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.

Kensington Health Sciences School

Governance	DISTRICT	Report Type	High
Address	2463 Emerald St.	Enrollment	459
	Philadelphia, Pa 19125	Grade Range	'09-12'
Phone/Fax	215-291-5185 / 215-291-6320	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Kensingtonhealthsciences	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**06.06%**	**$1,838,502**	**$30,333,846**
Building	06.01 %	$1,799,306	$29,919,077
Grounds	09.45 %	$39,196	$414,769

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	05.62 %	$60,854	$1,083,320
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$2,436,221
Windows (Shows functionality of exterior windows)	08.90 %	$138,156	$1,551,963
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$65,417
Interior Doors (Classroom doors)	00.00 %	$0	$212,041
Interior Walls (Paint and Finishes)	00.00 %	$0	$893,281
Plumbing Fixtures	00.00 %	$0	$762,447
Boilers	00.00 %	$0	$1,052,876
Chillers/Cooling Towers	00.00 %	$0	$1,380,525
Radiators/Unit Ventilators/HVAC	00.29 %	$6,983	$2,424,378
Heating/Cooling Controls	126.09 %	$959,948	$761,319
Electrical Service and Distribution	00.00 %	$0	$547,022
Lighting	03.76 %	$73,597	$1,955,744
Communications and Security (Cameras, Pa System and Fire Alarm)	46.53 %	$340,855	$732,558

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

S555001;Kensington Culinary

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

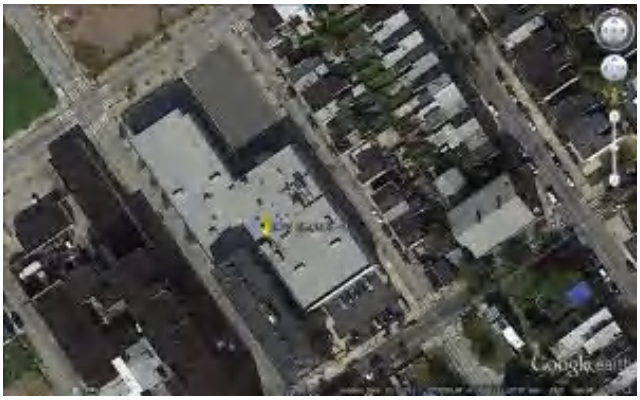
Site Executive Summary

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

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

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

Gross Area (SF):	56,394
Year Built:	2001
Last Renovation:	
Replacement Value:	$30,333,846
Repair Cost:	$1,838,501.69
Total FCI:	6.06 %
Total RSLI:	72.40 %



Description:

Facility Assessment, June, 2015

School District of Philadelphia

Kensington Culinary High School

2463 Emerald Street

Philadelphia, PA 19125

56,394 SF / 337 Students / LN 05

The Kensington Culinary High School building is located at 2463 Emerald Street in Philadelphia, PA. The 2 story, 56,394 square foot building was constructed in 2001. The building has no basement.

Mr. Scott Ovington, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned renovation projects. Mr. Frank Wisniewski, Building Engineer, accompanied us on our tour of the school and provided us with detailed

information on the building systems and recent maintenance history. The school principal, Mr. James Williams provided additional information about building condition.

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete spread and strip footings that are not showing signs of settlement or damage. The main structure is typically steel frame, columns and girders; floors are typically concrete slab over metal deck supported by bar joists. The superstructure is generally in very good condition.

The building envelope is typically comprised of glazed block over CMU on the first floor and split face CMU on the second floor; walls are insulated cavity type. Some minor cracks developed on West wall face.

The roof structure is a metal deck supported by bar joists and is typically flat with slopes to roof drains.

Exterior windows are typically aluminum, double insulated units with tilt-in operating sections, in good condition. First floor windows are fitted with steel framed security screens, some rusting and finish deterioration was observed.

Exterior doors are typically hollow metal doors and frames in good condition; main entrance doors have vision glass.

Roofing is built-up with crushed rock topping over rigid insulation, in good condition, except the lower roof over the Gym corridor which is damaged and leaking. Counter-flashing along adjacent building is damaged and pulls away from substrate.

INTERIORS:

Partition wall types include painted CMU and drywall, in good condition. . The interior wall finishes are generally painted drywall and ceramic 4x4 tiles in toilet rooms. Most ceilings are 2x4 suspended acoustical panels, in good condition; ceiling in gym is exposed metal deck, painted. All ceilings are in good condition.

Flooring in most areas is generally vinyl composition tile, in good condition. Flooring in library and principal's office is carpet, installed in 2012 and in poor condition. Gym has resilient sheet flooring in very good condition. Flooring in toilets is typically 2x2 ceramic tiles in good condition.

Interior doors are generally solid core wood doors in hollow metal frames, in good condition.

Stairs are generally painted steel with concrete filled metal pan treads.

Interior identifying devices are of modular type directly affixed to wall surfaces.

Toilet partitions are mostly phenolic resin panels, ADA comliant, in goodcondition, Accessories are in good condition.

CONVEYING EQUIPMENT:

The building does have a 3500 lb hydraulic elevator, in good condition.

ACCESSIBILITY:

The building does have accessible entrance and accessible routes, including a wheelchair ramp which is shared with adjacent building. Toilets are generally in compliance with ADA.

GROUNDS (SITE):

There is parking lot with 27 spaces at the site, in good condition. Two spaces are designated as accessible.

There is no playground at the site. Original perimeter chain link fences are generally in poor condition and damaged. There is no landscaping.

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of low flow wall mounted flush valve water closets, low flow wall hung urinals and lavatories with both wheel handle and lever faucets. The units appear to be in good condition and should provide reliable service for the next 10-15 years.

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

A mop basin is available in a janitor closet in the corridor on each floor for use by the janitorial staff.

The Kitchen has one two compartment stainless steel sink with lever operated faucets. There is no grease trap. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 4" city water service enters the boiler room from E. Letterly Street, near the middle of the block. The 4" meter and valves are located in the boiler room and a reduced pressure backflow preventer is installed. The domestic hot and cold water distribution piping is copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

There are two domestic hot water heaters; one Bradford White, 75 gallon, vertical hot water heater with circulating pump and one Bradford White Defender, 40 gallon, vertical hot water heater. Both units were installed in 2012, are gas fired, and located in the boiler room. The hot water heaters are equipped with T&P relief valves, and expansion tanks. The domestic hot water heaters are within their service life and should provide reliable service for the next 5-7 years. A water softener was located in the boiler room.

Sanitary Waste - The sanitary sewer piping is cast iron with no-hub fittings and is within its service life. The majority of sanitary piping is located under the building slab. The maintenance staff reported mostly minor problems with the sanitary waste piping systems.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and are original. The system is well within its service life.

MECHANICAL:

Energy Supply - A 6" city gas service enters the building from E. Letterly Street near the middle of the block. The gas meter is 6" and located in the in the boiler room.

Heat Generating Systems - Building heating hot water is generated by two Weil-McLain P-888 boilers with maximum output of 1,900MBH. Each boiler is equipped with a Power Flame burner designed to operate on natural gas. Combustion air makeup is supplied by louvers equipped with motorized dampers. No major issues with the boilers were reported by the Building Engineer. Steel water tube boilers have an anticipated service life of 24 years or more; these units have been in service 14 years. The District should provide reliable service for the next 8 to 12 years.

Cooling Generating Systems - Chilled water is generated by one 80 ton Carrier 30GTN air-cooled reciprocating compressor chiller located on the roof. This unit has three compressors, one of which was not functional during the site visit. Reciprocating compressor chillers have an anticipated service life of 20 years; this unit has been in service 14 years. The District should budget for replacing this unit over the next 6-8 years.

Distribution Systems - A two pipe distribution system supplies building heating or cooling water to the unit ventilators and air conditioning units (AC). The building water distribution piping is black steel with threaded fittings. There are two end-suction Baldor distribution loop water pumps which can serve either the boilers or the chiller depending on valve configuration. All pumps appear to be original to the building, are within the anticipated service life of 25 years. There is a problem with condensation in the boiler room and the non-insulated distribution piping and equipment that handle chilled water is damaged from rust caused. Provide insulation on all piping and valves in the boiler room to prevent condensation formation.

Unit ventilators provide heating and cooling for the majority of classrooms and offices. The unit ventilators are original to the building and within their service life.

Terminal & Package Units - Conditioned air is provided to several spaces in the building by Carrier roof mounted packaged air handling units. These units are ducted to the spaces they serve and the plenum above the drop ceiling serves as a return air plenum. AC-1 provides conditioned air to the Cafeteria. AC-2 provides conditioned air to the second floor hallway, but is not operational due to mechanical issues. AC-3 provides conditioned air to rooms 107A and 107B. AC -4 provides conditioned air to rooms 211 and 121. AC-5 provides conditioned air to rooms 210, 211, and 216. Packaged air handling units have an anticipated service life of 25 years; these units have been in service 14 years.

Heating and ventilation is provided to the Gymnasium by two Reznor rooftop mounted units (RTU), model type unknown. Cooling is provided by one RTU, manufacturer and model unknown.

The building is exhausted by a total of fourteen (14) exhaust fans. The Building Engineer reports that all exhaust fans are operational. The exhaust fans remove air from the ceiling plenum above the drop ceiling.

A kitchen hood with integral fire suppression system and outdoor air make-up system operated by an Ansul control system is installed above the gas fired cooking equipment. The system has a gas fired makeup air unit serving the hood. An automatic gas shutoff valve was installed with the kitchen hood equipment. The equipment is well within service life.

