

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.

McKinley School

Governance	DISTRICT	Report Type	Elementary/middle
Address	2101 N. Orkney St. Philadelphia, Pa 19122	Enrollment	471
Phone/Fax	215-291-4702 / 215-291-5613	Grade Range	'00-08'
Website	Www.Philasd.Org/Schools/Mckinley	Admissions Category	Neighborhood
		Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	51.54%	\$17,376,810	\$33,716,093
Building	50.84 %	\$16,519,855	\$32,490,715
Grounds	69.93 %	\$856,955	\$1,225,378

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	99.00 %	\$1,502,784	\$1,517,967
Exterior Walls (Shows condition of the structural condition of the exterior facade)	01.61 %	\$38,575	\$2,391,425
Windows (Shows functionality of exterior windows)	139.90 %	\$1,633,298	\$1,167,473
Exterior Doors (Shows condition of exterior doors)	00.00 %	\$0	\$93,636
Interior Doors (Classroom doors)	11.38 %	\$25,368	\$222,942
Interior Walls (Paint and Finishes)	52.02 %	\$555,495	\$1,067,893
Plumbing Fixtures	04.47 %	\$39,801	\$889,539
Boilers	47.20 %	\$580,156	\$1,229,154
Chillers/Cooling Towers	59.56 %	\$960,080	\$1,611,871
Radiators/Unit Ventilators/HVAC	186.14 %	\$5,266,185	\$2,829,134
Heating/Cooling Controls	155.54 %	\$1,381,262	\$888,052
Electrical Service and Distribution	92.06 %	\$533,603	\$579,649
Lighting	48.66 %	\$1,009,637	\$2,074,847
Communications and Security (Cameras, Pa System and Fire Alarm)	32.97 %	\$256,315	\$777,324

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
S535001;McKinley
Final
Site Assessment Report
January 31, 2017

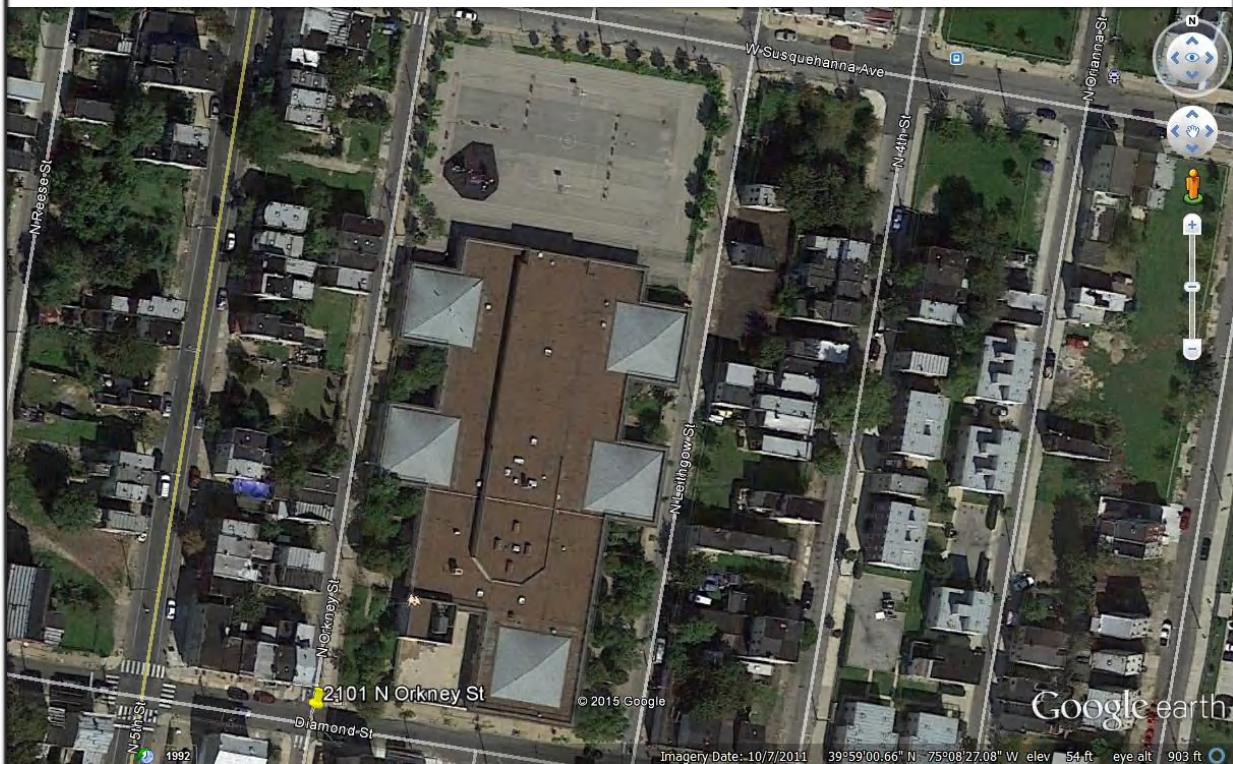


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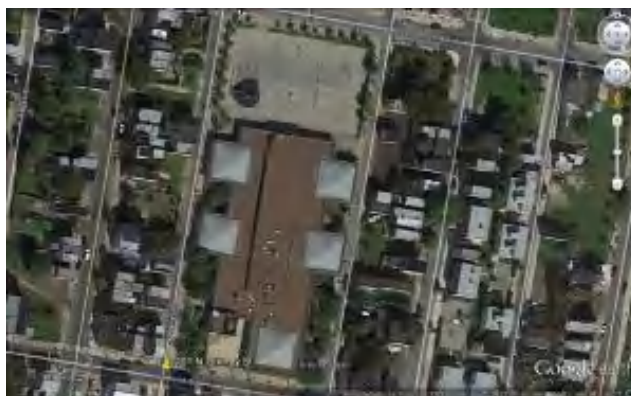
Site Executive Summary

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

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

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

Gross Area (SF):	74,314
Year Built:	1970
Last Renovation:	
Replacement Value:	\$33,716,093
Repair Cost:	\$17,376,810.10
Total FCI:	51.54 %
Total RSLI:	76.48 %



Description:

Facility Assessment, July 2015

School District of Philadelphia

McKinley Elementary School

2101 N. Orkney St.

Philadelphia, PA 19122

74,314 SF / 596 Students / LN 05

The McKinley Elementary school building is located at 2101 N. Orkney Street in Philadelphia, PA. The one story with partial basement, approximately 74,314 square foot building was originally constructed in 1970. Part of the basement serves as a parking garage for approximately 26 cars. The balance houses mechanical spaces.

Mr. Scott Ovington, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned

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renovation projects. Mr. Raphael Ortiz, building engineer and assistant building engineer Ms. Connie McCorey, accompanied us on our tour of the school and provided limited information on the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The original building typically rests on concrete foundations and concrete bearing walls that are not showing signs of settlement. There are no signs of moisture penetration through basement walls

The main structure consists typically of combination of cast-in-place concrete columns, beams and concrete slabs in the basement. Structural steel framing, columns and bar joists support the roof structure. Roof construction is insulated metal deck. Portion of the parking garage is covered by concrete, ribbed one-way slab. The superstructure is in good condition, except a Southwest corner concrete column, which shows severe cracks and spalling. Minor spalling was observed on the exterior surface of concrete foundation walls extending above grade.

The building envelope is typically face brick masonry with CMU backup. In general, masonry is in fair to good condition. Water penetration through walls has not been reported. First floor walls are covered with anti-graffiti coating which is deteriorated and in some places peeling off the face brick and exposed foundation walls.

The building windows appear to be extruded aluminum, curtain wall type with base panels louvered for window units. All windows are generally in poor condition; most of the windows have security screens in fair to poor condition, at the end of their service life. The leaks around the windows perimeters have not been reported and are not evident.

The exterior doors are typically hollow metal doors and frames, painted. The doors are generally in good condition; no weather-stripping is installed; some doors have vision glazing with security screens. Parking garage doors are overhead roll-up type, manually operated, generally in good condition.

Roofing system is a built-up system installed approximately in 1990 and in fair condition; roofing over the classroom pods is asphalt shingles, installed in 2009 in hip configuration in good condition. All flat roofing and flashing is typically in fair condition with some deterioration of the built-up system and flashing sealant; leaks have not been reported. Exposed portion of the garage roof structure is covered with concrete topping, severely cracked and leaking.

INTERIORS:

The building partition wall types include painted CMU and hollow metal, hollow metal, glazed borrowed light partitions and drywall partitions; generally in good condition.

Interior doors are generally solid core wood doors, some glazed, with hollow metal frames. The doors leading to exits stairways are hollow metal doors and frames in good condition.

Fittings include toilet accessories and toilet partitions, generally in good condition, installed approximately in 2000, no accessible compartments; chalkboards are mostly original in fair condition. Handrails and ornamental metals are generally in good condition. Built-in cabinets are steel in poor condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in poor condition.

The interior wall finishes in the building are generally painted CMU or drywall. Generally, paint is in fair to good condition throughout the building; however it is reaching the end of the useful life.

Most ceilings in the original building are 2x4 suspended acoustical panels. The suspension system and tile are in good condition.

Flooring in classrooms, corridors, gym and portion of cafeteria is VCT; and ceramic tile in toilets. Flooring in the kitchen is quarry tile in good condition. Approximately 50% of VCT flooring was replaced in 2014. Most flooring is in fair to good condition. Auditorium has carpet in poor condition.

Stair construction is generally steel with concrete filled steel pan treads cast iron non-slip treads in good condition.

Institutional and Commercial equipment includes: A/V equipment in good condition; gym equipment – basketball backstops in good condition. Other equipment includes kitchen equipment, generally in good condition.

Furnishings include fixed casework in classrooms, and other spaces is generally in fair to poor condition; window shades/blinds,

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generally in good condition; there is no fixed seating in auditorium.

CONVEYING SYSTEMS:

The building has no elevator

GROUNDS (SITE):

There is no parking lot at the site; parking garage is located in the building's basement. There are no stall markings. Playground pavement adjacent to the building is in poor condition, paving is cracked and deteriorated; playground equipment is in good condition. Perimeter picket fence and chain link fence separating the playground from the street is generally in good condition. There is landscaping along East and West sides of the building, generally in good condition; installed 2005.

ACCESSIBILITY:

Generally, the building has no accessible route per ADA requirements – there is no ramp from grade to first floor. Toilets are not equipped with accessible fixtures and accessories, such as grab bars, and accessible partitions. Most of the doors in the building do not have ADA required door handles. There is no accessible route from parking garage to the building – elevator is required.

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures remain in service. Fixtures in the restrooms consist of both floor and wall mounted flush valve water closets, wall hung urinals, and lavatories with wheel handle faucets. The units appear to be in good condition and should provide reliable service for the next 5-10 years.

Drinking fountains in the corridors and at the restrooms consist of wall hung fixtures with integral refrigerated coolers and porcelain fixtures. They are beyond their service life and should be replaced; most are NOT accessible type.

A service sink is available in each janitor closet in the corridor for use by the janitorial staff.

The Cafeteria has one three compartment stainless steel sink with lever operated faucets. There is a grease trap installed. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 4" city water service enters the boiler room from N. Orkney Street near the intersection with Diamond Street. The 4" meter and valves are located in the boiler room. A reduced pressure backflow preventer is not installed. The original domestic hot and cold water distribution piping with copper piping and sweat fittings is still in service. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

Two Paloma instant hot water heaters with circulating pump, installation dates unknown, supplies hot water for domestic use. The units are located in the basement boiler room. These units are beyond their service life and should be replaced in the next 2-3 years. A water softener located in the boiler room supplies conditioned water to the boilers.

Sanitary Waste - The original sanitary sewer piping is a mixture of galvanized piping with threaded fittings and heavy weight cast iron piping with hub and spigot fittings. Some of the original piping has been replaced with galvanized piping with no-hub fittings.

