

EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Belk Annex 1

Asset 059

Inspected January 11, 2023



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FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

ASSET CODE 059	CURRENT REPLACEMENT VALUE \$2,873,000
ASSET NAME BELK ANNEX 1	FACILITY CONDITION NEEDS INDEX 0.38
ASSET USE Classroom / Academic	FACILITY CONDITION INDEX 0.07
YEAR BUILT 1976	10-YEAR \$/SF 227.29
GSF 4,800	
INSPECTION DATE 01/11/2023	

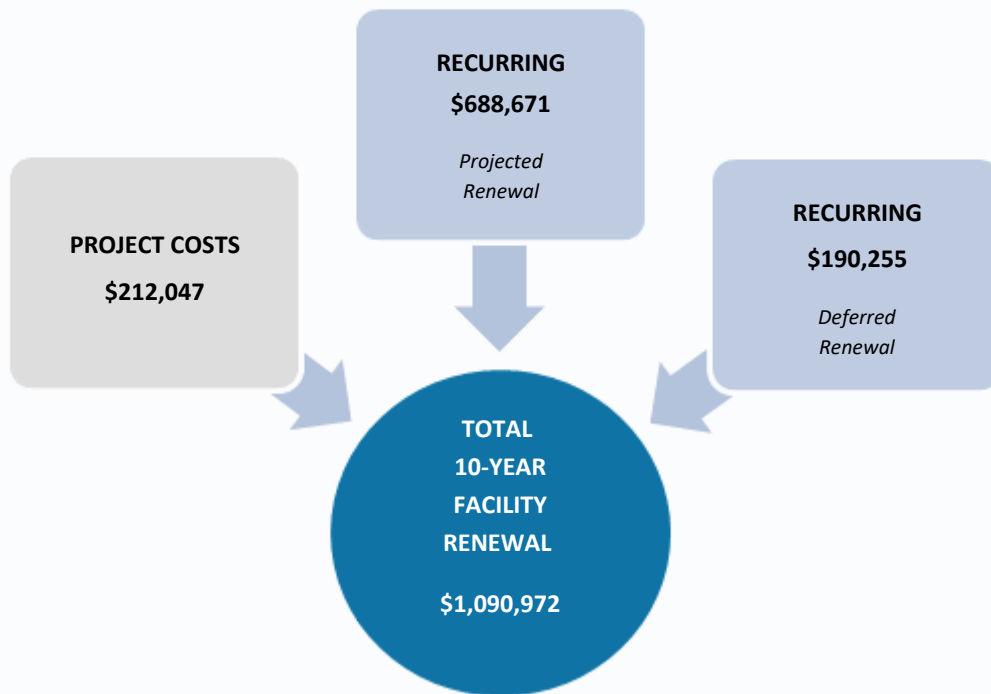
FCNI Scale

The FCNI for this asset is **0.38**

- 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)



