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.

Loesche School

Governance	DISTRICT	Report Type	Elementary
Address	595 Tomlinson Rd.	Enrollment	780
	Philadelphia, Pa 19116	Grade Range	'00-05'
Phone/Fax	215-961-2000 / 215-961-2559	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Loesche	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**49.10%**	**$24,200,354**	**$49,287,082**
Building	52.56 %	$23,735,328	$45,160,081
Grounds	11.27 %	$465,027	$4,127,001

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	90.78 %	$2,513,730	$2,769,142
Exterior Walls (Shows condition of the structural condition of the exterior facade)	03.53 %	$114,510	$3,248,080
Windows (Shows functionality of exterior windows)	00.00 %	$0	$1,584,880
Exterior Doors (Shows condition of exterior doors)	181.88 %	$232,077	$127,600
Interior Doors (Classroom doors)	89.00 %	$274,917	$308,880
Interior Walls (Paint and Finishes)	02.79 %	$41,294	$1,479,280
Plumbing Fixtures	61.29 %	$729,206	$1,189,760
Boilers	00.00 %	$0	$1,642,960
Chillers/Cooling Towers	65.60 %	$1,413,213	$2,154,240
Radiators/Unit Ventilators/HVAC	193.11 %	$7,305,758	$3,783,120
Heating/Cooling Controls	158.90 %	$1,887,782	$1,188,000
Electrical Service and Distribution	108.22 %	$923,794	$853,600
Lighting	85.49 %	$2,609,098	$3,051,840
Communications and Security (Cameras, Pa System and Fire Alarm)	79.33 %	$906,786	$1,143,120

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

S844001;Loesche

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	88,000
Year Built:	1965
Last Renovation:	
Replacement Value:	$49,287,082
Repair Cost:	$24,200,354.43
Total FCI:	49.10 %
Total RSLI:	72.16 %

Description:

Facility Condition Assessment
October 2015

School District of Philadelphia
William Loesche Elementary School
595 Tomlinson Road
Philadelphia, PA 19116

88,000 SF / 934 Students / LN 08

General

William Loesche Elementary School is located at 595 Tomlinson Road. This building was constructed in 1965, has 88,000 square feet and is 2 stories tall with no basement; the boiler room and part of the first floor is partially below grade along Bustleton Avenue. A one story addition, Elements 2 and 3, was constructed in 1970. The front entrance faces Bustleton Avenue. There is an extensive asphalt playground behind the building. Carl Lee, the Temporary Building Engineer accompanied the FCA team during the inspection.

The inspection Team met Principal Sherin Kurian who expressed concern over a number of deficiencies such as the numerous roof leaks, lack of fresh air in the building and overheating / lack of heating in classrooms throughout the school. Classroom and office doors need to have security locks for a lock-down scenario and exterior doors do not latch without deadbolts. The drop-off driveway in front of the building needs to be larger as it gets congested with parking and staged vehicles and there is a lack of visitor parking. The concrete overhang over the entrance has cracks and is sagging in need of repair.

Architectural/Structural

Foundations and footings were not seen and their construction type or condition could not be ascertained. There are no basements or crawl spaces. The Boiler and mechanical rooms are located on the First Floor (ground level at the entrance) but due to the increasing grade to the north, become partial underground rooms.

Floor slabs in the boiler and mechanical area are in good condition. The boiler room in this building is one of the cleanest 50 year-old mechanical spaces in the school district. Upper floor slabs are constructed of cast-in-place concrete with cast -in-place concrete beams. Floor slabs in stairways are exposed concrete and although clean in most areas, have years of built-up dirt and floor sealer along walls and in corners. Toilet room slabs are also exposed concrete which are very dirty and need to be stripped and sealed or painted to give the rooms a cleaner appearance. No major cracking or structural slab deficiencies were observed in any floor slab inspected.

Roof construction over classrooms and two story sections of the building consists of reinforced concrete beams and deck, bearing on masonry walls. The gymnasium and auditorium form a single high-bay box with exposed steel bar joists over the back stage and the gym supporting a concrete plank roof deck; it is assumed that the steel bar joist continue above the auditorium ceiling, although they could not be seen. The roof deck above all parts of the building is “flat” with minimum overall slope of 1/8” per foot or less to roof drains. Roof access is via a second floor window in a classroom out to a lower first floor roof between the gymnasium and the two story section. The roof has parapets less than 12” in height and has one brick flue. The roof access to lower roofs is by a ladder up from grade or down from a higher roof. All roofs have internal roof drains at low points, however low points are not always low enough to allow for the water to drain; better slopes should be provided with additional sloped insulation when the roof is replaced. Vertical leaders run through the building in internal chases, connecting to the storm system underground. There are no vertical leaders running down the outside of the exterior walls. Since parapets on all roofs are 6”-12” high and although none of the roofs have overflow scuppers or overflow roof drains, as long as the roof deck was designed to carry the load of the water contained by the parapet if all roof drains were clogged, this is not a structural concern.

Exterior walls in are generally in good condition but there are areas which need joint repair. Brick joints are cracked above the dumpster, located adjacent to the main drop-off driveway, facing Bustleton Avenue. (Locating a dumpster less than 100 feet from the main visitor / student entrance is not ideal as it is more desirable to have greater separation of personnel entry and service functions.) Cracked joints can be seen on the brick flue above the roof and joints are failing extending from lintels over Bustleton Avenue windows in various locations of Element 1. In the rear of the building, lintel cracks can be seen in the area of Door 4 and along the masonry joint that runs midway between first and second floors; caulking has been used to seal failing joints, but it is now failing. Caulking should be cleaned out and the joints should be re-pointed with grout to provide a proper seal. Univents in brick walls facing play areas are dented and need to be replaced. The large concrete overhang covering the front drop-off area has been slowly settling and pulling away from the building. The connection of the overhead slab to the building has been pulling away and sagging. The brick building corner under the connection point of the overhead slab has a vertical crack, indicative of lateral stress applied from the sagging overhead slab. The gap between the overhead slab and the building is also allowing water to enter the building further damaging and weakening the masonry wall below. The single row of supporting concrete columns and footings may need to be underpinned and a new connection should be made between the concrete overhang and the building. Past repairs to the overhang have not been effective in preventing separation and sagging of the overhang.

Exterior windows are not the original 1965 windows. Possibly around 2000, new windows consisting of insulated glass single hung units in painted aluminum frames with heavy-duty security/bug screens were installed throughout all Elements of the building. Today, these windows operate well and paint on the frames is still in good condition. Some first floor windows have the old security screens painted red to match the windows. Except for two missing screens, the new security/bug screens appear to be holding up well looking almost as good as new in playground areas.

Exterior doors at the front entrances and stairway or corridor exits are flush, painted, hollow metal steel doors & frames

with narrow vertical vision panels with security screens. Exit doors or mechanical area entrance/exit doors around the building are flush, painted, hollow metal steel doors & frames without vision panels. Doors and frames are in poor condition, with rust, dents and holes from previous hardware replacements over the years. Most hardware is old and not fully operational. Weatherstripping has been replaced on some doors but gaps can be seen in many other doors. All doors, frames and hardware should be replaced. There is a large curb cut to the right of the main entrance, forming a sloped walkway entrance at the front of the building facing Bustleton Avenue near the designated handicap parking spaces. Although specific striping and Accessible Route signage from the handicap parking spaces to the accessible entrance is missing, the entrance can be considered handicap accessible into the main entrance and first floor spaces. ADA compliant signage and striping should be provided.

Roof coverings consist of a rolled asphalt membrane system without surface gravel or granules. At one point in time, the membrane had been painted silver to reflect the sun, although the paint is now mostly worn off. This facility inspection was done on a rainy day and it could easily be seen that there were many areas of water ponding and poor water flow across the roof membrane to roof drains. This means that any gap or puncture in the roof membrane or flashing becomes a leak on a rainy day. This is consistent with the Principal's and Building Engineer's complaints of many roof leaks. There were some areas of softness underfoot. Many areas had been patched and repaired, including one of the expansion joints that had visible open cracks at the time of inspection. Base flashing around mechanical equipment and at brick walls consists of asphalt membrane flashing secured to rooftop ventilation ductwork, plumbing vents; counterflashing is set into masonry at walls and the flue. Exterior walls have low parapets with anodized aluminum coping over the tops of the walls. Coping appeared to be in fair condition, however counterflashing along brick walls is old with evidence of resealing and excessive caulking; it is possible that water is leaking in along the masonry joint along the counterflashing. Rooftop equipment covers are damaged and possible places for water entering the building. The roof membrane, insulation and flashing system is old, failing, beyond its normal service life, and should be replaced.

Partitions are constructed of painted block (concrete masonry units) throughout the entire school except in the entrance lobby where brick is used as an accent material. Concrete block 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. There were two areas with minor joint cracks in the block near the kindergartens in Wing A and two of the pilasters and block walls in the gymnasium had vertical cracks. This highly durable wall system is generally in good condition. The school office has gypsum board partitions to form some of the offices and vision panels in aluminum framing are used along the corridor; all are in good condition.

Interior doors used for classrooms, offices, storage rooms, and bathrooms are solid wood doors with steel frames. Most of these wood doors have narrow lite wired glass vision panels where vision is desirable; some have security screens. Most wood door surfaces have already been painted and are now damaged; steel door frames are chipped and rusted at bottoms and also need to be repainted. All painted doors and frames should be repaired and repainted where possible or replaced if severely damaged. Stairway and cafeteria doors are hollow metal doors with narrow lite wired glass vision panels and steel door frames, with outdated panic hardware and closers in poor condition. All steel doors and frames throughout the building need to be repainted and panic hardware / closers replaced. Doors in the mechanical room are wood or hollow metal doors with steel frames and should be repaired and repainted. Classroom, office, and special function room doors throughout the building have old nob-style locksets (except for stairways which have old outdated panic hardware). Classrooms and offices should have lever-handle locksets with security feature that allows them to be locked from the inside of the classroom, as required today for lock-down security. All interior door locksets/latchsets and closers should be replaced.

Interior fittings/hardware include black slate chalkboards and tackboards with metal chalk trays mounted on one or two walls in each classroom. Some of the classrooms have smartboards over blackboards. Some classrooms have small sinks units with painted wood cabinets and closet areas with folding vinyl partitions. Roughly half of toilet room partitions are the original floor mounted metal partitions repainted and in poor condition; the others are newer floor mounted HDPE (high density polyurethane) plastic partitions and doors, in good condition. Most toilet rooms have accessories in place and operational. First floor toilet rooms have a minimally accessible toilet compartment that has a toilet and sink with enough maneuverability space for wheelchairs, but no grab bars or properly mounted accessories. Space for maneuvering within the compartment and accessory mounting heights are not in full compliance with ADA. Sinks also do not fully comply with ADA accessibility requirements since they do not have wrist blade faucets, leg protection, and extended or properly mounted bowl heights.

Stair construction consists of concrete treads with steel nosings, steel risers, steel stringers with steel handrails (30" high), guards (36" high) at tops of landings and open sides of stairways, and steel balusters with 6" spacing. Stairways

have guards that span from one stair stringer to the above stringer on lower runs to first floor, but baluster spacing is 6", not 4" spacing required by today's codes. Stairways do not meet today's code requirements of 36" handrails and 42" guards with 4" balusters on open sides of stairs and at stair platforms. Railings and guards should be updated to meet today's codes. Concrete platforms and landings are finished with clear sealer, but the concrete has a mottled appearance and looks dirty. Stairs should be stripped and refinished to give them a cleaner appearance.

Wall finishes in the first and second, floors are full height painted concrete masonry units (block) throughout the building. There are some isolated locations in one stairway, the mechanical room, and some classrooms where the walls are peeling and need repainting. The auditorium has painted block walls with surface applied 1'x1' (approx.) square acoustical panels on the upper 4 to 7 feet of wall (auditorium ceiling slopes up towards the front). The gymnasium and cafeteria are painted block in good condition.

Floor finishes in most classrooms, all corridors, the lobby, cafeteria, gymnasium, auditorium, and auditorium stage consist of 9"x9" vinyl asbestos tile (VAT). The School Office and classrooms in the 1 story Element 2 and 3 ('A' Wing) have 12"x12" vinyl composition tile (VCT). The rooms with vinyl asbestos tile floors should be tested for asbestos and if they are asbestos containing, although they are not damaged, they should be properly removed and replaced at some point in the near future. All stairs, the mechanical rooms, and half of the toilet rooms have sealed concrete finishes which are in need of stripping, cleaning, and resealing; toilet rooms in particular should have a clean finish to promote the appearance of cleanliness. The other toilet rooms have ceramic tile floors and cove bases, which like the concrete need cleaning. Some of the coved tile bases in the toilet rooms are broken and need replacing.

Ceiling finishes in most spaces throughout the building consist of 2x4 suspended acoustical tile ceiling with surface mounted or recesses 2x4 fluorescent lighting fixtures in corridors, classrooms, cafeteria, and offices. These ceilings have old, discolored grids, stained ceiling tiles, different types of ceiling tiles and in general are beyond their normal service life. The auditorium has 12"x12" concealed spline acoustical ceiling tiles with recessed downlight lighting fixtures; these ceiling tiles look more consistent and clean. The gym has precast concrete planks over exposed steel beams and girders, all painted off-white and in good condition. Mechanical rooms have exposed ceilings.

Fixed furnishings include wood seating in the auditorium which is in good condition. Some chairs need minor adjustments and approximately 25 need refinishing, but overall the appearance and operation of the folding seats are good. The cafeteria has folding tables for serving students. The kitchen area has stainless steel service counters and food preparation fittings.

There is no elevator in the building. With a ramp into the first floor, as long as all classroom and public space functionality and toilet room accessibility is provided on the main floor an elevator is not required to meet ADA.

Mechanical

Plumbing Fixtures – The building is equipped with wall hung urinals (flush valve type), wall hung water closets (flush valve type), and wall hung lavatories with wheel handle faucets. Many of the original plumbing fixtures remain in service, however, these fixtures have reached the end of their service life and should be replaced. New fixtures will provide lower water consumption and provide savings on water heating costs. The bathrooms are also equipped with floor drains.

