

EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Belk Building

Asset 013

Inspected January 11, 2023



TABLE OF CONTENTS

SECTION 1 ASSET OVERVIEW

Asset Executive Summary.....	1.1.1
Asset Summary	1.2.1
Inspection Team Data.....	1.3.1
Definitions	1.4.1
Overview	1.4.1
Recurring Costs	1.4.2
Nonrecurring Costs	1.4.3
Drawings.....	1.4.6
Photographs	1.4.6
Sustainability/Energy Analysis	1.4.6

SECTION 2 COST SUMMARIES AND TOTALS

Renewal Needs Matrix.....	2.1.1
Renewal Needs by System	2.2.1
Facilities Renewal Plan – Recurring Component Replacement Costs.....	2.3.1
Facilities Renewal Plan – Nonrecurring Project Costs	2.4.1

SECTION 3 NONRECURRING PROJECT DETAILS..... 3.1.1

SECTION 4 LIFECYCLE COMPONENT INVENTORY

Renewable Component Inventory	4.1.1
Recurring Costs by Year	4.2.1
Recurring Component Expenditure Projections.....	4.3.1

SECTION 5 DRAWINGS

SECTION 6 PHOTOGRAPHS 6.1.1

SECTION 7 PRELIMINARY ENERGY ASSESSMENT..... 7.1.1

FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

ASSET CODE 013	CURRENT REPLACEMENT VALUE \$25,098,000
ASSET NAME BELK BUILDING	FACILITY CONDITION NEEDS INDEX 0.09
ASSET USE Classroom / Academic	FACILITY CONDITION INDEX 0.02
YEAR BUILT 1972	10-YEAR \$/SF 47.86
GSF 49,567	
INSPECTION DATE 01/11/2023	

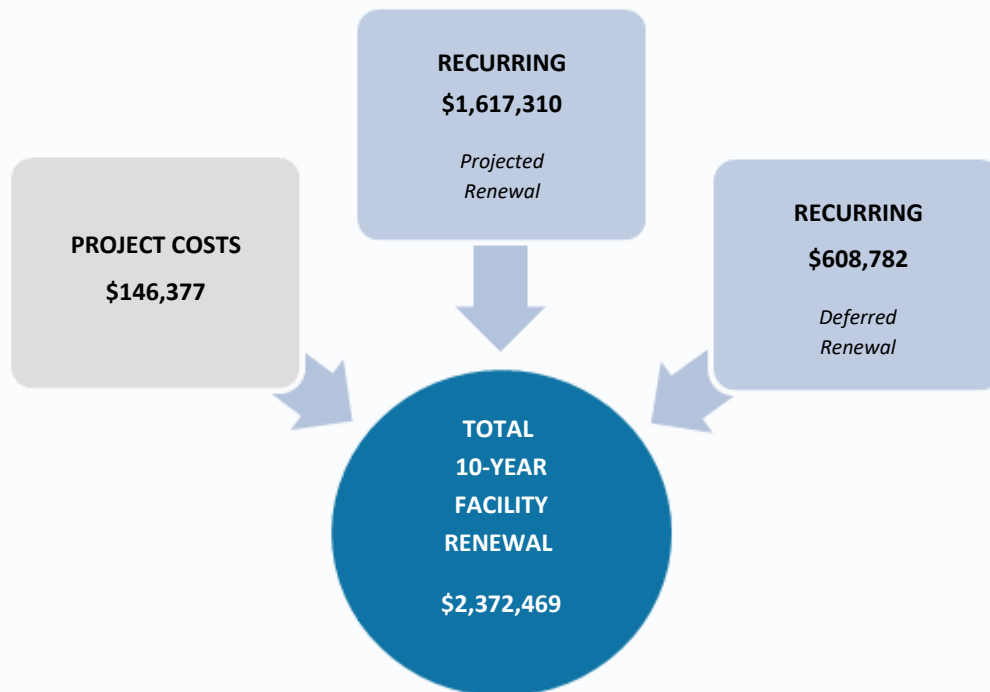
FCNI Scale

The FCNI for this asset is **0.09**

- Excellent Condition (typically new construction)
- Below Average Condition (major renovation required)
- Good Condition (maintained within lifecycle)
- Poor Condition (total renovation required)
- Fair Condition (normal renovations required)
- Replacement Indicated (unless historic)



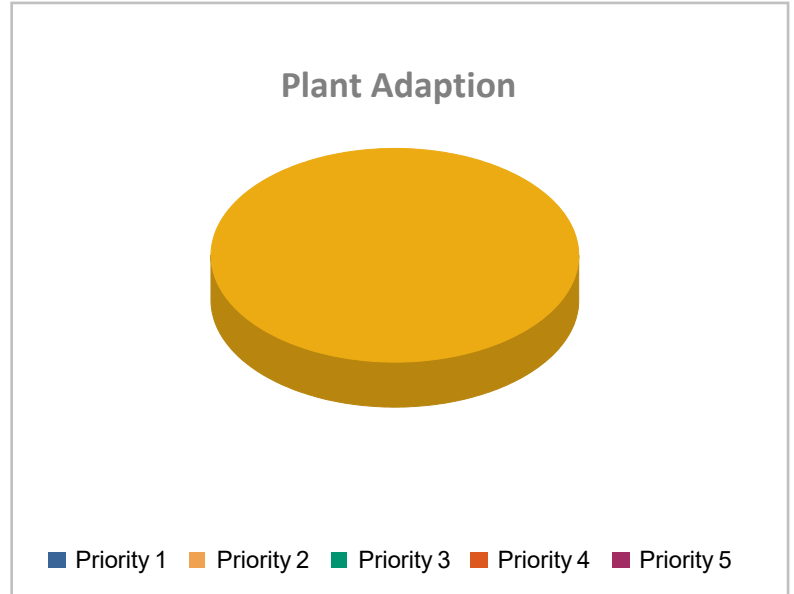
Total Facility Renewal Costs



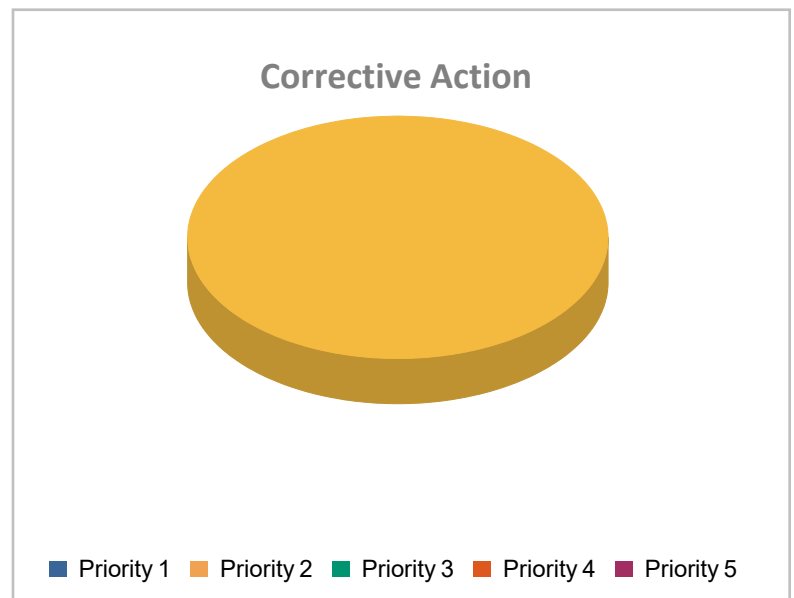
Project Costs

Project Cost by Priority

PLANT ADAPTION	
Priority 1	\$0
Priority 2	\$145,069
Priority 3	\$0
Priority 4	\$0
Priority 5	\$0

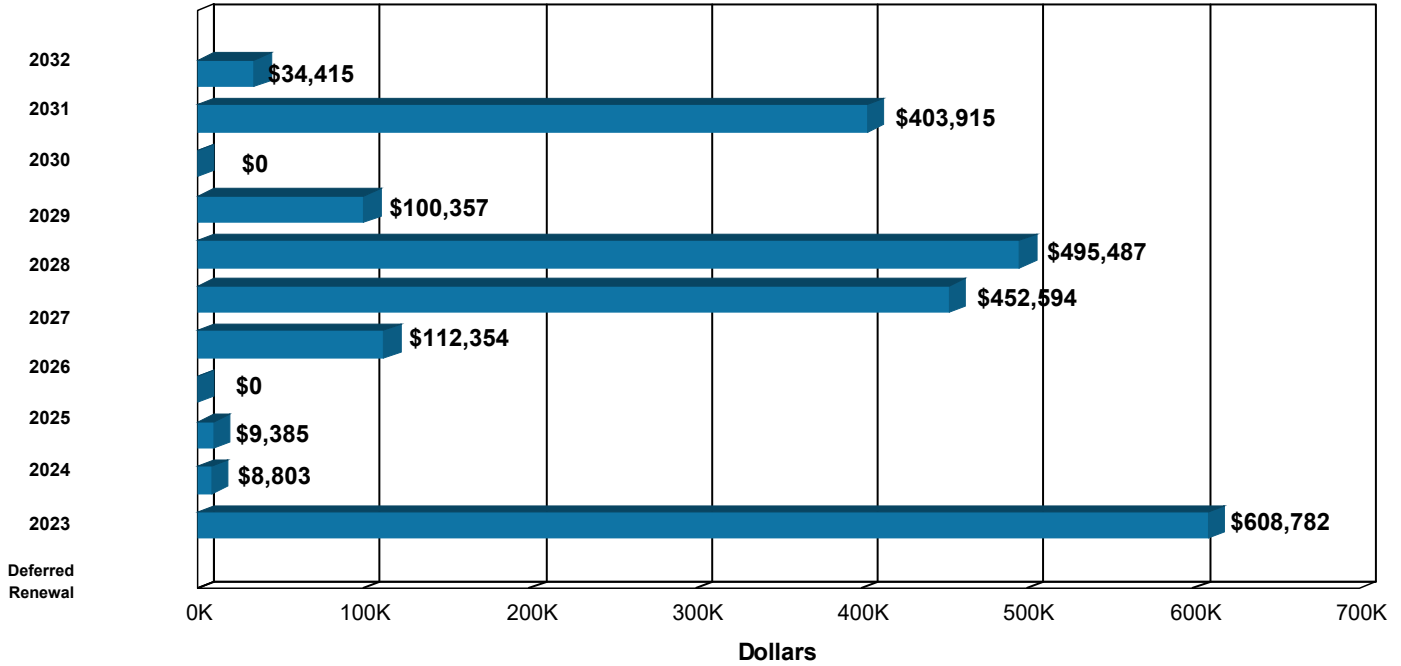


CORRECTIVE ACTION	
Priority 1	\$0
Priority 2	\$1,308
Priority 3	\$0
Priority 4	\$0
Priority 5	\$0

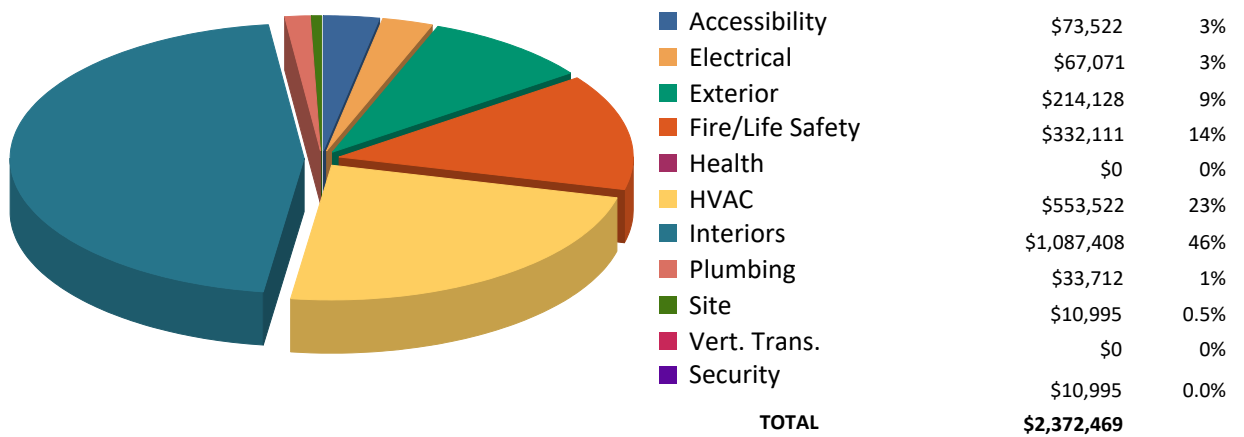


Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



ASSET SUMMARY

The Belk Building is on the East Carolina University campus was constructed in 1971 and updated in 2006. The square-shaped, brick-clad facility includes three stories above-grade and has a steel structure. Totalling 49,567 gross square feet, the facility is predominately utilized as lab and classroom space.

Information for this report was gathered during a site visit that concluded on January 11, 2023.

Site

The building sits on a flat parcel of land. Landscaping consists of ornamental planting beds, shrubbery, specimen trees, and areas of turf. Vehicular access is from the south via Curry Court. The building is served by a parking lot south of the structure that leads to a sidewalk system serving all entrances. There is a north service drive with a concrete and asphalt service paving as well. The site is in overall good condition with the need for routine joint maintenance of sidewalks and the service drive and restriping and seal coating of the north and south asphalt lots.

Exterior Structure

The roof is comprised of flat, single level modified bitumen. The roof drains via an internal roof drain system. There is equipment on the roof as well as skylights. It is recommended that the roof be replaced as the existing stress conditions will lead to failure if left unattended. Replace the stressed roofing and flashing with similar applications. The fiberglass skylights will also need replacement within ten years.

The exterior consists of red brick cladding with narrow stationary storefront windows and entry areas with metal panel soffits. The brick is in good condition and will not require maintenance at this time. The exterior metal soffits will require cyclical painting within ten years.

The main building entrance has anodized aluminum glass doors, while the secondary entrances have hollow-metal service doors. The aluminum doors will need replacement within the ten year scope of this report. There is also an overhead door at the loading dock. The hollow-metal and overhead doors appear to be newer and should outlast the scope. However, the glass doors and the exterior door hardware will need to be replaced within ten years.

Interior Finishes/Systems

The wall finishes are generally painted sheetrock in fair condition, with minor damage and finish discoloration. Ceilings are a combination of painted sheetrock and suspended acoustical tile systems that are also in fair condition, with minor areas of damaged tile and discoloration. Floor finishes are typically carpet, vinyl tile, or ceramic tile, or epoxy. The ceramic tile floors and walls are old and should be upgraded to newer tile within ten years. The vinyl tile shows signs of wear and damage and needs

replacement. The carpet in the offices and auditorium areas is due for replacement as is the epoxy flooring in room 3307. All of the painted ceilings, walls, and floors should be updated with cyclical repainting. The acoustical tile ceilings should outlast the scope of this report.