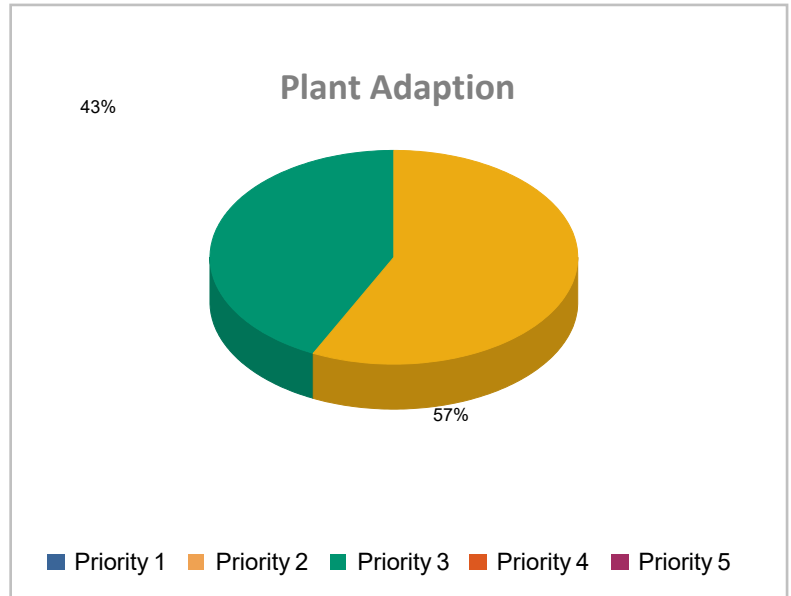
Total Facility Renewal Costs



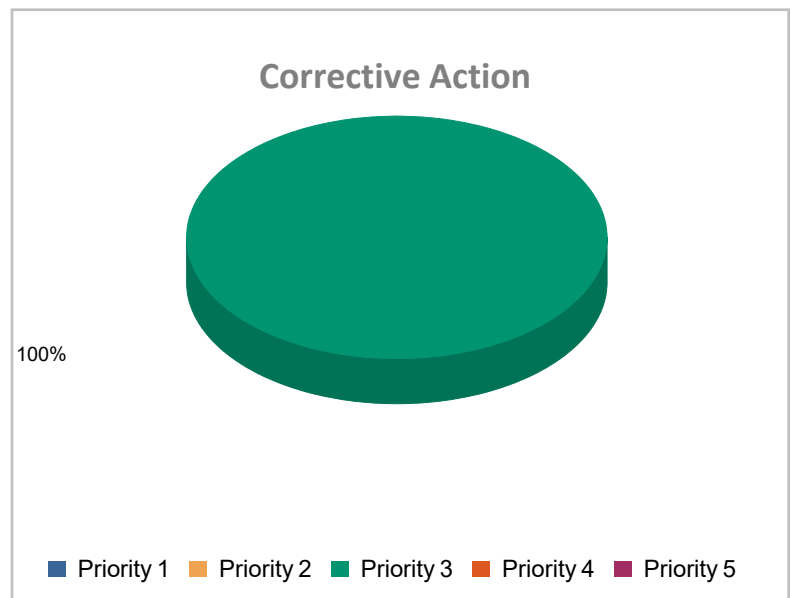
Project Costs

Project Cost by Priority

PLANT ADAPTION	
Priority 1	\$0
Priority 2	\$120,455
Priority 3	\$90,527
Priority 4	\$0
Priority 5	\$0

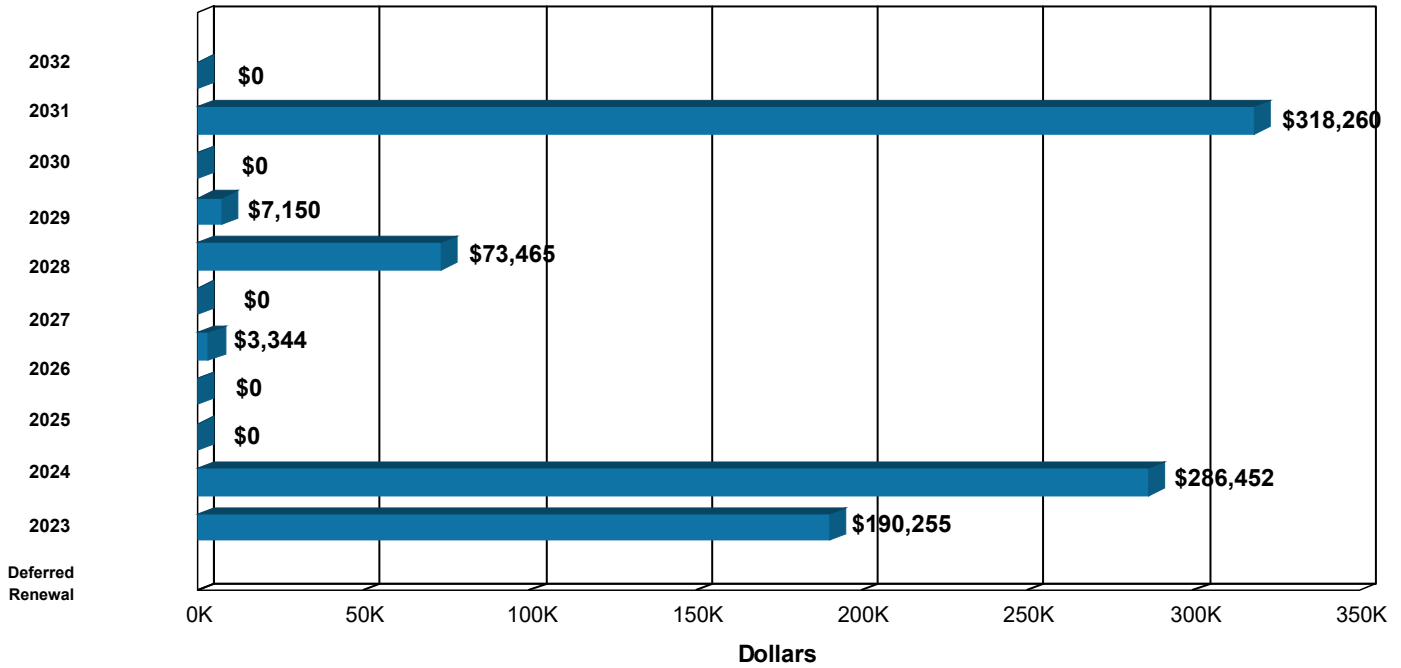


CORRECTIVE ACTION	
Priority 1	\$0
Priority 2	\$0
Priority 3	\$1,065
Priority 4	\$0
Priority 5	\$0

