

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.

Widener School

Governance	DISTRICT	Report Type	Elementarymiddlehigh
Address	1450 W. Olney Ave. Philadelphia, Pa 19141	Enrollment	151
Phone/Fax	215-456-3015 / 215-456-3118	Grade Range	'00-12'
Website	Www.Philasd.Org/Schools/Widener	Admissions Category	Citywide
		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	30.94%	\$69,919,595	\$226,000,109
Building	23.61 %	\$19,907,298	\$84,309,866
Grounds	10.35 %	\$1,311,099	\$12,664,370

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	01.22 %	\$71,609	\$5,848,940
Exterior Walls (Shows condition of the structural condition of the exterior facade)	05.50 %	\$245,663	\$4,464,460
Windows (Shows functionality of exterior windows)	171.20 %	\$3,336,833	\$1,949,090
Exterior Doors (Shows condition of exterior doors)	221.01 %	\$527,795	\$238,810
Interior Doors (Classroom doors)	135.22 %	\$727,061	\$537,680
Interior Walls (Paint and Finishes)	02.82 %	\$63,986	\$2,265,120
Plumbing Fixtures	00.00 %	\$0	\$4,515,940
Boilers	00.00 %	\$0	\$2,669,810
Chillers/Cooling Towers	00.00 %	\$0	\$3,500,640
Radiators/Unit Ventilators/HVAC	132.72 %	\$8,158,867	\$6,147,570
Heating/Cooling Controls	83.34 %	\$1,608,907	\$1,930,500
Electrical Service and Distribution	85.93 %	\$1,191,868	\$1,387,100
Lighting	08.94 %	\$443,568	\$4,959,240
Communications and Security (Cameras, Pa System and Fire Alarm)	14.93 %	\$277,384	\$1,857,570

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

S605001;Girls and Widener

Final

Site Assessment Report

February 2, 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):	387,595
Year Built:	1956
Last Renovation:	
Replacement Value:	\$226,000,109
Repair Cost:	\$69,919,594.92
Total FCI:	30.94 %
Total RSLI:	62.34 %



Description:

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 2
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S605001		

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.

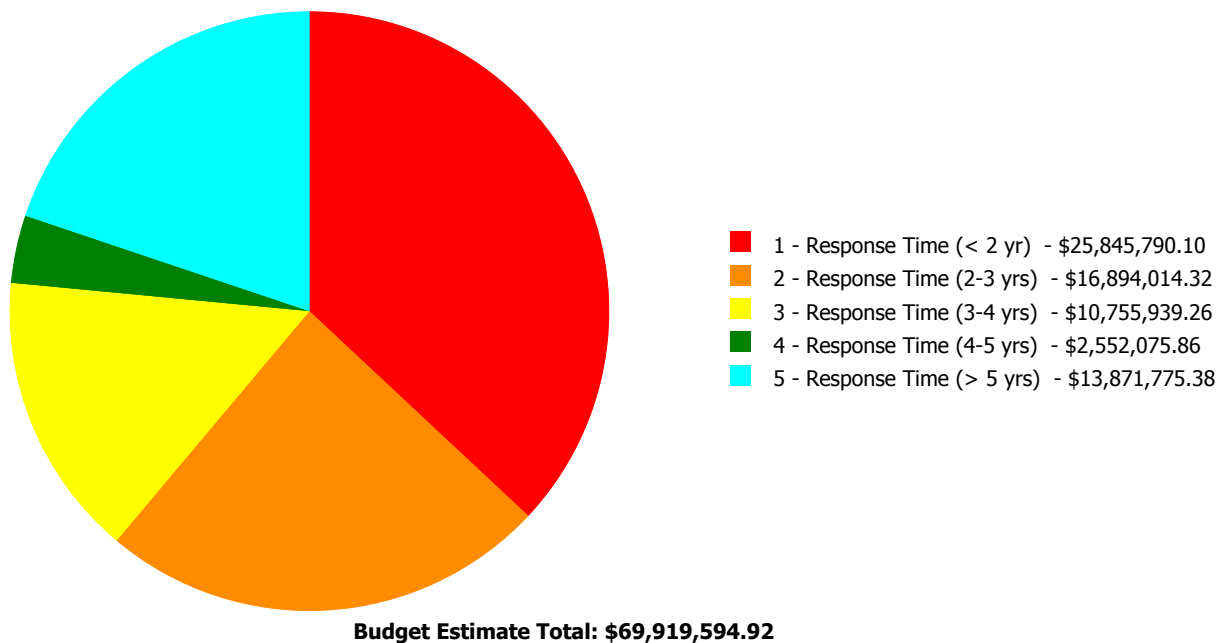
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	39.74 %	0.81 %	\$110,185.88
A20 - Basement Construction	39.19 %	0.00 %	\$0.00
B10 - Superstructure	39.79 %	0.14 %	\$56,759.74
B20 - Exterior Enclosure	35.36 %	19.83 %	\$4,920,066.93
B30 - Roofing	49.75 %	3.21 %	\$295,246.58
C10 - Interior Construction	47.60 %	31.99 %	\$3,134,157.23
C20 - Stairs	50.88 %	9.50 %	\$52,183.25
C30 - Interior Finishes	66.84 %	27.41 %	\$5,205,314.03
D10 - Conveying	28.57 %	58.22 %	\$173,917.03
D20 - Plumbing	58.58 %	39.77 %	\$4,223,822.49
D30 - HVAC	98.61 %	82.35 %	\$35,161,233.97
D40 - Fire Protection	105.71 %	143.12 %	\$4,702,632.26
D50 - Electrical	110.11 %	43.43 %	\$9,785,933.95
E10 - Equipment	25.59 %	10.84 %	\$744,399.13
E20 - Furnishings	25.00 %	4.63 %	\$42,643.28
G20 - Site Improvements	56.66 %	14.73 %	\$1,311,099.17
G40 - Site Electrical Utilities	33.33 %	0.00 %	\$0.00
Totals:	62.34 %	30.94 %	\$69,919,594.92

Condition Deficiency Priority

Facility Name	Gross Area (S.F.)	FCI %	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)
B601901;Central Field (Fieldhouse)	11,223	45.28	\$56,642.63	\$20,311.95	\$680,232.07	\$1,595,961.68	\$383,509.67
B605001;Girls	233,372	37.38	\$19,278,537.15	\$8,777,771.43	\$7,458,657.18	\$361,683.79	\$10,087,890.25
B640001;Widener	143,000	23.61	\$6,510,610.32	\$7,618,297.19	\$1,783,584.59	\$594,430.39	\$3,400,375.46
G605001;Grounds	864,800	10.35	\$0.00	\$477,633.75	\$833,465.42	\$0.00	\$0.00
Total:		30.94	\$25,845,790.10	\$16,894,014.32	\$10,755,939.26	\$2,552,075.86	\$13,871,775.38

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:	Fieldhouse
Gross Area (SF):	11,223
Year Built:	1956
Last Renovation:	
Replacement Value:	\$6,044,296
Repair Cost:	\$2,736,658.00
Total FCI:	45.28 %
Total RSLI:	58.58 %



Description:

Facility Assessment
July 2015

School District of Philadelphia
Central High School Field House
1401 W Somerville
Philadelphia, PA 19141

11,223 SF / 000 Students / LN 06

The Central High School Field House is identified as B601901. This facility is located at 1401 W Somerville Ave in Philadelphia, PA. The design of the rectangle-shaped, concrete and steel-framed building includes brick facades with a concrete foundation.

This facility serves as the locker rooms and sports center for the Central High School sports complex. Originally constructed in 1953 and consist of a Basement level and a single story with a total gross square footage of 11,223 GSF.

The information for this report was collected during a site visit on July 23, 2015.

Mr. Sean Romsdahl, Landscape Mechanic, accompanied the assessment team on a tour of the field house and site and provided detailed information on the building systems and maintenance history.

Architectural / Structural Systems

This slab on grade foundation is in good condition and expected to continue to have long service life. There are several issues related to this facility and the grounds that are covered in the Grounds section of this report.

There is significant cracking starting on the lower level that extends to the field level in several areas around the exterior. This cracking is exhibiting moisture penetration from the above level compounding such issues related to freezing and thawing. The expansion joints have failed and the soil from the field level is separating the structure at both the North and South ends. Such displacement is normally cause for a more detailed destructive structural analysis. A physical analysis of the load-bearing structural scheme is advised. This deficiency assumes that some structural reinforcement will be necessary to halt the movement. However, until that analysis is complete point and tuck work, expansion joint restoration and limited brick removal and replacement is recommended.

The exterior windows are a mix of the original industrial metal framed single pane applications. Some of the windows are operable while others no longer function. The exterior windows have exceeded the expected life cycle for this type of application. It is recommended that the exterior window system be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

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

The built up roof was reported to have been installed within the past twenty years. The roof is in very good condition with few exceptions. Currently there is an active leak that if not repaired soon will start to deteriorate the insulation and the integrity of this facility. This deficiency provides a budgetary consideration for built up roof repair for this section. Special consideration to coordinate the exterior projects in this report is recommended in order not to duplicate efforts.

Interior doors are typically metal in metal frames. The interior doors are generally in good condition considering the age of the application. However the Locker Room doors are damaged and universal upgrades are required. It is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system.

The interior finish is a basic painted or exposed CMU finish with concrete floors. Other than the recommended interior finish upgrades and wall corrections there are no additional recommendations at this time.

Serious consideration should be given to the current condition of the locker rooms and restrooms. This problem should be a top priority for the facility as undesirable biological growth was noted at drain covers and urinals. Thorough cleaning and decontamination of the facility is recommended to ensure safe conditions for students and staff.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals, and water closets. Lavatories have dual wheel handle faucets and urinals and water closets have manual lever flush valves. There is one trough type water closet, one cast iron service sink, and china drinking fountains with no refrigeration. There is a forty gallon electric Bradford Whitewater heater in the basement mechanical room with two small B&G inline circulating pump installed in 2005. There is no domestic water booster pump system. Showers in the locker areas are abandoned.

Water piping has been replaced since the original installation with copper. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron. Water service is a four inch line and meter in a pit adjacent to the building with no backflow preventer. Lavatories and water closets were replaced in 2005. Appearance and function indicate remaining service life of twenty five years. The water heater should be serviceable for ten or more years. The cast iron piping has exceeded the anticipated service life. Rainwater and vent piping should continue functioning, but the sanitary and waste piping should be inspected to determine condition and replace damaged portions. The domestic water piping appears to be mostly from the 2005 installation.

HVAC-Heating is generated by one Weil Mclain one hundred ninety five hp sectional cast iron low pressure steam oil fired boiler in the basement mechanical room. The boiler is Model 88 series 1 with Carlin burner and oil pumps. Boiler was installed approximately 2005. There is a Skidmore duplex pump condensate return unit with cast iron receiver, installed the same time. There is no boiler feed pump system nor chemical feed system. There is a combustion air louver and damper and a factory fabricated boiler stack into a brick chimney. There is five thousand gallon underground oil storage tank and no oil pump system.

Site Assessment Report - B601901;Central Field (Fieldhouse)

Spaces are heated by hot water unit heaters and radiation units. Hot water is generated by a shell and tube steam/water heat exchanger in the mechanical room. Two B&G inline pumps circulate heating water.

There is no air conditioning for the building. Mechanical exhaust is provided by four roof fans.

The boilers should remain serviceable twenty five more years. The steam and hot water piping, unit heaters and radiation are from original construction and should be replaced based on age and condition. The oil storage tanks have no record of testing or maintenance and should be inspected. The condensate return system is newer and should have remaining service of about twenty years.

FIRE PROTECTION--There are no sprinklers nor standpipes in this building.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company from an overhead utility line along W. Somerville Ave. Two 120/240V, 1 phase, 3 wire services are routed underground from two pole mounted transformers to the service entrance location in the Mechanical Room on the First Floor of the field house. The service entrance equipment consists of a current transformer cabinet, utility company meter and a 200A, 120/24V, 2 phase, 5 wire knife blade panelboard with exposed bus and cartridge type fuses, which sub-feeds a 100A knife blade panelboard. All equipment is original to the 1956 building and has exceeded its service life and needs to be replaced, since it is also a safety concern.

There are four (4) flush mounted 100A panelboards in the field house that were also installed in the original 1956 construction project and need to be replaced, three (3) on the First Floor and one (1) on the Second Floor.

Receptacles-- all wiring devices appear to be original and have exceeded their useful life and need to be replaced.

Lighting-- lighting fixtures throughout the building, including entrance corridors, locker rooms, restrooms, workrooms, mechanical spaces and stairs, are incandescent type, mainly shallow dome fixtures with A-lamps. All fixtures in the field house have exceeded their useful life, are energy inefficient and need to be replaced with either fluorescent or LED fixtures. Lighting levels in almost all areas are well below illumination levels recommended by the Illuminating Engineering Society of North America (IESNA).

There are lighting fixtures located at the exit discharge on both the First and Second Floors. Most of these fixtures are damaged and not operational. All exterior lighting fixtures above the exit doors need to be replaced. Exterior lighting is controlled by a time clock.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations located at the egress doors and bell notification appliances. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances. There is no identification on the fire alarm control panel (FACP) that is located on the First Floor. The system has exceeded its useful life and needs to be replaced to meet current NFPA codes and ADA.

There are no paging, sound, clock or video surveillance systems in the field house building.

Security Systems-- There is an 8-zone Honeywell security panel that is located on the First Floor near the west entrance. Five zones are active, three for motion sensors on the First Floor and two for motion sensors on the Second Floor. The security system has at least 5 years of useful life remaining.

Emergency Lighting / Exit Lighting-- There is no standby generator for the field house. There is also no emergency egress lighting fixtures or battery emergency lighting units. Incandescent exit signs are provided at exit doors, but have exceeded their useful life, and some are not illuminated. Additional directional exit signs also need to be provided in the locker room area.

Lightning Protection System --There is no lightning protection system for the field house.

Conveying Systems-- The building does not have an elevator.

GROUNDS SYSTEMS

Site Lighting-- Other than the lighting fixtures above the exit doors, there is no site lighting for the fields. For safety considerations, it is recommended that the exterior stairs on the south side of the building be illuminated from a building mounted floodlight.

RECOMMENDATIONS

Site Assessment Report - B601901;Central Field (Fieldhouse)

- Building wide cleaning
- Painted interior finish upgrade
- Wall Repair
- Interior door upgrade
- Roof upgrade
- Exterior doors
- Exterior windows

MECHANICAL

- Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Replace older plumbing fixtures, including trough urinal, shower heads and valves, and water coolers. Include fittings and trim.
- Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide ten fan coil units. Include new heat exchanger and pumps for hot water, piping, control valves and controls, to replace existing hot water heating system.
- Provide a thirty ton air cooled package chiller on the ground with pumps, piping and controls. Connect to new fan coil units and air handling units.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.

ELECTRICAL

- Replace service entrance equipment, including current transformer cabinet, meter and service entrance rated panelboards.
- Replace four (4) flush mounted 100A panelboards and their feeders.
- Replace all wiring devices, including convenience duplex receptacles and light switches, and associated branch circuit wiring.
- Replace all interior lighting fixtures with either fluorescent or LED fixtures.
- Replace all exterior building mounted lighting fixtures at exit doors.
- Replace fire alarm system.
- Provide emergency egress lighting with battery type emergency lighting units throughout the field house. Replace all exit signs.
- Provide building mounted LED floodlight on the south side of the building to light the exterior stairs.

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B601901
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S605001		

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	41.00 %	0.00 %	\$0.00
A20 - Basement Construction	41.00 %	0.00 %	\$0.00
B10 - Superstructure	41.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	46.25 %	34.95 %	\$482,157.93
B30 - Roofing	110.00 %	89.73 %	\$203,292.07
C10 - Interior Construction	51.80 %	110.24 %	\$76,954.58
C30 - Interior Finishes	39.33 %	20.30 %	\$74,512.65
D20 - Plumbing	73.80 %	45.69 %	\$125,111.01
D30 - HVAC	96.67 %	151.07 %	\$1,251,582.47
D40 - Fire Protection	105.71 %	137.82 %	\$160,552.14
D50 - Electrical	110.26 %	88.01 %	\$362,495.15
E10 - Equipment	34.16 %	0.00 %	\$0.00
E20 - Furnishings	25.00 %	0.00 %	\$0.00
Totals:	58.58 %	45.28 %	\$2,736,658.00

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.

Site Assessment Report - B601901;Central Field (Fieldhouse)

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	\$5.42	S.F.	11,223	100	1956	2056		41.00 %	0.00 %	41			\$60,829
A1030	Slab on Grade	\$17.93	S.F.	11,223	100	1956	2056		41.00 %	0.00 %	41			\$201,228
A2010	Basement Excavation	\$0.62	S.F.	5,000	100	1956	2056		41.00 %	0.00 %	41			\$3,100
A2020	Basement Walls	\$8.99	S.F.	5,000	100	1956	2056		41.00 %	0.00 %	41			\$44,950
B1010	Floor Construction	\$64.58	S.F.	11,223	100	1956	2056		41.00 %	0.00 %	41			\$724,781
B1020	Roof Construction	\$56.76	S.F.	6,000	100	1956	2056		41.00 %	0.00 %	41			\$340,560
B2010	Exterior Walls	\$112.94	S.F.	11,223	100	1956	2056		41.00 %	0.25 %	41		\$3,228.94	\$1,267,526
B2020	Exterior Windows	\$7.92	S.F.	11,223	40	1956	1996	2057	105.00 %	436.35 %	42		\$387,855.78	\$88,886
B2030	Exterior Doors	\$2.07	S.F.	11,223	25	1956	1981	2042	108.00 %	392.02 %	27		\$91,073.21	\$23,232
B3010105	Built-Up	\$37.76	S.F.	6,000	20	1995	2015	2037	110.00 %	89.73 %	22		\$203,292.07	\$226,560
C1010	Partitions	\$5.17	S.F.	11,223	100	1956	2056		41.00 %	97.62 %	41		\$56,642.63	\$58,023
C1020	Interior Doors	\$1.05	S.F.	11,223	40	1956	1996	2057	105.00 %	172.37 %	42		\$20,311.95	\$11,784
C3010230	Paint & Covering	\$12.84	S.F.	11,223	10	1956	1966	2022	70.00 %	51.71 %	7		\$74,512.65	\$144,103
C3020415	Concrete Floor Finishes	\$0.97	S.F.	11,223	50	1956	2006	2020	10.00 %	0.00 %	5			\$10,886
C3030	Ceiling Finishes	\$18.90	S.F.	11,223	25	1956	1981	2020	20.00 %	0.00 %	5			\$212,115
D2010	Plumbing Fixtures	\$14.10	S.F.	11,223	35	2005	2040		71.43 %	44.27 %	25		\$70,053.74	\$158,244
D2020	Domestic Water Distribution	\$6.64	S.F.	11,223	25	2005	2030		60.00 %	0.00 %	15			\$74,521
D2030	Sanitary Waste	\$3.66	S.F.	11,223	25	1956	1981	2042	108.00 %	134.04 %	27		\$55,057.27	\$41,076
D3020	Heat Generating Systems	\$4.94	S.F.	11,223	35	2005	2040		71.43 %	0.00 %	25			\$55,442
D3030	Cooling Generating Systems	\$7.51	S.F.	11,223	30			2047	106.67 %	213.82 %	32		\$180,217.60	\$84,285
D3040	Distribution Systems	\$36.27	S.F.	11,223	25			2042	108.00 %	204.05 %	27		\$830,609.93	\$407,058
D3050	Terminal & Package Units	\$11.60	S.F.	11,223	20	2005	2025		50.00 %	0.00 %	10			\$130,187
D3060	Controls & Instrumentation	\$13.50	S.F.	11,223	20			2037	110.00 %	158.90 %	22		\$240,754.94	\$151,511
D4010	Sprinklers	\$8.71	S.F.	11,223	35			2052	105.71 %	164.24 %	37		\$160,552.14	\$97,752
D4020	Standpipes	\$1.67	S.F.	11,223	35			2052	105.71 %	0.00 %	37			\$18,742
D5010	Electrical Service/Distribution	\$3.91	S.F.	11,223	30			2047	106.67 %	223.37 %	32		\$98,021.21	\$43,882
D5020	Lighting and Branch Wiring	\$23.92	S.F.	11,223	20	1956	1976	2037	110.00 %	62.15 %	22		\$166,842.56	\$268,454
D5030	Communications and Security	\$6.72	S.F.	11,223	15	1956	1971	2032	113.33 %	77.11 %	17		\$58,153.54	\$75,419
D5090	Other Electrical Systems	\$2.15	S.F.	11,223	20	1956	1976	2037	110.00 %	163.61 %	22		\$39,477.84	\$24,129
E1020	Institutional Equipment	\$42.18	S.F.	11,223	25	1956	1981	2024	36.00 %	0.00 %	9			\$473,386
E1090	Other Equipment	\$35.83	S.F.	11,223	25	1956	1981	2023	32.00 %	0.00 %	8			\$402,120
E2010	Fixed Furnishings	\$10.65	S.F.	11,223	40	1956	1996	2025	25.00 %	0.00 %	10			\$119,525
Total									58.58 %	45.28 %			\$2,736,658.00	\$6,044,296

System Notes

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

System:	C3010 - Wall Finishes	This system contains no images
Note:	Painted CMU wall finish 100%	
System:	C3020 - Floor Finishes	This system contains no images
Note:	Concrete floor finish 100%	
System:	D5010 - Electrical Service/Distribution	This system contains no images
Note:	There are no secondary transformers. There are no inventory items to record.	

Site Assessment Report - B601901;Central Field (Fieldhouse)

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:	\$2,736,658	\$0	\$0	\$0	\$0	\$284,371	\$0	\$194,952	\$560,333	\$679,428	\$369,150	\$4,824,892
* 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	\$3,229	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,229
B2020 - Exterior Windows	\$387,856	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$387,856
B2030 - Exterior Doors	\$91,073	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$91,073
B30 - Roofing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3010 - Roof Coverings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3010105 - Built-Up	\$203,292	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$203,292
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	\$56,643	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,643
C1020 - Interior Doors	\$20,312	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,312
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	\$74,513	\$0	\$0	\$0	\$0	\$0	\$0	\$194,952	\$0	\$0	\$0	\$269,465

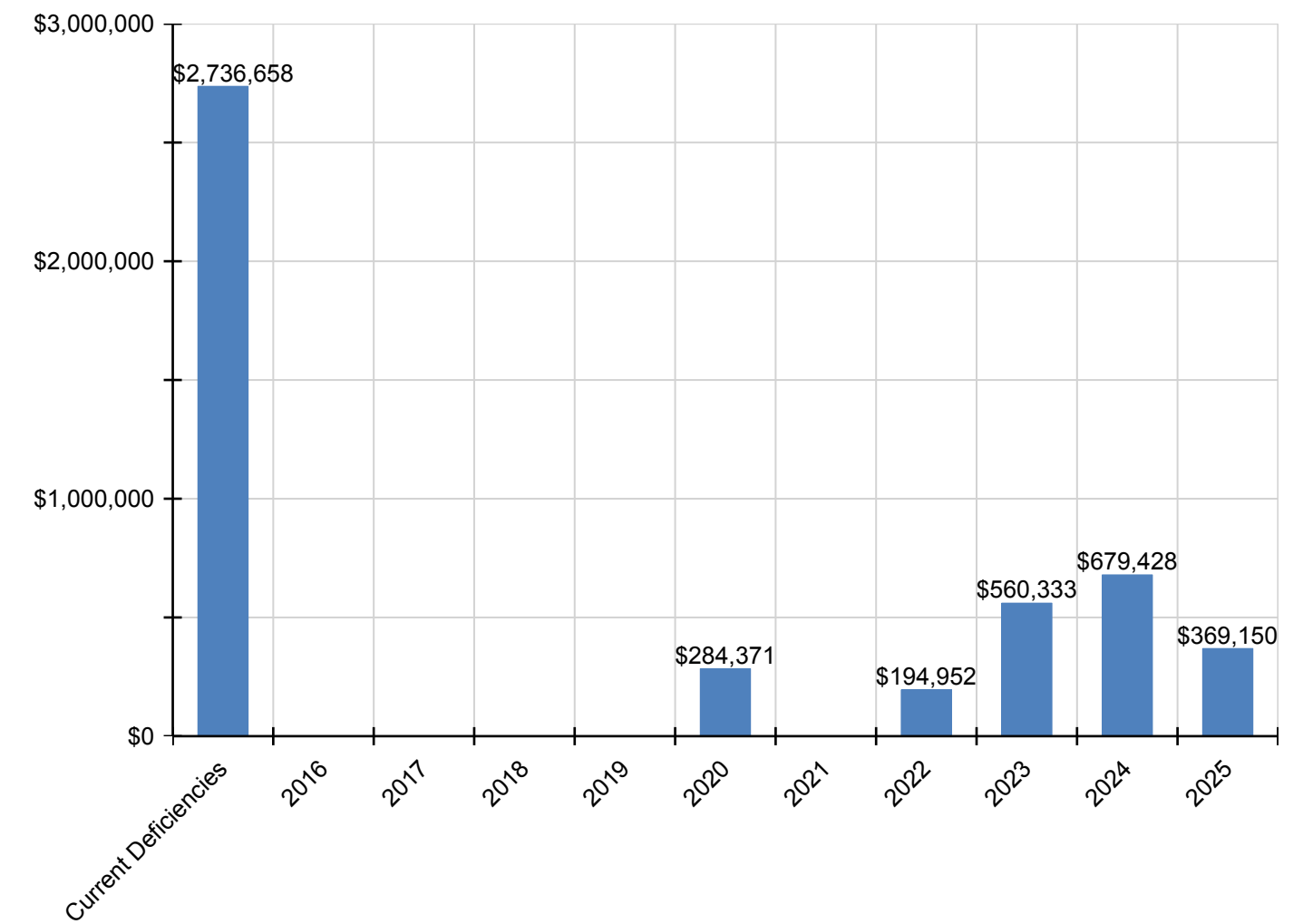
Site Assessment Report - B601901;Central Field (Fieldhouse)

C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$13,882	\$0	\$0	\$0	\$0	\$0	\$13,882
C3030 - Ceiling Finishes	\$0	\$0	\$0	\$0	\$0	\$270,489	\$0	\$0	\$0	\$0	\$0	\$270,489
D - Services	\$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	\$70,054	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70,054
D2020 - Domestic Water Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2030 - Sanitary Waste	\$55,057	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,057
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	\$0	\$0
D3030 - Cooling Generating Systems	\$180,218	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$180,218
D3040 - Distribution Systems	\$830,610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$830,610
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$192,456	\$192,456
D3060 - Controls & Instrumentation	\$240,755	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$240,755
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$160,552	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$160,552
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	\$98,021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$98,021
D5020 - Lighting and Branch Wiring	\$166,843	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,843
D5030 - Communications and Security	\$58,154	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$58,154
D5090 - Other Electrical Systems	\$39,478	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$39,478
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	\$679,428	\$0	\$679,428
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$560,333	\$0	\$0	\$560,333
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	\$176,694	\$176,694

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

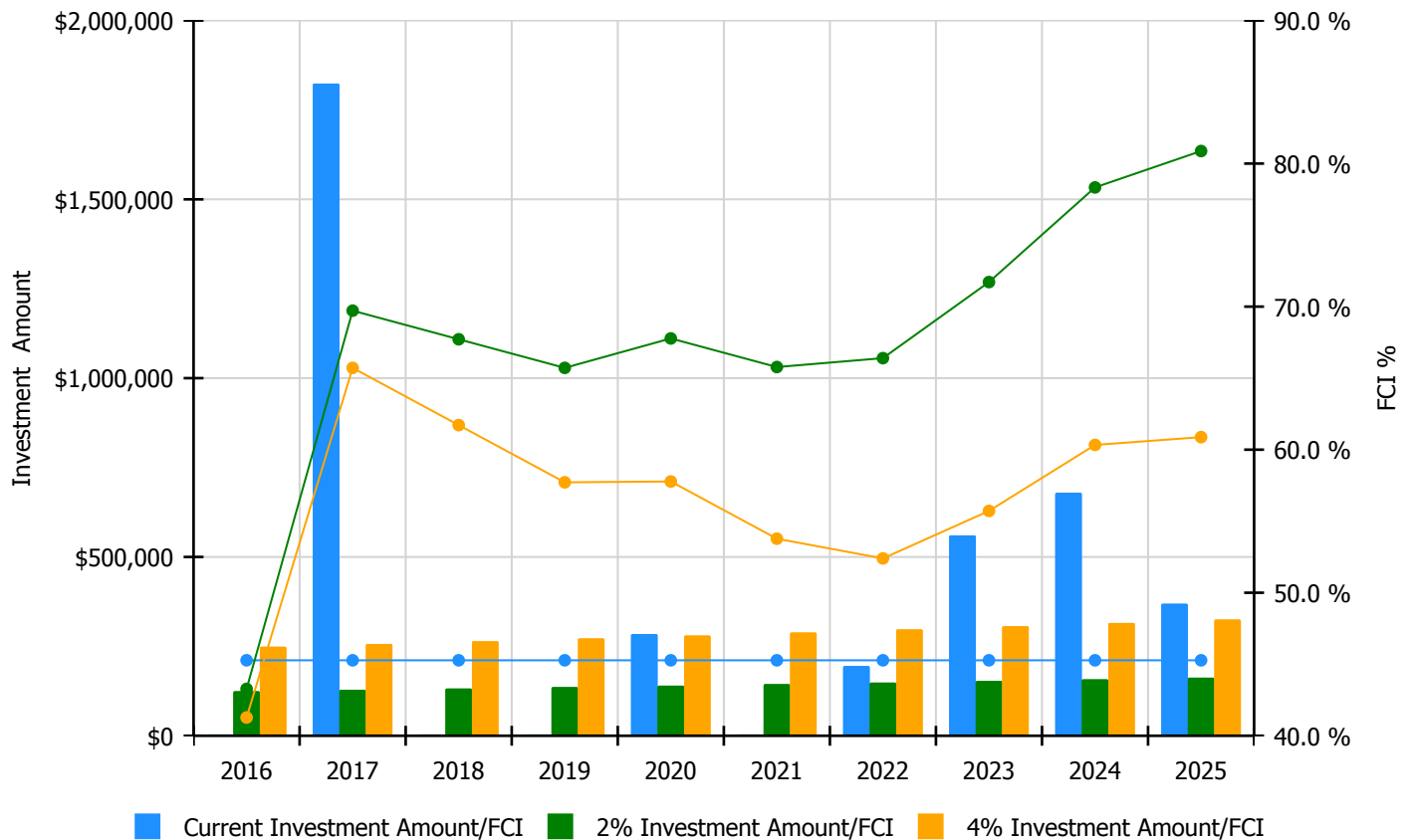


10 Year FCI Forecast by Investment Scenario

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

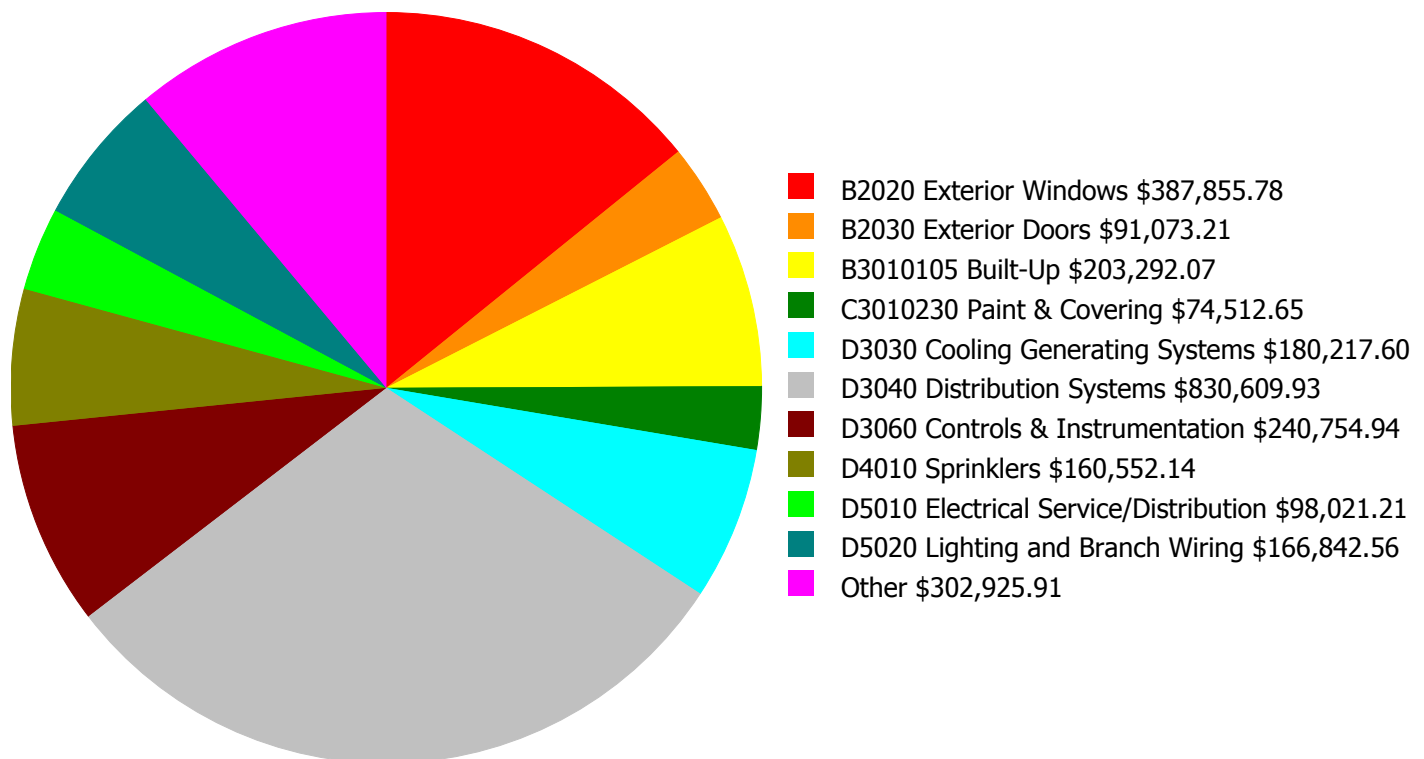
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 45.28%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$124,512.00	43.28 %	\$249,025.00	41.28 %
2017	\$1,823,739	\$128,248.00	69.72 %	\$256,496.00	65.72 %
2018	\$0	\$132,095.00	67.72 %	\$264,191.00	61.72 %
2019	\$0	\$136,058.00	65.72 %	\$272,116.00	57.72 %
2020	\$284,371	\$140,140.00	67.78 %	\$280,280.00	57.78 %
2021	\$0	\$144,344.00	65.78 %	\$288,688.00	53.78 %
2022	\$194,952	\$148,674.00	66.40 %	\$297,349.00	52.40 %
2023	\$560,333	\$153,135.00	71.72 %	\$306,269.00	55.72 %
2024	\$679,428	\$157,729.00	78.33 %	\$315,457.00	60.33 %
2025	\$369,150	\$162,461.00	80.88 %	\$324,921.00	60.88 %
Total:	\$3,911,973	\$1,427,396.00		\$2,854,792.00	