There is a combination of electric water coolers and drinking fountains which are of the wall hung type. Drinking fountains are typically located in the hallways in the vicinity of the bathroom groups. There are drinking fountains located in each of the kindergarten classrooms. There are also recessed drinking fountains located in the gymnasium .Most appear to be the original installed equipment. The replacement of all drinking fountains is recommended as the equipment is approximately 51 years old and beyond its service life.

Wall hung service sinks are original and are available throughout the building for use by the janitorial staff. Service sinks are typically located in the vicinity of the bathroom groups. In addition, there are hand sinks located in each classroom. The service sinks and hand sinks appear to have exceeded their service life, and should be replaced. The Cafeteria's food prep/kitchen is equipped with one, three compartment stainless steel sink with wheel handle operated faucets and its sanitary connection is served by a floor mounted grease trap. The kitchen is also equipped with a hand sink. The triple wash sink (with lever handles) and hand sink (with lever handles) show signs of normal usage. The grease interceptor is located in the floor and is accessible via an access panel, however, the legs of the triple wash sink is preventing access for maintenance. Chemicals are injected manually into the sanitizing basin.

Domestic Water Distribution – It appears that the 4" domestic water service piping is mostly soldered copper. Water service enters the building on the first floor main boiler mechanical room, with a double check backflow preventer (RPZA – reduced pressure zone assembly), a 2" bypass with BFP (RPZA) and a 4" water meter on the main line upon entering the building. The water meter appears to be new. The piping is copper with soldered joints. The distribution piping appears to be original and is at the end of its service life and is recommended to be inspected and repaired as needed.

There are a total of three domestic water heaters for the building. One heater serves the majority of the building, one serves the wing addition and the other serves select remaining areas. The main building is served by two water heaters, which are located in the boiler mechanical equipment room. Each unit is a natural gas fired, vertical tank, 100 gallon, Bradford White, model D100L3003NA, 30,000 btuh input, 290.0 GPH recovery and was manufactured in 2014. The two water heaters are served by a common expansion tank. A recirculating pump is also provided with this system. The second water heater is located in a custodial closet, is an electric, Bradford White, vertical tank, 50 gallon, 4500W, model MI50S6DS13, year of manufacture 2014 and does not need to be replaced. This system is equipped with a recirculating pump but is not equipped with an expansion tank. The third water heater is located in a custodial closet, is an electric, Bradford White, vertical tank, 30 gallon, 4500W, model M230L6DS-1NCWW, year of manufacture 2001 and should be replaced. This system is equipped with a recirculating pump but is not equipped with an expansion tank. A water softener was located in the boiler room for treating the boiler make up water system. The water softener system appears to be relatively new.

Sanitary Waste - The sanitary waste piping system in the original building is extra heavy cast iron with lead and oakum seals and appears to be the original piping installed in the building. It is therefore recommended to inspect this piping and repair or replace sections as needed. The sanitary system leaves the building by gravity flow.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and connect to the underground site drainage system. There are overflow scuppers for the building.

Energy Supply - Duplex fuel oil supply pumps provide the required fuel to the boilers when operating on fuel oil. The 8,000 gallon underground fuel storage tank was installed in 2010 in the paved parking area toward Bustleton Avenue. The fuel pumps and controls are original vintage, are beyond their serviceable life and therefore should be replaced. A 3" natural gas service enters the building on the first floor into the main boiler mechanical equipment room. The natural gas main is welded, black steel piping while the branches are threaded, black steel.

Heat Generating Systems – Heating water is generated by two 2,958 MBH, Buderus, model GE615/4, cast iron sectional, hot water boiler with dual fuel burners. All boilers are equipped with Power Flame dual fuel burners, natural gas and number 2 fuel oil, model CR3-GO-25. The boilers were installed in 2010 and should provide reliable service for another 25 – 30 years with regular preventative maintenance. There is draft control on both boiler flues. Combustion air louvers serve the boiler room to provide combustion air for the boiler operation. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization on oil. Burner oil pumps are driven by independent motors. 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/disposable media filter. The fuel oil pumps and accessories were part of the boiler replacement and will not need to be replace for 20 – 25 years The heating water pumping system consists of a dedicated constant volume boiler Bell & Gossett, end suction, 80 GPM, 75 feet head, 5 HP, 1800 RPM, circulation pump and a duty and stand by constant volume system distribution pump, Bell & Gossett, end suction, 180 GPM, 75 feet head, 7-1/2 HP,1800 RPM. The pumping systems were part of the boiler replacement and will not need to be replaced for 20 – 25 years as well.

Distribution Systems – The building heating water distribution piping is black steel with welded fittings. The boiler plant piping in the mechanical equipment room was replaced as part of the boiler upgrade, however, the branch distribution piping to the air handling equipment and unit ventilators has not been replaced. This distribution piping has been in use beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the distribution piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 5 years.

Fresh air is admitted into the building through the unit ventilators and outside air intakes on air handling equipment. Ventilation air is induced into the spaces through the outside air intake grilles located in the building exterior wall which are ducted to the unit ventilators. The air handlers are delivered outside air via air intakes.

The building uses unit ventilators with hot water coils in the classrooms and hot water convectors or horizontal ceiling mounted heating only fan coils in the hallways and currently is the sole source of heat for these areas. A few areas are also served by horizontal ceiling mounted heating only fan coils, which are suspended below the drop ceiling and not above.

The gymnasium is served by an air handling unit with hot water heating coils with high sidewall supply air registers and low return air grilles which are flush with the wall surface. It is recommended to that these systems be replaced with a similar air handling unit with heating and cooling coils and duct distribution system.

The cafeteria is served by an air handling unit with hot water heating coils. The air handling unit is part of the original building equipment, has exceeded its life expectancy and should be replaced. It is recommended to that these systems be replaced with a similar air handling unit with heating and cooling coils and duct distribution system, as well as ventilation to meet the outside air ventilation requirements for the cafeteria seating area. The kitchen is not equipped with a make-up air system. It is recommended that a hood exhaust system be implemented for any equipment which generates heat in addition to the existing kitchen hood. These exhaust systems should be coupled with a heating and ventilating make up supply air system. Proper air flow pressurization and balancing should be performed for the seating area with respect to the kitchen to maintain the kitchen under negative pressurization.

The auditorium is served by an air handling unit with heating hot water coils. This unit provides heating and ventilation to the space. Supply air is distributed above from the ceiling level via linear slot diffusers from a duct supply air system. Return air is transferred back to the air handling through ducted low return air grilles near the front of the stage. It is recommended to that these systems be replaced with a similar air handling unit with heating and cooling coils and duct distribution system.

Terminal & Package Units - There are several classrooms which have window air conditioning units but predominantly the building does not have cooling systems. There are roof mounted exhaust fans of which serve the restrooms. Exhaust air is transferred via a transfer in the door. Hot water convectors (baseboard or high wall mount) or horizontal ceiling mounted heating only fan coils are also utilized in restrooms which have heating needs. A Mitsubishi, two ton, split system, Mr Slim unit serves the LAN room for the school.

Controls & Instrumentation - The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Wall mounted pneumatic thermostats on the corridor walls control the steam radiators. There is one air compressor, Quincy model QT5QCB, which was installed in 2010. This compressor generates control air for the temperature control system and is located in the boiler room. A refrigerated air dryer, Hankinson, installed in 2010, serves the compressor. The maintenance staff reports the building temperature tends to be warmer than necessary when the heating system is in operation. Potential problems with oil, moisture or dirt in the pneumatic copper tubing can be one source of problems. The small rubber gaskets and tubing connections at control devices can become brittle over time and fail to compound control problems. 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 65 years old and should be 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.

Sprinklers - The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure. The kitchen hood is not equipped with a suppression system. Suppression system should be installed for hoods requiring one.

Electrical

Site Electrical Service is delivered from medium voltage overhead lines on wooden poles along Tomlinson Road. One 500KVA pit mounted utility transformer with 13.2KV primary and 208/120VAC secondary is installed outside the building for supplying power to facility.

The service entrance to the facility consists of a disconnect switch, utility meter, and 1000A, switchboard located in the Utility Room in the basement of the building. It was determined that this equipment does not have spare capacity for future loads, is outdated beyond its useful life, and therefore requires replacement.

Power distribution is accomplished with several lighting, receptacle, and power panels located throughout the building. All the panel boards along with the associated wiring have exceeded their useful life and should be replaced. As recommended by Building Owners and Managers (BOMA) Association, such a panel boards shall be replaced with panel boards having additional circuit breakers to accommodate additional branch circuits that might be needed in the future.

In general there are not enough receptacles installed in the class rooms. Our recommendation is to have a minimum of two receptacles on each classroom wall. The computer room should have receptacles at three feet on center on each wall or wire-mold power poles at computer tables.

Lighting in the building is provided by fluorescent fixtures with outdated T-12 lamps or incandescent fixtures, located in specific areas like mechanical room. Classrooms and corridors utilize 1x4 surface mounted fluorescent fixtures, cafeteria and kitchen use 2x4 surface mounted fixtures, the auditorium uses down lighting fixtures, and the boiler room uses 1x4 industrial type fluorescent fixtures. The Gymnasium is illuminated by pendent mounted metal halide fixtures which have high energy consumption and are difficult to re-lamp. Lighting levels in the most areas including the gymnasium do not meet IES (Illuminating Engineering Society) standards.

Fire Alarm System is not adequate. There are no horns or strobes in classrooms. The existing system is old and does not meet current fire alarm codes.

The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along whit 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) services the communication system of the building. The school also equipped with Wi-Fi system.

A Separate PA system does not exist. The school uses the telephone system for public announcements. This system is working adequately.

Each classroom is provided with telephone intercom service. The system permits paging and intercom communications between the main office to classrooms, classroom to the main office, and classroom to classroom. Outside line access from a classroom phone through the PBX is blocked. The system 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.

Existing clock system is not working. The school has a time system controller consisting of combination of clock and speaker installed on a wall in each classroom and a master time programmer manufactured by ”STANDARD” located in the main office.The clocks are not controlled properly with the central master controller. The system is old and has exceeded its useful service life thus requiring replacement. The present bell system is working adequately.

Television System is not provided in the school.

Video surveillance system is not provided in the school. School provided only with access control system including door contact and motion security sensors in critical areas. 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.

An emergency power system (backup power generator) is not provided in this school.

Emergency Lighting System does not provide an adequate amount of light were implemented. There is inadequate emergency lighting in corridors and other egress ways. Exit signs are not battery-pack type.

Lightning protection system is not required for this building and none is installed.

Grounding system is present and appears to be adequate.

No elevator provided in the school.

Theater Lighting and dimming controls are old and do not comply with present day electrical codes. Lights are turned on and off by branch circuit breakers in the lighting panel and not by diming system. These days in modern school auditoriums, stage lighting is provided with front, upstage, high side, backlighting and scenery lighting. In addition to the stage lights, dimmable house lights and switchable stage work lights are recommended for general illumination during rehearsals and other activities outside performances. Supplemental fluorescent lighting is also required in the stage area for lectures and testing. These supplemental lighting fixtures should be controlled by dimmer bank controls during performances.

Sound System in the Auditorium is old and does not comply with recent multipurpose auditorium sound system requirements recommended by ECE40020 and should be replaced.

Site Lighting System is adequate. There are sufficient numbers of lights provided around the building

Site Video Surveillance system is not provided in the school.

Site Paging system is provided in the school and working adequately. Site speakers provide coverage in the playground.

Grounds

Paving and parking is constructed of asphalt and is in poor condition. There are many cracked and broken areas throughout the faculty parking lot in the front yard. The asphalt play areas on the side and rear of the school have numerous cracks and failing areas. Concrete walkways in the front of the building and on the Tomlinson Road side of the building are broken and spalling in various areas. Concrete paving under and in front of the dumpster needs to be replaced with a heavy concrete slab. The asphalt walk that continues to the rear play area from the Tomlinson Road concrete walk requires replacement with concrete.

The fieldstone retaining wall in the front of the building requires repointing but does not appear to be leaning from a vertical position. Drains in the wall need to be cleaned out to allow water to escape from the bottom of the retained hill.

Site fencing is composed of chain link fencing which is in fair condition with some bent and rusting sections around the site, but in general most fencing is intact. There is closure of the sides and rear but the Bustleton Avenue side of the building is open to the public.

RECOMMENDATIONS

Architectural

- Strip and reseal concrete floors in stairways, toilet rooms and mechanical rooms (5,100sf)
- Repoint cracked joints in brick flue, front left corner of building under canopy, masonry walls along window lintels, in the horizontal brick joint facing the play area and other locations around building (2,000sf)
- Concrete canopy repair - underpin 2 footings
- Concrete canopy repair - new structural overhead slab (225sf) with new connection to building.
- Replace exterior metal doors and frames (30)3x7
- Replace univent louvers (56” X 12”) damaged by vandalism or children playing (12 each)
- Repaint marked or previously painted areas of brick worn or damaged (2,000sf)
- Replace built-up asphalt roof including flashing and coping (73,219sf)
- Repaint steel doors and metal frames in mechanical rooms and stairs (30) 3x7
- Refinish/repaint wood doors into classroom, toilet rooms, offices, and auditorium in corridors where damaged (130) 3x7
- Provide security hardware for classrooms and offices, locking from the inside of the room (65)
- Repair and repaint interior block walls where damaged and peeling in mechanical room, corridors, classrooms, cafeteria, stairway, gym wall (cracked), and backstage ceiling (6,000sf)
- Provide toilet room accessories where partitions are replaced (8 toilet compartments)
- Replace transite toilet room partitions with plastic partitions (8 toilet + 3 urinal compartments)
- Remove 9”x9” VAT floors in classrooms, corridors, and auditorium with and replace with VCT (72,300sf)

- Replace 2x4 suspended acoustical tile ceilings, old, discolored, water damaged, grid rusting (74,000sf)
- Refinish auditorium seats (25)
- New handrails and guards in 5 stairways (250ft handrail on wall; 250ft handrail + guard in middle of stair; 75ft guard at 2nd floor)
- Replace exterior handrails along 3 stairs (25 risers in front + 3 risers side + 3 risers side/rear), complying with 2015 building codes (50ft total length of railings and guards each side of stairs)

Mechanical

- Replace the original lavatories with low flow fixtures.
- Replace the original water closets with low flow fixtures.
- Replace the original urinals with low flow fixtures.
- Replace the original wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Replace the original service sinks in the janitor sinks.
- Replace the original hand sinks in classrooms with low flow fixtures.
- Inspect and replace, as needed, the original the domestic water piping in the building
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- The Hire a qualified contractor to examine the heating water distribution piping in service for over 50 years. The District should budget for replacing this piping over the next few years.
- Replace the existing unit ventilators throughout the building 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.
- Remove the window air conditioning units and install an air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.
- Provide ventilation, heating and cooling for the gymnasium by replacing the existing air handling unit.
- Provide ventilation, heating and cooling for the auditorium by replacing the existing air handling unit.
- Provide ventilation for the corridors and at thirteen first floor entryways by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings
- Provide ventilation, heating and cooling for the Cafeteria by replacing the existing air handling unit.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. The installation should include a fire suppression system for kitchen hood.