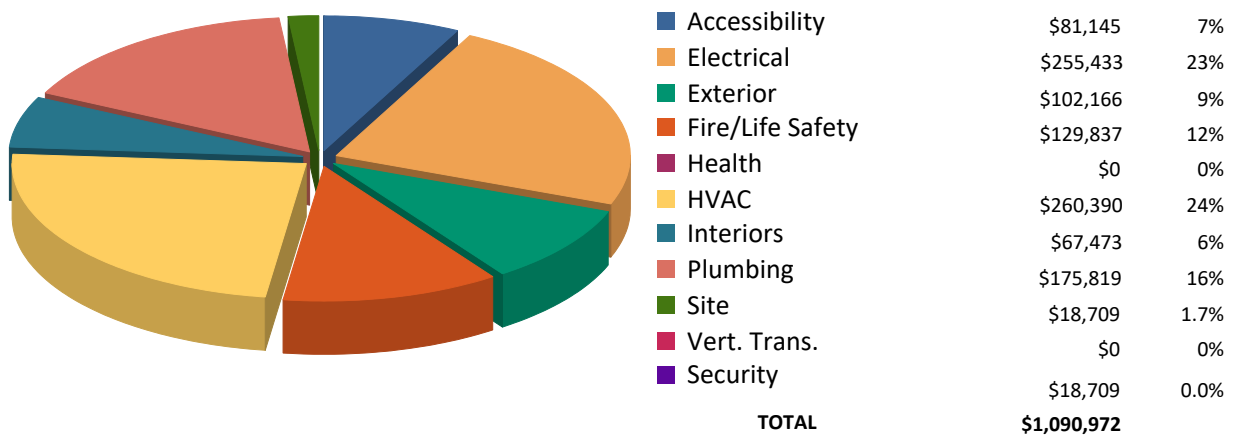


Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



ASSET SUMMARY

Belk Annex 1 at East Carolina University was constructed in 1976. It is a rectangular, single story, concrete panel clad facility with a steel structure. Totalling 4,800 gross square feet, the facility predominately has administrative space.

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

Site

The building sits on a flat site landscaped with ornamental planting beds, shrubbery, specimen trees, and turf. Vehicular access is from the south via Curry Court. A parking lot west of the structure leads to a sidewalk system serving all entrances. Sidewalk joint maintenance is recommended, along with the repair of a crack on the east sidewalk that poses a tripping hazard. The asphalt parking lot also requires striping and sealcoating.

Exterior Structure

The flat roof is a modified bitumen system with internal drains and some small rooftop equipment. Although direct access to the roof could not be made, replacement is recommended due to the roof's documented age provided by East Carolina University and a visual inspection from an adjacent building. Replace the old roofing and flashing with similar applications. The exterior facades have concrete panel cladding with two stationary bands of storefront glazing and storefront at the north and west entries. The concrete panels are in good condition but require routine joint maintenance. The glazing is new and, as are the aluminum storefront and hollow metal doors, and no upgrade is recommended.

Interior Finishes/Systems

Walls are painted gypsum, ceilings are 2x2 acoustical tile, and floors are carpeting and 12x12 vinyl tile. The ceilings are new and should outlast the report scope. The sheet carpet should be replaced late in the next ten years, and the 12x12 vinyl tile is worn and discolored and due for replacement. Routine wall painting should also be conducted within the next ten years, and the older wood doors should be replaced with rated doors.

Accessibility

The accessible route into the building includes a curb ramp without the proper surface. Curb ramps with a compliant grip surface should be installed. Also, the north entry wheelchair ramp does not have a freestanding handrail, and the entrance stair handrail is damaged. The installation of new handrails is recommended. To improve restroom accessibility, the installation of powered door openers is

recommended at each restroom door. The restrooms are otherwise considered accessible. Older doors still have old knob hardware, which should be replaced with compliant lever hardware. The pass-thru service counter does not have a section at wheelchair height. To be ADA compliant, it is recommended that a wheelchair accessible section be provided.

Health

No health issues were observed during the inspection.

Fire/Life Safety

The egress paths are adequate with regard to fire rating. As previously mentioned, this facility does not have rated doors and frames along corridors and into stair towers as required by modern building code. Complete replacement of the door systems and hardware according to a code-compliant plan to properly protect egress passages is recommended. This facility has no central fire alarm or fire suppression system. Dry-chemical fire extinguishers were observed throughout. Central fire suppression is not recommended. However, a central fire alarm system with addressable control panel, detectors, notifiers, and pull stations should be installed.

HVAC

Facility heating and cooling are provided to zones by split systems that utilize natural gas fired furnaces for heat and direct expansion for cooling. The furnaces are equipped with evaporator coils connected to exterior air-cooled condensers. Local programmable electronic thermostats were observed in select areas. The uninsulated metal duct system installed throughout is original. Overall, the system is an adequate design for the type of facility, but the distribution system is aged, and corrosion was observed in mechanical room 116. The mechanical components of the system will reach the end of their reliable service life near the end of this report scope, and the system is recommended for replacement. The rooftop exhaust fan is presumed to provide restroom exhaust and to have been installed in 2008. It is near the end of its service life and recommended for replacement.