Deficiency Summary by System

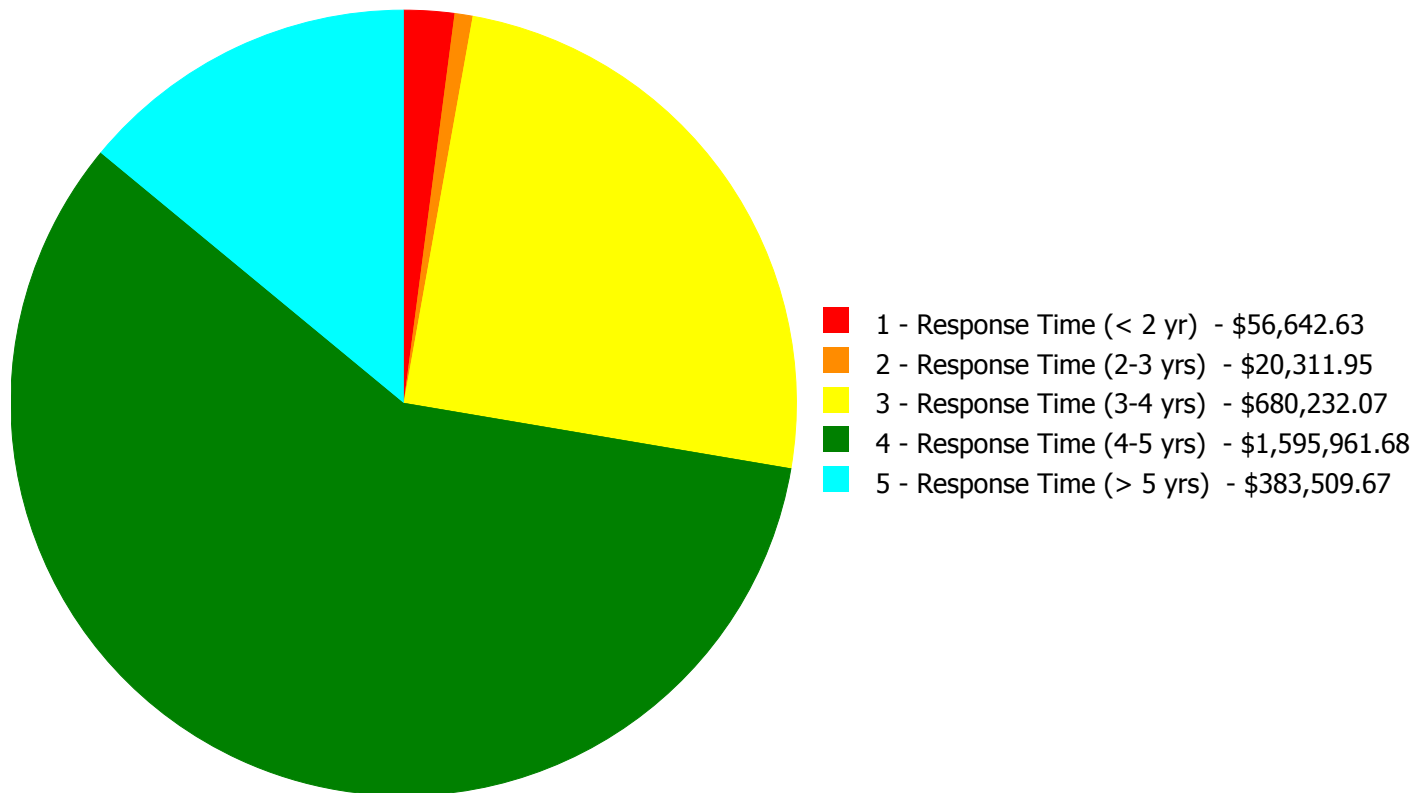
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$2,736,658.00

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: \$2,736,658.00

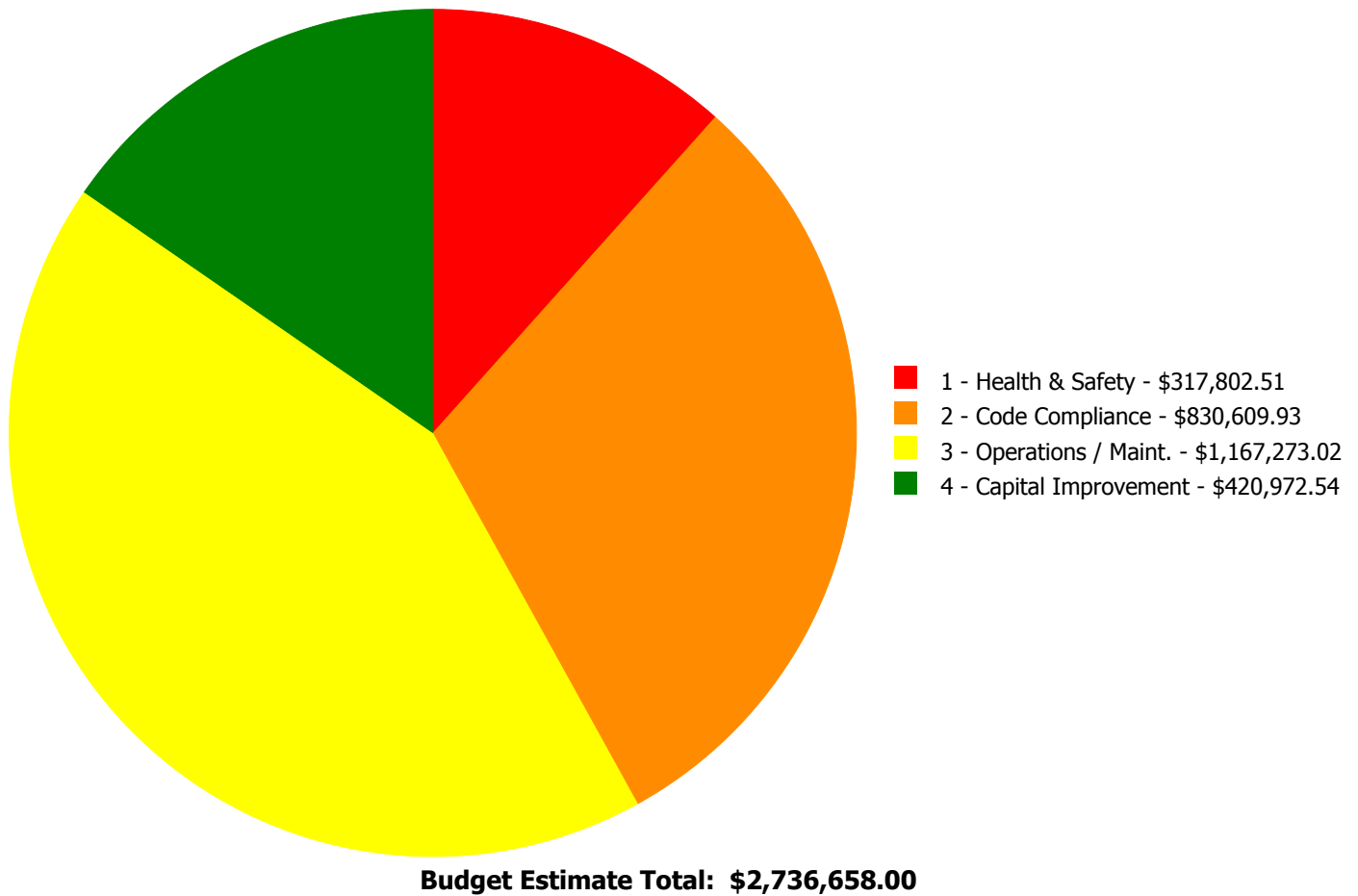
Deficiency By Priority Investment Table

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	\$3,228.94	\$0.00	\$0.00	\$3,228.94
B2020	Exterior Windows	\$0.00	\$0.00	\$0.00	\$387,855.78	\$0.00	\$387,855.78
B2030	Exterior Doors	\$0.00	\$0.00	\$0.00	\$91,073.21	\$0.00	\$91,073.21
B3010105	Built-Up	\$0.00	\$0.00	\$0.00	\$0.00	\$203,292.07	\$203,292.07
C1010	Partitions	\$56,642.63	\$0.00	\$0.00	\$0.00	\$0.00	\$56,642.63
C1020	Interior Doors	\$0.00	\$20,311.95	\$0.00	\$0.00	\$0.00	\$20,311.95
C3010230	Paint & Covering	\$0.00	\$0.00	\$74,512.65	\$0.00	\$0.00	\$74,512.65
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$27,362.28	\$42,691.46	\$0.00	\$70,053.74
D2030	Sanitary Waste	\$0.00	\$0.00	\$55,057.27	\$0.00	\$0.00	\$55,057.27
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$180,217.60	\$180,217.60
D3040	Distribution Systems	\$0.00	\$0.00	\$0.00	\$830,609.93	\$0.00	\$830,609.93
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$240,754.94	\$0.00	\$240,754.94
D4010	Sprinklers	\$0.00	\$0.00	\$160,552.14	\$0.00	\$0.00	\$160,552.14
D5010	Electrical Service/Distribution	\$0.00	\$0.00	\$98,021.21	\$0.00	\$0.00	\$98,021.21
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$163,866.20	\$2,976.36	\$0.00	\$166,842.56
D5030	Communications and Security	\$0.00	\$0.00	\$58,153.54	\$0.00	\$0.00	\$58,153.54
D5090	Other Electrical Systems	\$0.00	\$0.00	\$39,477.84	\$0.00	\$0.00	\$39,477.84
	Total:	\$56,642.63	\$20,311.95	\$680,232.07	\$1,595,961.68	\$383,509.67	\$2,736,658.00

Deficiency Summary by Category

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

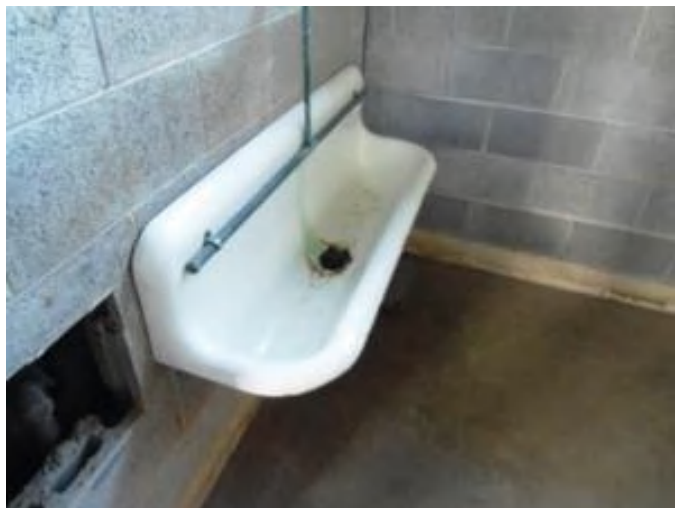


Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: C1010 - Partitions



Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Building Wide Cleaning

Qty: 1.00

Unit of Measure: LS

Estimate: \$56,642.63

Assessor Name: System

Date Created: 09/25/2015

Notes: Serious consideration should be given to the current condition of the locker rooms and restrooms. This problem should be a top priority for the facility as undesirable biological growth was noted at drain covers and urinals. Thorough cleaning and decontamination of the facility is recommended to ensure safe conditions for students and staff.

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

System: C1020 - Interior Doors



Location: Locker Room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace hollow metal frames and doors

Qty: 4.00

Unit of Measure: Ea.

Estimate: \$20,311.95

Assessor Name: System

Date Created: 09/25/2015

Notes: Interior doors are typically metal in metal frames. The interior doors are generally in good condition considering the age of the application. However the Locker Room doors are damaged and universal upgrades are required. It is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system

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

System: B2010 - Exterior Walls



Location: Exterior Elevation Basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: S.F.

Estimate: \$3,228.94

Assessor Name: System

Date Created: 09/25/2015

Notes: There is significant cracking starting on the lower level that extends to the field level in several areas around the exterior. This cracking is exhibiting moisture penetration from the above level compounding such issues related to freezing and thawing. The expansion joints have failed and the soil from the field level is separating the structure at both the North and South ends. Such displacement is normally cause for a more detailed destructive structural analysis. A physical analysis of the load-bearing structural scheme is advised. This deficiency assumes that some structural reinforcement will be necessary to halt the movement. However, until that analysis is complete point and tuck work, expansion joint restoration and limited brick removal and replacement is recommended.

Site Assessment Report - B601901;Central Field (Fieldhouse)

System: C3010230 - Paint & Covering



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 11,000.00

Unit of Measure: S.F.

Estimate: \$74,512.65

Assessor Name: System

Date Created: 09/25/2015

Notes: There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

System: D2010 - Plumbing Fixtures



Location: toilet room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 4.00

Unit of Measure: Ea.

Estimate: \$27,362.28

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace older plumbing fixtures, including trough urinal, shower heads and valves, and water coolers. Include fittings and trim.

System: D2030 - Sanitary Waste



Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$55,057.27

Assessor Name: System

Date Created: 09/10/2015

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

System: D4010 - Sprinklers



Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$160,552.14

Assessor Name: System

Date Created: 09/10/2015

Notes: Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.

System: D5010 - Electrical Service/Distribution



Location: Mechanical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$50,332.19

Assessor Name: System

Date Created: 08/14/2015

Notes: Replace service entrance equipment, including current transformer cabinet, meter and service entrance rated panelboards.

System: D5010 - Electrical Service/Distribution



Location: Floors 1 and 2

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard

Qty: 4.00

Unit of Measure: Ea.

Estimate: \$47,689.02

Assessor Name: System

Date Created: 09/28/2015

Notes: Replace four (4) flush mounted 100A panelboards and their feeders.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$110,488.44

Assessor Name: System

Date Created: 08/15/2015

Notes: Replace all interior lighting fixtures with either fluorescent or LED fixtures.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$40,601.74

Assessor Name: System

Date Created: 08/15/2015

Notes: Replace all wiring devices, including convenience duplex receptacles and light switches, and associated branch circuit wiring

System: D5020 - Lighting and Branch Wiring



Location: Building Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 12.00

Unit of Measure: Ea.

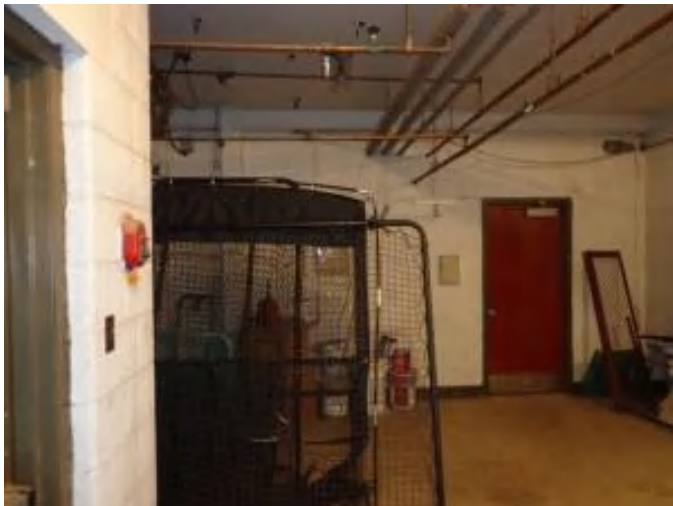
Estimate: \$12,776.02

Assessor Name: System

Date Created: 08/15/2015

Notes: Replace all exterior building mounted lighting fixtures at exit doors.

System: D5030 - Communications and Security



Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$58,153.54

Assessor Name: System

Date Created: 08/15/2015

Notes: Replace fire alarm system.

System: D5090 - Other Electrical Systems



Location: Entire Building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Add Emergency/Exit Lighting

Qty: 20.00

Unit of Measure: Ea.

Estimate: \$39,477.84

Assessor Name: System

Date Created: 08/15/2015

Notes: Provide emergency egress lighting with battery type emergency lighting units throughout the fieldhouse. Replace all exit signs.

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

System: B2020 - Exterior Windows



Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

Estimate: \$387,855.78

Assessor Name: System

Date Created: 09/25/2015

Notes: The exterior windows are a mix of the original industrial metal framed single pane applications. Some of the windows are operable while others no longer function. The exterior windows have exceeded the expected life cycle for this type of application. It is recommended that the exterior window system be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: B2030 - Exterior Doors



Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 10.00

Unit of Measure: Ea.

Estimate: \$91,073.21

Assessor Name: System

Date Created: 09/25/2015

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

System: D2010 - Plumbing Fixtures



Location: locker rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace shower valve and shower head including disruption and replacement of finishes

Qty: 12.00

Unit of Measure: Ea.

Estimate: \$42,691.46

Assessor Name: System

Date Created: 09/14/2015

Notes: Replace older plumbing fixtures, including trough urinal, shower heads and valves, and water coolers. Include fittings and trim.

System: D3040 - Distribution Systems



Location: entire building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide classroom FC units and dedicated OA ventilation system. (20 clsrms)

Qty: 10.00

Unit of Measure: C

Estimate: \$830,609.93

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide ten fan coil units. Include new heat exchanger and pumps for hot water, piping, control valves and controls, to replace existing hot water heating system.

System: D3060 - Controls & Instrumentation



Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$240,754.94

Assessor Name: System

Date Created: 09/10/2015

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

System: D5020 - Lighting and Branch Wiring



Location: Exterior Stairs south side

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Add Lighting Fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$2,976.36

Assessor Name: System

Date Created: 08/15/2015

Notes: Provide building mounted LED floodlight on the south side of the building to light the exterior stairs.

Priority 5 - Response Time (> 5 yrs):

System: B3010105 - Built-Up



Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: \$203,292.07

Assessor Name: System

Date Created: 09/25/2015

Notes: The built up roof was reported to have been installed within the past twenty years. The roof is in very good condition with few exceptions. Currently there is an active leak that if not repaired soon will start to deteriorate the insulation and the integrity of this facility. This deficiency provides a budgetary consideration for built up roof repair for this section. Special consideration to coordinate the exterior projects in this report is recommended in order not to duplicate efforts.

System: D3030 - Cooling Generating Systems



Location: exterior, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 11,223.00

Unit of Measure: S.F.

Estimate: \$180,217.60

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide a thirty ton air cooled package chiller on the ground with pumps, piping and controls. Connect to new fan coil units and air handling units.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 3820 MBH, includes standard controls and insulated flush jacket, packaged	1.00	Ea.	mechanical room	weil mclain	88 series 1			35	2005	2040	\$67,020.00	\$73,722.00
												Total:	\$73,722.00

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:	High School
Gross Area (SF):	233,372
Year Built:	1956
Last Renovation:	
Replacement Value:	\$122,981,577
Repair Cost:	\$45,964,539.80
Total FCI:	37.38 %
Total RSLI:	64.66 %



Description:

Facility Condition Assessment
December 2015

School District of Philadelphia
Philadelphia High School for Girls
1400 W. Olney Avenue
Philadelphia, PA 19141

233,372 SF / 1,200 Students / LN 07

Philadelphia High School for Girls is located at 1400 West Olney Avenue. The main entrance faces W. Olney Avenue. This school was constructed in 1956, has 233,372 square feet, and is 3-4 stories tall. The students that attend this school are only girls and they must apply and receive acceptance. There is a basement under the north side of the building, facing The Widener School. Girls High School and Widener share the same driveway entrance and exits onto West Olney Avenue and Ogontz Avenue. Tom Coleman, the Building Engineer accompanied the team during the building inspection.

The inspection team met with Principal Dr. Moore at the time of field inspection. In particular, she indicated that there is a serious leak in the cafeteria manager's office (front of the building) that leaks in large quantities of water during rain storms. Possibly related to the foundation leaks is some outside grade settlement around the front stairs, creating depressions along the foundation that collect water when it rains. Additionally, there are ground hogs that create holes in the ground outside the building. The front doors have deteriorated to the point that they are difficult to open. Inside Stairway 3, bricks/blocks have fallen out of the wall. Lighting through

the building is uneven and dark in many areas. Heating throughout the building is also uneven; hot on the south side and cold on the north side. The dance classroom is getting a new floor because the old one was ruined in a plumbing flood. Windows were replaced 8-10 years ago but many of them still don't operate easily; it was suggested that the District follow up with the window manufacturer since there is probably a product warranty that will be in effect that can be used to help repair the poorly functioning units.

ARCHITECTURAL/STRUCTURAL SYSTEMS

Foundations in the boiler room (basement) appear to be constructed of concrete. Joints are in good condition with no major settlement cracks observed in any area. There are areas of peeling paint and spalling concrete along many sections of walls and ceilings. It is thought that water is seeping through the walls because of grading issues along the outside of the foundation walls, causing water to collect, then seep into the foundation. Flooding has occurred in the Cafeteria Manager's office, at the Ground floor level (below grade), making this and other adjacent rooms along the wall unusable. Window wells on the wall facing W. Olney Avenue are also problematic as they fill up with water and leak into the basement. Footings were not seen and their construction type or condition could not be ascertained.

Floor slabs in the boiler room and other mechanical rooms are dirty but in good condition. Outside the boiler room, basement slabs are in good condition without any major cracks or settlement. Upper floor slabs are also constructed of cast-in-place concrete with cast-in-place concrete beams. Columns, beams and floor deck above where observed also appeared to be in good condition.

Roof construction is composed of expansive flat, minimum overall slope areas at different levels over the different areas of the building. The roof superstructure over most of the building (three-story classroom areas) is constructed of reinforced concrete columns, beams, and floor slabs. The roof over the gymnasium is constructed of a steel truss system with a concrete plank roof deck on top. The auditorium roof system was not seen during the inspection, but it is assumed to be the same design as the gym roof, since the space is completely open and roughly the same size as the gym. Roof drains are located at low areas of the roof with minimum pitched surfaces to the drains. There are two expansion joints in the main roof. They are in good condition where crossing the roof decks, but where the expansion joints continue up the parapet walls, gaps can be seen where sealant has failed.

Exterior brick walls and lintels on the outside of the building are generally in good condition. It appears as if many areas have been repointed. Despite the recent repairs, there are cracks in brick joints and limestone panels. There is a horizontal joint crack on the back auditorium wall facing Broad Street. There is a vertical crack running up the side of the building through bricks and joints, at the northeast corner of the three-story section of the building. Some lintels above the windows set in brick facing the rear parking area need to be recaulked or pointed. The top of the furnace flue has cracks and needs to be pointed. Limestone panels facing W. Olney Avenue are chipped and some need to be re-grouted. Expansion joints that occur in brick need to be inspected and recaulked since caulking is aging and cracking in some locations. All old brick (sections that were not recently repointed) and all limestone panels, sills, and heads need to be power washed to remove isolated areas of graffiti, efflorescence, and dirt.

Exterior windows were replaced in the 8-10 years ago (approximately) with white aluminum frame operable single hung units with double pane insulated glazing. Windows are in good condition, although some are difficult to operate; since the windows are still relatively new, the District should contact the window manufacturer or the installing contractor to see if the issue can be solved under warranty. Clerestory windows in the gym are accessed by a steel ladders and platforms that are damaged. Approximately 200 windows have missing or broken screens that should be replaced.

Exterior doors are painted steel framed flush hollow metal units with steel frames. The main entrance has a two-story, 10 column colonnade portico, with 3 pairs of entrance doors. All doors are hollow metal with steel frames; front doors have divided lite half glass vision panels (single glazed) and the other entrance/exit doors have narrow lite vision panels. Doors are in poor condition, have broken or non-functioning panic hardware, rusted dented panels and door frames, and are not ADA compliant. All doors and hardware should be replaced. There is a wheelchair accessible ramp and handrail into the rear entrance to adjacent to the loading dock area. This is the only practical accessible entrance due to the low grade elevation of sidewalks around the building. Better signage indicating the Accessible Route leading to this entrance is required. The three overhead doors into the loading / receiving area are damaged and in need of replacement.

Roof covering on the main building flat roof is a fully adhered rolled asphalt sheet with light gray granules set into the membrane surface. The membrane and flashing appear to be in good condition; no roof leaks have been reported. There were no areas of cracking observed along flashing set into brick or at the base of mechanical equipment. There are overflow openings in the brick parapets to prevent deep flooding of the roof if drains become clogged. Roof openings include toilet room vents, ventilation ductwork, and roof drains. Brick rooftop structures, brick parapets, and ventilation fan structures are flashed with the same roofing membrane material. Parapet flashing is terminated into brick joints with aluminum counterflashing inserted into the brick over the insertion and sealed with caulking along the top edge. Some dark dirt/mildew areas can be seen around some roof drains, indicating pooling water that is evaporating instead of draining into roof drains. This is the case on the sections of roof over the auditorium lobby and the chorus room are located under large trees and at the time of inspection that were covered in leaves. The leaves could block roof

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drains and cause leaks into the spaces below. Frequent and diligent maintenance is required to keep this system draining the collected water. All roof drains should be cleaned out to improve drainage.

Partitions in basements are constructed of glazed block and concrete. The ground floor and upper 3 floors of the building have glazed block wainscots and painted block or plain painted block. The ground floor rooms adjacent to the cafeteria designated as Art and Childcare rooms have manually operated full height folding partition walls. It appears that some of these moveable wall systems are still operational, although the rooms may not be used. Folding walls occur in a few other classrooms; their condition appeared to be satisfactory. The large (19'x80') folding partition utilized to subdivide the gymnasium is damaged and no longer operates; it should be repaired to allow for two separate gym classes to occur at the same time. The 6 music practice rooms have sound attenuating walls, constructed of wood studs, batt insulation and 12"x12" acoustical tiles, stapled to the studs. These partitions have been damaged by students and need to be rebuilt. Partitions in the auditorium lobby and main entrance lobby areas are constructed of a pink marble veneer. This material is in excellent condition with no visible damages.

Interior classroom doors are the original oak wood and plate glass (not fire rated or wired) flush doors with the original door hardware. Some wood doors have half or three-quarter height vision panels; some have small non-wired glass vision panels. Any wood door without a UL approved wired glass or UL approved glazing unit do not meet today's fire codes and need to be replaced with UL approved systems. Many doors have damaged panels, broken glass, and broken hardware. Some interior basement doors and most interior stairway doors are steel panel doors in metal frames. Some stairway doors are full wired glass which does not comply with today's building codes, exceeding the allowable size of wired glass in fire rated doors; some doors are half height wired glass which might comply with fire codes, if the door is of UL approved construction. Stairway doors do not have positively latching hardware. Many steel doors and frames are rusted where coming in contact with floors, due to cleaning solutions corroding the frames. Doors are generally in poor condition throughout the building, are not ADA compliant, do not have ADA or proper locking hardware, do not positively latch (they do not have panic or latching hardware) as required of fire rated doors and do not comply with the code required fire rating requirements as stated by today's codes. Existing corridor doors do not have security locking feature that permits locking from inside classrooms in a security lock-down situation. Corridor doors also required to be fire rated since the building is not sprinklered and are required to have closers. All interior doors and door hardware need to be replaced.

Interior fittings/hardware include black slate chalkboards with oak chalk trays and frames or metal trays and frames. Some classrooms have bulletin boards. White boards should be provided to replace old blackboards and chalk. Some toilet rooms have new solid plastic HDPE (high density polyethylene) replacement partitions and doors, but most have painted steel partitions and doors supported from a structure above the ceiling. Toilet room accessories (toilet paper dispensers, soap, paper towel or dryers, grab bars, door latches) have been recently replaced in most toilet rooms, however some components are missing and others are not fully functional. Provisions for accessibility should be made wherever possible. Missing and broken toilet room accessories should be replaced. The toilet rooms in the main entrance lobby have HDPE lavatory counters with stainless steel sinks but the original marble toilet partitions; they might be in good enough condition to remain as relics, if they are sturdy enough. Steel lockers line many corridors on each floor; they have the original factory painted finish and are in fair condition. Girls' and Boys' Cafeterias have folding portable plastic laminate table/chair units.

Stair construction throughout the building consists of concrete treads with steel nosings, steel risers, and steel stringers with clear anodized aluminum handrails (31" high), guards (41" high), and aluminum balusters with 3" spacing. Handrail and guard heights are not in compliance with today's codes, however, being a few inches less than the required heights might be acceptable to a building official as an existing but non-conforming installation. The Philadelphia building department should be consulted as to the possible need for modifying the handrails and guards. The stairs themselves are in good condition in need only of cleaning and paint.

Wall finishes are either marble, glazed block, or painted block throughout the building. There are isolated cracks in the glazed block (in the cafeteria) and some damaged surfaces of painted block that should be repaired, but no major cracked or damaged areas were seen. Corridors and toilet rooms have a light turquoise glazed block wainscot 6ft- 8in tall in good condition; stairways have full height glazed block. Joints on most glazed block are in need of cleaning along the bottom where coming in contact with the floor and in a number of other places; glazed block joints are dirty in toilet rooms. Glazed block in two stairways was damaged and replaced by block and plywood; these areas should be repaired with matching glazed block. Stained wood wainscot in the auditorium has minor damages that should be repaired by refinishing the damaged areas.

Floor finishes in the building consist mostly of VAT (vinyl asbestos tile). Most classrooms, the cafeteria, music practice rooms, chorus room, and auditorium have VAT. These and other rooms with either 12"x12" or 9"x9" VAT are worn, have damages and cupped edges; (the 12"x12" tiles are assumed to be a less common form of VAT, but could be VCT). All floor tiles suspected of being vinyl asbestos tiles should be tested for the presence of asbestos. If present, the tiles should be removed using proper asbestos abatement procedures and replaced with 12"x12" VCT. The 12x12 tiles that are vinyl VCT tiles should be removed and replaced with new VCT, as most rooms with these old VCT tiles are damaged. The food service area has been refinished in 12"x12" tiles that appear to be VCT (non-asbestos); the kitchen floor is quarry tile, which although is highly durable, has been stained by repetitive water leaks from the foundation leaks discussed above. Wood floors in the gymnasium are in good enough condition to be stripped, sanded, and

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refinished; some planks will need to be replaced as they are warped or broken. The wood floor in the dance classroom was being replaced at the time of inspection, as it had been previously damaged by a plumbing leak. The lobby floors in the main entrance and the auditorium entrance and queuing spaces are finished in 1'x2' marble tiles. Toilet room floors are exposed concrete with a sealed floor finish. These floors are very dirty; a thorough cleaning and resealing of these floors is required.

Ceiling finishes are either 12"x12" tongue and groove acoustical tile or exposed painted concrete deck with surface mounted or suspended fluorescent lighting fixtures throughout the building. Corridors utilize the 12"x12" acoustical tiles; in many locations, tiles are broken, missing or water damaged and need to be replaced. Painted 12"x12" tiles are in fair condition and can be touched up with paint where damaged. The cafeteria has a 1'x4' suspended perforated metal acoustical tile ceiling system dented, discolored, and in poor condition. The auditorium and the auditorium lobby have 12"x12" tongue and groove acoustical tile ceilings that look like they have been painted to improve the appearance; some are damaged and need to be replaced. The boys and girls gymnasiums have exposed structural joists and concrete deck ceilings. The trusses and roof deck are in good condition.