A sewage ejector pit located in basement boiler room receives water from the basement area. It has one pump, is beyond its useful service life, and needs to be replaced. The pit is not sealed.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for 45 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain Water Drainage -

The rain water drains from the roof are routed through mechanical chases in the building and appear to be original. Drains that run through the parking garage have heat tracing, but the heat trace system does not work. The drain piping should be inspected by a qualified contractor and repaired as necessary.

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MECHANICAL:

Energy Supply - A 4" city gas service enters the building from N. Orkney Street near the intersection with Diamond Street. The gas meter is 4" and located in the boiler room.

Heat Generating Systems - Low pressure steam is generated at a maximum of 15 lbs/sq. in., typically 5-7 lbs/sq. in., by two 104HP Weil-McLain cast iron sectional boilers original to the building. Two boilers are required to handle the load on very cold days. Each boiler is equipped with a Power Flame burner designed to operate on natural gas. When the building is in heating mode the steam is diverted to a shell and tube heat exchanger that heats the building water in the secondary water loop. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with electronic ignition and digital flame sensing. The gas train serving each boiler does not appear to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. Cast iron sectional boilers have an anticipated service life of 35 years or more; as these units have been in service 45 years they need to be replaced.

The condensate receiver is installed in the boiler room, is beyond its useful service life, and needs to be replaced.

Cooling Generating Systems - Chilled water used to be generated by one York absorption chiller located in the boiler room with heat rejected by one galvanized B.A.C. cooling tower located on the roof. When the building is in cooling mode the chilled water is diverted to a shell and tube heat exchanger that cools the building water in the secondary water loop. The chiller has been defunct since 2013 and a temporary, portable chiller is located on the south side of the building. The cooling tower is well beyond its useful service life. The chiller and cooling tower should be replaced with a new packaged 190 ton air cooled chiller fitted with modern controls.

Distribution Systems - Building water distribution piping is black steel with threaded fittings. The distribution piping has been damaged by rust from condensation. The piping is beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the distribution piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 5 years.

A two pipe distribution system supplies building heating or cooling water to the unit ventilators, fin tube radiators, and air handling units (AHU). There are two primary loop water pumps which can serve either the boilers or the chiller depending on valve configuration. There are two secondary loop water pumps which serve the hot/cold water distribution network after the shell and tube heat exchanger. Two condenser water loop pumps serve the cooling tower and chiller. All pumps appear to be original to the building, are well beyond the anticipated service life of 25 years, and need to be replaced. All distribution piping, pumps, and insulation should be replaced.

Unit ventilators and fin tube radiators provide heating and cooling for the majority of classrooms, offices, and indirectly to the hallways. The unit ventilators and radiators are original to the building and beyond their service life. The existing unit ventilators and radiators should be removed and new units installed.

Conditioned air is provided to several spaces in the building by four York air handling units located above the IMC and which have outdoor air intakes. Air handling unit AH-1 serves the nurses office and teachers' lounge. Air handling units AH-2 and AH-3 serve the IMC, Cafeteria, and hallway. Air handling unit AH-4 serves the main office, two music rooms, and the accommodation room. These units are beyond their service life and should be replaced.

Terminal & Package Units - The building is exhausted by eighteen (18) fans located on the roof. There are nine (9) fans on the main roof and nine (9) fans on the upper roof. All of the exhaust fans are original to the building, beyond their service life, and need to be replaced.

A Mitsubishi split system air conditioning system provided cooling to the LAN room located on the first floor off of the Main Office. The installation date of this unit is unknown; the anticipated service life of a split system air conditioner is 15 years. The district should budget to replace this unit within the next 7-10 years.

Controls & Instrumentation - The original pneumatic systems still provide basic control functions. Pneumatic room thermostats are intended to control the dual system unit ventilator control valves. In reality the ventilator control valves are wide open and heating and cooling control is achieved via the boilers or chiller. Pneumatic control air is supplied from a compressor located in the boiler room. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves and pneumatic actuators are beyond their service life and should be rebuilt or replaced. These controls should be converted to DDC.

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A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

Sprinklers - The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure. The parking garage is covered by a dry pipe fire protection system with a 4" fire line entering the boiler room.

ELECTRICAL:

Site Electrical Service - The present electrical service is from Medium Voltage overhead lines (13.2KV) on wooden poles along N. Twenty-second St. The overhead lines feed a pole top transformer to step down the voltage to 120V/240V. The power is brought down on the face of the pole and run underground in conduit into the school and into the basement in the electrical room (part of the basement boiler room). The electrical service disconnect switch is old fused switch with a utility metering (PECO 222 MUC-38366). There are many other electrical equipment also housed in the electrical room. These include the main distribution switchboard, and a 12.5KW emergency generator, as well as the Fire Alarm Panel and controller. The main switchboard is at maximum capacity and has no more room for growth. The switchboard is very old and outdated (over 50 years old) have reached their useful life.

Distribution System and Raceway System- The distribution system is both 120V single phase and 120V/208V three phase. There are two distribution panels in each floor for lighting and receptacles. These panels are old and have reached their useful life. The raceway is mainly conduits running above the ceiling.

Receptacles - There is inadequate receptacles in classrooms, multi-purpose room, computer room, etc. We recommend two receptacles in each wall of class rooms and other purpose rooms. Also, we recommend adding a wire-mold system with receptacles on every 3' for the computer room.

Lighting - The lighting fixtures and mixture of florescent and incandescent fixtures. The majority of building has outdated lighting with fixtures that are obsolete.

Fire Alarm System – The present Fire Alarm system is inadequate and is not addressable. A new Automated Fire Alarm System is needed.

Telephone/LAN – The present telephone system is adequate.

Public Address/Intercom/Paging – Although the PA system is not working, the school uses the telephone systems for public announcement. This system is working adequately for most part.

Clock and Program System – The present clocks are not functioning properly.

Television System - The present Television system is adequate.

Security System - The present security system is adequate.

Emergency Power System – The present emergency power system is inadequate, old and undersized. A larger emergency power system (30 KVA) is needed.

UPS – There was adequate UPS in the IT room near the Principals Office.

Emergency Lighting System / Exit Lighting- The emergency lighting and exit lighting is inadequate throughout each floor and stairways.

Lightning Protection System- There is a Lightning Protection System that works but needs minor repairs.

Grounding System - The present grounding system is adequate

Site Lighting - The present Site Lighting System is inadequate. The main entrance has exterior down lights in the exterior canopy, and there is

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street lighting around the school, however the rest of the school yard and grounds needs proper outdoor lighting.

Site Video Surveillance - The present Site Video Surveillance System is adequate with 16 existing cameras.

Site Paging - The present Site Paging System is not adequate. More speakers are needed for the grounds.

RECOMMENDATIONS:

- Repair cracked exterior columns and spalled concrete walls.
- Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing
- Install new topping over garage roof.
- Replace all windows (curtain wall type) within next 4 to 5 years
- Replace security screens on 1st floor windows and at parking garage openings.
- Replace interior doors hardware for ADA accessibility
- Replace non-ADA compliant toilet partitions; reconfigure remaining toilet partitions
- Repaint all walls
- Replace existing carpet
- Replace all acoustical ceilings
- Install new signage throughout
- Resurface playground paving.
- Install ADA compliant 2500 lb, 2 stop elevator
- Provide accessible ramp at the main entrance
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Replace existing sewage ejector pump system and piping in the basement as it is beyond its useful service life.
- Replace two existing Paloma gas fired instant hot water heaters with new gas fired instant hot water heaters.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the two existing 3,480MBH cast iron boilers, which are beyond their service life, burners, and exhaust ductwork.
- Replace the existing defunct absorption chiller and cooling tower with a new 190 ton packaged air cooled chiller fitted with modern controls. All associated piping and pumping systems should also be replaced.
- Hire a qualified contractor to examine the distribution piping, in service for 45 years and damaged, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.
- Replace AH-1, located above the IMC, which serves the nurses office and teachers' lounge.
- Replace AH-2, located above the IMC, which serves the IMC, Cafeteria, and hallway.
- Replace AH-3, located above the IMC, which serves the IMC, Cafeteria, and hallway.
- Replace AH-4, located above the IMC, which serves the main office, two music rooms, and accommodation room.
- Replace eighteen (18) exhaust fans serving the building.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
- Upgrade the existing electrical service to a new service with a new 1000 KVA dry-type Transformer, 13.2KV to 480V/277V, 3Ph. Install a new 1200A, 480V, 3 Ph. Switchboard. The new Main switchboard shall be sized to handle the existing loads plus any new HVAC loads.
- Install a new step down transformer from 480V to 120V/208V, and a main 120V/208V Panel Board for all the lighting/receptacle loads.
- Install two 120V/208V panels to replace the existing panels in each floor. Also replace the power feeders, conduit & wire to the four panels from the new 120V/208V three phase main Panel Board.
- Install two receptacles in all of class rooms and other purpose rooms. Add a wire-mold system with receptacles on every 3' for the computer room.

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- Install new lighting fixtures for all the class rooms, and other rooms. New fluorescent lighting (T-5) will be adequate, however, using the state-of-the-art LED lighting will improve the energy usage.
- Install a new Automated Fire Alarm System to be located in the new Electrical Room.
- Install a new clock system.
- Install a new emergency power system (30 KVA generator).
- Install new battery pack emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose rooms.
- Install outdoor lighting for the school grounds.
- Install additional speakers for the school grounds.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S535001		

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.

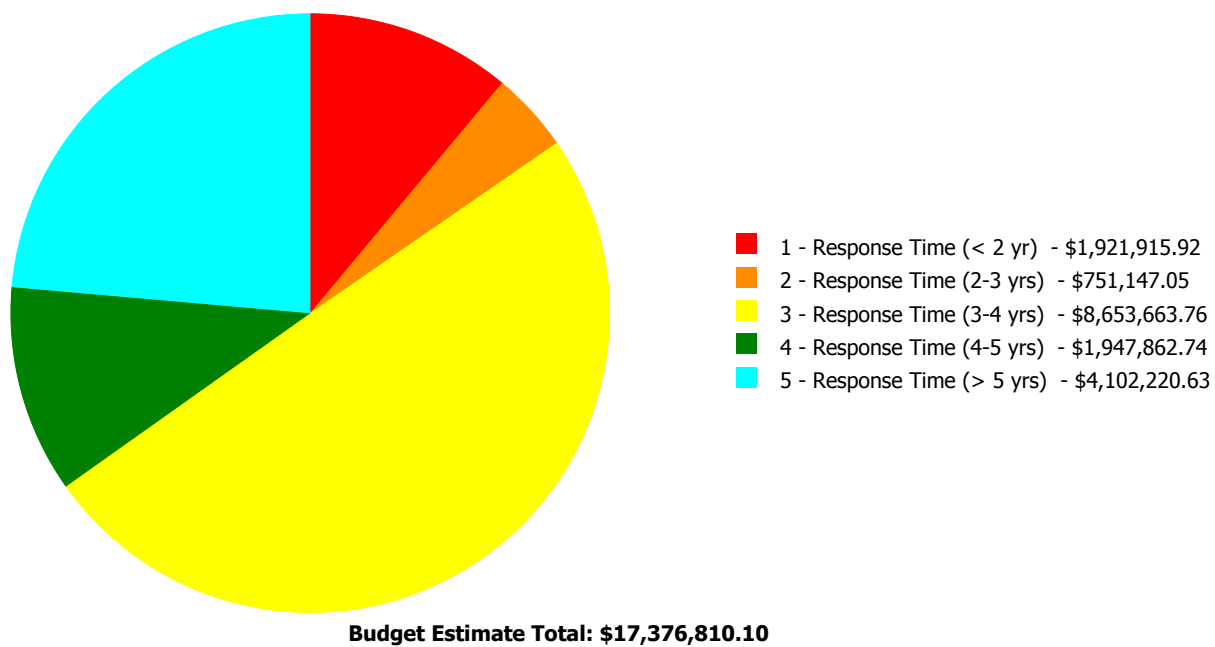
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	55.00 %	0.00 %	\$0.00
A20 - Basement Construction	55.00 %	0.00 %	\$0.00
B10 - Superstructure	55.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	66.54 %	45.77 %	\$1,671,873.41
B30 - Roofing	110.00 %	99.00 %	\$1,502,784.17
C10 - Interior Construction	58.86 %	6.33 %	\$98,743.30
C20 - Stairs	55.00 %	0.00 %	\$0.00
C30 - Interior Finishes	93.41 %	43.05 %	\$1,229,271.58
D10 - Conveying	100.00 %	316.19 %	\$340,714.59
D20 - Plumbing	35.71 %	37.29 %	\$501,305.04
D30 - HVAC	100.05 %	111.82 %	\$8,187,685.76
D40 - Fire Protection	92.52 %	176.39 %	\$934,628.24
D50 - Electrical	110.11 %	58.38 %	\$2,052,849.14
E10 - Equipment	19.90 %	0.00 %	\$0.00
E20 - Furnishings	37.50 %	0.00 %	\$0.00
G20 - Site Improvements	76.34 %	73.71 %	\$688,405.59
G40 - Site Electrical Utilities	0.00 %	57.83 %	\$168,549.28
Totals:	76.48 %	51.54 %	\$17,376,810.10