Electrical

The 120/240 volt secondary electrical distribution system is original, as is the Square D 350 amp main distribution panelboard in mechanical room 116 and the branch panelboards. Overall, the electrical system is aged, undersized, and should be updated.

Interior lighting is provided by recessed, surface-mounted, and wall mounted fixtures. Some have been retrofitted with LED lamp kits, but aged and inefficient fluorescent T12 lamps remain. The lighting system should be replaced in the next ten years due to age and condition. A modern, energy-efficient system with LED lamps, occupancy sensors, and a daylight control system is recommended.

The exterior lighting is provided by surface-mounted and recessed fixtures with HID and LED lamps. The fixtures are currently serviceable, but the aged HID fixture and recessed lights are recommended for replacement due to age and condition.

Plumbing

Potable water is distributed through insulated copper piping, and sanitary waste and stormwater piping is cast-iron. The supply and drain piping networks are presumed to be original and should be considered for replacement due to age. A relatively new 28 gallon electric potable water heater was observed in room 115. It is in good condition and should remain serviceable beyond the scope of this report. The wall-hung urinal and tankless water closets in the restrooms are aged and not low-flow fixtures. Replacement is recommended. The mop sink is also older and should be replaced. The wall-hung lavatories appear newer and should outlast the report scope.

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
Rob Camperlino	Facility Assessor	Mechanical, Electrical, Plumbing, Energy, Fire/Life Safety, Health
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	81,145	0	0	0	0	0	0	0	0	0	0	0	0	\$81,145
EXTERIOR	0	0	0	102,166	0	0	0	0	0	0	0	0	0	0	\$102,166
INTERIOR	0	0	0	5,246	0	0	0	0	0	0	0	0	62,227	0	\$67,473
PLUMBING	0	0	0	75,693	100,127	0	0	0	0	0	0	0	0	0	\$175,819
HVAC	0	0	0	0	0	0	0	0	0	4,357	0	0	256,033	0	\$260,390
FIRE/LIFE SAFETY	0	39,310	90,527	0	0	0	0	0	0	0	0	0	0	0	\$129,837
ELECTRICAL	0	0	0	0	186,325	0	0	0	0	69,108	0	0	0	0	\$255,433
SITE	0	0	1,065	7,150	0	0	0	3,344	0	0	7,150	0	0	0	\$18,709
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	\$120,455	\$91,592	\$190,255	\$286,452	\$0	\$0	\$3,344	\$0	\$73,465	\$7,150	\$0	\$318,260	\$0	\$1,090,972
TOTAL NONRECURRING PROJECT NEEDS			\$212,047	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS										\$878,926	

CURRENT REPLACEMENT VALUE	\$2,873,000
FACILITY CONDITION NEEDS INDEX	0.38
FACILITY CONDITION INDEX	0.07

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
4,800	\$1,090,972	\$227.29

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	\$81,145	\$0	\$81,145
EXTERIOR	\$0	\$102,166	\$102,166
INTERIOR	\$0	\$67,473	\$67,473
PLUMBING	\$0	\$175,819	\$175,819
HVAC	\$0	\$260,390	\$260,390
FIRE/LIFE SAFETY	\$129,837	\$0	\$129,837
ELECTRICAL	\$0	\$255,433	\$255,433
SITE	\$1,065	\$17,644	\$18,709
VERT. TRANS	\$0	\$0	\$0
HEALTH	\$0	\$0	\$0
TOTALS	\$212,047	\$878,926	\$1,090,972

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
059 EW12	WALL, EXTERIOR, PANEL JOINT RESTORATION	CONCRETE PANEL		ALL ELEVATIONS	B2010	Deferred Renewal	70,287
059 RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	B3010	Deferred Renewal	31,879
059 IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		WAITING RM, HALL	C3020	Deferred Renewal	5,246
059 FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	FLOOR MOUNTED		JAN	D2010	Deferred Renewal	2,158
059 FX10	PLUMBING FIXTURE - URINAL	PORCELAIN, NOT LOW FLOW		MEN'S RR	D2010	Deferred Renewal	2,550
059 FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	PORCELAIN, NOT LOW FLOW		RESTROOMS	D2010	Deferred Renewal	4,691
059 PS02	SUPPLY PIPING SYSTEM - CLASSROOM	COPPER		BUILDING WIDE	D2020	Deferred Renewal	66,294
059 SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT LOT		WEST ELEVATION	G2020	Deferred Renewal	5,655
059 SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	OLD CONC WALK		EAST, NORTH, SOUTH, ELEVATION	G2030	Deferred Renewal	1,495
059 PD02	DRAIN PIPING SYSTEM - CLASSROOM	CAST IRON		BUILDING WIDE	D2030	2023	100,127
059 SE02	ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	120/240 VOLT		BUILDING WIDE	D5010	2023	150,065
059 SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MDP		116	D5010	2023	34,506
059 LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		EXTERIOR	D5020	2023	565
059 LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	WALL, HID		EXTERIOR	D5020	2023	1,190
059 SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	LOT ROADWAY		WEST ELEVATION	G2020	2026	3,045