The older wood and hollow-metal interior doors will need to be replaced during the ten-year scope of this report including the hardware. The standard casework will need to be replaced within ten years. However, the lab casework should outlast the scope of this report. The restroom partitions will also be due for replacement within ten years. The auditorium seating is in good condition and should last beyond the scope of this report.

Accessibility

The restroom doors may provide an accessibility barrier based on the force needed to operate the handle. It is recommended that power door operators be installed on all restroom doors. Currently there are no wheelchair curb ramps leading from the ADA parking spots to the building. Installation of curb ramps is recommended to meet ADA standards. Additionally, cane rails are required at specific hazards to alert persons with visual difficulties of projecting or protruding objects such as stair runs. Install cane bump rails under stair runs along routes of interior travel to prevent injury.

Health

This facility is equipped with safety showers and eyewash stations in appropriate areas where corrosive materials might be located. These safety fixtures are in good condition and should outlast the scope of this report.

Fire/Life Safety

The roof hatch and the skylights are missing fall protection on either side. It is recommended that fall protection be added to improve worker safety and limit liability. The roof lacks a sufficient parapet wall to prevent workers from falling. Installation of roof davits for tie-offs is recommended.

This facility is protected by a central fire alarm system. The Simplex point addressable fire alarm control panel (FACP) is in room 1305. The devices that serve this system include manual pull stations, audible/visible devices, and smoke detectors. The fire alarm system is adequate and in proper working condition. However, the FACP and devices will reach the end of their reliable life within the next ten years and are recommended for renewal.

This facility is protected by an automatic, comprehensive, wet-pipe sprinkler system. Fire water is distributed by an electric pump system in room 1307 that includes a main fire pump, jockey pump, and control/transfer switch. Tamper switches were observed on the fire standpipes, and control valves were in locked rooms. With proper testing and maintenance, the fire system and components will outlast the scope of this report.

HVAC

Hot water for facility heating needs is generated by a Weil-McLain natural gas-fired package boiler that was installed in 2008. This boiler is rated for approximately 3,400 MBH and is equipped with a Webster, Cyclonetic burner assembly. The boiler was repaired in 2020. A primary water pump provides this boiler with feedwater and a variable speed secondary pump distributes the heated water to facility HVAC equipment. Ancillary equipment that supports the heating water system includes an expansion tank and air separator. No major deficiencies were observed. With continuous service and maintenance this equipment should remain serviceable for the next ten years. However, it will be necessary to update the variable frequency drive (VFD) that serves the secondary heating water pump in the next ten years due to age.

A local Trane air-cooled chiller rated for 80 tons and installed in 2021 generates chilled water for facility cooling needs. A variable speed primary pump circulates water to the chiller and two variable speed secondary pumps distribute the hydronic medium throughout the facility. Ancillary equipment that supports this system includes a chilled water air separator. No observable deficiencies were observed. Most of the central chilled water equipment will remain reliable beyond the scope of this report assessment. However, the VFDs that serve the three pumps should be replaced in the next ten years.

The building is served by a variable volume, forced air HVAC system with three primary air handling units, one dedicated air handler for the computing lab, and variable air volume (VAV) terminal assemblies throughout. An additional packaged type of air handler identified as RTU-3-1 is located on the roof and provides dedicated temperate air to lab space on the third floor. The air distribution network furnishes temperate air to classrooms, labs, corridors, and office spaces through an insulated metal ductwork assembly. Hydronic water is distributed to facility equipment by insulated, steel pipe systems. Overall, the mechanical components of the distribution are currently in proper working condition. However, RTU-3-1 will reach the end of its reliable service life within the next ten years and should be replaced. Additionally, the variable speed drive that serves air handler AHU-2 will also reach the end of its reliable service life in the next ten years and should be updated. The distribution system is in good condition and will require only routine maintenance to remain reliable for the next ten years.

The HVAC controls are a hybrid configuration that is mostly direct digital with some pneumatic incorporated. The software and controls are a combination of updated Trane systems as well as some legacy equipment manufactured by Invensys. The VAV terminal assemblies on the first and second floors and the air handlers throughout have all been updated with modern electronic controls equipment and new digital thermostats were observed. The third floor terminal units are still equipped with legacy controls dating to 2008. Overall, the local control system equipment has been largely modernized but reinvestment will be required over the next ten years due to age and technological obsolescence.

The pneumatic control air is generated by a reciprocating compressor in room 1307 that is supported by a refrigerated air dryer. This equipment is currently in proper working condition, but the air compressor will require renewal within the next ten years due to its age.

Lab space 3301 and Data room 1308 are supported by split air conditioning systems with exterior air-cooled condensers and interior blower assemblies. Lab 3301 is served by a Mitsubishi ductless mini split system. The mini-split system will reach the end of its statistical life in the next ten years and should be

considered for renewal. With continued maintenance, the equipment serving the data room should remain reliable for the next ten years.

Many of the laboratory and research spaces are furnished with dedicated fume hoods that are in good condition. These hoods are supported by utility set type exhaust fans on the roof. The fans on the roof are currently serviceable but will require renewal in the next ten years due to age and condition. The VFD that serves fan EF-3-2 will also require replacement due to age.

General facility, restroom, and mechanical room exhaust systems are supported by centrifugal rooftop and through wall type exhaust fans that were reported to be in proper working condition. No deficiencies were observed and there are no recommendations for these fans.

Additional equipment that supports the HVAC system includes electric unit heaters in select mechanical spaces as well as the housing surround that supports the exterior fire and domestic water backflow devices. All of the observed heaters will reach the end of their statistical service life within the next ten years and should be considered for renewal.

Electrical

An exterior oil-filled transformer steps the incoming power down from 12,470 volts to 480/277 volts. This transformer was assessed as part of a comprehensive campus wide electrical distribution survey. The 480/277-volt service is reduced to 208/120 volts by multiple dry-type transformers located throughout the electrical and mechanical rooms. The main distribution panelboard is in room 1305 and is rated for a capacity of 1,200 amps. A system of secondary panelboards throughout the building supports major mechanical, plumbing, and general facility electrical needs. Overall, the secondary electric distribution system is in good condition with no recommendations.

Power for the emergency and life safety electrical circuits is provided from an exterior, diesel-fired emergency generator that is rated for 150 kW. Two automatic transfer switches in room 1303 support the emergency power system. The equipment did not reveal any observable deficiencies and was reported to be operationally reliable and well maintained. There are no recommendations.

Interior lighting in the facility includes a combination of recessed, pendant, and surface mount fixtures. The lighting system was subject to an energy retrofit in 2016 and again in 2021 which included the installation of more modern, energy-efficient LED lamps. Occupancy sensors were observed throughout the building. The interior lighting is in proper working condition with no recommendations at this time.

The exterior areas are illuminated by wall, surface, and pole mounted light fixtures. These exterior fixtures are currently in proper working condition but the surface mount HID fixtures that are attached to the building and the flood lighting in the generator yard will require replacement due to age and condition.

Plumbing

Potable water is distributed throughout this facility via an insulated copper piping network. Sanitary waste and stormwater piping is cast steel/ABS. The supply and drain piping networks are in proper working condition and no deficiencies were reported.

Domestic and lab hot are provided by a commercial-grade, natural gas-fired water heater. Multiple, small circulating pumps support the electric water heater. This equipment is in good condition and no update should be necessary for the next ten years.

Multiple water backflow prevention devices support the fire, domestic, irrigation, and mechanical systems. While this equipment is currently in proper working condition, all five backflow devices will reach the end of their statistical service life in the next ten years and should be considered for renewal.

Facility research spaces are provided centralized compressed air by a reciprocating air compressor and associated refrigerated air dryer. A duplex vacuum pump system was observed in room 1307. This equipment is in good condition and has been well maintained. There are no recommendations.

The elevator pit is supported by a sump pump system that was reported to be in proper working condition. It is presumed that this submersible pump system was installed in 2008 and will reach the end of its service life within the next ten years.

All of the plumbing fixtures are in good condition, including the mop sinks and shower heads, and should outlast the ten-year scope of this report.

Vertical Transportation

This facility provides vertical transportation by a hydraulic elevator system that was installed in 2008. The hydraulic machine and passenger car revealed no observed deficiencies and there are no recommendations.

Note: The renewal needs outlined in this report were identified from the visual inspection and staff interviews. Our professional architectural and engineering inspectors examined the accessible equipment and various building components to determine what repairs or modifications may be necessary to restore the systems and asset to an acceptable condition, or to a level defined by the Client. The estimated costs represent correction of existing deficiencies and anticipated lifecycle failures within a ten-year period. These recommendations are to bring the facility to modern standards without any anticipation of change to facility space layout or function. The total costs include variable project delivery costs as determined by the Owner. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, security, furniture, window treatment, space change, program issues, relocation, swing space, contingency, or costs that could not be identified or determined from the visual inspection and available building information.

INSPECTION TEAM DATA

Report Development

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Project Manager

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Date of Inspection

January 11, 2023

Inspection Team Personnel

NAME	POSITION	SPECIALTY
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Noah Porter	Project Architect	Interior Finishes, Exterior Structure, ADA Compliance, Site, Fire/Life Safety, Health

Client Contact

NAME	POSITION
Griffin L. Avin, CEFP	Director of Facilities Services, Health Sciences Campus Chief Sustainability Officer

DEFINITIONS

The following information is a clarification of the Facility Condition Assessment report using example definitions.

Overview

Recurring and Nonrecurring Facility Renewal Costs

Facility renewal costs are divided into two main categories – recurring and nonrecurring. Recurring costs are cyclical and consist primarily of major repairs to or replacement/rebuilding of facility systems and components (e.g., roof or HVAC system replacement at or past the end of its normal useful life). The tool for projecting the recurring renewal costs is the Renewable Component Inventory, which is explained in detail below. Nonrecurring costs typically consist of modifications or repairs necessary to comply with fire/life safety or accessibility code requirements or to address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within. For these nonrecurring costs, projects have been developed and include estimated material and labor costs.

Facility Condition Needs Index (FCNI)

The FCNI provides a lifecycle cost comparison. It is a ratio of the sum of the recurring and nonrecurring renewal costs over ten years to the current replacement value of the asset. The current replacement value is based on replacement with current construction standards for the facility use type, and not original design parameters. This index gives the university a comparison within all buildings for identifying worst case/best case building conditions.

$$\text{FCNI} = \frac{\text{Nonrecurring Projects} + \text{10-Year Recurring Component Renewal}}{\text{Current Replacement Value}}$$

Facility Condition Index (FCI)

The FCI is a ratio of the Deferred Renewal costs to the current replacement value.

$$\text{FCI} = \frac{\text{Deferred Renewal}}{\text{Current Replacement Value}}$$

Material and Labor Cost Factors and Additional Markups

The project costs are adjusted from the national averages to reflect conditions in Greenville using the R. S. Means City Cost Index for material and labor cost factors. The percentage adjustment of the national average is shown in the table below. Also included in the renewal costs are the construction markup (general contractor profit and overhead, construction management, permitting, accounting, site security, insurance, bonds, sales tax, institutional fees, site utilities, refuse fees, and insurance) and professional fees (architect or engineer design fees and in-house design costs).

GLOBAL MARKUP	%
Local Labor Index	71.3
Local Materials Index	100.7
Construction Markup	20.0
Professional Fees	16.0

Recurring Costs

Renewable Component Inventory and Cost Projections

The Renewable Component Inventory (starting on page 4.1.1) is based on industry standard lifecycle expectancies applied to an inventory of major systems and components within a facility. Each indicated component has the following associated information:

CATEGORY	DESCRIPTION
Component Code	A four-digit code assigned by AMS to the component
Component Description	Description of the individual component
Identifier	Identifying information can be entered as necessary.
Customer ID	Customer-provided equipment ID number
Location	The location of each component can be entered if applicable.
Quantity	The quantity of the listed component
Units	The unit of measure associated with the quantity
Complexity Factor	Adjusts the component replacement costs when it is anticipated that the actual cost will deviate from the average for that component
Total Cost	The unit cost multiplied by quantity, in today's dollars (note that this is a one-time renewal/replacement cost)
Install Date	This is the year that the component was or is estimated to have been installed. When this data is not available, the default is the year the asset was constructed.
Useful Life	Average life expectancy of the component
Useful Life Adjustment	An optional adjustment that lengthens or reduces the first lifecycle of the component
Replacement Year	Expresses when the next replacement should occur and is the sum of the install date, useful life, and any useful life adjustment

The component listing forms the basis of the Recurring Costs by Year report, which provides a year-by-year list of projected recurring renewal costs (in future year dollars) over the next ten years. Each individual component is assigned a replacement year based on lifecycles. For items already past the end of their lifecycle, the replacement year is shown as Deferred Renewal.

For a longer term perspective, the Recurring Component Expenditure Projections Graph presents recurring renewal cost projections over a 50-year period (starting from the date the report is run) based on each individual item's renewal cost and life span. Some components might require renewal several times within the 50-year model, while others might not occur at all. The vertical bars on the graph represent the accumulated total costs for each individual year. The average annual cost per gross square foot (\$/GSF) is shown at the bottom of the graph. In this calculation, costs are not escalated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

Recurring Cost Classifications

- **Deferred Renewal**
Recurring repairs, generated by the Renewable Component Inventory, that are past due for completion and have not yet been accomplished as part of normal maintenance or capital repair efforts. Further deferral could impair the proper functioning of the facility. Deferred Renewal upgrades should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to effect the needed repairs.
- **Projected Renewal**
Recurring renewal efforts, generated by the Renewable Component Inventory, that will be due within the scope of the assessment. These are regular or normal facility maintenance, repair, or renovation efforts that should be planned in the near future.

Nonrecurring Costs

As previously mentioned, modifications or repairs necessary to comply with fire/life safety or accessibility code requirements and those that address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within are not included in the Renewable Component Inventory. For each such deficiency identified during the facility inspection, a project with an estimated cost to rectify said deficiency is recommended. These projects each have a unique identifier and are categorized by system type, priority, and classification, which are defined below. The costs in these projects are also indexed to local conditions and markups applied as the situation dictates.

Project Number

Each project has a unique number consisting of three elements, the asset identification number, system code, and a sequential number assigned by the FCA software. For example, the third fire/life safety project identified for asset 0001 would have a project number of 0001FS03 (0001 for the asset number, FS for fire/life safety, and 03 being the next sequential number for a fire/life safety project).

Project Classifications

- **Plant Adaption**
Nonrecurring expenditures, stored in the Projects module, required to adapt the physical plant to the evolving needs of the institution and to changing codes or standards. These are expenditures beyond normal maintenance. Examples include compliance with changing codes (e.g., accessibility), facility alterations required by changing teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).
- **Corrective Action**
Nonrecurring expenditures, stored in the Projects module, for repairs needed to correct random and unpredictable deficiencies. Such projects are not related to aligning a building with codes or standards. Deficiencies classified as Corrective Action could have an effect on building aesthetics, safety, or usability.