Furnishings in the building include folding wood seating for 1066 in the auditorium which is in good condition; a few isolated seats are scratched or worn. The broken seating should be repaired and the worn seating should be refinished. Student lockers throughout the building are recessed into most corridor walls; most need to be repainted. Student lockers in gymnasium locker rooms (more than 2000 mostly half-height lockers) are also in need of repainting, however it is understood that they are no longer fully utilized, therefore the District needs to determine the most appropriate number to repaint. Bleachers (5 sets of 7 risers, each) in the gymnasium are collapsible-type. At the time of inspection they were in the collapsed position and their condition could not be ascertained; no problems were reported by engineering. There are at least 11 science lab classrooms (not all were inspected); Room 303 was completely renovated and is in excellent condition. Some were partially renovated years ago. In general, those remaining 9-10 science labs need to be renovated with new lab furniture, fume hoods and benchtops. Natural gas provided to gas jets in the lab benches has been shut off at the main header due to leaky valves and piping. Library book cases and furniture is constructed of oak, in good condition.

There are two elevators located in this school. The 8000lb freight elevator is a 6 stop elevator servicing the boiler room in the sub-basement, basement, ground, first, second and third floors. It is reported to be operating with minimal breakdowns. The second elevator, a passenger-type, is located outside the cafeteria and serves the ground, first, second, and third floors. The cabs in both elevators should be refreshed with the latest ADA accessibility features such as lower button panels, chimes, floor numbers on jambs, and visual, audio, and tactile call notifications.

MECHANICAL SYSTEMS

Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. The gym has drinking fountains and cuspidors on either side. The fixtures appear in good repair and generally provide reliable service. However, the older units should be replaced with low flow fixtures as part of any renovation of the spaces.

The original wall hung china drinking fountains are still in service in the corridors and the Cafeteria. A few have been replaced by stainless steel wall hung units with integral refrigerated coolers. The original drinking fountains are well beyond their service life and should be replaced; most are NOT accessible type.

A wall hung service sink is available on each floor for use by the janitorial staff. The Cafeteria has two three compartment, stainless steel sinks with lever operated faucets and grease traps. Chemicals are injected manually into the sanitizing basin.

A 4" city water service enters the boiler room on the basement level from Olney Avenue. The meter and valves are located in the room. A reduced pressure backflow preventer should be installed on the main service. The original domestic hot and cold water distribution piping was installed in 1956 with 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. However, the domestic water piping is well beyond its service life and should be replaced to maintain reliable service.

A 4" natural gas service enters the boiler room on the subbasement level from Olney Avenue. The firm and interruptible meters and valves are located along the outside wall of the room.

Hot water for domestic use was originally supplied by two large horizontal tanks in the subbasement boiler room each with a steam immersion tube bundle heating element. Those units have been abandoned in place. Two (2) 1,000 Mbh gas-fired (atmospheric) hot water boilers installed in 1998 in the mezzanine boiler room now supply domestic hot water. Each boiler is paired with a 75 gallon insulated vertical hot water storage tank. They are equipped with T&P relief valves, but have no expansion tanks. Copper fin hot water boilers have an anticipated life of 24 years or more; these units have been in operation for nearly 20 years and should provide reliable

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service for the next 5-10 years.

The small sewage ejector pit with two self-priming pumps located in subbasement boiler room receives waste from the drains in that area. The pumps appear beyond their anticipated life and should be replaced to maintain reliable service.

The original sewer discharges to Olney Avenue and combines sanitary wastes and storm drainage. Piping is galvanized steel with threaded fittings. Sections of pipe have been replaced using cast iron pipe with hub less fittings joined with banded couplings. Roof drain leaders run through the building and connect to the underground sewer system. However, these piping systems have been in service for more than 60 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 and storm drain piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

The original stoker fired coal boilers and associated equipment installed in the subbasement boiler room have been abandoned in place. Low pressure steam is now generated at 15 lbs/sq. in. or less by three (3) 235 HP HB Smith cast iron sectional boilers installed in 1996 in a boiler room on the mezzanine level. Each boiler is equipped with its original Industrial Combustion power burner designed to operate on natural gas and fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with solid state flame sensing, pressure atomization on oil and natural gas pilot ignition. Burner oil pumps are loose and not driven by the fan motor. The oil supply to the burner is equipped with dual solenoid valves and strainer, but does not have a disposable media filter. The breeching for each boiler is equipped with an induced draft fan mounted at the outlet from the smoke box intended to maintain positive draft. The gas train serving each boiler appears 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; these units have been in service more than 20 years. These boilers should provide reliable service for the next 5-10 years.

The reserve oil supply is stored in a single wall, steel tank located in the old coal ash bunker. It is not equipped with automatic leak detection and monitoring. Duplex pumps located adjacent to the tank bunker circulate oil through the system. The current supply of oil should be tested for quality on a regular schedule. Oil storage tanks have an anticipated service life of 20 years. The District should budget for replacing this tank with an aboveground concrete-encased tank in the next few years.

The condensate receiver tank and boiler feed pump assembly was replaced 2010. It collects condensate pumped from receiver sets located in other parts of the building. At least one of those receiver pump sets should be scheduled for replacement in the next few years.

Steam piping is black steel (ASTM A53) with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping supplies the mains from the basement level that run up through the building to the heating coils in the air handling units and heating terminals on the 3rd floor. The original distribution piping installed in 1956 has been in service more than 60 years 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 steam and condensate 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 10 years.

Unit ventilators provide heating and ventilation for the classrooms, the Main Office, the IMC, and the Cafeteria. Most are the original Nesbitt units installed in 1956 and are equipped with steam coils, mixing dampers and coil bypass dampers that allow operation on full outdoor air. Classrooms at the corners of the building and other larger spaces have day/night thermostats for temperature reset. The air intake for these units is ducted directly through the wall from outdoor louvers. Excess air supplied by the unit ventilators transfers to the corridor ceiling through wall grilles above the door and relieves to the outdoors through gravity hoods on the upper level. Exhaust from the restrooms is made up by air transferred from the corridors through louvers in the doors. These conditions do not meet requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path. The original unit ventilators have been in service for more than 60 years. They are well beyond their anticipated service life and should be scheduled for replacement. The new units should be designed for quiet operation and equipped with hot water and chilled water coils, and integral air-to-air heat exchanger to supply code required minimum outdoor air ventilation.

A series of air-cooled screw chillers should be installed on the roof with pumps located in the boiler room and chilled water distribution piping to supply reliable air conditioning for the building. A pair of steam converters and centrifugal pumps should be installed in the boiler to supply the new unit ventilators and radiation terminals throughout the building.

Three original heating and ventilating units are located in the Ground Floor mechanical room: one serves the Locker rooms and the other two serve the Gym. The Auditorium is supplied by a field fabricated unit located in the mechanical room on the Ground Floor below. These units are equipped with mixing dampers, heating coils with face and bypass dampers, and a draw through fan with an

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external motor and belt guard that does not comply with OSHA guidelines. The District should consider replacing these air handling units with new units equipped with economizer dampers and chilled water cooling coils; insulation should also be added to the associated supply ductwork systems. In addition, the unit ventilators should be removed and new air handling units installed to serve the IMC, the Main Office, and the Cafeteria.

Power roof ventilators manually controlled by a time clock exhaust air from the restrooms. Utility blowers hung from the structure have been installed in several of the restrooms connected to exhaust louvers directly through the outside wall.

The kitchen has two exhaust hoods above the cooking equipment, but does not have gas-fired a makeup air system.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Pneumatic control air is supplied from the compressors and dryer 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, dampers and pneumatic actuators are over 60 years old and should be rebuilt or replaced. These controls should be converted to DDC.

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.

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.

ELECTRICAL SYSTEMS

The main service switchgear, rated 13.2kV, 1200A, is installed in the Main Electrical Room located in the west side of the building. It has two sets of 13.8 KV bus sections and each bus section receives power from different power source. Each bus section is provided with two 600A load breaker switch, one for incoming and one for outgoing feeder. The switchgear has an operational logic that one disconnect switch is always in closed position and the other on open position. The switch position is changed manually whenever power is lost on either side of the bus. Utility meters are installed in a separate enclosure adjacent to the switchgear assembly. The main service switchgear feeds Substation #1 which is also located in Main Electrical Room. It consists of two 600A medium voltage load breakers, two dry type transformers, each rated at 750KVA, 13200V to 208/120V, 3PH, 4 wires, and a 3000A, double ended low voltage 208/120V, 3PH, 4w switchboard with a tie breaker. The low voltage switchboard is fed by two transformers and has also an operational logic that will close the tie breaker automatically whenever power is lost on either side of the bus. There is another Substation in the east side of the building and it consists of two 600A medium voltage load breakers, two dry type transformers, each rated at 500KVA, 13200V to 208/120V, 3PH, 4 wires, and a 3000A, double ended low voltage 208/120V, 3PH, 4w switchboard with a tie breaker. The low voltage switchboard is fed by two transformers and has operational logic that will close the tie breaker automatically whenever power is lost on either side of the bus. The power transformers which have already been replaced in 2011 are in good condition. However switchgear and switchboards of both substations are old and exceeded their useful service life requiring replacement.

Power distribution is achieved through corridor located lighting and power panels. Each floor has nine panel boards. There are also four more power panels provided in boiler room, six in the basement and one new power panel for feeding the new trash compactor. Power distribution system is old and has exceeded their useful life and should be replaced.

In general there are not enough receptacles installed in the class rooms and offices except in the library which quantity of the receptacles appeared to be enough. Recommendation is to have a minimum of two receptacles on classroom walls but the current installations fall short of this recommendation. Our observation shows that the receptacles near the sinks are not of GFCI type. NEC section 210 (B) requires all 15-and 20A, 125V receptacles in an area with a sink to be GFCI protected whether or not the receptacles serves countertop areas.

Interior building is illuminated by various types of lighting fixtures. 80% of fluorescent fixtures in the classrooms, corridors, offices and cafeteria are old and using T12 Lamp. These lighting fixtures are old and outdated thus replacement is required. Kitchen is illuminated with fluorescent lighting fixtures with T8 lamp and they are in acceptable working condition. Auditorium is provided by 1x1 reassessed down light with 500W/120V optic bulb which is commonly used for studio and theater. Gymnasium is illuminated by pendent mounted metal halide high bay lighting fixtures. In general these lighting fixtures have high energy consumption and are difficult to re-lamp.

Building is equipped with 120V manual fire alarm system. The system does not meet current fire alarm codes and should be replaced

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with an automatic fire alarm system.

The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along with a telephone PBX system (telephone within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines) along with several IDF (Intermediate Distribution Frame) servicing the communication system of the building. School also equipped with wifi system.

Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately.

Each classroom is provided by intercom telephone service. The system is permit paging and intercom communication between main office phone to classroom phones, and classroom to main office, classroom to classroom, and to office. Outside line access from a classroom phone through the PBX is blocked. The system is interfaces with master clock system for class change signaling utilizing paging speakers. The system also equipped with a tone generator and input from program/clock controller.

School is provided with wireless clock system. In general clock and Program system in the buildings are functioning. Some clocks are not working because of the battery problem.

Video surveillance system is not provided in the school. School provided with access control system only.

Emergency power system is provided in this school. A 75KW, 208/120V, 3phase, 4W diesel generator is installed in the boiler room for feeding the emergency lighting of the building. This diesel generator is old and exceeds its useful life and should be replaced along with respective Auto Transfer Switch and emergency distribution panel.

Emergency lighting system, including exit lights are provided in the buildings. Numbers of lighting fixtures in corridors, and public areas and also exit signs are feeding by emergency pack up generator. Existing exit signs are old and mostly damaged and should be replaced with new exit signs with the backup battery.

Lightning Protection System is adequate and is in compliance with NFPA 780 (standard for the installation of lightning protection system).

Two gear type elevators (estimated 30 hp each) are in operation at the school. The elevator motor and controller are appears to be working properly.

Existing theater lighting and dimming system is accomplished with two rows of spot lights that are turned on and off by branch circuit breakers in a lighting panel located in stage area and not by dimmer. Theater lighting and controller are old and not meet the modern theatrical lighting system. In modern school auditorium, Stage requires front, upstage, high side, backlighting, scenery lighting and controllers by automatic dimmer bank controller. In addition to the stage lights, supplemental fluorescent lighting is also requires to be provided in stage area for lectures and testing. These supplemental lighting could be also turned off automatically by dimmer bank controls during performance.

Sound System in Auditorium is not provided. The portable sound system is used for any performance.

Site Lighting System is not adequate. Existing pole mounted projectors are not enough for providing safety and security of the property. It is required to Provide more wall mounted flood lights with photo cell around the building.

Site Video Surveillance system is not provided in the school.

Site paging system is not provided in the school and not required.

GROUND SYSTEMS

Walkway paving in the front and side streets is constructed of 4'x4' (nominal) concrete panels. Some are in need of replacement and although they are not all contiguous, it may be possible to replace only those that are failing. The building is surrounded by a brick wall, average height 8 ft. tall. A number of areas need to be repointed, including the part of the wall facing the W. Olney driveway entrance, which has been sloppily patched and is still cracking. On-site asphalt parking is provided for faculty and staff in the rear and to the west off of West Olney Avenue. Pavement in the rear is in need of replacement; pavement in the west parking lot is cracked. The driveway access roads from W. Olney and the driveway access from Ogontz Avenue are shared by Girls High School and Widener School. Both roadways need to be repaved and half of the curbing along the W. Olney access needs to be replaced. At the District's request, the cost for these repairs will be split between Girl's and Widener.

Granite block stairways into the gym and facing Broad Street are cracked and need pointing and regrouting. The stair down to the field from the W. Olney road access needs to be reconstructed, since stairs are uneven, breaking up, and not safe for students to use to get down to that athletic field. New handrails and guards are required at all stairs. Wrought iron fencing, gates, chain link fencing protecting window/mechanical area well openings, and steel parking bollards adjacent to loading dock in the rear need to be repainted. An ADA accessible ramp is provided at a rear door but signage is needed to allow people to find the entrance.

In order to stop the water seeping through the foundation wall into the cafeteria manager's office, grading along the exterior of the foundation needs to be removed, spalling concrete patched, and new waterproofing reapplied to the wall. Grading then needs to be adjusted by adding soil and grass to provide positive drainage away from the foundation walls along all building walls facing W. Olney Ave.

RECOMMENDATIONS

- Repair foundation wall on west and east of W. Olney entrance. Foundation has developed cracks and damages which let ground water into the cafeteria manager's office (1,800sf)
- After repairing foundation, repaint peeling foundation walls (10,000sf)
- Re-caulk expansion joints along brick parapets (20ft)
- Reset drains in low roof area over auditorium (1,000ft)
- Repoint cracked masonry (2,000sf):
 - horizontal joint crack on the back auditorium wall facing Broad Street
 - vertical crack running up the side of the building at the northeast corner near Olney
 - lintels above the windows repoint
 - The top of the furnace flue cracks - repoint
- Repair chipped limestone panels (100sf)
- Powerwash building wall and limestone panels, sills, heads, jambs (15,000sf)
- Replace broken or missing window screens (200each)
- Clean and repaint basement floor in mechanical rooms; clean and reseal concrete floors in stairways and toilet rooms (25,000sf)
- Replace all exterior doors and frames; also provide new exit hardware. (50)3x7
- Replace all wood interior corridor doors, frames and hardware for classrooms, closets, offices, etc. (160)
- Replace soundproof doors in hallways (6)
- Provide security hardware for classrooms and offices, locking from inside classroom. (160)
- Remove and replace all basement steel doors, frames, and hardware in mechanical rooms; fire rated doors with panic hardware for stairs (100) 3x7 doors
- Replace interior room doors (100 3x7 doors)
- Remove damaged folding partition in gym (20'x80' = 1600sf)
- Strip, sand, repair and refinish all wood floors in gymnasium (10,000sf)
- Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (158,372sf)
- Replace carpet (1,000sf)
- Replace overhead or rollup doors into loading area (3 12x12)
- Replace 12"x12" or 2x4 acoustical tile ceilings where damaged (100,000sf)
- Replace 1'x2' metal ceiling tiles in cafeteria and replace with 2x4 acoustical tile ceiling (11,000)
- Provide toilet room accessories where broken or missing (20 sets)
- Repaint lockers throughout the building (approx. 2000)
- Replace damaged folding wood auditorium chairs = 30
- Upgrade cabs of two elevators with new finishes and ADA accessories and features
- Replace science lab furniture (300lf)
- Replace failing and non-code compliant handrails/guards on all site stairs both sides of each stair (40ft handrails; 10ft guards)
- Replace interior walls of sound proof practice booths (2000sf)

MECHANICAL

- Replace sixty (60) original lavatories in the restrooms on the Basement thru 3rd Floors with low flow fixtures. (314)
- Replace fifty eight (58) original water closets in the restrooms on the Basement thru 3rd Floors with low flow fixtures. (312)
- Replace twenty four (24) original urinals in the restrooms on the Basement thru 3rd Floors with low flow fixtures. (90)
- Replace the twenty (20) wall hung drinking fountains with new stainless steel units equipped with integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type. (310)
- Install a reduced pressure backflow preventer on the main service.
- Replace the original copper domestic water piping in service for more than 60 years to ensure reliable service. (517)

- Provide an expansion tank for the two 75 gallon vertical water heater tanks. (451)
- Replace the two self-priming pumps of the small sewage ejector pit located in the subbasement boiler room. The pumps appear beyond their anticipated life and should be replaced to maintain reliable service. (545)
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for more than 60 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. (550)
- Hire a qualified contractor to perform a detailed examination of the storm drainage piping in service for more than 60 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. (548)
- The District should budget for replacing the existing fuel oil tank with an 8,000 gallon aboveground concrete-encased tank, circulation pumps and controls. (497)
- Replace one of the remote condensate receiver pump sets in the next few years. (448)
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system; budget 50 traps. (344)
- Hire a qualified contractor to examine the steam and condensate piping in service more than 60 years 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 10 years. (504)
- Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils. (441)
- Install air-cooled screw chillers on the roof with pumps located in the boiler room and chilled water distribution piping to supply reliable air conditioning for the building. (006)
- Replace the two original air handling units that serve the gymnasium with new constant volume air handling units. These units have external motor and belt guards that do not comply with OSHA guidelines. (342/343)
- Replace the original air handling unit that serves the locker rooms with new constant volume air handling units. This unit has an external motor and belt guard that does not comply with OSHA guidelines. (429)
- Replace the air handling unit that serves the Auditorium located in the basement mechanical room and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines. (424)
- Provide adequate ventilation and temperature control for the Cafeteria by replacing the existing unit ventilators with a constant volume air handling unit, distribution ductwork and registers. (064)
- Provide adequate temperature control for the Main Offices by replacing the existing unit ventilators with a new air handling unit, ductwork and registers. (006)
- Provide adequate ventilation and temperature control for the IMC by replacing the existing unit ventilators with a new air handling unit, ductwork and registers. (562)
- Provide ventilation for the corridors by installing five (5) fan coil air handling units hung from the structure with outdoor air louvers. (381)
- Replace the original power roof ventilators that provide exhaust for the restrooms on the upper levels in service for more than sixty years. (033)
- Replace the original utility set blowers on the basement level that provide exhaust for the restrooms in service for more than sixty years. (444)
- 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. (423)
- Install a fire protection sprinkler system with quick response type heads to provide protection for the property. (351/ 233,372)

ELECTRICAL

- Replace the existing switchgear with new 1200A, 13200V switchgear consisting consist of two 600A incoming breaker switches and two 600A, 13200V outgoing interrupting switches, one tie breaker and metering sections. Provide two Substations each consist of two 600A interrupter switches, one 3000A double ended low voltage switchboards. Use existing transformers.
- Replace the entire distribution system with new panels and new wiring /conduits. Our recommendation is to replace existing conduits and wiring to new Junction boxes, receptacles, and lighting. Provide arc flash label on the electrical equipments. Estimated (15)225A + (8)400A power panel and 23 lighting/receptacle panels.
- Install minimum two receptacles in each wall of class rooms and sufficient number of receptacles in other areas per NEC.
- Replace all the lighting fixtures in classrooms, offices and cafeteria with new fluorescent lighting fixtures with T8 lamp. Replace gymnasium illuminates with LED high bay. Estimated 25 total.
- Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas per codes.

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- Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) system. Cameras should install in the corridors, school entrance doors and on the walls around the building.
- Replace existing generator with new 100KW generator. Provide new Automatic Transfer Switch and emergency distribution panel board
- Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium.
- Provide new sound system per ECE-40020 (standard for reinforcement system design) including a freestanding 19" rack backstage with mixer per amplifiers, digital media recording with playback capability, AM-FM radio, graphic or parametric equalizer, and receivers for wireless microphone.
- Provide ten LED wall mounted projectors around the building.

GROUNDINGS

- Regrout joints between limestone block tread/risers at misc. exterior stairs (100ft of pointing)
- Construct new stair from driveway down to field (100ft length; 60 risers height with 4 resting landings)
- Railing for new concrete stair (60 risers = 100ft length)
- Repaid damaged concrete stairs (8 risers)
- Repair tops of retaining walls along W. Olney Ave. and Broad St.; repair brick wall at stair up to Broad St. from parking lot (approx. 350ft of retaining walls 3 ft. high)
- Repave damaged sections of concrete walkway along streets (1,000sf)
- Repaint rusted wrought iron and chain link fences around areaways; repaint bollards near loading dock (600ft length)
- Repave asphalt parking lot for Girls HS Faculty behind school and along W. Olney Ave (30,000sf + 15,000sf = 45,000sf total)
- Repave roadways to W. Olney and Ogontz; assume cost and sf area shown is half of full replacement cost, shared between Widener School and Girls HS (33,000 total sf/2=15,000sf for Girls HS)
- Replace damaged concrete curbing along drop-off from W. Olney (100ft)

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B605001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S605001		

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	41.00 %	1.45 %	\$110,185.88
A20 - Basement Construction	41.00 %	0.00 %	\$0.00
B10 - Superstructure	41.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	24.64 %	1.95 %	\$327,618.45
B30 - Roofing	49.97 %	0.65 %	\$20,345.84
C10 - Interior Construction	48.01 %	35.57 %	\$2,300,485.38
C20 - Stairs	57.31 %	14.24 %	\$52,183.25
C30 - Interior Finishes	68.91 %	36.59 %	\$4,191,427.14
D10 - Conveying	28.57 %	58.22 %	\$173,917.03
D20 - Plumbing	73.02 %	70.29 %	\$3,185,439.70
D30 - HVAC	104.94 %	93.00 %	\$24,141,877.96
D40 - Fire Protection	105.71 %	177.49 %	\$3,338,489.23
D50 - Electrical	110.11 %	54.59 %	\$7,488,872.00
E10 - Equipment	20.00 %	16.63 %	\$617,706.71
E20 - Furnishings	25.00 %	3.22 %	\$15,991.23
Totals:	64.66 %	37.38 %	\$45,964,539.80

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	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
A1010	Standard Foundations	\$27.30	S.F.	233,372	100	1956	2056		41.00 %	1.73 %	41		\$110,185.88	\$6,371,056
A1030	Slab on Grade	\$5.17	S.F.	233,372	100	1956	2056		41.00 %	0.00 %	41			\$1,206,533
A2010	Basement Excavation	\$4.36	S.F.	233,372	100	1956	2056		41.00 %	0.00 %	41			\$1,017,502
A2020	Basement Walls	\$9.91	S.F.	233,372	100	1956	2056		41.00 %	0.00 %	41			\$2,312,717
B1010	Floor Construction	\$85.34	S.F.	233,372	100	1956	2056		41.00 %	0.00 %	41			\$19,915,966
B1020	Roof Construction	\$14.39	S.F.	233,372	100	1956	2056		41.00 %	0.00 %	41			\$3,358,223
B2010	Exterior Walls	\$43.20	S.F.	233,372	100	1956	2056		41.00 %	0.86 %	41		\$87,057.91	\$10,081,670
B2020	Exterior Windows	\$27.52	S.F.	233,372	40	1956	1996		0.00 %	2.87 %	-19		\$184,207.63	\$6,422,397
B2030	Exterior Doors	\$1.16	S.F.	233,372	25	1956	1981		0.00 %	20.82 %	-34		\$56,352.91	\$270,712
B3010105	Built-Up	\$37.76	S.F.	82,874	20	1956	1976	2025	50.00 %	0.65 %	10		\$20,345.84	\$3,129,322
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.	82,874	30	1956	1986	2025	33.33 %	0.00 %	10			\$4,972
C1010	Partitions	\$21.05	S.F.	233,372	100	1956	2056		41.00 %	10.01 %	41		\$491,581.42	\$4,912,481
C1020	Interior Doors	\$3.76	S.F.	233,372	40	1956	1996	2057	105.00 %	204.47 %	42		\$1,794,187.53	\$877,479
C1030	Fittings	\$2.90	S.F.	233,372	40	1956	1996	2025	25.00 %	2.17 %	10		\$14,716.43	\$676,779
C2010	Stair Construction	\$1.18	S.F.	233,372	100	1956	2056		41.00 %	18.95 %	41		\$52,183.25	\$275,379

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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 \$
C2020	Stair Finishes	\$0.39	S.F.	233,372	30	1956	1986	2047	106.67 %	0.00 %	32			\$91,015
C3010230	Paint & Covering	\$13.21	S.F.	233,372	10	1956	1966	2025	100.00 %	5.21 %	10		\$160,690.77	\$3,082,844
C3010231	Vinyl Wall Covering	\$0.97	S.F.		15				0.00 %	0.00 %				\$0
C3010232	Wall Tile	\$2.63	S.F.	233,372	30	1956	1986	2030	50.00 %	0.00 %	15			\$613,768
C3020411	Carpet	\$7.30	S.F.	1,000	10	1956	1966	2027	120.00 %	153.30 %	12		\$11,190.76	\$7,300
C3020412	Terrazzo & Tile	\$75.52	S.F.	11,000	50	1956	2006	2025	20.00 %	0.00 %	10			\$830,720
C3020413	Vinyl Flooring	\$9.68	S.F.	171,372	20	1956	1976	2037	110.00 %	144.79 %	22		\$2,401,975.54	\$1,658,881
C3020414	Wood Flooring	\$22.27	S.F.	15,000	25	1956	1981	2026	44.00 %	32.23 %	11		\$107,669.40	\$334,050
C3020415	Concrete Floor Finishes	\$0.97	S.F.	35,000	50	1956	2006	2027	24.00 %	283.10 %	12		\$96,113.34	\$33,950
C3030	Ceiling Finishes	\$20.97	S.F.	233,372	25	1956	1981	2027	48.00 %	28.89 %	12		\$1,413,787.33	\$4,893,811
D1010	Elevators and Lifts	\$1.28	S.F.	233,372	35	1956	1991	2025	28.57 %	58.22 %	10		\$173,917.03	\$298,716
D2010	Plumbing Fixtures	\$13.52	S.F.	233,372	35	1956	1991	2037	62.86 %	28.59 %	22		\$901,994.43	\$3,155,189
D2020	Domestic Water Distribution	\$1.68	S.F.	233,372	25	1956	1981	2042	108.00 %	259.46 %	27		\$1,017,265.50	\$392,065
D2030	Sanitary Waste	\$2.32	S.F.	233,372	30	1956	1986	2047	106.67 %	165.98 %	32		\$898,680.79	\$541,423
D2040	Rain Water Drainage	\$1.90	S.F.	233,372	30	1956	1986	2037	73.33 %	82.88 %	22		\$367,498.98	\$443,407
D3020	Heat Generating Systems	\$18.67	S.F.	233,372	35	1998	2033		51.43 %	5.39 %	18		\$235,040.98	\$4,357,055
D3030	Cooling Generating Systems	\$24.48	S.F.	233,372	30			2052	123.33 %	66.52 %	37		\$3,800,523.21	\$5,712,947
D3040	Distribution Systems	\$42.99	S.F.	233,372	25	1956	1981	2042	108.00 %	157.67 %	27		\$15,818,825.25	\$10,032,662
D3050	Terminal & Package Units	\$11.60	S.F.	233,372	20	1956	1976	2042	135.00 %	0.00 %	27			\$2,707,115
D3060	Controls & Instrumentation	\$13.50	S.F.	233,372	20	1956	1976	2037	110.00 %	136.09 %	22		\$4,287,488.52	\$3,150,522
D4010	Sprinklers	\$7.05	S.F.	233,372	35			2052	105.71 %	202.91 %	37		\$3,338,489.23	\$1,645,273
D4020	Standpipes	\$1.01	S.F.	233,372	35			2052	105.71 %	0.00 %	37			\$235,706
D5010	Electrical Service/Distribution	\$9.70	S.F.	233,372	30	1956	1986	2047	106.67 %	105.79 %	32		\$2,394,829.66	\$2,263,708
D5020	Lighting and Branch Wiring	\$34.68	S.F.	233,372	20	1956	1976	2037	110.00 %	40.81 %	22		\$3,303,081.27	\$8,093,341
D5030	Communications and Security	\$12.99	S.F.	233,372	15	1956	1971	2032	113.33 %	52.51 %	17		\$1,591,715.65	\$3,031,502
D5090	Other Electrical Systems	\$1.41	S.F.	233,372	30	1956	1986	2047	106.67 %	60.55 %	32		\$199,245.42	\$329,055
E1020	Institutional Equipment	\$4.82	S.F.	233,372	35	1956	1991	2022	20.00 %	54.91 %	7		\$617,706.71	\$1,124,853
E1090	Other Equipment	\$11.10	S.F.	233,372	35	1956	1991	2022	20.00 %	0.00 %	7			\$2,590,429
E2010	Fixed Furnishings	\$2.13	S.F.	233,372	40	1956	1996	2025	25.00 %	3.22 %	10		\$15,991.23	\$497,082
Total									64.66 %	37.38 %			\$45,964,539.80	\$122,981,577

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:	60 % paint 40% marble or glazed block	
System:	C3020 - Floor Finishes	This system contains no images
Note:	Concrete (sealed) = 35,000sf 15% Wood - = 15,000 7% VCT - = 13,000 6% VAT - = 158,372 66% Marble/QT = 11,000 5% Carpet - 1,000 1%	
System:	C3030 - Ceiling Finishes	This system contains no images
Note:	Plaster 7% Acoustical tile 76% Exposed structure painted (steel or concrete) 17%	

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:	\$45,964,540	\$0	\$0	\$0	\$0	\$0	\$0	\$5,026,261	\$0	\$0	\$12,595,831	\$63,586,631
* 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	\$110,186	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110,186
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	\$87,058	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$87,058
B2020 - Exterior Windows	\$184,208	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$184,208
B2030 - Exterior Doors	\$56,353	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,353
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	\$20,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,626,102	\$4,646,447
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	\$7,351	\$7,351
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	\$491,581	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$491,581

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C1020 - Interior Doors	\$1,794,188	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,794,188
C1030 - Fittings	\$14,716	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,488	\$1,015,204
C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C2010 - Stair Construction	\$52,183	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$52,183
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	\$160,691	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,557,394	\$4,718,085
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	\$11,191	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,191
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,228,060	\$1,228,060
C3020413 - Vinyl Flooring	\$2,401,976	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,401,976
C3020414 - Wood Flooring	\$107,669	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$107,669
C3020415 - Concrete Floor Finishes	\$96,113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$96,113
C3030 - Ceiling Finishes	\$1,413,787	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,413,787
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	\$173,917	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$441,595	\$615,512
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$901,994	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$901,994
D2020 - Domestic Water Distribution	\$1,017,266	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,017,266
D2030 - Sanitary Waste	\$898,681	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$898,681
D2040 - Rain Water Drainage	\$367,499	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$367,499
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$235,041	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$235,041
D3030 - Cooling Generating Systems	\$3,800,523	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,800,523
D3040 - Distribution Systems	\$15,818,825	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,818,825
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$4,287,489	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,287,489
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$3,338,489	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,338,489

