

**Distress:** Accessibility

**Category:** 4 - Capital Improvement

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

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

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $1,251,764.48

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Install elevator to service classroom wing.

**System: D2010 - Plumbing Fixtures**

**Location:** Toilet rooms

**Distress:** Beyond Service Life

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

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

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

**Qty:** 28.00

**Unit of Measure:** Ea.

**Estimate:** $208,940.14

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace half of water closets due to age, stains, cracks,...

**System: D2010 - Plumbing Fixtures**

**Location:** Toilet rooms

**Distress:** Beyond Service Life

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

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

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

**Qty:** 31.00

**Unit of Measure:** Ea.

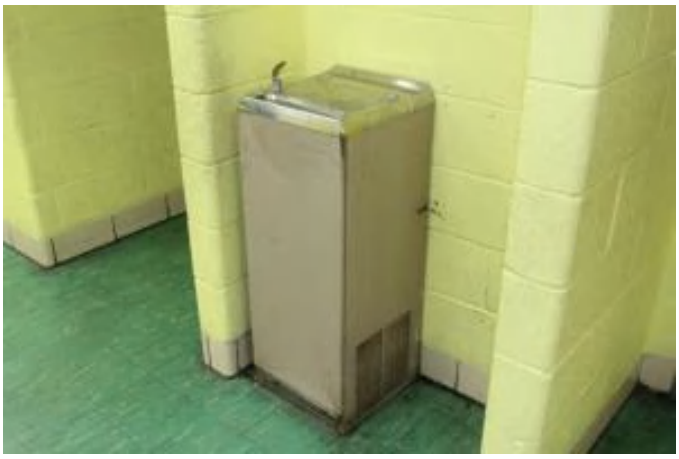
**Estimate:** $105,558.73

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace half of toilet lavatories and classroom sinks due to age and appearance

**System: D2010 - Plumbing Fixtures**



**Location:** Corridors

**Distress:** Beyond Service Life

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

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

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

**Qty:** 5.00

**Unit of Measure:** Ea.

**Estimate:** $78,464.48

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace fountains due to accessibility

**System: D2010 - Plumbing Fixtures**

**Location:** Toilet rooms

**Distress:** Beyond Service Life

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

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

**Correction:** Remove and replace or replace wall hung urinals

**Qty:** 12.00

**Unit of Measure:** Ea.

**Estimate:** $44,472.65

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace half of urinals due to appearance and age

**System: D2010 - Plumbing Fixtures**

**Location:** Service closets

**Distress:** Beyond Service Life

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

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

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

**Qty:** 5.00

**Unit of Measure:** Ea.

**Estimate:** $34,080.46

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace service sinks due to age and appearance

**System: D2020 - Domestic Water Distribution**

**Location:** Boiler room

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Provide 4" reduced pressure back flow preventer

**Qty:** 1.00

**Unit of Measure:** Ea.

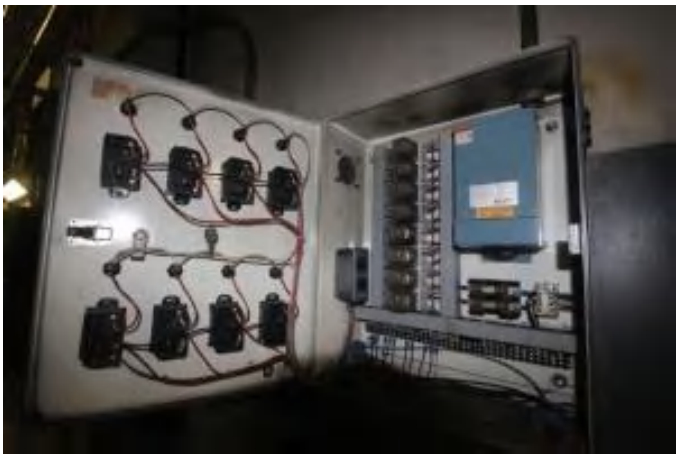
**Estimate:** $14,294.27

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Install backflow preventer at water entry

**System: D3060 - Controls & Instrumentation**



**Location:** Entire building

**Distress:** Obsolete

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

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

**Correction:** Replace pneumatic controls with DDC (75KSF)

**Qty:** 93,000.00

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

**Estimate:** $1,995,044.50

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Convert pneumatic controls to DDC

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

**System: B1010 - Floor Construction**

**Location:** Lobby

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Install interior handicap ramp - per LF 5' wide - insert the LF in the quantity

**Qty:** 28.00

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

**Estimate:** $56,207.07

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Install interior ramp from entry lobby to classroom wing 1st floor,

**System: C3020414 - Wood Flooring**

**Location:** Gym and stage

**Distress:** Maintenance Required

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

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

**Correction:** Refinish wood floors

**Qty:** 4,700.00

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

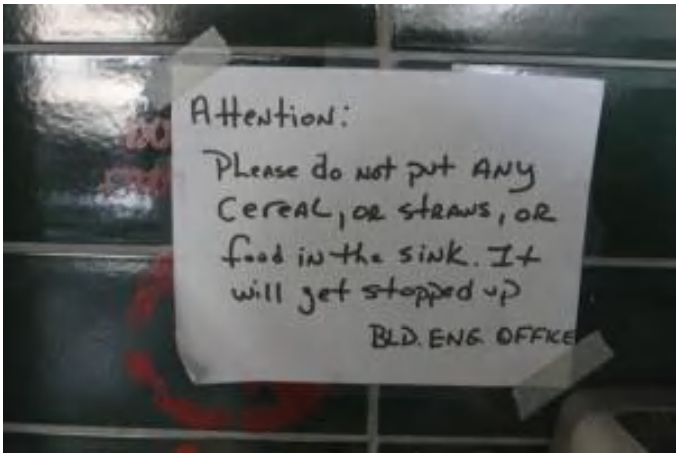
**Estimate:** $50,604.62

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Refinish worn wood floors

**System: D2030 - Sanitary Waste**




**Location:** Entire building

**Distress:** Beyond Service Life

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

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

**Correction:** Inspect sanitary waste piping and replace damaged sections. (+100KSF)

**Qty:** 97,000.00

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

**Estimate:** $411,921.03

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace sanitary drain pipes due to age

**System: D3020 - Heat Generating Systems**

**Location:** Boiler room

**Distress:** Failing

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

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

**Correction:** Replace boiler, cast iron sectional (50 HP)

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $245,555.06

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Repair or replace boiler due to water leak, 66 HP

**System: D3040 - Distribution Systems**

**Location:** Original building

**Distress:** Beyond Service Life

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

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

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

**Qty:** 69,000.00

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

**Estimate:** $652,765.70

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace steam pipe due to age and rust

**System: D3040 - Distribution Systems**

**Location:** Toilet room

**Distress:** Failing

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

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

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

**Qty:** 11.00

**Unit of Measure:** Ea.

**Estimate:** $130,997.83

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace missing, inoperable, and inadequate toilet exhaust fans

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

**Location:** Basement

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

**Correction:** Replace Switchboard

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $468,870.59

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Provide a new electrical service 277/480V, 3 phase power, 1600 Amperes and 500KVA step-down transformer.

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

**Location:** Entire Building

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

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

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $325,139.12

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Replace the entire distribution system with new panels and new wiring/conduits. Approximate (12) 208/120V panel boards.

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

**Location:** Entire Building

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

**Correction:** Add wiring device

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $188,093.95

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Provide (2)25FT of surface raceways with receptacles spaced 24” on center/classroom and 4 wall mount receptacles/classroom. Approximate 512 receptacles.

**System: D5030 - Communications and Security**

**Location:** Entire Building

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

**Category:** 1 - Health & Safety

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

**Correction:** Replace fire alarm system

**Qty:** 1.00

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

**Estimate:** $299,322.85

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 125 devices

**System: D5090 - Other Electrical Systems**

**Location:** Outdoor

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

**Correction:** Add Standby Generator System

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $201,022.37

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Provide 100KW, outdoor, diesel powered generator.