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)
B535001;McKinley	74,314	50.84	\$1,921,915.92	\$751,147.05	\$8,375,486.68	\$1,901,250.41	\$3,570,055.17
G535001;Grounds	67,000	69.93	\$0.00	\$0.00	\$278,177.08	\$46,612.33	\$532,165.46
Total:		51.54	\$1,921,915.92	\$751,147.05	\$8,653,663.76	\$1,947,862.74	\$4,102,220.63

Deficiencies By Priority



Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	74,314
Year Built:	1970
Last Renovation:	
Replacement Value:	\$32,490,715
Repair Cost:	\$16,519,855.23
Total FCI:	50.84 %
Total RSLI:	77.17 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B535001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S535001		

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	55.00 %	0.00 %	\$0.00
A20 - Basement Construction	55.00 %	0.00 %	\$0.00
B10 - Superstructure	55.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	66.54 %	45.77 %	\$1,671,873.41
B30 - Roofing	110.00 %	99.00 %	\$1,502,784.17
C10 - Interior Construction	58.86 %	6.33 %	\$98,743.30
C20 - Stairs	55.00 %	0.00 %	\$0.00
C30 - Interior Finishes	93.41 %	43.05 %	\$1,229,271.58
D10 - Conveying	100.00 %	316.19 %	\$340,714.59
D20 - Plumbing	35.71 %	37.29 %	\$501,305.04
D30 - HVAC	100.05 %	111.82 %	\$8,187,685.76
D40 - Fire Protection	92.52 %	176.39 %	\$934,628.24
D50 - Electrical	110.11 %	58.38 %	\$2,052,849.14
E10 - Equipment	19.90 %	0.00 %	\$0.00
E20 - Furnishings	37.50 %	0.00 %	\$0.00
Totals:	77.17 %	50.84 %	\$16,519,855.23

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 the system 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	RSLT%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
A1010	Standard Foundations	\$15.74	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$1,169,702
A1030	Slab on Grade	\$6.62	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$491,959
A2010	Basement Excavation	\$5.60	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$416,158
A2020	Basement Walls	\$10.88	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$808,536
B1010	Floor Construction	\$65.82	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$4,891,347
B1020	Roof Construction	\$12.16	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$903,658
B2010	Exterior Walls	\$32.18	S.F.	74,314	100	1970	2070		55.00 %	1.61 %	55		\$38,575.08	\$2,391,425
B2020	Exterior Windows	\$15.71	S.F.	74,314	40	1970	2010	2050	87.50 %	139.90 %	35		\$1,633,298.33	\$1,167,473
B2030	Exterior Doors	\$1.26	S.F.	74,314	25	1990	2015	2040	100.00 %	0.00 %	25			\$93,636
B3010105	Built-Up	\$32.69	S.F.	42,400	20	1990	2010	2037	110.00 %	92.57 %	22		\$1,283,111.89	\$1,386,056
B3010120	Single Ply Membrane	\$33.54	S.F.	3,800	20	1970	1990	2037	110.00 %	172.36 %	22		\$219,672.28	\$127,452
B3010130	Preformed Metal Roofing	\$46.94	S.F.		30				0.00 %	0.00 %				\$0
B3010140	Shingle & Tile	\$33.54	S.F.		25				0.00 %	0.00 %				\$0
B3020	Roof Openings	\$0.06	S.F.	74,314	20	1990	2010	2037	110.00 %	0.00 %	22			\$4,459
C1010	Partitions	\$15.32	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$1,138,490
C1020	Interior Doors	\$3.00	S.F.	74,314	40	1990	2030		37.50 %	11.38 %	15		\$25,368.15	\$222,942
C1030	Fittings	\$2.67	S.F.	74,314	40	1970	2010	2057	105.00 %	36.98 %	42		\$73,375.15	\$198,418
C2010	Stair Construction	\$1.20	S.F.	74,314	100	1970	2070		55.00 %	0.00 %	55			\$89,177

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System Code	System Description	Unit Price \$	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
C3010230	Paint & Covering	\$11.29	S.F.	74,314	10	2005	2015	2025	100.00 %	66.21 %	10		\$555,494.71	\$839,005
C3010231	Vinyl Wall Covering	\$0.83	S.F.	74,314	15				0.00 %	0.00 %				\$61,681
C3010232	Wall Tile	\$2.25	S.F.	74,314	30	1990	2020		16.67 %	0.00 %	5			\$167,207
C3020411	Carpet	\$6.24	S.F.	3,000	10	1990	2000	2027	120.00 %	162.44 %	12		\$30,409.60	\$18,720
C3020412	Terrazzo & Tile	\$64.54	S.F.	1,200	50	1970	2020		10.00 %	0.00 %	5			\$77,448
C3020413	Vinyl Flooring	\$8.27	S.F.	42,000	20	2014	2034		95.00 %	0.00 %	19			\$347,340
C3020414	Wood Flooring	\$19.04	S.F.		25				0.00 %	0.00 %				\$0
C3020415	Concrete Floor Finishes	\$0.83	S.F.	13,800	50	1970	2020		10.00 %	0.00 %	5			\$11,454
C3030	Ceiling Finishes	\$17.93	S.F.	74,314	25	1970	1995	2042	108.00 %	48.28 %	27		\$643,367.27	\$1,332,450
D1010	Elevators and Lifts	\$1.45	S.F.	74,314	35	2015	2050		100.00 %	316.19 %	35		\$340,714.59	\$107,755
D2010	Plumbing Fixtures	\$11.97	S.F.	74,314	35	1970	2005	2022	20.00 %	4.47 %	7		\$39,800.88	\$889,539
D2020	Domestic Water Distribution	\$1.49	S.F.	74,314	25	1970	1995	2025	40.00 %	38.82 %	10		\$42,988.36	\$110,728
D2030	Sanitary Waste	\$2.58	S.F.	74,314	25	1970	1995	2042	108.00 %	183.54 %	27		\$351,893.77	\$191,730
D2040	Rain Water Drainage	\$2.05	S.F.	74,314	30	1970	2000	2025	33.33 %	43.73 %	10		\$66,622.03	\$152,344
D3020	Heat Generating Systems	\$16.54	S.F.	74,314	35	1970	2005	2052	105.71 %	47.20 %	37		\$580,156.04	\$1,229,154
D3030	Cooling Generating Systems	\$21.69	S.F.	74,314	28	1970	1998	2045	107.14 %	59.56 %	30		\$960,079.85	\$1,611,871
D3040	Distribution Systems	\$38.07	S.F.	74,314	25	1970	1995	2042	108.00 %	186.14 %	27		\$5,266,187.74	\$2,829,134
D3050	Terminal & Package Units	\$10.28	S.F.	74,314	20	1970	1990	2022	35.00 %	0.00 %	7			\$763,948
D3060	Controls & Instrumentation	\$11.95	S.F.	74,314	20	1970	1990	2037	110.00 %	155.54 %	22		\$1,381,262.13	\$888,052
D4010	Sprinklers	\$6.24	S.F.	74,314	35	1970	2005	2052	105.71 %	201.55 %	37		\$934,628.24	\$463,719
D4020	Standpipes	\$0.89	S.F.	74,314	35				0.00 %	0.00 %				\$66,139
D5010	Electrical Service/Distribution	\$7.80	S.F.	74,314	30	1970	2000	2047	106.67 %	92.06 %	32		\$533,602.58	\$579,649
D5020	Lighting and Branch Wiring	\$27.92	S.F.	74,314	20	1970	1990	2037	110.00 %	48.66 %	22		\$1,009,637.22	\$2,074,847
D5030	Communications and Security	\$10.46	S.F.	74,314	15	1970	1985	2032	113.33 %	32.97 %	17		\$256,315.14	\$777,324
D5090	Other Electrical Systems	\$1.14	S.F.	74,314	30	1970	2000	2047	106.67 %	298.99 %	32		\$253,294.20	\$84,718
E1020	Institutional Equipment	\$4.73	S.F.	74,314	35				0.00 %	0.00 %				\$351,505
E1090	Other Equipment	\$10.86	S.F.	74,314	35	1990	2025		28.57 %	0.00 %	10			\$807,050
E2010	Fixed Furnishings	\$2.09	S.F.	74,314	40	1990	2030		37.50 %	0.00 %	15			\$155,316
Total									77.17 %	50.84 %			\$16,519,855.23	\$32,490,715

System Notes

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

System:	C3010 - Wall Finishes	This system contains no images
Note:	Paint 95% Ceramic tile 5%	

System:	C3020 - Floor Finishes	This system contains no images
Note:	VCT 70% Carpet 5% Ceramic tile 2% Concrete 23%	

System:	C3030 - Ceiling Finishes	This system contains no images
Note:	Acoustical tile 80% Exposed/ painted 20%	

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:	\$16,519,855	\$0	\$0	\$0	\$0	\$326,590	\$0	\$2,236,938	\$0	\$0	\$2,822,278	\$21,905,661
* 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	\$38,575	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$38,575
B2020 - Exterior Windows	\$1,633,298	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,633,298
B2030 - Exterior Doors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$1,283,112	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,283,112
B3010120 - Single Ply Membrane	\$219,672	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$219,672
B3010130 - Preformed Metal Roofing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3010140 - Shingle & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3020 - Roof Openings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C - Interiors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C10 - Interior Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1010 - Partitions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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C1020 - Interior Doors	\$25,368	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,368
C1030 - Fittings	\$73,375	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$73,375
C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C2010 - Stair Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$555,495	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,240,308	\$1,795,803
C3010231 - Vinyl Wall Covering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$213,222	\$0	\$0	\$0	\$0	\$0	\$213,222
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020411 - Carpet	\$30,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,410
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$98,762	\$0	\$0	\$0	\$0	\$0	\$98,762
C3020413 - Vinyl Flooring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020414 - Wood Flooring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$14,606	\$0	\$0	\$0	\$0	\$0	\$14,606
C3030 - Ceiling Finishes	\$643,367	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$643,367
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	\$340,715	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$340,715
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$39,801	\$0	\$0	\$0	\$0	\$0	\$0	\$1,203,422	\$0	\$0	\$0	\$1,243,223
D2020 - Domestic Water Distribution	\$42,988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$163,690	\$206,679
D2030 - Sanitary Waste	\$351,894	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$351,894
D2040 - Rain Water Drainage	\$66,622	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225,211	\$291,833
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$580,156	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$580,156
D3030 - Cooling Generating Systems	\$960,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$960,080
D3040 - Distribution Systems	\$5,266,188	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,266,188
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,033,516	\$0	\$0	\$0	\$1,033,516
D3060 - Controls & Instrumentation	\$1,381,262	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,381,262
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$934,628	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$934,628
D4020 - Standpipes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