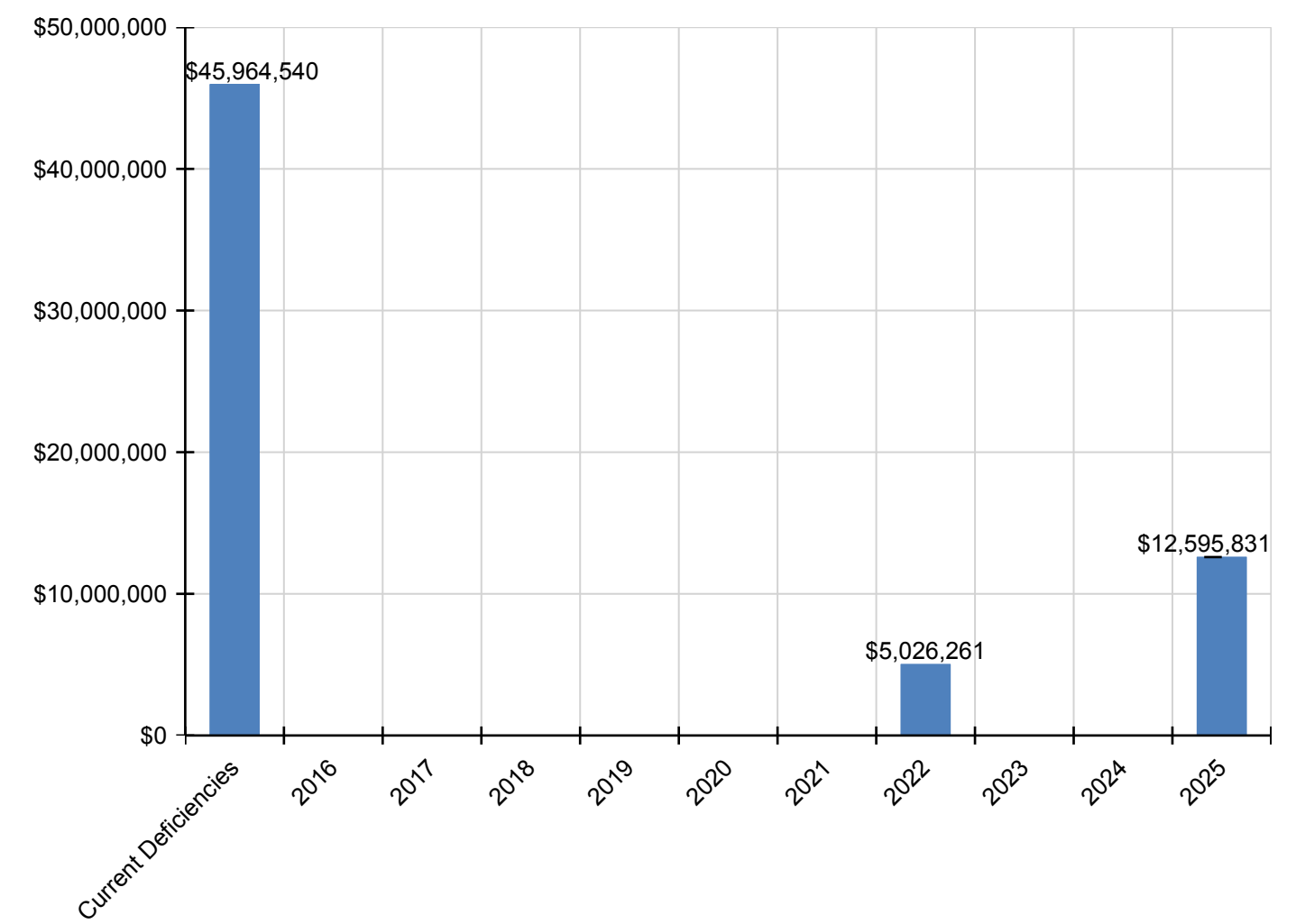
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D4020 - Standpipes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D50 - Electrical	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D5010 - Electrical Service/Distribution	\$2,394,830	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,394,830
D5020 - Lighting and Branch Wiring	\$3,303,081	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,303,081
D5030 - Communications and Security	\$1,591,716	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,591,716
D5090 - Other Electrical Systems	\$199,245	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$199,245
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	\$617,707	\$0	\$0	\$0	\$0	\$0	\$0	\$1,521,770	\$0	\$0	\$0	\$2,139,476
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,504,491	\$0	\$0	\$0	\$3,504,491
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$15,991	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$734,841	\$750,833

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

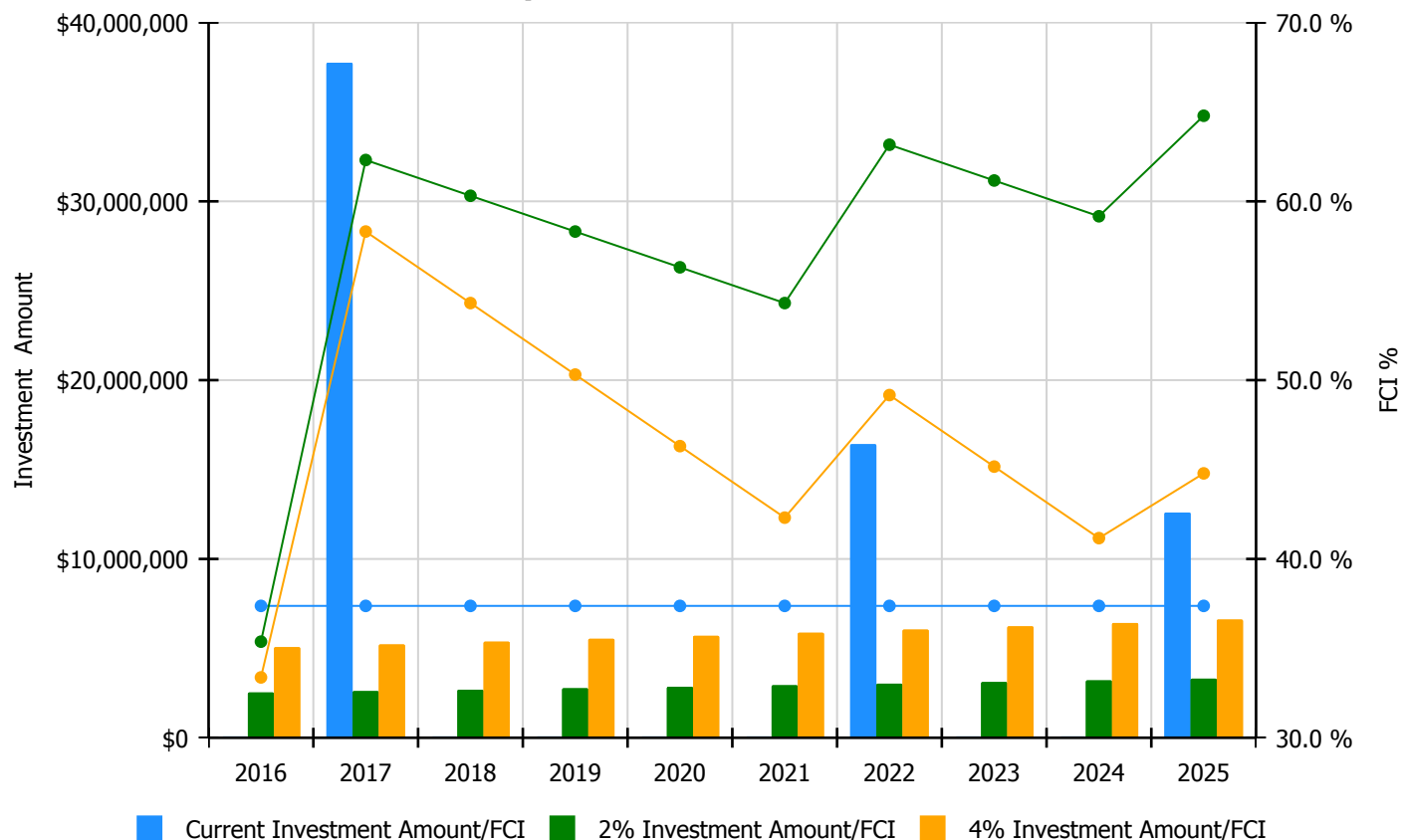


10 Year FCI Forecast by Investment Scenario

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

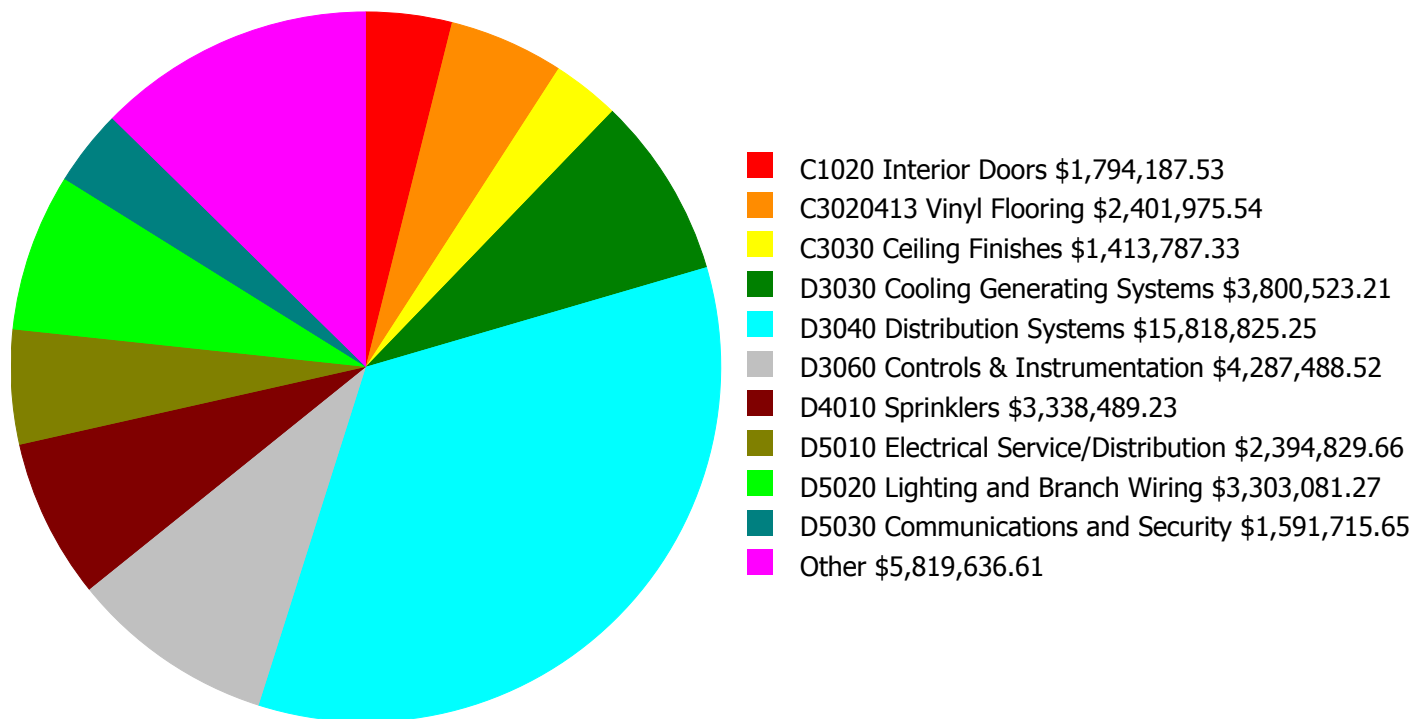
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 37.38%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$2,533,420.00	35.38 %	\$5,066,841.00	33.38 %
2017	\$37,752,047	\$2,609,423.00	62.31 %	\$5,218,846.00	58.31 %
2018	\$0	\$2,687,706.00	60.31 %	\$5,375,412.00	54.31 %
2019	\$0	\$2,768,337.00	58.31 %	\$5,536,674.00	50.31 %
2020	\$0	\$2,851,387.00	56.31 %	\$5,702,774.00	46.31 %
2021	\$0	\$2,936,929.00	54.31 %	\$5,873,857.00	42.31 %
2022	\$16,417,436	\$3,025,037.00	63.16 %	\$6,050,073.00	49.16 %
2023	\$0	\$3,115,788.00	61.16 %	\$6,231,575.00	45.16 %
2024	\$0	\$3,209,261.00	59.16 %	\$6,418,523.00	41.16 %
2025	\$12,595,831	\$3,305,539.00	64.79 %	\$6,611,078.00	44.79 %
Total:	\$66,765,314	\$29,042,827.00		\$58,085,653.00	

Deficiency Summary by System

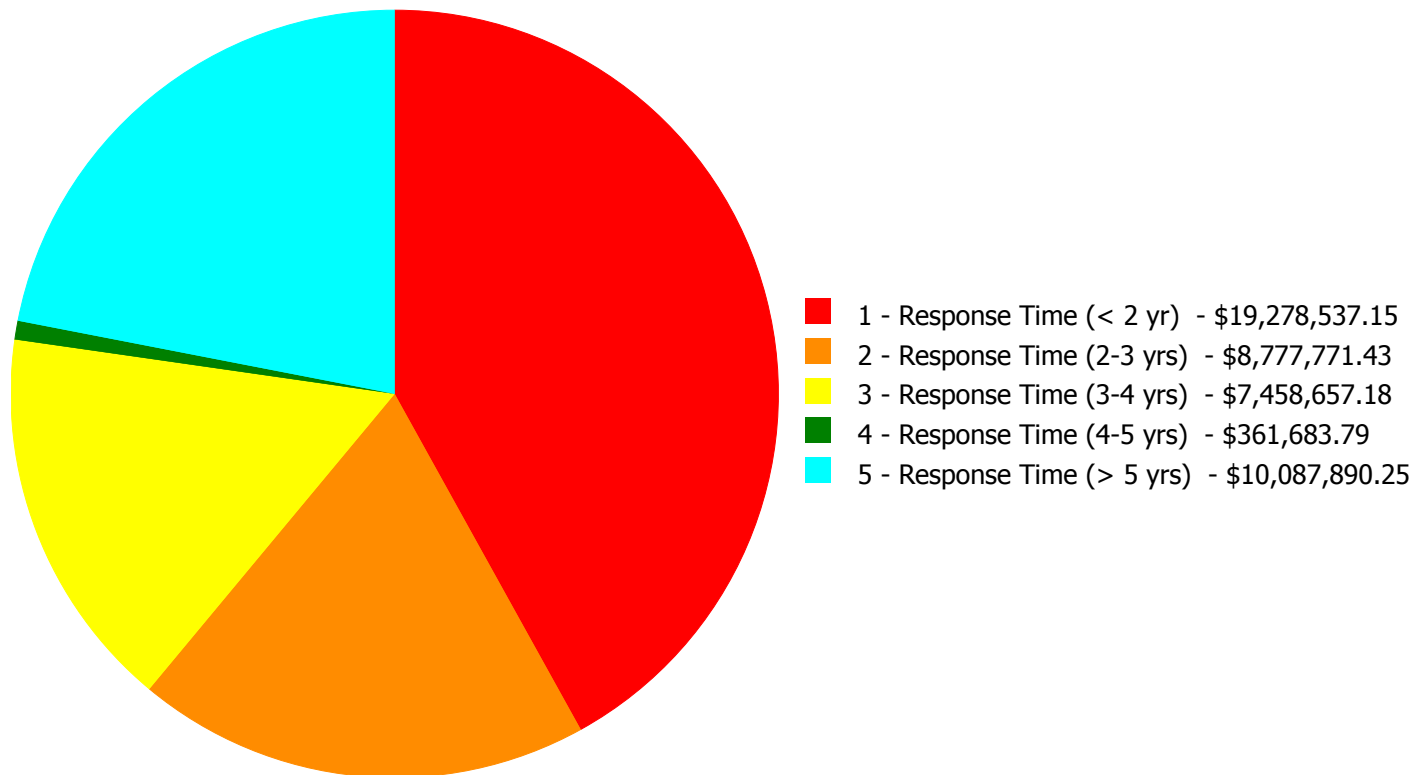
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$45,964,539.80

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: \$45,964,539.80

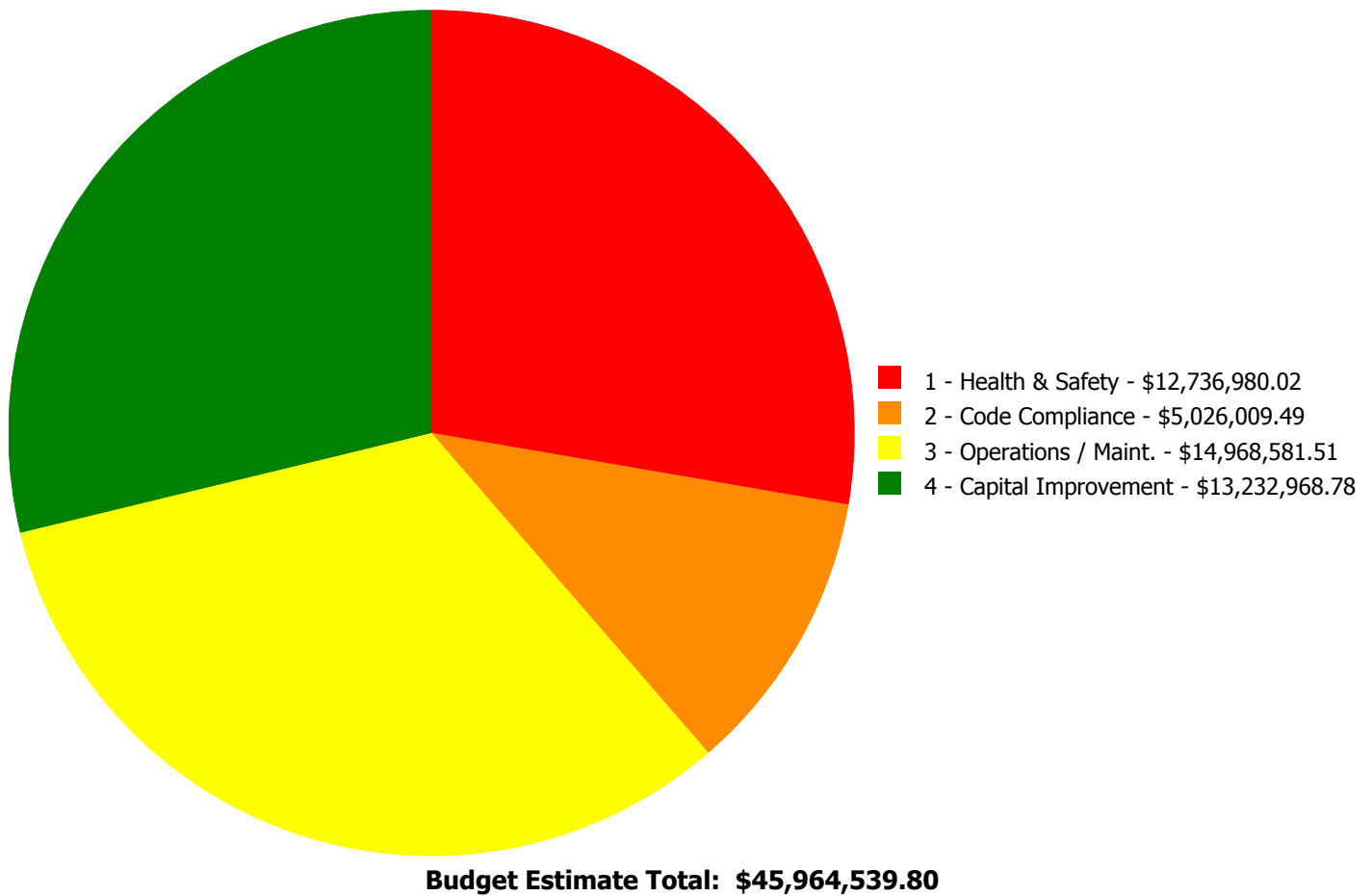
Deficiency By Priority Investment Table

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
A1010	Standard Foundations	\$110,185.88	\$0.00	\$0.00	\$0.00	\$0.00	\$110,185.88
B2010	Exterior Walls	\$401.32	\$86,656.59	\$0.00	\$0.00	\$0.00	\$87,057.91
B2020	Exterior Windows	\$0.00	\$184,207.63	\$0.00	\$0.00	\$0.00	\$184,207.63
B2030	Exterior Doors	\$0.00	\$56,352.91	\$0.00	\$0.00	\$0.00	\$56,352.91
B3010105	Built-Up	\$20,345.84	\$0.00	\$0.00	\$0.00	\$0.00	\$20,345.84
C1010	Partitions	\$0.00	\$491,581.42	\$0.00	\$0.00	\$0.00	\$491,581.42
C1020	Interior Doors	\$0.00	\$1,794,187.53	\$0.00	\$0.00	\$0.00	\$1,794,187.53
C1030	Fittings	\$0.00	\$14,716.43	\$0.00	\$0.00	\$0.00	\$14,716.43
C2010	Stair Construction	\$52,183.25	\$0.00	\$0.00	\$0.00	\$0.00	\$52,183.25
C3010230	Paint & Covering	\$0.00	\$160,690.77	\$0.00	\$0.00	\$0.00	\$160,690.77
C3020411	Carpet	\$0.00	\$11,190.76	\$0.00	\$0.00	\$0.00	\$11,190.76
C3020413	Vinyl Flooring	\$0.00	\$2,401,975.54	\$0.00	\$0.00	\$0.00	\$2,401,975.54
C3020414	Wood Flooring	\$0.00	\$107,669.40	\$0.00	\$0.00	\$0.00	\$107,669.40
C3020415	Concrete Floor Finishes	\$0.00	\$96,113.34	\$0.00	\$0.00	\$0.00	\$96,113.34
C3030	Ceiling Finishes	\$0.00	\$1,413,787.33	\$0.00	\$0.00	\$0.00	\$1,413,787.33
D1010	Elevators and Lifts	\$0.00	\$0.00	\$0.00	\$173,917.03	\$0.00	\$173,917.03
D2010	Plumbing Fixtures	\$0.00	\$380,244.56	\$0.00	\$0.00	\$521,749.87	\$901,994.43
D2020	Domestic Water Distribution	\$9,560.11	\$51,112.25	\$0.00	\$0.00	\$956,593.14	\$1,017,265.50
D2030	Sanitary Waste	\$0.00	\$30,685.95	\$0.00	\$0.00	\$867,994.84	\$898,680.79
D2040	Rain Water Drainage	\$0.00	\$0.00	\$0.00	\$0.00	\$367,498.98	\$367,498.98
D3020	Heat Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$235,040.98	\$235,040.98
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$3,800,523.21	\$3,800,523.21
D3040	Distribution Systems	\$11,506,186.26	\$969,694.80	\$3,171,168.66	\$171,775.53	\$0.00	\$15,818,825.25
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$4,287,488.52	\$0.00	\$0.00	\$4,287,488.52
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$0.00	\$3,338,489.23	\$3,338,489.23
D5010	Electrical Service/Distribution	\$2,394,829.66	\$0.00	\$0.00	\$0.00	\$0.00	\$2,394,829.66
D5020	Lighting and Branch Wiring	\$3,303,081.27	\$0.00	\$0.00	\$0.00	\$0.00	\$3,303,081.27
D5030	Communications and Security	\$1,591,715.65	\$0.00	\$0.00	\$0.00	\$0.00	\$1,591,715.65
D5090	Other Electrical Systems	\$199,245.42	\$0.00	\$0.00	\$0.00	\$0.00	\$199,245.42
E1020	Institutional Equipment	\$90,802.49	\$526,904.22	\$0.00	\$0.00	\$0.00	\$617,706.71
E2010	Fixed Furnishings	\$0.00	\$0.00	\$0.00	\$15,991.23	\$0.00	\$15,991.23
Total:		\$19,278,537.15	\$8,777,771.43	\$7,458,657.18	\$361,683.79	\$10,087,890.25	\$45,964,539.80

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: A1010 - Standard Foundations



Location: Girls HS - foundation

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Apply waterproofing on existing foundation walls - SF of foundation wall - add for sump and discharge piping

Qty: 1,800.00

Unit of Measure: S.F.

Estimate: \$110,185.88

Assessor Name: System

Date Created: 02/08/2016

Notes: Repair foundation wall on west and east of W. Olney entrance. Foundation has developed cracks and damages which let ground water into the cafeteria manager's office (1,800sf)

System: B2010 - Exterior Walls



Location: Girls HS - roof

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Re-caulk exterior control joints and other caulk joints

Qty: 20.00

Unit of Measure: L.F.

Estimate: \$401.32

Assessor Name: System

Date Created: 02/08/2016

Notes: Re-caulk expansion joints along brick parapets (20ft)

System: B3010105 - Built-Up



Location: Girls HS - roof

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Blister or membrane repair - partial areas

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: \$20,345.84

Assessor Name: System

Date Created: 02/08/2016

Notes: Reset drains in low roof area over auditorium (1,000ft)

System: C2010 - Stair Construction



Location: Girls HS - stair down to west field

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 200.00

Unit of Measure: L.F.

Estimate: \$30,434.03

Assessor Name: System

Date Created: 02/08/2016

Notes: Railing for new concrete stair (60 risers = 100ft length)

System: C2010 - Stair Construction



Location: Girls HS - exterior stairs

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 70.00

Unit of Measure: L.F.

Estimate: \$21,749.22

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace failing and non-code compliant handrails/guards on all site stairs both sides of each stair (60ft handrails; 10ft guards)

System: D2020 - Domestic Water Distribution



Location: Mezzanine Mechanical

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Provide expansion tank for water heater.

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$9,560.11

Assessor Name: System

Date Created: 03/15/2016

Notes: Provide an expansion tank for the two 75 gallon vertical water heater tanks.

System: D3040 - Distribution Systems



Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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: 180,000.00

Unit of Measure: S.F.

Estimate: \$8,683,053.33

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

System: D3040 - Distribution Systems



Location: Corridors

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install indoor AHU, CV, DT (15T)

Qty: 75.00

Unit of Measure: TonAC

Estimate: \$1,276,700.27

Assessor Name: System

Date Created: 03/15/2016

Notes: Provide ventilation for the corridors by installing five (5) fan coil air handling units hung from the structure with outdoor air louvers.

System: D3040 - Distribution Systems



Location: IMC

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1,200.00

Unit of Measure: Student

Estimate: \$629,190.11

Assessor Name: System

Date Created: 03/15/2016

Notes: Provide adequate ventilation and temperature control for the IMC by replacing the existing unit ventilators with a new air handling unit, ductwork and registers.

System: D3040 - Distribution Systems



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: \$590,599.81

Assessor Name: System

Date Created: 03/15/2016

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system; budget 50 traps.

System: D3040 - Distribution Systems



Location: Cafeteria

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 1,200.00

Unit of Measure: Student

Estimate: \$326,642.74

Assessor Name: System

Date Created: 03/15/2016

Notes: Provide adequate ventilation and temperature control for the Cafeteria by replacing the existing unit ventilators with a constant volume air handling unit, distribution ductwork and registers.

System: D5010 - Electrical Service/Distribution



Location: Girls HS- Electrical Room

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$1,433,868.14

Assessor Name: System

Date Created: 01/06/2016

Notes: Replace the existing switchgear with new 1200A, 13200V switchgear consisting consist of two 600A incoming breaker switches and two 600A, 13200V outgoing interrupting switches, one tie breaker and metering sections. Provide two Substations each consist of two 600A interrupter switches, one 3000A double ended low voltage switchboards. Use existing transformers.

System: D5010 - Electrical Service/Distribution



Location: Grils HS- Entire Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$960,961.52

Assessor Name: System

Date Created: 01/06/2016

Notes: Replace the entire distribution system with new panels and new wiring /conduits. Our recommendation is to replace existing conduits and wiring to new Junction boxes, receptacles, and lighting. Provide arc flash label on the electrical equipment. Estimated (15)225A + (8)400A power panel and 23 lighting/receptacle panels. panels.

System: D5020 - Lighting and Branch Wiring



Location: Girls HS- Entire Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Lighting Fixtures (SF)

Qty: 1.00

Unit of Measure: S.F.

Estimate: \$2,248,934.91

Assessor Name: System

Date Created: 01/06/2016

Notes: Replace all the lighting fixtures in classrooms, offices and cafeteria with new fluorescent lighting fixtures with T8 lamp. Replace gymnasium illuminates with LED high bay. Estimated 25 total.

System: D5020 - Lighting and Branch Wiring



Location: Girls HS- Entire Building

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: S.F.

Estimate: \$1,030,218.00

Assessor Name: System

Date Created: 01/06/2016

Notes: Install minimum two receptacles in each wall of class rooms and sufficient number of receptacles in other areas per NEC.

System: D5020 - Lighting and Branch Wiring



Location: Girls Hs- Exterior Building

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Add Exterior Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$23,928.36

Assessor Name: System

Date Created: 01/07/2016

Notes: Provide 10 number of LED type projectors on the perimeter of the roof for securing the building.

System: D5030 - Communications and Security



Location: Girls HS- Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

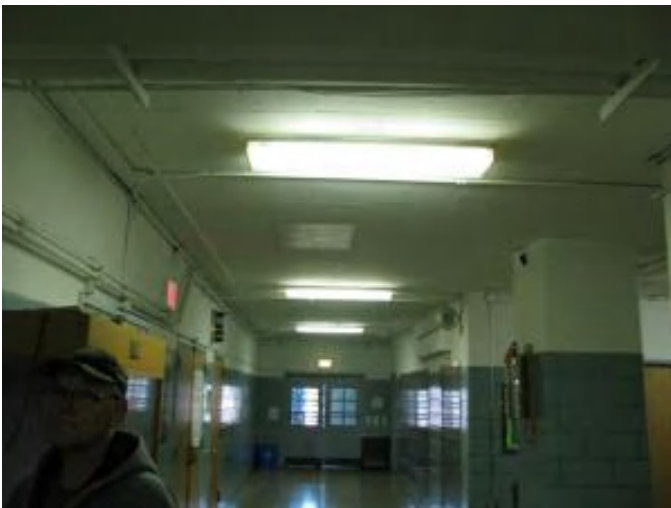
Estimate: \$1,084,614.87

Assessor Name: System

Date Created: 01/06/2016

Notes: Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas per codes.

System: D5030 - Communications and Security



Location: Girls HS- Entire Building

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$476,895.08

Assessor Name: System

Date Created: 01/06/2016

Notes: Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) system. Cameras should install in the corridors, school entrance doors and on the walls around the building.

System: D5030 - Communications and Security



Location: Girls HS- Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: \$30,205.70

Assessor Name: System

Date Created: 01/07/2016

Notes: Provide new sound system including a freestanding 19" rack backstage area with a mixer, amplifiers, CD player, cassette player, AM-FM radio, graphic or parametric equalizer, and receivers.

System: D5090 - Other Electrical Systems



Location: Girls HS- Boiler Room

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$199,245.42

Assessor Name: System

Date Created: 01/07/2016

Notes: Replace existing generator with new 100KW generator. Provide new Automatic Transfer Switch and emergency distribution panel board.

System: E1020 - Institutional Equipment



Location: Girls HS- Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$90,802.49

Assessor Name: System

Date Created: 01/07/2016

Notes: Provide new stage lighting and lighting controller in the Auditorium.

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

System: B2010 - Exterior Walls



Location: Girls HS - exterior walls

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: \$64,578.94

Assessor Name: System

Date Created: 02/08/2016

Notes: Repoint cracked masonry (2,000sf):

- horizontal joint crack on the back auditorium wall facing Broad Street
- vertical crack running up the side of the building at the northeast corner near Olney
- lintels above the windows repoint
- The top of the furnace flue cracks - repoint

System: B2010 - Exterior Walls



Location: Girls HS - exterior

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Sooty and dirty walls - powerwash

Qty: 15,000.00

Unit of Measure: S.F.

Estimate: \$16,406.03

Assessor Name: System

Date Created: 02/08/2016

Notes: Powerwash building wall and limestone panels, sills, heads, jambs (15,000sf)

System: B2010 - Exterior Walls



Location: Girls HS - exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair spalled concrete wall structure

Qty: 100.00

Unit of Measure: S.F.

Estimate: \$5,671.62

Assessor Name: System

Date Created: 02/08/2016

Notes: Repair chipped limestone panels (100sf)

System: B2020 - Exterior Windows



Location: Girls HS - windows

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace security screens

Qty: 1,200.00

Unit of Measure: S.F.

Estimate: \$184,207.63

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace broken or missing window screens (200each)

System: B2030 - Exterior Doors



Location: Girls HS - exterior doors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Refinish and repaint exterior doors - per leaf

Qty: 50.00

Unit of Measure: Ea.

Estimate: \$29,862.77

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace all exterior doors and frames; also provide new exit hardware. (50)3x7

System: B2030 - Exterior Doors



Location: Girls HS - loading dock

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 3.00

Unit of Measure: Ea.

Estimate: \$26,490.14

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace overhead or rollup doors into loading area (3 12x12)

System: C1010 - Partitions



Location: Girls HS - gymnasium

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Folding partition inoperable - remove and replace - select quality

Qty: 1,600.00

Unit of Measure: S.F.

Estimate: \$438,082.78

Assessor Name: System

Date Created: 02/08/2016

Notes: Remove damaged folding partition in gym (20'x80' = 1600sf)

System: C1010 - Partitions



Location: Girls HS - music practice booths

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: \$53,498.64

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace interior walls of sound proof practice booths (2000sf)

System: C1020 - Interior Doors



Location: Girls HS - interior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with wood frame - per leaf

Qty: 160.00

Unit of Measure: Ea.

Estimate: \$744,694.24

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace all wood interior corridor doors, frames and hardware for classrooms, closets, offices, etc. (160)

System: C1020 - Interior Doors



Location: Girls HS - basement

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove and replace hollow metal frames and doors

Qty: 100.00

Unit of Measure: Ea.

Estimate: \$507,798.71

Assessor Name: System

Date Created: 02/08/2016

Notes: Remove and replace all basement steel doors, frames, and hardware in mechanical rooms; fire rated doors with panic hardware for stairs (100) 3x7 doors

System: C1020 - Interior Doors



Location: Girls HS - interior doors

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

Estimate: \$477,058.71

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace interior room doors (100 3x7 doors)

System: C1020 - Interior Doors



Location: Girls HS - corridor doors

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 160.00

Unit of Measure: Ea.

Estimate: \$36,709.84

Assessor Name: System

Date Created: 02/08/2016

Notes: Provide security hardware for classrooms and offices, locking from inside classroom. (160)

System: C1020 - Interior Doors



Location: Girls HS - music room doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with wood frame - per leaf

Qty: 6.00

Unit of Measure: Ea.

Estimate: \$27,926.03

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace soundproof doors in hallways (6)

System: C1030 - Fittings



Location: Girls HS - toilet rooms

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 20.00

Unit of Measure: Ea.

