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.

Duckrey School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	1501 W. Diamond St.	Enrollment	658
	Philadelphia, Pa 19121	Grade Range	'00-08'
Phone/Fax	215-684-5066 / 215-684-8927	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Duckrey	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**48.85%**	**$25,802,441**	**$52,815,412**
Building	50.84 %	$25,231,895	$49,625,718
Grounds	17.89 %	$570,546	$3,189,694

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.37 %	$1,355,280	$1,516,467
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$3,732,155
Windows (Shows functionality of exterior windows)	58.18 %	$1,059,517	$1,821,081
Exterior Doors (Shows condition of exterior doors)	62.12 %	$91,073	$146,617
Interior Doors (Classroom doors)	161.30 %	$572,470	$354,914
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,601,661
Plumbing Fixtures	18.78 %	$256,763	$1,367,075
Boilers	07.03 %	$132,669	$1,887,817
Chillers/Cooling Towers	172.60 %	$4,272,322	$2,475,295
Radiators/Unit Ventilators/HVAC	128.98 %	$5,606,784	$4,346,934
Heating/Cooling Controls	132.68 %	$1,811,111	$1,365,053
Electrical Service and Distribution	133.86 %	$1,312,901	$980,816
Lighting	36.24 %	$1,270,927	$3,506,668
Communications and Security (Cameras, Pa System and Fire Alarm)	45.64 %	$599,523	$1,313,484

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

S446001;Duckrey

Final

Site Assessment Report

January 30, 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):	101,115
Year Built:	1968
Last Renovation:	
Replacement Value:	$52,815,412
Repair Cost:	$25,802,440.92
Total FCI:	48.85 %
Total RSLI:	66.42 %

Description:

Facility Assessment

August 2015

School District of Philadelphia

Tanner Duckrey School

1501 W. Diamond St.

Philadelphia, PA 19121

101,115 SF / 676 Students / LN 04

GENERAL

The Tanner Duckrey School was originally constructed in 1954. The school is currently being run by the Philadelphia School System

and is identified as B446001 and was originally designated as the Tanner Duckrey Elementary School.

This facility is located at 1501 W. Diamond St., Philadelphia, PA. The late modern design of the modified rectangular-shaped, concrete and steel-framed building includes brick facades with a concrete foundation.

The main entrance faces the Northern exterior facing Diamond St., and the drop off area is on North Sixteenth St. General parking is on the northern exterior of the school. This School building serves K-8 and has a basement level with two stories consisting of a total gross square footage of 101,115 GSF.

This school has several classrooms, a library, kitchen and student commons technology room, Gym, Auditorium and cafeteria, with supporting administrative spaces and Science, Art Department and Music room.

The information for this report was collected during a site visit on August 21, 2015.

Mr. Ernie Bennett, Building Engineer, and Mr. Derek Parker, Facility Area Coordinator, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Mr. David Cohen, Principal, and Mr. Thurman Gravely, Program Manager, also shared information about the school with the assessment team.

Architectural / Structural Systems

Foundations are concrete and appear to be in very good condition. Basement walls are cast in place concrete walls with sections of reinforced CMU construction and appear to be in very good condition. The superstructure is steel and masonry supported. Floor construction is concrete with no issues that surfaced during the time of the inspection.

The main built up roof section extends the entire school while the two small sections cover the lower level classrooms and loading dock. This roofing system is a built up application that was installed in the early 1990'S. This roof has been seal coated several times to extend the life cycle of the application. Although there are no reports or evidence of active leaks it's only a matter of time based on current condition and age. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace roof sections.

The exterior concrete and brick finish appears to be well maintained and there are painted sections of the exterior depicting students and education that add a theme to the schools exterior presence. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

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

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

Special consideration for those that may be physically challenged was a main not factor in the last re-construction effort for this school. The exterior ADA ramp on the main entrance on the southern exterior of the school is the only option the physically challenged has to enter the school. The path of travel is not very clear from that entrance of the school and from the access points. The interior path of travel is partially supported by passenger elevator and one freight elevator, some door hardware, restroom accommodations, hand rails and guard rails. However, the building has received limited upgrades and does not fully support a path of travel for those that may be physically challenged. Included in this report are modifications that allow for considerations to enhance the upgrades required to support the physically challenged.

There are painted CMU walls, trim, and some painted concrete and plaster ceilings in this building. The interior finishes are in very good condition and will require an almost continuous program of renewal of the applied finishes to maintain an acceptable appearance. Cyclical painting should be considered for a standard approach to maintaining the quality of the interior finishes. Considering the current condition of the interior painted finishes no recommendations are required at this time.

This school's science labs have been upgraded from the original construction. The installation consists of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary

consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

There are student restrooms on each floor that appear to be original with original fixtures. Each restroom is limited by the design of the time that did not include options for those that may be physically challenged. These restrooms warrant unique renovations to restore the systems to modern operations options and service to the school. Accessibility legislation requires that goods, amenities, and services offered in buildings, such as restrooms, be generally accessible to all people. There are no compliant restrooms located in this school. A unisex, compliant restroom should be added on each of the floors. Recommended modifications include the construction of new single occupancy restrooms in existing academic areas to accommodate requirements. This involves adding two new partitions to enclose 50 square feet of area and installing a door with hardware, ceramic tile and plaster surfaces, suspended ceilings, plumbing fixtures, electrical fixtures, piping, HVAC equipment, and accessories for each new restroom. Also, the renovation of the existing restrooms and modification to new layouts and floor plans to support modern designs and requirements for ADA legislation.

A large portion of the interior corridor, exit stair doors are code compliant. The doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The mechanical room fire door system has either had the compliant tags removed or the doors were not installed with current code in mind. To restore the mechanical room door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

Interior doors are typically wood in metal frames with some glass glazing. Other interior doors include wooden glass pane doors with original hollow metal in hollow metal frames. Doors are generally in fair condition considering the age of the application. As indicated in the photos several of the doors have been abused and present safety issues as well as usage. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

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

The classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade chalk boards to new marker board systems.

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

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

The carpeted floor finish was reported to have been installed within the past year. With this in mind no recommendations are required at this time. The ceramic floor finish in the restrooms and kitchen area is well maintained and in good condition. No recommendations are warranted for these floor finishes at this time.

The vinyl floor finish in most of this school is in very good condition and appears to have part of an isolated upgrade. Some of the original flooring that was not a part of that effort consists of a 9x9 finish. This finish is suspect to contain asbestos and is recommended for upgrade. Remove and replace with a 12x12 vinyl tile application.

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

Institutional equipment includes: library equipment; limited stage equipment;

The school stage has a stage curtain assembly that appears to be from the original construction. Although it appears as if the main assembly has been removed no replacement was installed. Modern applications are typically fire-proof applications with adjustable tracks and electric support for operation. It is recommended that the missing curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

In addition the instrumental equipment; A/V equipment; gym equipment – basketball backstops, etc. are appropriate and in good condition. The Gym has appropriate backstops and with proper support for indoor sports.

Other equipment includes kitchen equipment; loading dock bumpers/levelers. The loading dock is from original construction and in fair condition. The loading dock system is recommended for upgrade to include new concrete work, bumpers and railing replacement.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories and urinals and both floor and wall mounted water closets. Lavatories have dual wheel handle faucets and urinals and water closets have manual flush valves with lever operators or recessed flush valves. Water coolers are stainless steel single level type. There are some counter top stainless steel sinks, and laboratory counter tops with integral sinks.

Hot water is provided by two Paloma instantaneous gas water heaters in the mechanical room connected to a horizontal insulated storage tank with a small circulating pump. Each heater has a small circulator. There is no booster pump system. Two Federal 7 1/2 hp double suction pumps maintain building water pressure, but both are currently inoperable. A duplex sump pump is in the mechanical room. Kitchen waste is piped through two below slab grease traps.

Sanitary, waste and vent piping is hub and spigot cast iron. Domestic hot and cold water is insulated rigid copper piping. There is a three inch water service and meter from Sixteenth St. There is not a backflow preventer. The six inch gas service is also from Sixteenth St. entering into the mechanical room

The plumbing system is from original installation except the water heaters. The fixtures, pumps, and supply piping systems have exceeded the service life and should be replaced. The cast iron piping should be inspected for damage and repaired as required. The water heaters should remain serviceable up to ten years. A reduced pressure backflow assembly should be installed in the water service.

HVAC- The building is heated with hot water generated by two HB Smith Mills 450 cast iron sectional gas boilers in the mechanical room. The boilers are one hundred thirty two hp installed in 1997, with Power Flame gas/oil burners. Reportedly one boiler will heat the building after warm-up. Hot water is circulated to unit ventilator and air handling unit heating coils and cabinet radiation units throughout the building. Boilers are connected to field fabricated insulated vent system through the building to a chimney. Combustion air louvers have motorized dampers and a utility vent fan ventilates the mechanical room. There is a duplex fuel oil pump system in the mechanical room circulating to two eight thousand gallon underground storage tanks, condition unknown.

Classrooms and some other spaces have Nesbitt unit ventilators with outside air damper, hot water heating coil, filter, control valve, blower and motor. There are two old heating and ventilating units in a mechanical room adjacent to the stage serving the gymnasium and cafetorium. Supply air is ducted to ceiling and sidewall grills. Another unit suspended in an alcove adjacent to the kitchen serves that area. Two small units in a crawl space at the basement corridor serve basement rooms and corridor. A unit in mechanical room adjacent to the IMC area serves that area and the teacher's lounge. Two floor mounted utility fans are also in this mechanical space.

The building originally had a chilled water system used in conjunction with the hot water system to provide changeover hydronic heating and cooling. The original chilled water portion was abandoned five years ago and a portable rental air cooled chiller is located on grade near the mechanical room, with temporary flexible piping connecting the outdoor chiller and the piping system in the mechanical room. The original chiller is a Dunham Bush dual screw machine, and an abandoned Evapco cooling tower is on the roof. The IT room has a ductless split system with an exterior wall mounted condensing unit.

There are four double suction and two end suction pumps in the mechanical room. The double suction pumps consist of two twenty hp condenser water and two fifteen hp dual temperature water pumps. The end suction pumps are Armstrong five hp heating zone pumps. Original hot water, chilled water and dual temperature water piping is insulated welded black steel. Some pipe and equipment insulation is missing and much is damaged, with condensation leaking through the covering. As a result much of the visible mechanical piping and equipment is rusted, and water is ponding on the floor.

The toilet rooms have mechanical toilet exhaust with approximately six centrifugal roof ventilators. There is no cooking in the kitchen but there is a single wall stainless steel hood with fire suppression system. The exhaust fan is located on the roof.

There is no central control system. An older duplex air compressor in the mechanical room powers the pneumatic controls, most of which are inoperable. There is a refrigerant monitoring system in the mechanical room and an exhaust system with ductwork extended to the chiller.

The boilers were installed in 1997 and should have fifteen to twenty years of remaining service life. The unit ventilators and air handling units should be replaced based on age and condition and to provide code required outside air quantities. The hot water distribution piping and pumps are in poor condition and have exceeded the service life and should be replaced. The abandoned chilled water system should be replaced, either with an air cooled chiller or water cooled system. There is reportedly a project in the approval/ procurement process to replace the chilled water system.

FIRE PROTECTION- There are no standpipes nor sprinkler system.

ELECTRICAL SYSTEMS

Electrical Service-- Electrical service to the building is provided by PECO Energy Company. An underground service is routed in a concrete duct bank from N. 16th Street to a Penn Panel and Box Company load center unit substation with 600A air interrupter switch, metering section, 750/1000 kVA, 13.2 kV-208/120V, 3 phase, 4 wire dry type transformer and two distribution sections. The switchboard does not have a main circuit breaker or a manufacturer's label with rating. There is a feeder tap on the transformer secondary that serves the chiller control panel. The switchboard has 17 feeder circuit breakers that feed mechanical equipment and panelboards located on each floor.

Panelboard PB is a two section 500A, 208/120V panelboard located in the Boiler Room that feeds mechanical equipment. Panelboard PM is rated 400A, 208/120V and located in the Second Floor mechanical room adjacent to the Library. There are a total of 19 panelboards that are original equipment and need to be replaced, including their feeder conductors.

Receptacles-- Classrooms are typically supplied with only a few duplex receptacles. An additional 6 to 8 duplex receptacles are recommended in each classroom using a surface metal raceway system. There are floor outlets in the Main Office, but are inadequate for the space. Multiple outlet strips are used to provide additional outlets and extension cords run across the floor creating a possible tripping hazard. It is recommended that floor outlets be removed and tele-power poles provided at workstations.

Lighting-- Corridors and classrooms generally have 2x4, 4 lamp recessed lensed fluorescent troffers. Fixtures in the corridors, Main Office, Library and Music Room have been upgraded with T8 lamps. However, the three 2x4 fluorescent troffers in the corridor to the gym have T12 lamps and need to be replaced. There are also 5 fluorescent troffers located at the north entrance lobby that are damaged and need to be repaired or replaced.