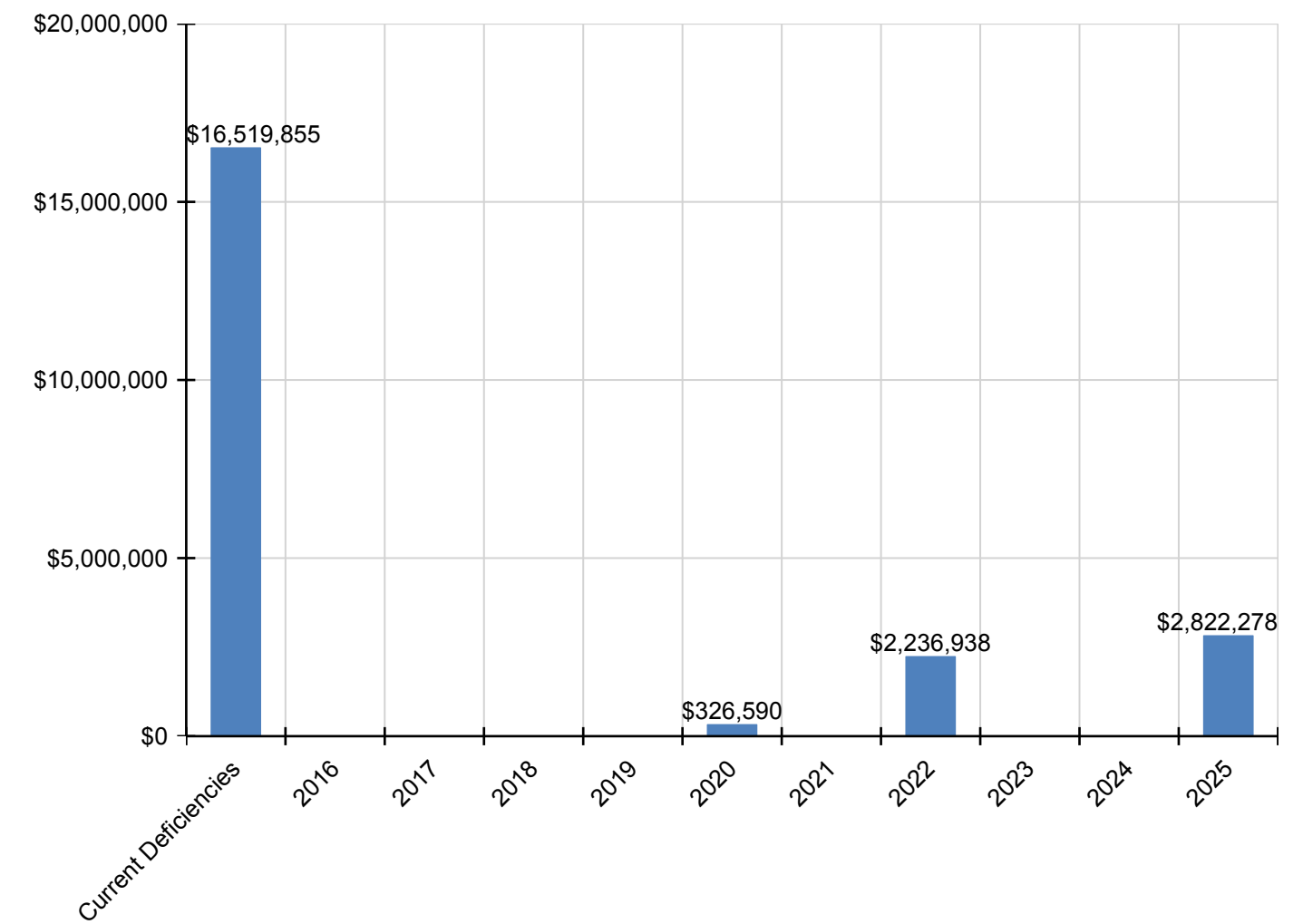
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D50 - Electrical	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D5010 - Electrical Service/Distribution	\$533,603	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$533,603
D5020 - Lighting and Branch Wiring	\$1,009,637	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,009,637
D5030 - Communications and Security	\$256,315	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$256,315
D5090 - Other Electrical Systems	\$253,294	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$253,294
E - Equipment & Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E10 - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E1020 - Institutional Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,193,068	\$1,193,068
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

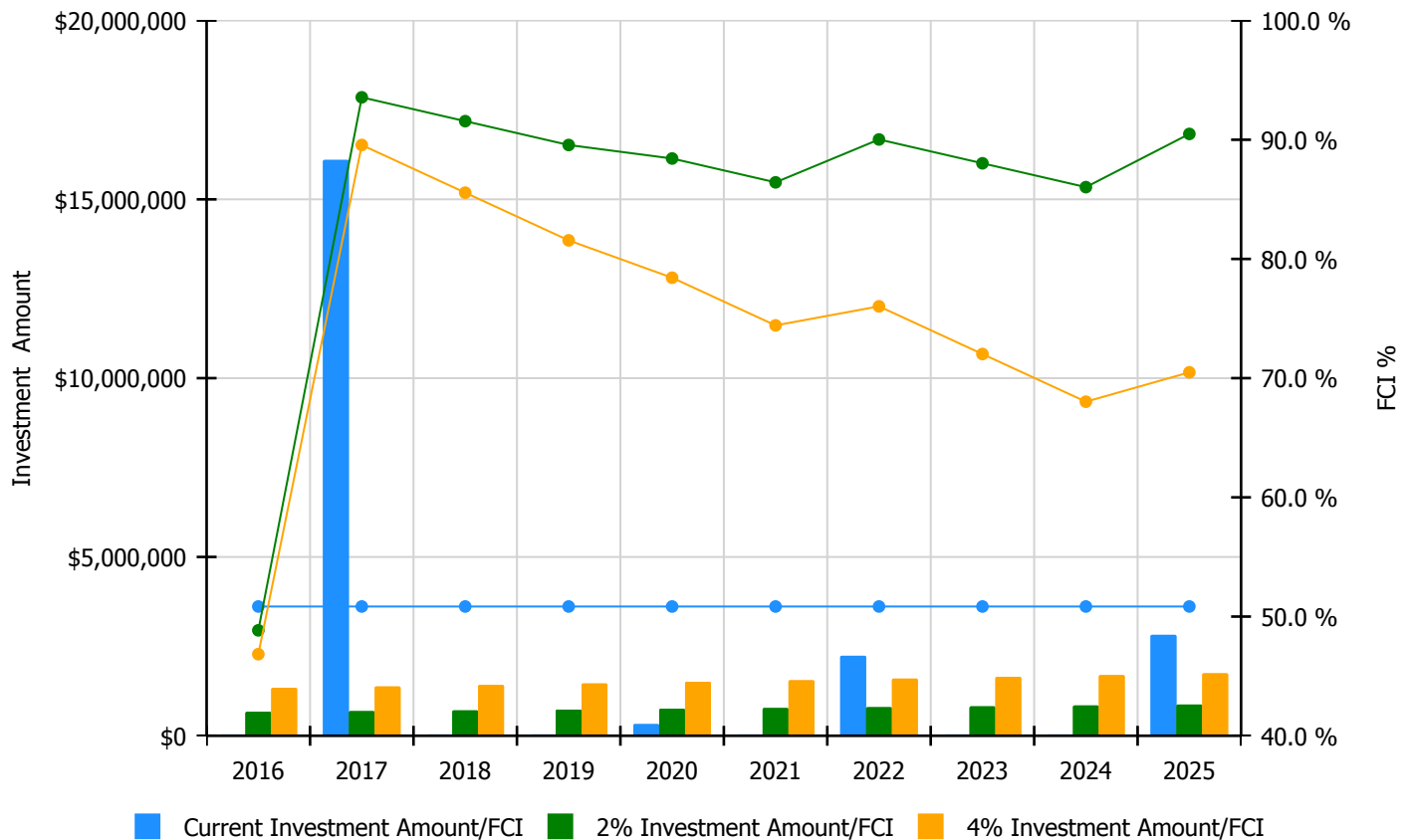


10 Year FCI Forecast by Investment Scenario

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

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

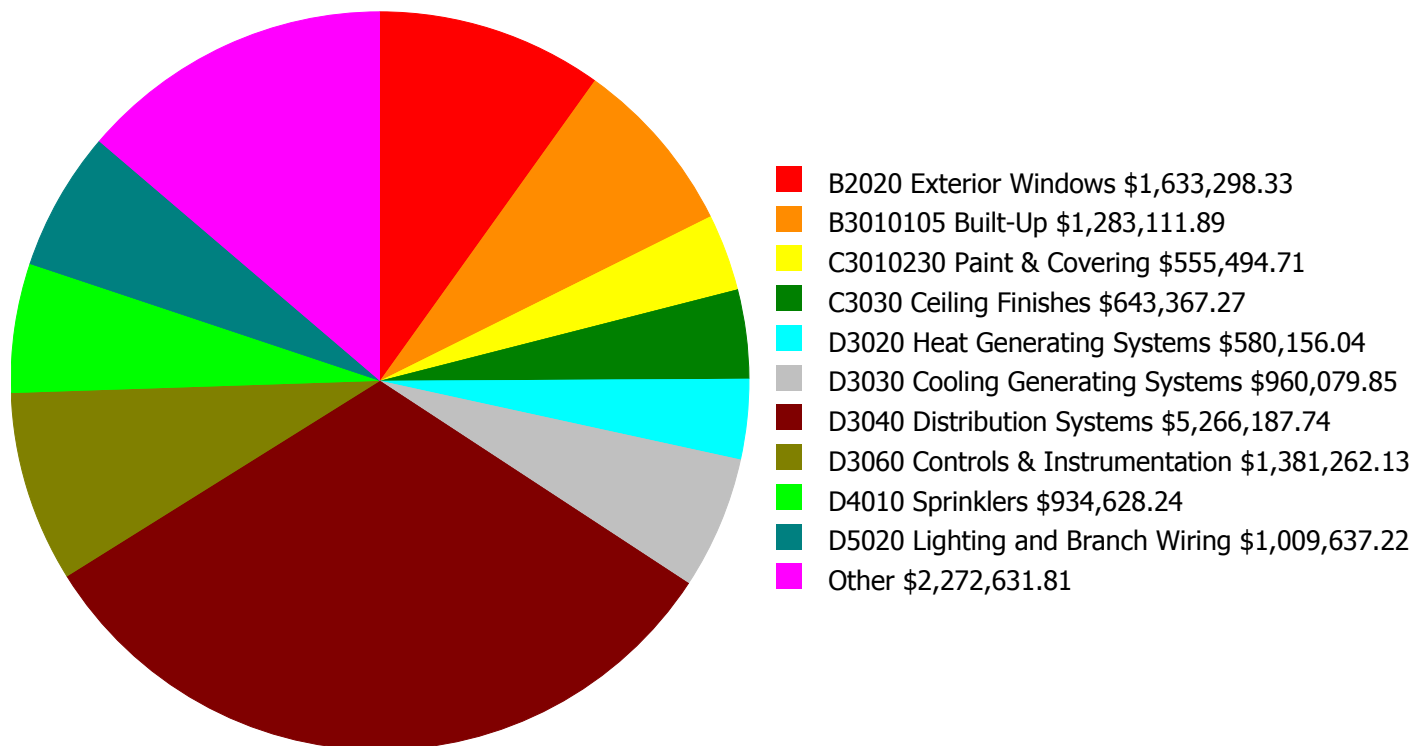
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 50.84%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$669,309.00	48.84 %	\$1,338,617.00	46.84 %
2017	\$16,101,842	\$689,388.00	93.56 %	\$1,378,776.00	89.56 %
2018	\$0	\$710,070.00	91.56 %	\$1,420,139.00	85.56 %
2019	\$0	\$731,372.00	89.56 %	\$1,462,743.00	81.56 %
2020	\$326,590	\$753,313.00	88.43 %	\$1,506,626.00	78.43 %
2021	\$0	\$775,912.00	86.43 %	\$1,551,825.00	74.43 %
2022	\$2,236,938	\$799,190.00	90.02 %	\$1,598,379.00	76.02 %
2023	\$0	\$823,165.00	88.02 %	\$1,646,331.00	72.02 %
2024	\$0	\$847,860.00	86.02 %	\$1,695,721.00	68.02 %
2025	\$2,822,278	\$873,296.00	90.49 %	\$1,746,592.00	70.49 %
Total:	\$21,487,647	\$7,672,875.00		\$15,345,749.00	