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
059 SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	NEW CONC WALK		WEST ELEVATION	G2030	2026	299
059 FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	EXHAUST FAN		ROOF	D3040	2028	4,357
059 LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	RECESSED, SURFACE		BUILDING WIDE	D5020	2028	69,108
059 SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT LOT		WEST ELEVATION	G2020	2029	5,655
059 SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	OLD CONC WALK		EAST, NORTH, SOUTH, ELEVATION	G2030	2029	1,495
059 IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	C3010	2031	21,984
059 IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM CARPET		MOST AREAS	C3020	2031	40,243
059 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #4		EXTERIOR	D3030	2031	5,164
059 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #2		EXTERIOR	D3030	2031	5,164
059 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #3		EXTERIOR	D3030	2031	5,164
059 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #1		EXTERIOR	D3030	2031	5,164
059 HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #4		116	D3030	2031	4,115
059 HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #3		116	D3030	2031	4,115
059 HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #2		116	D3030	2031	4,115
059 HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #1		116	D3030	2031	4,115
059 HV02	HVAC DISTRIBUTION NETWORKS - CLASSROOM	METAL DUCT WORK		BUILDING WIDE	D3040	2031	218,918

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
TOTAL							\$878,926

FACILITIES RENEWAL PLAN
NONRECURRING PROJECT COSTS

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
059AC01	BUILDING ENTRY ACCESSIBILITY UPGRADES	B2030	2	Plant Adaption	36,280
059AC02	INSTALL ADA COMPLIANT CURB RAMPS	G2030	2	Plant Adaption	3,944
059AC03	SERVICE COUNTER ACCESSIBILITY UPGRADES	C1010	2	Plant Adaption	1,979
059AC04	INTERIOR DOOR ACCESSIBILITY UPGRADES	C1020	2	Plant Adaption	17,927
059AC05	RESTROOM ACCESSIBILITY UPGRADES	C1020	2	Plant Adaption	21,015
059FS01	INSTALL FIRE ALARM SYSTEM	D5030	2	Plant Adaption	39,310
059FS02	INSTALL RATED INTERIOR DOORS	C1020	3	Plant Adaption	90,527
059SI01	REPAIR CONCRETE SIDEWALK	G2030	3	Corrective Action	1,065
TOTAL					\$212,047

FACILITY CONDITION ASSESSMENT

SECTION 3

NONRECURRING
PROJECT DETAILS

All costs shown as Present Value

INSTALL FIRE ALARM SYSTEM			
Project Number:	059FS01	Category Code:	
Priority Sequence:	1	FS2A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	DETECTION ALARM
Date Basis:	2/13/2023	Element:	GENERAL

Code Application:		Subclass/Savings:	Project Location:
ADAAG	702.1	Not Applicable	Floor-wide: Floor(s) 1
NFPA	1, 101		

Description

Install a modern fire alarm system to serve this facility. Specify a point addressable supervised main fire alarm panel with an annunciator. This includes pull stations, audible and visible alarms, smoke and heat detectors, and an associated wiring network. Install all devices in accordance with current NFPA and ADA requirements. The system should be monitored to report activation or trouble to a receiving station.

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
Smoke and heat detectors, manual pull stations, audible and visual alarms, wiring, conduit, cut and patching materials	SF	4,800	\$2.79	\$13,392	\$1.92	\$9,216	\$22,608
Fire alarm control panel, annunciator, cut and patching materials	EA	1	\$4,997	\$4,997	\$4,420	\$4,420	\$9,417
Base Material/Labor Costs				\$18,389		\$13,636	
Indexed Material/Labor Costs				\$18,518		\$9,722	\$28,240
Construction Mark Up at 20.0%							\$5,648
Original Construction Cost							\$33,888
Date of Original Estimate:	2/13/2023		Inflation			\$0	
Current Year Construction Cost							\$33,888
Professional Fees at 16.0%							\$5,422
TOTAL PROJECT COST							\$39,310

All costs shown as Present Value

BUILDING ENTRY ACCESSIBILITY UPGRADES			
Project Number:	059AC01	Category Code:	
Priority Sequence:	2	AC2A	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	BUILDING ENTRY
Date Basis:	2/13/2023	Element:	GENERAL

Code Application:

Subclass/Savings:

Project Location:

ADAAG

703.1, 309

DOJ1 - Approach & Entrance

Item Only: Floor(s) 1

Description

Current accessibility legislation requires that building entrances be wheelchair accessible. The wheelchair ramp on the east elevation lacks handrails. The installation of a handrails is recommended to comply with ADA standards. Also, the entrance stair handrail is broken and should be replaced.