**System: D5090 - Other Electrical Systems**

**Location:** Roof

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

**Correction:** Repair Lightning Protection System

**Qty:** 1.00

**Unit of Measure:** Job

**Estimate:** $24,249.82

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Prepare a study to determine if the air terminals mounted on the chimney provide the proper protection to the school building.

**System: E2010 - Fixed Furnishings**

**Location:** Auditorium

**Distress:** Maintenance Required

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

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

**Correction:** Refinish auditorium seating

**Qty:** 300.00

**Unit of Measure:** Ea.

**Estimate:** $193,206.54

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Refurbish auditorium seating.

**System: E2010 - Fixed Furnishings**

**Location:** Classrooms

**Distress:** Beyond Service Life

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

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

**Correction:** Remove and replace casework - per LF - insert quantities for cabinets in the estimate

**Qty:** 120.00

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

**Estimate:** $139,056.77

**Assessor Name:** System

**Date Created:** 02/17/2016

**Notes:** Replace classroom cabinetry that is delaminated, missing hardware, and generally in disrepair.

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

**System: B2030 - Exterior Doors**

**Location:** Exterior doors throughout the building
**Distress:** Beyond Service Life
**Category:** 3 - Operations / Maint.
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Remove and replace exterior doors - per leaf
**Qty:** 33.00
**Unit of Measure:** Ea.
**Estimate:** $292,566.75
**Assessor Name:** System
**Date Created:** 02/18/2016

**Notes:** Replace exterior doors to maintain security and functionality.

**System: C3020411 - Carpet**

**Location:** Library
**Distress:** Damaged
**Category:** 3 - Operations / Maint.
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Remove and replace carpet
**Qty:** 1,800.00
**Unit of Measure:** S.F.
**Estimate:** $20,143.38
**Assessor Name:** System
**Date Created:** 02/18/2016

**Notes:** Replace library carpeting that is stained and damaged.

**System: D2020 - Domestic Water Distribution**


**Location:** Boiler room

**Distress:** Beyond Service Life

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

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

**Correction:** Replace instantaneous water heater

**Qty:** 2.00

**Unit of Measure:** Ea.

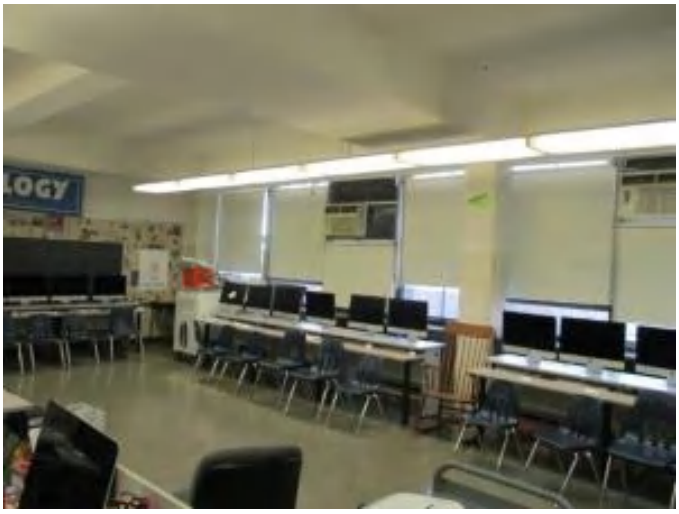
**Estimate:** $48,947.09

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace domestic tankless water heaters due to age

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



**Location:** Entire Building

**Distress:** Obsolete

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

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

**Correction:** Add Lighting Fixtures

**Qty:** 870.00

**Unit of Measure:** Ea.

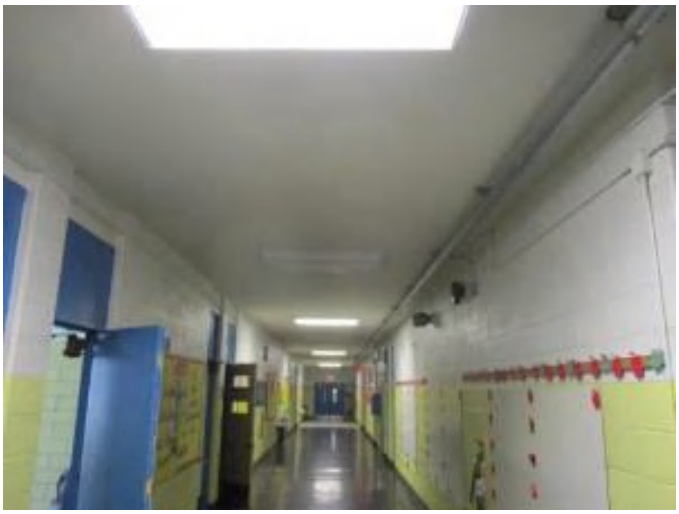
**Estimate:** $749,800.21

**Assessor Name:** System

**Date Created:** 02/08/2016

**Notes:** Replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps. Approximate 870 fixtures.

**System: D5030 - Communications and Security**



**Location:** Entire Building
**Distress:** Security Issue
**Category:** 1 - Health & Safety
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Add/Replace Video Surveillance System
**Qty:** 1.00
**Unit of Measure:** Ea.
**Estimate:** $377,075.76
**Assessor Name:** System
**Date Created:** 02/08/2016

**Notes:** Provide indoor surveillance CCTV cameras for complete coverage of the school building interior. Approximate 30

**System: D5030 - Communications and Security**

**Location:** Entire Building
**Distress:** Obsolete
**Category:** 3 - Operations / Maint.
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Provide wireless GPS clock system
**Qty:** 1.00
**Unit of Measure:** LS
**Estimate:** $48,958.59
**Assessor Name:** System
**Date Created:** 02/08/2016

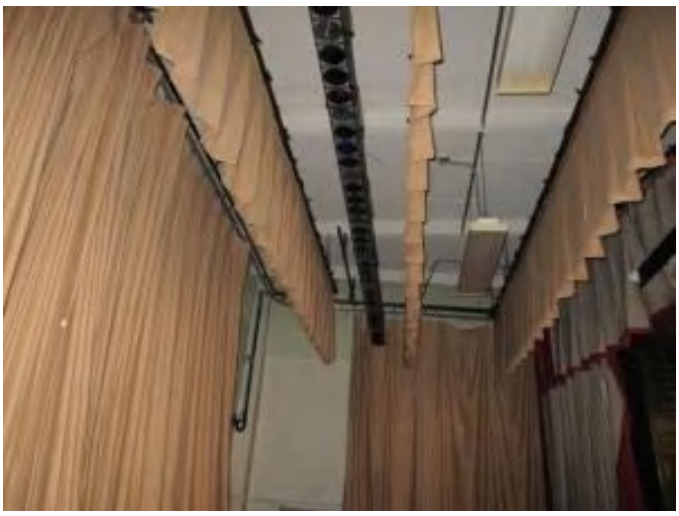
**Notes:** Replace clock system with wireless, synchronized, battery operated, clock system. Approximate 70 clocks.