Priority Classes

Recurring renewal needs do not receive individual prioritization, as the entire data set of needs in this category is year-based. Each separate component has a distinct need year, rendering further prioritization unnecessary. Each nonrecurring renewal project, however, has a priority assigned to indicate the criticality of the recommended work. The prioritization utilized for this subset of the data is as follows.

- **Priority 1 – High**
Items in this category include:
 - a. correcting a cited safety hazard
 - b. stopping accelerated deterioration
 - c. returning a facility to normal operation
- **Priority 2 – Medium**
Items in this category include:
 - a. repairs to prevent further deterioration
 - b. improvements to facility approach/entry and access to goods and services (DOJ ADA title III, priorities 1 and 2)
 - c. correction of potential safety hazards

- **Priority 3 – Low**

Items in this category include:

- a. improving access to restrooms and other amenities (DOJ ADA title III, priorities 3 and 4)
- b. bringing a facility into compliance with current building codes as grandfather clauses expire
- c. increasing usability following an occupancy or use change
- d. actions that are recommended but not required by code

Project Subclass

Subclass ratings are assigned to accessibility upgrade activities based on the four Department of Justice priority rankings recommended by the Title III regulations for planning readily achievable barrier removal projects. These ratings are:

- DOJ1 Accessible approach and entrance
- DOJ2 Access to goods and services
- DOJ3 Access to restrooms
- DOJ4 Any other necessary measures

Category Codes

CATEGORY CODE*	SYSTEM DESCRIPTION
AC1A – AC4B	ACCESSIBILITY
EL1A – EL8A	ELECTRICAL
ES1A – ES6E	EXTERIOR STRUCTURE
FS1A – FS6A	FIRE/LIFE SAFETY
HE1A – HE7A	HEALTH
HV1A – HV8B	HVAC
IS1A – IS6D	INTERIOR FINISHES/SYSTEMS
PL1A – PL5A	PLUMBING
SI1A – SI4A	SITE
VT1A – VT7A	VERTICAL TRANSPORTATION

<i>Example:</i> Category Code = EL5A	
EL	System Description
5	Component Description
A	Element Description

Priority Sequence

A Priority Sequence number is automatically assigned to each project to rank the projects in order of relative criticality and show the recommended execution order. This number is calculated based on the Priority Class and identified system of each project.

<i>Example</i>			
Priority Class	Category Code	Project Number	Priority Sequence
1	HV2C	0001HV04	01
1	PL1D	0001PL02	02
2	IS1E	0001IS06	03
2	EL4C	0001EL03	04

Drawings

Floor plans for this facility are provided as a reference.

Photographs

A code shown on the Photo Log identifies the asset number, photo sequence, and a letter designation for architect (a) or engineer (e).

<i>Example:</i>	
Photo Number: 0001006e	
0001	Asset Number
006	Photo Sequence
e	Engineering Photo

Sustainability/Energy Analysis

Energy/resource conservation measures (ECMs) are recommendations that will reduce resource consumption or the rate of growth in consumption. Examples include improving the efficiency of an HVAC system (e.g., digital motor speed controls, exhaust energy recovery, retrocommissioning) or directly reducing the consumption of a resource (e.g., low flow plumbing fixtures, high-efficiency lighting, or structural insulation improvement). Where significant conservation opportunities are evident for this facility, ECMs are identified and tabulated in Section 7 as a basis for further viability investigation.

FACILITY CONDITION ASSESSMENT

SECTION 2

**COST SUMMARIES
AND TOTALS**

RENEWAL NEEDS MATRIX

All dollars shown as Present Value

CATEGORY	NONRECURRING PROJECT NEEDS			RECURRING COMPONENT REPLACEMENT NEEDS											
	Immediate	Critical	Noncritical	Deferred Renewal	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	TOTAL
ACCESSIBILITY	0	73,522	0	0	0	0	0	0	0	0	0	0	0	0	\$73,522
EXTERIOR	0	1,308	0	159,334	0	0	0	0	21,017	871	0	0	0	31,599	\$214,128
INTERIOR	0	0	0	438,454	0	0	0	85,175	431,577	0	0	0	132,202	0	\$1,087,408
PLUMBING	0	0	0	0	1,263	0	0	27,179	0	2,454	0	0	0	2,816	\$33,712
HVAC	0	0	0	0	591	0	0	0	0	203,176	78,042	0	271,713	0	\$553,522
FIRE/LIFE SAFETY	0	43,125	0	0	0	0	0	0	0	288,986	0	0	0	0	\$332,111
ELECTRICAL	0	28,421	0	0	6,949	9,385	0	0	0	0	22,315	0	0	0	\$67,071
SITE	0	0	0	10,995	0	0	0	0	0	0	0	0	0	0	\$10,995
VERT. TRANS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
HEALTH/EQUIP.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
SUBTOTAL	\$0	\$146,377	\$0	\$608,782	\$8,803	\$9,385	\$0	\$112,354	\$452,594	\$495,487	\$100,357	\$0	\$403,915	\$34,415	\$2,372,469
TOTAL NONRECURRING PROJECT NEEDS			\$146,377	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS										\$2,226,092	

CURRENT REPLACEMENT VALUE	\$25,098,000
FACILITY CONDITION NEEDS INDEX	0.09
FACILITY CONDITION INDEX	0.02

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
49,567	\$2,372,469	\$47.86

RENEWAL NEEDS BY SYSTEM

All costs shown as Present Value

CATEGORY	NONRECURRING PROJECT COSTS	RECURRING COMPONENT REPLACEMENT COSTS	TOTAL 10-YEAR FACILITY RENEWAL COSTS
ACCESSIBILITY	\$73,522	\$0	\$73,522
EXTERIOR	\$1,308	\$212,820	\$214,128
INTERIOR	\$0	\$1,087,408	\$1,087,408
PLUMBING	\$0	\$33,712	\$33,712
HVAC	\$0	\$553,522	\$553,522
FIRE/LIFE SAFETY	\$43,125	\$288,986	\$332,111
ELECTRICAL	\$28,421	\$38,649	\$67,071
SITE	\$0	\$10,995	\$10,995
VERT. TRANS	\$0	\$0	\$0
HEALTH	\$0	\$0	\$0
TOTALS	\$146,377	\$2,226,092	\$2,372,469

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
013 RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT	10796	ROOF	B3010	Deferred Renewal	159,334
013 IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM		OFFICES, 3409	C3020	Deferred Renewal	216,987
013 IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM		LABS, 3301, 3304	C3020	Deferred Renewal	220,875
013 IF14	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	GRAY TEXTURED EPOXY		3307	C3020	Deferred Renewal	592
013 SI07	CONCRETE VEHICULAR PAVING - JOINT MAINTENANCE	SERVICE RAMPS		NORTH ELEVATION	G2010	Deferred Renewal	138
013 SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	NORTH LOT		NORTH ELEVATION	G2020	Deferred Renewal	4,350
013 SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	SOUTH LOT		SOUTH ELEVATION	G2020	Deferred Renewal	6,268
013 SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	WALK		ALL ELEVATIONS	G2030	Deferred Renewal	239
013 BF01	BACKFLOW PREVENTER (<=1 INCH)	CBEL-BFP-001, 1 INCH	10808	1306	D2020	2023	1,263
013 HU52	UNIT HEATER, ELECTRIC	DW / FIRE BF UNIT HEATER		EXTERIOR	D3020	2023	591
013 LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE HID		EXTERIOR	D5020	2023	5,950
013 LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	WALL LED		GENERATOR YARD	D5020	2023	999
013 VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EXH-3-2 VFD		3303	D5010	2024	843
013 VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	AHU-002 SF VFD		2305	D5010	2024	8,542
013 IW05	WALL FINISH - TILE, CERAMIC / STONE, ECONOMY	2X2 ECON TILE		RESTROOMS	C3010	2026	85,175

FACILITIES RENEWAL PLAN
 RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
013 BF01	BACKFLOW PREVENTER (<=1 INCH)	FIRE BYPASS, 3/4 INCH		EXTERIOR	D2020	2026	1,263
013 BF04	BACKFLOW PREVENTER (3-4 INCHES)	POTABLE BF, 4 INCH		EXTERIOR	D2020	2026	10,550
013 BF05	BACKFLOW PREVENTER (4-6 INCHES)	CBEL-BFP-001, FIRE, 6 INCH	10808	EXTERIOR	D2020	2026	15,366
013 DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10874	WEST ELEVATION	B2030	2027	10,508
013 DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10873	SOUTH ELEVATION	B2030	2027	10,508
013 IW14	TOILET PARTITION WITH ACCESSORIES	PLASTIC		1601, 1602, 2702, 2703, 3601, 3602	C1010	2027	47,035
013 IW15	URINAL PARTITION WITH ACCESSORIES	PLASTIC		1602, 2702, 3601,	C1010	2027	1,755
013 DR24	DOOR LOCK, COMMERCIAL-GRADE	HM		NORTH, WEST ELEVS	C1020	2027	4,482
013 DR24	DOOR LOCK, COMMERCIAL-GRADE	PANIC WOOD		STAIR TOWERS	C1020	2027	7,171
013 DR24	DOOR LOCK, COMMERCIAL-GRADE	NON RATED WOOD		MOST AREAS	C1020	2027	55,579
013 DR24	DOOR LOCK, COMMERCIAL-GRADE	RATED WOOD		CORRIDORS	C1020	2027	103,089
013 DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		WEST ELEVATION	C1020	2027	1,467
013 DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		SOUTH ELEVATION	C1020	2027	1,467
013 DR26	DOOR PANIC HARDWARE	ANOD ALUM GLASS		ALL ELEVATIONS	C1020	2027	7,333

FACILITIES RENEWAL PLAN
RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
013 CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	SOLID SURF LAM WOOD		BREAK RMS, OFFICES	C1030	2027	25,968
013 IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		CLSSRMS, CRRDRS, STAIR TWRS	C3020	2027	113,565
013 IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	2X2 TILE		1601, 1602, 2702, 2703, 3601, 3602	C3020	2027	62,666
013 RR24	ROOF SKYLIGHT - FIBERGLASS ROOF SANDWICH PANEL	MOD BIT	10796	ROOF	B3020	2028	871
013 PP04	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	CBEL-PMP-009	10842	ELEVATOR PIT	D2030	2028	2,454
013 HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-003, WH-3-1	10872	3303	D3020	2028	986
013 HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-002, WH-2-1	10871	2305	D3020	2028	986
013 HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-001, WH-1-1	10870	1307	D3020	2028	986
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-2	10822	ROOF	D3040	2028	6,736
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-6	10825	ROOF	D3040	2028	6,736
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-7	10818	ROOF	D3040	2028	6,736
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-8	10823	ROOF	D3040	2028	6,736
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-5	10816	ROOF	D3040	2028	6,736
013 FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-1	10824	ROOF	D3040	2028	6,736
013 AC01	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP)	CBEL-AIR-003	10804	1307	D3060	2028	3,240

FACILITIES RENEWAL PLAN
 RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
013 BA09	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	VAV, TERMINAL UNITS		3RD FLOOR	D3060	2028	156,565
013 FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	CBEL-ALM-001, FACP	10807	1305	D4030	2028	45,567
013 FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS, PULLS		BUILDING WIDE	D4030	2028	243,419
013 BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	TRANE		3RD FLOOR	D3060	2029	51,693
013 BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	MAJOR INSTRUMENTATION		BUILDING WIDE	D3060	2029	26,349
013 VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	SHWP-1 VFD		1306	D5010	2029	3,824
013 VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	PCHWP-1 VFD		1307	D5010	2029	5,736
013 VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-1 VFD		1307	D5010	2029	6,378
013 VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-2 VFD		1307	D5010	2029	6,378
013 IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	C3010	2031	118,974
013 IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		3102, 2701, 2704	C3030	2031	13,228
013 HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3301-A-HP	22283	ROOF / 3301	D3030	2031	5,649
013 HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3302-B-HP	22284	ROOF / 3301	D3030	2031	5,649
013 AH19	AIR HANDLING UNIT - OUTDOOR PACKAGE (8-12 HP)	RTU-3-1		ROOF	D3040	2031	260,415
013 DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		WEST ELEVATION	B2030	2032	4,514

FACILITIES RENEWAL PLAN
 RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE		COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
013	DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		SOUTH ELEVATION	B2030	2032	4,514
013	DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM GLASS		ALL EXTERIOR ELEVATIONS	B2030	2032	22,571
013	BF02	BACKFLOW PREVENTER (1-2 INCHES)	IRRIGATION BF, 2 INCH	WILKINS ZURN, S#2424898	EXTERIOR	D2020	2032	2,816
TOTAL								\$2,226,092

FACILITIES RENEWAL PLAN
NONRECURRING PROJECT COSTS

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
013AC01	SITE ACCESSIBILITY UPGRADES	G2010	2	Plant Adaption	7,887
013AC02	RESTROOM ACCESSIBILITY UPGRADES	D2010	2	Plant Adaption	63,045
013AC03	ADD CANE RAIL	C2010	2	Plant Adaption	2,589
013EL01	ADD LIGHTNING PROTECTION SYSTEM	D5090	2	Plant Adaption	624,651
013ES01	ROOF HATCH FALL PROTECTION	B3010	2	Corrective Action	1,308
013FS01	ADD FALL PROTECTION TO SKYLIGHTING	B3020	2	Plant Adaption	3,269
013FS02	ADD ROPE DAVITS TO SUPPORT WORKER FALL PROTECTION	B3010	2	Plant Adaption	39,856
TOTAL					\$742,606

FACILITY CONDITION ASSESSMENT

SECTION 3

**NONRECURRING
PROJECT DETAILS**

All costs shown as Present Value

ADD FALL PROTECTION TO SKYLIGHTING			
Project Number:	013FS01	Category Code:	
Priority Sequence:	1	FS6A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	GENERAL
Date Basis:	2/13/2023	Element:	OTHER

Code Application:		Subclass/Savings:	Project Location:
OSHA	29 CFR 1910.21(A) (4)	Not Applicable	Floor-wide: Floor(s) R
OSHA	29 CFR 1910.23(E) (8)		

Description

Current OSHA standards dictate that skylighting have fall protection on the periphery. Install an appropriately designed metal guardrail around the skylights.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Metal pipe guardrail, average	LF	20	\$98.97	\$1,979	\$24.93	\$499	\$2,478
Base Material/Labor Costs				\$1,979		\$499	
Indexed Material/Labor Costs				\$1,993		\$356	\$2,349
Construction Mark Up at 20.0%							\$470
Original Construction Cost							\$2,819
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$2,819
Professional Fees at 16.0%							\$451
TOTAL PROJECT COST							\$3,269