The auditorium/cafeteria has 25 recessed incandescent lensed fixtures and an inadequate illumination level. It is recommended that fixtures be replaced with LED type. The platform is illuminated with six (6) shallow dome fixtures with incandescent lamps and two (2) fluorescent fixtures with T12 lamps. There are also two (2) rows of theatrical lighting on the platform. There is no dimming system for the auditorium. Dimming controls should be provided when the lighting fixtures are replaced.

The gymnasium is illuminated with 18 stem mounted metal halide fixtures that are in fair condition with recommended replacement in 3 to 5 years.

Stairwells are provided with surface mounted, 4 lamp, modular fluorescent fixtures with prismatic lenses and T12 lamps. Restrooms have wraparound fluorescent fixtures with T12 lamps. Locker rooms have flanged fluorescent troffers with T12 lamps.

Incandescent lighting fixtures are provided in several rooms, including custodial storage, elevator machine rooms, Second Floor mechanical room, and locker room showers. These fixtures should be replaced with fluorescent fixtures, suitable for the application.

Fire Alarm System-- The fire alarm system is original, installed in 1968. The fire alarm control panel (FACP) is a non-addressable Honeywell panel that is located in the Boiler Room. The fire alarm system consists of manual pull stations and bell notification appliances only. There are no visual notification appliances. The system is obsolete and does not meet current NFPA codes and ADA. A complete fire alarm system replacement is required.

Telephone/LAN-- A telephone and data outlet is provided in each classroom. Staff requests that an additional 6 to 8 hard wired data be provided in each classroom for security reasons. Wireless access points are located in corridors and classrooms to provide wireless access throughout the building. The main IT equipment is located in IMC Room 206. The telephone demarcation point is in the Basement adjacent to the freight elevator.

Paging/Sound/Intercom Systems-- The paging system is accessed through the telephone system. Each classroom has a ceiling speaker for announcements and class changes. Speakers from the original paging system have been abandoned in place. There are also ceiling recessed paging speakers in the corridors. Wall mounted speakers are located in the auditorium and gymnasium. A portable sound system is provided in the auditorium.

Clock and Program System-- There is no clock system. Individual battery-powered clocks are located in classrooms. A wireless clock system is recommended for the school. There is no program system for the school. Class changes are within each learning pod.

Television System-- There is no television system in this school. Overhead projects or smart boards are used in classrooms.

Video Surveillance and Security Systems-- There are a total of 16 video surveillance cameras that are located in corridors, stairwells and on the exterior of the building. Staff reports that there is adequate surveillance coverage inside the building, but there are only two (2) exterior cameras that do not provide adequate coverage of the site and entrances. There are no cameras at the rear of the building. The surveillance system was reported to have been installed in the 1980's and has exceeded the end of its useful life and needs to be replaced. Additional exterior cameras should also be provided. Video cameras are monitored and recorded in IMC Room 206. Some doors are provided with magnetic door contacts for intrusion that report alarms off-premise.

Emergency Power System-- There is an Onan 20 kW/25 kVA, 208/120V, 3 phase, 4 wire standby generator with natural gas fuel supply that only serves egress and exit lighting. The generator feeds an emergency panelboard via a Cummins 125A automatic transfer switch (ATS).

Emergency Lighting System / Exit Lighting-- Emergency egress and exit lighting is powered from the standby generator. There are no emergency lighting fixtures in classrooms. There were a number of exit signs that were not illuminated or were damaged and need to be replaced.

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

Conveying Systems-- There are two elevators. Elevator No. 1 is an Otis hydraulic passenger elevator with 20 HP motor that was installed in 2009. The elevator is in good condition and has an estimated remaining useful life of 24 years. Elevator No. 2 is an Eastern Elevator hydraulic freight elevator with 20 HP motor that was installed in the original 1968 construction project. Elevator No. 2 is not operational, has a significant hydraulic oil leak, and has exceeded its useful life and needs to be replaced.

GROUNDS

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

Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that the existing wheelchair ramp be modified. This work should include the installation of a proper railing and guard railing with options for a powered door operator and steel handrails at all entrances as required.

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

The exterior stairs located the play areas appear to be original. Considering the limited access to the school by those that may be physically challenged this stair is recommended for universal upgrade. Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that a wheelchair ramp be installed at this entrance. This work should include the installation of a powered door operator and steel handrails at all entrances as required.

The loading dock is located just off the parking area between the dumpsters and the access point for students entering the school. The existing recommendation to enclose and move the dumpsters to a new location is related to this effort. After the dumpster correction is complete it is recommended that the loading dock area be clearly marked and safety barriers be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies.

The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

During the time of the inspection it was reported that the area near the loading dock has become a sink hole. As indicated in the photos the asphalt and concrete is damages as a result of this issue. This deficiency provides a budgetary consideration for the expected corrections needed to recover this area back to safe service to the school.

The landscaping is in good condition and well maintained in most areas of this site however, there are sections that the trees have been cut down either by maintenance or by nature. The landscaping is generally located near the parking / play area of the site with limited turf sections around the general exterior of the school. This deficiency provides a budgetary consideration for the installation of an irrigation system for this site.

Site Lighting-- Site lighting is provided from building mounted metal halide wall-pack lighting fixtures that are mounted around the perimeter of the building. The seven (7) fixtures on the front of the building along W. Diamond Street are in poor condition and need to be replaced. The remaining wall-pack fixture on the north, east and west sides are in good condition.

The three (3) basketball courts on the north side of the school are illuminated with 16 floodlighting fixtures mounted on six (6) light poles.

Site Video Surveillance-- there are only two exterior cameras, one on the front of the building and one that covers the parking lot. There are no cameras that provide surveillance of the paved play area. It is recommended that three (3) exterior cameras be provided.

RECOMMENDATIONS

- Remodel existing classroom for lab use
- Remove and replace stage curtain
- Remove and replace dock bumpers
- Remove and replace suspended acoustic ceilings
- Remove VAT and replace with VCT
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Replace blackboards with marker boards
- Remove and replace tackboards
- Remove and replace interior doors
- Remove folding partition
- Install fire rated walls and door where required
- Build new gang restroom to meet code or occupant needs
- Remove and replace Roof
- Remove and replace Exterior Doors.
- Remove and replace Exterior Windows.
- Add landscape irrigation system to small area
- Repair depressed areas in parking or pedestrian paving caused by subgrade subsidence
- Build secure trash dumpster enclosure
- Add safety barriers and guide lines at parking and loading dock areas
- Remove and replace exterior egress stairway
- Remove and replace concrete sidewalk or paving
- Install an exterior ADA ramp
- Remove and replace parking lot
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.
- Remove the existing chiller and install a two hundred fifty ton dual compressor water cooled chiller with insulated chilled water distribution piping, two pumps, chemical treatment and controls located in the mechanical room. Include variable frequency drives for the pumps and electrical connections.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.
- Provide a new central station air handling unit for the gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

- Provide a new central station air handling unit for the cafeteria with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Replace existing duplex sump pump in mechanical room.
- Provide a new two hundred fifty ton two cell induced draft cooling tower on the roof. Connect to existing condenser water piping. Wrap with heat tape, insulation and aluminum jacket. Provide two new end suction condenser water pumps in the mechanical room. Include new variable frequency drives for tower and pumps and electrical connections.
- Install new domestic water booster pump system with pumps, control panel, pressure tank and electrical connection.
- Provide a new central station air handling unit for the IMC area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Install new reduced pressure backflow preventer in three inch water service.
- Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Replace the 750/1000 kVA load center unit substation.
- Replace (19) panelboards, and their feeder conductors, from the original construction project.
- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 31 classrooms.
- Remove floor outlets in the Main Office and provide tele-power poles with duplex receptacles.
- Replace lighting fixtures and wiring in 31 classrooms (approximately 34,100 SF).
- Replace a total of (8) fluorescent troffers in the north entrance lobby and entrance corridor to the gym.
- Replace (25) incandescent fixtures in the auditorium/cafeteria with LED fixtures and provide dimming capability.
- Replace (18) metal halide lighting fixtures in the gymnasium.
- Replace obsolete fluorescent and incandescent lighting fixtures in approximately 13,750 SF of the building other than classrooms.
- Replace fire alarm system with an addressable system.
- Provide an additional 6 to 8 hard wired data outlet in each classroom.
- Provide wireless clock system in all classrooms, cafeteria/auditorium, gymnasium, library, offices and similar large rooms.
- Replace (14) interior video surveillance cameras.
- Provide for maintenance/replacement of seven (7) exit signs that were damaged or not illuminated.
- Provide upgrade and modernization of elevator cab, controls and machine room for freight Elevator No. 2.
- Replace seven (7) exterior metal halide wall-pack lighting fixtures on the front of the building along W. Diamond Street that are in poor condition.
- Replace two (2) exterior video surveillance cameras and provide three (3) additional cameras to cover the paved play area on the north side of the building.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S446001		

Site Condition Summary

The Table below shows the CI and FCI for each major system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

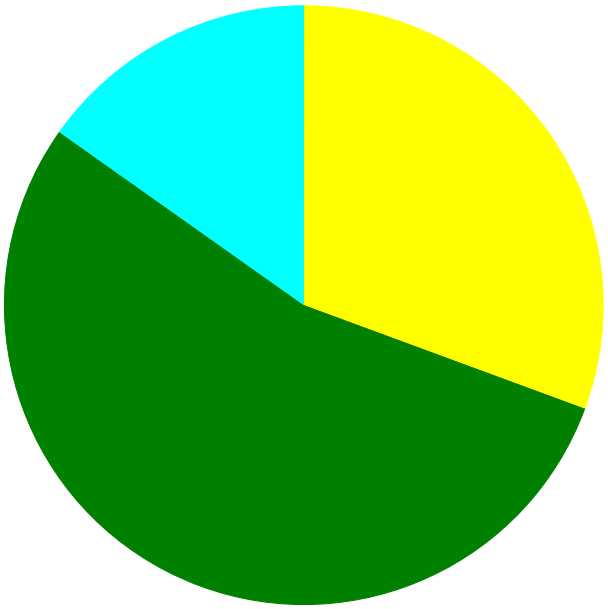
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	53.00 %	0.00 %	$0.00
A20 - Basement Construction	53.00 %	0.00 %	$0.00
B10 - Superstructure	53.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	45.52 %	20.19 %	$1,150,590.46
B30 - Roofing	60.00 %	89.37 %	$1,355,280.44
C10 - Interior Construction	46.79 %	122.13 %	$3,030,414.79
C20 - Stairs	53.00 %	106.60 %	$151,976.52
C30 - Interior Finishes	44.15 %	33.25 %	$1,661,594.46
D10 - Conveying	65.71 %	119.96 %	$185,585.19
D20 - Plumbing	98.00 %	59.14 %	$1,221,016.46
D30 - HVAC	92.97 %	105.11 %	$11,822,886.37
D40 - Fire Protection	105.71 %	177.49 %	$1,446,497.35
D50 - Electrical	99.39 %	53.66 %	$3,189,285.93
E10 - Equipment	34.29 %	0.09 %	$1,484.83
E20 - Furnishings	30.00 %	7.10 %	$15,281.89
G20 - Site Improvements	35.91 %	19.47 %	$481,030.13
G40 - Site Electrical Utilities	73.33 %	12.44 %	$89,516.10
Totals:	**66.42 %**	**48.85 %**	**$25,802,440.92**

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)
B446001;Duckrey	101,115	50.84	$0.00	$0.00	$7,715,415.27	$13,664,687.07	$3,851,792.35
G446001;Grounds	165,400	17.89	$0.00	$6,181.35	$179,451.30	$315,448.77	$69,464.81
Total:		**48.85**	**$0.00**	**$6,181.35**	**$7,894,866.57**	**$13,980,135.84**	**$3,921,257.16**

Deficiencies By Priority



1 - Response Time (< 2 yr)
2 - Response Time (2-3 yrs) - $6,181.35
3 - Response Time (3-4 yrs) - $7,894,866.57
4 - Response Time (4-5 yrs) - $13,980,135.84
5 - Response Time (> 5 yrs) - $3,921,257.16

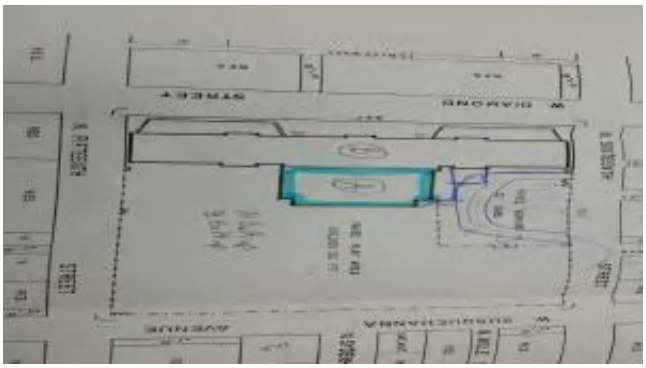
Budget Estimate Total: $25,802,440.92

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):	101,115
Year Built:	1968
Last Renovation:	
Replacement Value:	$49,625,718
Repair Cost:	$25,231,894.69
Total FCI:	50.84 %
Total RSLI:	67.84 %



Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B446001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S446001		

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	53.00 %	0.00 %	$0.00
A20 - Basement Construction	53.00 %	0.00 %	$0.00
B10 - Superstructure	53.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	45.52 %	20.19 %	$1,150,590.46
B30 - Roofing	60.00 %	89.37 %	$1,355,280.44
C10 - Interior Construction	46.79 %	122.13 %	$3,030,414.79
C20 - Stairs	53.00 %	106.60 %	$151,976.52
C30 - Interior Finishes	44.15 %	33.25 %	$1,661,594.46
D10 - Conveying	65.71 %	119.96 %	$185,585.19
D20 - Plumbing	98.00 %	59.14 %	$1,221,016.46
D30 - HVAC	92.97 %	105.11 %	$11,822,886.37
D40 - Fire Protection	105.71 %	177.49 %	$1,446,497.35
D50 - Electrical	99.39 %	53.66 %	$3,189,285.93
E10 - Equipment	34.29 %	0.09 %	$1,484.83
E20 - Furnishings	30.00 %	7.10 %	$15,281.89
Totals:	**67.84 %**	**50.84 %**	**$25,231,894.69**

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.	101,115	100	1968	2068		53.00 %	0.00 %	53			$1,860,516
A1030	Slab on Grade	$7.73	S.F.	101,115	100	1968	2068		53.00 %	0.00 %	53			$781,619
A2010	Basement Excavation	$6.55	S.F.	101,115	100	1968	2068		53.00 %	0.00 %	53			$662,303
A2020	Basement Walls	$12.70	S.F.	101,115	100	1968	2068		53.00 %	0.00 %	53			$1,284,161
B1010	Floor Construction	$75.10	S.F.	101,115	100	1968	2068		53.00 %	0.00 %	53			$7,593,737
B1020	Roof Construction	$13.88	S.F.	40,000	100	1968	2068		53.00 %	0.00 %	53			$555,200
B2010	Exterior Walls	$36.91	S.F.	101,115	100	1968	2068		53.00 %	0.00 %	53			$3,732,155
B2020	Exterior Windows	$18.01	S.F.	101,115	40	1968	2008	2027	30.00 %	58.18 %	12		$1,059,517.25	$1,821,081
B2030	Exterior Doors	$1.45	S.F.	101,115	25	1968	1993	2027	48.00 %	62.12 %	12		$91,073.21	$146,617
B3010105	Built-Up	$37.76	S.F.	40,000	20	1968	1988	2027	60.00 %	89.73 %	12		$1,355,280.44	$1,510,400
B3020	Roof Openings	$0.06	S.F.	101,115	20	1968	1988	2027	60.00 %	0.00 %	12			$6,067
C1010	Partitions	$17.91	S.F.	101,115	100	1968	2068		53.00 %	131.14 %	53		$2,374,968.60	$1,810,970
C1020	Interior Doors	$3.51	S.F.	101,115	40	1968	2008	2027	30.00 %	161.30 %	12		$572,470.45	$354,914
C1030	Fittings	$3.12	S.F.	101,115	40	1968	2008	2027	30.00 %	26.30 %	12		$82,975.74	$315,479
C2010	Stair Construction	$1.41	S.F.	101,115	100	1968	2068		53.00 %	106.60 %	53		$151,976.52	$142,572
C3010230	Paint & Covering	$13.21	S.F.	101,115	10	2010	2020		50.00 %	0.00 %	5			$1,335,729
C3010232	Wall Tile	$2.63	S.F.	101,115	30	1968	1998	2027	40.00 %	0.00 %	12			$265,932
C3020411	Carpet	$7.30	S.F.	3,000	10	2015	2025		100.00 %	0.00 %	10			$21,900

Site Assessment Report - B446001;Duckrey

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3020412	Terrazzo & Tile	$75.52	S.F.	5,000	50	1968	2018	2020	10.00 %	0.00 %	5			$377,600
C3020413	Vinyl Flooring	$9.68	S.F.	90,115	20	1968	1988	2027	60.00 %	52.16 %	12		$455,000.04	$872,313
C3020415	Concrete Floor Finishes	$0.97	S.F.	3,000	50	1968	2018	2027	24.00 %	0.00 %	12			$2,910
C3030	Ceiling Finishes	$20.97	S.F.	101,115	25	2000	2025		40.00 %	56.90 %	10		$1,206,594.42	$2,120,382
D1010	Elevators and Lifts	$1.53	S.F.	101,115	35	1968	2003	2038	65.71 %	119.96 %	23		$185,585.19	$154,706
D2010	Plumbing Fixtures	$13.52	S.F.	101,115	35	1968	2003	2052	105.71 %	18.78 %	37		$256,763.17	$1,367,075
D2020	Domestic Water Distribution	$1.68	S.F.	101,115	25	1968	1993	2042	108.00 %	296.79 %	27		$504,171.63	$169,873
D2030	Sanitary Waste	$2.90	S.F.	101,115	25	1968	1993	2042	108.00 %	156.90 %	27		$460,081.66	$293,234
D2040	Rain Water Drainage	$2.32	S.F.	101,115	30	1968	1998	2025	33.33 %	0.00 %	10			$234,587
D3020	Heat Generating Systems	$18.67	S.F.	101,115	35	1997	2032		48.57 %	7.03 %	17		$132,668.56	$1,887,817
D3030	Cooling Generating Systems	$24.48	S.F.	101,115	30	1968	1998	2047	106.67 %	172.60 %	32		$4,272,322.00	$2,475,295
D3040	Distribution Systems	$42.99	S.F.	101,115	25	1968	1993	2042	108.00 %	128.98 %	27		$5,606,784.36	$4,346,934
D3050	Terminal & Package Units	$11.60	S.F.	101,115	20	1968	1988	2027	60.00 %	0.00 %	12			$1,172,934
D3060	Controls & Instrumentation	$13.50	S.F.	101,115	20	1968	1988	2037	110.00 %	132.68 %	22		$1,811,111.45	$1,365,053
D4010	Sprinklers	$7.05	S.F.	101,115	35			2052	105.71 %	202.91 %	37		$1,446,497.35	$712,861
D4020	Standpipes	$1.01	S.F.	101,115	35			2052	105.71 %	0.00 %	37			$102,126
D5010	Electrical Service/Distribution	$9.70	S.F.	101,115	30	1968	1998	2047	106.67 %	133.86 %	32		$1,312,900.95	$980,816
D5020	Lighting and Branch Wiring	$34.68	S.F.	101,115	20	1968	1988	2037	110.00 %	36.24 %	22		$1,270,926.84	$3,506,668
D5030	Communications and Security	$12.99	S.F.	101,115	15	1968	1983	2025	66.67 %	45.64 %	10		$599,523.41	$1,313,484
D5090	Other Electrical Systems	$1.41	S.F.	101,115	30	1968	1998	2042	90.00 %	4.16 %	27		$5,934.73	$142,572
E1020	Institutional Equipment	$4.82	S.F.	101,115	35	1968	2003	2027	34.29 %	0.00 %	12			$487,374
E1090	Other Equipment	$11.10	S.F.	101,115	35	1968	2003	2027	34.29 %	0.13 %	12		$1,484.83	$1,122,377
E2010	Fixed Furnishings	$2.13	S.F.	101,115	40	1968	2008	2027	30.00 %	7.10 %	12		$15,281.89	$215,375
								Total	**67.84 %**	**50.84 %**			**$25,231,894.69**	**$49,625,718**

System Notes

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

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

Note: Painted CMU 95%
Brick 5%

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

Note: Carpet 3%
Tile 5%
Concrete 3%
Tile 89%

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

Note: There is one (1) 750/1000 kVA 13.2 kV-208/120V, 3 phase substation transformer.
There are no secondary transformers.

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$25,231,895**	**$0**	**$0**	**$0**	**$0**	**$2,184,840**	**$0**	**$0**	**$0**	**$0**	**$5,455,477**	**$32,872,211**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2020 - Exterior Windows	$1,059,517	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,059,517**
B2030 - Exterior Doors	$91,073	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$91,073**
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	$1,355,280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,355,280**
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	$2,374,969	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,374,969**
C1020 - Interior Doors	$572,470	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$572,470**
C1030 - Fittings	$82,976	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$82,976**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

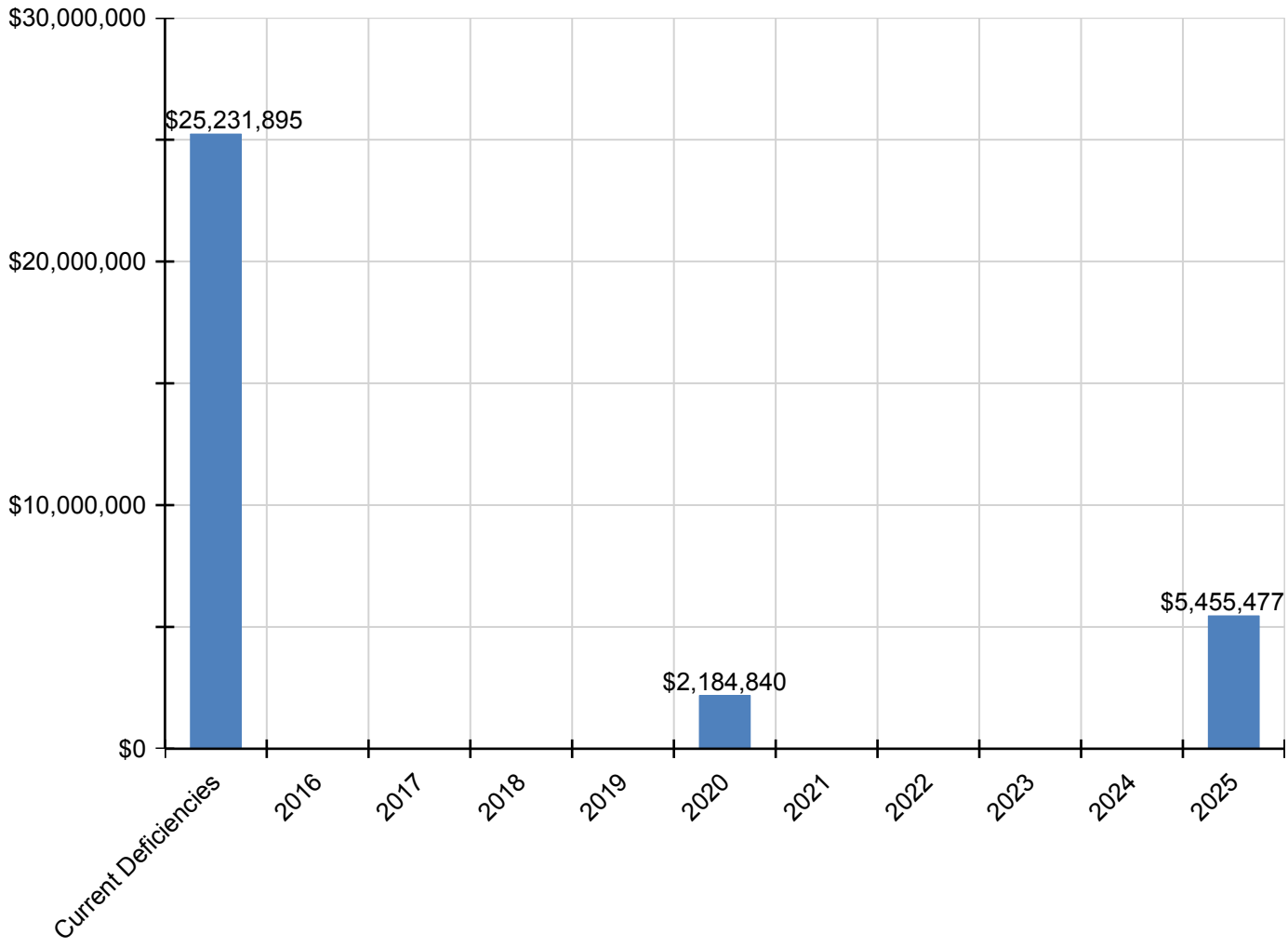
C2010 - Stair Construction	$151,977	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$151,977**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$1,703,324	$0	$0	$0	$0	$0	**$1,703,324**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$32,375	**$32,375**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$481,516	$0	$0	$0	$0	$0	**$481,516**
C3020413 - Vinyl Flooring	$455,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$455,000**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$1,206,594	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,134,577	**$4,341,172**
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	$185,585	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$185,585**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$256,763	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$256,763**
D2020 - Domestic Water Distribution	$504,172	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$504,172**
D2030 - Sanitary Waste	$460,082	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$460,082**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$346,791	**$346,791**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$132,669	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$132,669**
D3030 - Cooling Generating Systems	$4,272,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,272,322**
D3040 - Distribution Systems	$5,606,784	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,606,784**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,811,111	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,811,111**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,446,497	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,446,497**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$1,312,901	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,312,901**
D5020 - Lighting and Branch Wiring	$1,270,927	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,270,927**
D5030 - Communications and Security	$599,523	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,941,733	**$2,541,257**
D5090 - Other Electrical Systems	$5,935	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,935**