**System: D5030 - Communications and Security**

**Location:** Auditorium
**Distress:** Inadequate
**Category:** 4 - Capital Improvement
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Add/Replace Sound System
**Qty:** 1.00
**Unit of Measure:** LS
**Estimate:** $26,144.90
**Assessor Name:** System
**Date Created:** 02/08/2016

**Notes:** Provide a permanent installed modern sound system.

**System: E1020 - Institutional Equipment**



**Location:** Auditorium
**Distress:** Inadequate
**Category:** 4 - Capital Improvement
**Priority:** 4 - Response Time (4-5 yrs)
**Correction:** Add/Replace Stage Theatrical Lighting System
**Qty:** 1.00
**Unit of Measure:** Ea.
**Estimate:** $293,594.70
**Assessor Name:** System
**Date Created:** 02/08/2016

**Notes:** Provide theatrical lighting and dimming control system.

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

**System: D2020 - Domestic Water Distribution**

**Location:** Entire building

**Distress:** Beyond Service Life

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

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

**Correction:** Replace domestic water piping (75 KSF)

**Qty:** 97,000.00

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

**Estimate:** $491,533.62

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace domestic water pipes due to age and signs of internal corrosion

**System: D3030 - Cooling Generating Systems**

**Location:** Entire building

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

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

**Qty:** 69,000.00

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

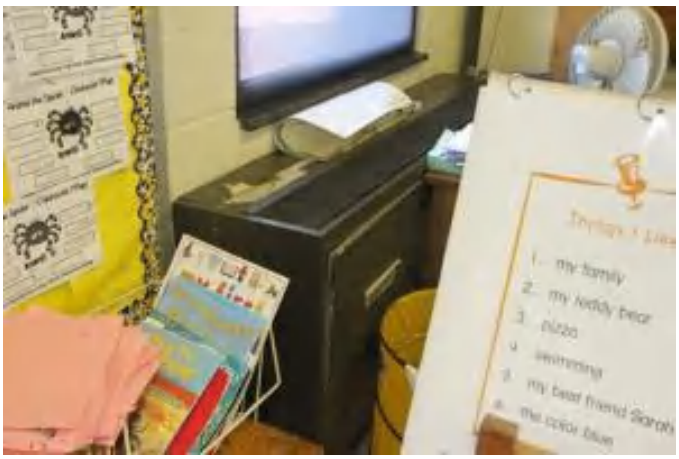
**Estimate:** $1,108,098.20

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** install 230 ton chiller system

**System: D3040 - Distribution Systems**



**Location:** Classrooms

**Distress:** Beyond Service Life

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

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

**Correction:** Replace classroom unit ventilator (htg/clg coils, 5 tons, 2,000 CFM)

**Qty:** 51.00

**Unit of Measure:** Ea.

**Estimate:** $2,543,812.31

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace unit ventilators

**System: D3040 - Distribution Systems**

**Location:** Auditorium

**Distress:** Beyond Service Life

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

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

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

**Qty:** 298.00

**Unit of Measure:** Seat

**Estimate:** $496,309.09

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace auditorium AHU

**System: D3040 - Distribution Systems**

**Location:** Gym

**Distress:** Beyond Service Life

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

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

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

**Qty:** 4,400.00

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

**Estimate:** $166,811.56

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace gym AHU

**System: D3040 - Distribution Systems**

**Location:** Entire building

**Distress:** Beyond Service Life

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

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

**Correction:** Replace finned tube radiation terminals (per 100 LF)

**Qty:** 300.00

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

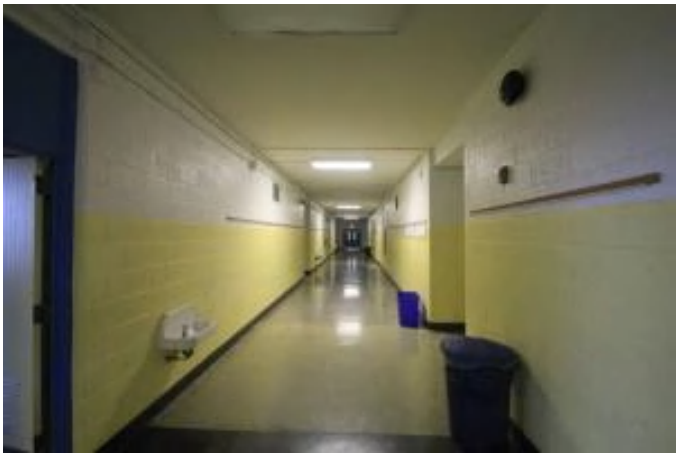
**Estimate:** $121,062.43

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Replace finned tube convection units

**System: D4010 - Sprinklers**



**Location:** Entire building

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

**Category:** 1 - Health & Safety

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

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

**Qty:** 97,000.00

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

**Estimate:** $1,387,629.73

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Install fire protection sprinkler system

**System: D4010 - Sprinklers**

**Location:** Kitchen

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

**Category:** 1 - Health & Safety

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

**Correction:** Provide kitchen hood fire suppression system (8 FT)

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** $16,739.78

**Assessor Name:** System

**Date Created:** 02/23/2016

**Notes:** Install fire suppression system for kitchen range fume hood

## Equipment Inventory

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

| Subsystem | Inventory | Qty | UoM | Location | Manufacturer | Model Number | Serial Number | Barcode | Life | Install Date | Next Renewal | Raw Cost | Inventory Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D3020 Heat Generating Systems | Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 2480 MBH, includes standard controls and insulated flush jacket, packaged | 3.00 | Ea. | Boiler room | | | | | 35 | 1990 | 2025 | $40,212.00 | $132,699.60 |
| D5010 Electrical Service/Distribution | Panelboards, 3 pole 4 wire, main lugs, 240 V, 600 amp, no main breaker | 1.00 | Ea. | Basement | | | | | 30 | 1955 | 2047 | $2,639.25 | $2,903.18 |
| | | | | | | | | | | | | **Total:** | **$135,602.78** |

## 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): | 115,000 |
| Year Built: | 1955 |
| Last Renovation: | |
| Replacement Value: | $2,228,539 |
| Repair Cost: | $468,400.65 |
| Total FCI: | 21.02 % |
| Total RSLI: | 41.01 % |

**Description:**

**Attributes:**

**General Attributes:**

| | | | |
|---|---|---|---|
| Bldg ID: | S643001 | Site ID: | S643001 |

## 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 | 39.47 % | 22.83 % | $394,649.67 |
| G40 - Site Electrical Utilities | 46.31 % | 14.74 % | $73,750.98 |
| **Totals:** | **41.01 %** | **21.02 %** | **$468,400.65** |

## Condition Detail

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

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

## System Listing

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

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

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

| System Code | System Description | Unit Price $ | UoM | Qty | Life | Year Installed | Calc Next Renewal Year | Next Renewal Year | RSLI% | FCI% | RSL | eCR | Deficiency $ | Replacement Value $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G2010 | Roadways | $11.52 | S.F. | | 30 | | | | 0.00 % | 0.00 % | | | | $0 |
| G2020 | Parking Lots | $7.65 | S.F. | 16,300 | 30 | 1955 | 1985 | 2028 | 43.33 % | 51.46 % | 13 | | $64,173.91 | $124,695 |
| G2030 | Pedestrian Paving | $11.52 | S.F. | 94,200 | 40 | 1955 | 1995 | 2028 | 32.50 % | 30.45 % | 13 | | $330,475.76 | $1,085,184 |
| G2040 | Site Development | $4.36 | S.F. | 115,000 | 25 | 1955 | 1980 | 2028 | 52.00 % | 0.00 % | 13 | | | $501,400 |
| G2050 | Landscaping & Irrigation | $3.78 | S.F. | 4,500 | 15 | 1955 | 1970 | 2028 | 86.67 % | 0.00 % | 13 | | | $17,010 |
| G4020 | Site Lighting | $3.58 | S.F. | 115,000 | 30 | 1955 | 1985 | 2025 | 33.33 % | 0.00 % | 10 | | | $411,700 |
| G4030 | Site Communications & Security | $0.77 | S.F. | 115,000 | 30 | 1955 | 1985 | 2047 | 106.67 % | 83.29 % | 32 | | $73,750.98 | $88,550 |
| | | | | | | | | **Total** | **41.01 %** | **21.02 %** | | | **$468,400.65** | **$2,228,539** |