All costs shown as Present Value

ADD ROPE DAVITS TO SUPPORT WORKER FALL PROTECTION			
Project Number:	013FS02	Category Code:	
Priority Sequence:	2	FS6A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	GENERAL
Date Basis:	2/13/2023	Element:	OTHER

Code Application:		Subclass/Savings:	Project Location:
OSHA	29 CFR 1910.21(A) (4)	Not Applicable	Floor-wide: Floor(s) R
OSHA	29 CFR 1910.23(E) (8)		

Description

Fall protection is required for roofing installations to protect the welfare of workers on roofing systems located over six feet above grade. The installation of hard looped tie-off points is recommended at intervals throughout the roof to support workers associated lifelines and harness personal protective equipment.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Allocation to install metal rope davits to support PPE equipment on roof	EA	34	\$391	\$13,308	\$628	\$21,362	\$34,670
Base Material/Labor Costs				\$13,308		\$21,362	
Indexed Material/Labor Costs				\$13,401		\$15,231	\$28,632
Construction Mark Up at 20.0%							\$5,726
Original Construction Cost							\$34,358
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$34,358
Professional Fees at 16.0%							\$5,497
TOTAL PROJECT COST							\$39,856

All costs shown as Present Value

RESTROOM ACCESSIBILITY UPGRADES			
Project Number:	013AC02	Category Code:	
Priority Sequence:	3	AC3E	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/13/2023	Element:	RESTROOMS/BATHROOMS

Code Application:

ADAAG 309

Subclass/Savings:

DOJ3 - Restrooms

Project Location:

Room Only: Floor(s) 1,2,3

Description

None of the restrooms have power door operators. For restrooms with accessible stalls it is recommended that power door operators be installed to improve the accessibility of the restrooms.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Door operator, signage, and controls	EA	6	\$6,021	\$36,129	\$2,083	\$12,496	\$48,625
Base Material/Labor Costs				\$36,129		\$12,496	
Indexed Material/Labor Costs				\$36,381		\$8,910	\$45,291
Construction Mark Up at 20.0%							\$9,058
Original Construction Cost							\$54,349
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$54,349
Professional Fees at 16.0%							\$8,696
TOTAL PROJECT COST							\$63,045

All costs shown as Present Value

ADD CANE RAIL			
Project Number:	013AC03	Category Code:	
Priority Sequence:	4	AC3B	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	1/11/2023	Element:	STAIRS AND RAILINGS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	4.1.2(3), 4.1.3(2)	DOJ2 - Access to Goods & Services	Item Only: Floor(s) 1

Description

Cane rails are required at specific hazards to alert persons with visual difficulties of projecting or protruding objects such as stair runs. Install cane bump rails under stair runs along routes of interior travel to prevent injury.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install metal cane rail, up to 27 inches in height, suitable for interior locations	LF	30	\$48.62	\$1,459	\$18.30	\$549	\$2,008
Base Material/Labor Costs				\$1,459		\$549	
Indexed Material/Labor Costs				\$1,469		\$391	\$1,860
Construction Mark Up at 20.0%							\$372
Original Construction Cost							\$2,232
Date of Original Estimate:	1/11/2023					Inflation	\$0
Current Year Construction Cost							\$2,232
Professional Fees at 16.0%							\$357
TOTAL PROJECT COST							\$2,589

All costs shown as Present Value

SITE ACCESSIBILITY UPGRADES			
Project Number:	013AC01	Category Code:	
Priority Sequence:	5	AC1B	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	SITE
Date Basis:	2/13/2023	Element:	RAMPS AND WALKS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	502	DOJ1 - Approach & Entrance	Item Only: Floor(s)

Description

The handicap parking spots in the south parking lot do not have curb ramps leading to the pedestrian walkway. It is recommended that curb ramps with proper gripping surfaces be installed.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Concrete curb ramp construction	EA	4	\$857	\$3,428	\$776	\$3,105	\$6,533
Base Material/Labor Costs				\$3,428		\$3,105	
Indexed Material/Labor Costs				\$3,452		\$2,214	\$5,666
Construction Mark Up at 20.0%							\$1,133
Original Construction Cost							\$6,799
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$6,799
Professional Fees at 16.0%							\$1,088
TOTAL PROJECT COST							\$7,887

All costs shown as Present Value

ROOF HATCH FALL PROTECTION			
Project Number:	013ES01	Category Code:	
Priority Sequence:	6	ES4B	
Priority Class:	Medium	System:	EXTERIOR
Project Class:	Corrective Action	Component:	ROOF
Date Basis:	1/11/2023	Element:	REPLACEMENT

Code Application:		Subclass/Savings:	Project Location:
OSHA	29 CFR 1910.21(A) (4), 29 CFR 1910.23(E)(8)	Not Applicable	Item Only: Floor(s)

Description

The roof hatch has fall protection to the rear along the roof edge but does not have adequate fall protection around the sides. Install metal pipe fall protection on either side of the roof hatch.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Metal pipe guard rail, average	LF	8	\$98.97	\$792	\$24.93	\$199	\$991
Base Material/Labor Costs				\$792		\$199	
Indexed Material/Labor Costs				\$797		\$142	\$940
Construction Mark Up at 20.0%							\$188
Original Construction Cost							\$1,127
Date of Original Estimate:	1/11/2023					Inflation	\$0
Current Year Construction Cost							\$1,127
Professional Fees at 16.0%							\$180
TOTAL PROJECT COST							\$1,308

All costs shown as Present Value

ADD LIGHTNING PROTECTION SYSTEM			
Project Number:	013EL01	Category Code:	
Priority Sequence:	7	EL4E	
Priority Class:	Medium	System:	ELECTRICAL
Project Class:	Plant Adaption	Component:	DEVICES AND FIXTURES
Date Basis:	2/13/2023	Element:	LIGHTNING PROTECTION

Code Application:		Subclass/Savings:	Project Location:
NFPA	70780	Not Applicable	Floor-wide: Floor(s) R

Description

This facility would benefit from the addition of lightning protection. Install an appropriately designed system that protects the structure and rooftop structure and equipment.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Cable, connectors, air terminals, grounding rods, specialty fasteners, etc.	SF	17,204	\$0.69	\$11,871	\$0.69	\$11,871	\$23,742
Base Material/Labor Costs				\$11,871		\$11,871	
Indexed Material/Labor Costs				\$11,954		\$8,464	\$20,418
Construction Mark Up at 20.0%							\$4,084
Original Construction Cost							\$24,501
Date of Original Estimate:	2/13/2023		Inflation			\$0	
Current Year Construction Cost							\$24,501
Professional Fees at 16.0%							\$3,920
TOTAL PROJECT COST							\$28,421

FACILITY CONDITION ASSESSMENT

SECTION 4

LIFECYCLE COMPONENT
INVENTORY

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	STOREFRONT		ALL ELEVATIONS	2,690	SF	1.12	\$555,177	2007	40		2047
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	HM		NORTH, WEST ELEVS	5	LEAF	1.00	\$12,224	2007	40		2047
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM GLASS		ALL EXTERIOR ELEVATIONS	5	LEAF	1.00	\$22,571	2007	25		2032
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		WEST ELEVATION	1	LEAF	1.00	\$4,514	2007	25		2032
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		SOUTH ELEVATION	1	LEAF	1.00	\$4,514	2007	25		2032
DR19	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	COILING STEEL		1307	100	SF	1.00	\$11,815	2006	30		2036
DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10874	WEST ELEVATION	1	EA	1.00	\$10,508	2007	20		2027
DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10873	SOUTH ELEVATION	1	EA	1.00	\$10,508	2007	20		2027
DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS			WEST ELEVATION	1	EA	1.00	\$2,558	2019	15		2034
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT	10796	ROOF	17,204	SF	1.52	\$159,334	2008	20	-6	DR
RR24	ROOF SKYLIGHT - FIBERGLASS ROOF SANDWICH PANEL	MOD BIT	10796	ROOF	12	SF	1.00	\$871	2008	20		2028
RR29	ROOF HATCH - ACCESS	MODULAR STEEL	10796	ROOF	1	EA	1.00	\$5,706	2008	30		2038
IW14	TOILET PARTITION WITH ACCESSORIES	PLASTIC		1601, 1602, 2702, 2703, 3601, 3602	15	SYS	1.00	\$47,035	2007	20		2027
IW15	URINAL PARTITION WITH ACCESSORIES	PLASTIC		1602, 2702, 3601,	3	EA	1.00	\$1,755	2007	20		2027
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	NON RATED WOOD		MOST AREAS	62	LEAF	1.00	\$161,565	2007	40		2047

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	RATED WOOD		CORRIDORS	115	LEAF	1.00	\$517,588	2007	40		2047
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	PANIC WOOD		STAIR TOWERS	8	LEAF	1.00	\$36,006	2007	40		2047
DR24	DOOR LOCK, COMMERCIAL-GRADE	NON RATED WOOD		MOST AREAS	62	EA	1.00	\$55,579	2007	20		2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	RATED WOOD		CORRIDORS	115	EA	1.00	\$103,089	2007	20		2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	PANIC WOOD		STAIR TOWERS	8	EA	1.00	\$7,171	2007	20		2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	HM		NORTH, WEST ELEVS	5	EA	1.00	\$4,482	2007	20		2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM GLASS		ALL ELEVATIONS	5	EA	1.00	\$7,333	2007	20		2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		WEST ELEVATION	1	EA	1.00	\$1,467	2007	20		2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		SOUTH ELEVATION	1	EA	1.00	\$1,467	2007	20		2027
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	SOLID SURF LAM WOOD		BREAK RMS, OFFICES	40	LF	1.00	\$25,968	2007	20		2027
CW04	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	SOLID SURF LAM WET LAB		LABS, 3304	6,910	SF	0.60	\$748,846	2007	40		2047
CW04	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	SOLID SURF LAM DRY LAB		LABS, 3301	3,000	SF	0.30	\$162,557	2007	40		2047
IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	44,160	SF	1.00	\$118,974	2019	12		2031
IW05	WALL FINISH - TILE, CERAMIC / STONE, ECONOMY	2X2 ECON TILE		RESTROOMS	3,330	SF	1.00	\$85,175	2006	20		2026
IW08	WALL FINISH - WOOD PANEL, STANDARD	STAINED WOOD PANEL		CORRIDORS	1,330	SF	1.00	\$29,462	2006	40		2046

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM		OFFICES, 3409	14,720	SF	1.00	\$216,987	2007	12	3	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		CLSSRMS, CRRDRS, STAIR TWRS	14,720	SF	1.00	\$113,565	2007	20		2027
IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM		LABS, 3301, 3304	17,180	SF	1.00	\$220,875	2007	15		DR
IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	2X2 TILE		1601, 1602, 2702, 2703, 3601, 3602	2,450	SF	1.00	\$62,666	2007	20		2027
IF14	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	GRAY TEXTURED EPOXY		3307	25	SF	1.00	\$592	2006	15		DR
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	2X2 ACT		MOST AREAS	44,160	SF	1.00	\$536,488	2007	30		2037
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		3102, 2701, 2704	4,910	SF	1.00	\$13,228	2007	24		2031
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	CBEL-ELV-001	10827	1701	1	EA	1.00	\$363,640	2008	25		2033
VT04	ELEVATOR CAB RENOVATION - PASSENGER	CBEL-ELV-001	10827	ELEVATOR	1	EA	1.00	\$64,123	2017	12	5	2034
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PORCELAIN LEVER		1601, 1602, 2702, 2703, 3601, 3602	14	EA	1.00	\$22,419	2007	35		2042
FX04	PLUMBING FIXTURE - SINK, KITCHEN	SST LEVER		2310, 1417	2	EA	1.00	\$5,200	2007	35		2042
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	PLASTIC FLOOR MOUNT		3307, 2311, 1301	3	EA	1.00	\$6,474	2006	35		2041
FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	MULTI FUNCTION SHOWER HEAD		2701, 2704	2	EA	1.00	\$4,152	2006	35		2041
FX10	PLUMBING FIXTURE - URINAL	PORCELAIN		1602, 2702, 3601,	6	EA	1.00	\$15,298	2007	35		2042

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	PORCELAIN TANKLESS		1601, 1602, 2702, 2703, 3601, 3602	18	EA	1.00	\$42,222	2007	35		2042
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3504	10838	3504	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3306	10833	3306	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3501	10834	3501	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3503	10836	3503	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3301	10830	3301	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3302	10831	3302	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3304	10832	3304	1	EA	1.00	\$5,641	2008	35		2043
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	CBEL-EWS-3506D	10839	3506D	1	EA	1.00	\$5,641	2008	35		2043
FX16	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	CBEL-EWS-35015 H	10835	3501	1	EA	1.00	\$9,696	2008	35		2043
FX16	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	CBEL-EWS-35035 H	10837	3503	1	EA	1.00	\$9,696	2008	35		2043
BF01	BACKFLOW PREVENTER (<=1 INCH)	CBEL-BFP-001, 1 INCH	10808	1306	1	EA	1.00	\$1,263	2008	10	5	2023
BF01	BACKFLOW PREVENTER (<=1 INCH)	FIRE BYPASS, 3/4 INCH		EXTERIOR	1	EA	1.00	\$1,263	2008	10	8	2026
BF02	BACKFLOW PREVENTER (1-2 INCHES)	IRRIGATION BF, 2 INCH	WILKINS ZURN, S#2424898	EXTERIOR	1	EA	1.00	\$2,816	2008	10	14	2032
BF04	BACKFLOW PREVENTER (3-4 INCHES)	POTABLE BF, 4 INCH		EXTERIOR	1	EA	1.00	\$10,550	2008	10	8	2026