Estimate: \$14,716.43

Assessor Name: System

Date Created: 02/08/2016

Notes: Provide toilet room accessories where broken or missing (20 sets)

System: C3010230 - Paint & Covering



Location: Girls HS - corridors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: \$85,670.76

Assessor Name: System

Date Created: 02/08/2016

Notes: Repaint lockers throughout the building (approx. 2000)

System: C3010230 - Paint & Covering



Location: Girls HS - boiler room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair substrate and repaint interior concrete or CMU walls - SF of wall surface

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: \$75,020.01

Assessor Name: System

Date Created: 02/08/2016

Notes: After repairing foundation, repaint peeling foundation walls (10,000sf)

System: C3020411 - Carpet



Location: Girls HS - floors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: \$11,190.76

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace carpet (1,000sf)

System: C3020413 - Vinyl Flooring



Location: Girls HS - floors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 158,372.00

Unit of Measure: S.F.

Estimate: \$2,401,975.54

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (158,372sf)

System: C3020414 - Wood Flooring



Location: Girls HS - gymnasium

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish wood floors

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: \$107,669.40

Assessor Name: System

Date Created: 02/08/2016

Notes: Strip, sand, repair and refinish all wood floors in gymnasium (10,000sf)

System: C3020415 - Concrete Floor Finishes



Location: Girls HS - concrete slabs

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 25,000.00

Unit of Measure: S.F.

Estimate: \$96,113.34

Assessor Name: System

Date Created: 02/08/2016

Notes: Clean and repaint basement floor in mechanical rooms; clean and reseal concrete floors in stairways and toilet rooms (25,000sf)

System: C3030 - Ceiling Finishes



Location: Girls HS - ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100,000.00

Unit of Measure: S.F.

Estimate: \$1,247,880.60

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace 12"x12" acoustical tile ceilings where damaged (100,000sf)

System: C3030 - Ceiling Finishes



Location: Girls HS - ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 11,000.00

Unit of Measure: S.F.

Estimate: \$165,906.73

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace 1'x2' metal ceiling tiles in cafeteria and replace with 2x4 acoustical tile ceiling (11,000)

System: D2010 - Plumbing Fixtures



Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 60.00

Unit of Measure: Ea.

Estimate: \$228,660.76

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace sixty (60) original lavatories in the restrooms on the Basement thru 3rd Floors with low flow fixtures.

System: D2010 - Plumbing Fixtures



Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 20.00

Unit of Measure: Ea.

Estimate: \$151,583.80

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the twenty (20) wall hung drinking fountains with new stainless steel units equipped with 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: D2020 - Domestic Water Distribution

This deficiency has no image.

Location: Basement Mechanical Room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$51,112.25

Assessor Name: System

Date Created: 03/15/2016

Notes: Install a reduced pressure back flow preventer on the main service.

System: D2030 - Sanitary Waste



Location: subbasement mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$30,685.95

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the two self-priming pumps of the small sewage ejector pit located in the subbasement boiler room. The pumps appear beyond their anticipated life and should be replaced to maintain reliable service.

System: D3040 - Distribution Systems



Location: Main Offices

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 1,200.00

Unit of Measure: Student

Estimate: \$501,192.48

Assessor Name: System

Date Created: 03/15/2016

Notes: Provide adequate temperature control for the Main Offices by replacing the existing unit ventilators with a new air handling unit, ductwork and registers.

System: D3040 - Distribution Systems



Location: Basement Mechanical Room

Distress: OSHA

Category: 2 - Code Compliance

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

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

Qty: 25.00

Unit of Measure: TonAC

Estimate: \$468,502.32

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the original air handling unit that serves the locker rooms with new constant volume air handling units. This unit has an external motor and belt guard that does not comply with OSHA guidelines.

System: E1020 - Institutional Equipment



Location: Girls HS - science labs

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace lab base cabinets and countertops - per LF - add sinks in plumbing fixtures if required

Qty: 300.00

Unit of Measure: L.F.

Estimate: \$526,904.22

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace science lab furniture (300lf)

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

System: D3040 - Distribution Systems



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 230,000.00

Unit of Measure: S.F.

Estimate: \$2,175,885.58

Assessor Name: System

Date Created: 03/15/2016

Notes: Hire a qualified contractor to examine the steam and condensate piping in service more than 60 years 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 10 years.

System: D3040 - Distribution Systems



Location: Basement Mechanical Room

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Auditorium (800 seat).

Qty: 1,000.00

Unit of Measure: Seat

Estimate: \$511,269.99

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the air handling unit that serves the Auditorium located in the basement mechanical room and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines.

System: D3040 - Distribution Systems



Location: Gym

Distress: OSHA

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: \$303,296.82

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the two original air handling units that serve the gymnasium with new constant volume air handling units. These units have external motor and belt guards that do not comply with OSHA guidelines.

System: D3040 - Distribution Systems



Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (24" dia.)

Qty: 3.00

Unit of Measure: Ea.

Estimate: \$132,925.17

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the original power roof ventilators that provide exhaust for the restrooms on the upper levels in service for more than sixty years.

System: D3040 - Distribution Systems



Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Condensate Receiver Pump Set

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$47,791.10

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace one of the remote condensate receiver pump sets in the next few years.

System: D3060 - Controls & Instrumentation



Location: Throughout Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (250KSF)

Qty: 233,372.00

Unit of Measure: S.F.

Estimate: \$4,287,488.52

Assessor Name: System

Date Created: 03/15/2016

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.

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

System: D1010 - Elevators and Lifts



Location: Girls HS - elevators

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Update/Modernize Elevator Cab - select the scope of work and change the quantities to fit the need

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$173,917.03

Assessor Name: System

Date Created: 02/08/2016

Notes: Upgrade cabs of two elevators with new finishes and ADA accessories and features

System: D3040 - Distribution Systems



Location: Basement Mechanical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace utility set exhaust fan (10 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: \$171,775.53

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the original utility set blowers on the basement level that provide exhaust for the restrooms in service for more than sixty years.

System: E2010 - Fixed Furnishings



Location: Girls HS - auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish auditorium seating

Qty: 30.00

Unit of Measure: Ea.

Estimate: \$15,991.23

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace damaged folding wood auditorium chairs = 30

Priority 5 - Response Time (> 5 yrs):

System: D2010 - Plumbing Fixtures



Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 58.00

Unit of Measure: Ea.

Estimate: \$432,804.57

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace fifty eight (58) original water closets in the restrooms on the Basement thru 3rd Floors with low flow fixtures.

System: D2010 - Plumbing Fixtures



Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace or replace wall hung urinals

Qty: 24.00

Unit of Measure: Ea.

Estimate: \$88,945.30

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace twenty four (24) original urinals in the restrooms on the Basement thru 3rd Floors with low flow fixtures.

System: D2020 - Domestic Water Distribution



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (250 KSF)

Qty: 230,000.00

Unit of Measure: S.F.

Estimate: \$956,593.14

Assessor Name: System

Date Created: 03/15/2016

Notes: Replace the original copper domestic water piping in service for more than 60 years to ensure reliable service.

System: D2030 - Sanitary Waste



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 200,000.00

Unit of Measure: S.F.

Estimate: \$867,994.84

Assessor Name: System

Date Created: 03/15/2016

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for more than 60 years 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: 5 - Response Time (> 5 yrs)

Correction: Inspect internal rain water drainage piping and replace pipe - based on SF of multi-story building - insert SF of building

Qty: 82,874.00

Unit of Measure: S.F.

Estimate: \$367,498.98

Assessor Name: System

Date Created: 03/15/2016

Notes: Hire a qualified contractor to perform a detailed examination of the storm drainage piping in service for more than 60 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3020 - Heat Generating Systems



Location: Coal/Ash Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 8,000.00

Unit of Measure: Gal.

Estimate: \$235,040.98

Assessor Name: System

Date Created: 03/15/2016

Notes: The District should budget for replacing the existing fuel oil tank with an 8,000 gallon above ground concrete-encased tank, circulation pumps and controls.

System: D3030 - Cooling Generating Systems



Location: Throughout Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 250,000.00

Unit of Measure: S.F.

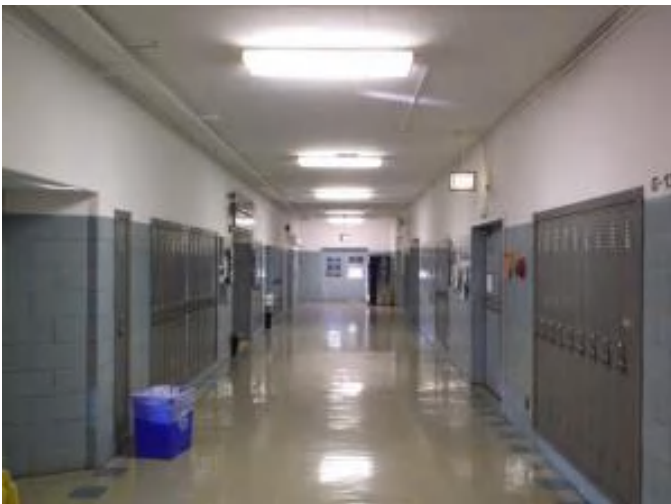
Estimate: \$3,800,523.21

Assessor Name: System

Date Created: 03/15/2016

Notes: Install air-cooled screw chillers on the roof with pumps located in the boiler room and chilled water distribution piping to supply reliable air conditioning for the building.

System: D4010 - Sprinklers



Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 233,372.00

Unit of Measure: S.F.

Estimate: \$3,338,489.23

Assessor Name: System

Date Created: 03/15/2016

Notes: Install a fire protection sprinkler system with quick response type heads to provide protection for the property.

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
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	4.00	Ea.	Electrical Room					30	1956	2017	\$42,849.00	\$188,535.60
D5010 Electrical Service/Distribution	Switchboards, pressure switch, 4 wire, 120/208 V, 3000 amp, incl CT compartment, excl CT's or PT's	2.00	Ea.	Main Electrical Rooms					30	1956	2017	\$54,523.80	\$119,952.36
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 500 kVA, pad mounted	2.00	Ea.	Electrical Room					30	1956	2017	\$33,534.00	\$73,774.80
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 750 kVA, pad mounted	2.00	Ea.	Electrical Room					30	1956	2017	\$41,855.40	\$92,081.88
												Total:	\$474,344.64

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:	Special Education
Gross Area (SF):	143,000
Year Built:	1953
Last Renovation:	1982
Replacement Value:	\$84,309,866
Repair Cost:	\$19,907,297.95
Total FCI:	23.61 %
Total RSLI:	61.12 %



Description:

Facility Condition Analysis
December 2015

School District of Philadelphia
Widener Memorial School
1450 West Olney Avenue
Philadelphia, PA 19141

143,000 SF / 1034 Students / LN 07

Widener Memorial School is located at 1450 West Olney Avenue. The Widener School started in 1906 with an original building that stood until 1953 when the present day "original" building was constructed. It is said that some of the foundations of the 1906 building still exist, but they were not seen. The 1902 limestone plaque on the lower front corner of the northeast wing (under renovation) represents the founding date of the original school. The present building was constructed in 1953. It is a single story building with a partial basement and crawl spaces for utility piping. Part of the 1953 construction was a semi-underground wing connected to the main building on the west, extending further west and south; this wing contains vehicle garages and storage areas and was used as the main vehicle maintenance facility many buses. Today, it serves as a mostly underutilized garage and storage facility. A single story wing now designated as the High School wing was constructed around 1969 off the main entrance corridor to the south. In 1982, a separate but connected building containing an indoor swimming pool and lockers was constructed. Around the year 2000, the original entrance canopy was removed and a new expanded canopy installed to provide a larger covered entrance. Today, in 2015, the northeast wing, part of the 1953 construction is being renovated into an Apartment wing. Other improvements to the existing

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buildings are also being made at the same time to update many of the old and failing components. Faculty parking is located along roadways to the west. Roadways into and out of the school are shared with Girls High School. The District indicated that the costs for repaving the roadways should be shared between Widener and Girls HS since both schools utilize the same roadways. Darryle Cleveland, the Building Engineer, accompanied the FCA team during the inspection.

At the time of the field inspection, the Team met Principal Glodek who expressed concern over some building issues. Even though the chiller is only 3 years old, the air conditioning in the High School Wing is not working. The clock system does not work. The school office and some other areas of the building have a "cellular floor" (concrete floor with cast-in-place cavities for electrical wiring). Sections of the floor are beginning to fail creating holes and spongy areas. The school is an entirely barrier free school, but the pool does not have barrier free entries into the water. Additionally, the pool building has many problems with the glass block. Staff parking is not adequate. Steam leaks in the gym damaged the floor, which now needs to be repaired.

ARCHITECTURAL/STRUCTURAL SYSTEMS

Foundations in the Main Building are constructed of block and concrete. Basement block joints are in good condition with no major settlement cracks observed. Crawl spaces were not inspected beyond what was seen from the basement door into the crawl space. A small section of concrete was missing from the underside of the first floor slab, exposing the steel reinforcing; spalling was not seen on the slabs above the basement. An inspection of crawlspace slabs should be conducted to ascertain if other sections of slab are spalling. Footings were not seen and their construction type or condition could not be ascertained.

Floor slabs in the main building basement mechanical rooms are in good condition although covered with dirt and in need of cleaning. First floor slabs are constructed of cast-in-place concrete with cast-in-place concrete beams. No major cracks were seen in any of the slabs, however a number of areas are lumpy and uneven in corridors, outside the auditorium in the courtyard lobby and the school office. This could be due to concrete spalling or poor adhesive application underneath the VCT finishes. Floor tiles should be removed to permit inspection of the slabs for spalling; slabs should be resurfaced and the VCT reinstalled.

Roof construction over the main building consists of either reinforced concrete beams and deck, bearing on masonry walls and concrete columns or steel beams/joists and metal deck on steel or concrete columns. The underside of the roof deck in the wing under construction was seen to be constructed of concrete "T's" with a flat concrete overhang extending beyond the windows; this is probably typical of the other wings with concrete overhangs over the windows. The gymnasium and pool room have exposed, longspan steel bar joist and metal deck roof systems and although not observed, it is suspected that the same system extends over the auditorium. The roof deck above all parts of the building consists of a "flat" deck with minimum overall slope and pitch to roof drains. The edges along some of the roofs is cracked and spalling, where the concrete deck extends to form an overhang. Roof access is via a hatch in the roof. The roof has no parapets, has a brick chimney, and a brick masonry walls extending above the different height roof structures. All roofs have internal roof drains at low points. Vertical leaders run through the building in internal chases. There are vertical leaders running down some of the exterior walls from higher roofs to lower roofs. Some of the roofs have overflow scuppers or overflow roof drains; the roofs that do not have overflow systems have low gravel stop edges and since there is no measureable parapet, no water is held on the roof eliminating any structural concern. There is a slightly pitched, semicircular "J"-shaped metal roof system supported by a single row of tapered steel columns over the bus drop-off and walkway into the main building entrance.

Exterior walls of the main building are constructed of brick. Windows run in horizontal bands under concrete roof overhangs in low wings; windows have limestone heads with brick above in taller wings. A project was in progress during the condition assessment. The Team was told that windows will be replaced and lintels will be replaced; brick was in the process of being pointed. There were many areas requiring pointing that are supposed to be repaired in the brick repair project. The top of the chimney is cracked and needs to be repaired soon. Brick surfaces also have mildew below the first floor windows and below the roof on some elevations and should be powerwashed to improve the appearance after repointing. The pool house brickwork and glass block are in poor condition. Glass block is constructed in interesting but problematic triangular pyramid forms, in both upright and inverted orientations. Many glass blocks are broken, possibly from vandalism but also possibly from structural stress. Brickwork is also cracked due to structural stress. A detailed assessment of the glass block needs to be implemented, however it is possible that all of the glass block might need to be replaced and the brick repointed where adjacent to the glass block. In conjunction with the broken glass blocks and cracking brick joints, the integrity of the exterior envelope is compromised; when the cold air leakage is added to the high heat and humidity of the interior, additional stress is put on the walls where extreme condensation has caused rusting of all steel lintels, frames, and doors on the exterior walls. HVAC units are probably overworked to make up for the additional heat loss through cracks and breaks in the exterior walls.

Exterior windows are aluminum frame and single glazed units, that might be original. The frames are corroded, window putty is cracked and failing, and caulking is failing. The Team was told that a full window replacement is underway. Based on the observations made during the field inspection, the existing windows certainly need to be replaced with new insulating high-efficiency glass units as the District has planned.

Exterior doors used at the building's exits and entrances are painted hollow metal panels with steel frames. Some have narrow glass or half-glass vision panels with security screens. Hollow metal doors are generally in poor condition, with dents and scratches; these doors and frames should be replaced. It was indicated that most hardware does not latch properly and many doors need adjustment. Weatherstripping is missing on most doors as gaps can be seen around the older doors. Hollow metal doors into the pool house section have unique round vision panels; these doors are rusting in many places. New doors, frames and hardware are needed almost everywhere. The loading dock and old vehicle maintenance garage have galvanized or painted steel coiling roll-up doors with painted steel channel frames. The building loading dock door is in good condition, but the doors in the vehicle maintenance garage are in poor condition and do not seal out the cold air during winter; they have dents, worn paint and rust. Two of the rollup doors were opened by electrical operation; the others were not tested but they did not look like they were all in working condition.

Roof coverings over the building sections consist of a built-up asphalt roofing system, with light gray granules embedded into the roofing membrane. It is guessed from aerial photos and information given to the inspection Team, that the roof was installed approximately 15 years ago. Flashing is the same as the roofing membrane, fully adhered to rooftop ventilation ductwork, plumbing vents, around equipment dunnage and bases, and under aluminum coping. Roof structures include masonry walls, masonry chimney, plumbing vents, exhaust fans, ventilation ductwork, and roof drains. Coping and flashing are in good condition. Low roof areas over the pool and the gymnasium lobby facing the pool-auditorium courtyard (roofs #6, 7, and 8) have dirty areas around the roof drains, indicating slow-draining water and possibly clogged roof drain baskets. Areas around the roof drains need to be periodically cleaned to provide better drainage into the roof drain assembly. One of the low roofs (2 sections of curved roofs over the courtyard - #10) utilize scuppers with spouts to drain the roof decks, by spilling water onto the courtyard; this is a simple way to remove water from an isolated section of roof, as long as the water accumulation below is not problematic to users. The pool house roof has one large plexiglass barrel vault skylight. At least 2 of the sections of this large skylight were broken (possibly from vandalism) and patched with spare pieces of single glazed plexiglass; there is extensive condensation in an around this unit. The skylight needs to be replaced with a new insulated unit.

Partitions in the main building are constructed of painted block (concrete masonry units) with glazed block wainscots throughout most of the school. Corners are bull-nose block to soften the hard edges and provide a more durable surface. Wall bases are either painted block or glazed block. The main entrance vestibule has block partitions with glossy marble panels on the rear lobby walls, leading down the contiguous corridors. The main office has some gypsum board partitions, the pool house locker area has gypsum board partitions in change rooms and toilet rooms, and the High School wing has gypsum board partitions. Damages are common in all gypsum board partitions. The corridor in the high school wing needs horizontal bumper rails to provide wall protection from the large numbers of students moving and standing in the hall. The high school wing also has folding partitions between many classrooms. Although they were said to be in good working condition, teachers do not open them. One wall in the gymnasium, some walls in the kitchen, and some walls in the cafeteria have minor cracking, which should be repaired. The old pool space, located in the middle of the building, has glazed block walls with high clerestory windows; today, it is used for administrative functions.

Interior doors in the main building classrooms, offices, storage rooms, and bathrooms are solid wood oak veneer doors and steel frames. Many of these wood doors have vertical wired glass vision panels where vision is desirable. Most wood door surfaces are worn and damaged in need of replacement; most classroom doors do not have closers, required by code on fire-rated corridor doors. Steel door frames are in good enough condition that they could be repainted. Classroom, office, and special function room doors throughout the building have old nob-style locksets. Since none of the classroom doors can be locked from the inside of the classroom, as required today for lock-down security, door hardware and door panels need to be replaced. Cafeteria and auditorium doors are wood doors steel door frames and the original closers; they do not have latching hardware and panic devices as required by today's codes for fire rated doors. All wood doors and hardware need to be replaced. Interior basement doors in the mechanical room are also hollow metal steel doors with steel frames; these doors should be repainted where not rusted and otherwise replaced. Steel interior door frames are in good enough condition to be repaired and repainted. Wood doors in the pool house are in good condition, should be refinished and have new lever locksets and closers provided.

Interior fittings/hardware in the main building include slate chalkboards and tackboards with metal chalk trays mounted on one wall in each classroom. Functional Therapy Room has built-in wood storage closets for equipment. The Physical Therapy Room has exercise equipment, pads, space dividers with curtains, and benches for students to utilize in their daily exercise programs. The shop, located in the PT/OT wing, has workbenches and large fixed power tools, used to repair devices and equipment used for physical and occupational therapy by students. The nurse's facility has old benches, beds, desks, chairs, and cabinets. Corridors in the high school wing have colorful built-in lockers in the wide central corridor; surfaces are scratched and should be repainted. Toilet rooms are distributed throughout the school within or directly adjacent to classrooms; there are no gang toilet rooms as most of the school's population have special needs and could not utilized gang toilet rooms. All toilet rooms seen have been renovated to comply with the latest ADA accessibility design guidelines, having wide doors, ample space for wheelchair accessibility, grab bars, sinks with wrist blade handles, knee protection, accessories at low mounting heights, and new ceramic tile walls and floors. Many toilet rooms have additional devices to help disabled students get out of wheelchairs onto toilets or into showers where provided. At this time, the

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school has no useable library, since it is located in the wing that is being renovated and has not yet been relocated.

Stairs only go to mechanical spaces and are not used by students and faculty. One stair goes from the ground floor to the basement mechanical room; the other stair goes from the ground floor to the roof-level mechanical room and the roofs. Construction consists of concrete filled steel treads with steel nosings, steel risers and stringers and painted steel handrails (31" high) and guards (36" high) at tops of landings; balusters are spaced more than 4" apart. Stairway handrails and guards do not meet today's code requirements for railing height, guard height and baluster spacing; they should be replaced with code compliant systems. Concrete platforms and landings are painted and are in adequate condition for mechanical access stairs.

Wall finishes vary throughout the building. In classroom corridors and the gym in the original 1953 building, walls have glazed block wainscots with painted plastered block above. The kitchen has full height glazed block walls. The entrance lobby and auditorium queuing areas have marble panel finishes on the walls. Classrooms, therapy room, offices, and the cafeteria in the original building have painted plastered block walls, in good condition. Toilet rooms throughout the building have recently installed ceramic tile wainscots or full height ceramic tile. Basement mechanical room walls are painted block in fair condition; the mechanical area under the pool house is in poor condition with rusting pipes and dirty wall finishes. The pool house lockers, toilet rooms, corridors are painted gypsum board, generally in poor condition needing patching and repainting; the high school wing is also painted gypsum board in similarly poor condition. The swimming pool room is exposed, unpainted block. The auditorium has full height wood paneling on all walls; some touch-up and repairs are needed to lower sections, but upper panels are in good condition.

Floor finishes in classrooms in the old 1953 sections of the building, therapy rooms, and the auditorium seating area consist of vinyl asbestos tile (VAT). These floors have many cracks, broken tiles, and mismatched replacement tiles. The rooms with VAT floors should be tested for asbestos and they should be properly removed and replaced with new VCT. The cafeteria, some corridors and classrooms in the high school wing have vinyl composition tile (VCT). Floors in most spaces are in good condition and do not appear to need replacement. The main office area and corridor is finished with carpet which is in poor condition needs to be replaced; the slab underneath is uneven and needs to be repaired before the new carpet is installed. The circulation areas in the auditorium are finished with carpet which is worn and needs to be replaced. The kitchen has a quarry tile floor which is highly durable and in good condition. Basements and stairs have sealed or painted concrete finishes which are in fair condition. Toilet rooms have relatively new ceramic tile which is clean and promotes the appearance of cleanliness. The gymnasium has a wood floor which was damaged by heating system water leaks. Some of the wood was removed and replaced with plywood, which needs to be replaced with the wood gym floor surface. The auditorium stage is wood and needs to be refinished. The high school wing corridor and some connecting corridors are finished with relatively new carpet which is in good condition. The swimming pool room has ceramic tile which needs to be cleaned. Pool support rooms are VCT in good condition.

Ceiling finishes in most spaces throughout the building consist of acoustical tile ceilings with surface mounted 1x4 or 2x4 fluorescent lighting fixtures where 12"x12" tongue and groove glued to deck ceiling tiles are used, or recessed 2x4 fluorescent lighting fixtures where suspended 2x4 acoustical ceilings are used. Corridors, the auditorium, classrooms, therapy rooms, and offices in the old section of the building have 12x12 glued ceiling tiles; corridors in the high school wing, classrooms, and offices have 2x4 suspended acoustical tile ceilings. The kitchen has an exposed painted concrete deck ceiling with exposed electrical conduits secured to the deck. The gym and pool house have exposed painted bar joists with metal deck ceilings. The gym and pool house ceiling surfaces are painted and in good condition. Many 2x4 ceiling grids and tiles are old, yellowed and should be replaced. Some of the 12"x12" tongue and groove ceiling tiles are discolored or falling; these should also be replaced in the areas where tile are failing.

Fixed furnishings include wood seating in the auditorium which is in fair condition. Many chairs need adjustment or refinishing; repairs are required. The cafeteria has folding tables for serving students. The kitchen area has stainless steel service counters and food preparation fittings in good condition. Kindergartens have built-in wood cabinets and storage units and cabinets which are in good condition. The Science Room has wood casework with lab countertops in good condition; there are sinks and water, but no lab gases or other utilities in that room. Classrooms have closets for storage and some also have built-in wood cabinets and sinks.

There is a small 3500lb capacity 2 stop elevator in the building, replaced in 2010. Since it only serves the basement mechanical rooms, students do not use the elevator. The school is a single level facility and does not need an elevator to access any of the school spaces.

MECHANICAL SYSTEMS

Most of the original plumbing fixtures have been replaced; only a few remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with lever handle faucets. Water closets in the staff restrooms are floor mounted. Sinks are installed in many of the classrooms. The fixtures appear in good repair, but the older units should be replaced with low flow fixtures as part of any renovation of the spaces.

Drinking fountains in the corridors and at the restrooms are wall hung stainless steel fixtures with refrigerated coolers that have been

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replaced in the last few years. These units are within their anticipated life and should provide reliable service for the next 5-10 years. At least one fountain on each floor is dual level, accessible type.

A hall hung service sink is available on each floor for use by the janitorial staff. The Cafeteria has a three compartment, stainless steel pot and pan sink with lever operated faucets and a grease trap. A manual station supplied by a vendor is available to add chemicals to the sanitizing basin. An adequate number of hand washing sinks are provided in the kitchen prep areas. The science classroom stations have laboratory faucets and acid resistant resin sinks and waste lines. The emergency eyewash stations are shut off and the prep sinks are not in use.

A 4" city water service enters the building from Olney Avenue. The 4" meter and valves are located in the boiler room. A reduced pressure backflow preventer is installed on the supply to the building. The original domestic hot and cold water distribution piping in the older portion of the building was installed in 1953 with galvanized steel piping and threaded fittings. The tanks and pumps of the original continuous pressure water system are abandoned in place. The maintenance staff reports no significant problems with the domestic piping and the supply seems adequate to the fixtures. However, the domestic water piping in the older portion should be replaced with copper piping and sweat fittings, as it is well beyond the anticipated service life.

An electric vertical tank type water heater installed in 2008 supplies the pool building. Three gas-fired, tankless instantaneous (on demand) water heaters manufactured by Paloma were installed in the boiler room in 2001 to supply hot water for domestic use. These heaters supply the original hot water storage tank. The units are equipped with T&P relief valves and the system has two circulation pumps. The instantaneous water heaters should be scheduled for replacement as they have exceeded the anticipated service life of 10 years. The building has a water softener with two resin tanks and one brine tank for conditioning domestic hot water and makeup supplied to the boilers.

Roof drains conduct storm water to the sewer system on the site. The original sewer discharges to Broad Street and combines sanitary wastes and storm drainage. Piping is galvanized steel with threaded fittings. The roof parapet of the older portion of the building is low enough that overflow drains are not required; the pool addition has overflow drains.

The maintenance staff reported no problems with the sanitary waste piping systems. However, the original sewer piping in the older portion of the building is galvanized steel with threaded fittings that has been in service for more than 60 years and will require more frequent attention from the maintenance staff as time passes. Sections of pipe have been replaced using cast iron pipe with hub less fittings joined with banded couplings. 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.

The pool building has a vendor supplied filtration system with backwash and chemical disinfection.

Low pressure steam is generated at 15 lbs/sq. in. or less by four Weil McLain cast iron sectional boilers. Three units are 200 HP installed in 1993 and the fourth is a 75 HP unit installed in 1994. Each boiler is equipped with a Power Flame burner designed to operate on natural gas or fuel oil. A motorized damper mechanism at the outlet of the smoke box of each boiler provides flue gas recirculation to reduce NOx emissions. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with pilot ignition, solid state flame sensing and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. The gas train serving each boiler appears to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The oil supply to the burner is equipped with dual solenoid valves and strainer, but has no disposable media filter. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service less than 25 years. The boilers appear to have been maintained well and should provide reliable service for the next 5-10 years.

The reserve oil supply for the boilers is stored in a 10,000 gallon underground storage tank (UST). The tank is equipped with automatic leak detection and monitoring. Duplex pumps circulate oil through the system. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The fuel supply should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years. The actual installation date for this tank and the condition of the fuel side are unknown. However, the design engineers elected not to replace this tank with the renovation of the High School Wing, so it should provide reliable service for the next 5-10 years.

An oil-fired boiler supplied by a 6,000 gallon underground storage tank provides heat for the pool and for building heating. An auxiliary heat exchanger is also available for heating the pool.

A 6" natural gas service enters the building from Olney Avenue. A booster is installed on the incoming service to provide sufficient capacity and pressure to support burning natural gas as the primary fuel.

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Two duplex condensate receivers were installed in 1994 and should be replaced as they are beyond the anticipated service life. The boiler feed pump assembly was installed in 2002 and is equipped with five pumps; this unit is within the anticipate life and should provide reliable service for the next 5-10 years. A number of past problems were reported with failed steam coils and traps. Live steam passes into the supply air stream of the air handlers from the failed coils. It can also pass into the condensate piping system from the failed traps and then vent from the condensate handling equipment damaging the surrounding building construction. The District has not conducted a steam trap survey for this building and traps are not serviced on a regular schedule.

Steam piping is black steel (ASTM A53) with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping mains from the basement level run up through the older portion of the building to the air handling units, unit ventilators and heating terminal units. The original distribution piping installed in 1953 has been in service more than 60 years 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 steam and condensate 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 10 years.

Two 186 ton water-cooled screw chillers (R-134a) were installed in the boiler room in 2012. A two cell cooling tower installed outside the dock in 2012 provides evaporative cooling of the condenser water. The condenser water system is equipped with a side stream separator to remove fine particulate. A refrigerant leak detection system is installed in the boiler room. A pair of centrifugal pumps in the boiler room circulates CHW to the unit ventilators and air handlers throughout the building. A separate zone pump supplies CHW to the Auditorium air handler. Two end suction pumps with suction diffusers circulate water through the condenser system.

Five air handling units located in the penthouse mechanical equipment room serve the Auditorium (AH-1), a portion of the classrooms (AH-2), the Entry Lobby (AH-3), Computer Classroom (AH-4), and Gym (AH-5). These are the original units installed in 1953. They are equipped with mixing dampers, steam heating coils, chilled water cooling coils (except Gym unit) and a draw through fan with an external motor and belt guard that does not comply with OSHA guidelines. The Auditorium and Computer Classroom units also have a return/exhaust fan. The unit housings are insulated with internal fibrous liner. Fiberglass liner materials are classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits. The liner materials are difficult to maintain and clean. They deteriorate over time and can support microbial growth in the HVAC systems known to cause serious health effects for building occupants. The District should consider replacing these air handling units and the associated supply ductwork systems to eliminate this potential liability problem.

Two air handling units serve the pool natatorium and a third supplies the upper level. The maintenance staff reports problems with humidity control due to evaporation from the pool surface. A dehumidification system should be provided to remove excess moisture and protect the building substrates.

Unit ventilators provide heating and ventilation for the classrooms in the building. Many are the original units installed in 1953 and are equipped with steam coils, mixing dampers and coil bypass dampers that allow operation on full outdoor air. The air intake for these units is ducted directly through the wall from outdoor louvers. Excess air supplied by the unit ventilators transfers to the corridor ceiling through wall grilles above the door and relieves to the outdoors through gravity hoods on the upper level. Exhaust from the restrooms is made up by air transferred from the corridors through louvers in the doors. These conditions do not meet requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path. The original unit ventilators have been in service for more than 60 years. They are well beyond their anticipated service life and should be scheduled for replacement. The new units should be designed for quiet operation and equipped with hot water and chilled water coils, and integral air-to-air heat exchanger to supply code required minimum outdoor air ventilation.

The District is in the process of replacing the unit ventilators with new units equipped with HW heating coils and chilled water cooling coils.

The high school science rooms have fume hoods and a chemical storage space with continuous exhaust is provided on the upper level.

Power roof ventilators exhaust air from the restrooms and utility rooms. Twenty one (21) fans are located on the roof. They are controlled by a time clock. Many of these fans have been replaced, but a few of the original units remain in service and should be replaced as they are well beyond the anticipated service life. The kitchen has an exhaust hood and gas-fired makeup air system.