Electrical

- Upgrade the existing electrical service with new electrical service. Replace the existing switchboard with new 2000A, switchboard.
- Upgrade existing distribution system by replacing new panel boards and new feeders. Provide arc flash label on all panel boards. Estimated total 16 panel boards.
- Install minimum of two receptacles in each wall of classrooms. We recommend adding a two-compartment surface mounted raceway for data & power, for the computer lab. Estimated 80 each.
- Replace all Fluorescent lighting fixtures with new T-5 fluorescent lighting fixtures throughout the building. Replace metal halide fixtures in gymnasium with high bay LED lighting fixtures. Lighting fixtures in auditorium do not need to be replaced.
- Replace the existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other areas recommended by the NEC. Install horn/strobes in classrooms, corridors, offices, toilets, library and other areas as recommended by code.
- Provide new master clock system including wireless master clock controller and new clocks in classrooms and offices. Total fifty clocks.
- Provide a new video surveillance system including cameras and Closed Circuit Television (CCTV) for monitoring the system. Cameras should be installed in corridors, at school entrance doors, and on various walls around the building. Provide a monitor in main office and building engineer's office.

Grounds

- Repave damaged asphalt parking lot and play area with new asphalt (110,000sf)
- Replace damaged sections of chain link fence around site (allowance - 100ft, 8ft tall)
- Repave concrete walkways (1000sf)
- Repave concrete slab at dumpster (500sf)
- Provide ADA parking space signage and striping for 2 places in front of building adjacent to ramp.
- Repoint fieldstone retaining wall at front of building (100sf)

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S844001		

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.

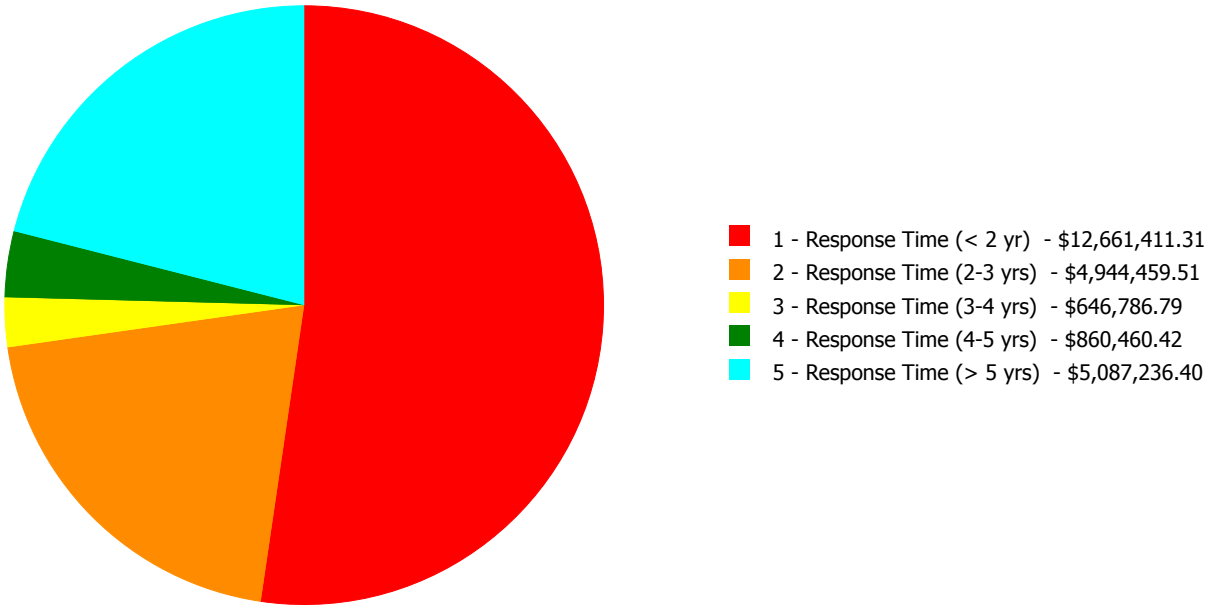
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	50.00 %	0.00 %	$0.00
A20 - Basement Construction	50.00 %	1.35 %	$22,907.96
B10 - Superstructure	50.00 %	0.51 %	$40,314.15
B20 - Exterior Enclosure	69.06 %	6.99 %	$346,586.71
B30 - Roofing	110.00 %	90.78 %	$2,513,729.85
C10 - Interior Construction	53.42 %	14.36 %	$310,000.78
C20 - Stairs	50.00 %	125.75 %	$156,036.39
C30 - Interior Finishes	83.78 %	55.02 %	$2,273,550.99
D10 - Conveying	0.00 %	0.00 %	$0.00
D20 - Plumbing	102.55 %	86.19 %	$1,548,834.57
D30 - HVAC	80.94 %	108.35 %	$10,606,752.90
D40 - Fire Protection	0.00 %	177.49 %	$1,258,880.71
D50 - Electrical	110.11 %	87.40 %	$4,520,876.66
E10 - Equipment	75.83 %	8.51 %	$119,253.93
E20 - Furnishings	15.00 %	9.39 %	$17,602.30
G20 - Site Improvements	42.40 %	15.66 %	$465,026.53
G40 - Site Electrical Utilities	60.03 %	0.00 %	$0.00
Totals:	**72.16 %**	**49.10 %**	**$24,200,354.43**

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)
B844001;Loesche	88,000	52.56	$12,661,411.31	$4,898,744.40	$227,475.37	$860,460.42	$5,087,236.40
G844001;Grounds	266,100	11.27	$0.00	$45,715.11	$419,311.42	$0.00	$0.00
Total:		**49.10**	**$12,661,411.31**	**$4,944,459.51**	**$646,786.79**	**$860,460.42**	**$5,087,236.40**

Deficiencies By Priority



Budget Estimate Total: $24,200,354.43

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	88,000
Year Built:	1965
Last Renovation:	
Replacement Value:	$45,160,081
Repair Cost:	$23,735,327.90
Total FCI:	52.56 %
Total RSLI:	74.43 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B844001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S844001		

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	50.00 %	0.00 %	$0.00
A20 - Basement Construction	50.00 %	1.35 %	$22,907.96
B10 - Superstructure	50.00 %	0.51 %	$40,314.15
B20 - Exterior Enclosure	69.06 %	6.99 %	$346,586.71
B30 - Roofing	110.00 %	90.78 %	$2,513,729.85
C10 - Interior Construction	53.42 %	14.36 %	$310,000.78
C20 - Stairs	50.00 %	125.75 %	$156,036.39
C30 - Interior Finishes	83.78 %	55.02 %	$2,273,550.99
D10 - Conveying	0.00 %	0.00 %	$0.00
D20 - Plumbing	102.55 %	86.19 %	$1,548,834.57
D30 - HVAC	80.94 %	108.35 %	$10,606,752.90
D40 - Fire Protection	0.00 %	177.49 %	$1,258,880.71
D50 - Electrical	110.11 %	87.40 %	$4,520,876.66
E10 - Equipment	75.83 %	8.51 %	$119,253.93
E20 - Furnishings	15.00 %	9.39 %	$17,602.30
Totals:	**74.43 %**	**52.56 %**	**$23,735,327.90**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	88,000	100	1965	2065		50.00 %	0.00 %	50			$1,619,200
A1030	Slab on Grade	$7.73	S.F.	88,000	100	1965	2065		50.00 %	0.00 %	50			$680,240
A2010	Basement Excavation	$6.55	S.F.	88,000	100	1965	2065		50.00 %	0.00 %	50			$576,400
A2020	Basement Walls	$12.70	S.F.	88,000	100	1965	2065		50.00 %	2.05 %	50		$22,907.96	$1,117,600
B1010	Floor Construction	$75.10	S.F.	88,000	100	1965	2065		50.00 %	0.61 %	50		$40,314.15	$6,608,800
B1020	Roof Construction	$13.88	S.F.	88,000	100	1965	2065		50.00 %	0.00 %	50			$1,221,440
B2010	Exterior Walls	$36.91	S.F.	88,000	100	1965	2065		50.00 %	3.53 %	50		$114,509.97	$3,248,080
B2020	Exterior Windows	$18.01	S.F.	88,000	40	1965	2005	2057	105.00 %	0.00 %	42			$1,584,880
B2030	Exterior Doors	$1.45	S.F.	88,000	25	1965	1990	2042	108.00 %	181.88 %	27		$232,076.74	$127,600
B3010105	Built-Up	$37.76	S.F.	73,219	20	1965	1985	2037	110.00 %	90.92 %	22		$2,513,729.85	$2,764,749
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	73,219	20	1965	1985	2037	110.00 %	0.00 %	22			$4,393
C1010	Partitions	$17.91	S.F.	88,000	100	1965	2065		50.00 %	0.00 %	50			$1,576,080
C1020	Interior Doors	$3.51	S.F.	88,000	40	1965	2005	2057	105.00 %	89.00 %	42		$274,916.76	$308,880
C1030	Fittings	$3.12	S.F.	88,000	40	1965	2005	2021	15.00 %	12.78 %	6		$35,084.02	$274,560
C2010	Stair Construction	$1.41	S.F.	88,000	100	1965	2065		50.00 %	125.75 %	50		$156,036.39	$124,080

Site Assessment Report - B844001;Loesche

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.	88,000	10	1965	1975	2020	50.00 %	3.55 %	5		$41,293.93	$1,162,480
C3010231	Vinyl Wall Covering	$0.97	S.F.	88,000	15				0.00 %	0.00 %				$85,360
C3010232	Wall Tile	$2.63	S.F.	88,000	30				0.00 %	0.00 %				$231,440
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.		50				0.00 %	0.00 %				$0
C3020413	Vinyl Flooring	$9.68	S.F.	82,900	20	1965	1985	2037	110.00 %	136.65 %	22		$1,096,550.10	$802,472
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	5,100	50	1965	2015	2065	100.00 %	396.34 %	50		$19,607.12	$4,947
C3030	Ceiling Finishes	$20.97	S.F.	88,000	25	1965	1990	2042	108.00 %	60.48 %	27		$1,116,099.84	$1,845,360
D1010	Elevators and Lifts	$1.53	S.F.	88,000	35				0.00 %	0.00 %				$134,640
D2010	Plumbing Fixtures	$13.52	S.F.	88,000	35	1965	2000	2052	105.71 %	61.29 %	37		$729,205.89	$1,189,760
D2020	Domestic Water Distribution	$1.68	S.F.	88,000	25	1965	1990	2042	108.00 %	301.63 %	27		$445,927.27	$147,840
D2030	Sanitary Waste	$2.90	S.F.	88,000	25	1965	1990	2042	108.00 %	146.43 %	27		$373,701.41	$255,200
D2040	Rain Water Drainage	$2.32	S.F.	88,000	30	1965	1995	2037	73.33 %	0.00 %	22			$204,160
D3020	Heat Generating Systems	$18.67	S.F.	88,000	35	2010	2045		85.71 %	0.00 %	30			$1,642,960
D3030	Cooling Generating Systems	$24.48	S.F.	88,000	30				0.00 %	65.60 %			$1,413,212.91	$2,154,240
D3040	Distribution Systems	$42.99	S.F.	88,000	25	1965	1990	2042	108.00 %	193.11 %	27		$7,305,758.48	$3,783,120
D3050	Terminal & Package Units	$11.60	S.F.	88,000	20	1965	1985	2037	110.00 %	0.00 %	22			$1,020,800
D3060	Controls & Instrumentation	$13.50	S.F.	88,000	20	1965	1985	2037	110.00 %	158.90 %	22		$1,887,781.51	$1,188,000
D4010	Sprinklers	$7.05	S.F.	88,000	35				0.00 %	202.91 %			$1,258,880.71	$620,400
D4020	Standpipes	$1.01	S.F.	88,000	35				0.00 %	0.00 %				$88,880
D5010	Electrical Service/Distribution	$9.70	S.F.	88,000	30	1965	1995	2047	106.67 %	108.22 %	32		$923,794.10	$853,600
D5020	Lighting and Branch Wiring	$34.68	S.F.	88,000	20	1965	1985	2037	110.00 %	85.49 %	22		$2,609,097.57	$3,051,840
D5030	Communications and Security	$12.99	S.F.	88,000	15	1965	1980	2032	113.33 %	79.33 %	17		$906,785.63	$1,143,120
D5090	Other Electrical Systems	$1.41	S.F.	88,000	30	1965	1995	2047	106.67 %	65.44 %	32		$81,199.36	$124,080
E1020	Institutional Equipment	$4.82	S.F.	88,000	35	1965	2000	2052	105.71 %	28.12 %	37		$119,253.93	$424,160
E1090	Other Equipment	$11.10	S.F.	88,000	35	1965	2000	2037	62.86 %	0.00 %	22			$976,800
E2010	Fixed Furnishings	$2.13	S.F.	88,000	40	1965	2005	2021	15.00 %	9.39 %	6		$17,602.30	$187,440
								Total	**74.43 %**	**52.56 %**			**$23,735,327.90**	**$45,160,081**