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
BF05	BACKFLOW PREVENTER (4-6 INCHES)	CBEL-BFP-001, FIRE, 6 INCH	10808	EXTERIOR	1	EA	1.00	\$15,366	2008	10	8	2026
PS02	SUPPLY PIPING SYSTEM - CLASSROOM	INSULATED COPPER		BUILDING WIDE	34,567	SF	1.04	\$420,771	2008	35		2043
PS09	SUPPLY PIPING SYSTEM - LABORATORY, WET	INSULATED COPPER		LAB SPACES	15,000	SF	1.13	\$280,238	2008	35		2043
WH03	WATER HEATER - COMMERCIAL, GAS (168-225 MBH INPUT)	CBEL-TAN-005	10812	1307	200	MBH	1.00	\$20,898	2016	25		2041
PD02	DRAIN PIPING SYSTEM - CLASSROOM	CAST STEEL / ABS		BUILDING WIDE	34,567	SF	1.04	\$635,508	2008	40		2048
PD09	DRAIN PIPING SYSTEM - LABORATORY, WET	CAST STEEL / ABS		LAB SPACES	15,000	SF	1.13	\$422,834	2008	40		2048
PP04	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	CBEL-PMP-009	10842	ELEVATOR PIT	1	EA	3.00	\$2,454	2008	20		2028
PG08	VACUUM PUMP - OIL RING SEAL (10-15 HP), WITH TRAP	CBEL-PMP-010	10846	1307	4	HP	1.65	\$30,573	2008	20	5	2033
PG16	AIR COMPRESSOR - UTILITY (>5 HP)	CBEL-AIR-002	10806	1307	5	HP	1.00	\$11,804	2008	25		2033
BL03	BOILER - GAS (>2,000 MBH)	CBEL-BOI-001, B-1	10809	1306	3,400	MBH	1.00	\$240,496	2008	35		2043
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-003, WH-3-1	10872	3303	5	KW	1.00	\$986	2008	15	5	2028
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-002, WH-2-1	10871	2305	5	KW	1.00	\$986	2008	15	5	2028
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-001, WH-1-1	10870	1307	5	KW	1.00	\$986	2008	15	5	2028
HU52	UNIT HEATER, ELECTRIC	DW / FIRE BF UNIT HEATER		EXTERIOR	1	KW	3.00	\$591	2008	15		2023
TK03	EXPANSION TANK (21-40 GAL)	CBEL-TAN-007, HW AIR SEP.	10854	1306	25	GAL	1.00	\$6,057	2008	25		2033

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
TK05	EXPANSION TANK (61-100 GAL)	CBEL-TAN-001, HHW	10855	1306	80	GAL	1.00	\$15,696	2008	25		2033
TK05	EXPANSION TANK (61-100 GAL)	CHW AIR SEPERATOR		1307	100	GAL	1.35	\$26,488	2008	25	1	2034
CH09	CHILLER - AIR COOLED PACKAGE (75-150 TONS)	CBEL-ACU-001	10811	EXTERIOR	80	TON	1.00	\$125,381	2021	30		2051
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CU-1-1		EXTERIOR	2.50	TON	1.00	\$6,454	2008	23	3	2034
HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3301-A-HP	22283	ROOF / 3301	2	TON	1.00	\$5,649	2008	23		2031
HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3302-B-HP	22284	ROOF / 3301	2	TON	1.00	\$5,649	2008	23		2031
AH01	AIR HANDLING UNIT - INDOOR (.5-1.25 HP)	CBEL-AHU-001-1	10799	1308	1	HP	1.00	\$10,844	2008	25		2033
AH03	AIR HANDLING UNIT - INDOOR (1.75-2.75 HP)	CBEL-AHU-003-2	10801	3101	2	HP	2.00	\$48,272	2008	25		2033
AH09	AIR HANDLING UNIT - INDOOR (17-23 HP)	CBEL-AHU-002	10800	2305	20	HP	1.00	\$156,817	2008	25		2033
AH10	AIR HANDLING UNIT - INDOOR (23-27 HP)	CBEL-AHU-003-1	10802	3303	25	HP	1.00	\$172,819	2008	25		2033
AH10	AIR HANDLING UNIT - INDOOR (23-27 HP)	CBEL-AHU-001	10798	1307	25	HP	1.00	\$172,819	2008	25		2033
AH19	AIR HANDLING UNIT - OUTDOOR PACKAGE (8-12 HP)	RTU-3-1		ROOF	12	HP	1.00	\$260,415	2008	23		2031
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	EF-3-7	GREENHECK	ROOF	1	EA	1.00	\$4,357	2016	20		2036
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	CBEL-EAF-EF-3-4	10820	ROOF	1	EA	1.00	\$4,357	2008	20	6	2034
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	CBEL-EAF-EF-2-1	10821	ROOF	1	EA	1.00	\$4,357	2008	20	6	2034

RENEWABLE COMPONENT INVENTORY

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FN20	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER)	CBEL-EAF-EF-1-1	10817	ROOF	1	EA	1.00	\$9,572	2008	20	6	2034
FN20	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER)	CBEL-EAF-EF-3-10	10826	ROOF	1	EA	1.00	\$9,572	2008	20	6	2034
FN20	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER)	CBEL-EAF-EF-3-9	10814	ROOF	1	EA	1.00	\$9,572	2008	20	6	2034
FN20	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER)	CBEL-EAF-EF-3-3	10819	ROOF	1	EA	1.00	\$9,572	2008	20	6	2034
FN28	FAN - PROPELLER WITH LOUVER, 1/4" SP (1.5-2 HP)	EAF-EF1-2	10815	1307	1.50	HP	1.00	\$3,263	2008	20	6	2034
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-2	10822	ROOF	1	HP	1.00	\$6,736	2008	20		2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-6	10825	ROOF	1	HP	1.00	\$6,736	2008	20		2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-7	10818	ROOF	1	HP	1.00	\$6,736	2008	20		2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-8	10823	ROOF	1	HP	1.00	\$6,736	2008	20		2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-5	10816	ROOF	1	HP	1.00	\$6,736	2008	20		2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-1	10824	ROOF	1	HP	1.00	\$6,736	2008	20		2028
HD01	HOOD, FUME	FH-3504-01		3306	5	LF	1.00	\$14,273	2008	20	6	2034
HD01	HOOD, FUME	FH-3501-01		3501	5	LF	1.00	\$14,273	2008	20	6	2034
HD01	HOOD, FUME	FH-3501-01		3503	5	LF	1.00	\$14,273	2008	20	6	2034
HD01	HOOD, FUME	FH-3301-01		3301	5	LF	1.00	\$14,273	2008	20	6	2034

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
HV02	HVAC DISTRIBUTION NETWORKS - CLASSROOM	VAV, HW/CHW PIPE, DUCT		BUILDING WIDE	34,567	SF	1.04	\$1,389,480	2008	40		2048
HV09	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	VAV, HW/CHW PIPE, DUCT		LAB SPACES	15,000	SF	1.13	\$1,570,941	2008	40		2048
PH01	PUMP - ELECTRIC (<=10 HP)	SHWP-1		1306	5	HP	1.00	\$9,903	2008	25		2033
PH01	PUMP - ELECTRIC (<=10 HP)	PHWP-1		1306	5	HP	1.00	\$9,903	2008	25		2033
PH01	PUMP - ELECTRIC (<=10 HP)	CBEL-PMP-001, PCHWP-1	10848	1307	7.50	HP	1.00	\$14,854	2008	25	1	2034
PH02	PUMP - ELECTRIC (10 - 15 HP)	CBEL-PMP-002, SCHWP-1	10849	1307	10	HP	1.00	\$17,245	2008	25	1	2034
PH02	PUMP - ELECTRIC (10 - 15 HP)	CBEL-PMP-005, SCHWP-2	10850	1307	10	HP	1.00	\$17,245	2008	25	1	2034
AC01	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP)	CBEL-AIR-003	10804	1307	0.50	HP	3.00	\$3,240	2008	20		2028
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	HANKISON AIR DRYER		1307	10	EA	1.00	\$19,614	2017	15	2	2034
AD02	AIR DRYER - REFRIGERATED - 11-25 CFM	CBEL-AIR-004	10805	1307	25	EA	1.00	\$55,233	2019	15		2034
BA02	HVAC CONTROLS - TERMINAL ASSEMBLIES - CLASSROOM	VAV, TERMINAL UNITS		BUILDING WIDE	33,044	SF	1.00	\$123,161	2019	20		2039
BA09	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	VAV, TERMINAL UNITS		3RD FLOOR	16,523	SF	1.00	\$156,565	2008	20		2028
BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	TRANE		3RD FLOOR	49,567	SF	1.00	\$51,693	2019	10		2029
BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	MAJOR INSTRUMENTATION		BUILDING WIDE	49,567	SF	1.00	\$26,349	2019	10		2029
FP09	FIRE PUMP - ELECTRIC, 250 GPM, 2" ID (<=15 HP)	CBEL-PMP-007, JOCKEY	10845	1307	1	HP	0.55	\$1,765	2008	25	1	2034

RENEWABLE COMPONENT INVENTORY

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FP10	FIRE PUMP - ELECTRIC, 500 GPM, 3" ID (15-65 HP)	CBEL-PMP-FP1	10847	1307	40	HP	1.00	\$39,770	2008	25	1	2034
FS01	FIRE SPRINKLER SYSTEM	WET PIPE SYSTEM		BUILDING WIDE	49,567	SF	1.00	\$749,111	2008	80		2088
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	CBEL-ALM-001, FACP	10807	1305	1	EA	1.00	\$45,567	2008	15	5	2028
FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS, PULLS		BUILDING WIDE	49,567	SF	1.00	\$243,419	2008	18	2	2028
SE02	ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	DUAL VOLTAGE		BUILDING WIDE	49,567	SF	1.00	\$1,313,252	2008	40		2048
SG04	MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)	CBEL-PNL-001, PANEL MDP	10851	1305	1,200	AMP	1.00	\$106,529	2008	20	5	2033
TX24	TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA)	CBEL-TRA-002, XFMR TLS	10860	1303	15	KVA	1.00	\$5,546	2008	30		2038
TX25	TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA)	CBEL-TRA-007, XFMR TSP	10859	1303	45	KVA	1.00	\$10,613	2008	30		2038
TX26	TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (50-75 KVA)	CBEL-TRA-005, XFMR T2	10863	2305	75	KVA	1.00	\$14,633	2008	30		2038
TX28	TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (112.5-150 KVA)	CBEL-TRA-006, XFMR T3	10864	3303	150	KVA	1.00	\$26,291	2008	30		2038
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EXH-3-2 VFD		3303	1	HP	1.00	\$843	2010	12	2	2024
VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	SHWP-1 VFD		1306	5	HP	1.00	\$3,824	2017	12		2029
VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	PCHWP-1 VFD		1307	7.50	HP	1.00	\$5,736	2017	12		2029
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-1 VFD		1307	10	HP	1.00	\$6,378	2017	12		2029
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-2 VFD		1307	10	HP	1.00	\$6,378	2017	12		2029

RENEWABLE COMPONENT INVENTORY

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VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	AHU-003 SF VFD		3303	25	HP	1.00	\$10,678	2017	16	1	2034
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	AHU-002 SF VFD		2305	20	HP	1.00	\$8,542	2008	16		2024
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	AHU-1 SF VFD		1307	25	HP	1.00	\$10,678	2017	16		2033
LE04	LIGHTING - EXTERIOR, STANCHION LUMINAIRE, 12-FOOT	POLE MOUNTED LIGHTING (WHITE)		EXTERIOR	2	EA	1.00	\$5,254	2008	15	12	2035
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	WALL LED		EXTERIOR	1	EA	1.00	\$1,190	2018	15		2033
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE HID		EXTERIOR	5	EA	1.00	\$5,950	2008	15		2023
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	WALL LED		GENERATOR YARD	2	EA	1.00	\$999	2008	15		2023
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	2008 LIGHTING		BUILDING WIDE	47,567	SF	1.00	\$580,376	2008	20	8	2036
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	PENDENT LED		2101, 2102, 3102	2,000	SF	1.00	\$24,402	2018	20		2038
GN03	GENERATOR - DIESEL (100-200 KW)	CBEL-EMG-001	10828	EXTERIOR	150	KW	1.00	\$116,154	2008	25		2033
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	CBEL-TSW-001, ATS-1	10867	1303	150	AMP	1.00	\$7,424	2008	25		2033
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	CBEL-TSW-002, ATS-2	10866	1303	150	AMP	1.00	\$7,424	2008	25		2033
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	CBEL-TSW-003, FIRE PUMP	10869	1307	150	AMP	1.00	\$7,424	2008	25	1	2034
SF02	SEATING, FIXED, FOLDING, PREMIUM	FABRIC UPHOLTERED		LECTURE 1501	46	EA	1.00	\$46,753	2007	60		2067
SF02	SEATING, FIXED, FOLDING, PREMIUM	FABRIC UPHOLTERED		LECTURE 1502	46	EA	1.00	\$46,753	2007	60		2067

RENEWABLE COMPONENT INVENTORY

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SF02	SEATING, FIXED, FOLDING, PREMIUM	FABRIC UPHOLTERED		LECTURE 1503	46	EA	1.00	\$46,753	2007	60		2067
SI07	CONCRETE VEHICULAR PAVING - JOINT MAINTENANCE	SERVICE RAMPS		NORTH ELEVATION	20	LF	1.00	\$138	2007	7	8	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	SOUTH LOT		SOUTH ELEVATION	1,441	SY	1.00	\$6,268	2007	7	8	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	NORTH LOT		NORTH ELEVATION	1,000	SY	1.00	\$4,350	2007	7	8	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	WALK		ALL ELEVATIONS	40	LF	1.00	\$239	2007	7	8	DR
Grand Total:								\$14,916,962				

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

DEFERRED RENEWAL									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT	10796	ROOF	B3010	17,204	SF	\$159,334	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM		OFFICES, 3409	C3020	14,720	SF	\$216,987	DR
IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM		LABS, 3301, 3304	C3020	17,180	SF	\$220,875	DR
IF14	FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE	GRAY TEXTURED EPOXY		3307	C3020	25	SF	\$592	DR
SI07	CONCRETE VEHICULAR PAVING - JOINT MAINTENANCE	SERVICE RAMPS		NORTH ELEVATION	G2010	20	LF	\$138	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	SOUTH LOT		SOUTH ELEVATION	G2020	1,441	SY	\$6,268	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	NORTH LOT		NORTH ELEVATION	G2020	1,000	SY	\$4,350	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	WALK		ALL ELEVATIONS	G2030	40	LF	\$239	DR
TOTAL DEFERRED RENEWAL COST								\$608,782	

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

2023									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
BF01	BACKFLOW PREVENTER (<=1 INCH)	CBEL-BFP-001, 1 INCH	10808	1306	D2020	1	EA	\$1,263	2023
HU52	UNIT HEATER, ELECTRIC	DW / FIRE BF UNIT HEATER		EXTERIOR	D3020	1	KW	\$591	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE HID		EXTERIOR	D5020	5	EA	\$5,950	2023
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	WALL LED		GENERATOR YARD	D5020	2	EA	\$999	2023
2023 PROJECTED COMPONENT REPLACEMENT COST								\$8,803	

2024									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EXH-3-2 VFD		3303	D5010	1	HP	\$869	2024
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	AHU-002 SF VFD		2305	D5010	20	HP	\$8,798	2024
2024 PROJECTED COMPONENT REPLACEMENT COST								\$9,667	

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

No Projected Component Replacement Cost for Asset No. 013 for 2025

2026									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
IW05	WALL FINISH - TILE, CERAMIC / STONE, ECONOMY	2X2 ECON TILE		RESTROOMS	C3010	3,330	SF	\$93,073	2026
BF01	BACKFLOW PREVENTER (<=1 INCH)	FIRE BYPASS, 3/4 INCH		EXTERIOR	D2020	1	EA	\$1,380	2026
BF04	BACKFLOW PREVENTER (3-4 INCHES)	POTABLE BF, 4 INCH		EXTERIOR	D2020	1	EA	\$11,528	2026
BF05	BACKFLOW PREVENTER (4-6 INCHES)	CBEL-BFP-001, FIRE, 6 INCH	10808	EXTERIOR	D2020	1	EA	\$16,791	2026
2026 PROJECTED COMPONENT REPLACEMENT COST								\$122,772	