E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$1,485	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,485**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$15,282	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$15,282**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

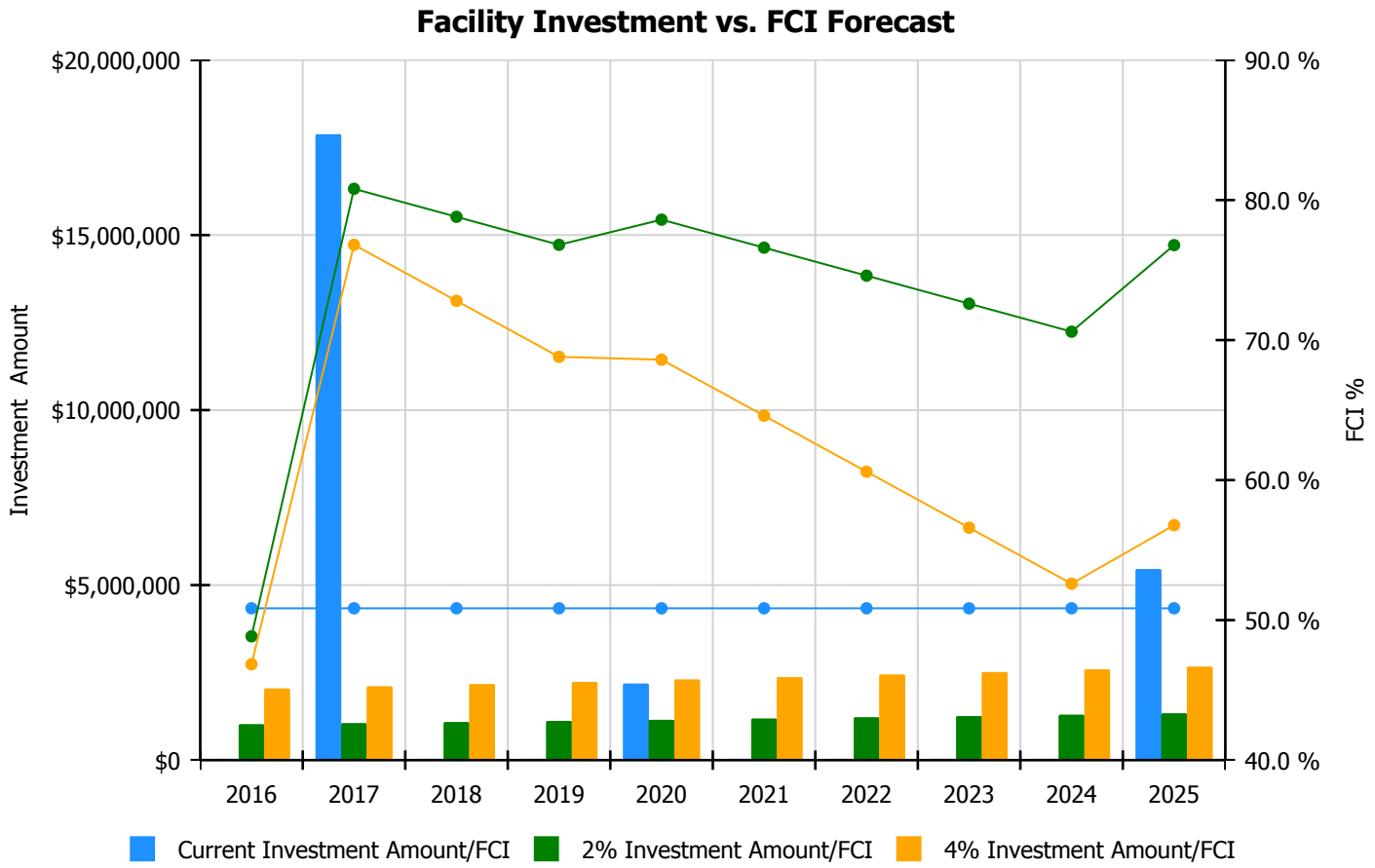
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

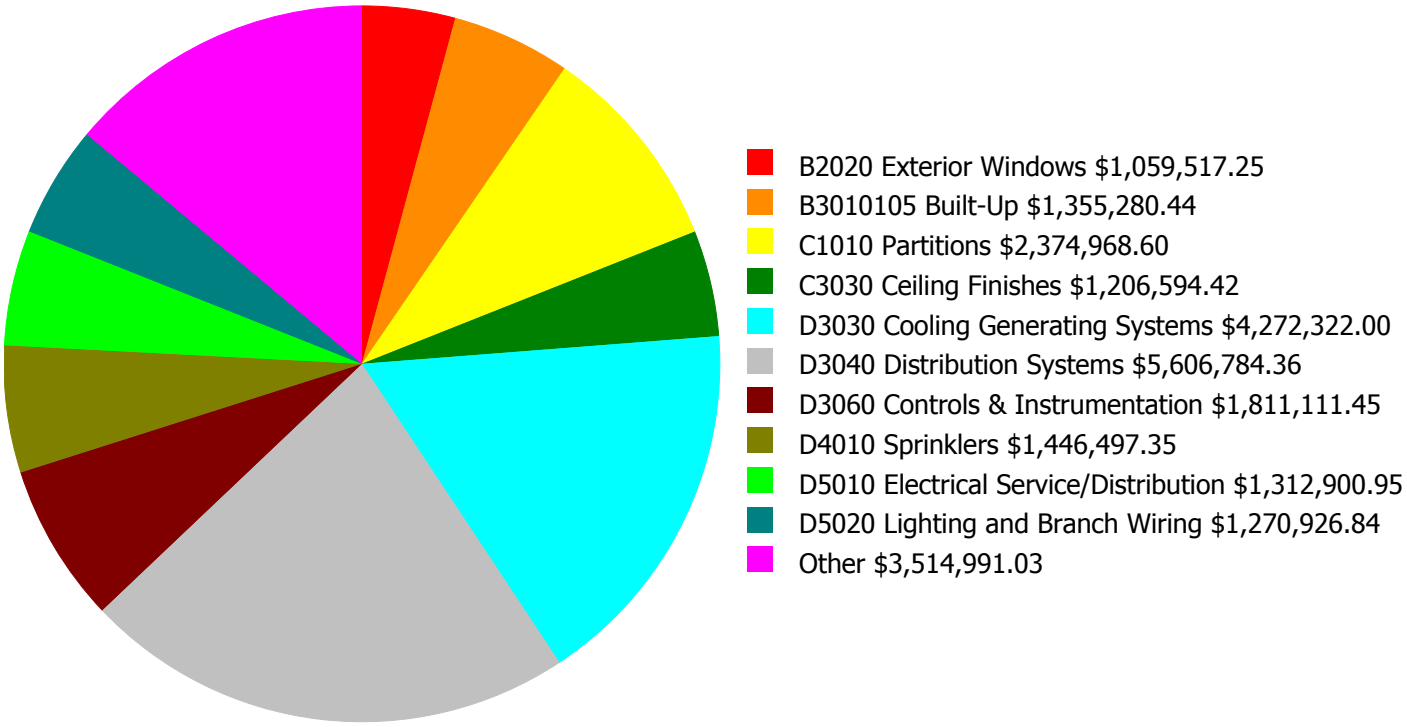
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 50.84%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,022,290.00	48.84 %	$2,044,580.00	46.84 %
2017	$17,878,210	$1,052,958.00	80.80 %	$2,105,917.00	76.80 %
2018	$0	$1,084,547.00	78.80 %	$2,169,094.00	72.80 %
2019	$0	$1,117,084.00	76.80 %	$2,234,167.00	68.80 %
2020	$2,184,840	$1,150,596.00	78.60 %	$2,301,192.00	68.60 %
2021	$0	$1,185,114.00	76.60 %	$2,370,228.00	64.60 %
2022	$0	$1,220,667.00	74.60 %	$2,441,335.00	60.60 %
2023	$0	$1,257,287.00	72.60 %	$2,514,575.00	56.60 %
2024	$0	$1,295,006.00	70.60 %	$2,590,012.00	52.60 %
2025	$5,455,477	$1,333,856.00	76.78 %	$2,667,713.00	56.78 %
Total:	**$25,518,527**	**$11,719,405.00**		**$23,438,813.00**	

Deficiency Summary by System

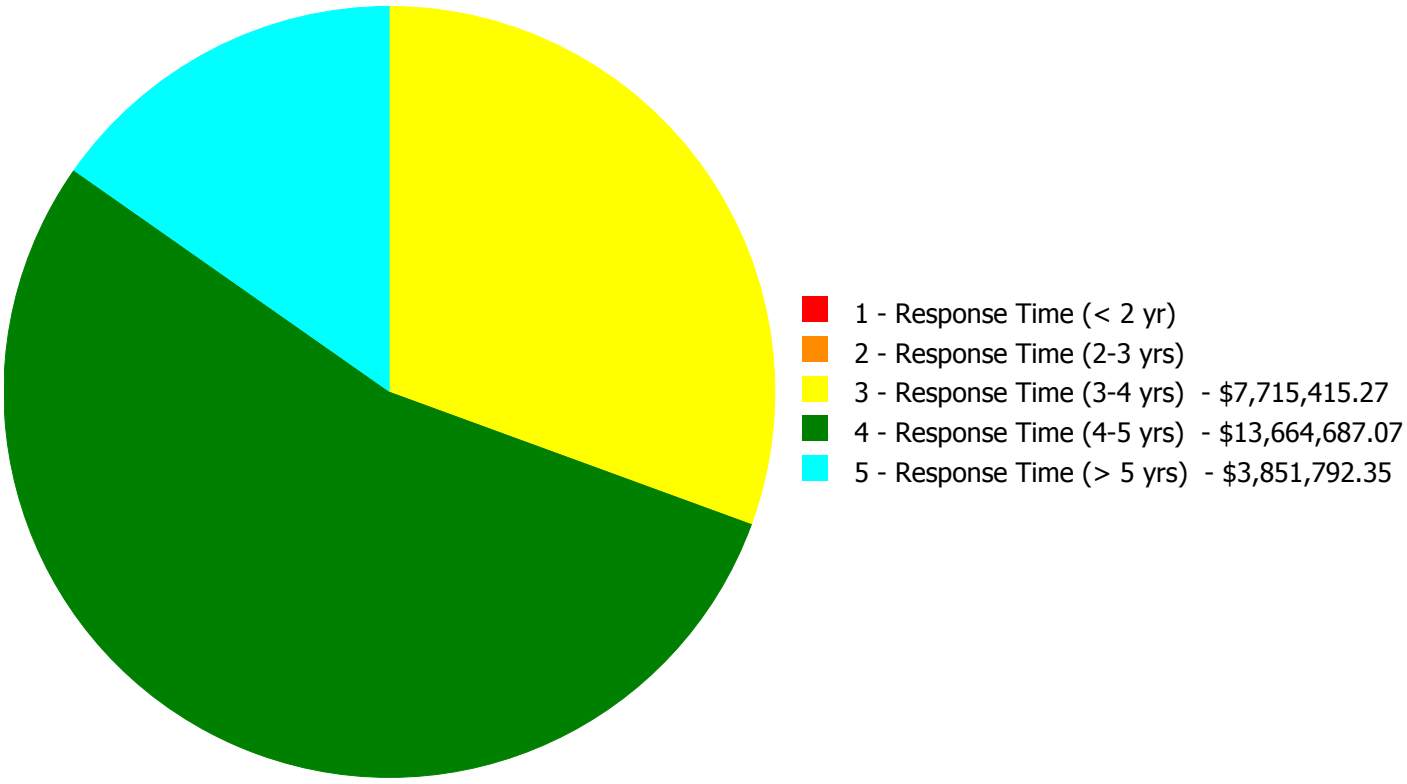
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $25,231,894.69