The original pneumatic systems still provide basic control functions in the older portions of the building. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Pneumatic control air is supplied from three compressors and a refrigerated dryer located in the boiler room. The maintenance staff reports temperature control is poor due, which may be due to problems with oil or moisture in the pneumatic supply lines and failed copper tubing buried in the walls and floor slabs. The older pneumatic controls have small rubber gaskets and tubing connections at devices that have become brittle and fail regularly. The pneumatic systems in the older portions are beyond their service life and require too much attention from the maintenance staff. The

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original control valves, dampers and pneumatic actuators more than 60 years old and should be rebuilt or replaced. These controls should be converted to DDC.

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

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.

ELECTRICAL SYSTEMS

Site Electrical Service comes from medium voltage overhead lines on wooden poles along Olney Street. The service entrance equipment to the facility, located in the switchgear room adjacent to the main electrical room, consists of a metering section and the main switchgear at 600A, 5000V. The main switchgear, receiving power from an overhead pole via an underground medium voltage cable, feeds two substations (re. substation #1 and substation #2), the pool building, and two step down transformers, one rated at 500KVA, converting 4160V to 2-240/120V, five wire, and the other rated at 150KVA, converting 4160V to 480V 3phase, 3 wire. These transformers are for 480-volts and 240-volts loads in the building. Substation #1 consists of 600A medium voltage load interrupter, a dry type transformer rated at 500KVA, 4160V to 208/120V, 3PH, 4 wires, and a 2000A, 208/120V rated distribution switchboard. It is located in the main electrical room in the boiler area, and for lighting/receptacle panels and other loads throughout the building. Substation #2 consists of 600A medium voltage load interrupter, a dry type transformer rated at 500KVA, 4160V to 480/277V, 3PH, 4 wires, and an 800A; 480/277V rated distribution switchboard, and is located in the second electrical room. Substation #2 feeds all of the chillers. Utility meter is installed in a separate enclosure adjacent to substation #1. Substation #2 is new and is in good condition. Other medium voltage power components including substation #1, transformers, breakers and disconnect switches are all outdated beyond what seemingly of the useful life therefore requiring replacement.

The electrical service for the pool is fed by a 200A, 480/277Volt panel board. It is located in the pool building. This distribution panel board for the pool building is fed from a 150KVA medium voltage transformer, 4160V to 480/277V, 3phase, 4wire, and is located in the pool equipment room. A step down transformer, 75KVA rated, is provided for lighting fixtures, receptacles and other 208/120V loads throughout the pool building. The electrical equipment in the pool building is in good condition thus no need for replacement.

Power distribution for the campus is achieved through 27 power and lighting panels with different type of voltage rating (240V, 3phase, 208/120V, 3phase, 4wire and 480/277V, 3phase, 4wires) located throughout the building. Twenty five panel boards are provided for normal power and two panel boards for emergency lighting loads. Majority of the panel boards (90%) are old and needs to be retrofitted or replaced.

In general there are not enough receptacles especially receptacles on emergency power installed in the class rooms. Recommendation is to have a minimum of two receptacles on classroom walls but the current installations fall short of this recommendation. Our recommendation is to provide one receptacle on emergency power in each classroom for the equipments need for immediate safety of life support (e.g. respirator).

All fluorescent lighting fixtures in classrooms, corridors, offices and mechanical/electrical rooms have already been retrofitted with T8 lamps and are in acceptable working condition. However minority of existing lighting fixtures is damaged and need to be repaired or replaced. Gymnasium is illuminated by pendent mounted metal halide high bay lighting fixtures which have high energy consumption and are difficult to re-lamp. High bay LED fixtures are a good option for replacing these lighting fixtures.

The Fire Alarm system is addressable, and in compliance with today's safety codes. The Smoke detection system consists of area smoke detector in corridors duct smoke detectors and manual pull stations for fire notification. There are a sufficient number of horn/strobes installed in the classrooms, corridors, offices and other areas in new wing of the school.

The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along with a telephone PBX system (telephone within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines) servicing the communication system of the building. School also equipped with wifi system.

Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately.

Each classroom is provided by intercom telephone service. The system is permit paging and intercom communication between main office phone to classroom phones, and classroom to main office, classroom to classroom, and to office. Outside line access from a classroom phone through the PBX is blocked. The system is interfaces with master clock system for class change signaling utilizing

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paging speakers. The system also equipped with a tone generator and input from program/clock controller.

In general clock and Program system in the buildings are functioning. Our observation showing that in some area the clocks dose not received signal from master clock controller properly. Providing additional transmitter to the system may solve the problem. However a further Investigation is required for troubleshooting.

Video surveillance system is not provided in the school. School provided only with access control system such a door contacts on IMC, and main entrance doors and motion security sensors in corridors. The school desires a complete video surveillance system with cameras located in critical areas, such as exit doors, corridors, and building exterior areas. The cameras should be controlled by a Closed Circuit Television (CCTV) system.

Emergency Power System is provided in the school. A 43.7KVA, 208/120V, three phase, 4W is provided in Boiler room for emergency lighting in 1998. The generator is still in a good conditions and Replacement is not required.

Uninterruptible Power System (UPS) is provided for Local Area Network in the main IT room.

Emergency lighting system, including exit lights are provided in the buildings. Numbers of lighting fixtures in corridors and all exit signs are fed by emergency pack up generator. Battery pack emergency lighting is provided in pool building.

Lightning Protection System is accomplished with a few air terminals mounted on the chimney on the roof and connected to the ground system. Further study is needed to verify that the air terminals provide the proper coverage.

An estimated 40 horsepower rated hydraulic type elevator manufactured by ThyssenKrupp is in operation at the school. The elevator appears to be working properly.

Existing theater lighting and dimming system is accomplished with one row of spot lights that are turned on and off by branch circuit breakers in a lighting panel located in stage area and not by dimmer. Theater lighting and controller are old and not meet the modern theatrical lighting system. In modern school auditorium, Stage requires front, upstage, high side, backlighting, scenery lighting and controllers by automatic dimmer bank controller. In addition to the stage lights, supplemental fluorescent lighting is also requires to be provided in stage area for lectures and testing. These supplemental lighting could be also turned off automatically by dimmer bank controls during performance.

Sound System in not provided in auditorium. School is using portable sound system for any performances. The school desires to have a modern multipurpose room sound system recommended by ECE40020 (standard for reinforcement system design) and required to be replaced.

Campus areas, parking areas, and building perimeters have lighting that is adequate for personnel safety and security of property.

Site Lighting System is adequate. There are sufficient numbers of flood lights are provided around the building for personnel safety and security of property. There are also wall sconces are provided at exit doors. No major deficiencies observed.

The exterior building and parking areas are not monitored by a video surveillance system

Site paging system is provided in the school and is functioning. However some of the speakers need to be replaced to make the system fully operational as designed.

GROUNDS SYSTEMS

Paving and parking is constructed of asphalt. Dedicated parking for staff and faculty is limited and inadequate, according to the Principal. There is some parking available opposite the vehicle maintenance area, but it would be shared with school buses. Roadways leading up to the school from West Olney Avenue and away from the school to Ogontz Avenue are shared with Girls High School. These surfaces are in poor condition and should be repaved; the District requested that the cost for repaving these areas be split between Girls High School and Widener.

The front of the building is accessible as are most of the courtyard doors from spaces with courtyard access. There are curb cuts from the drop-off roadway up to the sidewalk that leads into the main entrance, there are no handicap parking spaces in the front parking area, nor any other area near the front doors. Concrete walkways, curbs and asphalt paving in the drop-off area is failing and needs to be replaced.

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Full perimeter site fencing to secure the site is absent and would be difficult to construct as the site is extensive and shared with Girls High School; there is no fencing between the schools. Some chain link fencing is provided to secure the rear of the site facing the track and field below, providing some degree of physical closure to the site. Brick walls and wrought iron fencing is provided along Broad Street with large plaques indicating the presence of the Widener School. The iron fence is rusted and needs to be repainted; the brick posts are cracked and need repointing. Low brick retaining walls along the walkway from the mechanical loading dock to the front of the building are cracking and leaning, in need of repairs.

RECOMMENDATIONS

- Inspect crawl space; patch spalled sections of floor, seen from crawlspace (100 sf)
- Replace exterior metal doors with new FRP doors with metal frames including hardware and weatherstripping (45 3x7)
- Patch spalled edges of concrete roof overhangs above windows (600 sf)
- Masonry pointing on chimney and other misc areas (500 sf)
- Replace exterior windows (estimated count = 550; av size 4'x8')
- Repair/rebuild low roof (roof #8) over pool house, eliminating flat spots (3,000 sf)
- Powerwash soffits and brick walls below first floor windows and window sills where dirty and with graffiti; paint walls previously painted (8,000 sf)
- Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (150) 3x7 doors
- Provide security hardware for classrooms and offices, locking from the inside of the room (100)
- Remove 9"x9" VAT floors in classrooms, corridors, and auditorium with and replace with VCT (4,000 sf)
- Replace damaged VCT (6,000 sf)
- Replace old burgundy, gray, and brown colored carpet in main corridors, offices, auditorium and classrooms (20,000 sf)
- Repair wood floor (300 sf) ; refinish entire gym and stage floor (5,000 sf)
- Repaint damaged gypsum board walls in high school wing and pool house lockers (5,000 sf)
- Provide horizontal bumper rail in high school wing corridor and in pool house lockers where possible (300 lf)
- Repair cracked interior block walls (500 sf)
- Repaint lockers in high school wing (1,000 sf)
- Replace 2x4 suspended acoustical tile ceilings (20,000 sf)
- Replace 1x1 tongue and groove ceiling tile in corridors (10,000 sf)
- Refinish auditorium seats (50)
- Replace rusted metal toilet room partitions in pool house locker rooms (4 sets)
- Replace worn out kitchen cabinets in kindergarten and art classrooms (40 linear feet)
- Replace barrel vault skylights in pool house roof with insulated skylights (80 sf each = 160 sf)
- Replace glass block in pool house (500 sf south wall; 280 sf east wall; 20 sf repair to west wall)
- New lintel over south glass block (70ft steel beam)
- Repoint 8"x8" exterior brick in pool house around glass block (500 sf)
- Repaint rusted cylindrical steel columns in pool house (20 each, 16 ft tall = 1,200 sf)
- Replace exterior doors and frames in pool house (6 44"x84" with vision panels)
- Repaint internal steel lintels in triangular glass block wall, inside and outside (300 sf)
- Repaint peeling basement walls under pool house (2,000 sf)
- Replace 8 rollup doors in vehicle maintenance building (8 10'x10')
- Replace personnel doors in vehicle maintenance building (6 3x7)
- Replace windows in vehicle maintenance building (5)
- Refinish concrete slabs in vehicle maintenance building (15,000 sf)

MECHANICAL

- Replace the original galvanized steel domestic water piping in service for more than 60 years.
- Replace the three gas-fired, tankless instantaneous (on demand) water heaters in the boiler room that supply hot water for domestic use. These heaters should be replaced as they are beyond the anticipated service life.
- Perform a detailed examination of the original cast iron sanitary waste piping in service in the older section of the building for more than 60 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Perform a detailed examination of the original cast iron storm drainage piping in service in the older section of the building for more than 60 years 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 duplex condensate receivers installed in 1994 as they are beyond the anticipated service life.
- Perform a steam trap survey, replace any damaged units and further quantify the extent of potential failures.
- Perform additional testing of the steam and condensate piping in service in the older section of the building for nearly 60 years to locate and replace any damaged sections and to further quantify the extent of potential failures.

- Replace the existing unit ventilators in service in the older section of the building for more than 60 years with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units should be equipped with hot water / chilled water coils and integral heat recovery wheels. Install distribution piping and controls for the new coils.
- Replace the central station air handling unit in the mechanical penthouse that supplies the Auditorium (AH-1) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Replace the central station air handling unit in the mechanical penthouse that supplies a portion of the classrooms (AH-2) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Replace the central station air handling unit in the mechanical penthouse that supplies Entry Lobby (AH-3) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner., the
- Replace the central station air handling unit in the mechanical penthouse that supplies the Computer classroom (AH-4) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Replace the central station air handling unit in the mechanical penthouse that supplies the Gym (AH-5) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Provide a supplementary dehumidification system for removal of excess moisture from the pool natatorium to protect the building substrates.
- Provide ventilation for the corridors and entryways by installing six RTAHUs. Remove the gravity roof ventilators and seal air transfer openings through the corridor walls to comply with requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path.
- Install a rooftop air conditioning unit to provide ventilation for the main administrative offices.
- Replace the older power roof ventilators that exhaust air from the restrooms and utility rooms; total of nine (9) fans. These fans should be replaced as they are well beyond their anticipated service life.
- Replace the pneumatic controls for the HVAC systems in service in the older section of the building for more than 60 years 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.

ELECTRICAL

- Upgrade the existing electrical service by removing substation #1, existing 500KVA, 4160V to 2-240 transformer, existing 150KVA, 4160V to 400V transformer, all old medium voltage oil breakers in switchgear and main electrical rooms. Provide new 4160V switchgear consisting of medium voltage fuse disconnect switch, 1000KVA, 4160V to 480V, 3phase, 4wires dray type transformer, and 1200A, 480V switchboard. Provide a new substation consisting of one 750KVA, 480V to 208/120V transformer, and 2000A, 208/120V, 3phase, 4wires switchboard.
- Replace the power distribution system with new panels and new wiring/conduits. Estimated 25 panel boards. Provide arc flash label on the electrical equipments.
- Install minimum two receptacles in each wall of class rooms. We recommend using two-compartment Power pole in the computer room. Estimated 300 receptacles.
- Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures in gymnasium. Estimated 25 total.
- Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) system. Cameras should install in the corridors, school entrance doors and on the walls around the building.
- Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium.
- Provide new sound system per ECE-40020 (standard for reinforcement system design) including a freestanding 19" rack backstage with mixer per amplifiers, digital media recording with playback capability, AM-FM radio, graphic or parametric equalizer, and receivers for wireless microphone.
- Provide lightning protection studies to ascertain adequacy of existing systems.
- Repair or replaced exterior speakers. Estimated 2 speakers.

GROUNDS

- Repave asphalt parking lots at front, east side of renovation wing, loading dock; also vehicle maintenance areas (35,000sf; also include 20,000sf)
- Repave roadways to W. Olney and Ogontz; assume cost and sf area shown is half of full replacement cost, shared between Widener School and Girls HS (32,000 total sf/2=16,000sf share for Widener)
- Repave broken sidewalks in front of building (2,500 sf)

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- Repoint brick retaining walls (100 lf)
- Repaint wrought iron fence along Broad Street (500ft)
- Repoint brick walls along Broad Street (500 sf)

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B640001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S605001		

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	38.00 %	0.00 %	\$0.00
A20 - Basement Construction	38.00 %	0.00 %	\$0.00
B10 - Superstructure	38.00 %	0.35 %	\$56,759.74
B20 - Exterior Enclosure	60.14 %	61.79 %	\$4,110,290.55
B30 - Roofing	47.30 %	1.22 %	\$71,608.67
C10 - Interior Construction	46.70 %	23.20 %	\$756,717.27
C20 - Stairs	38.00 %	0.00 %	\$0.00
C30 - Interior Finishes	64.94 %	13.11 %	\$939,374.24
D20 - Plumbing	46.61 %	15.70 %	\$913,271.78
D30 - HVAC	88.38 %	61.40 %	\$9,767,773.54
D40 - Fire Protection	105.71 %	93.42 %	\$1,203,590.89
D50 - Electrical	110.11 %	23.02 %	\$1,934,566.80
E10 - Equipment	31.43 %	5.57 %	\$126,692.42
E20 - Furnishings	25.00 %	8.75 %	\$26,652.05
Totals:	61.12 %	23.61 %	\$19,907,297.95

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	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
A1010	Standard Foundations	\$24.32	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$3,477,760
A1030	Slab on Grade	\$15.51	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$2,217,930
A2010	Basement Excavation	\$13.07	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$1,869,010
A2020	Basement Walls	\$23.02	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$3,291,860
B1010	Floor Construction	\$92.20	S.F.	143,000	100	1953	2053		38.00 %	0.06 %	38		\$8,108.53	\$13,184,600
B1020	Roof Construction	\$24.11	S.F.	131,000	100	1953	2053		38.00 %	1.54 %	38		\$48,651.21	\$3,158,410
B2010	Exterior Walls	\$31.22	S.F.	143,000	100	1953	2053		38.00 %	5.50 %	38		\$245,662.68	\$4,464,460
B2020	Exterior Windows	\$13.63	S.F.	143,000	40	1953	1993	2057	105.00 %	171.20 %	42		\$3,336,833.21	\$1,949,090
B2030	Exterior Doors	\$1.67	S.F.	143,000	25	1953	1978	2042	108.00 %	221.01 %	27		\$527,794.66	\$238,810
B3010105	Built-Up	\$37.76	S.F.	131,000	20	2000	2020	2025	50.00 %	1.07 %	10		\$53,136.59	\$4,946,560
B3010120	Single Ply Membrane	\$38.73	S.F.		20				0.00 %	0.00 %				\$0
B3010130	Preformed Metal Roofing	\$54.22	S.F.	15,000	30	1980	2010	2025	33.33 %	0.00 %	10			\$813,300
B3010140	Shingle & Tile	\$38.73	S.F.		20				0.00 %	0.00 %				\$0
B3020	Roof Openings	\$0.68	S.F.	131,000	20	2000	2020	2020	25.00 %	20.74 %	5		\$18,472.08	\$89,080
C1010	Partitions	\$14.93	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$2,134,990
C1020	Interior Doors	\$3.76	S.F.	143,000	40	1953	1993	2057	105.00 %	135.22 %	42		\$727,060.86	\$537,680
C1030	Fittings	\$4.12	S.F.	143,000	40	1953	1993	2025	25.00 %	5.03 %	10		\$29,656.41	\$589,160
C2010	Stair Construction	\$1.28	S.F.	143,000	100	1953	2053		38.00 %	0.00 %	38			\$183,040

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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	\$13.21	S.F.	143,000	10	1953	1963	2027	120.00 %	3.39 %	12		\$63,985.84	\$1,889,030
C3010231	Vinyl Wall Covering	\$0.97	S.F.		15				0.00 %	0.00 %				\$0
C3010232	Wall Tile	\$2.63	S.F.	143,000	30	2000	2030		50.00 %	0.00 %	15			\$376,090
C3020411	Carpet	\$7.30	S.F.	32,300	10	1953	1963	2027	120.00 %	94.92 %	12		\$223,815.21	\$235,790
C3020412	Terrazzo & Tile	\$75.52	S.F.	13,500	50	1953	2003	2027	24.00 %	0.00 %	12			\$1,019,520
C3020413	Vinyl Flooring	\$9.68	S.F.	51,200	20	1953	1973	2027	60.00 %	26.79 %	12		\$132,771.86	\$495,616
C3020414	Wood Flooring	\$22.27	S.F.	5,000	25	1953	1978	2026	44.00 %	31.16 %	11		\$34,696.66	\$111,350
C3020415	Concrete Floor Finishes	\$0.97	S.F.	41,000	50	1953	2003	2022	14.00 %	145.00 %	7		\$57,668.00	\$39,770
C3030	Ceiling Finishes	\$20.97	S.F.	143,000	25	1953	1978	2026	44.00 %	14.22 %	11		\$426,436.67	\$2,998,710
D2010	Plumbing Fixtures	\$31.58	S.F.	143,000	35	1953	1988	2027	34.29 %	0.00 %	12			\$4,515,940
D2020	Domestic Water Distribution	\$2.90	S.F.	143,000	25	1953	1978	2042	108.00 %	84.91 %	27		\$352,125.13	\$414,700
D2030	Sanitary Waste	\$2.90	S.F.	143,000	25	1953	1978	2042	108.00 %	71.16 %	27		\$295,080.85	\$414,700
D2040	Rain Water Drainage	\$3.29	S.F.	143,000	30	1953	1983	2032	56.67 %	56.55 %	17		\$266,065.80	\$470,470
D3020	Heat Generating Systems	\$18.67	S.F.	143,000	35	1994	2029		40.00 %	0.00 %	14			\$2,669,810
D3030	Cooling Generating Systems	\$24.48	S.F.	143,000	30	2012	2042		90.00 %	0.00 %	27			\$3,500,640
D3040	Distribution Systems	\$42.99	S.F.	143,000	25	1953	1978	2042	108.00 %	132.72 %	27		\$8,158,866.69	\$6,147,570
D3050	Terminal & Package Units	\$11.60	S.F.	143,000	20	1953	1973	2028	65.00 %	0.00 %	13			\$1,658,800
D3060	Controls & Instrumentation	\$13.50	S.F.	143,000	20	1953	1973	2037	110.00 %	83.34 %	22		\$1,608,906.85	\$1,930,500
D4010	Sprinklers	\$8.02	S.F.	143,000	35			2052	105.71 %	104.95 %	37		\$1,203,590.89	\$1,146,860
D4020	Standpipes	\$0.99	S.F.	143,000	35			2052	105.71 %	0.00 %	37			\$141,570
D5010	Electrical Service/Distribution	\$9.70	S.F.	143,000	30	1953	1983	2047	106.67 %	85.93 %	32		\$1,191,868.35	\$1,387,100
D5020	Lighting and Branch Wiring	\$34.68	S.F.	143,000	20	1953	1973	2037	110.00 %	8.94 %	22		\$443,568.40	\$4,959,240
D5030	Communications and Security	\$12.99	S.F.	143,000	15	1953	1968	2032	113.33 %	14.93 %	17		\$277,384.32	\$1,857,570
D5090	Other Electrical Systems	\$1.41	S.F.	143,000	30	1953	1983	2047	106.67 %	10.78 %	32		\$21,745.73	\$201,630
E1020	Institutional Equipment	\$4.82	S.F.	143,000	35	1953	1988	2026	31.43 %	18.38 %	11		\$126,692.42	\$689,260
E1090	Other Equipment	\$11.10	S.F.	143,000	35	1953	1988	2026	31.43 %	0.00 %	11			\$1,587,300
E2010	Fixed Furnishings	\$2.13	S.F.	143,000	40	1953	1993	2025	25.00 %	8.75 %	10		\$26,652.05	\$304,590
Total									61.12 %	23.61 %			\$19,907,297.95	\$84,309,866

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:	B3010130 - Preformed Metal Roofing	This system contains no images
Note:	curved canopy over entrance area drop-off; not included in building square footage	
System:	C3010 - Wall Finishes	This system contains no images
Note:	painting block, plaster or gyp = 80% Glazed block = 13% Wood = 3% Ceramic tile = 4%	
System:	C3020 - Floor Finishes	This system contains no images
Note:	Concrete - basement = 12,000sf 8% Concrete - Vehicle Maintenance Facility = 15,000sf 11% Under Construction (unfinished) = 14,000sf 10% VCT = 47,200sf 33% VAT = 4,000sf 3% Carpet = 32,300sf 23% QT/CT/Terrazzo = 13,500sf 9% Wood (gym and stage) = 5,000sf 4%	
System:	C3030 - Ceiling Finishes	This system contains no images
Note:	ACT (1x1 glued or 2x4 susp) = 91,000sf 64% Painted deck or plaster = 2,000sf 1% No ceiling (unfinished) = 36,000sf 25% (basement, gym, veh. maint., pool) Under construction = 14,000sf 10%	
System:	D5010 - Electrical Service/Distribution	This system contains no images
Note:	one 75 KVA, 480V to 208/120V transformer	

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:	\$19,907,298	\$0	\$0	\$0	\$0	\$113,595	\$0	\$53,803	\$0	\$0	\$9,836,085	\$29,910,781
* 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	\$8,109	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,109
B1020 - Roof Construction	\$48,651	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$48,651
B20 - Exterior Enclosure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2010 - Exterior Walls	\$245,663	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$245,663
B2020 - Exterior Windows	\$3,336,833	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,336,833
B2030 - Exterior Doors	\$527,795	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$527,795
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	\$53,137	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,312,539	\$7,365,676
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	\$1,202,308	\$1,202,308
B3010140 - Shingle & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3020 - Roof Openings	\$18,472	\$0	\$0	\$0	\$0	\$113,595	\$0	\$0	\$0	\$0	\$0	\$132,067
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	\$727,061	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$727,061
C1030 - Fittings	\$29,656	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$870,960	\$900,616
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	\$63,986	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$63,986
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	\$223,815	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$223,815
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020413 - Vinyl Flooring	\$132,772	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$132,772
C3020414 - Wood Flooring	\$34,697	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,697
C3020415 - Concrete Floor Finishes	\$57,668	\$0	\$0	\$0	\$0	\$0	\$0	\$53,803	\$0	\$0	\$0	\$111,471
C3030 - Ceiling Finishes	\$426,437	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$426,437
D - Services	\$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	\$352,125	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$352,125
D2030 - Sanitary Waste	\$295,081	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$295,081
D2040 - Rain Water Drainage	\$266,066	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$266,066
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	\$0	\$0
D3030 - Cooling Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3040 - Distribution Systems	\$8,158,867	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,158,867
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$1,608,907	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,608,907
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$1,203,591	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,203,591
D4020 - Standpipes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D50 - Electrical	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D5010 - Electrical Service/Distribution	\$1,191,868	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,191,868

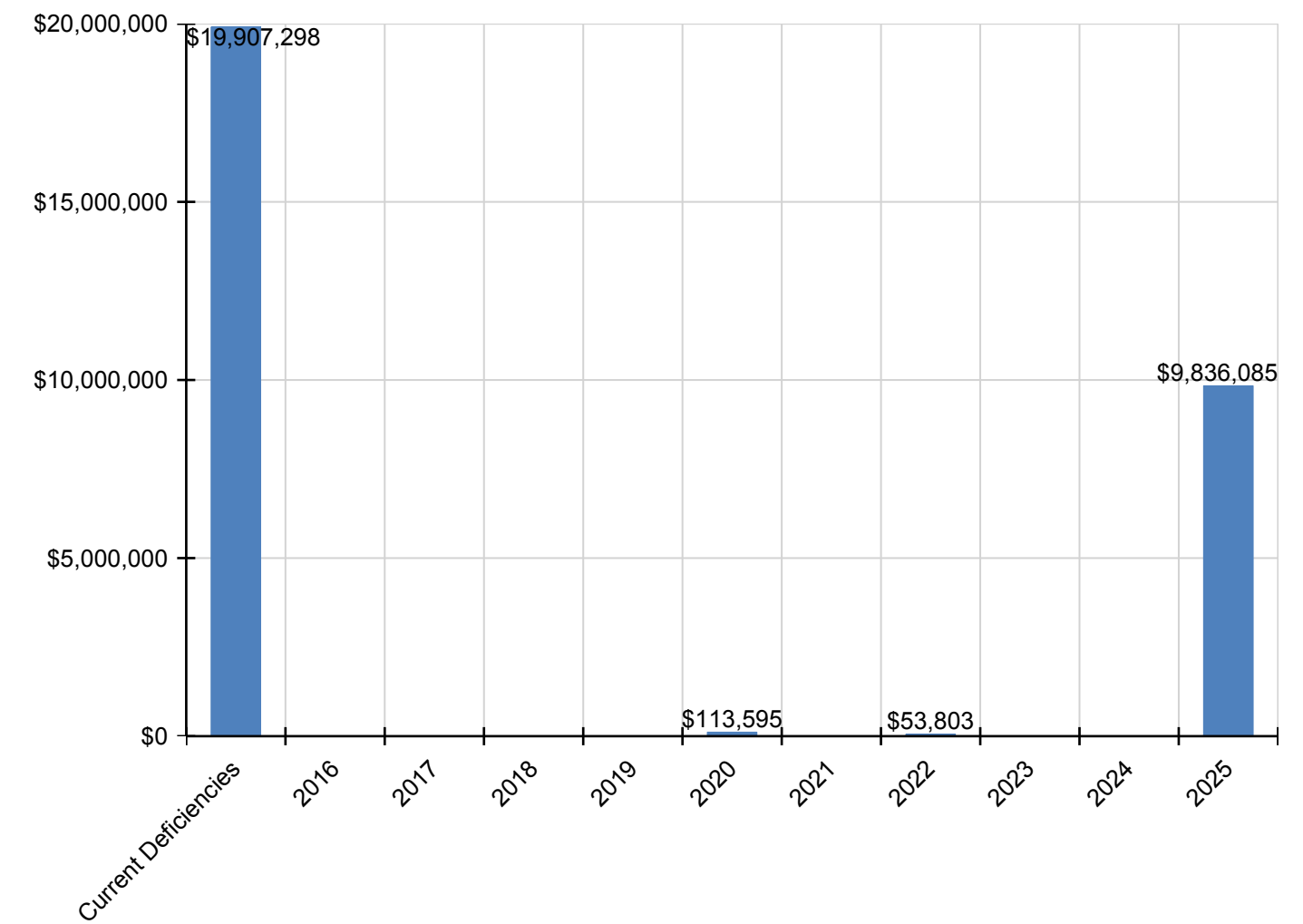
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D5020 - Lighting and Branch Wiring	\$443,568	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$443,568
D5030 - Communications and Security	\$277,384	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$277,384
D5090 - Other Electrical Systems	\$21,746	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,746
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	\$126,692	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$126,692
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	\$26,652	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$450,278	\$476,930