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 block 99%
brick 1%

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

Note: Concrete – 5100 6%
VCT - 10600 11%
VAT - 7230083%

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

Note: ACT= 74000 84%
Exposed ptd= 10500 12%
12x12 ACT 3500 4%

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:	**$23,735,328**	**$0**	**$0**	**$0**	**$0**	**$1,482,396**	**$606,817**	**$0**	**$0**	**$0**	**$0**	**$25,824,541**
*** 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	$22,908	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,908**
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	$40,314	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$40,314**
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	$114,510	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$114,510**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$232,077	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$232,077**
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	$2,513,730	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,513,730**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

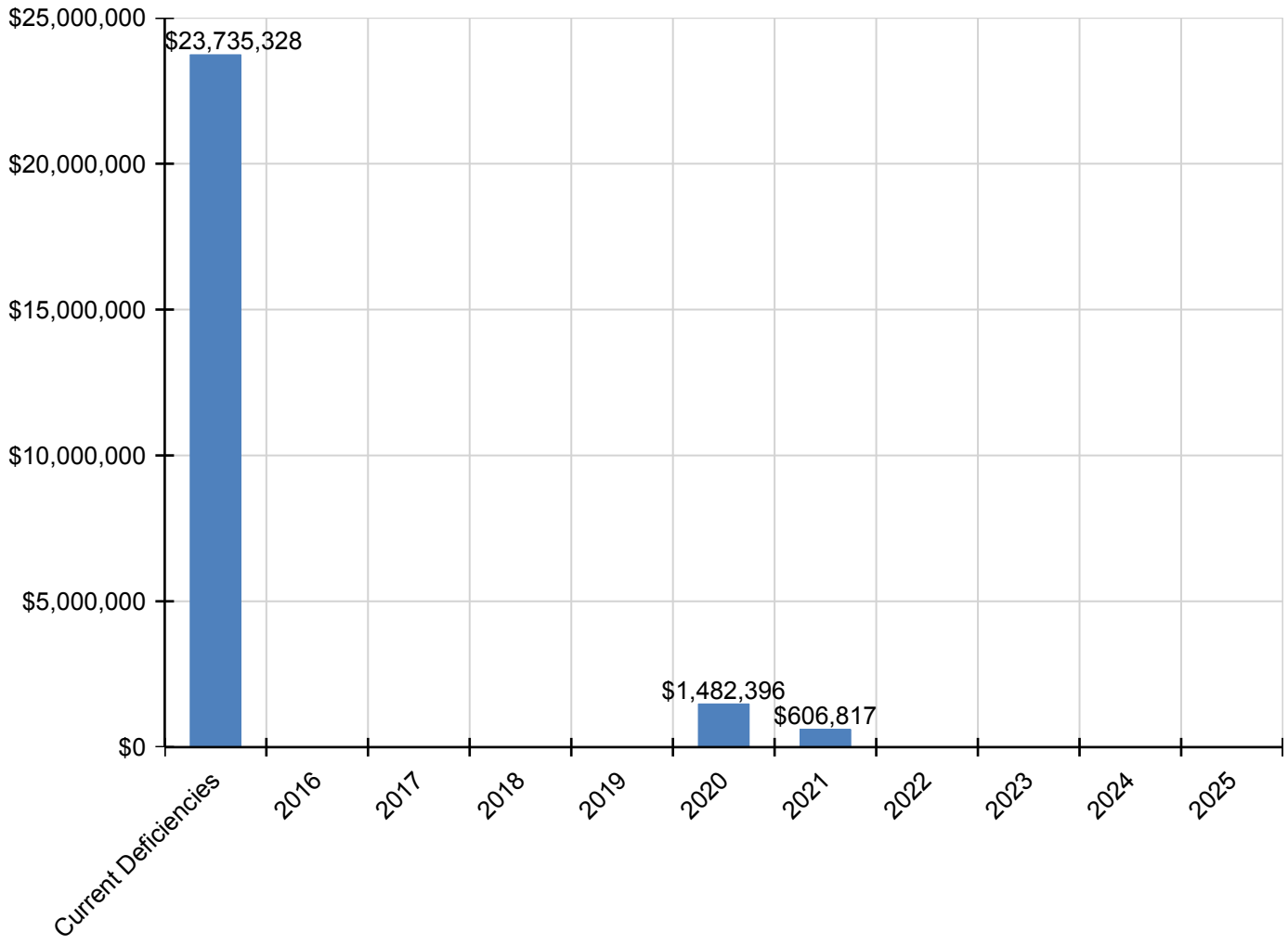
C1020 - Interior Doors	$274,917	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$274,917**
C1030 - Fittings	$35,084	$0	$0	$0	$0	$0	$360,623	$0	$0	$0	$0	**$395,707**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$156,036	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$156,036**
C30 - Interior Finishes	$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	$41,294	$0	$0	$0	$0	$1,482,396	$0	$0	$0	$0	$0	**$1,523,690**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$1,096,550	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,096,550**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$19,607	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$19,607**
C3030 - Ceiling Finishes	$1,116,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,116,100**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$729,206	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$729,206**
D2020 - Domestic Water Distribution	$445,927	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$445,927**
D2030 - Sanitary Waste	$373,701	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$373,701**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3030 - Cooling Generating Systems	$1,413,213	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,413,213**
D3040 - Distribution Systems	$7,305,758	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,305,758**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,887,782	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,887,782**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,258,881	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,258,881**
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	$923,794	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$923,794**
D5020 - Lighting and Branch Wiring	$2,609,098	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,609,098**
D5030 - Communications and Security	$906,786	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$906,786**
D5090 - Other Electrical Systems	$81,199	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$81,199**
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	$119,254	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$119,254**
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	$17,602	$0	$0	$0	$0	$0	$246,194	$0	$0	$0	$0	**$263,797**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

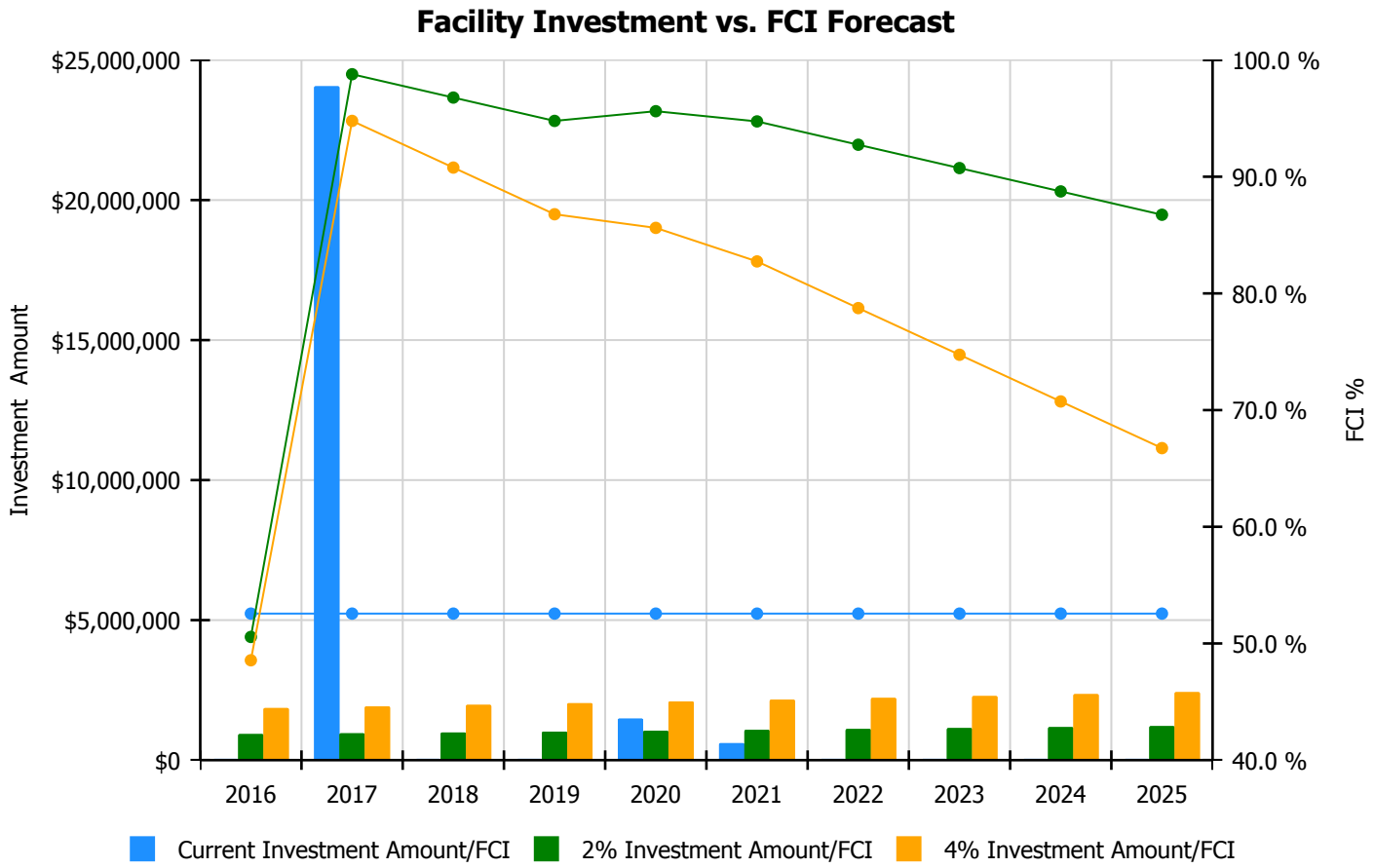
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

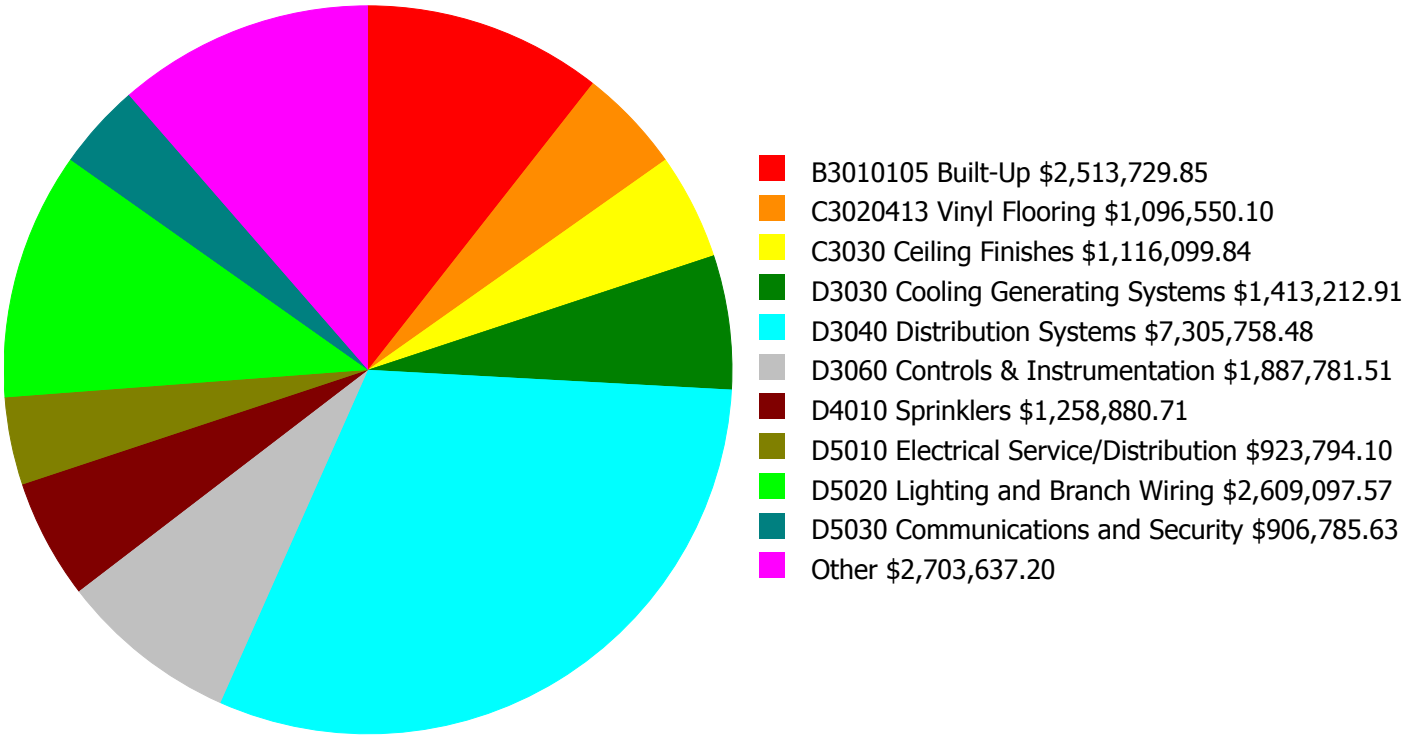
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 52.56%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$930,298.00	50.56 %	$1,860,595.00	48.56 %
2017	$24,063,163	$958,207.00	98.78 %	$1,916,413.00	94.78 %
2018	$0	$986,953.00	96.78 %	$1,973,906.00	90.78 %
2019	$0	$1,016,561.00	94.78 %	$2,033,123.00	86.78 %
2020	$1,482,396	$1,047,058.00	95.62 %	$2,094,116.00	85.62 %
2021	$606,817	$1,078,470.00	94.74 %	$2,156,940.00	82.74 %
2022	$0	$1,110,824.00	92.74 %	$2,221,648.00	78.74 %
2023	$0	$1,144,149.00	90.74 %	$2,288,298.00	74.74 %
2024	$0	$1,178,473.00	88.74 %	$2,356,947.00	70.74 %
2025	$0	$1,213,827.00	86.74 %	$2,427,655.00	66.74 %
Total:	**$26,152,377**	**$10,664,820.00**		**$21,329,641.00**	