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
Freestanding handrail system, painted	LF	80	\$149	\$11,954	\$246	\$19,672	\$31,626
Base Material/Labor Costs				\$11,954		\$19,672	
Indexed Material/Labor Costs				\$12,037		\$14,026	\$26,063
Construction Mark Up at 20.0%							\$5,213
Original Construction Cost							\$31,276
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$31,276
Professional Fees at 16.0%							\$5,004
TOTAL PROJECT COST							\$36,280

All costs shown as Present Value

RESTROOM ACCESSIBILITY UPGRADES			
Project Number:	059AC05	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:		Subclass/Savings:	Project Location:
ADAAG	309	DOJ3 - Restrooms	Room Only: Floor(s) 1

Description

The men's and women's restrooms do not have power door operators. It is recommended that power door operators be installed to improve the accessibility.

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	2	\$6,021	\$12,043	\$2,083	\$4,165	\$16,208
Base Material/Labor Costs				\$12,043		\$4,165	
Indexed Material/Labor Costs				\$12,127		\$2,970	\$15,097
Construction Mark Up at 20.0%							\$3,019
Original Construction Cost							\$18,116
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$18,116
Professional Fees at 16.0%							\$2,899
TOTAL PROJECT COST							\$21,015

All costs shown as Present Value

INSTALL ADA COMPLIANT CURB RAMPS			
Project Number:	059AC02	Category Code:	
Priority Sequence:	4	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) 1

Description

The curb ramps do not have a proper gripping surface. Curb ramps with a compliant grip surface should 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	2	\$857	\$1,714	\$776	\$1,553	\$3,267
Base Material/Labor Costs				\$1,714		\$1,553	
Indexed Material/Labor Costs				\$1,726		\$1,107	\$2,833
Construction Mark Up at 20.0%							\$567
Original Construction Cost							\$3,400
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$3,400
Professional Fees at 16.0%							\$544
TOTAL PROJECT COST							\$3,944

All costs shown as Present Value

SERVICE COUNTER ACCESSIBILITY UPGRADES			
Project Number:	059AC03	Category Code:	
Priority Sequence:	5	AC4A	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	GENERAL
Date Basis:	2/13/2023	Element:	FUNCTIONAL SPACE MOD.

Code Application:		Subclass/Savings:	Project Location:
ADAAG	804	DOJ2 - Access to Goods & Services	Item Only: Floor(s) 1

Description

The configuration of the waiting room service counter is a barrier to accessibility. A wheelchair accessible section should be added.

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
ADA compliant service counter	LF	4	\$256	\$1,025	\$137	\$546	\$1,571
Base Material/Labor Costs				\$1,025		\$546	
Indexed Material/Labor Costs				\$1,032		\$390	\$1,421
Construction Mark Up at 20.0%							\$284
Original Construction Cost							\$1,706
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$1,706
Professional Fees at 16.0%							\$273
TOTAL PROJECT COST							\$1,979

All costs shown as Present Value

INTERIOR DOOR ACCESSIBILITY UPGRADES			
Project Number:	059AC04	Category Code:	
Priority Sequence:	6	AC3C	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/13/2023	Element:	DOORS AND HARDWARE

Code Application:		Subclass/Savings:	Project Location:
ADAAG	309.4	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1

Description

Accessibility legislation requires that door hardware be designed for people with little or no ability to grasp objects with their hands. To comply with the intent of this legislation, it is recommended that lever handle hardware be installed on all doors that still have knobs.

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
Lever actuated door hardware	EA	20	\$498	\$9,963	\$200	\$3,991	\$13,954
Base Material/Labor Costs				\$9,963		\$3,991	
Indexed Material/Labor Costs				\$10,033		\$2,846	\$12,879
Construction Mark Up at 20.0%							\$2,576
Original Construction Cost							\$15,454
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$15,454
Professional Fees at 16.0%							\$2,473
TOTAL PROJECT COST							\$17,927

All costs shown as Present Value

INSTALL RATED INTERIOR DOORS			
Project Number:	059FS02	Category Code:	
Priority Sequence:	7	FS5F	
Priority Class:	Low	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	EGRESS PATH
Date Basis:	1/11/2023	Element:	FIRE DOORS/HARDWARE

Code Application:		Subclass/Savings:	Project Location:
IBC	713	Not Applicable	Floor-wide: Floor(s) 1

Description

This facility does not have rated doors and frames along corridors and into stair towers as required by modern building code. Complete replacement of the door systems and hardware according to a code-compliant plan to properly protect egress passages is recommended.