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: $25,231,894.69

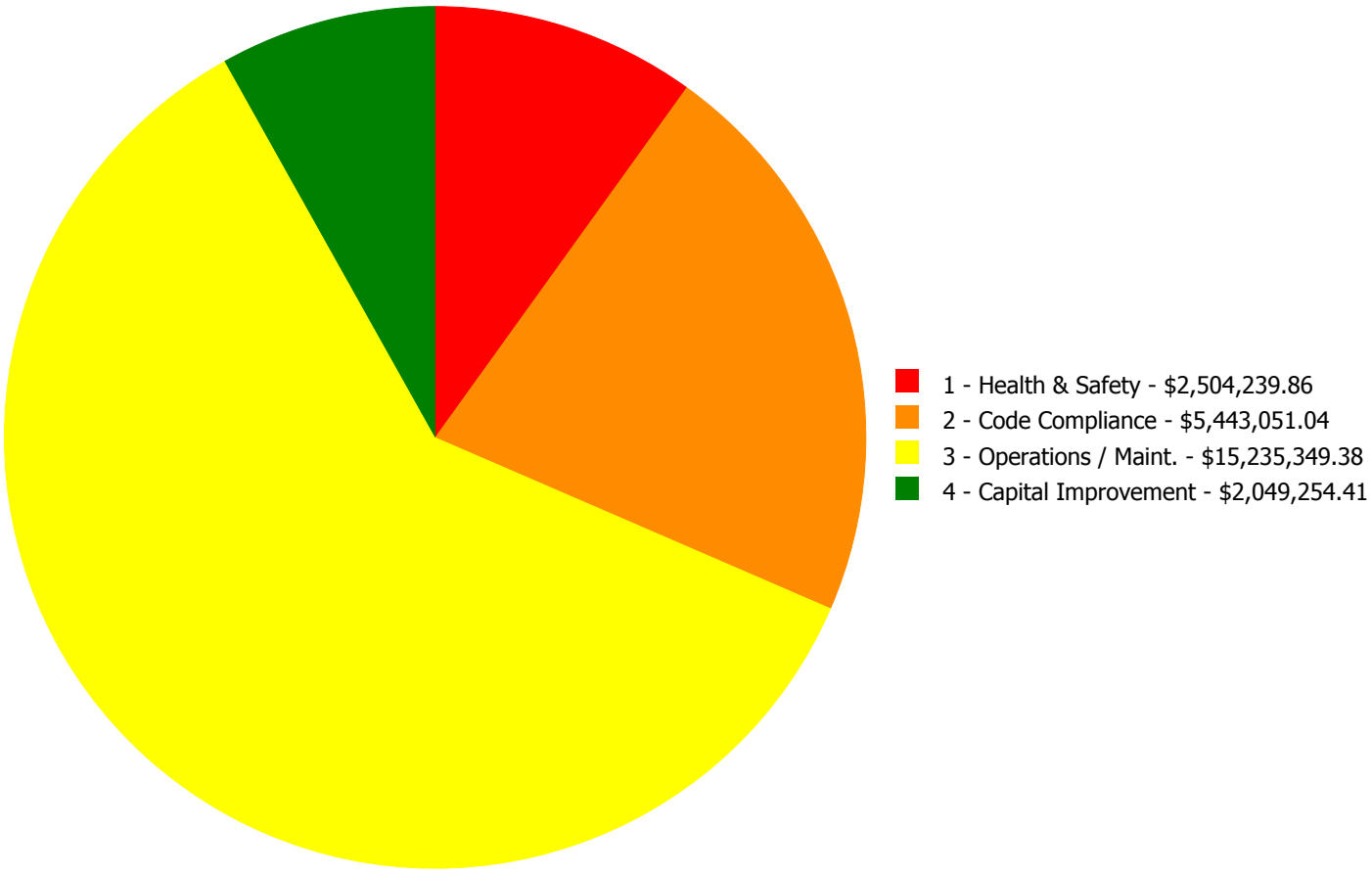
Deficiency By Priority Investment Table

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
B2020	Exterior Windows	$0.00	$0.00	$0.00	$1,059,517.25	$0.00	$1,059,517.25
B2030	Exterior Doors	$0.00	$0.00	$0.00	$91,073.21	$0.00	$91,073.21
B3010105	Built-Up	$0.00	$0.00	$0.00	$1,355,280.44	$0.00	$1,355,280.44
C1010	Partitions	$0.00	$0.00	$1,602,248.71	$772,719.89	$0.00	$2,374,968.60
C1020	Interior Doors	$0.00	$0.00	$572,470.45	$0.00	$0.00	$572,470.45
C1030	Fittings	$0.00	$0.00	$0.00	$7,927.26	$75,048.48	$82,975.74
C2010	Stair Construction	$0.00	$0.00	$151,976.52	$0.00	$0.00	$151,976.52
C3020413	Vinyl Flooring	$0.00	$0.00	$455,000.04	$0.00	$0.00	$455,000.04
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$1,206,594.42	$1,206,594.42
D1010	Elevators and Lifts	$0.00	$0.00	$185,585.19	$0.00	$0.00	$185,585.19
D2010	Plumbing Fixtures	$0.00	$0.00	$0.00	$256,763.17	$0.00	$256,763.17
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$504,171.63	$0.00	$504,171.63
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$460,081.66	$0.00	$460,081.66
D3020	Heat Generating Systems	$0.00	$0.00	$132,668.56	$0.00	$0.00	$132,668.56
D3030	Cooling Generating Systems	$0.00	$0.00	$1,777,596.30	$0.00	$2,494,725.70	$4,272,322.00
D3040	Distribution Systems	$0.00	$0.00	$0.00	$5,606,784.36	$0.00	$5,606,784.36
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,811,111.45	$0.00	$1,811,111.45
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,446,497.35	$0.00	$1,446,497.35
D5010	Electrical Service/Distribution	$0.00	$0.00	$1,312,900.95	$0.00	$0.00	$1,312,900.95
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,069,613.13	$201,313.71	$0.00	$1,270,926.84
D5030	Communications and Security	$0.00	$0.00	$449,420.69	$74,678.97	$75,423.75	$599,523.41
D5090	Other Electrical Systems	$0.00	$0.00	$5,934.73	$0.00	$0.00	$5,934.73
E1090	Other Equipment	$0.00	$0.00	$0.00	$1,484.83	$0.00	$1,484.83
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$15,281.89	$0.00	$15,281.89
	Total:	$0.00	$0.00	$7,715,415.27	$13,664,687.07	$3,851,792.35	$25,231,894.69

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: $25,231,894.69

Deficiency Details by Priority

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

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

System: C1010 - Partitions

Location: Restrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 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: 12.00

Unit of Measure: Ea.

Estimate: $1,562,654.41

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: There are student restrooms on each floor that appear to be original with original fixtures. Each restroom is limited by the design of the time that did not include options for those that may be physically challenged. These restrooms warrant unique renovations to restore the systems to modern operations options and service to the school. Accessibility legislation requires that goods, amenities, and services offered in buildings, such as restrooms, be generally accessible to all people. There are no compliant restrooms located in this school. A unisex, compliant restroom should be added on each of the floors. Recommended modifications include the construction of new single occupancy restrooms in existing academic areas to accommodate requirements. This involves adding two new partitions to enclose 50 square feet of area and installing a door with hardware, ceramic tile and plaster surfaces, suspended ceilings, plumbing fixtures, electrical fixtures, piping, HVAC equipment, and accessories for each new restroom. Also, the renovation of the existing restrooms and modification to new layouts and floor plans to support modern designs and requirements for ADA legislation.

System: C1010 - Partitions

Location: Mechanical Space

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 4.00

Unit of Measure: S.F.

Estimate: $39,594.30

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: A large portion of the interior corridor, exit stair doors are code compliant. The doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The mechanical room fire door system has either had the compliant tags removed or the doors were not installed with current code in mind. To restore the mechanical room door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

System: C1020 - Interior Doors

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 120.00

Unit of Measure: Ea.

Estimate: $572,470.45

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: Interior doors are typically wood in metal frames with some glass glazing. Other interior doors include wooden glass pane doors with original hollow metal in hollow metal frames. Doors are generally in fair condition considering the age of the application. As indicated in the photos several of the doors have been abused and present safety issues as well as usage. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

System: C2010 - Stair Construction

Location: Stairs

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 900.00

Unit of Measure: L.F.

Estimate: $151,976.52

Assessor Name: Craig Anding

Date Created: 11/18/2015

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

System: C3020413 - Vinyl Flooring

Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 30,000.00

Unit of Measure: S.F.

Estimate: $455,000.04

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: The vinyl floor finish in most of this school is in very good condition and appears to have part of an isolated upgrade. Some of the original flooring that was not a part of that effort consist of a 9x9 finish. This finish is suspect to contain asbestos and is recommended for upgrade. Remove and replace with a 12x12 vinyl tile application.

System: D1010 - Elevators and Lifts

Location: Freight Elevator Machine Room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Upgrade elevator cab and machinery - based on 3 stops, change the stops if required

Qty: 1.00

Unit of Measure: Ea.

Estimate: $185,585.19

Assessor Name: Craig Anding

Date Created: 10/17/2015

Notes: Provide upgrade and modernization of elevator cab, controls and machine room for freight Elevator No. 2.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (3" size, 5 HP, to 225 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $66,334.28

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing hot water pump with new end suction 5 hp pump. Include required piping and valves and electrical connection.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (3" size, 5 HP, to 225 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $66,334.28

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing hot water pump with new end suction 5 hp pump. Include required piping and valves and electrical connection.

System: D3030 - Cooling Generating Systems

Location: roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace cooling tower, ID, galv. (250 tons)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $602,335.00

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace cooling tower on roof with two cell galvanized steel induced draft cooling tower including required valves and piping connections, and chemical treatment. Include electrical connections and variable frequency drives.

System: D3030 - Cooling Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace chiller, water-cooled (250 ton)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $573,237.46

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Remove the existing chiller and install a two hundred fifty ton dual compressor water cooled chiller with insulated chilled water piping in mechanical room and required valves. Include electrical connections.

System: D3030 - Cooling Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace base mounted, end suction CHW pump (6" size, 25 HP, to 1550 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $169,963.37

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing condenser water double suction pump with new end suction 20 hp pump. Include electrical connections and variable frequency drive.

System: D3030 - Cooling Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace base mounted, end suction CHW pump (6" size, 25 HP, to 1550 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $169,963.37

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing condenser water double suction pump with new end suction 20 hp pump. Include electrical connections and variable frequency drive.

System: D3030 - Cooling Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace base mounted, end suction CHW pump (5" size, 15 HP, to 1000 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $131,048.55

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing double suction dual temperature pump with new end suction 15 hp pump. Include required piping and valves, electrical connection and variable frequency drive. Utilize for chilled water system.

System: D3030 - Cooling Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace base mounted, end suction CHW pump (5" size, 15 HP, to 1000 GPM)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $131,048.55

Assessor Name: Craig Anding

Date Created: 11/13/2015

Notes: Replace existing double suction dual temperature pump with new end suction 15 hp pump. Include required piping and valves, electrical connection and variable frequency drive. Utilize for chilled water system.

System: D5010 - Electrical Service/Distribution

Location: Main Electrical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace unit substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $743,608.14

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace the 750/1000 kVA load center unit substation.

System: D5010 - Electrical Service/Distribution

Location: Building wide
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Panelboard
Qty: 19.00
Unit of Measure: Ea.
Estimate: $569,292.81
Assessor Name: Craig Anding
Date Created: 10/16/2015

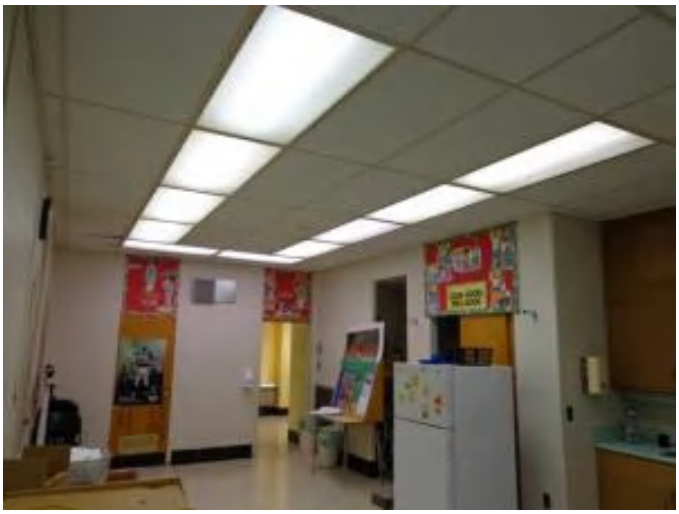
Notes: Replace (19) panelboards, and their feeder conductors, from the original construction project.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Lighting Fixtures (SF)
Qty: 34,100.00
Unit of Measure: S.F.
Estimate: $705,578.84
Assessor Name: Craig Anding
Date Created: 10/16/2015

Notes: Replace lighting fixtures and wiring in 31 classrooms (approximately 34,100 SF).

System: D5020 - Lighting and Branch Wiring



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 13,750.00

Unit of Measure: S.F.

Estimate: $322,079.65

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace obsolete fluorescent and incandescent lighting fixtures in approximately 13,750 SF of the building other than classrooms.

System: D5020 - Lighting and Branch Wiring

Location: Auditorium/cafeteria

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: $36,942.36

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace (25) incandescent fixtures in the auditorium/cafeteria with LED fixtures and provide dimming capability.

System: D5020 - Lighting and Branch Wiring

Location: North Entrance Lobby

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 8.00

Unit of Measure: Ea.

Estimate: $5,012.28

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace a total of (8) fluorescent troffers in the north entrance lobby and entrance corridor to the gym.

System: D5030 - Communications and Security

Location: Building wide

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 101,115.00

Unit of Measure: S.F.

Estimate: $449,420.69

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace fire alarm system with an addressable system.

System: D5090 - Other Electrical Systems

Location: Building wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace Emergency/Exit Lighting

Qty: 7.00

Unit of Measure: Ea.

Estimate: $5,934.73

Assessor Name: Craig Anding

Date Created: 10/17/2015

Notes: Provide for maintenance/replacement of seven (7) exit signs that were damaged or not illuminated.

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

System: B2020 - Exterior Windows

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Ea.