Controls & Instrumentation - A building management system (BMS) with DDC modules and communications network is installed in this building. The BMS is not operational and the ventilator control valves are wide open and heating and cooling control is achieved via the boilers or chiller for many classrooms. This system needs to be replaced with a new control system to ensure it is functioning properly.

Sprinklers - The building is equipped with both wet and dry type sprinkler systems. An 8” fire water line enters the building in the boiler room along the same wall as the domestic water. A second, 3”, fire line enters through the loading dock and servers the Culinary Room on the second floor. There is a jockey pump and small air compressor for the dry pipe system. The fire suppression systems all appear to be the original installed equipment and should not need replacement within the next 10 years.

ELECTRICAL:

Site Electrical Service - The present electrical service is from Medium Voltage overhead lines (13.2KV) on a wooden poles. The Overhead lines are brought down on the face of the pole and run underground in conduit into an outdoor pad-mounted PECO 1000KVA oil-field utility transformer (13,2KV to 120V/208V, 3Phase). The utility company metering (PECO 02- 016995407) is also located outside next to the transformer and attached to the building. The secondary 120V/208V, 3-Phase power is extended to the building running underground to a 1600 Amp main switchboard inside the building, in the electrical room. The main outdoor transformer and switchboard are fairly new and in good shape and with ample capacity. There are no deficiencies observed in the electrical service and main distribution switchboard.

Distribution System and Raceway System - The distribution system is both 120V single phase and 120V/208V three phase. There two 120V distribution panels in each floor for lighting and receptacles loads. These panels are fairly new and in good shape with ample capacity. The raceway is mainly conduits run above the ceiling. The conduits and wiring are also in good shape. There are no deficiencies observed in the electrical distribution system and raceways.

Receptacles - There are at least two receptacles on each wall of the classrooms, multi-purpose room, etc. However, the computer rooms has inadequate outlets for power and data.

Lighting- The building has adequate lighting with mostly fluorescent fixtures (T-8). The auditorium has MH fixtures that provides proper illumination and foot candle (FC). There are no major deficiencies observed in the lighting system, with the exception that a few fixtures need new lamps and ballasts (maintenance issue).

Fire Alarm System – The present Fire Alarm system is not addressable/automatic. The present FA system has reached the end of its useful service. A new Automated Fire Alarm System is needed.

Fire alarm - The present Fire Alarm system is not automatic/addressable, and is not in compliance with safety codes. There are manual pulls stations throughout the building. There are not sufficient number of horn/strobes installed in the classrooms, corridors, offices and other areas in the school.

Telephone/LAN - The school telephone and data systems are working adequately. A main distribution frame (MDF) along with a telephone PBX system are providing the necessary communication function of the building. School is also equipped with Wi-Fi system.

Public Address - Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately. The present Intercom System is functioning fine. Each class room is provided with intercom telephone service. The system permits paging and intercom communication between main office to classrooms, and vice versa (classrooms to main office), and communication between classrooms to other classrooms.

Clock and Program system - Clock and program systems are working properly and have not yet reached the end of their useful service. Classrooms are provided with 12-inch wall mounted round clock, however, the clocks are controlled properly by central master control panel.

Television System - Television system is not provided in the school. Most classes are equipped with smart boards having the ability to connect to computers and internet.

Security Systems, access control, and video surveillance - The school is not provided with enough cameras for an effective video surveillance system. There is not enough cameras at exit doors, corridors, exterior, and other critical areas. These cameras should be controlled by a Closed Circuit Television system (CCTV).

Emergency Power System - School is not provided with an emergency generator to feed elevators, emergency lighting and other emergency loads.

Emergency lighting system, including exit lighting - there are insufficient emergency lighting fixtures in corridors, library and other exit ways. Exit signs and emergency fixtures have reached the end of their useful service.

Lightning Protection System - There is no Lightning Protection System in the school. The building height is not that tall. However, there are equipment on the roof.

Site Lighting - The school grounds and building perimeters are adequately lighted for safety of the people and security of property.

Site Paging - The present Site paging System is adequate. There are sufficient number of speaker on building's exterior walls.

RECOMMENDATIONS:

- Replace built-up roof on lower roof (above Gym corridor).
- Replace counter-flashing along adjacent building
- Replace window screens
- Replace carpet in Library and office spaces
- Replace chain link fence
- Provide insulation on all piping and valves in Boiler room to prevent condensation formation.
- Replace the existing, non-functioning, DDC 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 wire-mold system with receptacles on every 3' for the computer room.
- Install a new Automated Fire Alarm System to be located in the new Electrical Room.
- Install a new emergency power system (100 KVA generator).
- Install new battery packed emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose rooms.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S555001		

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.

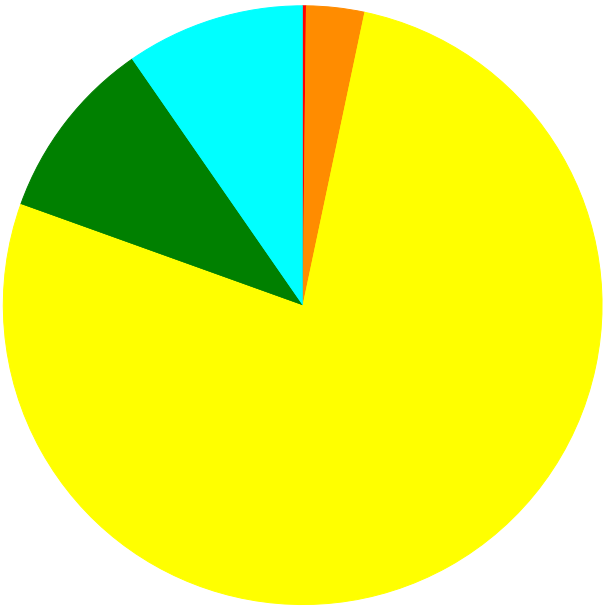
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	86.00 %	0.00 %	$0.00
A20 - Basement Construction	86.00 %	0.00 %	$0.00
B10 - Superstructure	86.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	77.28 %	3.41 %	$138,155.72
B30 - Roofing	30.10 %	5.61 %	$60,853.72
C10 - Interior Construction	80.95 %	0.00 %	$0.00
C20 - Stairs	77.88 %	0.00 %	$0.00
C30 - Interior Finishes	67.56 %	0.64 %	$16,786.14
D10 - Conveying	60.00 %	0.00 %	$0.00
D20 - Plumbing	57.17 %	0.00 %	$0.00
D30 - HVAC	47.08 %	15.41 %	$966,930.88
D40 - Fire Protection	52.46 %	0.00 %	$0.00
D50 - Electrical	111.83 %	18.60 %	$616,579.50
E10 - Equipment	60.00 %	0.00 %	$0.00
E20 - Furnishings	65.00 %	0.00 %	$0.00
G20 - Site Improvements	29.91 %	12.49 %	$39,195.73
G40 - Site Electrical Utilities	0.00 %	0.00 %	$0.00
Totals:	**72.40 %**	**6.06 %**	**$1,838,501.69**

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)
B555001;Kensington Culinary	56,394	6.01	$3,254.29	$57,599.43	$1,418,943.24	$181,353.28	$138,155.72
G555001;Grounds	23,200	9.45	$0.00	$0.00	$0.00	$0.00	$39,195.73
Total:		**6.06**	**$3,254.29**	**$57,599.43**	**$1,418,943.24**	**$181,353.28**	**$177,351.45**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $3,254.29
- 2 - Response Time (2-3 yrs) - $57,599.43
- 3 - Response Time (3-4 yrs) - $1,418,943.24
- 4 - Response Time (4-5 yrs) - $181,353.28
- 5 - Response Time (> 5 yrs) - $177,351.45

Budget Estimate Total: $1,838,501.69

Executive Summary

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

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

Function:	High School
Gross Area (SF):	56,394
Year Built:	2001
Last Renovation:	
Replacement Value:	$29,919,077
Repair Cost:	$1,799,305.96
Total FCI:	6.01 %
Total RSLI:	73.09 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B555001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S555001		

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	86.00 %	0.00 %	$0.00
A20 - Basement Construction	86.00 %	0.00 %	$0.00
B10 - Superstructure	86.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	77.28 %	3.41 %	$138,155.72
B30 - Roofing	30.07 %	5.62 %	$60,853.72
C10 - Interior Construction	80.95 %	0.00 %	$0.00
C20 - Stairs	77.89 %	0.00 %	$0.00
C30 - Interior Finishes	67.56 %	0.64 %	$16,786.14
D10 - Conveying	60.00 %	0.00 %	$0.00
D20 - Plumbing	57.17 %	0.00 %	$0.00
D30 - HVAC	47.08 %	15.41 %	$966,930.88
D40 - Fire Protection	52.48 %	0.00 %	$0.00
D50 - Electrical	111.83 %	18.60 %	$616,579.50
E10 - Equipment	60.00 %	0.00 %	$0.00
E20 - Furnishings	65.00 %	0.00 %	$0.00
Totals:	**73.09 %**	**6.01 %**	**$1,799,305.96**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$27.30	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$1,539,556
A1030	Slab on Grade	$5.17	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$291,557
A2010	Basement Excavation	$4.36	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$245,878
A2020	Basement Walls	$9.91	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$558,865
B1010	Floor Construction	$85.34	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$4,812,664
B1020	Roof Construction	$14.39	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$811,510
B2010	Exterior Walls	$43.20	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$2,436,221
B2020	Exterior Windows	$27.52	S.F.	56,394	40	2001	2041		65.00 %	8.90 %	26		$138,155.72	$1,551,963
B2030	Exterior Doors	$1.16	S.F.	56,394	25	2001	2026		44.00 %	0.00 %	11			$65,417
B3010105	Built-Up	$37.76	S.F.	28,600	20	2001	2021		30.00 %	5.63 %	6		$60,853.72	$1,079,936
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	56,394	30	2001	2031		53.33 %	0.00 %	16			$3,384
C1010	Partitions	$21.05	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$1,187,094
C1020	Interior Doors	$3.76	S.F.	56,394	40	2001	2041		65.00 %	0.00 %	26			$212,041
C1030	Fittings	$2.90	S.F.	56,394	40	2001	2041		65.00 %	0.00 %	26			$163,543
C2010	Stair Construction	$1.18	S.F.	56,394	100	2001	2101		86.00 %	0.00 %	86			$66,545