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
Rated door and rated metal frame, including hardware	LEAF	22	\$2,507	\$55,143	\$606	\$13,330	\$68,473
Base Material/Labor Costs				\$55,143		\$13,330	
Indexed Material/Labor Costs				\$55,529		\$9,504	\$65,034
Construction Mark Up at 20.0%							\$13,007
Original Construction Cost							\$78,040
Date of Original Estimate:	1/11/2023					Inflation	\$0
Current Year Construction Cost							\$78,040
Professional Fees at 16.0%							\$12,486
TOTAL PROJECT COST							\$90,527

All costs shown as Present Value

REPAIR CONCRETE SIDEWALK			
Project Number:	059SI01	Category Code:	
Priority Sequence:	8	SI1A	
Priority Class:	Low	System:	SITE
Project Class:	Corrective Action	Component:	ACCESS
Date Basis:	2/13/2023	Element:	PEDESTRIAN

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Item Only: Floor(s) 1

Description

A small portion of the east walkway has settled and created a tripping hazard at one of the joints. It is recommended that this crack be sealed to create an even walking surface and prevent tripping.

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
Repair cracks and seal paved concrete surfaces	LOT	1	\$250	\$250	\$720	\$720	\$970
Base Material/Labor Costs				\$250		\$720	
Indexed Material/Labor Costs				\$252		\$513	\$765
Construction Mark Up at 20.0%							\$153
Original Construction Cost							\$918
Date of Original Estimate:	2/13/2023					Inflation	\$0
Current Year Construction Cost							\$918
Professional Fees at 16.0%							\$147
TOTAL PROJECT COST							\$1,065

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
EW12	WALL, EXTERIOR, PANEL JOINT RESTORATION	CONCRETE PANEL		ALL ELEVATIONS	3,030	SF	1.00	\$70,287	1976	25	16	DR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	STATIONARY STOREFRONT		EAST & WEST ELEVATION	410	SF	1.00	\$75,552	2019	40		2059
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	HM, W/ VISION GLASS		EAST ELEVATION	1	LEAF	1.00	\$2,445	2019	40		2059
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	HM		EAST ELEVATION	1	LEAF	1.00	\$2,445	2019	40		2059
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM, NO OPERATOR		NORTH ELEVATION	1	LEAF	1.00	\$4,514	2019	25		2044
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM		NORTH & WEST ELEV	2	LEAF	1.00	\$9,028	2019	25		2044
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	ANOD ALUM, OPERATOR		WEST ELEVATION	1	LEAF	1.00	\$4,514	2019	25		2044
DR28	DOOR OPERATOR, POWER-ASSIST	ANOD ALUM DR		WEST ELEVATION	1	EA	1.00	\$10,508	2019	20		2039
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	4,800	SF	1.09	\$31,879	1999	20	3	DR
IW14	TOILET PARTITION WITH ACCESSORIES	GRAY PLASTIC		RESTROOMS	2	SYS	1.00	\$6,271	2019	20		2039
DR24	DOOR LOCK, COMMERCIAL-GRADE	WOOD & GLASS DR, PUSH		SPEECH CLINIC	1	EA	1.00	\$896	2019	20		2039
DR24	DOOR LOCK, COMMERCIAL-GRADE	HM		EAST ELEVATION	1	EA	1.00	\$896	2019	20		2039
DR26	DOOR PANIC HARDWARE	HM VISION GLASS		EAST ELEVATION	1	EA	1.00	\$1,467	2019	20		2039
DR26	DOOR PANIC HARDWARE	ANOD ALUM DR		NORTH ELEVATION	1	EA	1.00	\$1,467	2019	20		2039
DR26	DOOR PANIC HARDWARE	ANOD ALUM		NORTH & WEST ELEV	2	EA	1.00	\$2,933	2019	20		2039

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
DR26	DOOR PANIC HARDWARE	ANOD ALUM DR		WEST ELEVATION	1	EA	1.00	\$1,467	2019	20		2039
IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	8,160	SF	1.00	\$21,984	2019	12		2031
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM CARPET		MOST AREAS	2,730	SF	1.00	\$40,243	2019	12		2031
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		WAITING RM, HALL	680	SF	1.00	\$5,246	1976	20	26	DR
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	2X2 ACOUSTIC TILE		ALL AREAS	3,410	SF	1.00	\$41,427	2019	30		2049
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PORCELAIN, LEVER		RESTROOMS	2	EA	1.00	\$3,203	2019	35		2054
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	FLOOR MOUNTED		JAN	1	EA	1.00	\$2,158	1976	35	11	DR
FX10	PLUMBING FIXTURE - URINAL	PORCELAIN, NOT LOW FLOW		MEN'S RR	1	EA	1.00	\$2,550	1976	35	11	DR
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	PORCELAIN, NOT LOW FLOW		RESTROOMS	2	EA	1.00	\$4,691	1976	35	11	DR
PS02	SUPPLY PIPING SYSTEM - CLASSROOM	COPPER		BUILDING WIDE	4,800	SF	1.18	\$66,294	1976	35	8	DR
WH11	WATER HEATER - COMMERCIAL, ELECTRIC (<=30 GAL)	AO SMITH		115	28	GAL	1.00	\$28,421	2019	20		2039
PD02	DRAIN PIPING SYSTEM - CLASSROOM	CAST IRON		BUILDING WIDE	4,800	SF	1.18	\$100,127	1976	40	7	2023
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #4		EXTERIOR	2	TON	1.00	\$5,164	2014	23	-6	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #2		EXTERIOR	2	TON	1.00	\$5,164	2014	23	-6	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #3		EXTERIOR	2	TON	1.00	\$5,164	2014	23	-6	2031