## System Notes

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

No data found for this asset

## Renewal Schedule

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

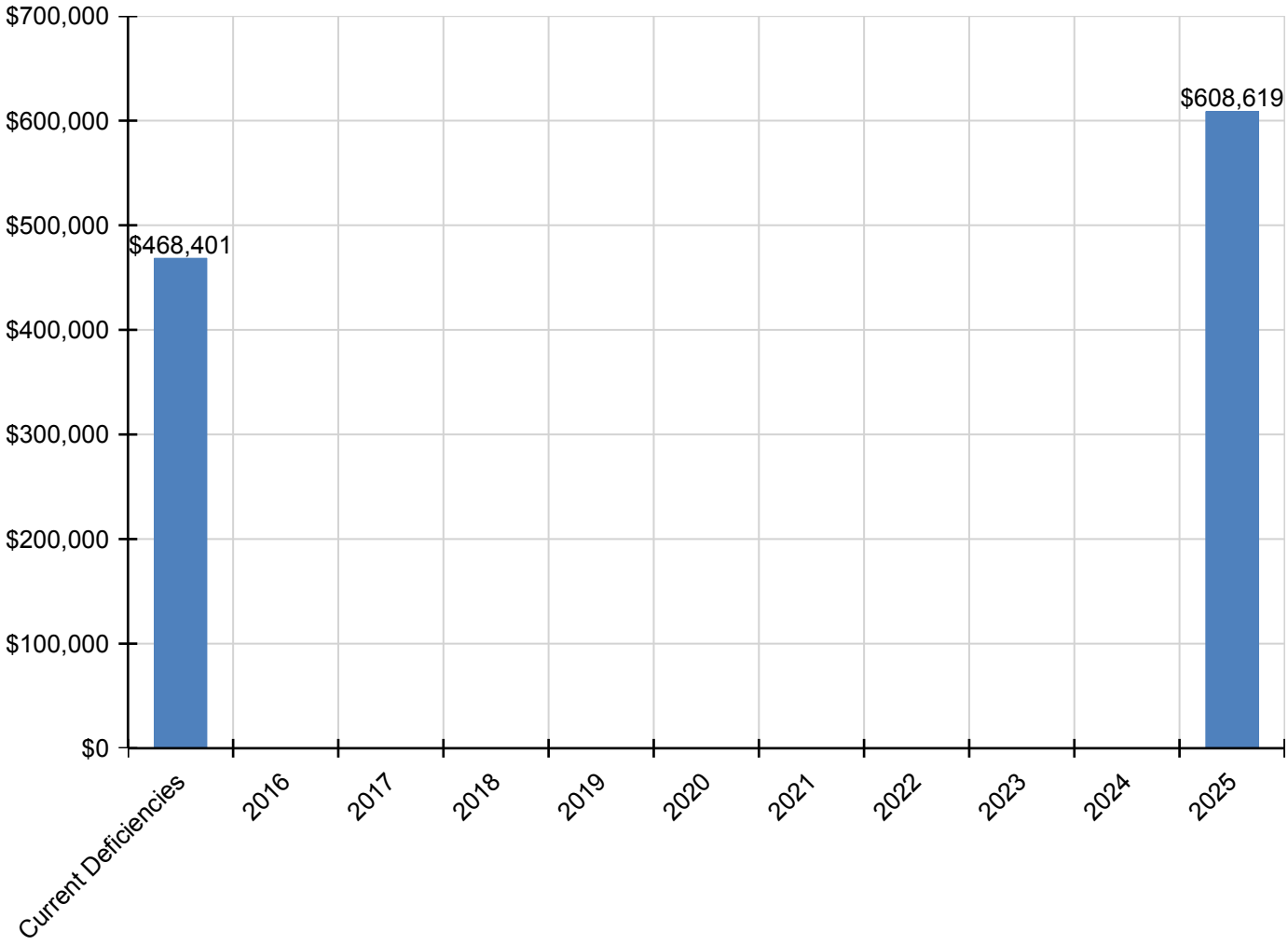
*Inflation Rate: 3%*

| System | Current Deficiencies | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total:** | **$468,401** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$608,619** | **$1,077,020** |
| **G - Building Sitework** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **G20 - Site Improvements** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **G2010 - Roadways** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$0** |
| **G2020 - Parking Lots** | $64,174 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$64,174** |
| **G2030 - Pedestrian Paving** | $330,476 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$330,476** |
| **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** | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $608,619 | **$608,619** |
| **G4030 - Site Communications & Security** | $73,751 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | **$73,751** |