Site Assessment Report - B555001;Kensington Culinary

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 $
C2020	Stair Finishes	$0.39	S.F.	56,394	30	2001	2031		53.33 %	0.00 %	16			$21,994
C3010230	Paint & Covering	$13.21	S.F.	56,394	10	2001	2011	2021	60.00 %	0.00 %	6			$744,965
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.	56,394	30	2001	2031	2061	153.33 %	0.00 %	46			$148,316
C3020411	Carpet	$7.30	S.F.	1,500	10	2012	2022	2027	120.00 %	153.30 %	12		$16,786.14	$10,950
C3020412	Terrazzo & Tile	$75.52	S.F.	3,200	50	2001	2051		72.00 %	0.00 %	36			$241,664
C3020413	Vinyl Flooring	$9.68	S.F.	31,600	20	2001	2021	2041	130.00 %	0.00 %	26			$305,888
C3020414	Wood Flooring	$22.27	S.F.		25	2001	2026		44.00 %	0.00 %	11			$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	8,900	50	2001	2051		72.00 %	0.00 %	36			$8,633
C3030	Ceiling Finishes	$20.97	S.F.	56,394	25	2001	2026		44.00 %	0.00 %	11			$1,182,582
D1010	Elevators and Lifts	$1.28	S.F.	56,394	35	2001	2036		60.00 %	0.00 %	21			$72,184
D2010	Plumbing Fixtures	$13.52	S.F.	56,394	35	2001	2036		60.00 %	0.00 %	21			$762,447
D2020	Domestic Water Distribution	$1.68	S.F.	56,394	25	2001	2026		44.00 %	0.00 %	11			$94,742
D2030	Sanitary Waste	$2.32	S.F.	56,394	30	2001	2031		53.33 %	0.00 %	16			$130,834
D2040	Rain Water Drainage	$1.90	S.F.	56,394	30	2001	2031		53.33 %	0.00 %	16			$107,149
D3020	Heat Generating Systems	$18.67	S.F.	56,394	24	2001	2025		41.67 %	0.00 %	10			$1,052,876
D3030	Cooling Generating Systems	$24.48	S.F.	56,394	20	2001	2021		30.00 %	0.00 %	6			$1,380,525
D3040	Distribution Systems	$42.99	S.F.	56,394	25	2001	2026		44.00 %	0.29 %	11		$6,982.83	$2,424,378
D3050	Terminal & Package Units	$11.60	S.F.	56,394	20	2001	2021		30.00 %	0.00 %	6			$654,170
D3060	Controls & Instrumentation	$13.50	S.F.	56,394	20	2001	2021	2037	110.00 %	126.09 %	22		$959,948.05	$761,319
D4010	Sprinklers	$7.05	S.F.	56,394	35	2001	2036		60.00 %	0.00 %	21			$397,578
D4020	Standpipes	$1.01	S.F.	56,394	35				0.00 %	0.00 %				$56,958
D5010	Electrical Service/Distribution	$9.70	S.F.	56,394	30	2001	2031	2031	53.33 %	0.00 %	16			$547,022
D5020	Lighting and Branch Wiring	$34.68	S.F.	56,394	20	2001	2021	2041	130.00 %	3.76 %	26		$73,596.68	$1,955,744
D5030	Communications and Security	$12.99	S.F.	56,394	15	2001	2016	2032	113.33 %	46.53 %	17		$340,855.44	$732,558
D5090	Other Electrical Systems	$1.41	S.F.	56,394	30	2001	2031	2031	53.33 %	254.20 %	16		$202,127.38	$79,516
E1020	Institutional Equipment	$4.82	S.F.	56,394	35	2001	2036		60.00 %	0.00 %	21			$271,819
E1090	Other Equipment	$11.10	S.F.	56,394	35	2001	2036		60.00 %	0.00 %	21			$625,973
E2010	Fixed Furnishings	$2.13	S.F.	56,394	40	2001	2041		65.00 %	0.00 %	26			$120,119
								Total	**73.09 %**	**6.01 %**			**$1,799,305.96**	**$29,919,077**

System Notes

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

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

Note: Paint 90%
Ceramic tile 10%

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

Note: VCT 70%
Carpet 3%
Ceramic tile 7%
Concrete 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:	**$1,799,306**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,069,416**	**$0**	**$0**	**$0**	**$1,556,476**	**$8,425,197**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A10 - Foundations**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A20 - Basement Construction**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2020 - Exterior Windows	$138,156	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$138,156**
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	$60,854	$0	$0	$0	$0	$0	$1,418,451	$0	$0	$0	$0	**$1,479,304**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

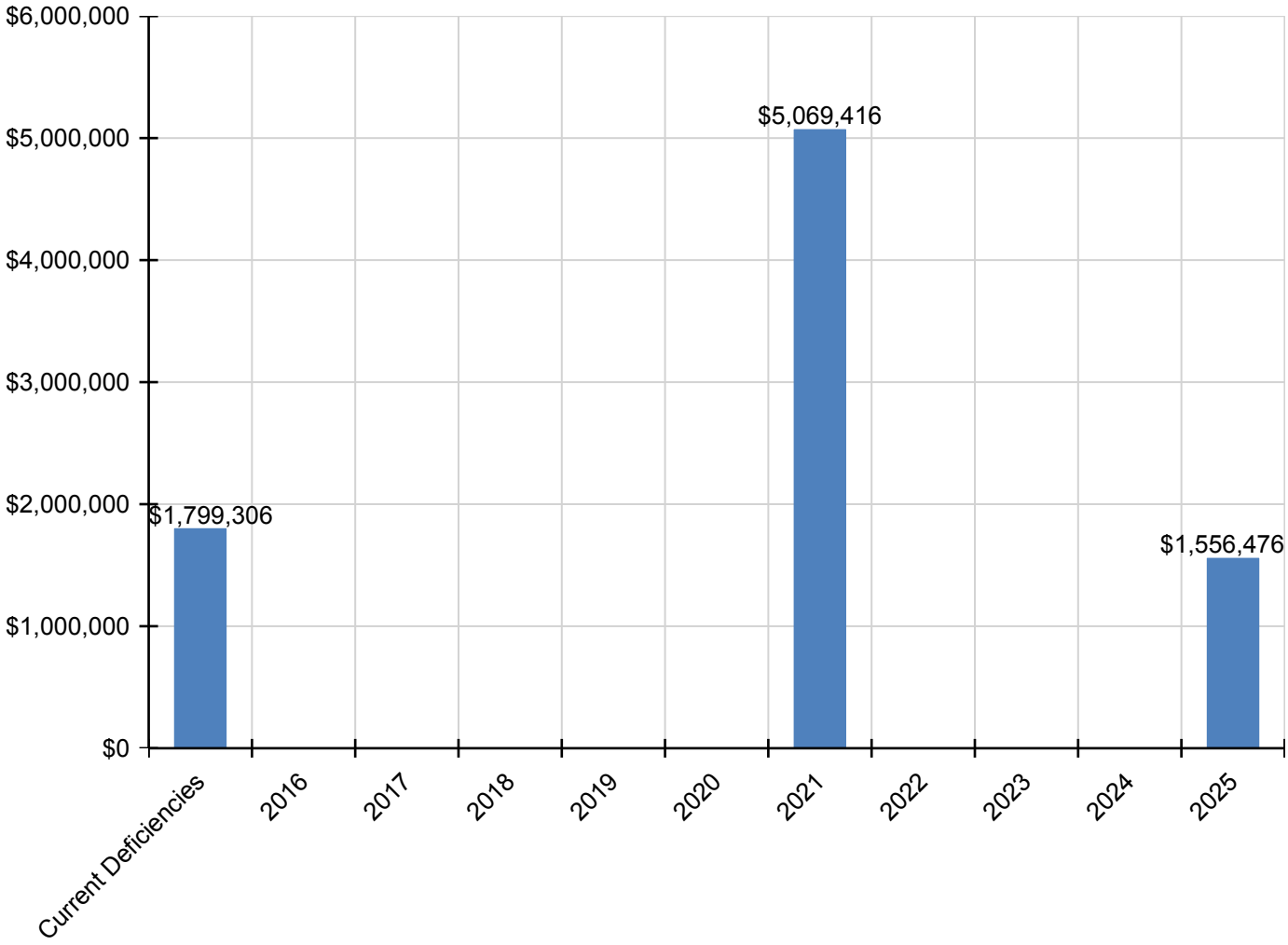
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2020 - Stair Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$0	$978,479	$0	$0	$0	$0	**$978,479**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$16,786	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$16,786**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2030 - Sanitary Waste	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,556,476	**$1,556,476**
D3030 - Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$1,813,262	$0	$0	$0	$0	**$1,813,262**
D3040 - Distribution Systems	$6,983	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,983**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$859,225	$0	$0	$0	$0	**$859,225**
D3060 - Controls & Instrumentation	$959,948	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$959,948**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$73,597	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$73,597**
D5030 - Communications and Security	$340,855	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$340,855**
D5090 - Other Electrical Systems	$202,127	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$202,127**
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	$0	**$0**
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