Deficiency Summary by System

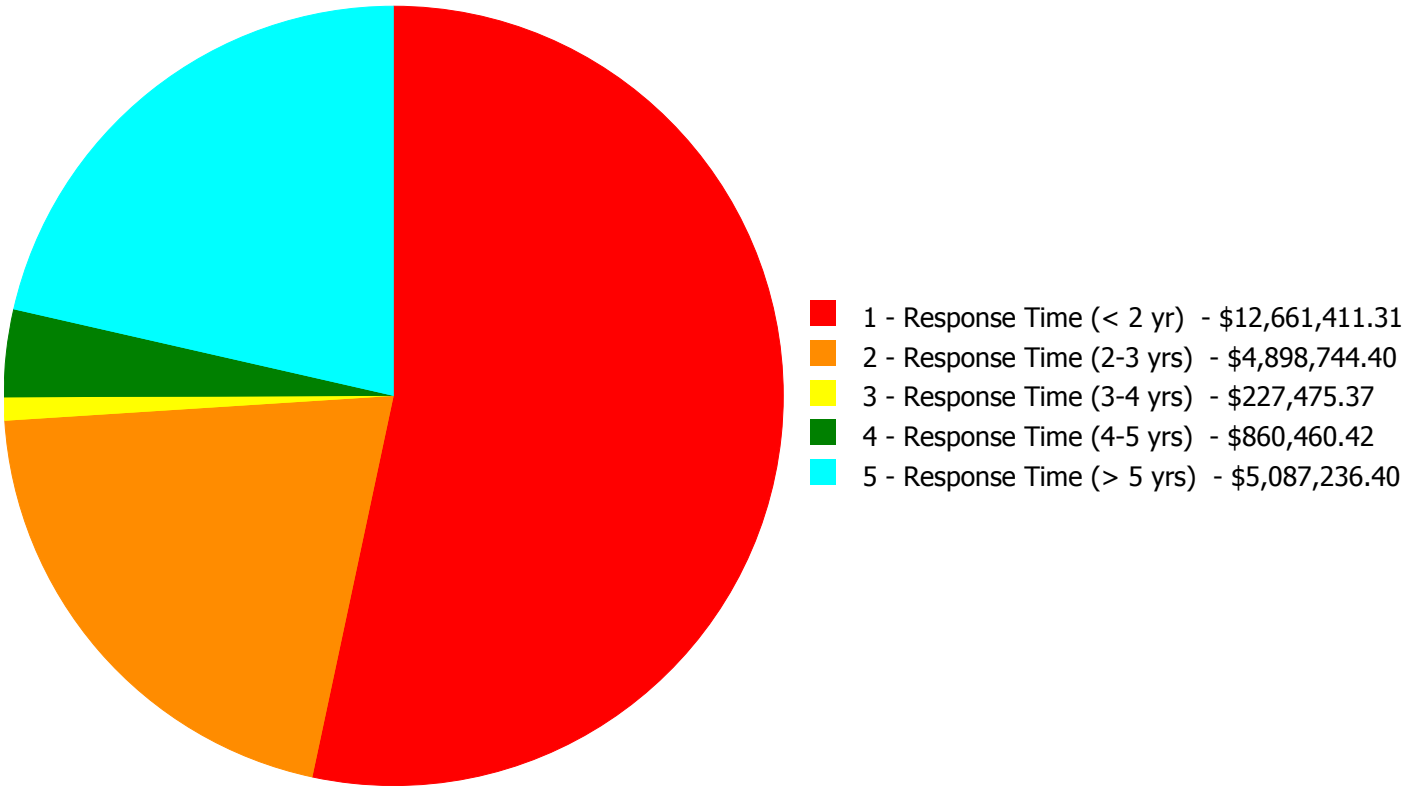
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $23,735,327.90

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: $23,735,327.90

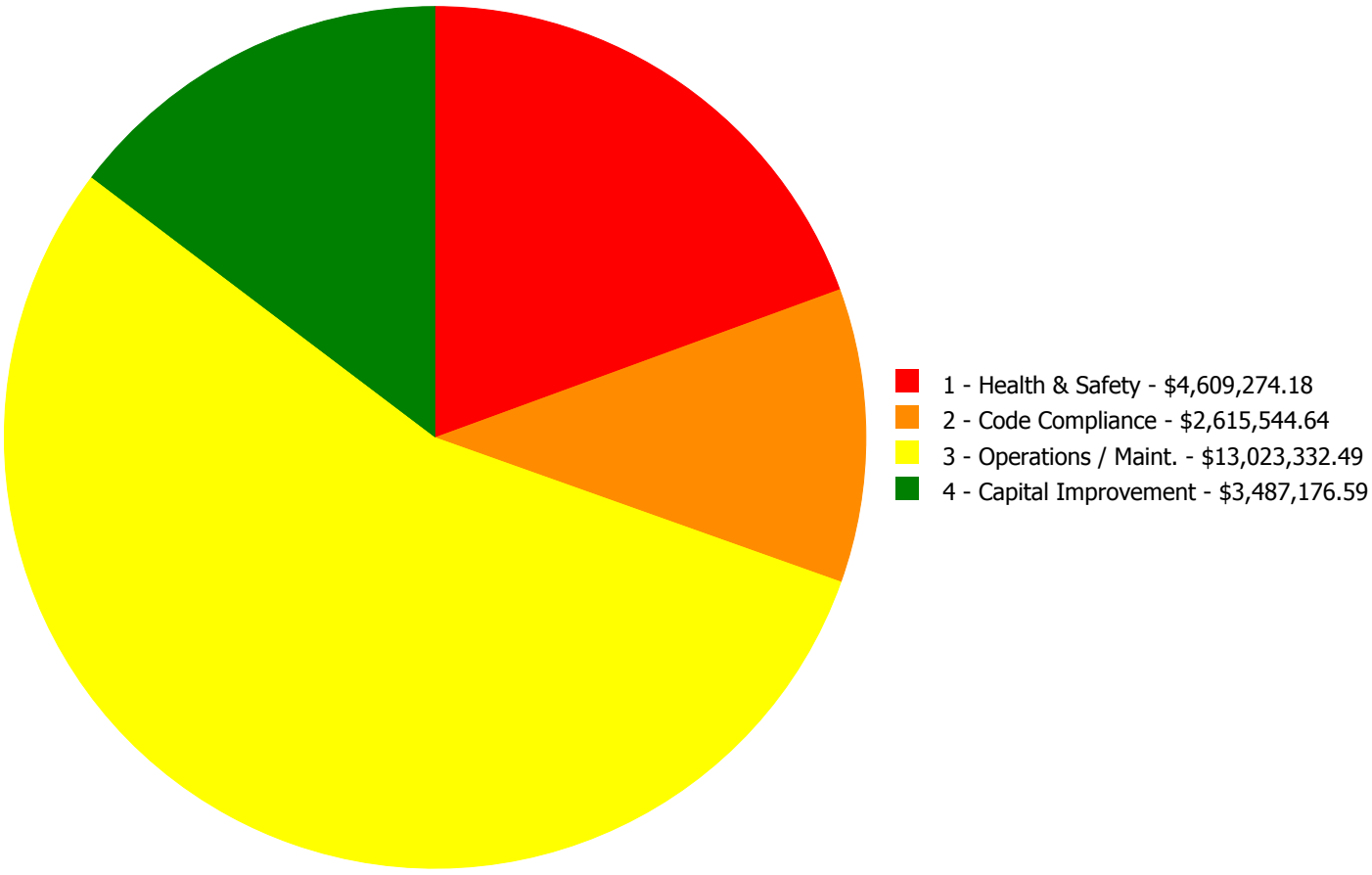
Deficiency By Priority Investment Table

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
A2020	Basement Walls	$0.00	$22,907.96	$0.00	$0.00	$0.00	$22,907.96
B1010	Floor Construction	$0.00	$40,314.15	$0.00	$0.00	$0.00	$40,314.15
B2010	Exterior Walls	$0.00	$114,509.97	$0.00	$0.00	$0.00	$114,509.97
B2030	Exterior Doors	$0.00	$232,076.74	$0.00	$0.00	$0.00	$232,076.74
B3010105	Built-Up	$2,513,729.85	$0.00	$0.00	$0.00	$0.00	$2,513,729.85
C1020	Interior Doors	$0.00	$274,916.76	$0.00	$0.00	$0.00	$274,916.76
C1030	Fittings	$0.00	$35,084.02	$0.00	$0.00	$0.00	$35,084.02
C2010	Stair Construction	$156,036.39	$0.00	$0.00	$0.00	$0.00	$156,036.39
C3010230	Paint & Covering	$0.00	$41,293.93	$0.00	$0.00	$0.00	$41,293.93
C3020413	Vinyl Flooring	$0.00	$1,096,550.10	$0.00	$0.00	$0.00	$1,096,550.10
C3020415	Concrete Floor Finishes	$0.00	$19,607.12	$0.00	$0.00	$0.00	$19,607.12
C3030	Ceiling Finishes	$0.00	$1,116,099.84	$0.00	$0.00	$0.00	$1,116,099.84
D2010	Plumbing Fixtures	$0.00	$0.00	$0.00	$0.00	$729,205.89	$729,205.89
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$0.00	$445,927.27	$445,927.27
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$0.00	$373,701.41	$373,701.41
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,413,212.91	$1,413,212.91
D3040	Distribution Systems	$5,351,514.48	$0.00	$227,475.37	$860,460.42	$866,308.21	$7,305,758.48
D3060	Controls & Instrumentation	$0.00	$1,887,781.51	$0.00	$0.00	$0.00	$1,887,781.51
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,258,880.71	$1,258,880.71
D5010	Electrical Service/Distribution	$923,794.10	$0.00	$0.00	$0.00	$0.00	$923,794.10
D5020	Lighting and Branch Wiring	$2,609,097.57	$0.00	$0.00	$0.00	$0.00	$2,609,097.57
D5030	Communications and Security	$906,785.63	$0.00	$0.00	$0.00	$0.00	$906,785.63
D5090	Other Electrical Systems	$81,199.36	$0.00	$0.00	$0.00	$0.00	$81,199.36
E1020	Institutional Equipment	$119,253.93	$0.00	$0.00	$0.00	$0.00	$119,253.93
E2010	Fixed Furnishings	$0.00	$17,602.30	$0.00	$0.00	$0.00	$17,602.30
	Total:	$12,661,411.31	$4,898,744.40	$227,475.37	$860,460.42	$5,087,236.40	$23,735,327.90

Deficiency Summary by Category

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



Budget Estimate Total: $23,735,327.90

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: roof
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 73,219.00
Unit of Measure: S.F.
Estimate: $2,470,995.17
Assessor Name: Craig Anding
Date Created: 12/17/2015

Notes: Replace built-up asphalt roof including flashing and coping (73,219sf)

System: B3010105 - Built-Up

Location: roof gravel stop
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Replace stripping (gravel stop) at the edge of roof
Qty: 2,000.00
Unit of Measure: L.F.
Estimate: $42,734.68
Assessor Name: Craig Anding
Date Created: 12/17/2015

Notes: Replace coping (73,219sf)

System: C2010 - Stair Construction

Location: stairways

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: 500.00

Unit of Measure: L.F.

Estimate: $122,323.86

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: New handrails and guards in 5 stairways (250ft handrail on wall; 250ft handrail + guard in middle of stair; 75ft guard at 2nd floor)

System: C2010 - Stair Construction

Location: 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: 100.00

Unit of Measure: L.F.

Estimate: $33,712.53

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace exterior handrails along 3 stairs (25 risers in front + 3 risers side + 3 risers side/rear), complying with 2015 building codes (50ft total length of railings and guards each side of stairs)

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: 88,000.00

Unit of Measure: S.F.

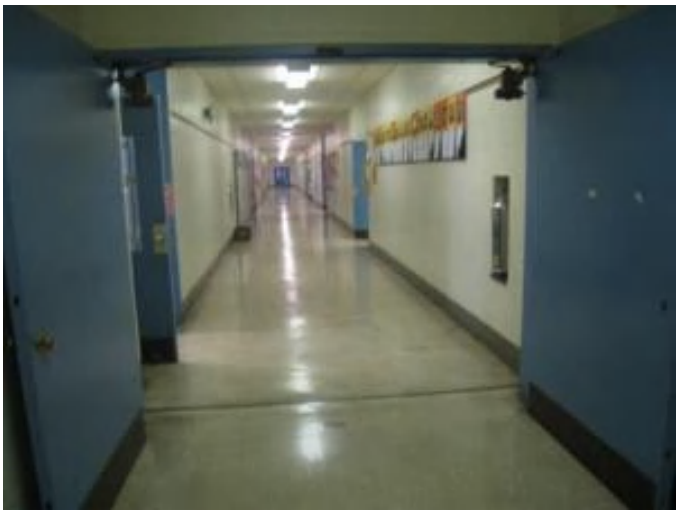
Estimate: $4,245,044.31

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the existing unit ventilators throughout the building 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.

System: D3040 - Distribution Systems



Location: Throughout Building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 65.00

Unit of Measure: TonAC

Estimate: $1,106,470.17

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Provide ventilation for the corridors at thirteen first floor entryways by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings

System: D5010 - Electrical Service/Distribution

Location: Utility Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $518,394.56

Assessor Name: Craig Anding

Date Created: 11/10/2015

Notes: Upgrade the existing electrical service with a new service. Replace the existing switchboard with new 2000A, switchboard.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $405,399.54

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Upgrade existing distribution system by replacing new panel boards and new feeders. Provide arc flash label on all panel boards. Estimated total 16 panel boards.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Lighting Fixtures (SF)

Qty: 1.00

Unit of Measure: S.F.