Estimate: $1,059,517.25

Assessor Name: Craig Anding

Date Created: 11/16/2015

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

System: B2030 - Exterior Doors

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 10.00

Unit of Measure: Ea.

Estimate: $91,073.21

Assessor Name: Craig Anding

Date Created: 11/16/2015

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

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $1,355,280.44

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: The main built up roof section extends the entire school while the two small sections cover the lower level classrooms and loading dock. This roofing system is a built up application that was installed in the early 1990'S. This roof has been seal coated several times to extend the life cycle of the application. Although there are no reports or evidence of active leaks it's only a matter of time based on current condition and age. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace roof sections.

System: C1010 - Partitions

Location: Science Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $705,498.17

Assessor Name: Craig Anding

Date Created: 11/19/2015

Notes: This schools science labs have been upgraded from the original construction. The installation consist of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

System: C1010 - Partitions

Location: Classrooms

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Remove folding partition

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $67,221.72

Assessor Name: Craig Anding

Date Created: 11/18/2015

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

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

Estimate: $7,927.26

Assessor Name: Craig Anding

Date Created: 11/18/2015

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

System: D2010 - Plumbing Fixtures

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 21.00

Unit of Measure: Ea.

Estimate: $157,156.62

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2010 - Plumbing Fixtures

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 18.00

Unit of Measure: Ea.

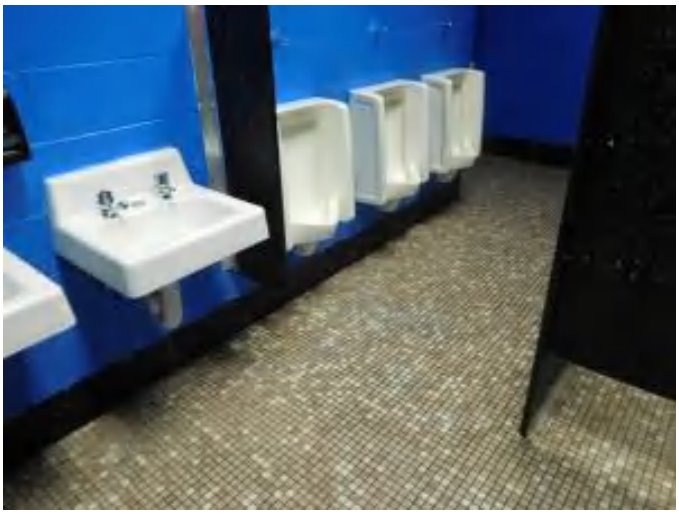
Estimate: $69,096.45

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2010 - Plumbing Fixtures



Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 9.00

Unit of Measure: Ea.

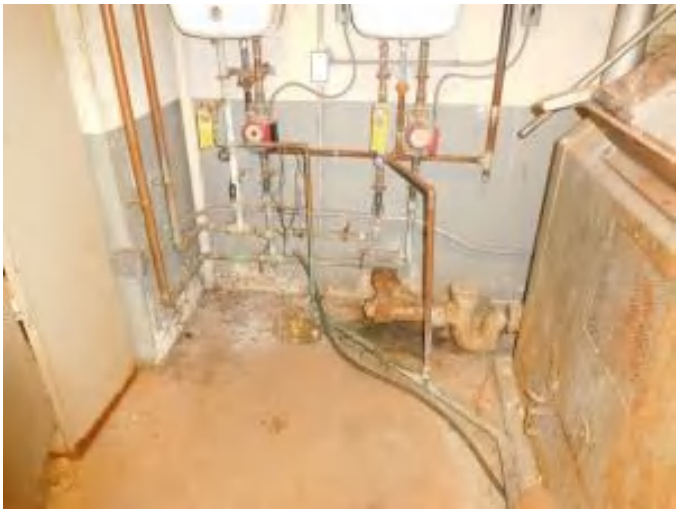
Estimate: $30,510.10

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2020 - Domestic Water Distribution



Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (150 KSF)

Qty: 101,115.00

Unit of Measure: S.F.

Estimate: $419,330.91

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace duplex domestic booster pump set (5 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $50,533.86

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Install new domestic water booster pump system with pumps, control panel, pressure tank and electrical connection.

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 3" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $34,306.86

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Install new reduced pressure backflow preventer in three inch water service.

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 101,115.00

Unit of Measure: S.F.

Estimate: $429,395.71

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D2030 - Sanitary Waste

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace sanitary sewage ejector pit and pumps. (48" dia.)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $30,685.95

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Replace existing duplex sump pump in mechanical room.

System: D3040 - Distribution Systems

Location: entire building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 101,115.00

Unit of Measure: S.F.

Estimate: $4,632,407.96

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D3040 - Distribution Systems

Location: IMC

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Install HVAC unit for IMC (850 students)

Qty: 676.00

Unit of Measure: Pr.

Estimate: $350,016.70

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Provide a new central station air handling unit for the IMC area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 676.00

Unit of Measure: Pr.

Estimate: $316,058.66

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D3040 - Distribution Systems

Location: gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $308,301.04

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 101,115.00

Unit of Measure: S.F.

Estimate: $1,811,111.45

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 101,115.00

Unit of Measure: S.F.

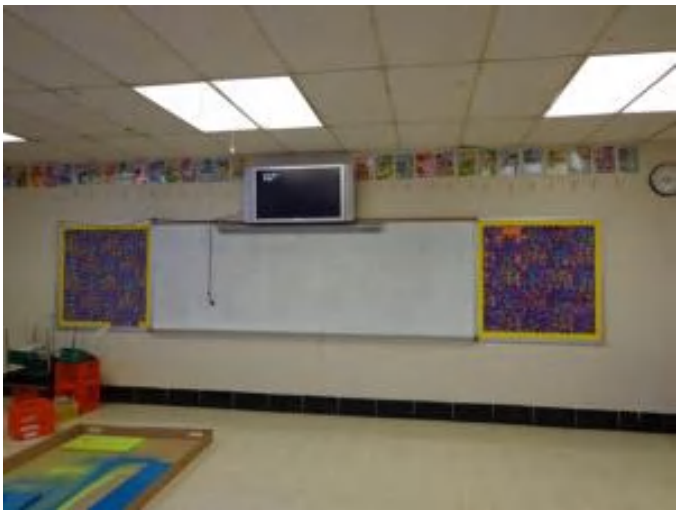
Estimate: $1,446,497.35

Assessor Name: Craig Anding

Date Created: 11/10/2015

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

System: D5020 - Lighting and Branch Wiring



Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 930.00

Unit of Measure: L.F.

Estimate: $129,794.16

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 31 classrooms.

System: D5020 - Lighting and Branch Wiring

Location: Gymnasium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 18.00

Unit of Measure: Ea.

Estimate: $66,767.71

Assessor Name: Craig Anding

Date Created: 10/16/2015

Notes: Replace (18) metal halide lighting fixtures in the gymnasium.

System: D5020 - Lighting and Branch Wiring

Location: Main Office
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace Wiring Device
Qty: 3.00
Unit of Measure: Ea.
Estimate: $4,751.84
Assessor Name: Craig Anding
Date Created: 10/16/2015

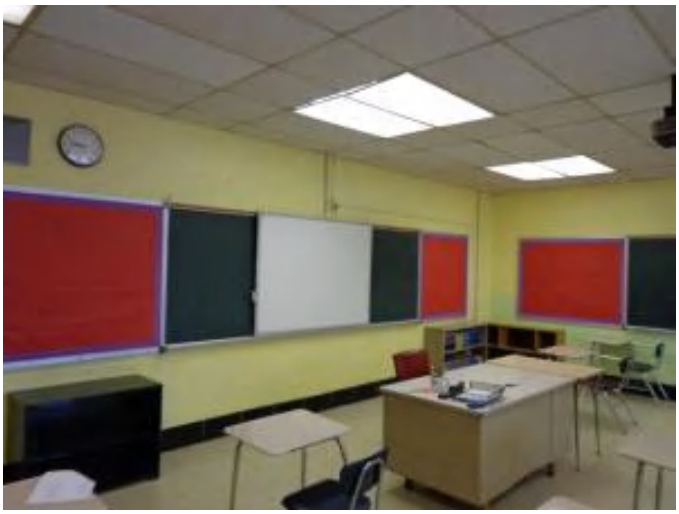
Notes: Remove floor outlets in the Main Office and provide tele-power poles with duplex receptacles.

System: D5030 - Communications and Security

Location: Building wide
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 14.00
Unit of Measure: Ea.
Estimate: $41,753.92
Assessor Name: Craig Anding
Date Created: 10/17/2015

Notes: Replace (14) interior video surveillance cameras.

System: D5030 - Communications and Security



Location: Building wide

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Clock System or Components

Qty: 55.00

Unit of Measure: Ea.

Estimate: $32,925.05

Assessor Name: Craig Anding

Date Created: 10/17/2015

Notes: Provide wireless clock system in all classrooms, cafeteria/auditorium, gymnasium, library, offices and similar large rooms.

System: E1090 - Other Equipment

Location: Loading Dock

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace dock bumpers

Qty: 4.00

Unit of Measure: Ea.

Estimate: $1,484.83

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: The loading dock is from original construction and in fair condition. The loading dock system is recommended for upgrade to include new concrete work, bumpers and railing replacement.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $15,281.89

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: The school stage has a stage curtain assembly that appears to be from the original construction. Although it appears as if the main assembly has been removed no replacement was installed. Modern applications are typically fire-proof applications with adjustable tracks and electric support for operation. It is recommended that the missing curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

Priority 5 - Response Time (> 5 yrs):

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 150.00

Unit of Measure: Ea.

Estimate: $40,636.87

Assessor Name: Craig Anding

Date Created: 11/18/2015

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

System: C1030 - Fittings

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 50.00

Unit of Measure: Ea.

Estimate: $34,411.61

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: The classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade chalk boards to new marker board systems.

System: C3030 - Ceiling Finishes

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 80,000.00

Unit of Measure: S.F.

Estimate: $1,206,594.42

Assessor Name: Craig Anding

Date Created: 11/18/2015

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

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+150KSF)

Qty: 150,000.00

Unit of Measure: S.F.

Estimate: $2,494,725.70

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Provide a new two hundred fifty ton two cell induced draft cooling tower on the roof. Connect to existing condenser water piping. Wrap with heat tape, insulation and aluminum jacket. Provide two new end suction condenser water pumps in the mechanical room. Include new variable frequency drives for tower and pumps and electrical connections.

System: D5030 - Communications and Security

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add data outlets

Qty: 66.00

Unit of Measure: Ea.

Estimate: $75,423.75

Assessor Name: Craig Anding

Date Created: 10/17/2015

Notes: Provide an additional 6 to 8 hard wired data outlet in each classroom.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2000 lb, 5 floors, 100 FPM	1.00	Ea.	Basement	Eastern Elevator	NA			35			$140,070.00	$154,077.00
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2000 lb, 5 floors, 100 FPM	1.00	Ea.	Room 007A	Otis	Hydraulic	DS-050 AC Motor		35			$140,070.00	$154,077.00
D2020 Domestic Water Distribution	Pump, pressure booster system, 10 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	mechanical room					25			$12,768.00	$14,044.80
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	mechanical room	hb smith	mills 450			35	1997	2032	$68,695.50	$75,565.05
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	mechanical room	hb smith	mills 450			35	1997	2032	$68,695.50	$75,565.05
D3030 Cooling Generating Systems	Chiller, centrifugal, water cooled, packaged hermetic, standard controls, 200 ton	1.00	Ea.	mechanical room	dunham bush				30			$152,640.80	$167,904.88
D3030 Cooling Generating Systems	Cooling tower, galvanized steel, packaged unit, draw thru, 300 ton	1.00	Ea.	roof	evapco				30			$75,868.80	$83,455.68
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	1.00	Ea.	mechanical room	taco				25			$21,432.00	$23,575.20
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	1.00	Ea.	mechanical room	taco				25			$21,432.00	$23,575.20
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	1.00	Ea.	mechanical room	taco				25			$23,598.00	$25,957.80
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	1.00	Ea.	mechanical room	taco				25			$23,598.00	$25,957.80
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Main Electrical Room	Penn Panel & Box Co.	None	None		30			$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 0 stories, 0' horizontal	2.00	Ea.	Second Floor Mechanical Room	Penn Panel & Box Co.	CDP	None		30			$7,824.60	$17,214.12
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 0 stories, 0' horizontal	2.00	Ea.	Boiler Room	Penn Panel & Box Co.	CDP	None		30			$10,650.15	$23,430.33
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 2000 A	2.50	Ea.	Main Electrical Room	Penn Panel & Box Co.	NA	None		30			$47,537.55	$130,728.27
D5010 Electrical Service/Distribution	Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 1000 kVA	1.00	Ea.	Main Electrical Room	Olsun	NA	31232-CR 110437		30			$109,296.00	$120,225.60
												Total:	**$1,162,487.68**

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):	165,400
Year Built:	1968
Last Renovation:	
Replacement Value:	$3,189,694
Repair Cost:	$570,546.23
Total FCI:	17.89 %
Total RSLI:	44.36 %

Description:

Attributes:

General Attributes:

Bldg ID:	S446001	Site ID:	S446001

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	35.91 %	19.47 %	$481,030.13
G40 - Site Electrical Utilities	73.33 %	12.44 %	$89,516.10
Totals:	**44.36 %**	**17.89 %**	**$570,546.23**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$7.65	S.F.	19,600	30	1980	2010	2027	40.00 %	184.85 %	12		$277,161.76	$149,940
G2030	Pedestrian Paving	$11.52	S.F.	135,400	40	1980	2020	2027	30.00 %	10.89 %	12		$169,850.61	$1,559,808
G2040	Site Development	$4.36	S.F.	165,400	25	1980	2005	2027	48.00 %	4.51 %	12		$32,517.36	$721,144
G2050	Landscaping & Irrigation	$3.78	S.F.	10,400	15	1980	1995	2020	33.33 %	3.82 %	5		$1,500.40	$39,312
G4020	Site Lighting	$3.58	S.F.	165,400	30			2037	73.33 %	2.57 %	22		$15,214.42	$592,132
G4030	Site Communications & Security	$0.77	S.F.	165,400	30			2037	73.33 %	58.34 %	22		$74,301.68	$127,358
								Total	**44.36 %**	**17.89 %**			**$570,546.23**	**$3,189,694**

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.