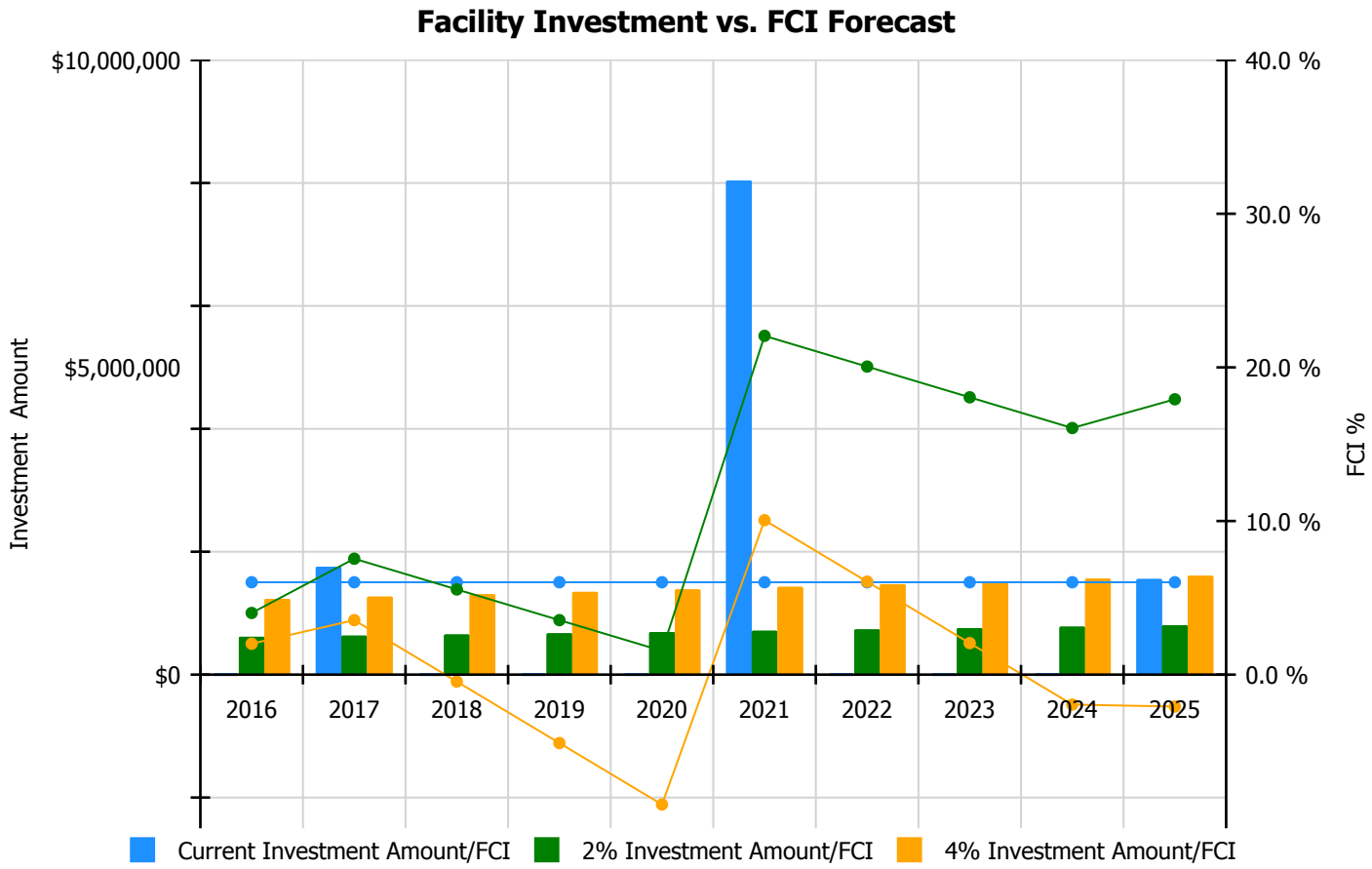
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

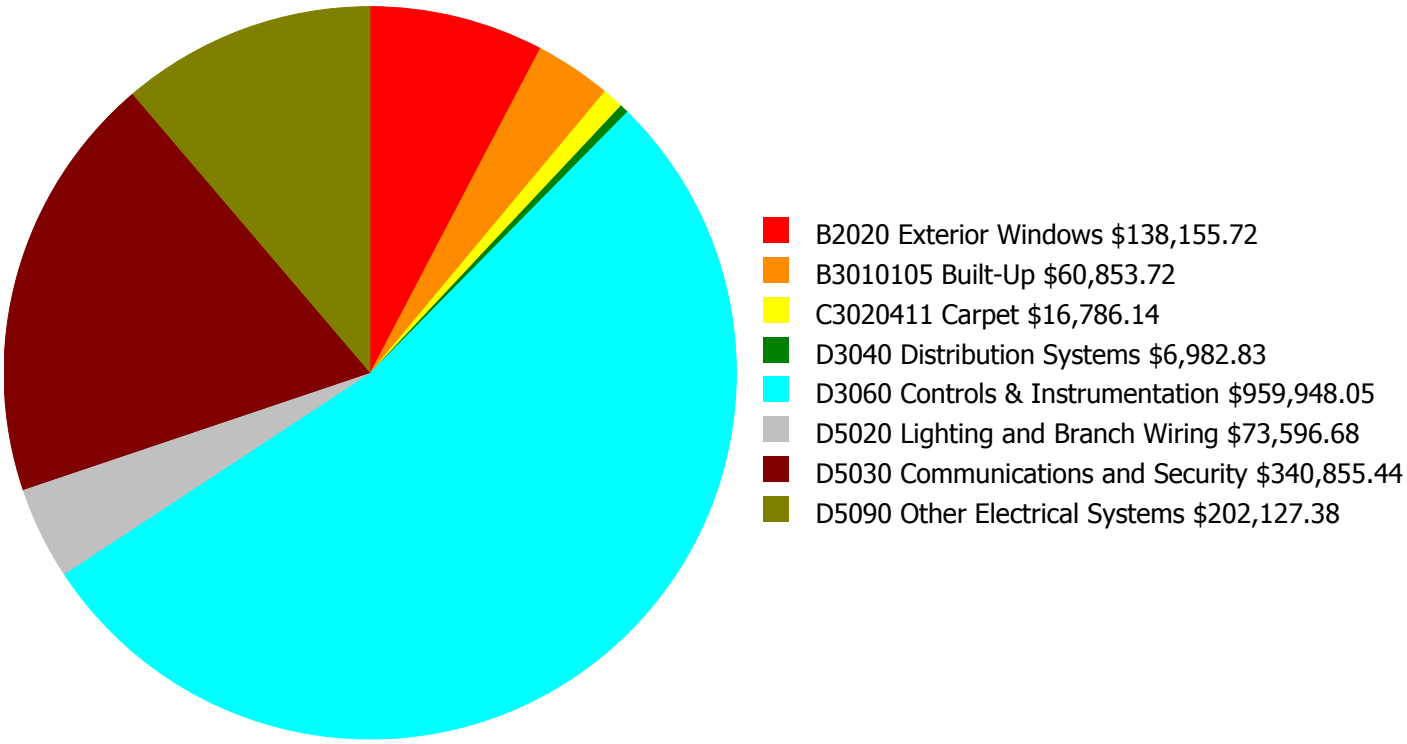
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 6.01%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$616,333.00	4.01 %	$1,232,666.00	2.01 %
2017	$1,756,118	$634,823.00	7.55 %	$1,269,646.00	3.55 %
2018	$0	$653,868.00	5.55 %	$1,307,735.00	-0.45 %
2019	$0	$673,484.00	3.55 %	$1,346,967.00	-4.45 %
2020	$0	$693,688.00	1.55 %	$1,387,376.00	-8.45 %
2021	$8,039,973	$714,499.00	22.05 %	$1,428,998.00	10.05 %
2022	$0	$735,934.00	20.05 %	$1,471,868.00	6.05 %
2023	$0	$758,012.00	18.05 %	$1,516,024.00	2.05 %
2024	$0	$780,752.00	16.05 %	$1,561,504.00	-1.95 %
2025	$1,556,476	$804,175.00	17.92 %	$1,608,350.00	-2.08 %
Total:	**$11,352,567**	**$7,065,568.00**		**$14,131,134.00**	