Deficiency Summary by System

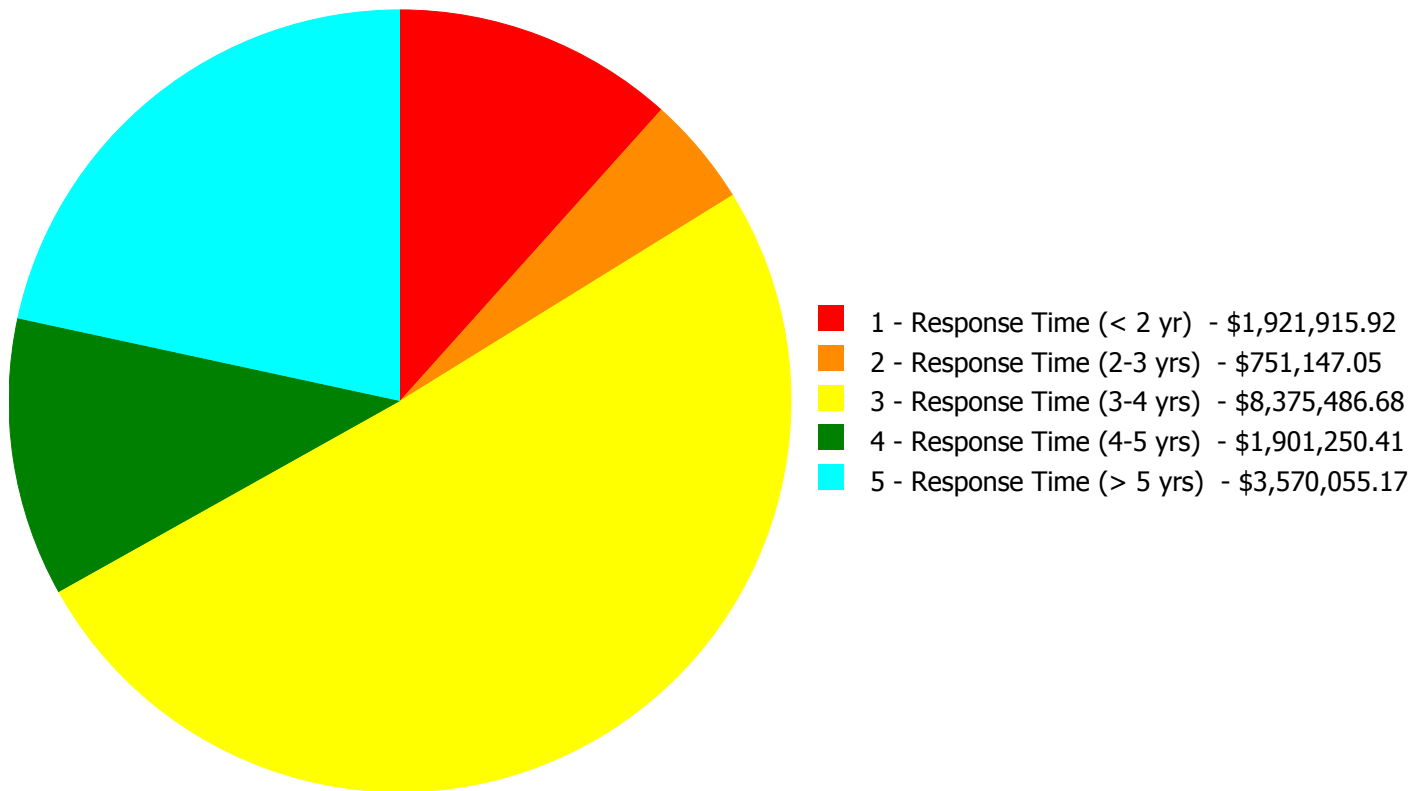
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$16,519,855.23

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: \$16,519,855.23

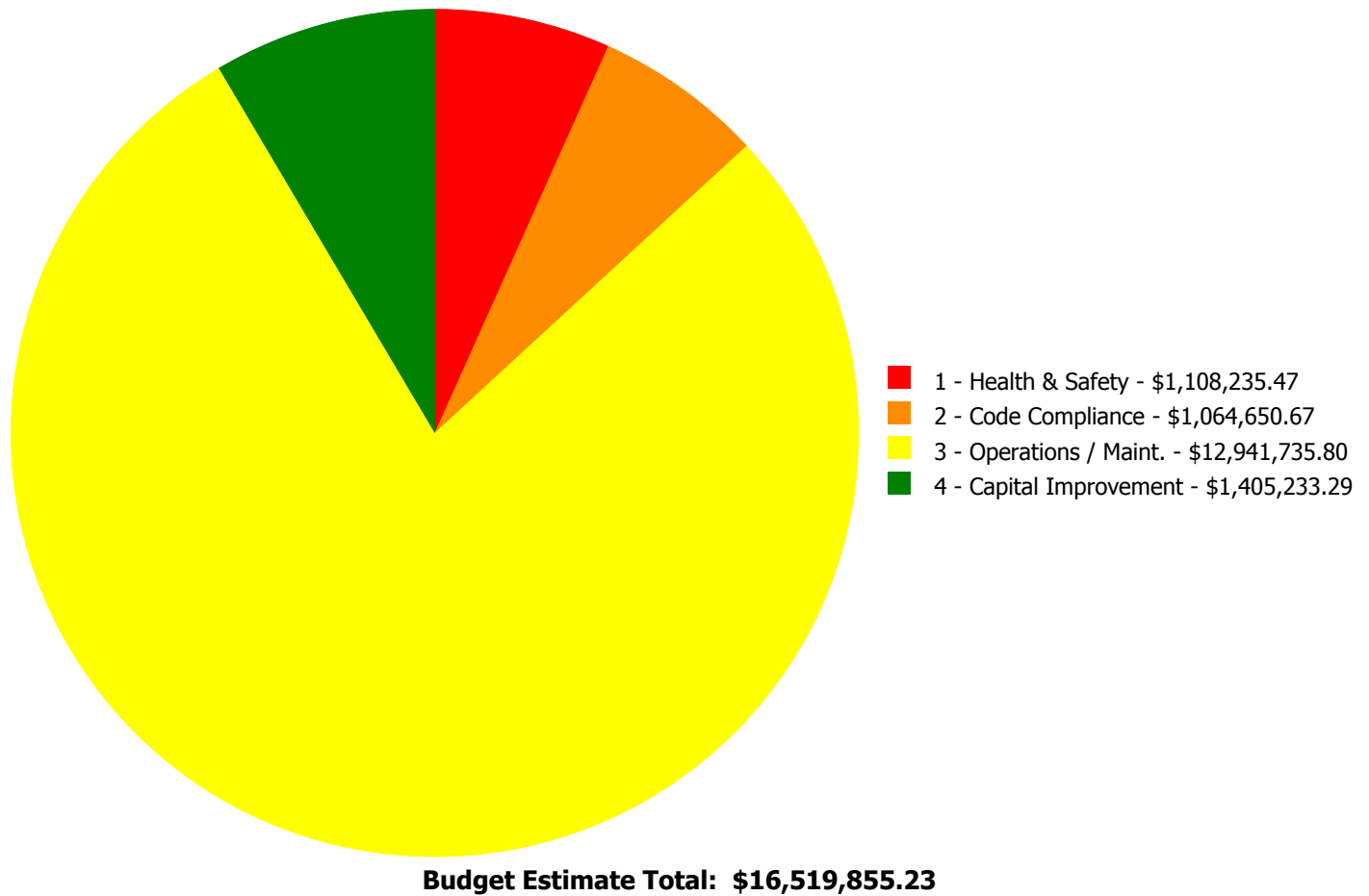
Deficiency By Priority Investment Table

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
B2010	Exterior Walls	\$0.00	\$0.00	\$38,575.08	\$0.00	\$0.00	\$38,575.08
B2020	Exterior Windows	\$0.00	\$0.00	\$0.00	\$0.00	\$1,633,298.33	\$1,633,298.33
B3010105	Built-Up	\$0.00	\$0.00	\$0.00	\$1,283,111.89	\$0.00	\$1,283,111.89
B3010120	Single Ply Membrane	\$0.00	\$0.00	\$219,672.28	\$0.00	\$0.00	\$219,672.28
C1020	Interior Doors	\$0.00	\$0.00	\$25,368.15	\$0.00	\$0.00	\$25,368.15
C1030	Fittings	\$0.00	\$0.00	\$0.00	\$73,375.15	\$0.00	\$73,375.15
C3010230	Paint & Covering	\$0.00	\$0.00	\$0.00	\$0.00	\$555,494.71	\$555,494.71
C3020411	Carpet	\$0.00	\$0.00	\$0.00	\$30,409.60	\$0.00	\$30,409.60
C3030	Ceiling Finishes	\$0.00	\$0.00	\$643,367.27	\$0.00	\$0.00	\$643,367.27
D1010	Elevators and Lifts	\$0.00	\$0.00	\$340,714.59	\$0.00	\$0.00	\$340,714.59
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$39,800.88	\$0.00	\$0.00	\$39,800.88
D2020	Domestic Water Distribution	\$0.00	\$42,988.36	\$0.00	\$0.00	\$0.00	\$42,988.36
D2030	Sanitary Waste	\$27,207.83	\$0.00	\$324,685.94	\$0.00	\$0.00	\$351,893.77
D2040	Rain Water Drainage	\$0.00	\$0.00	\$66,622.03	\$0.00	\$0.00	\$66,622.03
D3020	Heat Generating Systems	\$0.00	\$580,156.04	\$0.00	\$0.00	\$0.00	\$580,156.04
D3030	Cooling Generating Systems	\$960,079.85	\$0.00	\$0.00	\$0.00	\$0.00	\$960,079.85
D3040	Distribution Systems	\$0.00	\$0.00	\$5,266,187.74	\$0.00	\$0.00	\$5,266,187.74
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$0.00	\$1,381,262.13	\$1,381,262.13
D4010	Sprinklers	\$934,628.24	\$0.00	\$0.00	\$0.00	\$0.00	\$934,628.24
D5010	Electrical Service/Distribution	\$0.00	\$128,002.65	\$0.00	\$405,599.93	\$0.00	\$533,602.58
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$1,009,637.22	\$0.00	\$0.00	\$1,009,637.22
D5030	Communications and Security	\$0.00	\$0.00	\$147,561.30	\$108,753.84	\$0.00	\$256,315.14
D5090	Other Electrical Systems	\$0.00	\$0.00	\$253,294.20	\$0.00	\$0.00	\$253,294.20
	Total:	\$1,921,915.92	\$751,147.05	\$8,375,486.68	\$1,901,250.41	\$3,570,055.17	\$16,519,855.23

Deficiency Summary by Category

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



Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: D2030 - Sanitary Waste



Location: Boiler room

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$27,207.83

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace existing sewage ejector pump system and piping in the basement as it is beyond its useful service life.

System: D3030 - Cooling Generating Systems



Location: Boiler room

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 74,314.00

Unit of Measure: S.F.

Estimate: \$960,079.85

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace the existing defunct absorption chiller and cooling tower with a new 190 ton packaged air cooled chiller fitted with modern controls. All associated piping and pumping systems should also be replaced.

System: D4010 - Sprinklers



Location: Throughout building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 74,314.00

Unit of Measure: S.F.

Estimate: \$934,628.24

Assessor Name: System

Date Created: 08/13/2015

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.

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

System: D2020 - Domestic Water Distribution



Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$42,988.36

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace two existing Paloma gas fired instant hot water heaters with new gas fired instant hot water heaters.