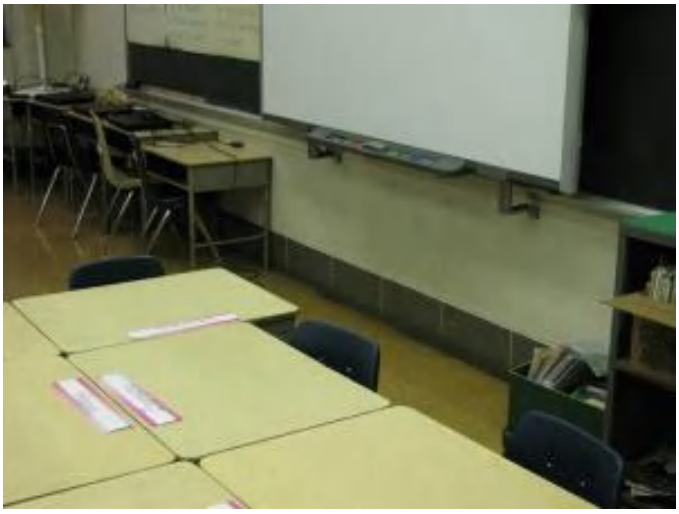
Estimate: $2,516,644.42

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Replace all Fluorescent lighting fixtures with new fluorescent lighting fixtures with T-5 lamp throughout all buildings. Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures. Lighting fixtures in auditorium do not required to be replaced.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add wiring device

Qty: 1.00

Unit of Measure: Ea.

Estimate: $52,046.92

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Install minimum two receptacles in each wall of class rooms. We recommend adding a two-compartment surface mounted raceway, for data power, for the computer lab room. Estimated 80 each.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 1 - Response Time (< 2 yr)
Correction: Replace lighting fixtures
Qty: 1.00
Unit of Measure: Ea.
Estimate: $40,406.23
Assessor Name: Craig Anding
Date Created: 11/11/2015

Notes: Replace existing exit signs with battery pack types. Estimated 40 total

System: D5030 - Communications and Security

Location: Entire Building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Replace fire alarm system
Qty: 1.00
Unit of Measure: S.F.
Estimate: $506,538.67
Assessor Name: Craig Anding
Date Created: 11/11/2015

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: 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.

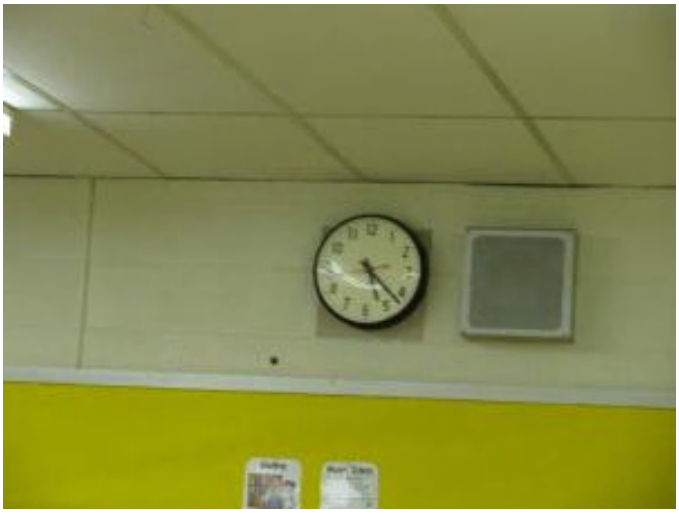
Estimate: $268,117.14

Assessor Name: Craig Anding

Date Created: 11/11/2015

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

System: D5030 - Communications and Security



Location: Entire Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Clock System or Components

Qty: 1.00

Unit of Measure: Ea.

Estimate: $60,863.23

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Provide master clock system including wireless two master clock controller and new clock in the classes and offices. Total 50 clocks.

System: D5030 - Communications and Security

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: $38,400.80

Assessor Name: Craig Anding

Date Created: 11/11/2015

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: D5030 - Communications and Security

Location: Exterior Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Paging System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $32,865.79

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Provide 5 more outdoor speakers on exterior walls.

System: D5090 - Other Electrical Systems

This deficiency has no image.

Location: Basement

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: $81,199.36

Assessor Name: Craig Anding

Date Created: 11/11/2015

Notes: Provide a new 30KW diesel generator with respective Automatic Transfer Switch for emergency lighting exit signs and other life safety purposed. Provide one new emergency distribution panel.

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Beyond Service Life

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: $119,253.93

Assessor Name: Craig Anding

Date Created: 11/11/2015

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

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

System: A2020 - Basement Walls

Location: concrete canopy

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair concrete wall in poor condition including rebar dowelling - insert the SF of wall area

Qty: 100.00

Unit of Measure: S.F.

Estimate: $22,907.96

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Concrete canopy repair - underpin 2 footings

System: B1010 - Floor Construction

Location: concrete canopy

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace elevated concrete deck with one way concrete beams and slab

Qty: 150.00

Unit of Measure: S.F.

Estimate: $40,314.15

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Concrete canopy repair - new structural overhead slab (225sf) with new connection to building.

System: B2010 - Exterior Walls

Location: 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: Craig Anding

Date Created: 12/17/2015

Notes: Repoint cracked joints in brick flue, front left corner of building under canopy, masonry walls along window lintels, in the horizontal brick joint facing the play area and other locations around building (2,000sf)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior wall louvers - pick the closest size and insert the number of louvers

Qty: 12.00

Unit of Measure: Ea.

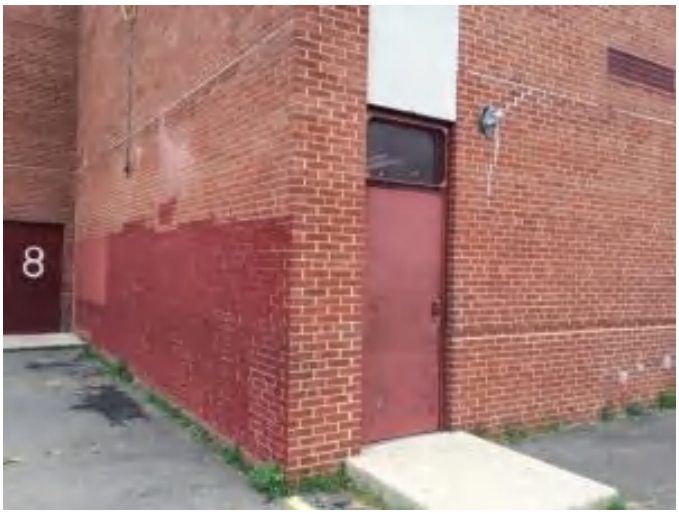
Estimate: $32,386.34

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace univent louvers (56” X 12”) damaged by vandalism or children playing (12 each)

System: B2010 - Exterior Walls



Location: exterior brick walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Repaint exterior walls - CMU

Qty: 2,000.00

Unit of Measure: S.F.

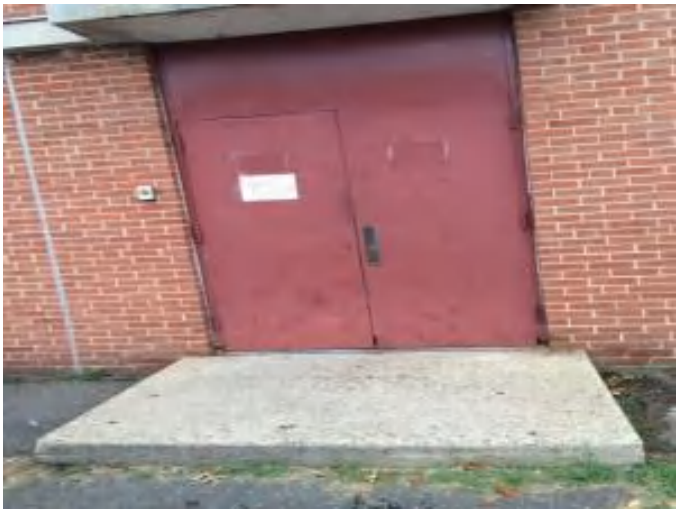
Estimate: $17,544.69

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Repaint marked or previously painted areas of brick worn or damaged (2,000sf)

System: B2030 - Exterior Doors



Location: exterior doors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 30.00

Unit of Measure: Ea.

Estimate: $232,076.74

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace exterior metal doors and frames (30)3x7

System: C1020 - Interior Doors

Location: interior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace hollow metal frames and doors

Qty: 30.00

Unit of Measure: Ea.

Estimate: $152,339.61

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Repaint steel doors and metal frames in mechanical rooms and stairs (30) 3x7

System: C1020 - Interior Doors

Location: interior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 130.00

Unit of Measure: Ea.

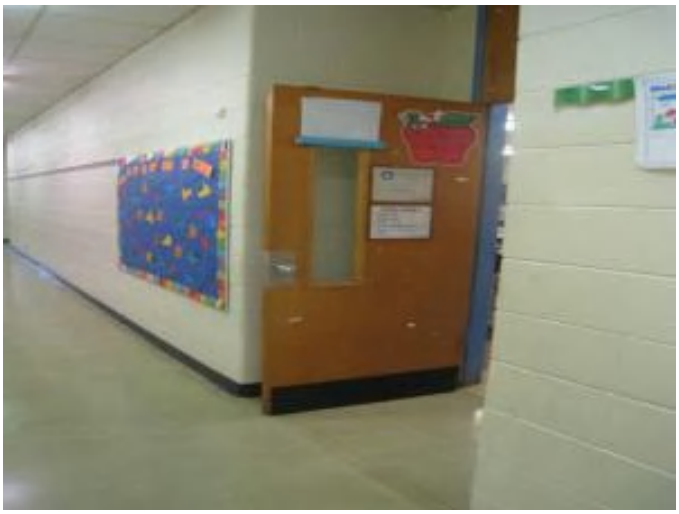
Estimate: $107,663.78

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Refinish/repaint wood doors into classroom, toilet rooms, offices, and auditorium in corridors where damaged (130) 3x7

System: C1020 - Interior Doors



Location: classroom and office 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: 65.00

Unit of Measure: Ea.

Estimate: $14,913.37

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Provide security hardware for classrooms and offices, locking from the inside of the room (65)

System: C1030 - Fittings

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace toilet partitions

Qty: 8.00

Unit of Measure: Ea.

Estimate: $20,531.24

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace metal toilet room partitions with plastic partitions (8 toilet + 3 urinal compartments)

System: C1030 - Fittings

Location: toilet rooms

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 8.00

Unit of Measure: Ea.

Estimate: $12,379.97

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Provide toilet room accessories where partitions are replaced (8 toilet compartments)

System: C1030 - Fittings

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace urinal screens

Qty: 3.00

Unit of Measure: Ea.

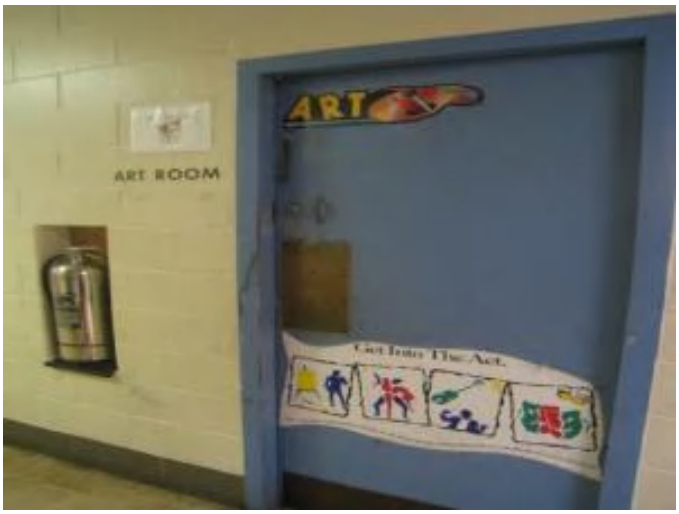
Estimate: $2,172.81

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace metal toilet room partitions with plastic partitions (3 urinal compartments)

System: C3010230 - Paint & Covering



Location: interior walls

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: 6,000.00

Unit of Measure: S.F.

Estimate: $41,293.93

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Repair and repaint interior block walls where damaged and peeling in mechanical room, corridors, classrooms, cafeteria, stairway, gym wall (cracked), and backstage ceiling (6,000sf)

System: C3020413 - Vinyl Flooring

Location: interior floors

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 72,300.00

Unit of Measure: S.F.

Estimate: $1,096,550.10

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Remove 9"x9" VAT floors in classrooms, corridors, and auditorium with and replace with VCT (72,300sf)

System: C3020415 - Concrete Floor Finishes

Location: stairways, toilet rooms, mechanical rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 5,100.00

Unit of Measure: S.F.

Estimate: $19,607.12

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Strip and reseal concrete floors in stairways, toilet rooms and mechanical rooms (5,100sf)

System: C3030 - Ceiling Finishes

Location: ceilings

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 74,000.00

Unit of Measure: S.F.

Estimate: $1,116,099.84

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Replace 2x4 suspended acoustical tile ceilings, old, discolored, water damaged, grid rusting (74,000sf)

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: 88,000.00

Unit of Measure: S.F.

Estimate: $1,887,781.51

Assessor Name: Craig Anding

Date Created: 02/08/2016

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.

System: E2010 - Fixed Furnishings

Location: auditorium

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Replace auditorium seating - add tablet arms if required. Veneer seating is an option.

Qty: 25.00

Unit of Measure: Ea.

Estimate: $17,602.30

Assessor Name: Craig Anding

Date Created: 12/17/2015

Notes: Refinish auditorium seats (25)

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

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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: 02/08/2016

Notes: Provide ventilation, heating and cooling for the gymnasium by replacing the existing air handling unit.

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

System: D3040 - Distribution Systems

Location: Auditorium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace HVAC unit for Auditorium (200 seat).
Qty: 364.00
Unit of Measure: Seat
Estimate: $606,229.83
Assessor Name: Craig Anding
Date Created: 02/08/2016

Notes: Provide ventilation, heating and cooling for the auditorium by replacing the existing air handling unit.