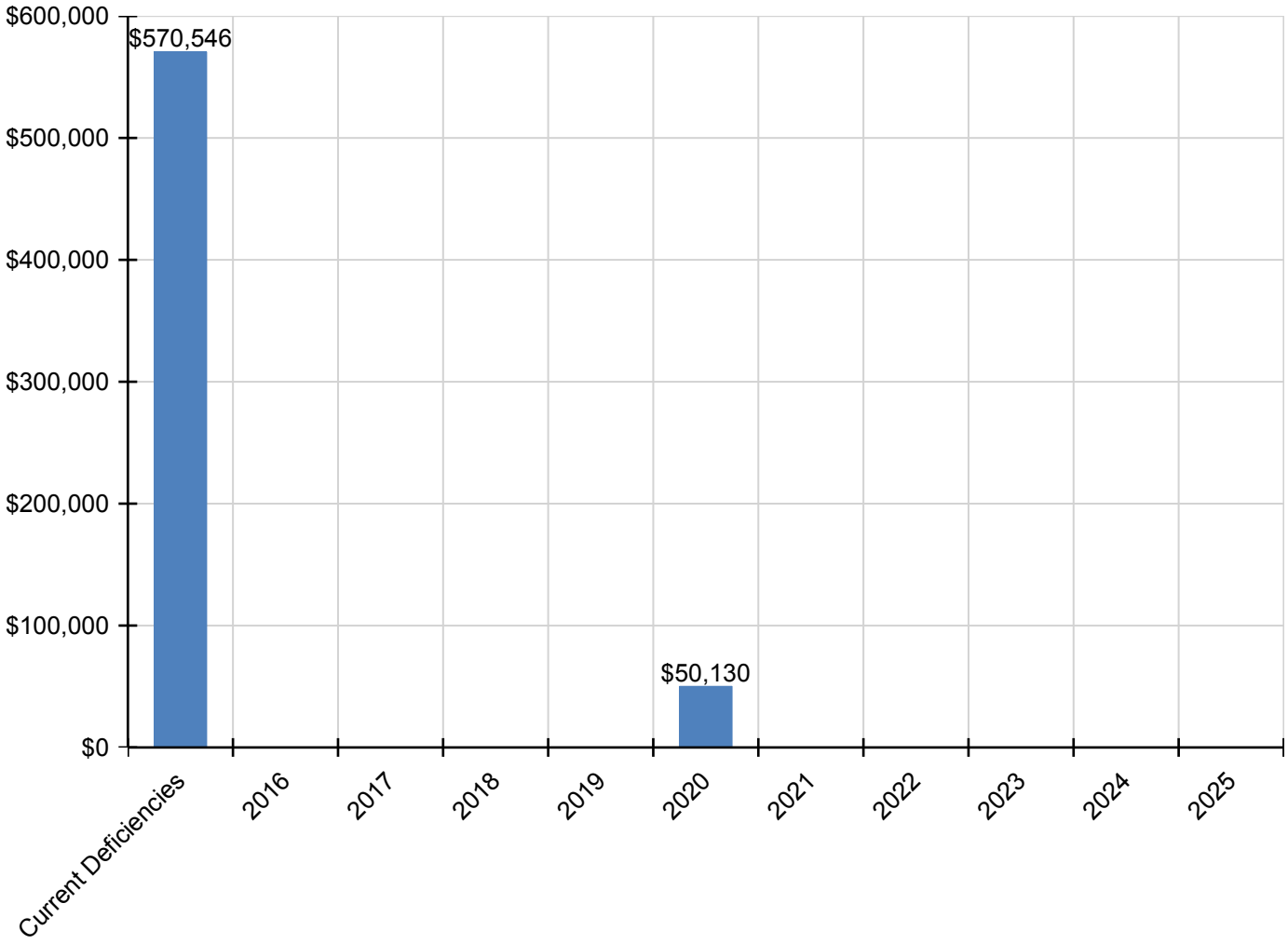
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$570,546**	**$0**	**$0**	**$0**	**$0**	**$50,130**	**$0**	**$0**	**$0**	**$0**	**$0**	**$620,677**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$277,162	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$277,162**
G2030 - Pedestrian Paving	$169,851	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$169,851**
G2040 - Site Development	$32,517	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$32,517**
G2050 - Landscaping & Irrigation	$1,500	$0	$0	$0	$0	$50,130	$0	$0	$0	$0	$0	**$51,631**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$15,214	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$15,214**
G4030 - Site Communications & Security	$74,302	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$74,302**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

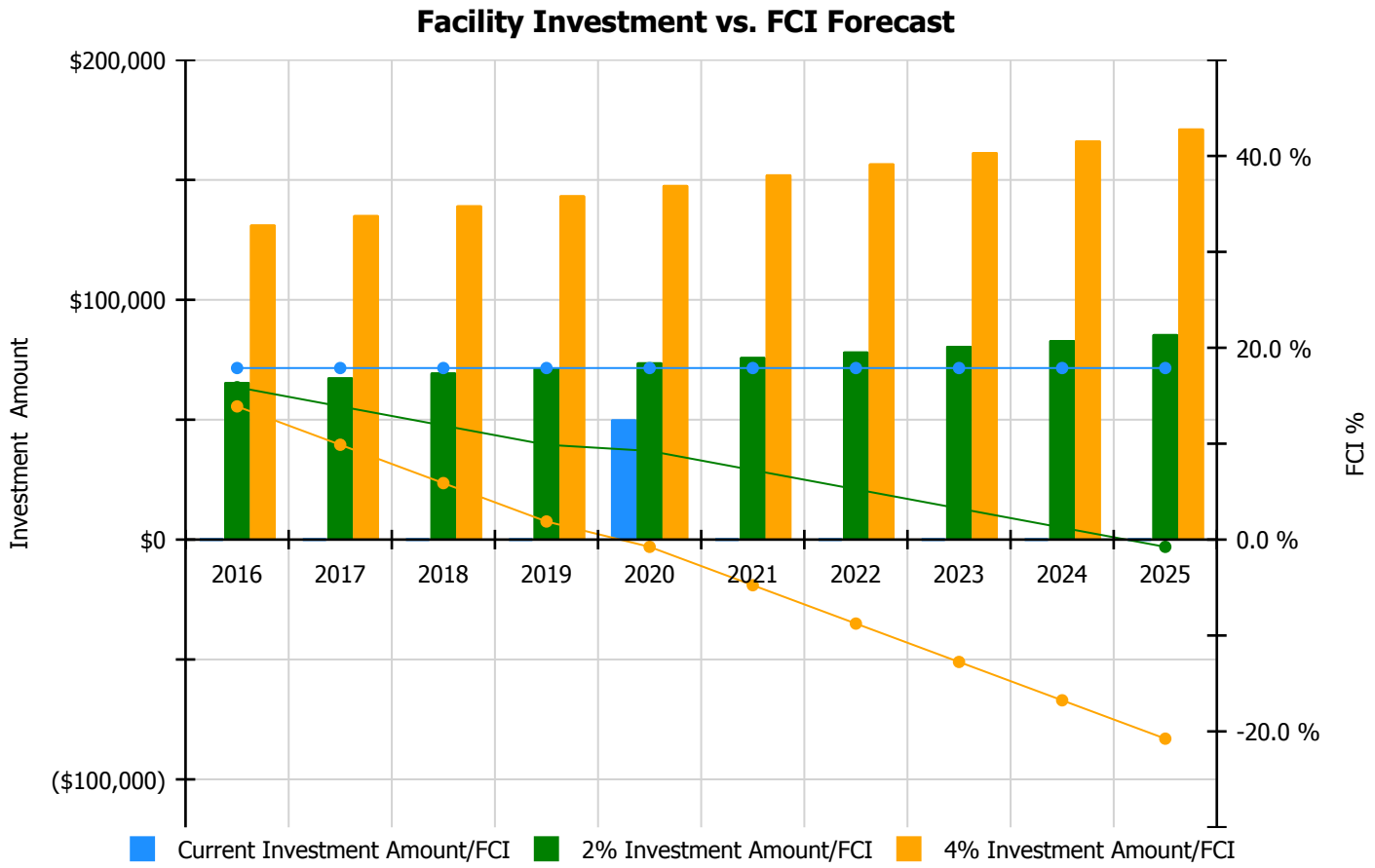
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

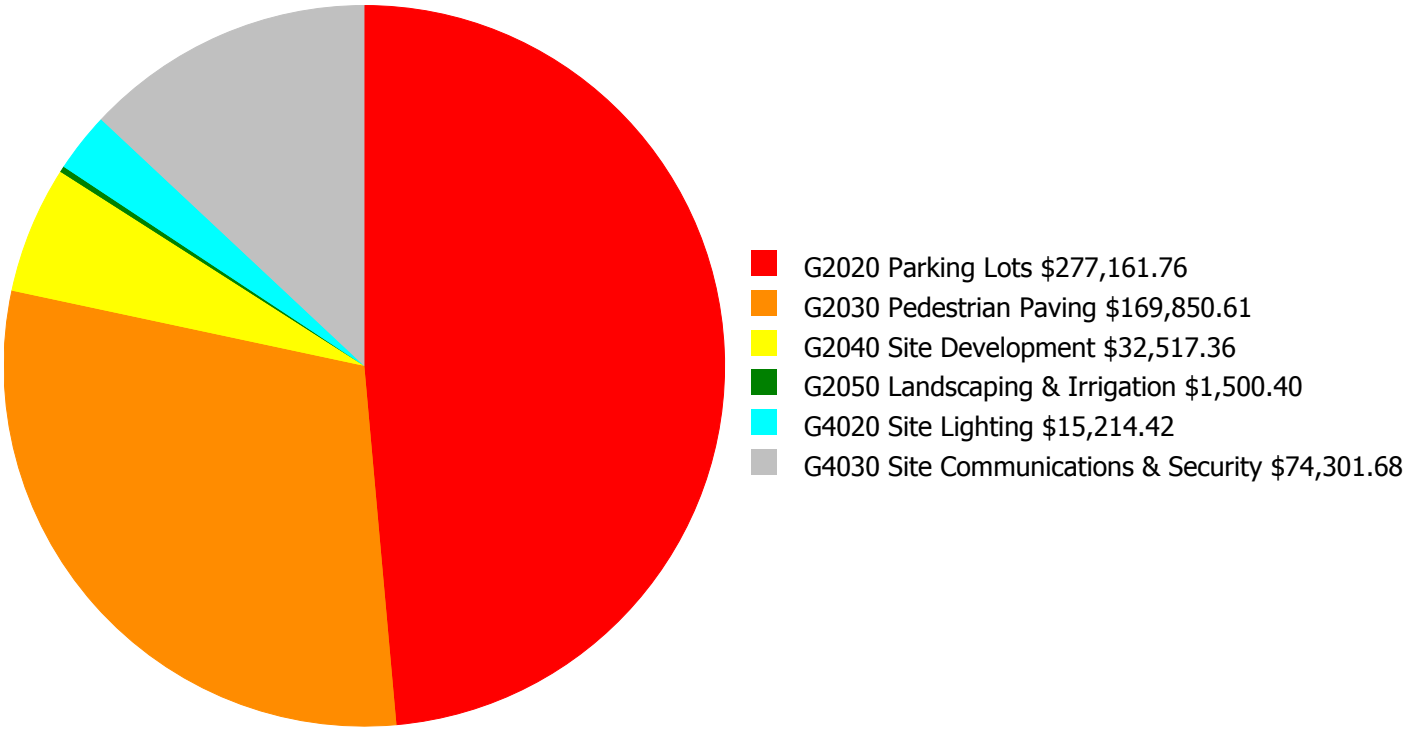
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 17.89%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$65,708.00	15.89 %	$131,415.00	13.89 %
2017	$0	$67,679.00	13.89 %	$135,358.00	9.89 %
2018	$0	$69,709.00	11.89 %	$139,419.00	5.89 %
2019	$0	$71,801.00	9.89 %	$143,601.00	1.89 %
2020	$50,130	$73,955.00	9.24 %	$147,909.00	-0.76 %
2021	$0	$76,173.00	7.24 %	$152,346.00	-4.76 %
2022	$0	$78,458.00	5.24 %	$156,917.00	-8.76 %
2023	$0	$80,812.00	3.24 %	$161,624.00	-12.76 %
2024	$0	$83,237.00	1.24 %	$166,473.00	-16.76 %
2025	$0	$85,734.00	-0.76 %	$171,467.00	-20.76 %
Total:	**$50,130**	**$753,266.00**		**$1,506,529.00**	