System: D3020 - Heat Generating Systems



Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

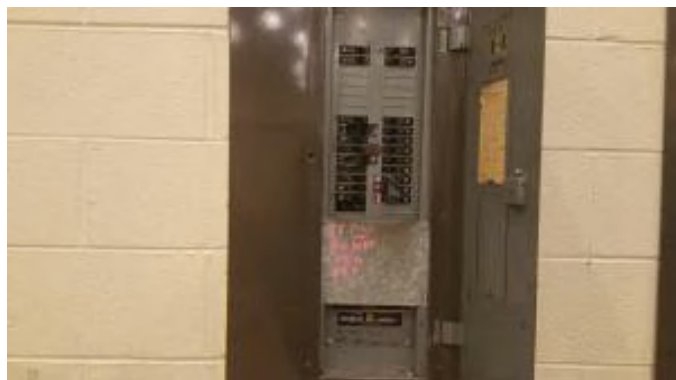
Estimate: \$580,156.04

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace the two existing 3,480MBH cast iron boilers, including burners and exhaust ductwork, which are beyond their service life.

System: D5010 - Electrical Service/Distribution



Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Panelboard - 400 amp

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$128,002.65

Assessor Name: System

Date Created: 08/12/2015

Notes: Install four 120V/208V panels to replace the existing panels in the 1st floor. Also replace the power feeders, conduit wire to the four panels from the new 120V/208V three phase main Panel Board.

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

System: B2010 - Exterior Walls



Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair spalled concrete wall structure

Qty: 800.00

Unit of Measure: S.F.

Estimate: \$38,575.08

Assessor Name: System

Date Created: 09/23/2015

Notes: Repair cracked exterior columns and spalled concrete walls.

System: B3010120 - Single Ply Membrane



Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete deck topping including remove and replace waterproofing membrane - add for epoxy coating if required by inserting the SF in the estimate

Qty: 3,800.00

Unit of Measure: S.F.

Estimate: \$219,672.28

Assessor Name: System

Date Created: 09/24/2015

Notes: Install new topping over garage roof

System: C1020 - Interior Doors



Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 50.00

Unit of Measure: Ea.

Estimate: \$25,368.15

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace interior doors hardware for ADA accessibility

System: C3030 - Ceiling Finishes



Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 50,800.00

Unit of Measure: S.F.

Estimate: \$643,367.27

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace all acoustical ceilings

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add interior hydraulic elevator - 2 floors - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$340,714.59

Assessor Name: System

Date Created: 09/24/2015

Notes: Install ADA compliant 2500 lb, 2 stop elevator

System: D2010 - Plumbing Fixtures



Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 6.00

Unit of Measure: Ea.

Estimate: \$39,800.88

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D2030 - Sanitary Waste



Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 74,314.00

Unit of Measure: S.F.

Estimate: \$324,685.94

Assessor Name: System

Date Created: 08/13/2015

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D2040 - Rain Water Drainage



Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace roof drains - per drain including piping

Qty: 3.00

Unit of Measure: Ea.

Estimate: \$66,622.03

Assessor Name: System

Date Created: 08/13/2015

Notes: Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems



Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 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: 74,314.00

Unit of Measure: S.F.

Estimate: \$2,967,823.92

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace the existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.

System: D3040 - Distribution Systems



Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace utility set exhaust fan (5 HP)

Qty: 18.00

Unit of Measure: Ea.

Estimate: \$675,476.37

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace eighteen (18) exhaust fans serving the building.

System: D3040 - Distribution Systems



Location: Throughout buliding

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 74,314.00

Unit of Measure: S.F.

Estimate: \$619,399.07

Assessor Name: System

Date Created: 08/13/2015

Notes: Hire a qualified contractor to examine the distribution piping, in service for 45 years and damaged, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems



Location: IMC Mech Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for IMC (850 students).

Qty: 596.00

Unit of Measure: Student

Estimate: \$280,353.77

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace AH-3, located above the IMC, which serves the IMC, Cafeteria, and hallway.

System: D3040 - Distribution Systems



Location: IMC Mech Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Install HVAC unit for IMC (850 students)

Qty: 596.00

Unit of Measure: Student

Estimate: \$277,750.53

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace AH-2, located above the IMC, which serves the IMC, Cafeteria, and hallway.

System: D3040 - Distribution Systems



Location: IMC Mech Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 596.00

Unit of Measure: Student

Estimate: \$222,692.04

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace AH-1, located above the IMC, which serves the nurses office and teachers' lounge.

System: D3040 - Distribution Systems



Location: IMC Mech Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 596.00

Unit of Measure: Student

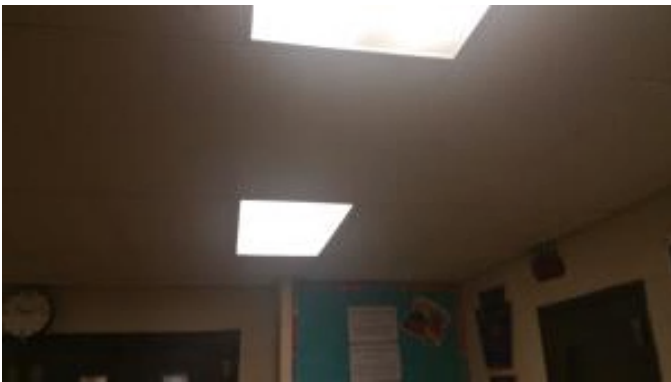
Estimate: \$222,692.04

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace AH-4, located above the IMC, which serves the main office, two music rooms, and accommodation room.

System: D5020 - Lighting and Branch Wiring



Location: Thrpughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 0.00

Unit of Measure: S.F.

Estimate: \$654,730.26

Assessor Name: System

Date Created: 08/12/2015

Notes: Install new lighting fixtures for all the class rooms, and other rooms. New fluorescent lighting (T-5) will be adequate, however, using the state-of-the-art LED lighting will improve the energy usage.

System: D5020 - Lighting and Branch Wiring



Location: Throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace Wiring Devices (SF) - surface mounted conduit and boxes

Qty: 0.00

Unit of Measure: S.F.

Estimate: \$354,906.96

Assessor Name: System

Date Created: 08/12/2015

Notes: Install two receptacles in all of class rooms and other purpose rooms. Add a wire-mold system with receptacles on every 3' for the computer room.

System: D5030 - Communications and Security



Location: throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: \$147,561.30

Assessor Name: System

Date Created: 08/12/2015

Notes: Install a new Automated Fire Alarm System to be located in the new Electrical Room.

System: D5090 - Other Electrical Systems



Location: throughout the building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Add Emergency/Exit Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$146,399.40

Assessor Name: System

Date Created: 08/12/2015

Notes: Install new battery packed emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose rooms.

System: D5090 - Other Electrical Systems

This deficiency has no image.

Location: In the electrical room in the basement

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$106,894.80

Assessor Name: System

Date Created: 08/12/2015

Notes: Install a new emergency power system (100 KVA generator).

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

System: B3010105 - Built-Up



Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 42,400.00

Unit of Measure: S.F.

Estimate: \$1,283,111.89

Assessor Name: System

Date Created: 09/24/2015

Notes: Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing

System: C1030 - Fittings



Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet partitions - handicap units

Qty: 16.00

Unit of Measure: Ea.

Estimate: \$49,403.99

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace non-ADA compliant toilet partitions; reconfigure remaining toilet partitions

System: C1030 - Fittings



Location: Interior

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 92.00

Unit of Measure: Ea.

Estimate: \$23,971.16

Assessor Name: System

Date Created: 09/24/2015

Notes: Install new signage throughout

System: C3020411 - Carpet



Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: \$30,409.60

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace existing carpet

System: D5010 - Electrical Service/Distribution



Location: electrical room in the basement

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Electrical Switchgear and Distribution System

Qty: 0.00

Unit of Measure: Ea.

Estimate: \$405,599.93

Assessor Name: System

Date Created: 08/12/2015

Notes: Upgrade the existing electrical service to a new service with a new 500 KVA dry-type Transformer, 13.2KV to 480V/277V, 3Ph. Install a new 800A, 480V, 3 Ph. Switchboard. The new Main switchboard shall be sized to handle the existing loads plus any new loads. Install a new step down transformer from 480V to 120V/208V, and a main 120V/208V Panel Board for all the lighting/receptacle loads.

System: D5030 - Communications and Security



Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Clock System or Components

Qty: 0.00

Unit of Measure: Ea.

Estimate: \$108,753.84

Assessor Name: System

Date Created: 08/12/2015

Notes: Install a new clock system. Added 20% more cost for conduit wiring when necessary.

Priority 5 - Response Time (> 5 yrs):

System: B2020 - Exterior Windows



Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 180.00

Unit of Measure: Ea.

Estimate: \$932,769.45

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace all windows (curtain wall type) within next 4 to 5 years

System: B2020 - Exterior Windows



Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace security screens

Qty: 5,000.00

Unit of Measure: S.F.

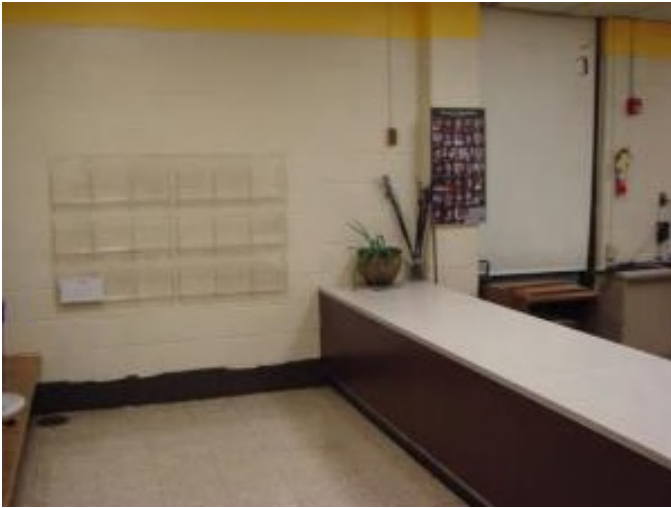
Estimate: \$700,528.88

Assessor Name: System

Date Created: 09/24/2015

Notes: Replace security screens on 1st floor windows and at parking garage openings

System: C3010230 - Paint & Covering



Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 103,000.00

Unit of Measure: S.F.

Estimate: \$555,494.71

Assessor Name: System

Date Created: 09/24/2015

Notes: Repaint all walls

System: D3060 - Controls & Instrumentation



Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 74,314.00

Unit of Measure: S.F.

Estimate: \$1,381,262.13

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 3796 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	1394-SF			35	1970	2005	\$75,500.00	\$166,100.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 3796 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	1394-SF			35	1970	2005	\$75,500.00	\$166,100.00
D3030 Cooling Generating Systems	Absorption water chiller, indirect-fired, steam or hot water, water cooled, single stage, 200 ton	1.00	Ea.	Boiler Room	York	ER210			28	1970	1998	\$291,500.00	\$320,650.00
D3030 Cooling Generating Systems	Cooling tower, packaged unit, galvanized steel, blow through, centrifugal type, 200 ton, includes standard controls, excludes pumps and piping	1.00	Ea.	Roof	B.A.C.				28	1970	1998	\$34,100.00	\$37,510.00
												Total:	\$690,360.00

Executive Summary

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

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

Function:

Gross Area (SF): 67,000

Year Built: 1970

Last Renovation:

Replacement Value: \$1,225,378

Repair Cost: \$856,954.87

Total FCI: 69.93 %

Total RSLI: 58.18 %

Description:

Attributes:

General Attributes:

Bldg ID:	S535001	Site ID:	S535001
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Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	76.34 %	73.71 %	\$688,405.59
G40 - Site Electrical Utilities	0.00 %	57.83 %	\$168,549.28
Totals:	58.18 %	69.93 %	\$856,954.87

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price \$	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
G2010	Roadways	\$11.52	S.F.		30				0.00 %	0.00 %				\$0
G2020	Parking Lots	\$7.65	S.F.		30				0.00 %	0.00 %				\$0
G2030	Pedestrian Paving	\$11.52	S.F.	50,200	40	1970	2010	2050	87.50 %	119.04 %	35		\$688,405.59	\$578,304
G2040	Site Development	\$4.36	S.F.	67,000	25	1970	1995	2028	52.00 %	0.00 %	13			\$292,120
G2050	Landscaping & Irrigation	\$3.78	S.F.	16,800	15	2005	2020	2028	86.67 %	0.00 %	13			\$63,504
G4020	Site Lighting	\$3.58	S.F.	67,000	30	1970	2000		0.00 %	50.84 %	-15		\$121,936.95	\$239,860
G4030	Site Communications & Security	\$0.77	S.F.	67,000	30	1970	2000		0.00 %	90.35 %	-15		\$46,612.33	\$51,590
Total									58.18 %	69.93 %			\$856,954.87	\$1,225,378

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.