** Indicates non-renewable system*

## Forecasted Sustainment Requirement

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

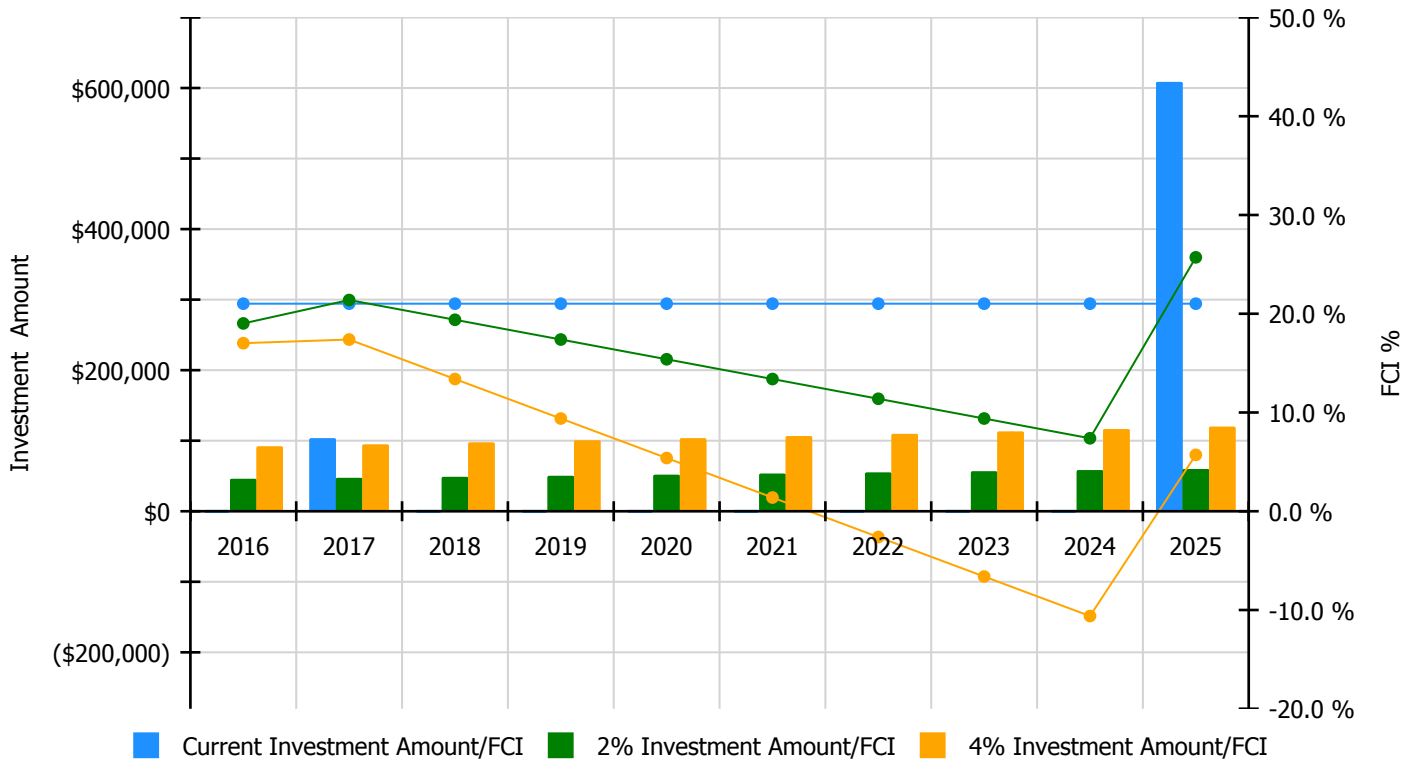


## 10 Year FCI Forecast by Investment Scenario

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

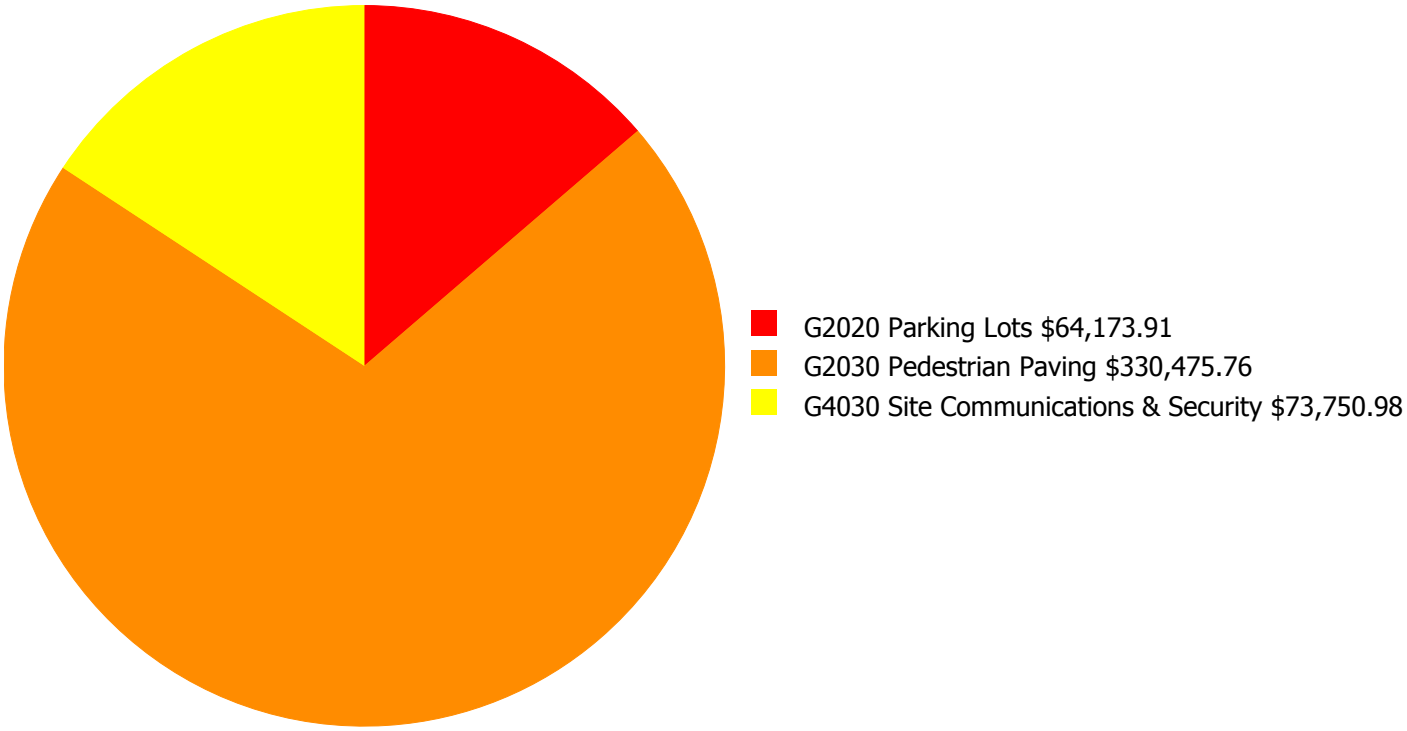
### Facility Investment vs. FCI Forecast




| Year | Investment Amount Current FCI - 21.02% | 2% Investment | | 4% Investment | |
|---|---|---|---|---|---|
| | | Amount | FCI | Amount | FCI |
| 2016 | $0 | $45,908.00 | 19.02 % | $91,816.00 | 17.02 % |
| 2017 | $103,337 | $47,285.00 | 21.39 % | $94,570.00 | 17.39 % |
| 2018 | $0 | $48,704.00 | 19.39 % | $97,407.00 | 13.39 % |
| 2019 | $0 | $50,165.00 | 17.39 % | $100,330.00 | 9.39 % |
| 2020 | $0 | $51,670.00 | 15.39 % | $103,339.00 | 5.39 % |
| 2021 | $0 | $53,220.00 | 13.39 % | $106,440.00 | 1.39 % |
| 2022 | $0 | $54,816.00 | 11.39 % | $109,633.00 | -2.61 % |
| 2023 | $0 | $56,461.00 | 9.39 % | $112,922.00 | -6.61 % |
| 2024 | $0 | $58,155.00 | 7.39 % | $116,310.00 | -10.61 % |
| 2025 | $608,619 | $59,899.00 | 25.71 % | $119,799.00 | 5.71 % |
| **Total:** | **$711,956** | **$526,283.00** | | **$1,052,566.00** | |

## Deficiency Summary by System

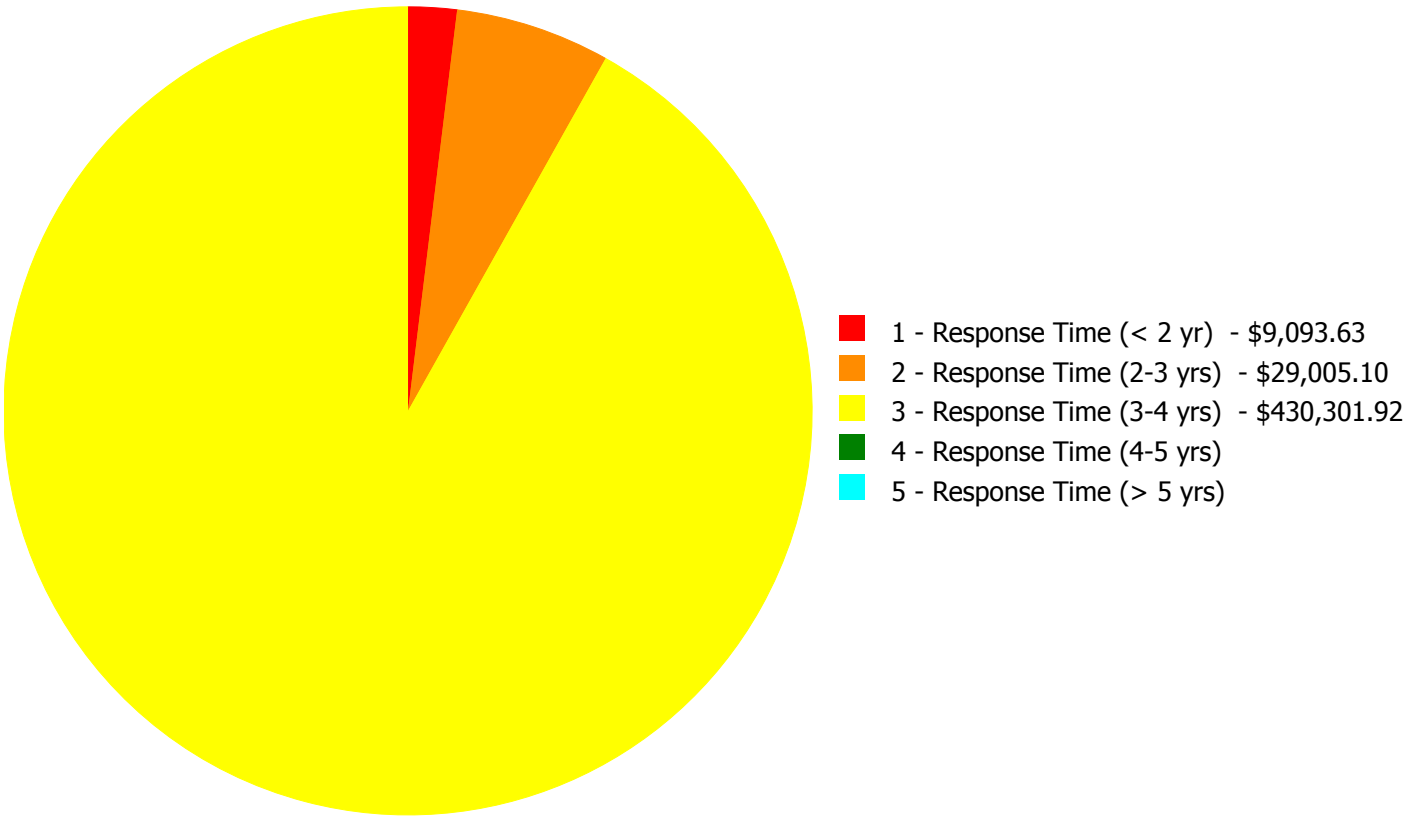
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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