Deficiency Summary by System

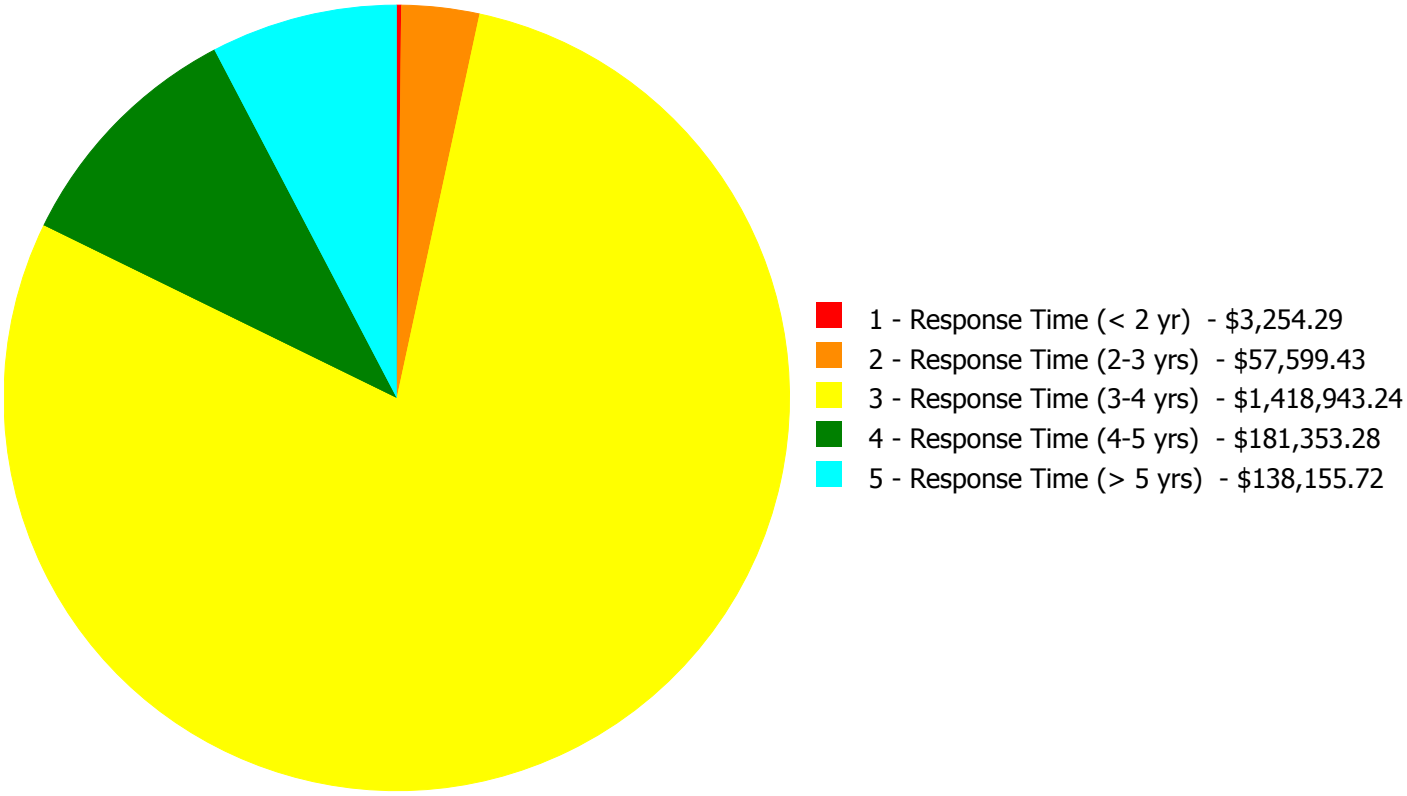
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $1,799,305.96

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: $1,799,305.96

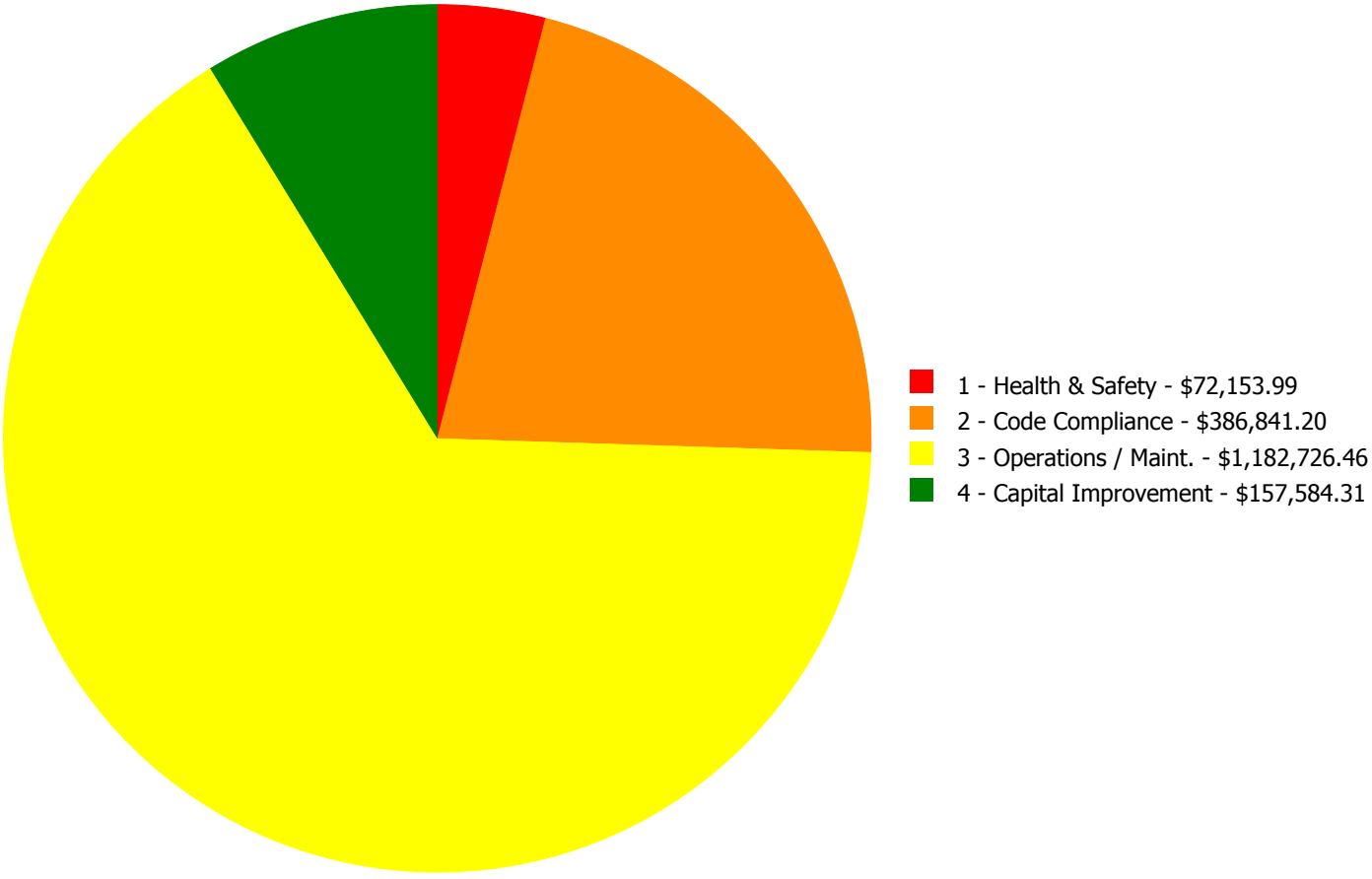
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2020	Exterior Windows	$0.00	$0.00	$0.00	$0.00	$138,155.72	$138,155.72
B3010105	Built-Up	$3,254.29	$57,599.43	$0.00	$0.00	$0.00	$60,853.72
C3020411	Carpet	$0.00	$0.00	$0.00	$16,786.14	$0.00	$16,786.14
D3040	Distribution Systems	$0.00	$0.00	$0.00	$6,982.83	$0.00	$6,982.83
D3060	Controls & Instrumentation	$0.00	$0.00	$959,948.05	$0.00	$0.00	$959,948.05
D5020	Lighting and Branch Wiring	$0.00	$0.00	$73,596.68	$0.00	$0.00	$73,596.68
D5030	Communications and Security	$0.00	$0.00	$183,271.13	$157,584.31	$0.00	$340,855.44
D5090	Other Electrical Systems	$0.00	$0.00	$202,127.38	$0.00	$0.00	$202,127.38
	Total:	$3,254.29	$57,599.43	$1,418,943.24	$181,353.28	$138,155.72	$1,799,305.96

Deficiency Summary by Category

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



Budget Estimate Total: $1,799,305.96

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: B3010105 - Built-Up

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Repair or replace flashing where it connects to masonry parapet - choose proper material

Qty: 50.00

Unit of Measure: L.F.

Estimate: $3,254.29

Assessor Name: Craig Anding

Date Created: 09/22/2015

Notes: Replace counter-flashing along adjacent building

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

System: B3010105 - Built-Up

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 1,700.00

Unit of Measure: S.F.

Estimate: $57,599.43

Assessor Name: Ben Nixon

Date Created: 09/22/2015

Notes: Replace built-up roof on lower roof (above Gym corridor).

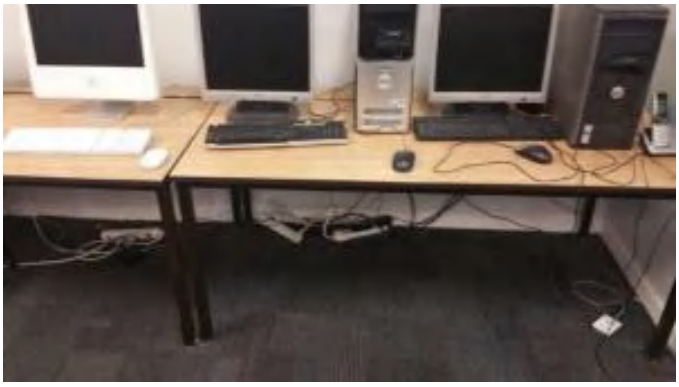
Priority 3 - Response Time (3-4 yrs):

System: D3060 - Controls & Instrumentation

Location: Throughout building
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace pneumatic controls with DDC (75KSF)
Qty: 68,076.00
Unit of Measure: S.F.
Estimate: $959,948.05
Assessor Name: Ben Nixon
Date Created: 08/12/2015

Notes: Replace the existing, non functioning, DDC 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.