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

2027									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10874	WEST ELEVATION	B2030	1	EA	\$11,827	2027
DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM OPENER	10873	SOUTH ELEVATION	B2030	1	EA	\$11,827	2027
IW14	TOILET PARTITION WITH ACCESSORIES	PLASTIC		1601, 1602, 2702, 2703, 3601, 3602	C1010	15	SYS	\$52,939	2027
IW15	URINAL PARTITION WITH ACCESSORIES	PLASTIC		1602, 2702, 3601,	C1010	3	EA	\$1,975	2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	NON RATED WOOD		MOST AREAS	C1020	62	EA	\$62,554	2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	RATED WOOD		CORRIDORS	C1020	115	EA	\$116,028	2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	PANIC WOOD		STAIR TOWERS	C1020	8	EA	\$8,072	2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	HM		NORTH, WEST ELEVS	C1020	5	EA	\$5,045	2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM GLASS		ALL ELEVATIONS	C1020	5	EA	\$8,253	2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		WEST ELEVATION	C1020	1	EA	\$1,651	2027
DR26	DOOR PANIC HARDWARE	ANOD ALUM OPENER		SOUTH ELEVATION	C1020	1	EA	\$1,651	2027
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	SOLID SURF LAM WOOD		BREAK RMS, OFFICES	C1030	40	LF	\$29,227	2027

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		CLSSRMS, CRRDRS, STAIR TWRS	C3020	14,720	SF	\$127,818	2027
IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	2X2 TILE		1601, 1602, 2702, 2703, 3601, 3602	C3020	2,450	SF	\$70,531	2027
2027 PROJECTED COMPONENT REPLACEMENT COST								\$509,398	

2028									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
RR24	ROOF SKYLIGHT - FIBERGLASS ROOF SANDWICH PANEL	MOD BIT	10796	ROOF	B3020	12	SF	\$1,009	2028
PP04	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	CBEL-PMP-009	10842	ELEVATOR PIT	D2030	1	EA	\$2,845	2028
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-003, WH-3-1	10872	3303	D3020	5	KW	\$1,143	2028
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-002, WH-2-1	10871	2305	D3020	5	KW	\$1,143	2028
HU52	UNIT HEATER, ELECTRIC	CBEL-UHT-001, WH-1-1	10870	1307	D3020	5	KW	\$1,143	2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-2	10822	ROOF	D3040	1	HP	\$7,808	2028

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-6	10825	ROOF	D3040	1	HP	\$7,808	2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-7	10818	ROOF	D3040	1	HP	\$7,808	2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-8	10823	ROOF	D3040	1	HP	\$7,808	2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-5	10816	ROOF	D3040	1	HP	\$7,808	2028
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	CBEL-EAF-EF-3-1	10824	ROOF	D3040	1	HP	\$7,808	2028
AC01	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (≤6 TOTAL HP)	CBEL-AIR-003	10804	1307	D3060	0.50	HP	\$3,756	2028
BA09	HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET	VAV, TERMINAL UNITS		3RD FLOOR	D3060	16,523	SF	\$181,502	2028
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	CBEL-ALM-001, FACP	10807	1305	D4030	1	EA	\$52,824	2028
FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS, PULLS		BUILDING WIDE	D4030	49,567	SF	\$282,190	2028
2028 PROJECTED COMPONENT REPLACEMENT COST								\$574,405	

2029

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
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RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	TRANE		3RD FLOOR	D3060	49,567	SF	\$61,724	2029
BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	MAJOR INSTRUMENTATION		BUILDING WIDE	D3060	49,567	SF	\$31,462	2029
VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	SHWP-1 VFD		1306	D5010	5	HP	\$4,566	2029
VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	PCHWP-1 VFD		1307	D5010	7.50	HP	\$6,849	2029
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-1 VFD		1307	D5010	10	HP	\$7,615	2029
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	SCHWP-2 VFD		1307	D5010	10	HP	\$7,615	2029
2029 PROJECTED COMPONENT REPLACEMENT COST								\$119,832	

No Projected Component Replacement Cost for Asset No. 013 for 2030

2031									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	C3010	44,160	SF	\$150,713	2031
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		3102, 2701, 2704	C3030	4,910	SF	\$16,757	2031
HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3301-A-HP	22283	ROOF / 3301	D3030	2	TON	\$7,156	2031
HU18	DUCTLESS DX SPLIT SYSTEM (1-2 TON)	3302-B-HP	22284	ROOF / 3301	D3030	2	TON	\$7,156	2031
AH19	AIR HANDLING UNIT - OUTDOOR PACKAGE (8-12 HP)	RTU-3-1		ROOF	D3040	12	HP	\$329,886	2031
2031 PROJECTED COMPONENT REPLACEMENT COST								\$511,667	

2032

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM GLASS		ALL EXTERIOR ELEVATIONS	B2030	5	LEAF	\$29,450	2032
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		WEST ELEVATION	B2030	1	LEAF	\$5,890	2032
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM OPENER		SOUTH ELEVATION	B2030	1	LEAF	\$5,890	2032
BF02	BACKFLOW PREVENTER (1-2 INCHES)	IRRIGATION BF, 2 INCH	WILKINS ZURN, S#2424898	EXTERIOR	D2020	1	EA	\$3,674	2032

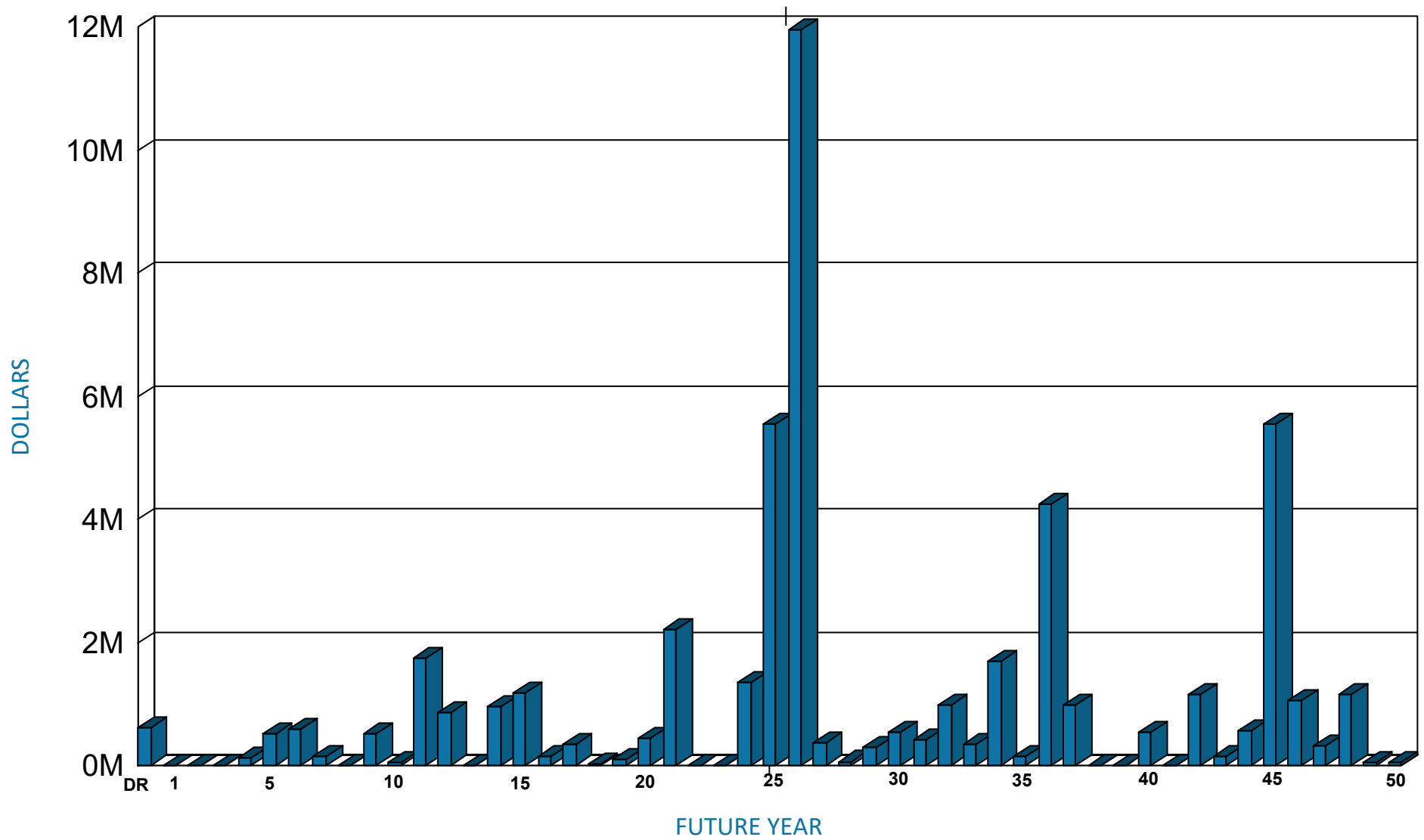
RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