**Budget Estimate Total: $468,400.65**

## 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: $468,400.65**

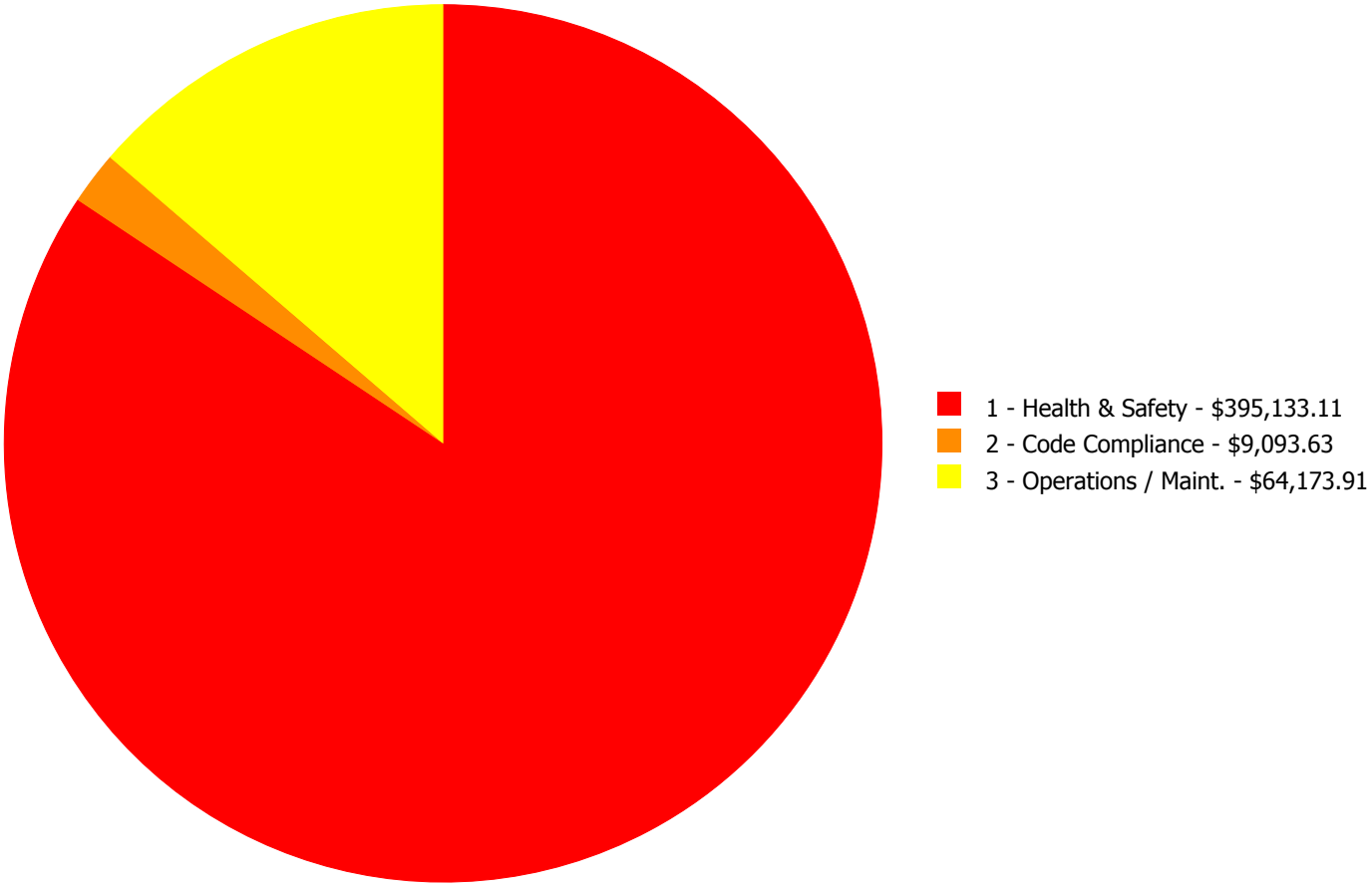
## Deficiency By Priority Investment Table

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 | $64,173.91 | $0.00 | $0.00 | $64,173.91 |
| G2030 | Pedestrian Paving | $9,093.63 | $29,005.10 | $292,377.03 | $0.00 | $0.00 | $330,475.76 |
| G4030 | Site Communications & Security | $0.00 | $0.00 | $73,750.98 | $0.00 | $0.00 | $73,750.98 |
| | **Total:** | $9,093.63 | $29,005.10 | $430,301.92 | $0.00 | $0.00 | $468,400.65 |

## Deficiency Summary by Category

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




**Budget Estimate Total: $468,400.65**

## Deficiency Details by Priority

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

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

**System: G2030 - Pedestrian Paving**

**Location:** Front entry

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

**Qty:** 7.00

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

**Estimate:** $9,093.63

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Provide exterior ramp to front entry.

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

**System: G2030 - Pedestrian Paving**

**Location:** Entry area to Wakefield St. and city sidewalks

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

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

**Qty:** 1,500.00

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

**Estimate:** $21,574.28

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Repair damaged concrete pavement that creates tripping hazards and impedes access.

---

**System: G2030 - Pedestrian Paving**

**Location:** Gym exit and steps near main entrance

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

**Correction:** Repair on grade concrete stairs - nosings and exposed rebar

**Qty:** 3.00

**Unit of Measure:** Riser

**Estimate:** $7,430.82

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Steps are deteriorating at gym exit. Repair and add handrail. Replace handrail at steps near main entry.

---

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

**System: G2020 - Parking Lots**

**Location:** Site

**Distress:** Damaged

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

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

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

**Qty:** 16,300.00

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

**Estimate:** $64,173.91

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Asphalt is in fair to poor condition with some settled areas, ponding, alligatoring, deeper cracking and vegetation in the asphalt. Resurface the parking lot, restripe, and provide signage for designated accessible spaces.

**System: G2030 - Pedestrian Paving**

**Location:** Site

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

**Correction:** Resurface AC pedestrian paving - grind and resurface

**Qty:** 80,000.00

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

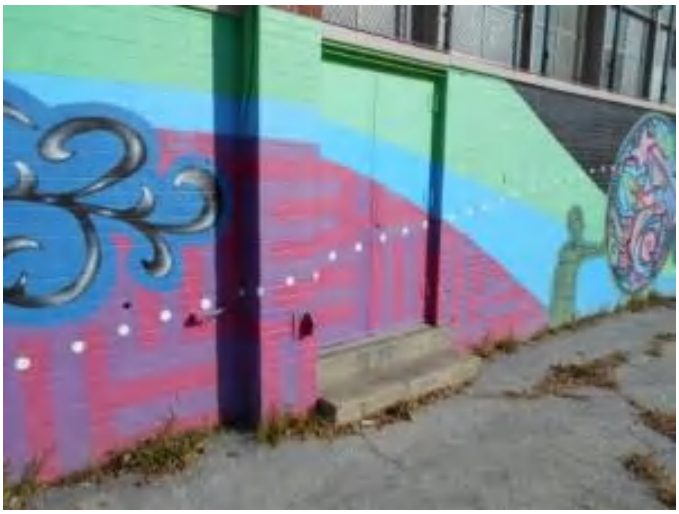
**Estimate:** $285,564.35

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Asphalt playgrounds are in deteriorating condition, creating trip hazards for children. Resurfacing is recommended.

**System: G2030 - Pedestrian Paving**



**Location:** At exterior doors

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

**Correction:** Install missing concrete landings at exterior doors reducing the step down from the door

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** $6,812.68

**Assessor Name:** Craig Anding

**Date Created:** 02/18/2016

**Notes:** Landings at exterior doors are missing in some cases. In others, the step to adjacent grade exceeds 8" and is unacceptable.