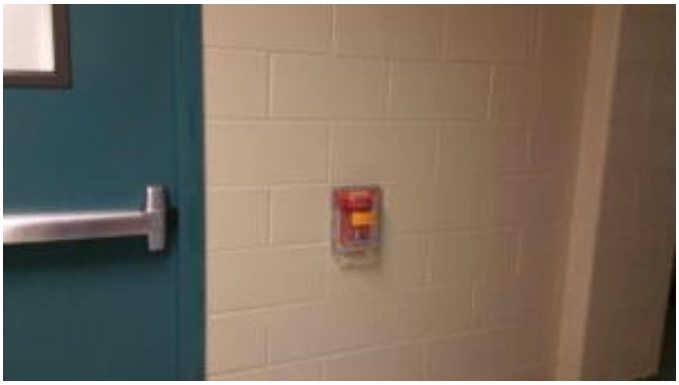
System: D5020 - Lighting and Branch Wiring



Location: Computer Room (1st floor)
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 3 - Response Time (3-4 yrs)
Correction: Add wiring device
Qty: 1.00
Unit of Measure: Ea.
Estimate: $73,596.68
Assessor Name: Ben Nixon
Date Created: 08/11/2015

Notes: Install a wire-mold system with receptacles on every 3’ for the computer room.

System: D5030 - Communications and Security



Location: Electrical Room (1st Floor)

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: $183,271.13

Assessor Name: Ben Nixon

Date Created: 08/11/2015

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

System: D5090 - Other Electrical Systems

This deficiency has no image.

Location: Electrical Room (1st floor)

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.

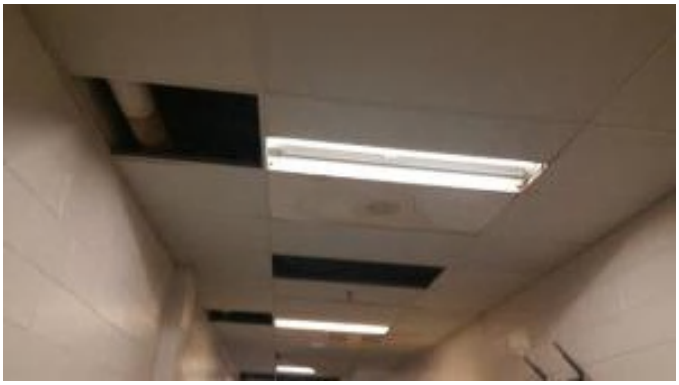
Estimate: $129,973.39

Assessor Name: Ben Nixon

Date Created: 08/11/2015

Notes: Install a new emergency power system (100 KVA generator). Notes: There is no picture, since there is no emergency generator now for the school Added 40% (multiplier 1.4) to cover the cost for conduit, wiring, other related costs..

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: $72,153.99

Assessor Name: Tom Moe

Date Created: 08/11/2015

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

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

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: 1,500.00

Unit of Measure: S.F.

Estimate: $16,786.14

Assessor Name: Ben Nixon

Date Created: 09/22/2015

Notes: Replace carpet in Library and office spaces

System: D3040 - Distribution Systems

Location: Boiler room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace hydronic distribution piping insulation - 100 LF of piping

Qty: 200.00

Unit of Measure: L.F.

Estimate: $6,982.83

Assessor Name: Craig Anding

Date Created: 08/12/2015

Notes: Provide insulation on all piping and valves in Boiler room to prevent condensation formation.

System: D5030 - Communications and Security

This deficiency has no image.

Location: Throughout the building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Clock System or Components

Qty: 0.00

Unit of Measure: Ea.

Estimate: $157,584.31

Assessor Name: Tom Moe

Date Created: 11/23/2015

Notes: Install a new clock System.
Note: Used a multiplier of 1.4 instead of 1.0 to cover the additional cost of other related construction cost.

Priority 5 - Response Time (> 5 yrs):

System: B2020 - Exterior Windows

Location:	Exterior
Distress:	Appearance
Category:	3 - Operations / Maint.
Priority:	5 - Response Time (> 5 yrs)
Correction:	Replace security screens
Qty:	900.00
Unit of Measure:	S.F.
Estimate:	$138,155.72
Assessor Name:	Ben Nixon
Date Created:	09/22/2015

Notes: Replace window screens

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 fired, natural or propane, cast iron, hot water, gross output, 2000 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	P-888-W			24	2001	2025	$38,201.40	$84,043.08
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 2000 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	P-888-W			24	2001	2025	$38,201.40	$84,043.08
D3030 Cooling Generating Systems	Water chiller, reciprocating, packaged, air cooled, 85 ton cooling, includes standard controls, excludes remote air cooled condensers	1.00	Ea.	Roof	Carrier	30GTN080-C62011	0801F65123		20	2001	2021	$66,495.00	$73,144.50
D3050 Terminal & Package Units	A/C packaged, DX, air cooled, electric heat, VAV, 40 ton	2.00	Ea.	Roof	Carrier	48EJE024			20	2001	2021	$85,691.10	$188,520.42
D3050 Terminal & Package Units	A/C packaged, DX, air cooled, electric heat, VAV, 40 ton	2.00	Ea.	Roof	Carrier	48EJE024	61968		20	2001	2021	$85,691.10	$188,520.42
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 3000 amp, excl breakers	1.00	Ea.						30	2001	2031	$10,743.30	$11,817.63
												Total:	**$630,089.13**

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):	23,200
Year Built:	2001
Last Renovation:	
Replacement Value:	$414,769
Repair Cost:	$39,195.73
Total FCI:	9.45 %
Total RSLI:	22.63 %

Description:

Attributes:

General Attributes:

Bldg ID:	S555001	Site ID:	S555001

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	29.91 %	12.49 %	$39,195.73
G40 - Site Electrical Utilities	0.00 %	0.00 %	$0.00
Totals:	**22.63 %**	**9.45 %**	**$39,195.73**

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.	12,100	30	2001	2031		53.33 %	0.00 %	16			$92,565
G2030	Pedestrian Paving	$11.52	S.F.	10,100	40				0.00 %	0.00 %				$116,352
G2040	Site Development	$4.36	S.F.	23,200	25	2001	2026		44.00 %	38.75 %	11		$39,195.73	$101,152
G2050	Landscaping & Irrigation	$3.78	S.F.	1,000	15				0.00 %	0.00 %				$3,780
G4020	Site Lighting	$3.58	S.F.	23,200	30				0.00 %	0.00 %				$83,056
G4030	Site Communications & Security	$0.77	S.F.	23,200	30				0.00 %	0.00 %				$17,864
								Total	**22.63 %**	**9.45 %**			**$39,195.73**	**$414,769**

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.

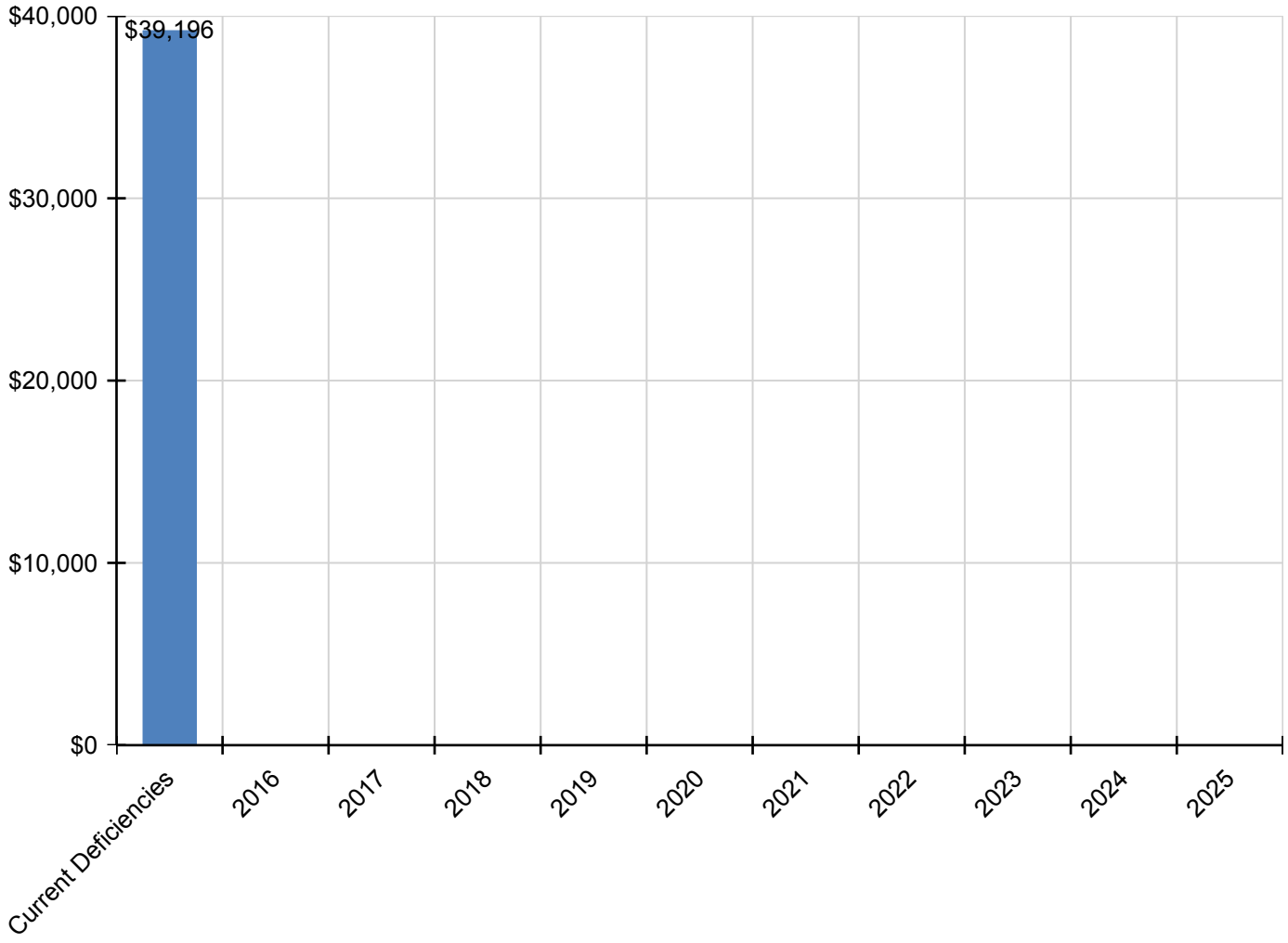
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$39,196**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$39,196**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$39,196	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$39,196**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