2032 PROJECTED COMPONENT REPLACEMENT COST

\$44,904

RECURRING COMPONENT EXPENDITURE PROJECTIONS

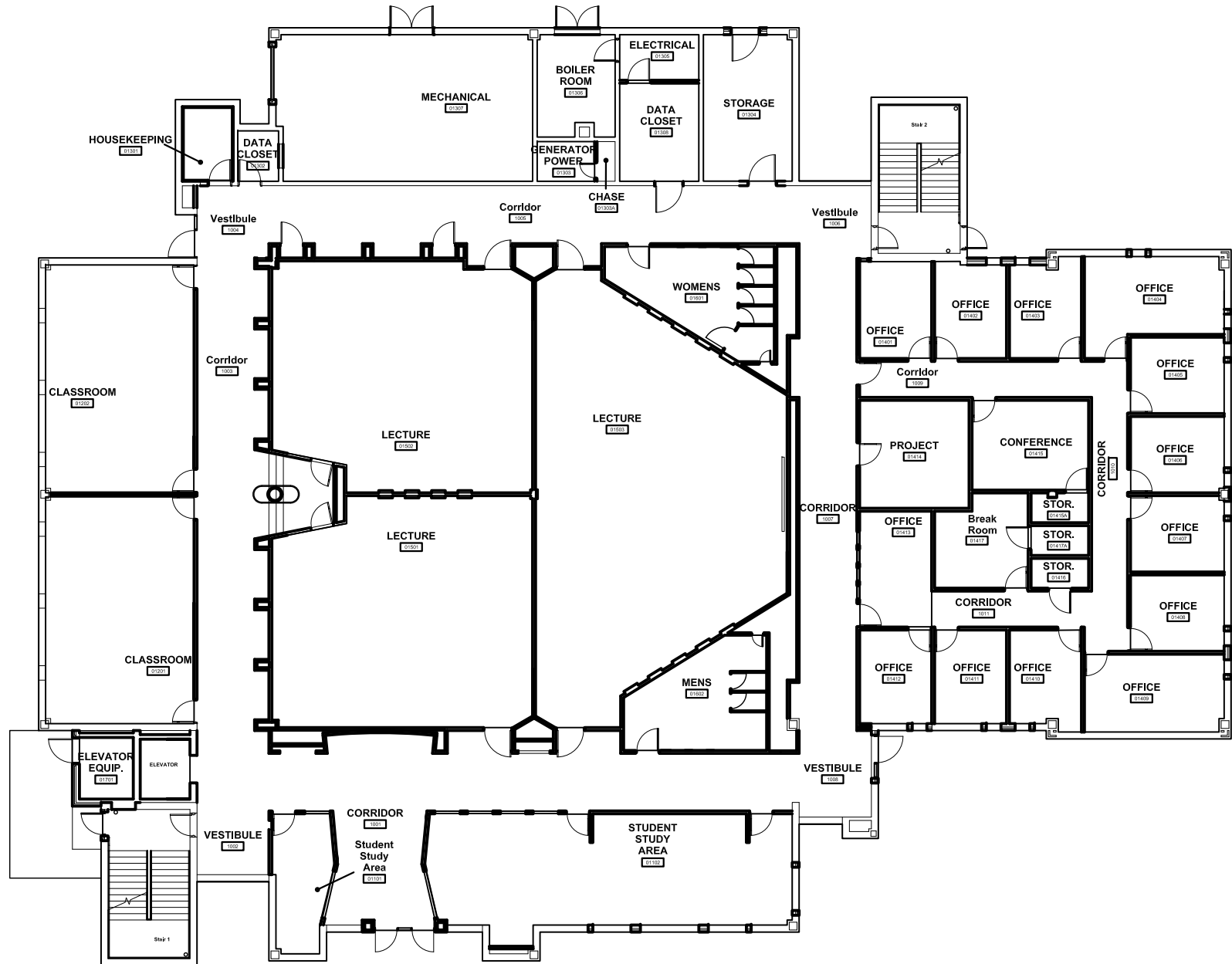


Average Annual Renewal Cost per SF \$8.96

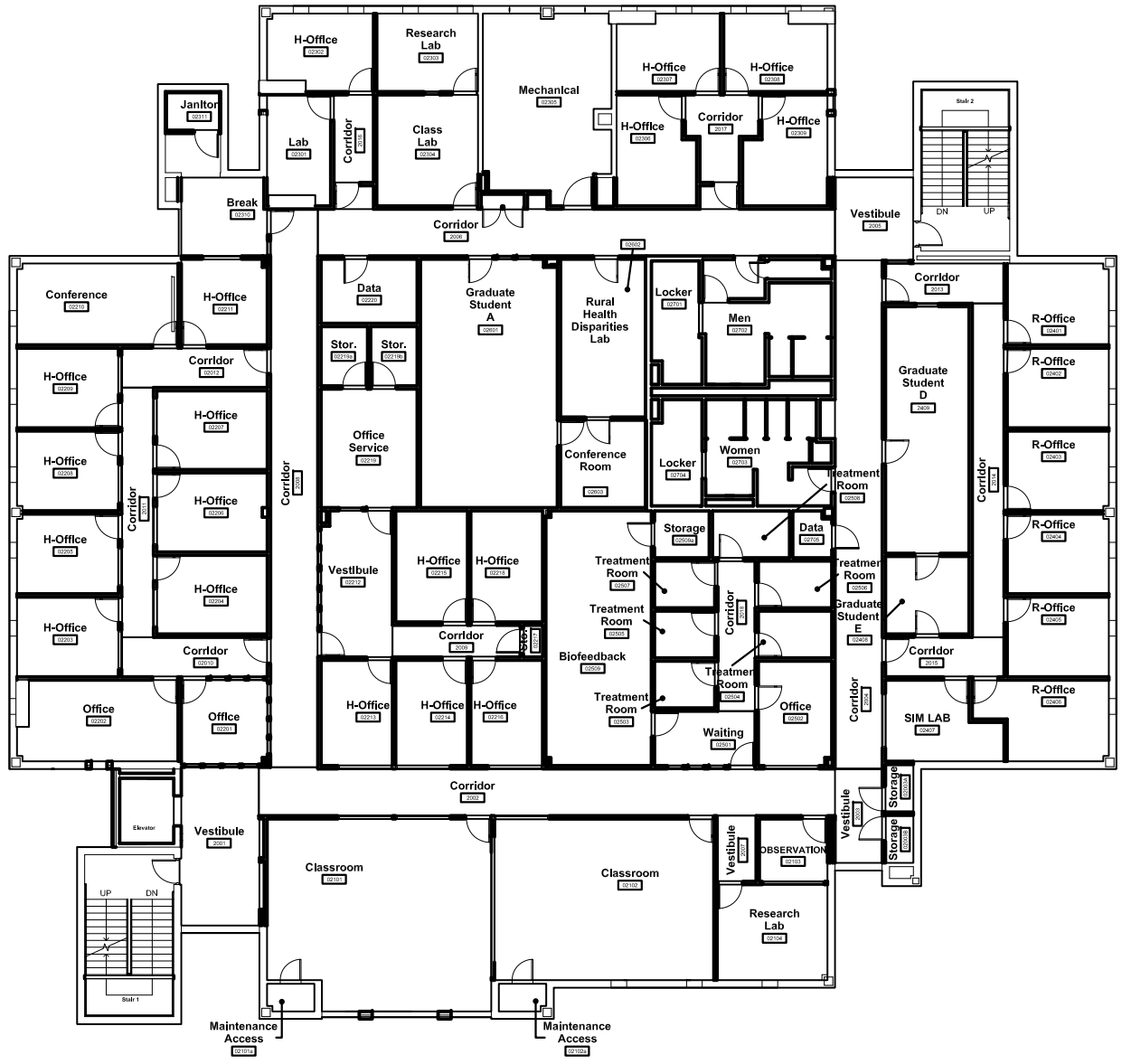
FACILITY CONDITION ASSESSMENT

SECTION 5

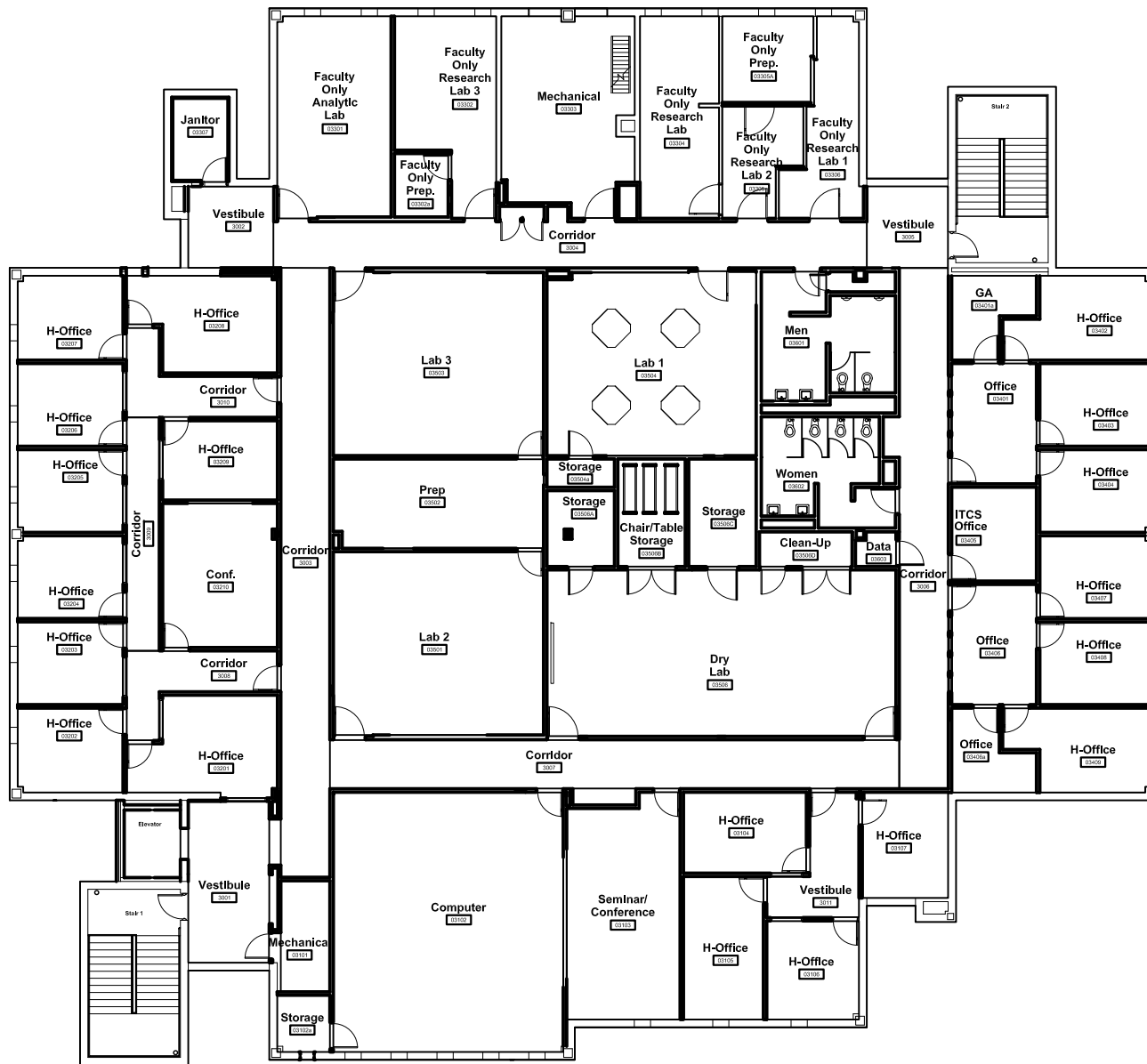
DRAWINGS



BELK BUILDING
 FIRST FLOOR PLAN COMPOSITE
 SCALE: UPDATE:



BELK BUILDING
 SECOND FLOOR PLAN COMPOSITE
 SCALE: UPDATE:



BELK BUILDING
 THIRD FLOOR PLAN COMPOSITE
 SCALE: UPDATE: 10/13/2021

FACILITY CONDITION ASSESSMENT

SECTION 6

PHOTOGRAPHS



013001a 1/11/2023
Roof hatch with fall protection
Roof



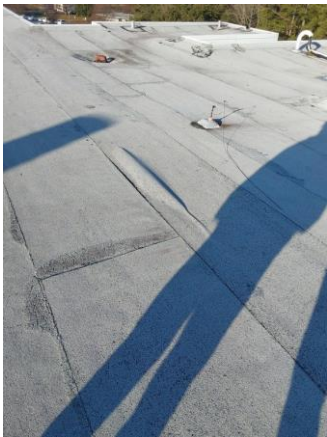
013001e 1/11/2023
Utility set fan EF-3-2 for fume hood
Roof



013002a 1/11/2023
Original brick stack
Roof



013002e 1/11/2023
Slight corrosion on steel ductwork
Roof



013003a 1/11/2023
Roof blister
Roof



013003e 1/11/2023
Slight corrosion on steel ductwork
Roof



013004a 1/11/2023
Fiberglass skylight
Roof over stair 1



013004e 1/11/2023
Rooftop package unit RTU-3-1
Roof



013005a 1/11/2023
Fiberglass skylight
Roof over stair 2



013005e 1/11/2023
General system exhaust fan EF-1-1
Roof



013006a 1/11/2023
Overall roof photo
Roof



013006e 1/11/2023
Ductless split system air-cooled condensers
Roof



013007a 1/11/2023
Roof hatch nameplate
Roof



013007e 1/11/2023
Air handler AHU-3-1
Room 3303



013008a 1/11/2023
Biohazard lab with lab casework
Room 3304



013008e 1/11/2023
Various distribution equipment
Room 3303



013009a 1/11/2023
Restroom lavatories
Room 3601



013009e 1/11/2023
Insulated, metal ductwork with detection
Room 3303



013010a 1/11/2023
Men's urinals
Room 3601



013010e 1/11/2023
Pendant style lighting with LED retrofit kit
Room 3303



013011a 1/11/2023
Nonaccessible water closet
Room 3601



013011e 1/11/2023
LED retrofit kit
Room 3303



013012a 1/11/2023
Typical exit stair door with signage
Stair 2



013012e 1/11/2023
Variable speed drive for AHU-3-1 supply fan
Room 3303



013013a 1/11/2023
Stairs with compliant handrails and guardrail
Stair 2



013013e 1/11/2023
DDC control panel CP-3-1 with updates
Room 3303



013014a 1/11/2023
Interior tempered glass along corridor
Room 3006



013014e 1/11/2023
Siemens dry type transformer
Room 3303



013015a 1/11/2023
Partitions in women's restroom
Room 3602



013015e 1/11/2023
Siemens secondary electric panelboards
Room 3303



013016a 1/11/2023
Typical office finishes
Room 3409



013016e 1/11/2023
Electric unit heater WH-3-1
Room 3303



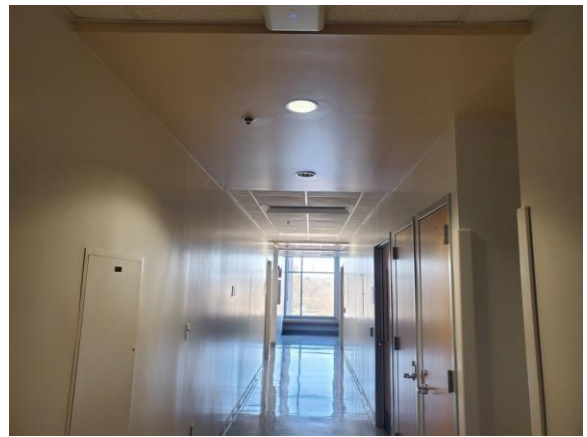
013017a 1/11/2023
Computer lab with finishes shown
Room 3102



013017e 1/11/2023
ABS waste piping
Room 3303



013018a 1/11/2023
Classroom with finishes shown
Room 3506



013018e 1/11/2023
Overview of corridor systems
Corridor 3004



013019a 1/11/2023
Typical lab with welded seam vinyl floor
Room 3501



013019e 1/11/2023
2x4 recessed lighting with LED retrofit
Corridor 3004



013020a 1/11/2023
Typical lab casework islands
Room 3502



013020e 1/11/2023
Fire alarm system notifier
Corridor 3004



013021a 1/11/2023
Corridor with finishes and signage shown
Room 3009



013021e 1/11/2023
Fire suppression system sprinkler head
Corridor 3004



013022a 1/11/2023
Custodial mop sink
Room 3307



013022e 1/11/2023
Lab/classroom lighting with occupancy
Room 3504



013023a 1/11/2023
Low intensity lab with solid surface counters
Room 3301



013023e 1/11/2023
Eyewash/drench hose
Room 3504



013024a 1/11/2023
Typical fire extinguisher cabinet
Room 3004



013024e 1/11/2023
Carbon monoxide monitoring system
Room 3504



013025a 1/11/2023
Typical dual height water fountain
Room 3006



013025e 1/11/2023
Typical electrical outlets
Room 3504



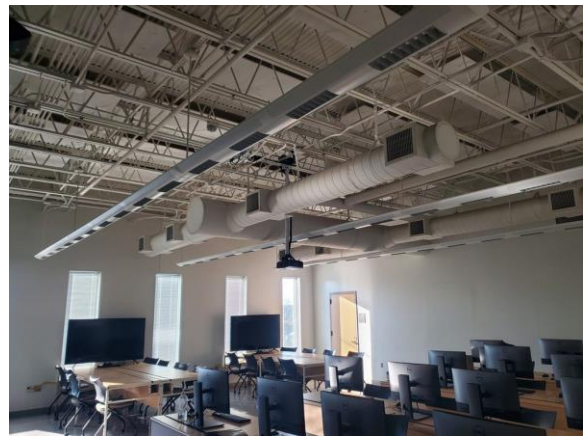
013026a 1/11/2023
Typical water fountain and wall finish
Room 3003



013026e 1/11/2023
Original thermostat for VAV terminal unit
Room 3504



013027a 1/11/2023
Corridor with finishes shown
Room 2014



013027e 1/11/2023
Updated pendant style interior lighting
Computer Lab 3102



013028a 1/11/2023
Women's restroom partitions
Room 2702



013028e 1/11/2023
Combination safety shower/eyewash station
Room 3501



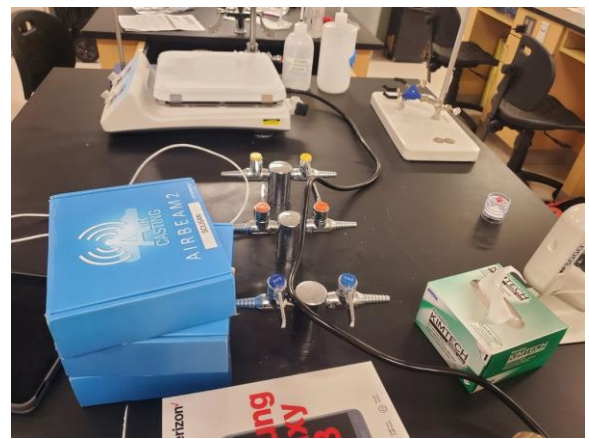
013029a 1/11/2023
Women's restroom roll-in shower
Room 2702



013029e 1/11/2023
Fume hood
Room 3501



013030a 1/11/2023
Women's lockers
Room 2702



013030e 1/11/2023
Gas, Vacuum, Air connection points
Room 3501



013031a 1/11/2023
Corridor with finishes shown
Room 2018



013031e 1/11/2023
Air handler AHU-3-2 for computer lab
Room 3101



013032a 1/11/2023
Observation glass
Room 2104



013032e 1/11/2023
Ductless split system blower assemblies
Room 3301



013033a 1/11/2023
Dual-height water fountain
Room 2001



013033e 1/11/2023
Updated thermostat
Second floor corridor



013034a 1/11/2023
Copy room casework
Room 2219



013034e 1/11/2023
Fire alarm system detector
Second floor corridor



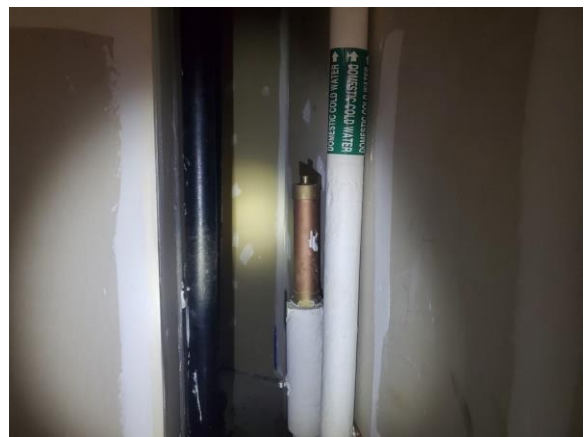
013035a 1/11/2023
Mop sink
Room 2311



013035e 1/11/2023
Fire riser, tamper switches, flow switches
Stair S-2



013036a 1/11/2023
Casework with accessible sink
Room 2310



013036e 1/11/2023
Insulated copper domestic cold water and ABS waste pipe
Second floor pipe chase