Deficiency Summary by System

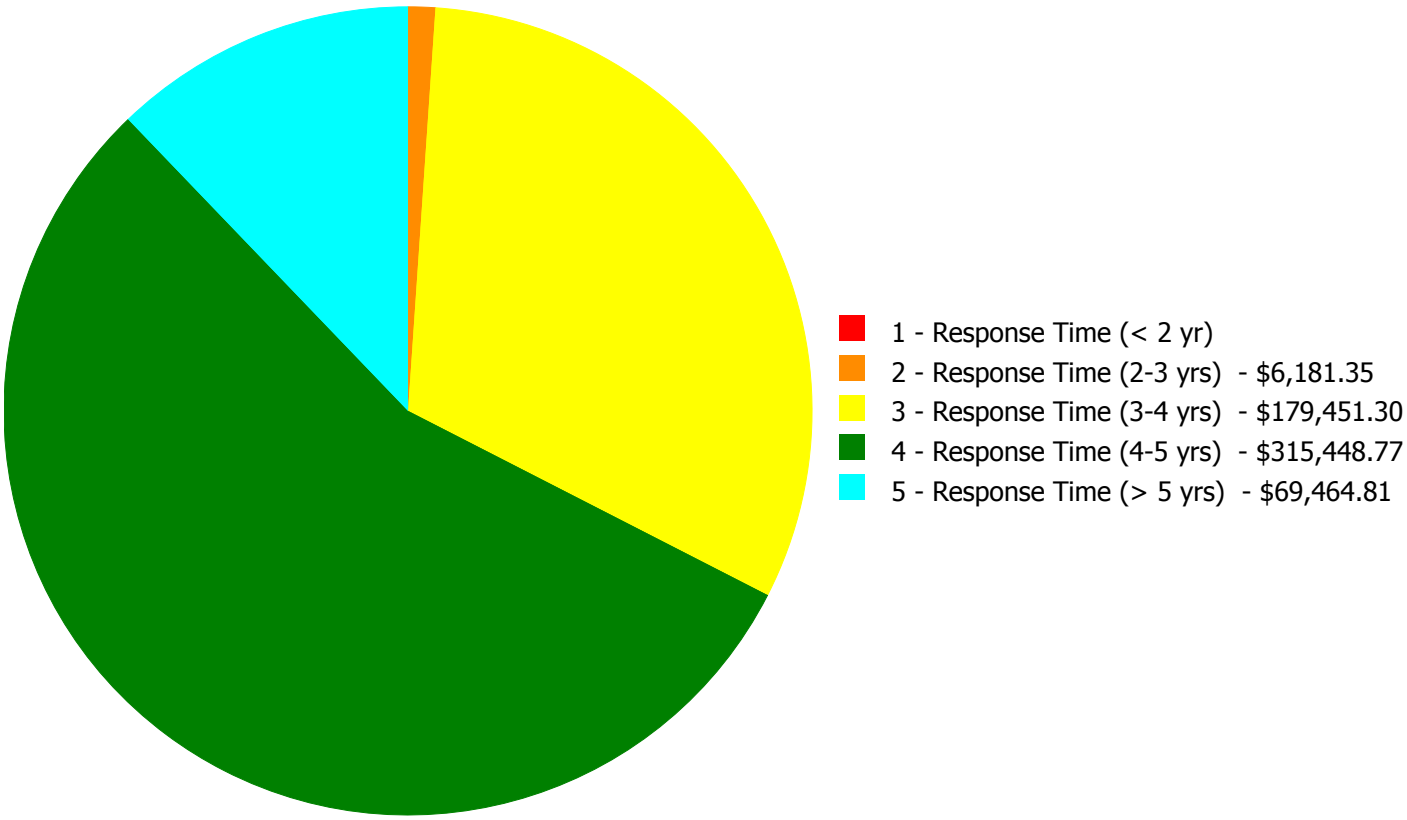
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $570,546.23

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: $570,546.23

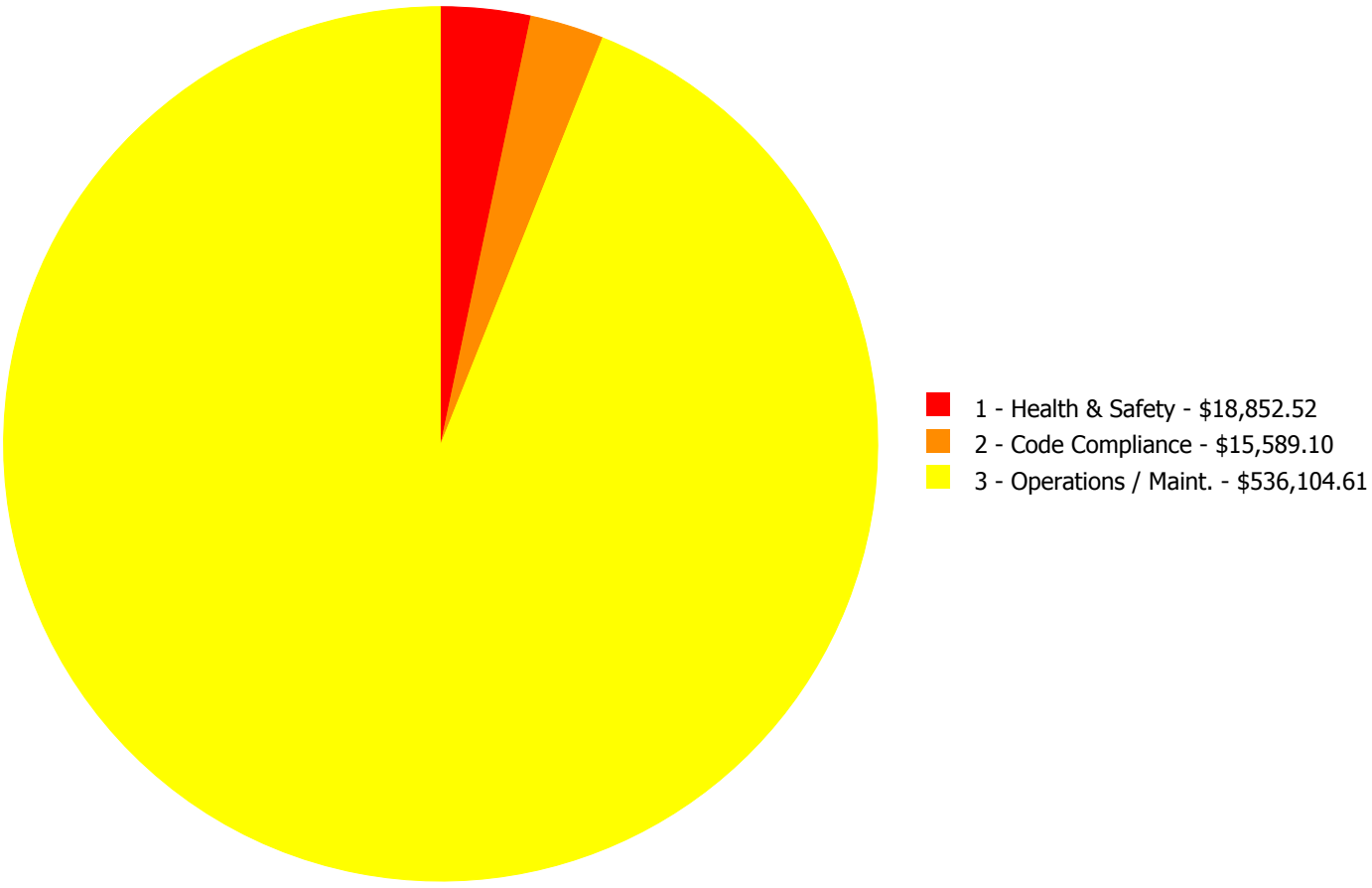
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$0.00	$277,161.76	$0.00	$277,161.76
G2030	Pedestrian Paving	$0.00	$0.00	$86,297.10	$15,589.10	$67,964.41	$169,850.61
G2040	Site Development	$0.00	$6,181.35	$18,852.52	$7,483.49	$0.00	$32,517.36
G2050	Landscaping & Irrigation	$0.00	$0.00	$0.00	$0.00	$1,500.40	$1,500.40
G4020	Site Lighting	$0.00	$0.00	$0.00	$15,214.42	$0.00	$15,214.42
G4030	Site Communications & Security	$0.00	$0.00	$74,301.68	$0.00	$0.00	$74,301.68
	Total:	$0.00	$6,181.35	$179,451.30	$315,448.77	$69,464.81	$570,546.23

Deficiency Summary by Category

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



Budget Estimate Total: $570,546.23

Deficiency Details by Priority

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

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

System: G2040 - Site Development

Location: Loading Dock

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair drepressed areas in parking or pedestrian paving caused by subrade subsidence - per SF base on approximately 100 SF or more

Qty: 200.00

Unit of Measure: S.F.

Estimate: $6,181.35

Assessor Name: Ben Nixon

Date Created: 11/18/2015

Notes: During the time of the inspection it was reported that the area near the loading dock has become a sink hole. As indicated in the photos the asphalt and concrete is damages as a result of this issue. This deficiency provides a budgetary consideration for the expected corrections needed to recover this area back to safe service to the school.

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

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $86,297.10

Assessor Name: Ben Nixon

Date Created: 11/18/2015

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

System: G2040 - Site Development

Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Ben Nixon

Date Created: 11/18/2015

Notes: The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

System: G4030 - Site Communications & Security

Location: Site Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Video Surveillance System

Qty: 3.00

Unit of Measure: Ea.

Estimate: $74,301.68

Assessor Name: Ben Nixon

Date Created: 10/17/2015

Notes: Replace two (2) exterior video surveillance cameras and provide three (3) additional cameras to cover the paved play area on the north side of the building.

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

System: G2020 - Parking Lots

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving parking lot

Qty: 19,600.00

Unit of Measure: S.F.

Estimate: $277,161.76

Assessor Name: Ben Nixon

Date Created: 11/18/2015

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

System: G2030 - Pedestrian Paving

Location: Exterior Elevation

Distress: Accessibility

Category: 2 - Code Compliance

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

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: 12.00

Unit of Measure: L.F.

Estimate: $15,589.10

Assessor Name: Hayden Collins

Date Created: 11/18/2015

Notes: Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that the existing wheelchair ramp be modified. This work should include the installation of a proper railing and guard railing with options for a powered door operator and steel handrails at all entrances as required.

System: G2040 - Site Development

Location: Loading Dock

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Add safety barriers and guide lines at parking and loading dock areas

Qty: 1.00

Unit of Measure: Ea.

Estimate: $7,483.49

Assessor Name: Ben Nixon

Date Created: 11/18/2015

Notes: The loading dock is located just off the parking area between the dumpsters and the access point for students entering the school. The existing recommendation to enclose and move the dumpsters to a new location is related to this effort. After the dumpster correction is complete it is recommended that the loading dock area be clearly marked and safety barriers be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies.

System: G4020 - Site Lighting

Location: Site lighting

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace site lighting fixture

Qty: 7.00

Unit of Measure: Ea.

Estimate: $15,214.42

Assessor Name: Ben Nixon

Date Created: 10/17/2015

Notes: Replace seven (7) exterior metal halide wall-pack lighting fixtures on the front of the building along W. Diamond Street that are in poor condition.

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace exterior egress stairway - per flight

Qty: 2.00

Unit of Measure: Flight

Estimate: $67,964.41

Assessor Name: Ben Nixon

Date Created: 11/18/2015

Notes: The exterior stairs located the play areas appear to be original. Considering the limited access to the school by those that may be physically challenged this stair is recommended for universal upgrade. Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that a wheelchair ramp be installed at this entrance. This work should include the installation of a powered door operator and steel handrails at all entrances as required.

System: G2050 - Landscaping & Irrigation

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Add landscape irrigation system to small area - insert SF of area and LF of pipe run to get to the area for pavement removal and restoration

Qty: 200.00

Unit of Measure: S.F.

Estimate: $1,500.40

Assessor Name: Ben Nixon

Date Created: 11/18/2015

Notes: The landscaping is in good condition and well maintained in most areas of this site however, there are sections that the trees have been cut down either by maintenance or by nature. The landscaping is generally located near the parking / play area of the site with limited turf sections around the general exterior of the school. This deficiency provides a budgetary consideration for the installation of an irrigation system for this site.

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