System: D3040 - Distribution Systems

Location: Cafeteria
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace HVAC unit for Cafeteria (850)
Qty: 934.00
Unit of Measure: Student
Estimate: $254,230.59
Assessor Name: Craig Anding
Date Created: 02/08/2016

Notes: Provide ventilation, heating and cooling for the Cafeteria by replacing the existing air handling unit.

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: 32.00

Unit of Measure: Ea.

Estimate: $238,788.73

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the original water closets with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 45.00

Unit of Measure: Ea.

Estimate: $171,495.57

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the original hand sinks in classrooms 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 lavatory - quantify accessible if required

Qty: 28.00

Unit of Measure: Ea.

Estimate: $106,708.35

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the original lavatories with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6.00

Unit of Measure: Ea.

Estimate: $94,157.37

Assessor Name: Craig Anding

Date Created: 02/08/2016

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

System: 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: 17.00

Unit of Measure: Ea.

Estimate: $63,002.92

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the original urinals with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Janitor Closets

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 7.00

Unit of Measure: Ea.

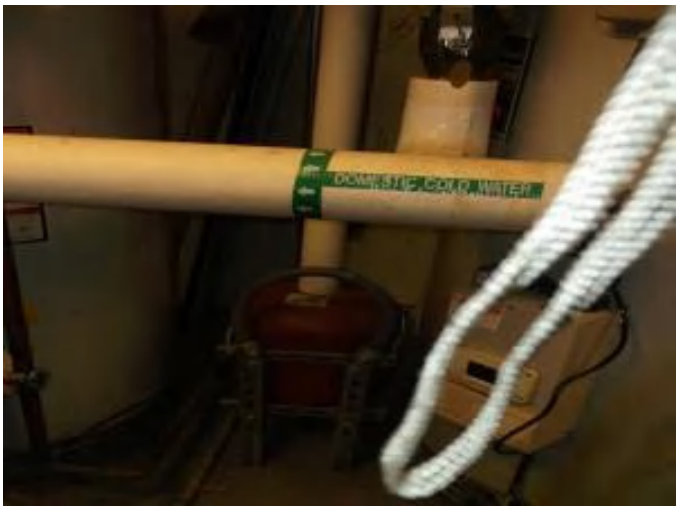
Estimate: $55,052.95

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Replace the original service sinks in the janitor sinks.

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: 88,000.00

Unit of Measure: S.F.

Estimate: $445,927.27

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Inspect and replace, as needed, the original the domestic water piping in the building

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. (+100KSF)

Qty: 88,000.00

Unit of Measure: S.F.

Estimate: $373,701.41

Assessor Name: Craig Anding

Date Created: 02/08/2016

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

System: 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. (+75KSF)

Qty: 88,000.00

Unit of Measure: S.F.

Estimate: $1,413,212.91

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Remove the window air conditioning units and install an air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace hydronic heating piping (75KSF)

Qty: 88,000.00

Unit of Measure: S.F.

Estimate: $866,308.21

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Hire a qualified contractor to examine the heating water distribution piping in service for over 50 years. The District should budget for replacing this piping over the next few years.

System: D4010 - Sprinklers

Location: Throughout Building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 88,000.00

Unit of Measure: S.F.

Estimate: $1,258,880.71

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. The installation should include a fire suppression system for kitchen hood.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 3270 MBH	2.00	Ea.	B-2	Buderus	GE615/4	2530-001-00001-63130080		35	2010	2045	$106,126.00	$233,477.20
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 3270 MBH	2.00	Ea.	B-1	Buderus	GE615/4	2530-004-00009-63130080		35	2010	2045	$106,126.00	$233,477.20
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 1200 amp, excl breakers	1.00	Ea.	Utility Room					30	1965	2017	$6,551.55	$7,206.71
												Total:	**$474,161.11**

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):	266,100
Year Built:	1965
Last Renovation:	
Replacement Value:	$4,127,001
Repair Cost:	$465,026.53
Total FCI:	11.27 %
Total RSLI:	47.34 %

Description:

Attributes:

General Attributes:

Bldg ID:	S844001	Site ID:	S844001

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	42.40 %	15.66 %	$465,026.53
G40 - Site Electrical Utilities	60.03 %	0.00 %	$0.00
Totals:	**47.34 %**	**11.27 %**	**$465,026.53**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.	10,700	30	1965	1995	2026	36.67 %	0.00 %	11			$123,264
G2020	Parking Lots	$7.65	S.F.	15,400	30	1965	1995	2026	36.67 %	355.92 %	11		$419,311.42	$117,810
G2030	Pedestrian Paving	$11.52	S.F.	85,400	40	1965	2005	2026	27.50 %	2.80 %	11		$27,519.62	$983,808
G2040	Site Development	$4.36	S.F.	266,100	25	1965	1990	2026	44.00 %	1.57 %	11		$18,195.49	$1,160,196
G2050	Landscaping & Irrigation	$3.78	S.F.	154,600	15	1965	1980	2025	66.67 %	0.00 %	10			$584,388
G4020	Site Lighting	$3.58	S.F.	266,100	30	1965	1995	2030	50.00 %	0.00 %	15			$952,638
G4030	Site Communications & Security	$0.77	S.F.	266,100	30	1965	1995	2047	106.67 %	0.00 %	32			$204,897
								Total	**47.34 %**	**11.27 %**			**$465,026.53**	**$4,127,001**

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.

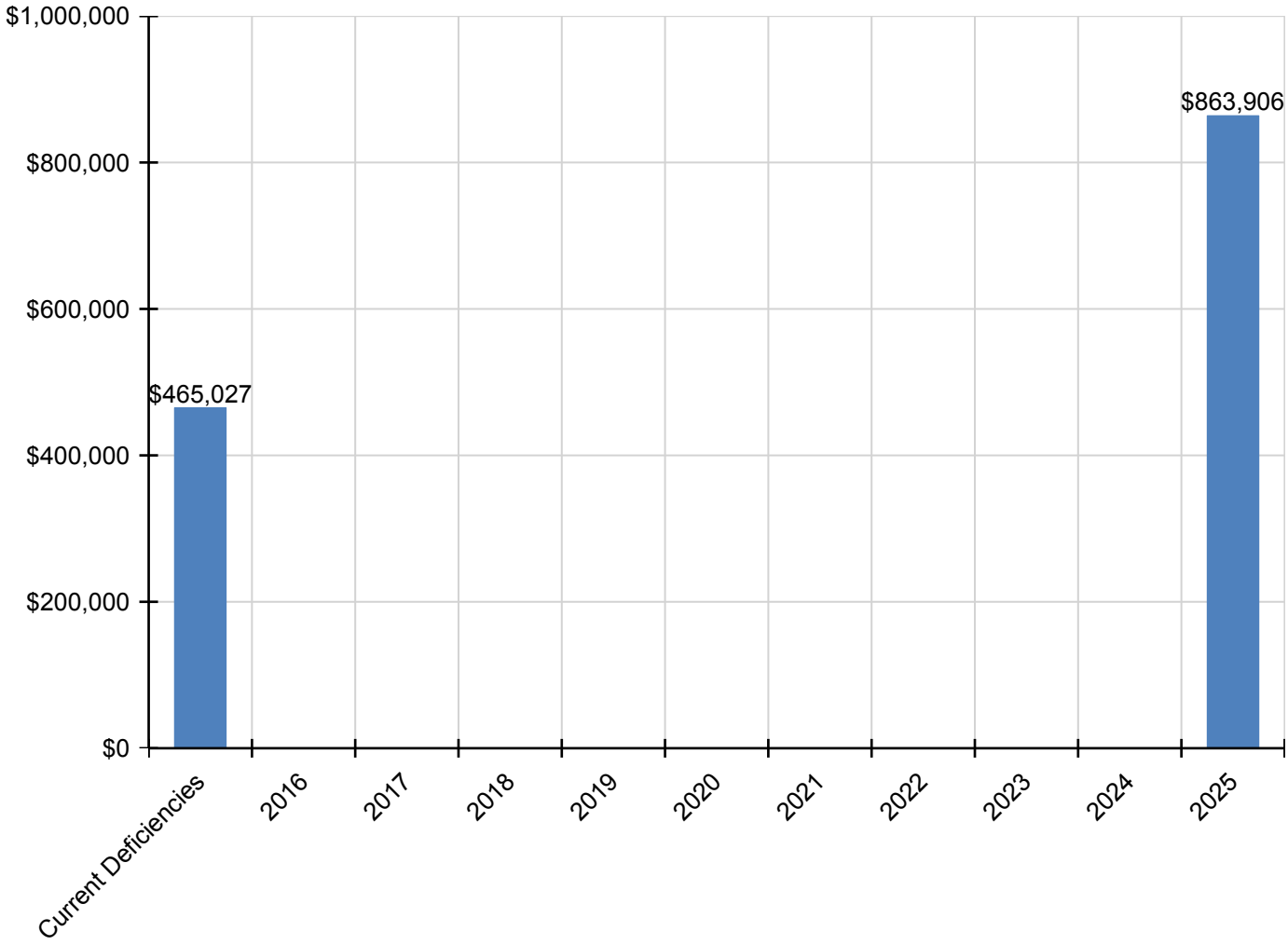
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$465,027**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$863,906**	**$1,328,932**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$419,311	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$419,311**
G2030 - Pedestrian Paving	$27,520	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$27,520**
G2040 - Site Development	$18,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$18,195**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$863,906	**$863,906**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

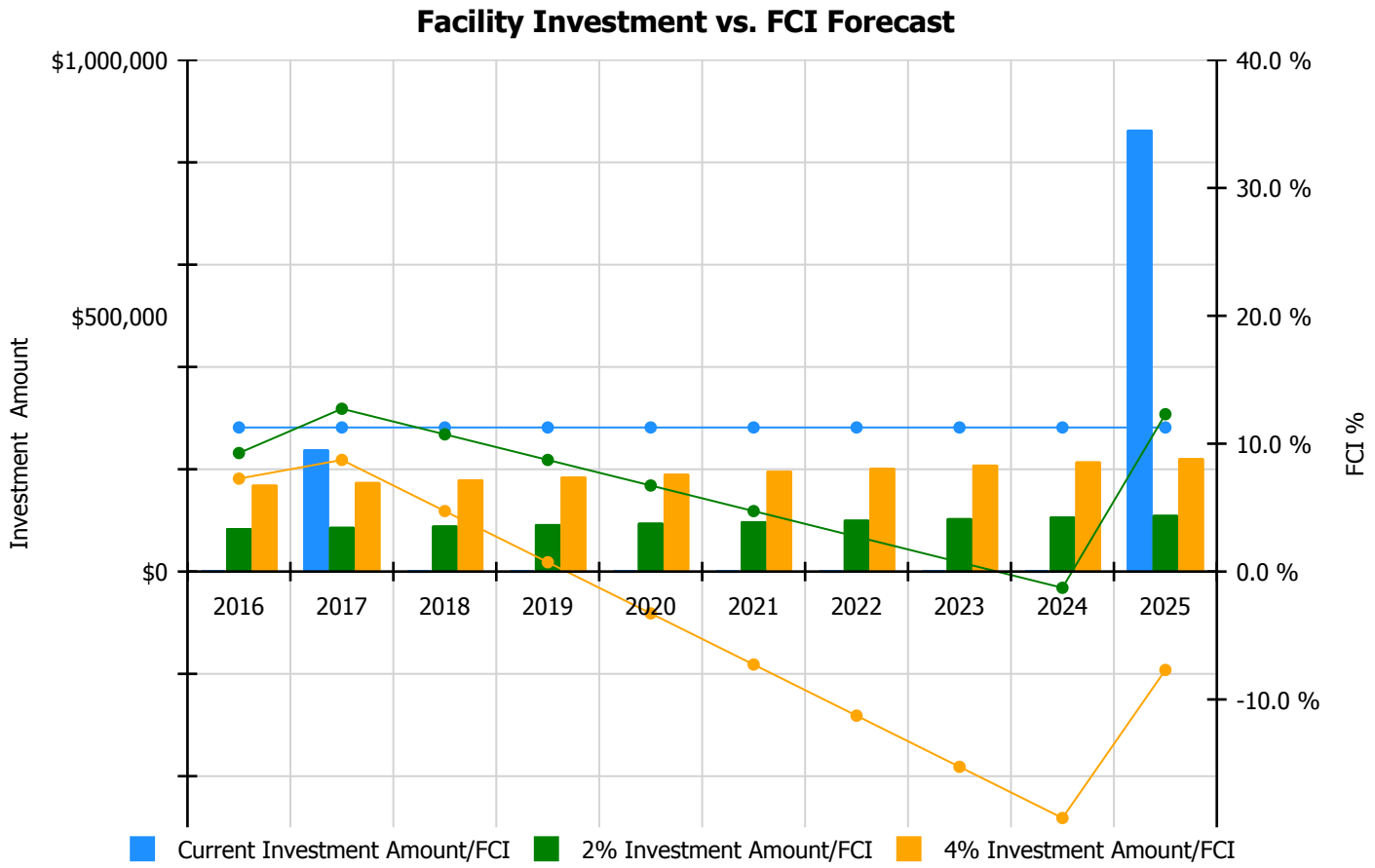
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