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

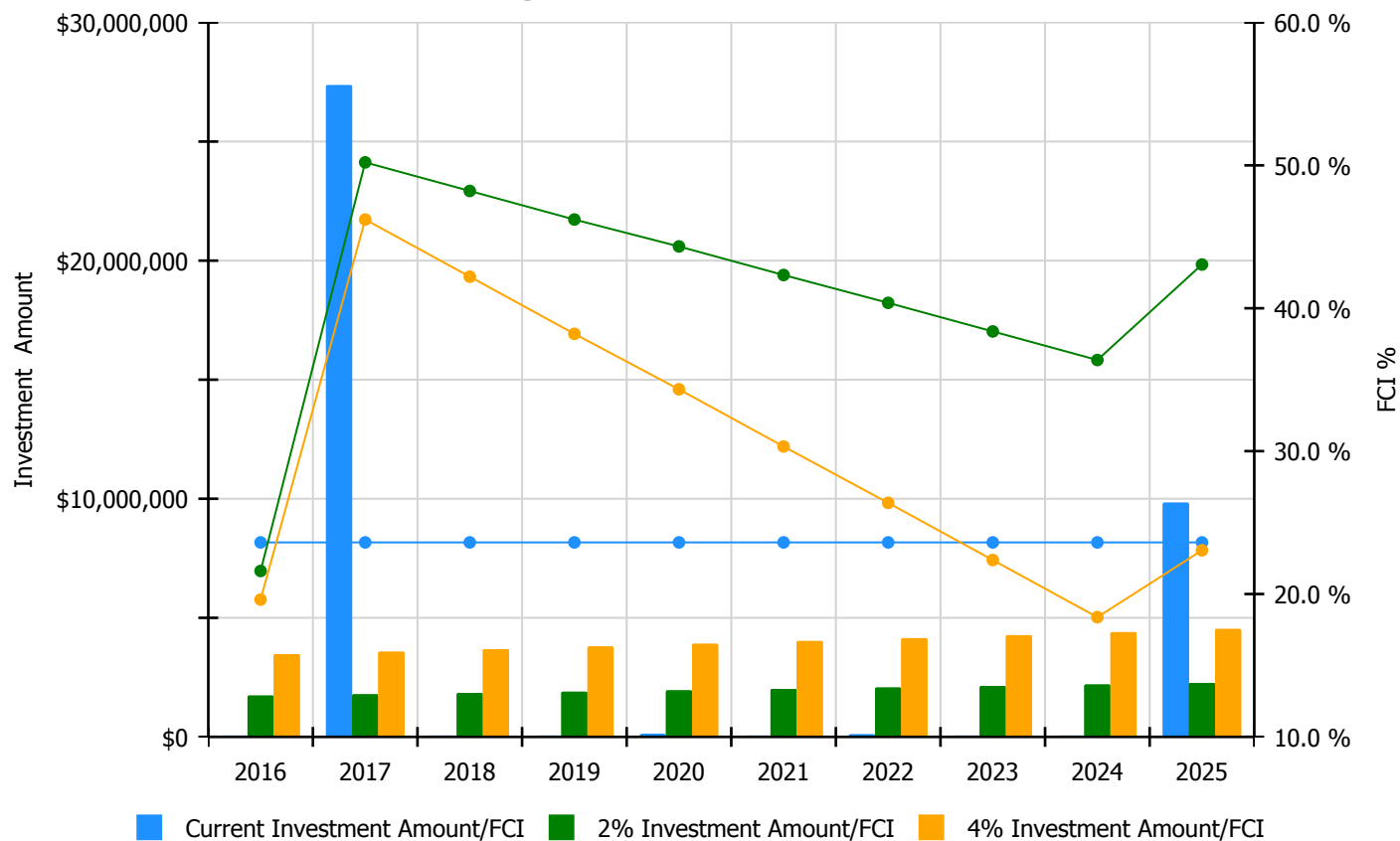


10 Year FCI Forecast by Investment Scenario

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

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

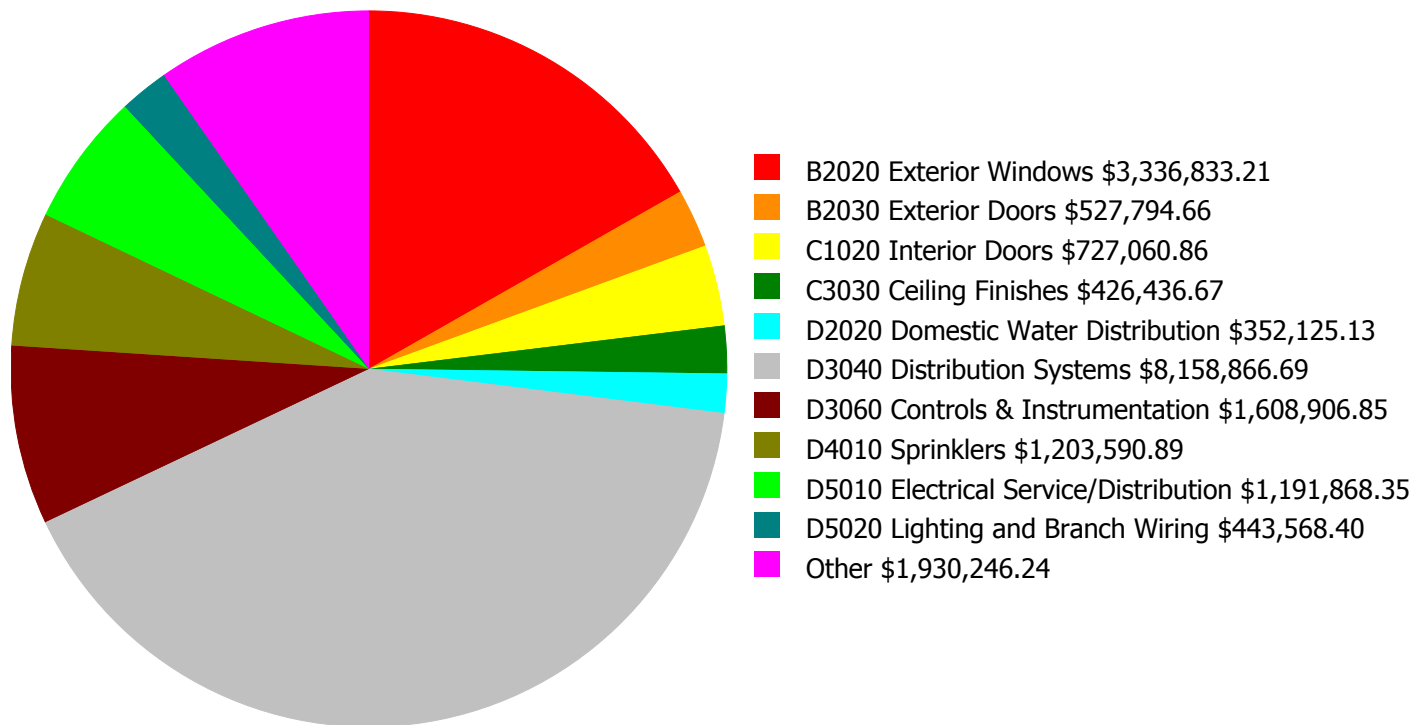
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 23.61%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$1,736,783.00	21.61 %	\$3,473,566.00	19.61 %
2017	\$27,368,063	\$1,788,887.00	50.21 %	\$3,577,773.00	46.21 %
2018	\$0	\$1,842,553.00	48.21 %	\$3,685,107.00	42.21 %
2019	\$0	\$1,897,830.00	46.21 %	\$3,795,660.00	38.21 %
2020	\$113,595	\$1,954,765.00	44.33 %	\$3,909,530.00	34.33 %
2021	\$0	\$2,013,408.00	42.33 %	\$4,026,816.00	30.33 %
2022	\$53,803	\$2,073,810.00	40.38 %	\$4,147,620.00	26.38 %
2023	\$0	\$2,136,024.00	38.38 %	\$4,272,049.00	22.38 %
2024	\$0	\$2,200,105.00	36.38 %	\$4,400,210.00	18.38 %
2025	\$9,836,085	\$2,266,108.00	43.06 %	\$4,532,216.00	23.06 %
Total:	\$37,371,546	\$19,910,273.00		\$39,820,547.00	

Deficiency Summary by System

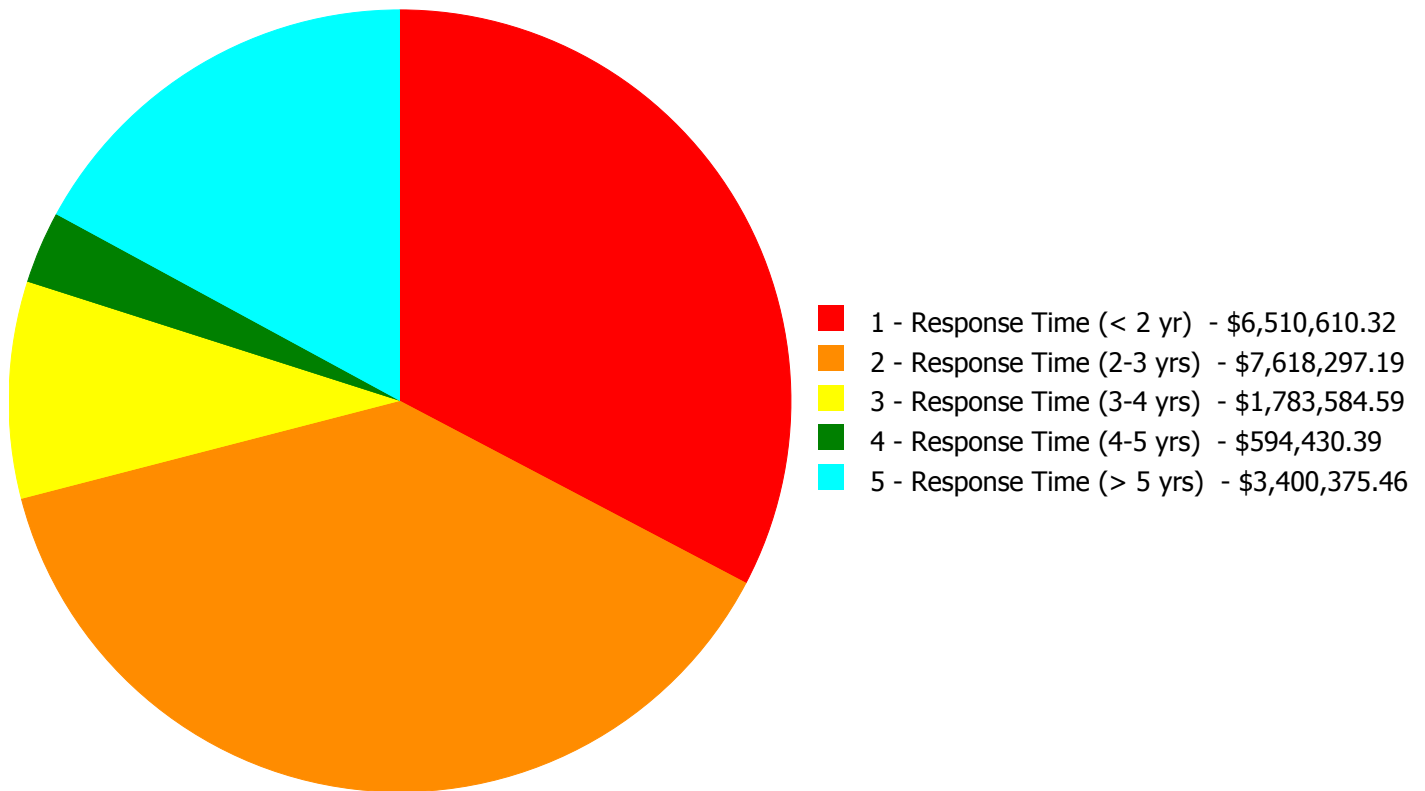
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$19,907,297.95

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: \$19,907,297.95

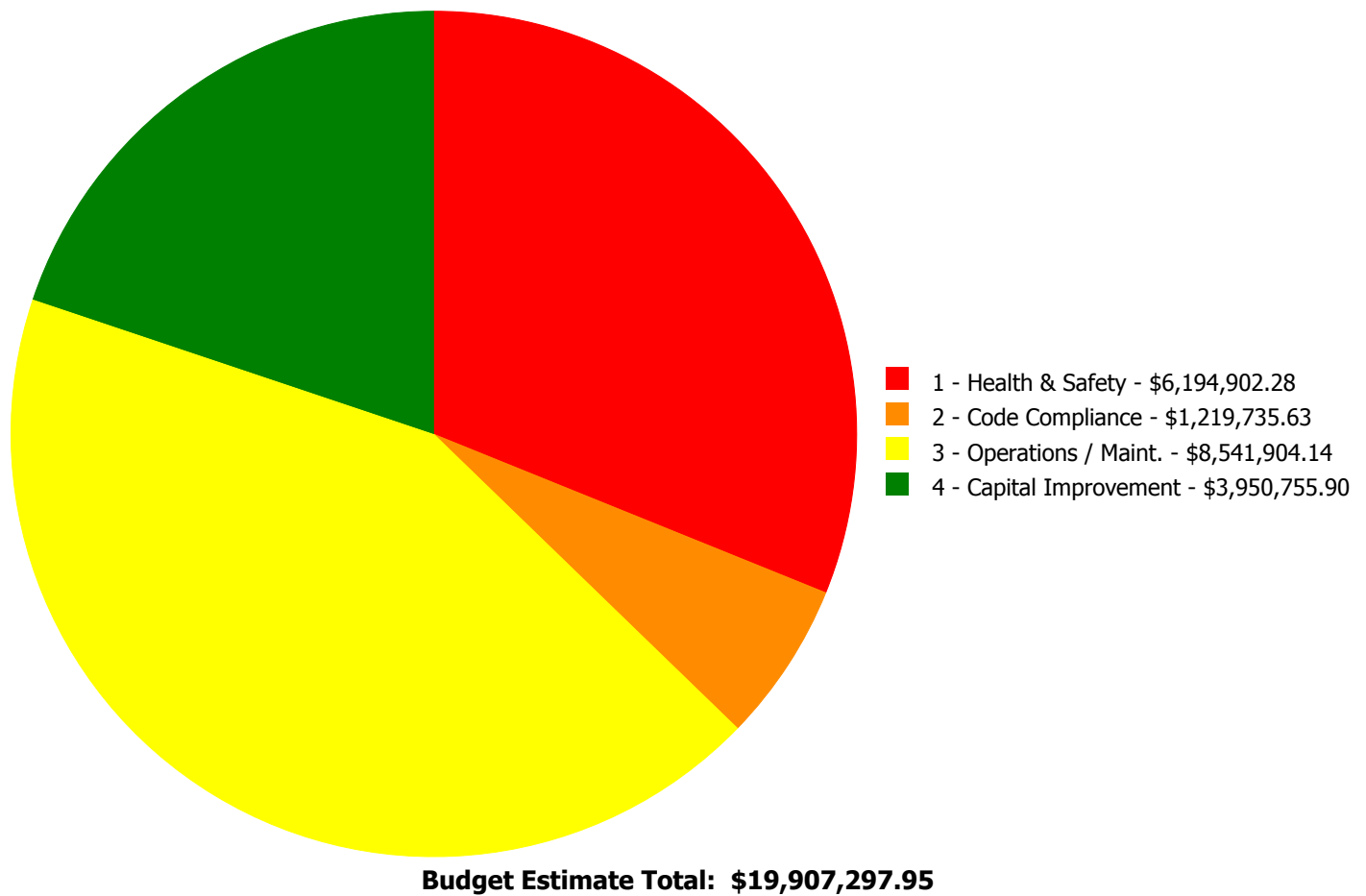
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B1010	Floor Construction	\$0.00	\$8,108.53	\$0.00	\$0.00	\$0.00	\$8,108.53
B1020	Roof Construction	\$0.00	\$48,651.21	\$0.00	\$0.00	\$0.00	\$48,651.21
B2010	Exterior Walls	\$0.00	\$107,373.34	\$138,289.34	\$0.00	\$0.00	\$245,662.68
B2020	Exterior Windows	\$0.00	\$3,336,833.21	\$0.00	\$0.00	\$0.00	\$3,336,833.21
B2030	Exterior Doors	\$0.00	\$527,794.66	\$0.00	\$0.00	\$0.00	\$527,794.66
B3010105	Built-Up	\$53,136.59	\$0.00	\$0.00	\$0.00	\$0.00	\$53,136.59
B3020	Roof Openings	\$0.00	\$18,472.08	\$0.00	\$0.00	\$0.00	\$18,472.08
C1020	Interior Doors	\$0.00	\$727,060.86	\$0.00	\$0.00	\$0.00	\$727,060.86
C1030	Fittings	\$0.00	\$29,656.41	\$0.00	\$0.00	\$0.00	\$29,656.41
C3010230	Paint & Covering	\$0.00	\$63,985.84	\$0.00	\$0.00	\$0.00	\$63,985.84
C3020411	Carpet	\$0.00	\$223,815.21	\$0.00	\$0.00	\$0.00	\$223,815.21
C3020413	Vinyl Flooring	\$0.00	\$132,771.86	\$0.00	\$0.00	\$0.00	\$132,771.86
C3020414	Wood Flooring	\$0.00	\$34,696.66	\$0.00	\$0.00	\$0.00	\$34,696.66
C3020415	Concrete Floor Finishes	\$0.00	\$57,668.00	\$0.00	\$0.00	\$0.00	\$57,668.00
C3030	Ceiling Finishes	\$0.00	\$426,436.67	\$0.00	\$0.00	\$0.00	\$426,436.67
D2020	Domestic Water Distribution	\$0.00	\$0.00	\$0.00	\$73,420.64	\$278,704.49	\$352,125.13
D2030	Sanitary Waste	\$0.00	\$0.00	\$0.00	\$0.00	\$295,080.85	\$295,080.85
D2040	Rain Water Drainage	\$0.00	\$266,065.80	\$0.00	\$0.00	\$0.00	\$266,065.80
D3040	Distribution Systems	\$4,429,461.12	\$0.00	\$1,612,048.64	\$494,357.70	\$1,622,999.23	\$8,158,866.69
D3060	Controls & Instrumentation	\$0.00	\$1,608,906.85	\$0.00	\$0.00	\$0.00	\$1,608,906.85
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$0.00	\$1,203,590.89	\$1,203,590.89
D5010	Electrical Service/Distribution	\$1,191,868.35	\$0.00	\$0.00	\$0.00	\$0.00	\$1,191,868.35
D5020	Lighting and Branch Wiring	\$443,568.40	\$0.00	\$0.00	\$0.00	\$0.00	\$443,568.40
D5030	Communications and Security	\$277,384.32	\$0.00	\$0.00	\$0.00	\$0.00	\$277,384.32
D5090	Other Electrical Systems	\$21,745.73	\$0.00	\$0.00	\$0.00	\$0.00	\$21,745.73
E1020	Institutional Equipment	\$93,445.81	\$0.00	\$33,246.61	\$0.00	\$0.00	\$126,692.42
E2010	Fixed Furnishings	\$0.00	\$0.00	\$0.00	\$26,652.05	\$0.00	\$26,652.05
Total:		\$6,510,610.32	\$7,618,297.19	\$1,783,584.59	\$594,430.39	\$3,400,375.46	\$19,907,297.95

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: B3010105 - Built-Up



Location: Widener - roof

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Blister or membrane repair - partial areas

Qty: 3,000.00

Unit of Measure: S.F.

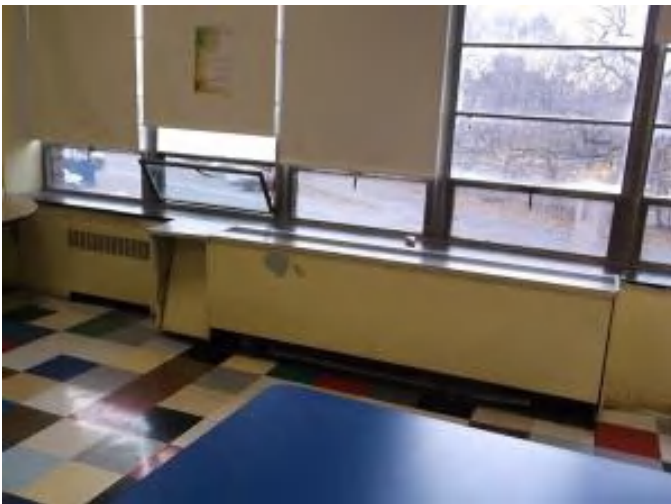
Estimate: \$53,136.59

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repair/rebuild low roof (roof #8) over pool house, eliminating flat spots (3,000sf)

System: D3040 - Distribution Systems



Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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: 60,000.00

Unit of Measure: S.F.

Estimate: \$2,894,351.11

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the existing unit ventilators in service in the older section of the building for more than 60 years with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units should be equipped with hot water / chilled water coils and integral heat recovery wheels. Install distribution piping and controls for the new coils.

System: D3040 - Distribution Systems



Location: Penthouse

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 200.00

Unit of Measure: Seat

Estimate: \$333,093.30

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the central station air handling unit in the mechanical penthouse that supplies the Auditorium (AH-1) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: D3040 - Distribution Systems



Location: Penthouse

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 15.00

Unit of Measure: TonAC

Estimate: \$281,099.01

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the central station air handling unit in the mechanical penthouse that supplies a portion of the classrooms (AH-2) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: D3040 - Distribution Systems



Location: Penthouse

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 15.00

Unit of Measure: TonAC

Estimate: \$281,099.01

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the central station air handling unit in the mechanical penthouse that supplies Entry Lobby (AH-3) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner., the

System: D3040 - Distribution Systems



Location: Penthouse

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 15.00

Unit of Measure: TonAC

Estimate: \$281,099.01

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the central station air handling unit in the mechanical penthouse that supplies the Computer classroom (AH-4) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: D3040 - Distribution Systems



Location: Penthouse

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: \$227,475.37

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the central station air handling unit in the mechanical penthouse that supplies the Gym (AH-5) in service for more than 60 years. The existing draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: D3040 - Distribution Systems



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: \$131,244.31

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Perform a steam trap survey, replace any damaged units and further quantify the extent of potential failures.

System: D5010 - Electrical Service/Distribution



Location: Windener-Entire Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$606,532.33

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Replace the power distribution system with new panels and new wiring/conduits. Estimated 25 panel boards. Provide arc flash label on the electrical equipment.

System: D5010 - Electrical Service/Distribution



Location: Windener-Switchgear room and Electrical Room

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$585,336.02

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Upgrade the existing electrical service by removing substation #1, existing 500KVA, 4160V to 2-240 transformer, existing 150KVA, 4160V to 400V transformer, all old medium voltage oil breakers in switchgear and main electrical rooms. Provide new 4160V switchgear consisting of medium voltage fuse disconnect switch, 1000KVA, 4160V to 480V, 3phase, 4wires dray type transformer, and 1200A, 480V switchboard. Provide a new substation consisting 750KVA , 480V to 208/120V transformer, and 2000A ,208/120V,3phase ,4wires switchboard.

System: D5020 - Lighting and Branch Wiring



Location: Windener-Class Rooms

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add wiring device

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$378,930.45

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Install minimum two receptacles in each wall of class rooms. We recommend using two-compartment Power pole in the computer room. Estimated 300 receptacles.

System: D5020 - Lighting and Branch Wiring



Location: Gymnasium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace lighting fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$64,637.95

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures in gymnasium. Estimated 25 total.

System: D5030 - Communications and Security



Location: Windener-Entire Building

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$239,947.45

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) system. Cameras should install in the corridors, school entrance doors and on the walls around the building.

System: D5030 - Communications and Security



Location: Windener-Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: \$29,436.99

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Provide new sound system per ECE-40020 (standard for reinforcement system design) including a freestanding 19" rack backstage with mixer per amplifiers, digital media recording with playback capability, AM-FM radio, graphic or parametric equalizer, and receivers for wireless microphone.

System: D5030 - Communications and Security



Location: Windener-Exterior Building

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Paging System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$7,999.88

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Repair or replaced exterior speakers. Estimated 2 speakers.

System: D5090 - Other Electrical Systems



Location: Windener-Roof

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

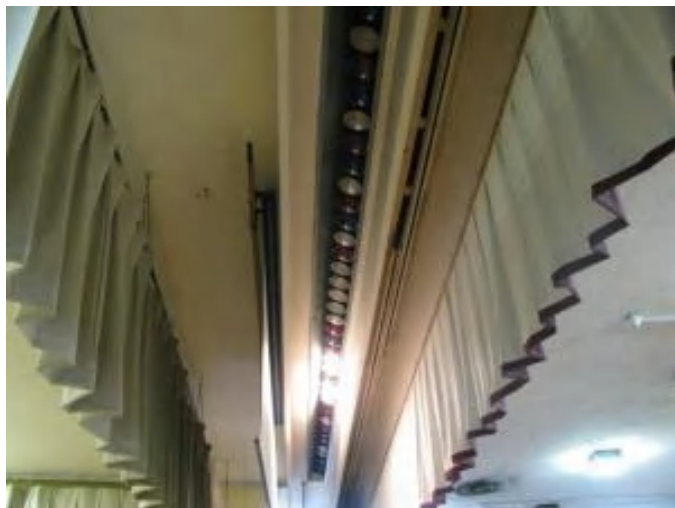
Estimate: \$21,745.73

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Provide lightning protection studies to ascertain adequacy of existing systems.

System: E1020 - Institutional Equipment



Location: Windener-Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$93,445.81

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium.

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

System: B1010 - Floor Construction



Location: Widener - crawl space

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair rebar and epoxy grout exposed rebar on the underside of floors and floor beams

Qty: 100.00

Unit of Measure: S.F.

Estimate: \$8,108.53

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Inspect crawl space; patch spalled sections of floor, seen from crawlspace (100sf)

System: B1020 - Roof Construction



Location: Widener - roof overhangs

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and epoxy grout exposed rebar on the underside of roof structure and roof beams

Qty: 600.00

Unit of Measure: S.F.

Estimate: \$48,651.21

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Patch spalled edges of concrete roof overhangs above windows (600sf)

System: B2010 - Exterior Walls



Location: Widener - pool house glass block

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replacing failing steel lintels in brick wall construction

Qty: 70.00

Unit of Measure: L.F.

Estimate: \$38,802.62

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: New lintel over south glass block (70ft steel beam)

System: B2010 - Exterior Walls



Location: Widener - chimney

Distress: Failing

Category: 2 - Code Compliance

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

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

Qty: 500.00

Unit of Measure: S.F.

Estimate: \$16,144.74

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Masonry pointing on chimney and other misc areas (500sf)

System: B2010 - Exterior Walls



Location: Widener - interior block

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 500.00

Unit of Measure: S.F.

Estimate: \$16,144.74

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repair cracked interior block walls (500sf)

System: B2010 - Exterior Walls



Location: Widener - exterior walls

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 500.00

Unit of Measure: S.F.

Estimate: \$16,144.74

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repoint 8"x8" exterior brick in pool house around glass block (500sf)

System: B2010 - Exterior Walls



Location: Widener - steel columns

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Prepare and paint exterior steel beams or steel surfaces

Qty: 1,200.00

Unit of Measure: S.F.

Estimate: \$9,109.30

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint rusted cylindrical steel columns in pool house (20 each, 16ft tall = 1,200sf)

System: B2010 - Exterior Walls



Location: Widener - brick and limestone

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Sooty and dirty walls - powerwash

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: \$8,749.88

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Powerwash soffits and brick walls below first floor windows and window sills where dirty and with graffiti; paint walls previously painted (8,000sf)

System: B2010 - Exterior Walls



Location: Widener - pool house lintels

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Prepare and paint exterior steel beams or steel surfaces

Qty: 300.00

Unit of Measure: S.F.

Estimate: \$2,277.32

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint internal steel lintels in triangular glass block wall, inside and outside (300sf)

System: B2020 - Exterior Windows



Location: Widener - windows

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 550.00

Unit of Measure: Ea.

Estimate: \$3,305,087.49

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace exterior windows (estimated count = 550; average size 4'x8')

System: B2020 - Exterior Windows



Location: Widener - vehicle maint facility

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5.00

Unit of Measure: Ea.

Estimate: \$31,745.72

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace windows in vehicle maintenance building (5)

System: B2030 - Exterior Doors



Location: Widener - exterior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 45.00

Unit of Measure: Ea.

Estimate: \$364,323.62

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace exterior metal doors with new FRP doors with metal frames including hardware and weatherstripping (45 3x7)

System: B2030 - Exterior Doors



Location: Widener - vehicle main facility

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 8.00

Unit of Measure: Ea.

Estimate: \$70,640.34

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace 8 rollup doors in vehicle maintenance building (8 10'x10')

System: B2030 - Exterior Doors



Location: Widener - pool house doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 6.00

Unit of Measure: Ea.

Estimate: \$46,415.35

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace exterior doors and frames in pool house (6 44"x84" with vision panels)

System: B2030 - Exterior Doors



Location: Widener - vehicle maint facility

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 6.00

Unit of Measure: Ea.

Estimate: \$46,415.35

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace personnel doors in vehicle maintenance building (6 3x7)

System: B3020 - Roof Openings



Location: Widener - pool house roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace skylights - pick the closest size and type

Qty: 10.00

Unit of Measure: Ea.

Estimate: \$18,472.08

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace barrel vault skylights in pool house roof with insulated skylights (80sf each = 160sf)

System: C1020 - Interior Doors



Location: Widener - interior doors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 150.00

Unit of Measure: Ea.

Estimate: \$704,117.21

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (150) 3x7 doors

System: C1020 - Interior Doors



Location: Widener - interior doors

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 100.00

Unit of Measure: Ea.

Estimate: \$22,943.65

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Provide security hardware for classrooms and offices, locking from the inside of the room (100)

System: C1030 - Fittings



Location: Widener - interior walls

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 100.00

Unit of Measure: Ea.

Estimate: \$16,664.74

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Provide horizontal bumper rail in high school wing corridor and in pool house lockers where possible (300lf)

System: C1030 - Fittings



Location: Widener - toilet rooms

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace damaged toilet partitions - handicap units

Qty: 4.00

Unit of Measure: Ea.

Estimate: \$12,991.67

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace rusted metal toilet room partitions in pool house locker rooms (4 sets)

System: C3010230 - Paint & Covering



Location: Widener - interior walls

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: \$40,414.76

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint damaged gypsum board walls in high school wing and pool house lockers (5,000sf)

System: C3010230 - Paint & Covering



Location: Widener - pool house basement

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Repair substrate and repaint interior concrete or CMU walls - SF of wall surface

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: \$15,004.00

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint peeling basement walls under pool house (2,000sf)

System: C3010230 - Paint & Covering



Location: Widener - lockers in corridors

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: \$8,567.08

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint lockers in high school wing (1,000sf)

System: C3020411 - Carpet



Location: Widener - carpet

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: \$223,815.21

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace old burgundy, gray, and brown colored carpet in main corridors, offices, auditorium and classrooms (20,000sf)

System: C3020413 - Vinyl Flooring



Location: Widener - floors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 6,000.00

Unit of Measure: S.F.

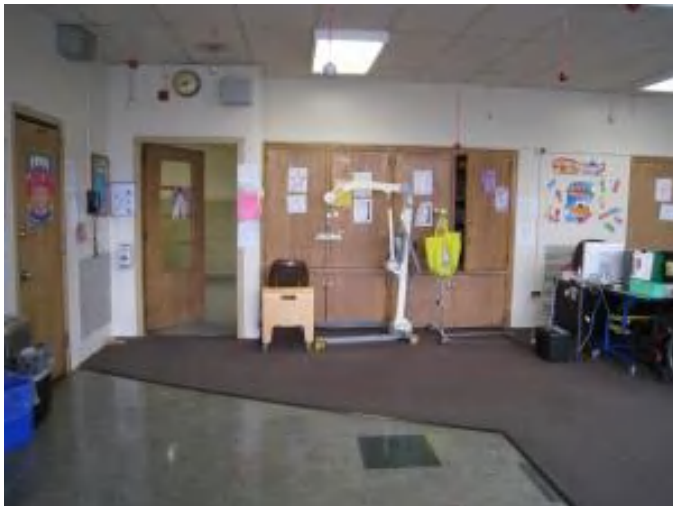
Estimate: \$72,105.19

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace damaged VCT (6,000sf)

System: C3020413 - Vinyl Flooring



Location: Widener - floors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 4,000.00

Unit of Measure: S.F.

Estimate: \$60,666.67

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Remove 9"x9" VAT floors in classrooms, corridors, and auditorium with and replace with VCT (4,000sf)

System: C3020414 - Wood Flooring



Location: Widener - gym

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace partial area of wood flooring and refinish entire floor - set replacement area

Qty: 300.00

Unit of Measure: S.F.

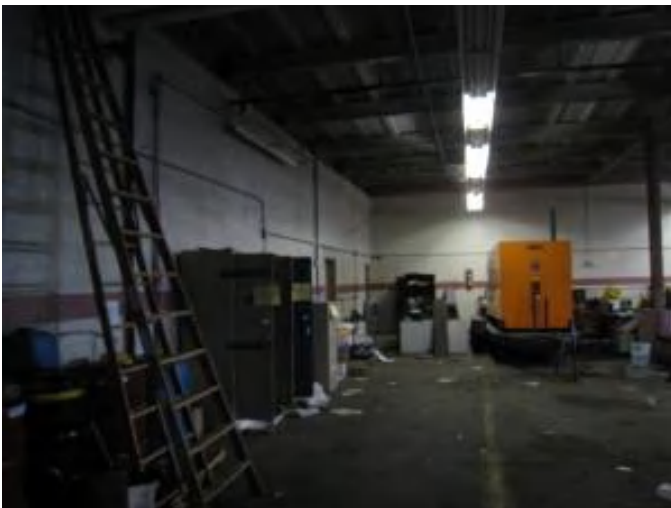
Estimate: \$34,696.66

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repair wood floor (300sf); refinish entire gym and stage floor (5,000sf)

System: C3020415 - Concrete Floor Finishes



Location: Widener - vehicle maint facility

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 15,000.00

Unit of Measure: S.F.

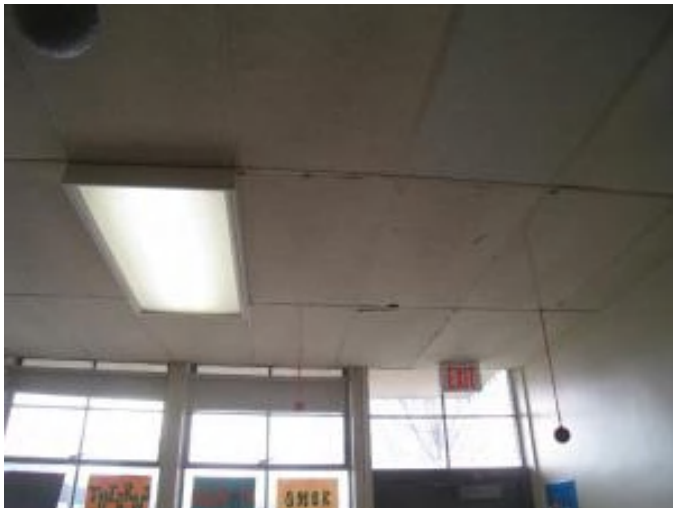
Estimate: \$57,668.00

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Refinish concrete slabs in vehicle maintenance building (15,000sf)

System: C3030 - Ceiling Finishes



Location: Widener - ceilings

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: \$301,648.61

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace 2x4 suspended acoustical tile ceilings (20,000sf)

System: C3030 - Ceiling Finishes



Location: Widener - ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: \$124,788.06

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace 1x1 tongue and groove ceiling tile in corridors (10,000sf)

System: D2040 - Rain Water Drainage



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect internal rain water drainage piping and replace pipe - based on SF of multi-story building - insert SF of building

Qty: 60,000.00

Unit of Measure: S.F.

Estimate: \$266,065.80

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Perform a detailed examination of the original cast iron storm drainage piping in service in the older section of the building for more than 60 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3060 - Controls & Instrumentation



Location: Throughout Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: \$1,608,906.85

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the pneumatic controls for the HVAC systems in service in the older section of the building for more than 60 years 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.

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

System: B2010 - Exterior Walls



Location: Widener - pool house glass block

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace glass block exterior window walls - change the size of block if necessary

Qty: 800.00

Unit of Measure: S.F.