**System: G4030 - Site Communications & Security**

**Location:** Building Perimeter

**Distress:** Security Issue

**Category:** 1 - Health & Safety

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

**Correction:** Add Video Surveillance System

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** $73,750.98

**Assessor Name:** Craig Anding

**Date Created:** 02/08/2016

**Notes:** Provide outdoor surveillance CCTV cameras to the building exterior for full coverage of the perimeter. Approximate 4 CCTV cameras.

## Equipment Inventory

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

No data found for this asset

## Glossary

| | |
|---|---|
| ABMA | American Boiler Manufacturers Association http://www.abma.com/ |
| ACEEE | American Council for an Energy-Efficient Economy |
| ACGIH | American Council of Governmental and Industrial Hygienists |
| AEE | Association of Energy Engineers |
| AFD | Adjustable Frequency Drive |
| AFTC | After Tax Cash Flow |
| AGA | American Gas Association |
| AHU | Air Handling Unit |
| Amp | Ampere |
| ANSI | American National Standards Institute |
| ARI | Air Conditioning and Refrigeration Institute |
| ASD | Adjustable Speed Drive |
| ASHRAE | American Society of Heating Refrigerating and Air-Conditioning Engineers Inc. |
| ASME | American Society of Mechanical Engineers |
| Assessment | Visual survey of a facility to determine its condition. It involves looking at the age of systems reviewing information from local sources and visual evidence of potential problems to assign a condition rating. It does not include destructive testing of materials or testing of systems or equipment for functionality. |
| ATS | After Tax Savings |
| AW | Annual worth |
| BACNET | Building Automation Control Network |
| BAS | Building Automation System |
| BCR | Benefit Cost Ratio |
| BEP | Business Energy Professional (AEE) |
| BF | Ballast Factor |
| BHP | Boiler Horsepower (boilers) |
| BHP | Brake Horsepower (motors) |
| BLCC | Building Life Cycle Cost analysis program (FEMP) |
| BOCA | Building Officials and Code Administrators |
| BTCF | Before Tax Cash Flow |

| | |
|---|---|
| BTS | Before Tax Savings |
| Btu | British thermal unit |
| Building Addition | An area space or component of a building added to a building after the original building's year built date. |
| CAA | Clean Air Act |
| CAAA-90 | Clean Air Act Amendments of 1990 |
| CABO | Council of American Building Officials |
| CAC | Conventional Air Conditioning |
| CADDET | Center for the Analysis and Dissemination of Demonstrated Energy Technologies |
| Calculated Next Renewal | The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. |
| Capital Renewal | Capital renewal is condition work (excluding suitability and energy audit work) that includes the replacement of building systems or elements (as they become obsolete or beyond their useful life) not normally included in an annual operating budget. Calculated next renewal The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. Next renewal The assessor adjusted expected useful life of a system or element based on on-site inspection. |
| CDD | Cooling Degree Days |
| CDGP | Certified Distributed Generation Professional |
| CEC | California Energy Commission |
| CEM | Certified Energy Manager |
| CEP | Certified Energy Procurement Professional |
| CFC | Chlorofluorocarbon |
| CFD | Cash Flow Diagram |
| CFL | Compact Fluorescent Light |
| CFM cfm | Cubic Feet per Minute |
| CHP | Combined Heat and Power (a.k.a. cogeneration) |
| CHW | Chilled Water |
| Condition | Condition refers to the state of physical fitness or readiness of a facility system or system element for its intended use. |
| COP | Coefficient of Performance |
| Cp | Heat Capacity of Material |
| CPUC | California Public Utility Commission |
| CRI | Color Rendering Index |
| CRT | Cathode Ray Tube VDT HMI |

| | |
|---|---|
| CTC | Competitive Transition Charge |
| Cu | Coefficient of Utilization |
| Current Replacement Value (CRV) | CRV represents the hypothetical total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition (excluding auxiliary facilities) under current codes and construction standards. |
| Cv | Value Coefficient |
| CWS | Chilled Water System |
| D d | Distance (usually feet) |
| DB | Dry Bulb |
| DCV | Demand Control Ventilation |
| DD | Degree Day |
| DDB | Double Declining Balance |
| DDC | Direct Digital Controls |
| Deferred maintenance | Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available. |
| Deficiency | A deficiency is a repair item that is damaged missing inadequate or insufficient for an intended purpose. |
| Delta | Difference |
| Delta P | Pressure Difference |
| Delta T | Temperature Difference |
| DG | Distributed Generation |
| DOE | Department of Energy |
| DP | Dew Point |
| DR | Demand Response |
| DX | Direct Expansion Air Conditioner |
| EA | Energy Audit |
| EBITDA | Earnings before Interest Taxes Depreciation and Amortization |
| ECI | Energy Cost Index |
| ECM | Energy Conservation Measure |
| ECO | Energy Conservation Opportunity |
| ECPA | Energy Conservation and Production Act |
| ECR | Energy Conservation Recommendation |
| ECS | Energy Control System |

| | |
|---|---|
| EER | Energy Efficiency Ratio |
| EERE | Energy Efficiency and Renewable Energy division of US DOE |
| EIA | Energy Information Agency |
| EIS | Energy Information System |
| EMCS | Energy Management Computer System |
| EMO | Energy Management Opportunity |
| EMP | Energy Management Project |
| EMR | Energy Management Recommendation |
| EMS | Energy Management System |
| Energy Utilization Index (EUI) | EUI is the measure of total energy consumed in the cooling or heating of a building in a period expressed as British thermal unit (BTU) per (cooled or heated) gross square foot. |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| EPACT | Energy Policy Act of 1992 |
| EPCA | Energy Production and Conservation Act of 1975 |
| EPRI | Electric Power Research Institute |
| EREN | Efficiency and Renewable Energy (Division of USDOE) |
| ERV | Energy Recovery Ventilator |
| ESCO | Energy Service Company |
| ESPC | Energy Savings Performance Contract |
| EUI | Energy Use Index |
| EWG | Exempt Wholesale Generators |
| Extended Facility Condition Index (EFCI) | EFCI is calculated as the condition needs for the current year plus facility system renewal needs going out to a set time in the future divided by Current Replacement Value. |
| f | Frequency |
| F | Fahrenheit |
| Facility | A facility refers to site(s) building(s) or building addition(s) or combinations thereof that provide a particular service. |
| Facility Condition Assessment (FCA) | FCA is a process for evaluating the condition of buildings and facilities for programming and budgetary purposes through an on site inspection and evaluation process. |
| Facility Condition Index (FCI) | FCI is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value of the facilities. The higher the FCI the poorer the condition of a facility. After an FCI is established for all buildings within a portfolio a building's condition can be ranked relative to other buildings. The FCI may also represent the condition of a portfolio based on the cumulative FCIs of the portfolio's facilities. |

| | |
|---|---|
| FC | Footcandle |
| FCA | Fuel Cost Adjustment |
| FEMIA | Federal Energy Management Improvement Act of 1988 |
| FEMP | Federal Energy Management Program |
| FERC | Federal Energy Regulatory Commission |
| FESR | Fuel Energy Savings Ratio |
| FLA | Full Load Amps |
| FLF | Facility Load Factor (usually monthly) |
| FLRPM | Full Load Revolutions per Minute |
| FMS | Facility Management System |
| FPM fpm | Feet per Minute (velocity) |
| FSEC | Florida Solar Energy Center |
| Ft | Foot |
| GPM gpm | Gallons per Minute |
| GRI | Gas Research Institute |
| Gross Square Feet (GSF) | The size of the enclosed floor space of a building in square feet measured to the outside face of the enclosing wall. |
| GUI | Graphical User Interface |
| H h | Enthalpy Btu/lb |
| HCFC | Hydrochlorofluorocarbons |
| HDD | Heating Degree days |
| HFC | Hydrofluorocarbons |
| HHV | Higher Heating Value |
| HID | High Intensity Discharge (lamp) |
| HMI | Human Machine Interface |
| HMMI | Human Man Machine Interface |
| HO | High Output (lamp) |
| HP Hp hp | Horsepower |
| HPS | High Pressure Sodium (lamp) |
| HR | Humidity Ratio |
| Hr hr | Hour |