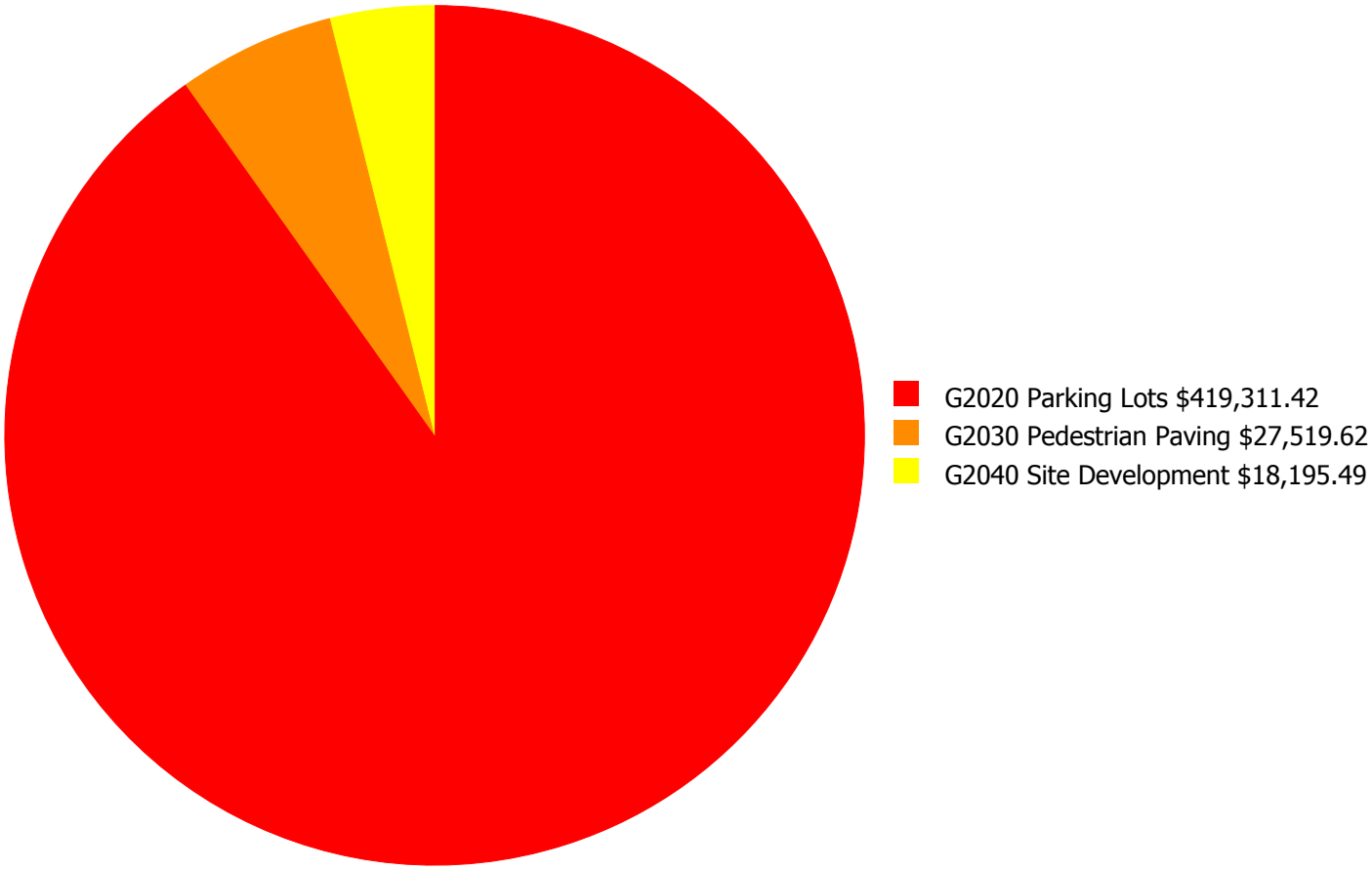
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 11.27%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$85,016.00	9.27 %	$170,032.00	7.27 %
2017	$239,113	$87,567.00	12.73 %	$175,133.00	8.73 %
2018	$0	$90,194.00	10.73 %	$180,387.00	4.73 %
2019	$0	$92,900.00	8.73 %	$185,799.00	0.73 %
2020	$0	$95,687.00	6.73 %	$191,373.00	-3.27 %
2021	$0	$98,557.00	4.73 %	$197,114.00	-7.27 %
2022	$0	$101,514.00	2.73 %	$203,028.00	-11.27 %
2023	$0	$104,559.00	0.73 %	$209,118.00	-15.27 %
2024	$0	$107,696.00	-1.27 %	$215,392.00	-19.27 %
2025	$863,906	$110,927.00	12.31 %	$221,854.00	-7.69 %
Total:	**$1,103,019**	**$974,617.00**		**$1,949,230.00**	

Deficiency Summary by System

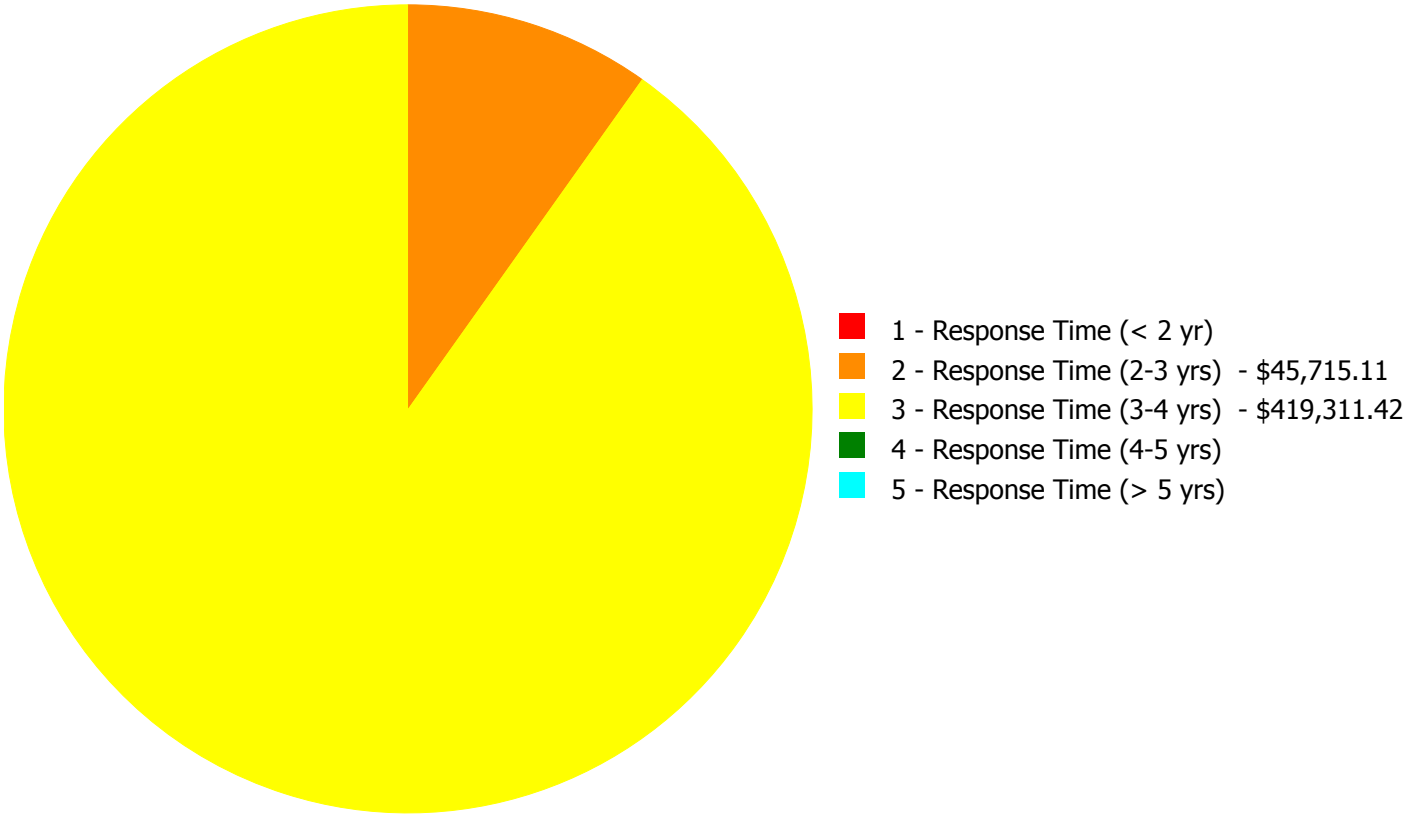
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $465,026.53

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: $465,026.53

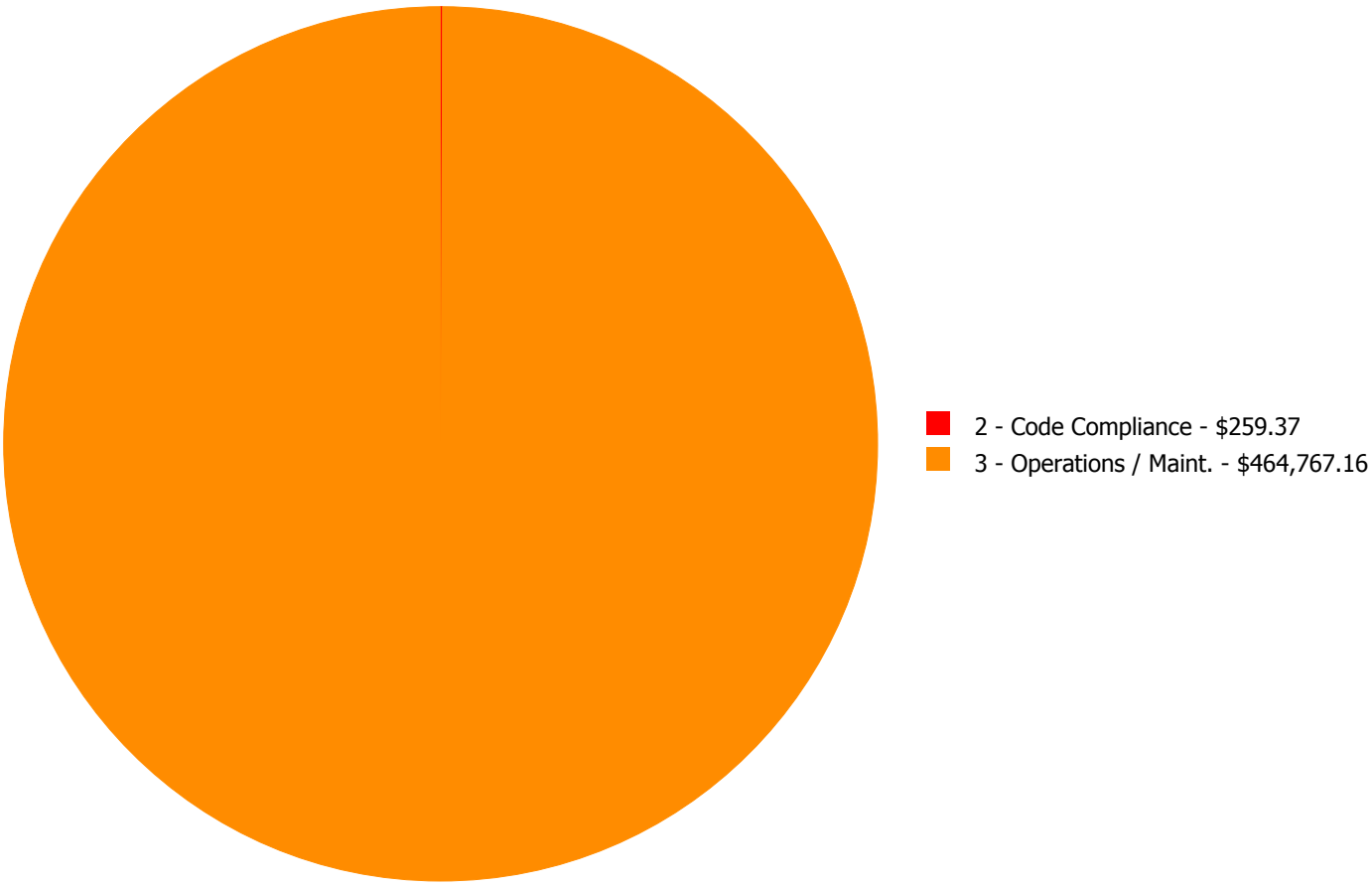
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$419,311.42	$0.00	$0.00	$419,311.42
G2030	Pedestrian Paving	$0.00	$27,519.62	$0.00	$0.00	$0.00	$27,519.62
G2040	Site Development	$0.00	$18,195.49	$0.00	$0.00	$0.00	$18,195.49
	Total:	$0.00	$45,715.11	$419,311.42	$0.00	$0.00	$465,026.53

Deficiency Summary by Category

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



Budget Estimate Total: $465,026.53

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: G2030 - Pedestrian Paving

Location: front and side concrete walkways

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: 12/17/2015

Notes: Repave concrete walkways (1000sf)

System: G2030 - Pedestrian Paving

Location: dumpster pad

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete paving - pedestrian or parking - 8" concrete thickness

Qty: 500.00

Unit of Measure: S.F.

Estimate: $13,136.77

Assessor Name: Steven Litman

Date Created: 12/17/2015

Notes: Repave concrete slab at dumpster (500sf)

System: G2040 - Site Development

Location: site fence

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace chain link fence - 8' high

Qty: 100.00

Unit of Measure: L.F.

Estimate: $11,198.78

Assessor Name: Steven Litman

Date Created: 12/17/2015

Notes: Replace damaged sections of chain link fence around site (allowance - 100ft, 8ft tall)

System: G2040 - Site Development

Location: site retaining 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: 15.00

Unit of Measure: L.F.

Estimate: $6,996.71

Assessor Name: Steven Litman

Date Created: 12/17/2015

Notes: Repoint fieldstone retaining wall at front of building (100sf)

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

System: G2020 - Parking Lots

Location: asphalt parking lots and play areas

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 110,000.00

Unit of Measure: S.F.

Estimate: $419,052.05

Assessor Name: Steven Litman

Date Created: 12/17/2015

Notes: Repave damaged asphalt parking lot and play area with new asphalt (110,000sf)

System: G2020 - Parking Lots

Location: handicapped parking

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 2.00

Unit of Measure: S.F.

Estimate: $259.37

Assessor Name: Steven Litman

Date Created: 12/17/2015

Notes: Provide ADA parking space signage and striping for 2 places in front of building adjacent to ramp.

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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