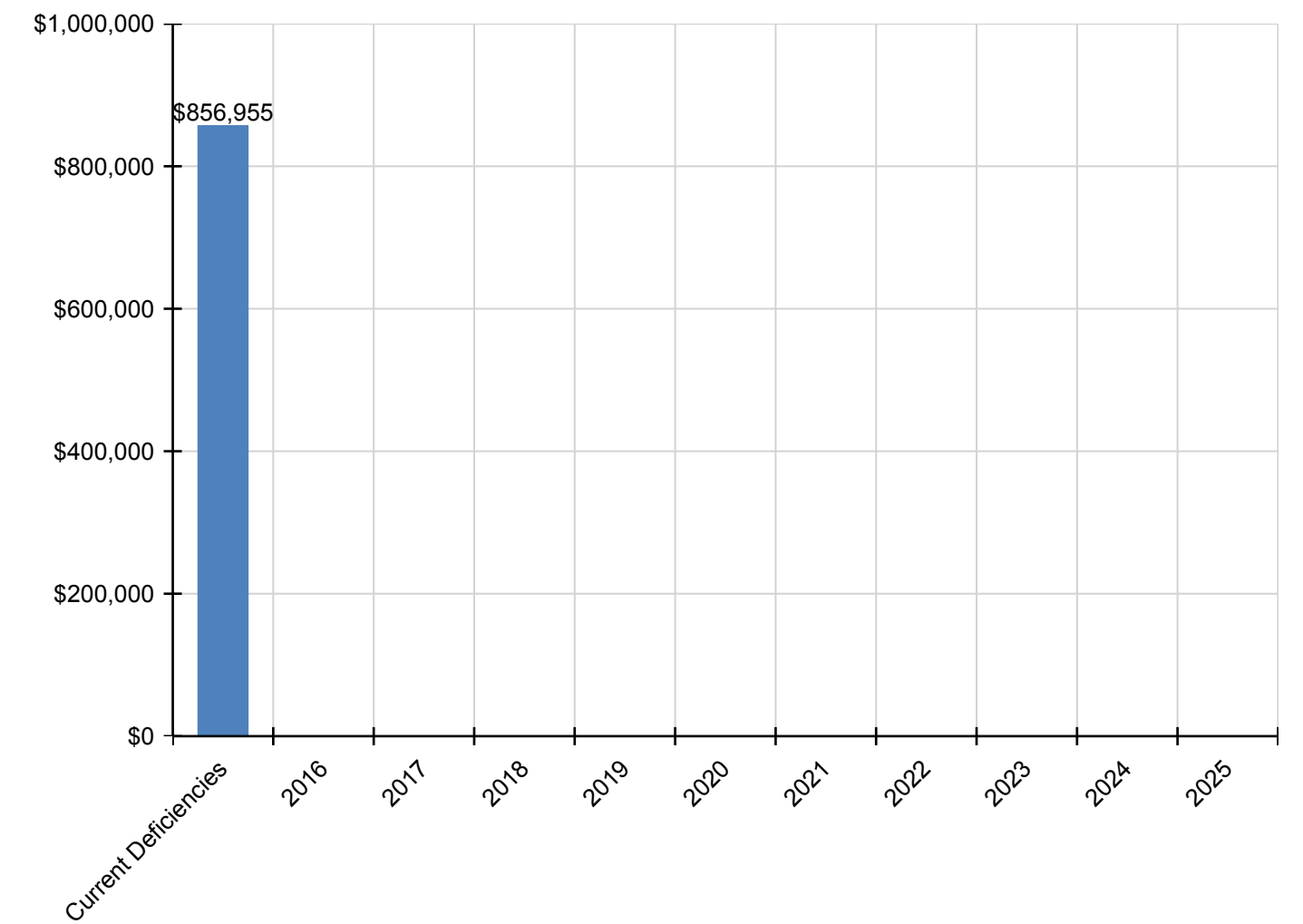
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	\$856,955	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$856,955
G - Building Sitework	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G20 - Site Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2010 - Roadways	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2020 - Parking Lots	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2030 - Pedestrian Paving	\$688,406	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$688,406
G2040 - Site Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2050 - Landscaping & Irrigation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G40 - Site Electrical Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G4020 - Site Lighting	\$121,937	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$121,937
G4030 - Site Communications & Security	\$46,612	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$46,612

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

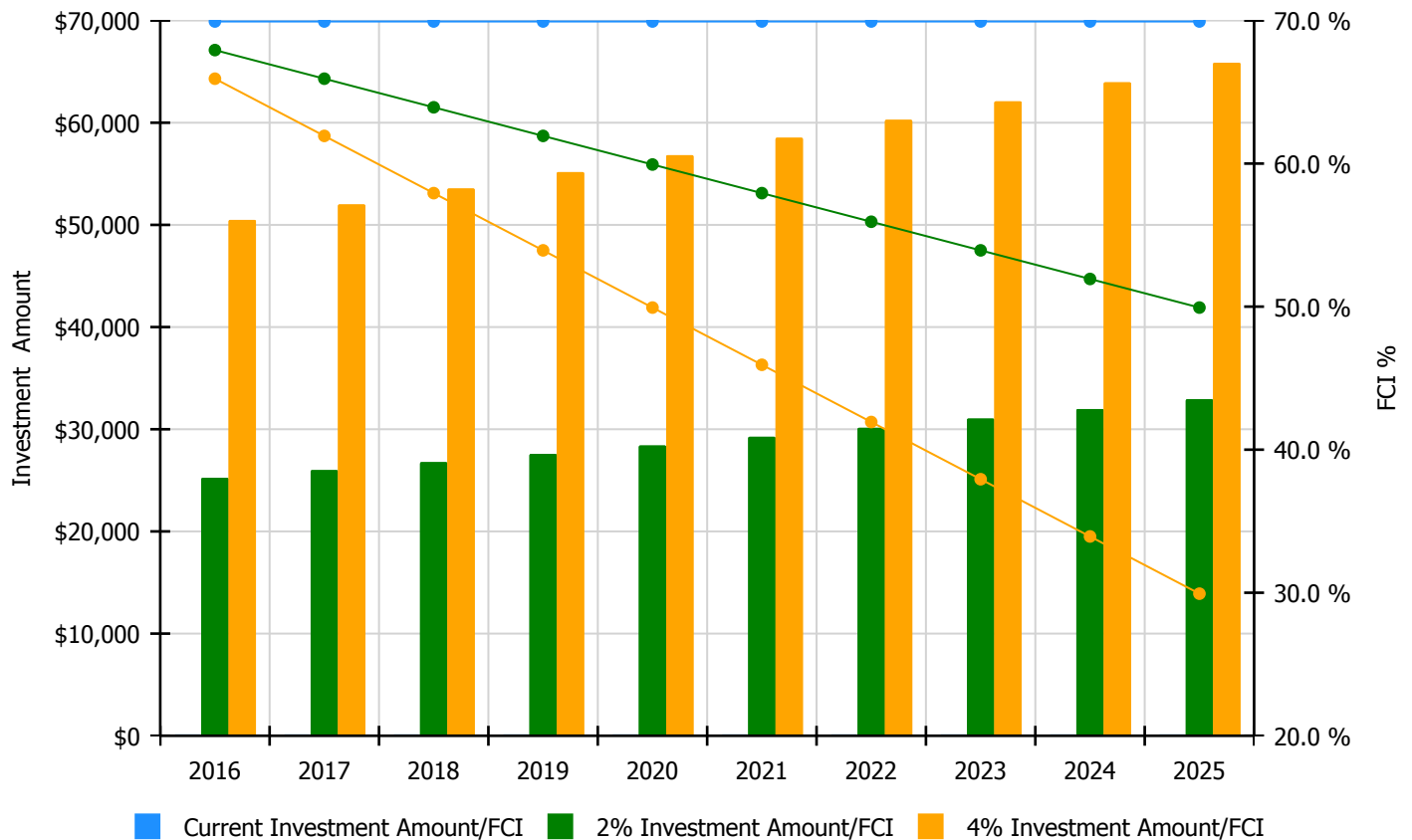


10 Year FCI Forecast by Investment Scenario

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

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

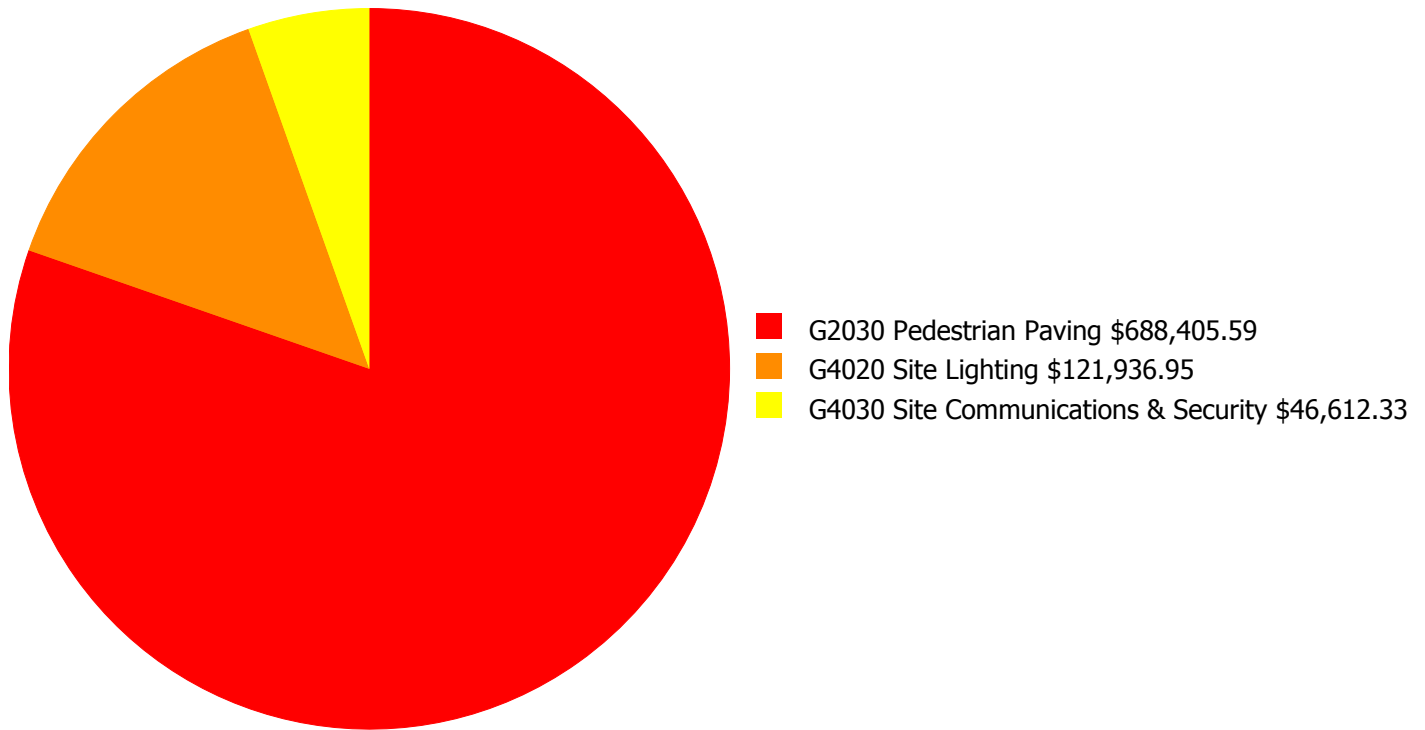
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 69.93%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$25,243.00	67.93 %	\$50,486.00	65.93 %
2017	\$0	\$26,000.00	65.93 %	\$52,000.00	61.93 %
2018	\$0	\$26,780.00	63.93 %	\$53,560.00	57.93 %
2019	\$0	\$27,583.00	61.93 %	\$55,167.00	53.93 %
2020	\$0	\$28,411.00	59.93 %	\$56,822.00	49.93 %
2021	\$0	\$29,263.00	57.93 %	\$58,527.00	45.93 %
2022	\$0	\$30,141.00	55.93 %	\$60,282.00	41.93 %
2023	\$0	\$31,045.00	53.93 %	\$62,091.00	37.93 %
2024	\$0	\$31,977.00	51.93 %	\$63,954.00	33.93 %
2025	\$0	\$32,936.00	49.93 %	\$65,872.00	29.93 %
Total:	\$0	\$289,379.00		\$578,761.00	