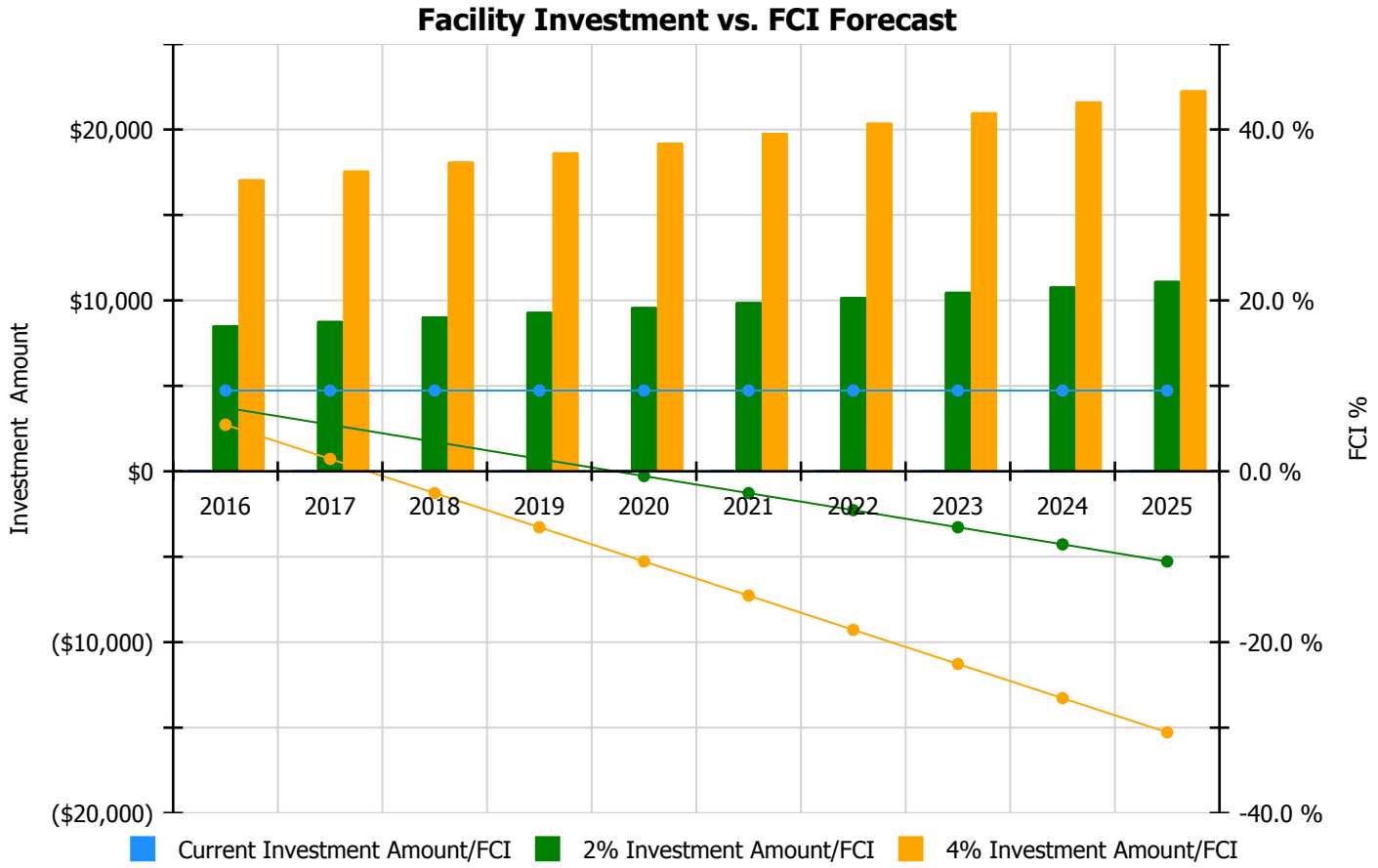
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

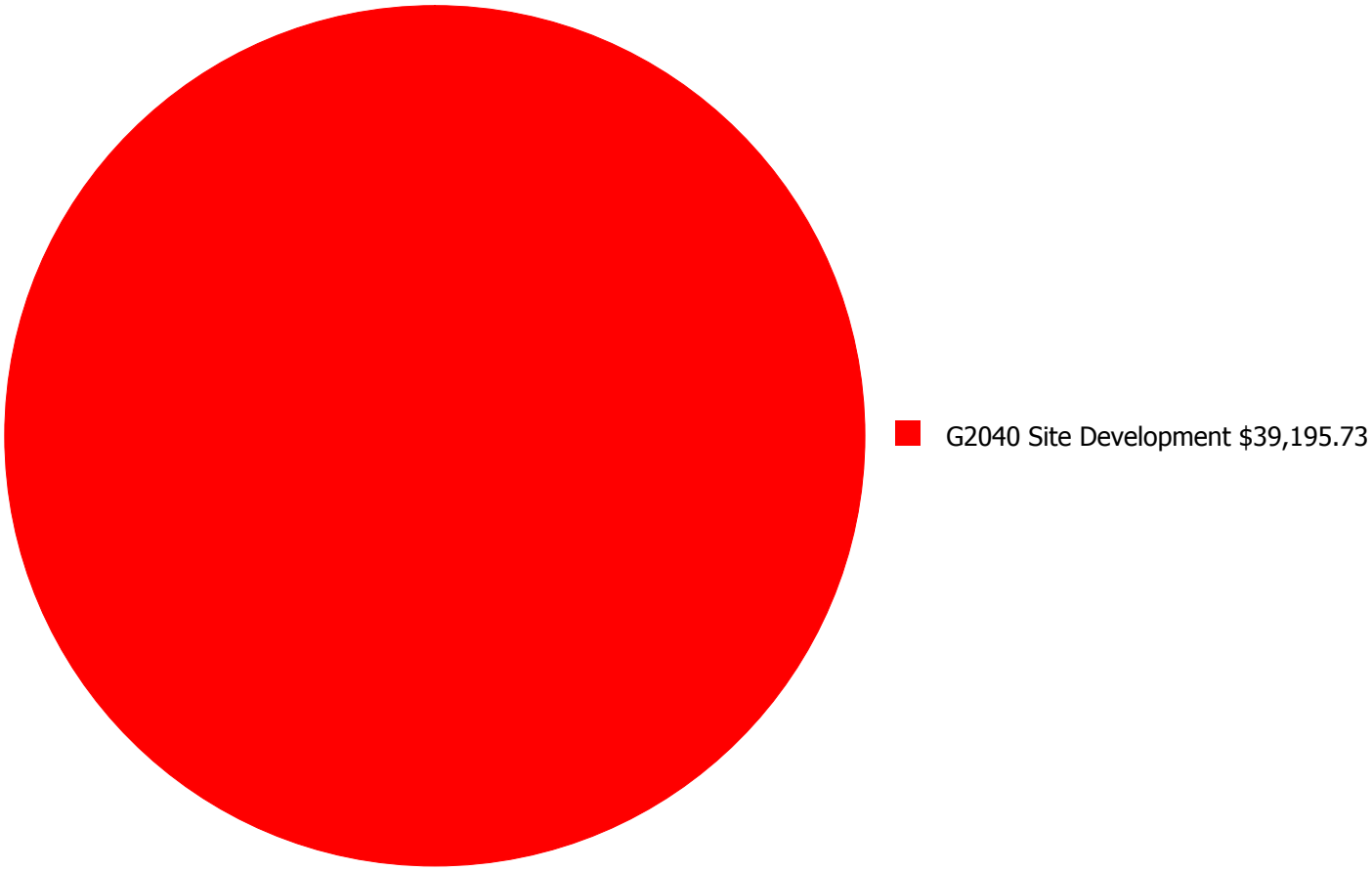
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 9.45%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$8,544.00	7.45 %	$17,088.00	5.45 %
2017	$0	$8,801.00	5.45 %	$17,601.00	1.45 %
2018	$0	$9,065.00	3.45 %	$18,129.00	-2.55 %
2019	$0	$9,337.00	1.45 %	$18,673.00	-6.55 %
2020	$0	$9,617.00	-0.55 %	$19,233.00	-10.55 %
2021	$0	$9,905.00	-2.55 %	$19,810.00	-14.55 %
2022	$0	$10,202.00	-4.55 %	$20,405.00	-18.55 %
2023	$0	$10,508.00	-6.55 %	$21,017.00	-22.55 %
2024	$0	$10,824.00	-8.55 %	$21,647.00	-26.55 %
2025	$0	$11,148.00	-10.55 %	$22,297.00	-30.55 %
Total:	**$0**	**$97,951.00**		**$195,900.00**	