| | |
|---|---|
| HRU | Heat Recovery Unit |
| HVAC | Heating Ventilation and Air-Conditioning |
| Hz | Hertz |
| I | Intensity (lumen output of lamp) |
| I i | Interest rate or Discount rate |
| IAQ | Indoor Air Quality |
| ICA | International Cogeneration Alliance |
| ICBO | International Conference of Buildings Officials |
| ICC | International Code Council |
| ICP | Institutional Conservation Program |
| IECC | International Energy Conservation Code |
| IEEE | Institute of Electrical and Electronic Engineers |
| IESNA | Illuminating Engineering Society of North America |
| Install year | The year a building or system was built or the most recent major renovation date (where a minimum of 70 of the system?s Current Replacement Value (CRV) was replaced). |
| IRP | Integrated Resource Planning |
| IRR | Internal Rate of Return |
| ISO | Independent System Operator |
| ITA | Independent Tariff Administrator |
| k | Kilo multiple of thousands in SI system |
| K | Kelvins (color temperature of lamp) |
| K k | Thermal Conductivity of Material |
| KVA | Kilovolt Ampere |
| KVAR | Kilovolt Ampere Reactive |
| kW | kiloWatt |
| kWh | kiloWatt hour |
| L | Length (usually feet) |
| LCC | Life Cycle Costing |
| LDC | Local Distribution Company |
| LEED | Leadership in Energy and Environmental Design |
| LEED EB | LEED for Existing Buildings |

| | |
|---|---|
| LEED NC | LEED for new construction |
| LF | Load Factor |
| LHV | Lower Heating Value |
| Life cycle | The period of time that a building or site system or element can be expected to adequately serve its intended function. |
| LPS | Low Pressure Sodium (lamp) |
| Lu | Lumen Output of a Lamp or Fixture |
| M | Mega multiple of millions in SI system |
| M&V | Measurement and Verification |
| MACRS | Modified Accelerated Cost Recovery System |
| MARR | Minimum Attractive Rate of Return |
| Mbtu | Thousand Btu |
| MCF | Thousand Cubic Feet (usually of gas) |
| MEC | Model Energy Code |
| Mm | Multiple of Thousands in I/P System |
| MMBtu | Million Btu |
| MMCS | Maintenance Management Computer System |
| MMI | Man Machine Interface |
| MMS | Maintenance Management System |
| MSE 2000 | Management System for Energy 2000 (ANSI Georgia Tech Univ) |
| MW | MegaWatt |
| MWH MWh | MegaWatt hour |
| NAAQS | National Ambient Air Quality Standards |
| NAESCO | National Association of Energy Service Companies |
| NAIMA | North American Insulation Manufacturers Association |
| NEA | National Energy Act of 1978 |
| NECPA | National Energy Conservation Policy Act |
| NEMA | National Electrical Manufacturer's Association |
| NERC | North American Electric Reliability Council |
| Next Renewal | The Next Renewal date is an override of the 'Calculated Next Renewal' date and is based upon the assessor?s visual inspection. |

| | |
|---|---|
| NFPA | National Fire Protection Association |
| NGPA | National Gas Policy Act of 1978 |
| NLRPM | No Load Revolutions per Minute (speed) |
| Nn | Equipment or Project lifetime in economic analysis |
| NOPR | Notice of Proposed Rule Making from FERC |
| NOx | Nitrogen Oxide Compounds |
| NPV | Net present value in economic analysis |
| NREL | National Renewable Energy Laboratory |
| NUG | Non-Utility Generator |
| O&M | Operation and Maintenance |
| OA | Outside Air |
| ODP | Ozone Depletion Potential |
| OPAC | Off-Peak Air Conditioning |
| P | Present value in economic analysis |
| PBR | Performance Based Rates |
| PEA | Preliminary Energy Audit |
| PF | Power Factor |
| PID | Proportional plus integral plus derivative (control system) |
| PM | Portfolio Manager in Energy Star rating system |
| PM | Preventive Maintenance |
| PoolCo | Power Pool Company or Organization |
| POU | Point of Use |
| PQ | Power Quality |
| PSC | Public Service Commission |
| PSIA psia | Pounds per square inch absolute (pressure) |
| PSIG psig | Pounds per square inch gauge (pressure) |
| PUC | Public Utility Commission |
| PUHCA | Public Utilities Holding Company Act of 1935 |
| PURPA | Public Utilities Regulatory Policies of 1978 |
| PV | Photovotaic system |

| | |
|---|---|
| PV | Present Value |
| PW | Present Worth |
| PX | Power Exchange |
| q | Rate of heat flow in Btu per hour |
| Q | Heat load due to conduction using degree days |
| QF | Qualifying Facility |
| R | Electrical resistance |
| R | Thermal Resistance |
| RC | Remote controller |
| RCR | Room Cavity Ratio |
| RCRA | Resource Conservation and Recovery Act |
| Remaining Service Life (RSL) | RSL is the number of years service remaining for a system or equipment item. It is automatically calculated based on the difference between the current year and the 'Calculated Next Renewal' date or the 'Next Renewal' date whichever one is the later date. |
| Remaining Service Life Index (RSLI) | RSLI is defined as a percentage ratio of the remaining service life of a system. It usually ranges from 0 to 100 |
| REMR | Repair Evaluation Maintenance Rehabilitation (REMR) is a scale used to objectively rank systems based on their condition |
| Renewal Schedule | A timeline that provides the items that need repair the year in which the repair is needed and the estimated price of the renewal. |
| RH | Relative Humidity |
| RLA | Running Load Amps |
| RMS | Root Mean Square |
| RO | Reverse Osmosis |
| ROI | Return on Investment |
| RPM | Revolutions Per Minute |
| RTG | Regional Transmission Group |
| RTO | Regional Transmission Organization |
| RTP | Real Time Pricing |
| SBCCI | Southern Building Code Congress International |
| SC | Scheduling Coordinator |
| SC | Shading Coefficient |
| SCADA | Supervisory Control and Data Acquisition Systems |

| | |
|---|---|
| SEER | Seasonal Energy Efficiency Ratio |
| SHR | Sensible Heat Ratio |
| Site | The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility. |
| Soft Cost | An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses. |
| SOx | Sulfur Oxide Compounds |
| SP | Static Pressure |
| SP SPB | Simple Payback |
| SPP | Simple Payback Period |
| SPP | Small Power Producers |
| STR | Stack Temperature Rise |
| SV | Specific Volume |
| System | System refers to building and related site work elements as described by ASTM Uniformat II Classification for Building Elements (E1557-97) a format for classifying major facility elements common to most buildings. Elements usually perform a given function regardless of the design specification construction method or materials used. See also Uniformat II. |
| T | Temperature |
| T | Tubular (lamps) |
| TAA | Technical Assistance Audit |
| TCP/IP | Transmission Control Protocol/Internet Protocol |
| TES | Thermal Energy Storage |
| THD | Total Harmonic Distortion |
| TOD | Time of Day |
| TOU | Time of Use |
| TQM | Total Quality Management |
| TransCo | Transmission Company |
| U | Thermal Conductance |
| UDC | Utility Distribution Company |
| UL | Underwriters Laboratories |
| UNIFORMAT II | The ASTM UNIFORMAT II Classification for Building Elements (E1557-97) a format for classifying major facility components common to most buildings. |
| USGBC | US Green Building Council |
| v | Specific Volume |

| | |
|---|---|
| V | Volts Voltage |
| V | Volume |
| VAV | Variable Air Volume |
| VDT | Video Display Terminal |
| VFD | Variable Frequency Drive |
| VHO | Very High Output |
| VSD | Variable Speed Drive |
| W | Watts |
| W | Width |
| WB | Wet bulb |
| WH Wh | Watt Hours |
| Year built | The year that a building or addition was originally built based on substantial completion or occupancy. |
| Z | Electrical Impedance |