Deficiency Summary by System

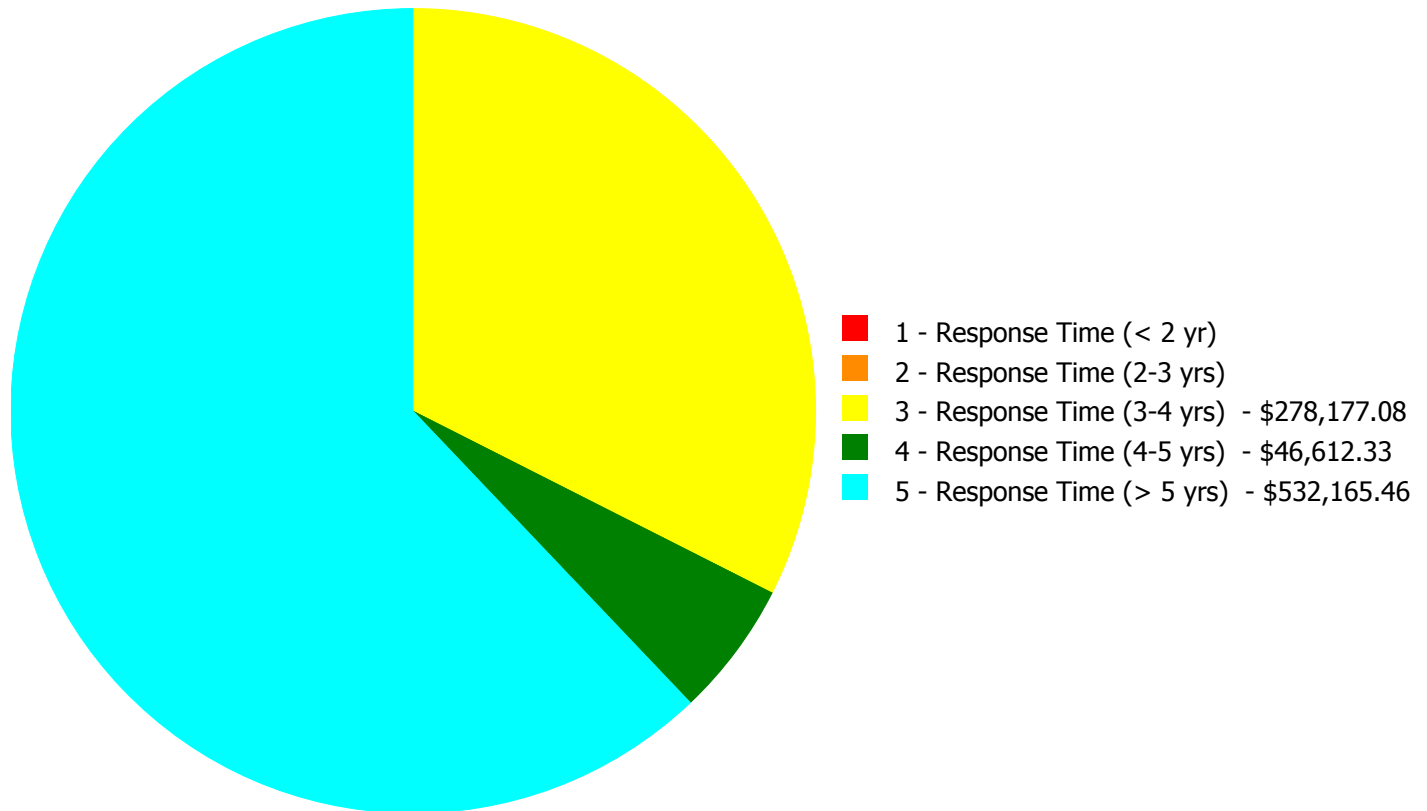
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$856,954.87

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: \$856,954.87

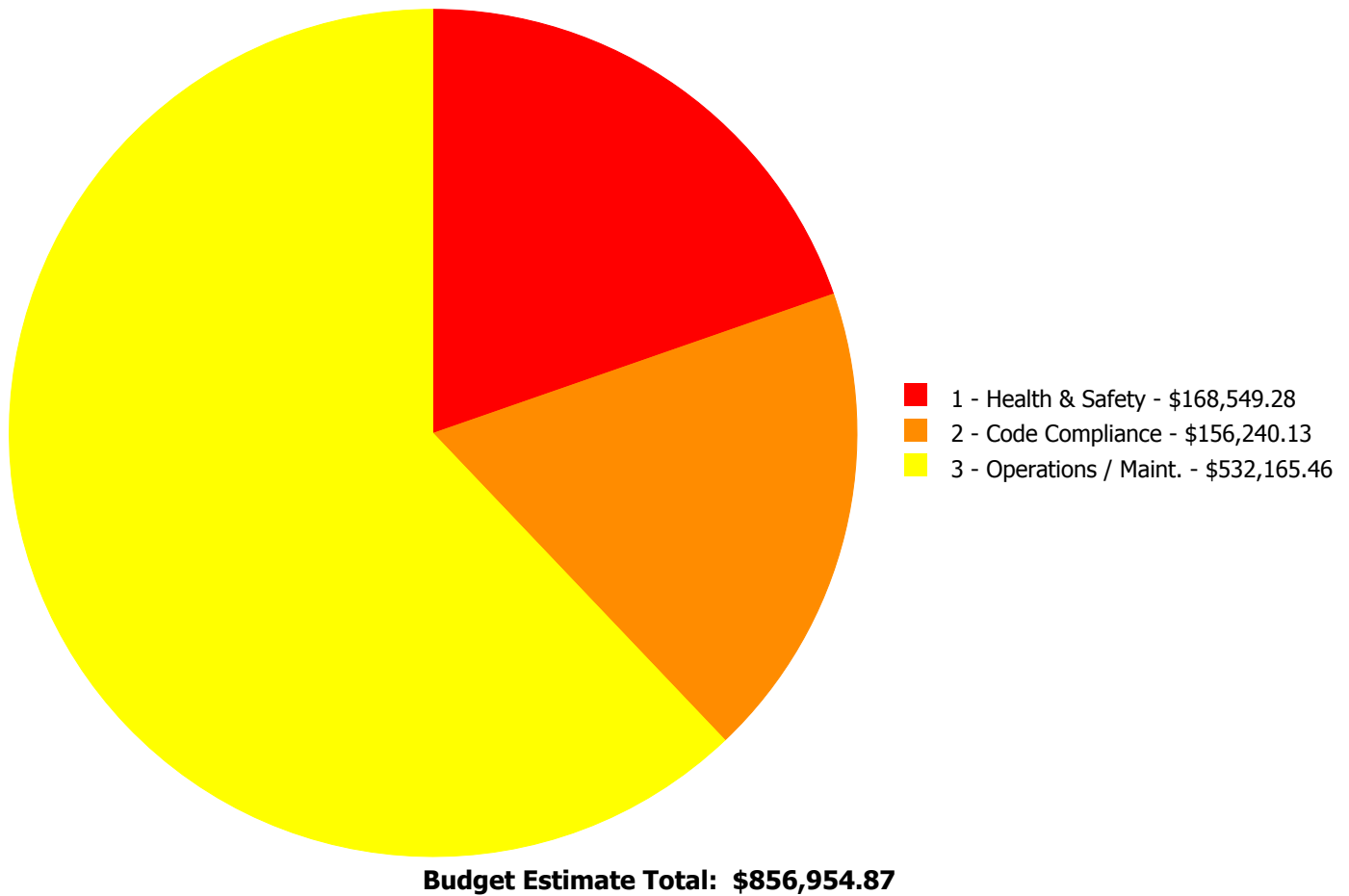
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	\$0.00	\$0.00	\$156,240.13	\$0.00	\$532,165.46	\$688,405.59
G4020	Site Lighting	\$0.00	\$0.00	\$121,936.95	\$0.00	\$0.00	\$121,936.95
G4030	Site Communications & Security	\$0.00	\$0.00	\$0.00	\$46,612.33	\$0.00	\$46,612.33
	Total:	\$0.00	\$0.00	\$278,177.08	\$46,612.33	\$532,165.46	\$856,954.87

Deficiency Summary by Category

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



Deficiency Details by Priority

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

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

System: G2030 - Pedestrian Paving

This deficiency has no image.

Location: Grounds/ site

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to 84" rise - per LF of ramp - figure 1 LF of ramp per inch of rise

Qty: 66.00

Unit of Measure: L.F.

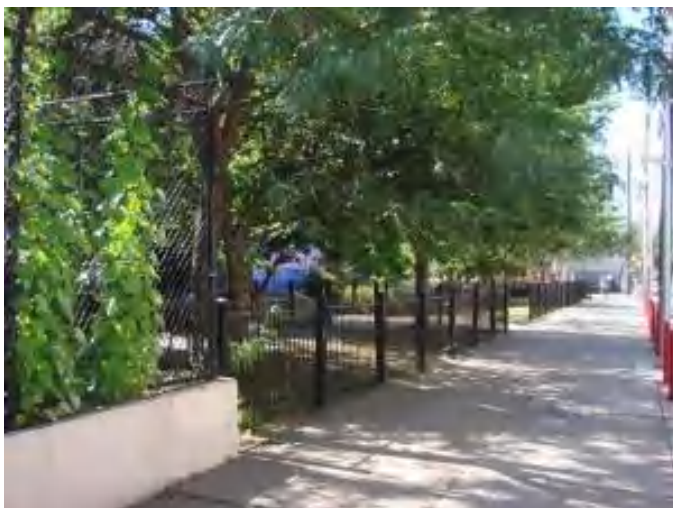
Estimate: \$156,240.13

Assessor Name: Craig Anding

Date Created: 09/24/2015

Notes: Provide accessible ramp at the main entrance

System: G4020 - Site Lighting



Location: Grounds/ site

Distress: Security Issue

Category: 1 - Health & Safety

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$121,936.95

Assessor Name: Craig Anding

Date Created: 09/24/2015

Notes: Add additional outdoor Lighting in the grounds area.

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

System: G4030 - Site Communications & Security



Location: Grounds/ site

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Site Paging System

Qty: 20.00

Unit of Measure: Ea.

Estimate: \$46,612.33

Assessor Name: Craig Anding

Date Created: 09/24/2015

Notes: Install additional speakers for the school grounds (installed on the new outdoor poles).

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving



Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 37,000.00

Unit of Measure: S.F.

Estimate: \$532,165.46

Assessor Name: Craig Anding

Date Created: 09/24/2015

Notes: Resurface playground paving

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

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

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

Site Assessment Report - S535001;McKinley

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.

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

Site Assessment Report - S535001;McKinley

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

Site Assessment Report - S535001;McKinley

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.

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

Site Assessment Report - S535001;McKinley

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

Site Assessment Report - S535001;McKinley

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

Site Assessment Report - S535001;McKinley

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