Estimate: \$138,289.34

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace glass block in pool house (500sf south wall; 280sf east wall; 20sf repair to west wall)

System: D3040 - Distribution Systems



Location: Corridors

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace Rooftop Unit (15T) and air terminals

Qty: 90.00

Unit of Measure: TonAC

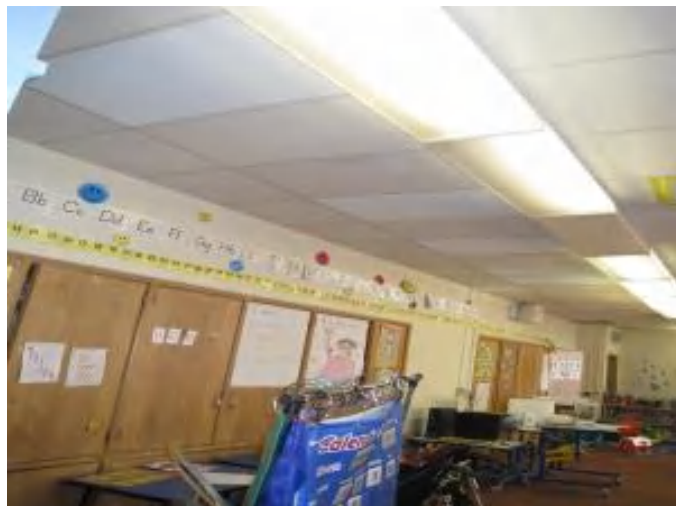
Estimate: \$1,612,048.64

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Provide ventilation for the corridors and entryways by installing six RTAHUs. Remove the gravity roof ventilators and seal air transfer openings through the corridor walls to comply with requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path.

System: E1020 - Institutional Equipment



Location: Widener - kindergartens

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace base cabinets and countertops

Qty: 40.00

Unit of Measure: L.F.

Estimate: \$33,246.61

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Replace worn out kitchen cabinets in kindergarten and art classrooms (40 linear feet)

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

System: D2020 - Domestic Water Distribution



Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 3.00

Unit of Measure: Ea.

Estimate: \$73,420.64

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the three gas-fired, tankless instantaneous (on demand) water heaters in the boiler room that supply hot water for domestic use. These heaters should be replaced as they are beyond the anticipated service life.

System: D3040 - Distribution Systems



Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (24" dia.)

Qty: 9.00

Unit of Measure: Ea.

Estimate: \$398,775.51

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the older power roof ventilators that exhaust air from the restrooms and utility rooms; total of nine (9) fans. These fans should be replaced as they are well beyond their anticipated service life.

System: D3040 - Distribution Systems



Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Condensate Receiver Pump Set

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$95,582.19

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the two duplex condensate receivers installed in 1994 as they are beyond the anticipated service life.

System: E2010 - Fixed Furnishings



Location: Widener - auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish auditorium seating

Qty: 50.00

Unit of Measure: Ea.

Estimate: \$26,652.05

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Refinish auditorium seats (50)

Priority 5 - Response Time (> 5 yrs):

System: D2020 - Domestic Water Distribution



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 55,000.00

Unit of Measure: S.F.

Estimate: \$278,704.49

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Replace the original galvanized steel domestic water piping in service for more than 60 years.

System: D2030 - Sanitary Waste



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 60,150.00

Unit of Measure: S.F.

Estimate: \$295,080.85

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Perform a detailed examination of the original cast iron sanitary waste piping in service in the older section of the building for more than 60 years 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: Pool

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install pool environmental unit with Dx condenser and pool heater

Qty: 3,800.00

Unit of Measure: S.F.

Estimate: \$933,568.85

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Provide a supplementary dehumidification system for removal of excess moisture from the pool natatorium to protect the building substrates.

System: D3040 - Distribution Systems



Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: \$473,018.53

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Perform additional testing of the steam and condensate piping in service in the older section of the building for nearly 60 years to locate and replace any damaged sections and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Administration

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install HVAC unit for Administration (2000 students).

Qty: 500.00

Unit of Measure: Student

Estimate: \$216,411.85

Assessor Name: Craig Anding

Date Created: 02/16/2016

Notes: Install a rooftop air conditioning unit to provide ventilation for the main administrative offices.

System: D4010 - Sprinklers



Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 84,135.00

Unit of Measure: S.F.

Estimate: \$1,203,590.89

Assessor Name: Craig Anding

Date Created: 02/16/2016

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.

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, cast iron, gas & oil, steam, 2700 MBH	4.00	Ea.	B-2	Weil McLain	1994			35			\$91,900.60	\$404,362.64
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 2700 MBH	4.00	Ea.	B-4	Weil McLain	1994			35			\$91,900.60	\$404,362.64
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 2700 MBH	4.00	Ea.	B-3	Weil McLain	1994			35			\$91,900.60	\$404,362.64
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 2700 MBH	4.00	Ea.	B-1	Burnham	894			35			\$91,900.60	\$404,362.64
D3030 Cooling Generating Systems	Cooling tower, stainless steel, packaged unit, draw thru, 600 ton	1.00	Ea.	CT-1	Evapco	SST-29-818	T000324		30	2012	2042	\$172,059.60	\$189,265.56
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, packaged unit, water cooled, 200 ton, includes standard controls, excludes water tower	2.00	Ea.	CH-2	Carrier	30HXC186RZ-671BA	0713020768		30	2012	2042	\$114,064.50	\$250,941.90
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, packaged unit, water cooled, 200 ton, includes standard controls, excludes water tower	2.00	Ea.	CH-1	Carrier	30HXC186RZ-671BA	0713020767		30	2012	2042	\$114,064.50	\$250,941.90
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 15,000 CFM	1.00	Ea.	AH-4	Trane				25			\$100,819.70	\$110,901.67
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 15,000 CFM	1.00	Ea.	AH-5	Trane				25			\$100,819.70	\$110,901.67
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 15,000 CFM	1.00	Ea.	AH-1	Trane				25			\$100,819.70	\$110,901.67
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 5,000 CFM	2.00	Ea.	AH-3	Trane				25			\$40,248.85	\$88,547.47
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 5,000 CFM	2.00	Ea.	AH-3	Trane				25			\$40,248.85	\$88,547.47
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above w/CLF fuses, 4.8 kV, 600 amp, NEMA 1	1.00	Ea.	Switchgear Room					30	1953	2047	\$38,502.00	\$42,352.20
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 225 kVA, pad mounted	1.00	Ea.	Switchgear Room					30	1953	2017	\$22,728.60	\$25,001.46
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 500 kVA, pad mounted	1.00	Ea.						30	1953	2047	\$33,534.00	\$36,887.40
												Total:	\$2,922,640.93

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):	864,800
Year Built:	1836
Last Renovation:	1982
Replacement Value:	\$12,664,370
Repair Cost:	\$1,311,099.17
Total FCI:	10.35 %
Total RSLI:	49.73 %



Description:

Attributes:

General Attributes:

Bldg ID:	S605001	Site ID:	S605001
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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	56.66 %	14.73 %	\$1,311,099.17
G40 - Site Electrical Utilities	33.33 %	0.00 %	\$0.00
Totals:	49.73 %	10.35 %	\$1,311,099.17

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	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
G2010	Roadways	\$11.52	S.F.	27,000	30	1953	1983	2047	106.67 %	145.48 %	32		\$452,509.00	\$311,040
G2020	Parking Lots	\$7.65	S.F.	76,800	30	1953	1983	2047	106.67 %	66.18 %	32		\$388,813.28	\$587,520
G2030	Pedestrian Paving	\$11.52	S.F.	175,300	40	1953	1993	2025	25.00 %	7.17 %	10		\$144,759.45	\$2,019,456
G2040	Site Development	\$4.36	S.F.	864,800	25	1953	1978	2027	48.00 %	8.62 %	12		\$325,017.44	\$3,770,528
G2050	Landscaping & Irrigation	\$3.78	S.F.	585,700	15	1953	1968	2027	80.00 %	0.00 %	12			\$2,213,946
G4020	Site Lighting	\$3.58	S.F.	864,800	30	1953	1983	2025	33.33 %	0.00 %	10			\$3,095,984
G4030	Site Communications & Security	\$0.77	S.F.	864,800	30	1953	1983	2025	33.33 %	0.00 %	10			\$665,896
Total									49.73 %	10.35 %			\$1,311,099.17	\$12,664,370

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.

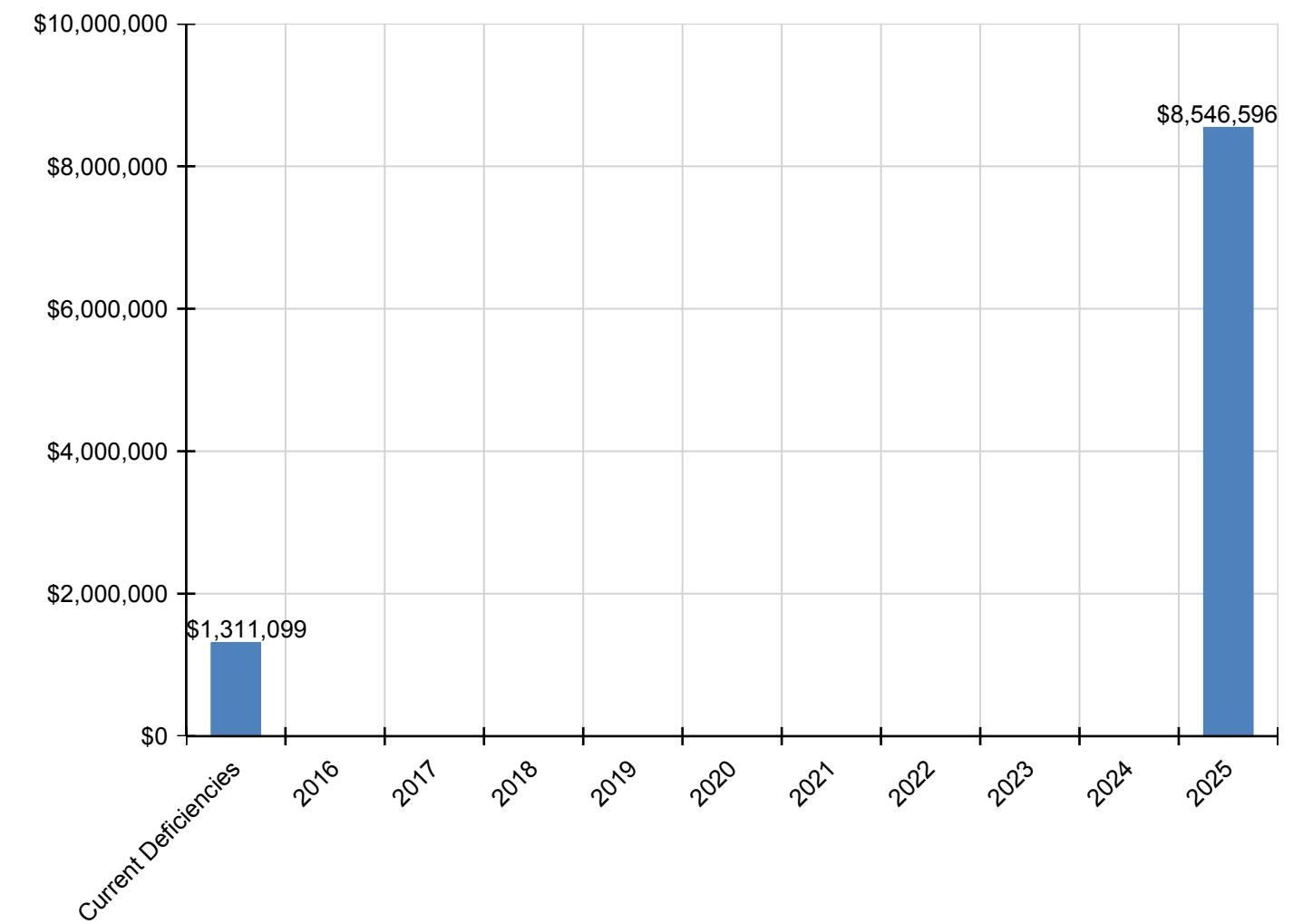
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	\$1,311,099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,546,596	\$9,857,695
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	\$452,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$452,509
G2020 - Parking Lots	\$388,813	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$388,813
G2030 - Pedestrian Paving	\$144,759	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,985,379	\$3,130,138
G2040 - Site Development	\$325,017	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$325,017
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	\$4,576,817	\$4,576,817
G4030 - Site Communications & Security	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$984,400	\$984,400

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

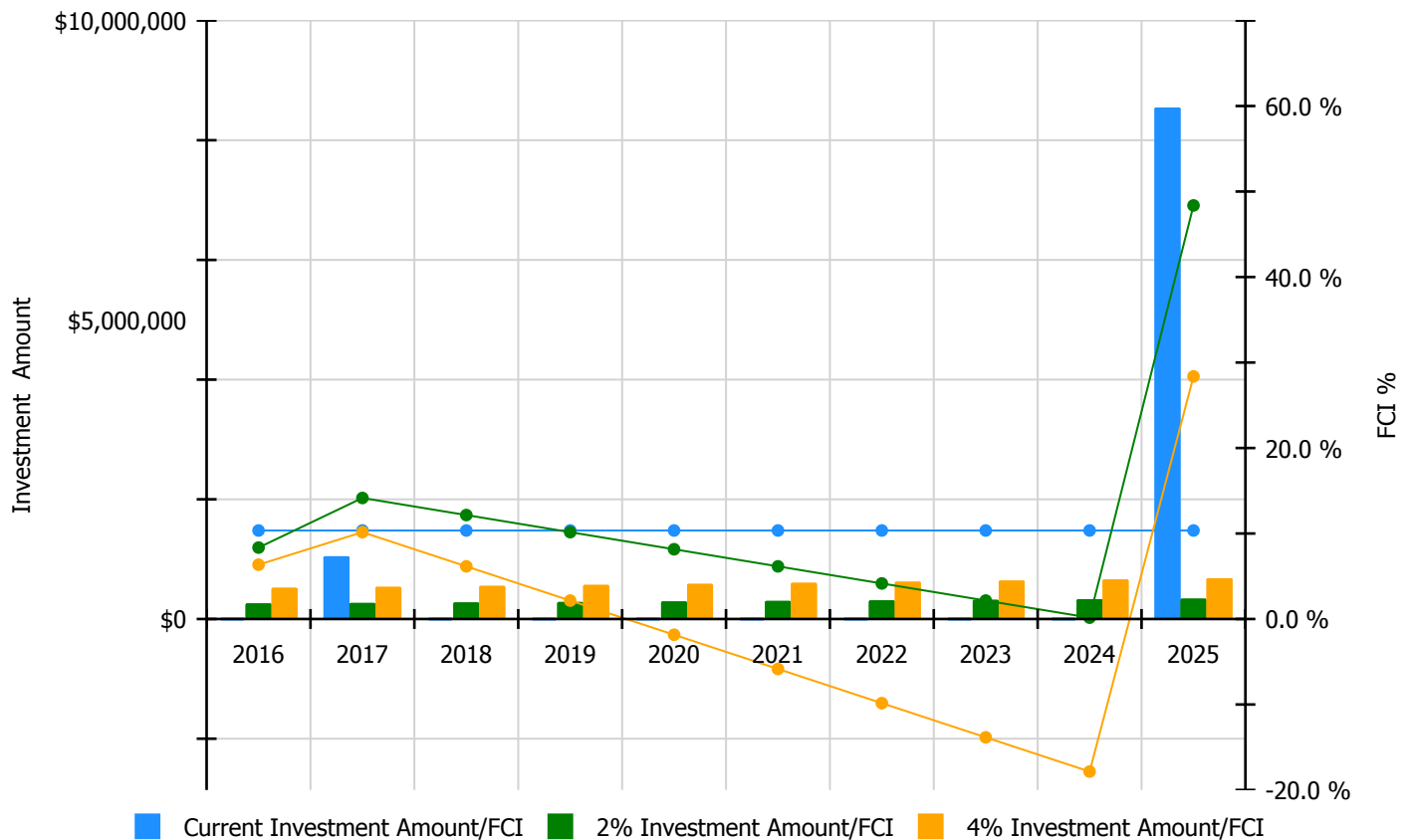


10 Year FCI Forecast by Investment Scenario

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

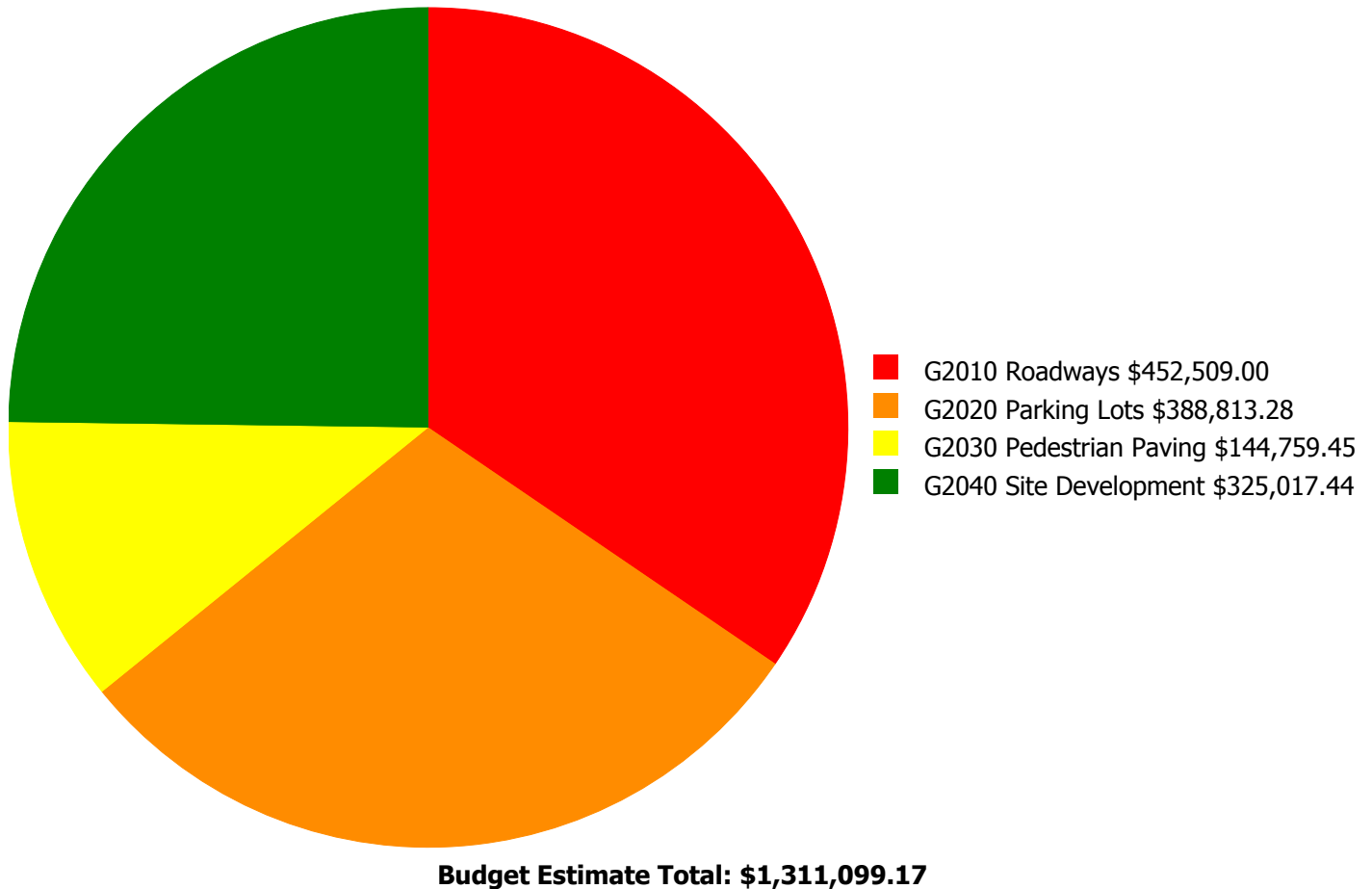
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 10.35%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$260,886.00	8.35 %	\$521,772.00	6.35 %
2017	\$1,048,611	\$268,713.00	14.16 %	\$537,425.00	10.16 %
2018	\$0	\$276,774.00	12.16 %	\$553,548.00	6.16 %
2019	\$0	\$285,077.00	10.16 %	\$570,154.00	2.16 %
2020	\$0	\$293,630.00	8.16 %	\$587,259.00	-1.84 %
2021	\$0	\$302,438.00	6.16 %	\$604,877.00	-5.84 %
2022	\$0	\$311,512.00	4.16 %	\$623,023.00	-9.84 %
2023	\$0	\$320,857.00	2.16 %	\$641,714.00	-13.84 %
2024	\$0	\$330,483.00	0.16 %	\$660,965.00	-17.84 %
2025	\$8,546,596	\$340,397.00	48.37 %	\$680,794.00	28.37 %
Total:	\$9,595,206	\$2,990,767.00		\$5,981,531.00	

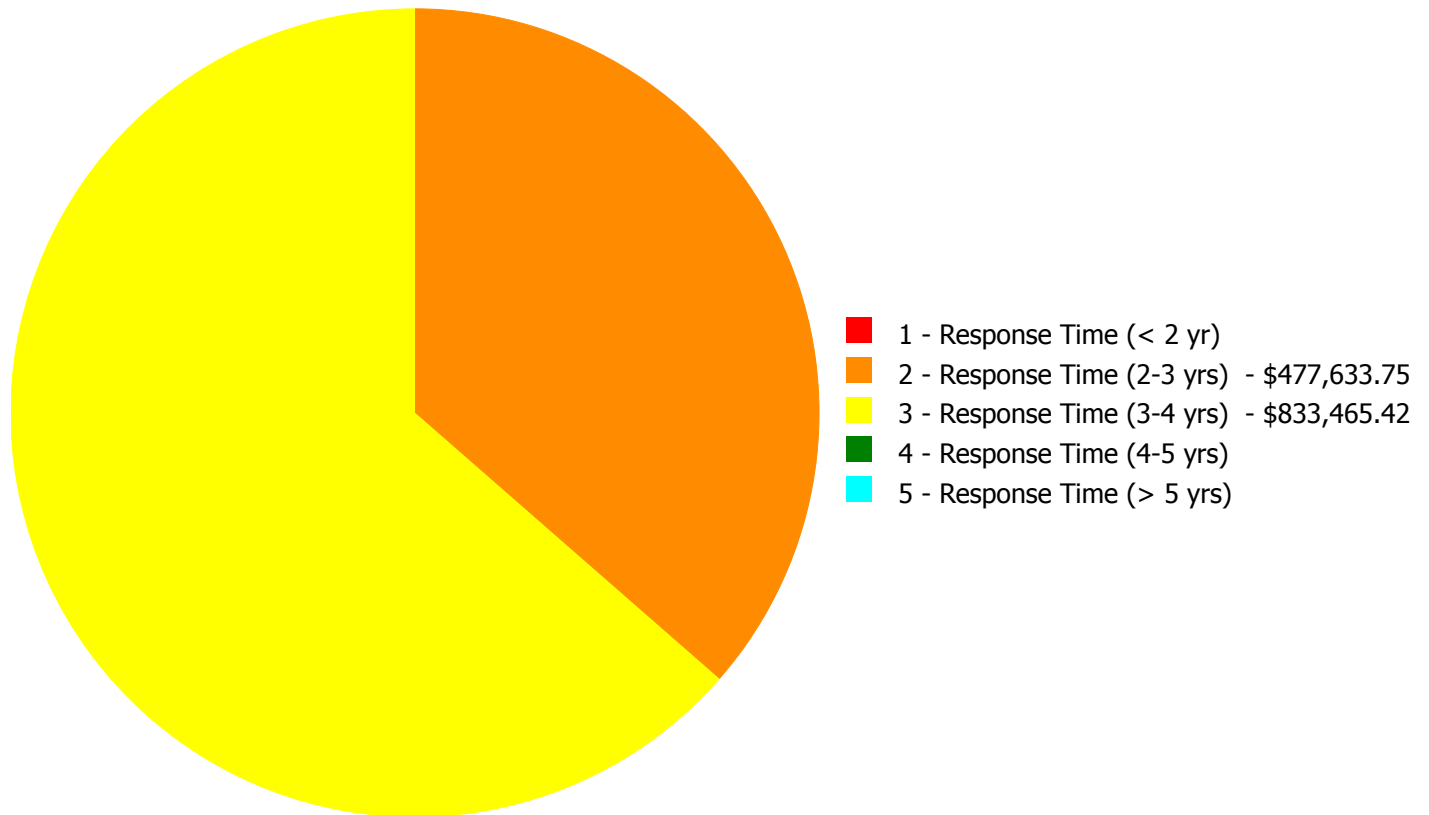
Deficiency Summary by System

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.



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: \$1,311,099.17

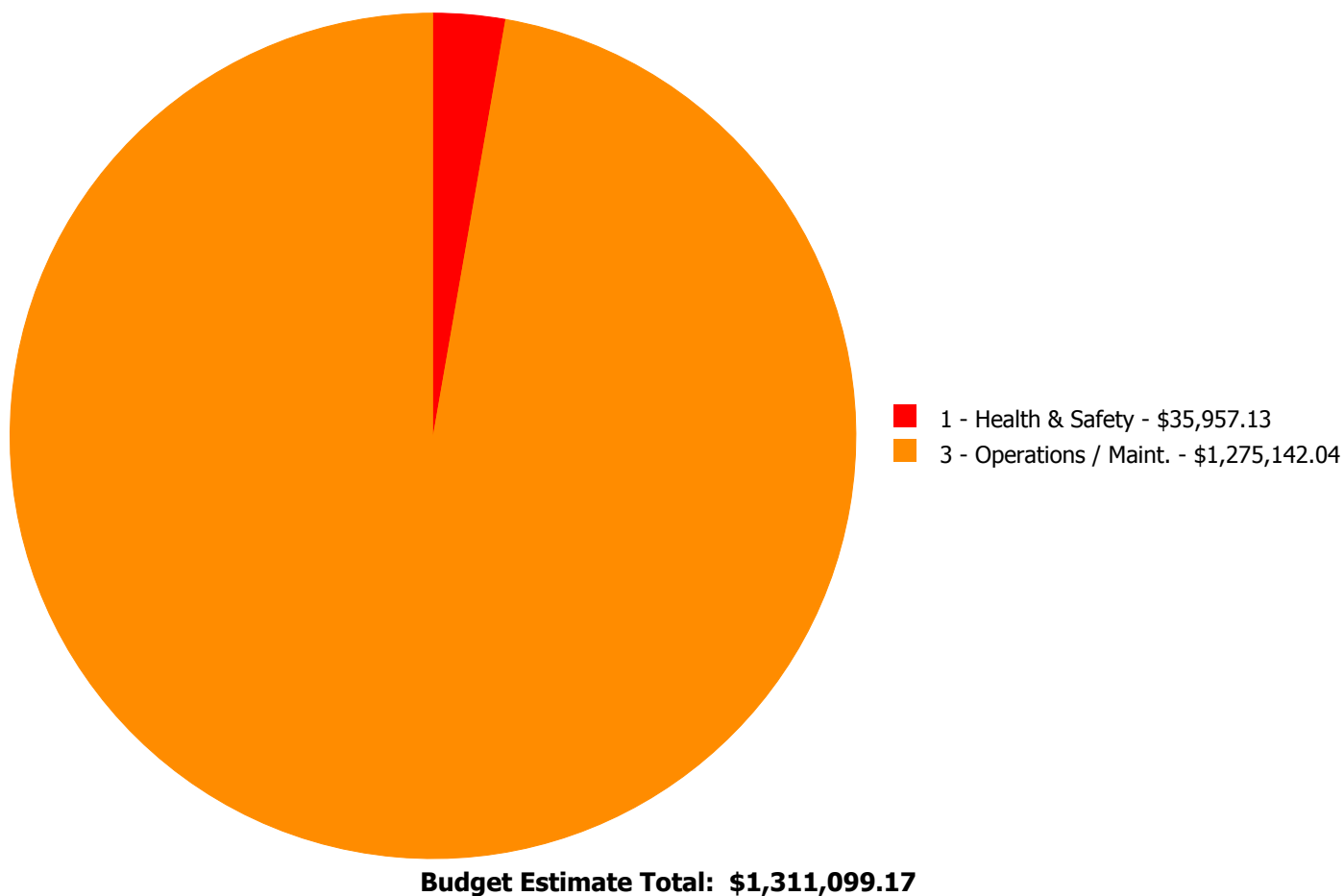
Deficiency By Priority Investment Table

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
G2010	Roadways	\$0.00	\$0.00	\$452,509.00	\$0.00	\$0.00	\$452,509.00
G2020	Parking Lots	\$0.00	\$7,856.86	\$380,956.42	\$0.00	\$0.00	\$388,813.28
G2030	Pedestrian Paving	\$0.00	\$144,759.45	\$0.00	\$0.00	\$0.00	\$144,759.45
G2040	Site Development	\$0.00	\$325,017.44	\$0.00	\$0.00	\$0.00	\$325,017.44
	Total:	\$0.00	\$477,633.75	\$833,465.42	\$0.00	\$0.00	\$1,311,099.17

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 2 - Response Time (2-3 yrs):

System: G2020 - Parking Lots



Location: Girls HS - curb along W. Olney drop-off

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace curbing

Qty: 100.00

Unit of Measure: L.F.

Estimate: \$7,856.86

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Replace damaged concrete curbing along drop-off from W. Olney (100ft)

System: G2030 - Pedestrian Paving



Location: Girls HS - stair down to west field

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 60.00

Unit of Measure: Riser

Estimate: \$81,876.19

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Construct new stair from driveway down to field (100ft length; 60 risers height with 4 resting landings)

System: G2030 - Pedestrian Paving



Location: Widener - sidewalks

Distress: Accessibility

Category: 1 - Health & Safety

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

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

Qty: 2,500.00

Unit of Measure: S.F.

Estimate: \$35,957.13

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repave broken sidewalks in front of building (2,500sf)

System: G2030 - Pedestrian Paving



Location: Girls HS - sidewalk

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: \$14,382.85

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repave damaged sections of concrete walkway along streets (1,000sf)

System: G2030 - Pedestrian Paving



Location: Girls HS - exterior concrete stairs

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 8.00

Unit of Measure: Riser

Estimate: \$10,916.83

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repaired damaged concrete stairs (8 risers)

System: G2030 - Pedestrian Paving



Location: Girls HS - exterior stairs

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: RegROUT joints between stone treads and risers - LF of grout

Qty: 100.00

Unit of Measure: L.F.

Estimate: \$1,626.45

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: RegROUT joints between limestone block tread/risers at misc. exterior stairs (100ft of pointing)

System: G2040 - Site Development



Location: Girls HS - retaining wall along W. Olney Ave. and Broad St.

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and regrout stone retaining wall - LF of wall - up to 4' tall

Qty: 350.00

Unit of Measure: L.F.

Estimate: \$163,256.79

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repair tops of retaining walls along W. Olney Ave. and Broad St.; repair brick wall at stair up to Broad St. from parking lot (approx. 350ft of retaining walls 3 ft. high)

System: G2040 - Site Development



Location: Widener - brick retaining walls

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair exterior brick retaining wall - per LF of wall - up to 4' tall

Qty: 100.00

Unit of Measure: L.F.

Estimate: \$51,562.51

Assessor Name: Steven Litman

Date Created: 02/18/2016

Notes: Repoint brick retaining walls (100lf)

Site Assessment Report - G605001;Grounds

System: G2040 - Site Development



Location: Girls HS - fencing

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Paint steel picket fence - LF of fence 6' high

Qty: 600.00

Unit of Measure: L.F.

Estimate: \$39,156.03

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repaint rusted wrought iron and chain link fences around areaways; repaint bollards near loading dock (600ft length)

System: G2040 - Site Development



Location: Widener - site fence and wall

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair and regrout stone retaining wall - LF of wall - up to 4' tall

Qty: 500.00

Unit of Measure: L.F.

Estimate: \$38,412.08

Assessor Name: Steven Litman

Date Created: 02/18/2016

Notes: Repoint brick walls along Broad Street (500sf)

System: G2040 - Site Development



Location: Widener - site fence, Broad St.

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Paint steel picket fence - LF of fence 6' high

Qty: 500.00

Unit of Measure: L.F.

Estimate: \$32,630.03

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Repaint wrought iron fence along Broad Street (500ft)

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

System: G2010 - Roadways



Location: Girls HS - access roadways

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving roadway

Qty: 16,000.00

Unit of Measure: S.F.

Estimate: \$226,254.50

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repave roadways to W. Olney and Ogontz; assume cost and sf area shown is half of full replacement cost, shared between Widener School and Girls HS (32,000 total sf/2=16,000sf for Girls HS)

System: G2010 - Roadways



Location: Widener - access roadways

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving roadway

Qty: 16,000.00

Unit of Measure: S.F.

Estimate: \$226,254.50

Assessor Name: Steven Litman

Date Created: 02/18/2016

Notes: Repave roadways to W. Olney and Ogontz; assume cost and sf area shown is half of full replacement cost, shared between Widener School and Girls HS (32,000 total sf/2=16,000sf share for Widener)

System: G2020 - Parking Lots



Location: Widener - parking lots

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 55,000.00

Unit of Measure: S.F.

Estimate: \$209,526.03

Assessor Name: Steven Litman

Date Created: 02/18/2016

Notes: Repave asphalt parking lots at front, east side of renovation wing, loading dock; also vehicle maintenance areas (35,000sf; also include 20,000sf)

System: G2020 - Parking Lots



Location: Girls HS - parking lots

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 45,000.00

Unit of Measure: S.F.

Estimate: \$171,430.39

Assessor Name: Steven Litman

Date Created: 02/08/2016

Notes: Repave asphalt parking lot for Girls HS Faculty behind school and along W. Olney Ave (30,000sf + 15,000sf = 45,000sf total)

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

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

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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

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

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

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

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

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

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