013037a 1/11/2023
Large office with finishes
Room 2601



013037e 1/11/2023
Fire alarm system pull station
Vestibule 1002



013038a 1/11/2023
Ceramic wall and floor tile and partitions
Room 2702



013038e 1/11/2023
Two automatic transfer switches
Room 1303



013039a 1/11/2023
Break room casework with accessible sink
Room 1417



013039e 1/11/2023
Natural gas heating water boiler
Room 1306



013040a 1/11/2023
Workroom casework
Room 1417



013040e 1/11/2023
Secondary heating water pump SHWP-1
Room 1306



013041a 1/11/2023
Urinals, water closet, partitions, and ceramic wall and
floor tile
Room 1602



013041e 1/11/2023
Heating water expansion tank
Room 1306



013042a 1/11/2023
Wall-hung lavatories
Room 1602



013042e 1/11/2023
Primary heating and chilled water pipe
Room 1306



013043a 1/11/2023
Water fountains
Room 1003



013043e 1/11/2023
Natural gas pipe
Room 1306



013044a 1/11/2023
Stairs to lecture halls
Room 1003



013044e 1/11/2023
Primary heating water pump PHWP-1
Room 1306



013045a 1/11/2023
Lecture hall with fixed seating
Room 1502



013045e 1/11/2023
Heating water air separator
Room 1306



013046a 1/11/2023
Anodized aluminum main entrance door
Room 1001



013046e 1/11/2023
Fire alarm control panel
Room 1305



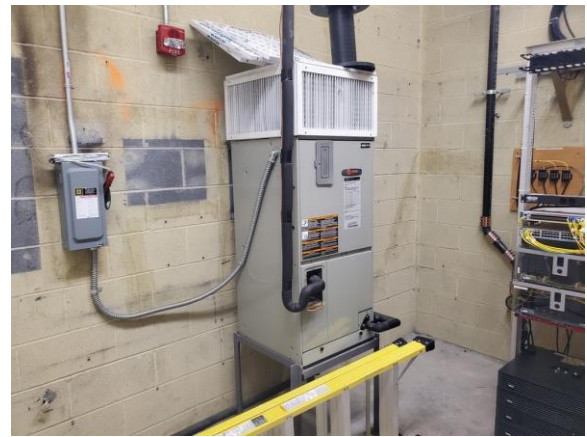
013047a 1/11/2023
Large classrooms with finishes
Room 1202



013047e 1/11/2023
Main electrical distribution panelboard
Room 1305



013048a 1/11/2023
Typical alcove wall with wood laminate
Room 1003



013048e 1/11/2023
Blower and coil assembly AHU-1-1
Room 1308



013049a 1/11/2023
Metal panel entrance soffit
South elevation



013049e 1/11/2023
Updated air-cooled chiller
Site



013050a 1/11/2023
Painted exit doors
West elevation



013050e 1/11/2023
Diesel fired emergency generator
Site



013051a 1/11/2023
Exterior brick and walk
West elevation



013051e 1/11/2023
Flood type light fixtures
Site



013052a 1/11/2023
Painted exit door with power operator
West elevation



013052e 1/11/2023
Overview of various systems
Room 1307



013053a 1/11/2023
Exterior brick and glazing with mechanical yard
North elevation



013053e 1/11/2023
Duplex vacuum pump system
Room 1307



013054a 1/11/2023
Receiving area door
North elevation



013054e 1/11/2023
Process and lab air compressor
Room 1307



013055a 1/11/2023
Entrance with metal soffit
Northeast elevation



013055e 1/11/2023
Variable air volume terminal unit
Room 1307



013056a 1/11/2023
Exterior brick and glazing with trees
East elevation



013056e 1/11/2023
Hankison air dryer
Room 1307



013057a 1/11/2023
Entrance with painted door
Southeast elevation



013057e 1/11/2023
HVAC control system air compressor
Room 1307



013058a 1/11/2023
Exterior brick and glazing at entry
South elevation



013058e 1/11/2023
Primary chilled water pump
Room 1307



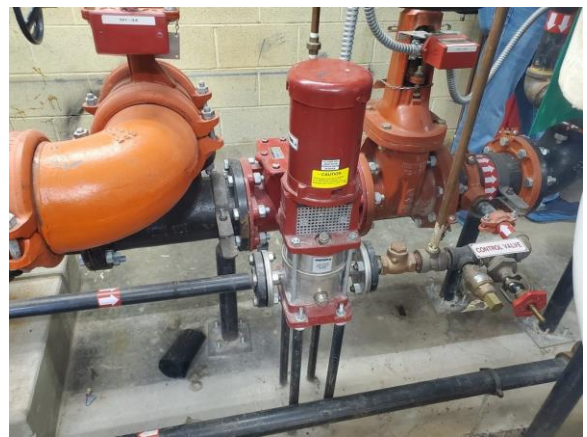
013059a 1/11/2023
Stair tower with missing cane rail
Stair 1



013059e 1/11/2023
Secondary chilled water pumps
Room 1307



013060a 1/11/2023
Stair tower with missing handrail extension
Stair 1



013060e 1/11/2023
Jockey pump
Room 1307



013061a 1/11/2023
Modified bitumen build-out roof
Roof



013061e 1/11/2023
Chilled water pump VFDs
Room 1307



013062a 1/11/2023
Compliant elevator control board
Elevator



013062e 1/11/2023
Main fire pump
Room 1307



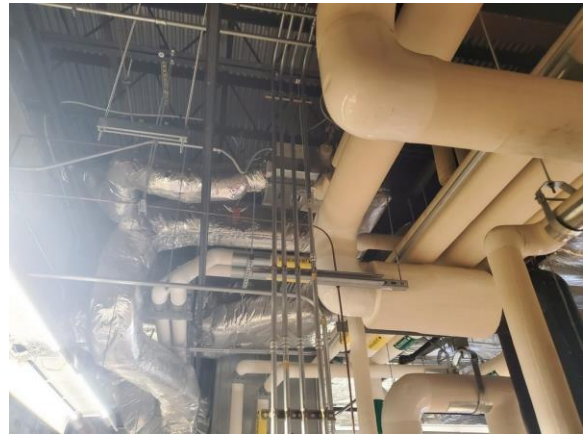
013063e 1/11/2023
Corrosion on fire pump casing
Room 1307



013064e 1/11/2023
Overview of fire suppression system equipment
Room 1307



013065e 1/11/2023
Natural gas fired domestic water heater
Room 1307



013066e 1/11/2023
Overview of various systems
Room 1307



013067e 1/11/2023
Chilled water system air separator
Room 1307



013068e 1/11/2023
Updated LED exterior lighting
Exterior



013069e 1/11/2023
Air-cooled condenser CU-1-1
Site



013070e 1/11/2023
Six-inch fire water backflow device
Site



013071e 1/11/2023
Electric heater for fire backflow
Exterior



013072e 1/11/2023
Irrigation water backflow
Site



013073e 1/11/2023
Four-inch potable water backflow device
Exterior



013074e 1/11/2023
Circa 2008 surface mounted HID lighting
Exterior



013075e 1/11/2023
Hydraulic elevator machine
Room 1701



013076e 1/11/2023
Pole-mounted exterior lighting with LED lamp
Site

FACILITY CONDITION ASSESSMENT

SECTION 7

PRELIMINARY ENERGY
ASSESSMENT

INTRODUCTION

A Preliminary Energy Assessment (PEA) was conducted to identify energy conservation opportunities. The PEA is intended to be a preliminary energy screening only. The goal is to identify potential energy savings opportunities in a building. It is not equivalent to an American Society of Heating, Refrigeration, or Air Conditioning Engineers (ASHRAE) Level 1, 2, or 3 audit. The PEA has two sections: 1) Benchmarking Data and 2) Energy Conservation Opportunities. Basic building information is provided in **Table 1**.

TABLE 1. BUILDING INFORMATION	
Client	East Carolina University
Asset Number	013
Asset Name	Belk Building
Year Built or Last Energy Renovation	2006

BENCHMARKING DATA

The purpose of benchmarking building performance is to determine how well a building performs in comparison to other similar buildings. For this analysis, buildings were assessed based on their primary use (e.g., education, food sales, food service, etc.) and year constructed. Two metrics -- energy use intensity and energy end use -- are presented for the building manager to use to assess how efficiently the building performs compared to similar buildings.

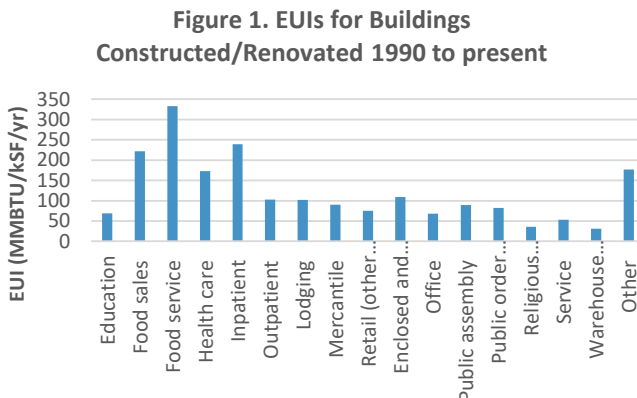
Metric #1: Energy Use Intensity (EUI)

EUI is a measure of energy consumption per square foot of building space per year. The units of measurement are million British thermal units per thousand square foot per year (MMBTU/kSF/yr). The US-DOE EUI can be compared to the actual EUI of the client building to determine how efficient the building is compared to other similar buildings. A building manager can calculate EUI by summing total energy consumption per year (in MMBTU/yr) and dividing it by the building area (in kSF). Benchmarking data from the U.S. Energy Information Administration (EIA) Commercial Building Energy Consumption Survey (CBECS) database was used for this analysis.

Basic information about the building use and the time of the most recent major HVAC or lighting upgrade is provided in **Table 2**. That information is used to determine the Benchmark EUI. The building manager can calculate the Building EUI and compare it to the Benchmark EUI to determine how building efficiency compares to similar buildings (see **Table 3**). In addition, **Figure 1** shows the EUIs of various building types for further comparison.

TABLE 2. BUILDING DETAILS	
FCA Building Type	Classroom
Energy Information Administration Equivalent Building Type	Education
Range of Years Constructed/Last Major Energy Renovation	1990 to present
Benchmark EUI (MMBTU/kSF/yr) =	69
Building EUI to be Calculated by Client (MMBTU/kSF/yr) =	

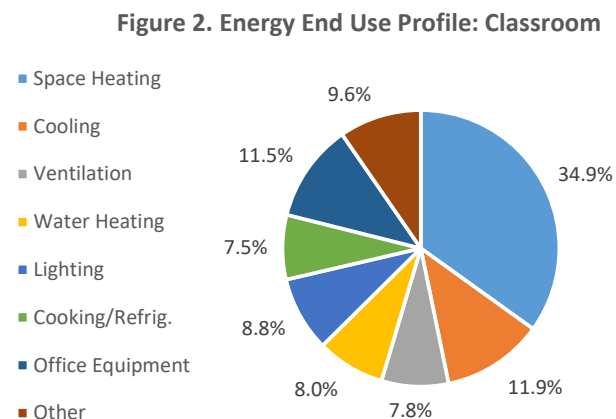
TABLE 3. EUI COMPARISON	
Very Energy Efficient (consumes more than 30% less energy)	EUI < 48.3
Energy Efficient (consumes 10% to 30% less energy)	48.3 <= EUI <= 62.1
Similar (consumes within 10% less or 10% more energy)	62.1 < EUI < 75.9
Energy Inefficient (consumes 10% to 30% more energy)	75.9 <= EUI <= 89.7
Very Energy Inefficient (consumes more than 30% more energy)	EUI > 89.7



Metric #2: Energy End Use

Energy end use data characterizes how energy is used by profiling energy consumption into end use categories such as space heating, cooling, ventilation, lighting, etc. When energy end use data is presented in a pie chart, high energy-consuming activities are readily identified. A building manager can determine the energy end use profile for a building by analyzing trend data from a Building Automation System and/or Energy Management Control System.

TABLE 4. ENERGY END USE PROFILE: CLASSROOM	
Space Heating	34.9%
Cooling	11.9%
Ventilation	7.8%
Water Heating	8.0%
Lighting	8.8%
Cooking/Refrig.	7.5%
Office Equipment	11.5%
Other	9.6%
Total	100.0%



References:

1. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. "Technologies and Products by Category." Efficient Technologies and Products for Federal Facilities. DOE. <http://energy.gov/eere/femp/efficient-technologies-and-products-federal-facilities>. Accessed: June 2016.
2. U.S. Energy Information Administration [EIA]. "2012 CBECS Survey Data." Commercial Building Energy Consumption Survey. EIA. <http://www.eia.gov/consumption/commercial/data/2012/index.cfm?view=consumption#c1-c12>, Accessed: June 2016.

ENERGY CONSERVATION OPPORTUNITIES

This section presents energy conservation measures (ECMs) recommended for further investigation. Recommended ECMs are categorized into one or more cost categories to indicate an approximate level of resources required to implement the ECM. These cost categories are:

Operation and Maintenance Measures (O&M): O&M actions usually (a) can be completed by in-house maintenance personnel and (b) result in an immediate return on investment.

Low-Cost/No-Cost Measures (LC/NC): LC/NC measures typically (a) can be done by in-house personnel, (b) require little to no investment cost, and (c) result in significant energy savings. In other words, LC/NC measures typically have a quick payback period (less than one year).

Capital Improvement Measures (CAP): CAP measures are major capital investments that usually require significant time (i.e., approximately six months to three years) for planning, design, and implementation. Oftentimes, a request for proposal, design/bid/build (D/B/B), and/or design/build (D/B) package is required. The return on investment for CAP projects ranges significantly, varying from a payback period from one to twenty plus years.

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
HVAC - Building Comfort/Tuning	CONDUCT RETROCOMMISSIONING (RCX). RCx the building to identify and address operating deficiencies, optimize HVAC operations, reduce energy bills, and improve occupant comfort.	CAP