Deficiency Summary by System

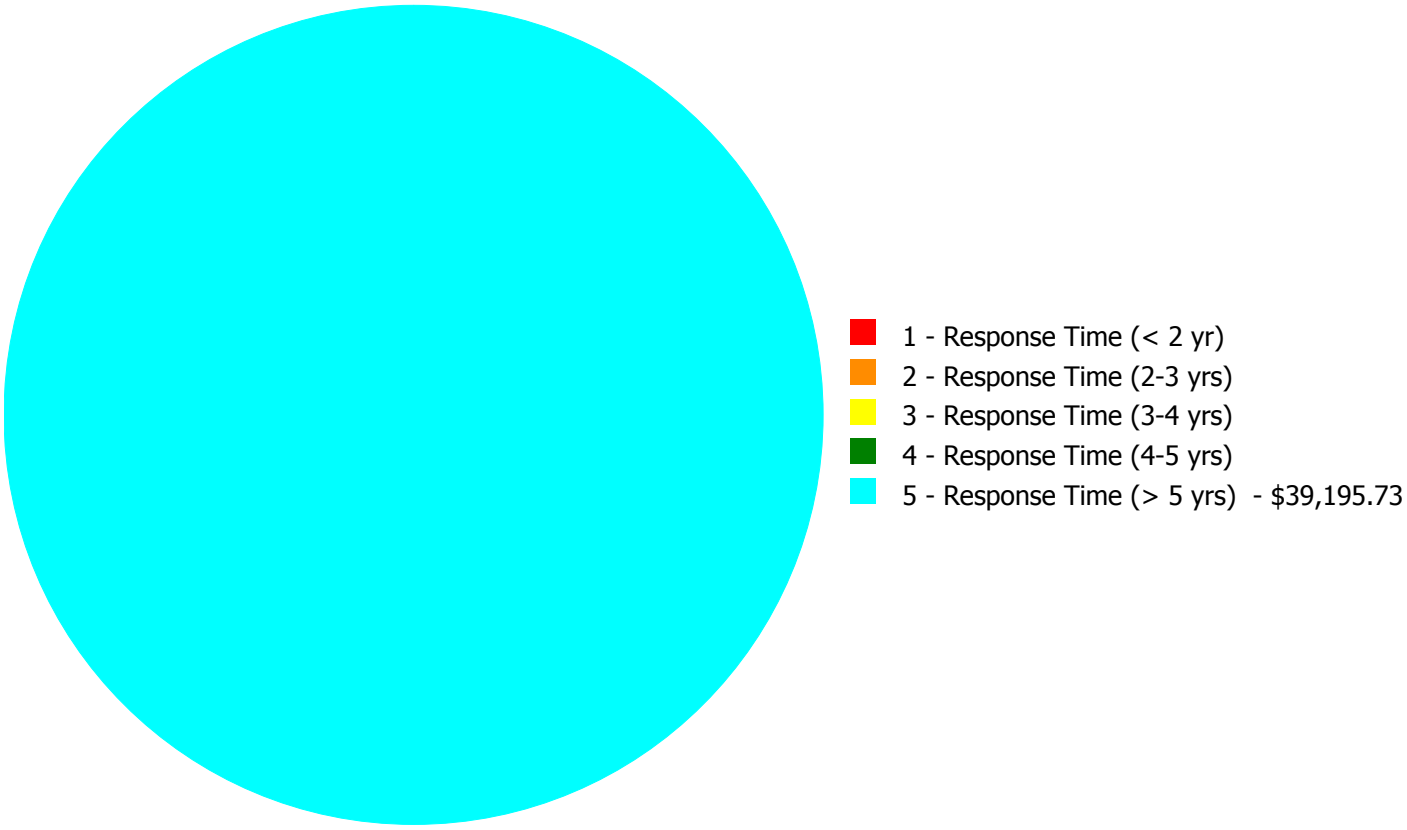
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $39,195.73

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: $39,195.73

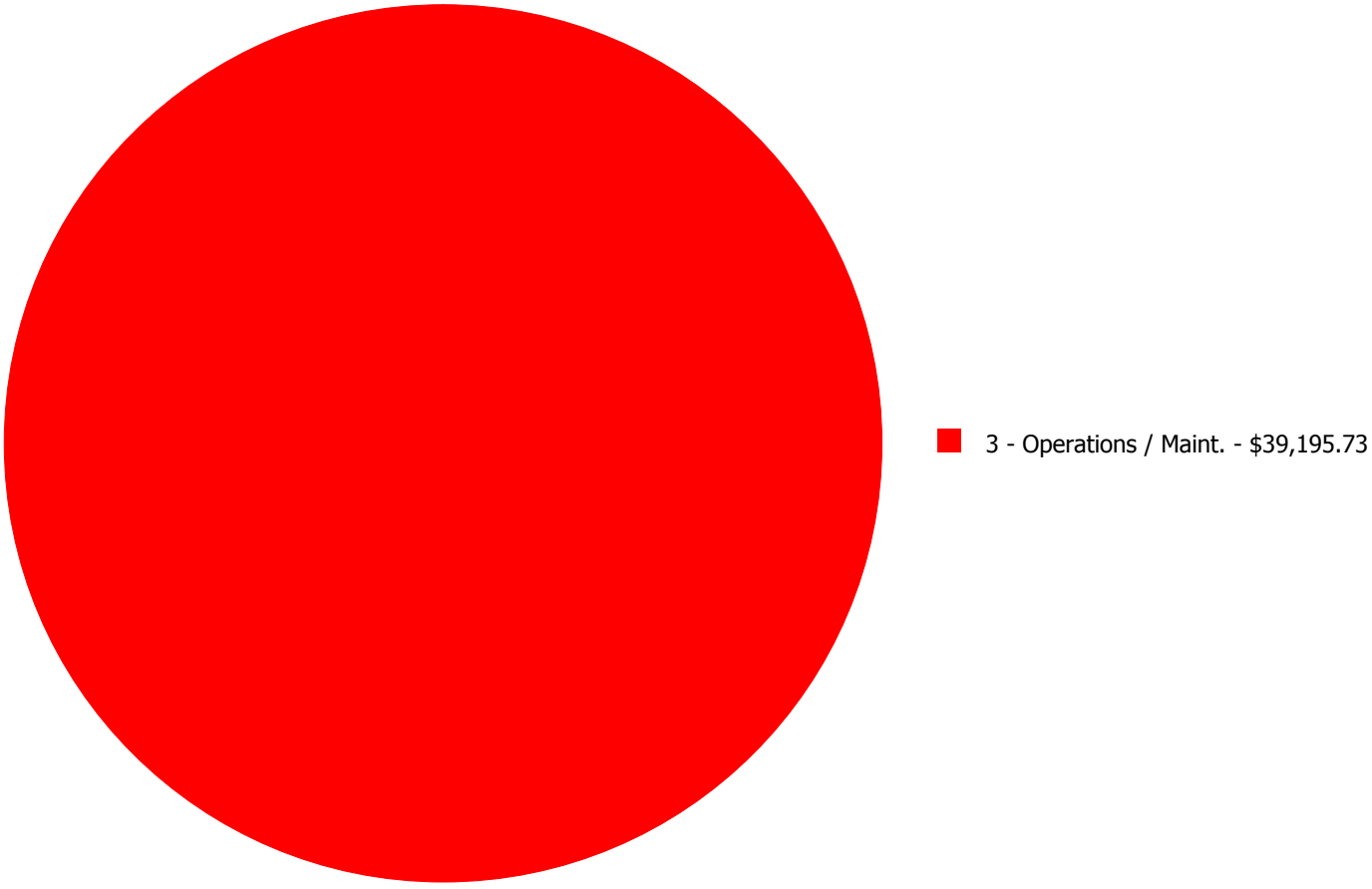
Deficiency By Priority Investment Table

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
G2040	Site Development	$0.00	$0.00	$0.00	$0.00	$39,195.73	$39,195.73
	Total:	$0.00	$0.00	$0.00	$0.00	$39,195.73	$39,195.73

Deficiency Summary by Category

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



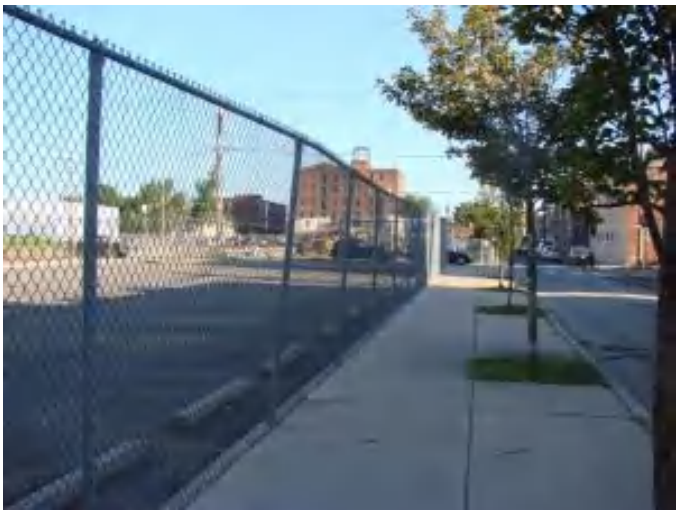
Budget Estimate Total: $39,195.73

Deficiency Details by Priority

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

Priority 5 - Response Time (> 5 yrs):

System: G2040 - Site Development



Location: Grounds/ site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace chain link fence - 8' high

Qty: 350.00

Unit of Measure: L.F.

Estimate: $39,195.73

Assessor Name: Ben Nixon

Date Created: 09/22/2015

Notes: Replace chain link fence

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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