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
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #1		EXTERIOR	2	TON	1.00	\$5,164	2014	23	-6	2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #4		116	45	MBH	1.00	\$4,115	2014	17		2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #3		116	45	MBH	1.00	\$4,115	2014	17		2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #2		116	45	MBH	1.00	\$4,115	2014	17		2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #1		116	45	MBH	1.00	\$4,115	2014	17		2031
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	EXHAUST FAN		ROOF	1	EA	1.00	\$4,357	2008	20		2028
HV02	HVAC DISTRIBUTION NETWORKS - CLASSROOM	METAL DUCT WORK		BUILDING WIDE	4,800	SF	1.18	\$218,918	1976	40	15	2031
SE02	ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	120/240 VOLT		BUILDING WIDE	4,800	SF	1.18	\$150,065	1976	40	7	2023
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MDP		116	350	AMP	1.00	\$34,506	1976	20	27	2023
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		EXTERIOR	2	EA	1.00	\$565	2008	15		2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	WALL, HID		EXTERIOR	1	EA	1.00	\$1,190	2008	15		2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	WALL, LED		EXTERIOR	3	EA	1.00	\$3,570	2019	15		2034
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	RECESSED, SURFACE		BUILDING WIDE	4,800	SF	1.18	\$69,108	2008	20		2028
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT LOT		WEST ELEVATION	1,300	SY	1.00	\$5,655	2005	7	10	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	LOT ROADWAY		WEST ELEVATION	700	SY	1.00	\$3,045	2019	7		2026

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
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	OLD CONC WALK		EAST, NORTH, SOUTH, ELEVATION	250	LF	1.00	\$1,495	2005	7	10	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	NEW CONC WALK		WEST ELEVATION	50	LF	1.00	\$299	2019	7		2026
Grand Total:								\$1,072,800				

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
EW12	WALL, EXTERIOR, PANEL JOINT RESTORATION	CONCRETE PANEL		ALL ELEVATIONS	B2010	3,030	SF	\$70,287	DR
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	B3010	4,800	SF	\$31,879	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12		WAITING RM, HALL	C3020	680	SF	\$5,246	DR
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	FLOOR MOUNTED		JAN	D2010	1	EA	\$2,158	DR
FX10	PLUMBING FIXTURE - URINAL	PORCELAIN, NOT LOW FLOW		MEN'S RR	D2010	1	EA	\$2,550	DR
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	PORCELAIN, NOT LOW FLOW		RESTROOMS	D2010	2	EA	\$4,691	DR
PS02	SUPPLY PIPING SYSTEM - CLASSROOM	COPPER		BUILDING WIDE	D2020	4,800	SF	\$66,294	DR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT LOT		WEST ELEVATION	G2020	1,300	SY	\$5,655	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	OLD CONC WALK		EAST, NORTH, SOUTH, ELEVATION	G2030	250	LF	\$1,495	DR
TOTAL DEFERRED RENEWAL COST								\$190,255	

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
PD02	DRAIN PIPING SYSTEM - CLASSROOM	CAST IRON		BUILDING WIDE	D2030	4,800	SF	\$100,127	2023
SE02	ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM	120/240 VOLT		BUILDING WIDE	D5010	4,800	SF	\$150,065	2023
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MDP		116	D5010	350	AMP	\$34,506	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	WALL, HID		EXTERIOR	D5020	1	EA	\$1,190	2023
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		EXTERIOR	D5020	2	EA	\$565	2023
2023 PROJECTED COMPONENT REPLACEMENT COST								\$286,452	

No Projected Component Replacement Cost for Asset No. 059 for 2024

RECURRING NEEDS BY YEAR

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

No Projected Component Replacement Cost for Asset No. 059 for 2025

2026									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	LOT ROADWAY		WEST ELEVATION	G2020	700	SY	\$3,327	2026
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	NEW CONC WALK		WEST ELEVATION	G2030	50	LF	\$327	2026
2026 PROJECTED COMPONENT REPLACEMENT COST								\$3,654	

No Projected Component Replacement Cost for Asset No. 059 for 2027

RECURRING NEEDS BY YEAR

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

2028									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	EXHAUST FAN		ROOF	D3040	1	EA	\$5,051	2028
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	RECESSED, SURFACE		BUILDING WIDE	D5020	4,800	SF	\$80,115	2028
2028 PROJECTED COMPONENT REPLACEMENT COST								\$85,166	

No Projected Component Replacement Cost for Asset No. 059 for 2029

No Projected Component Replacement Cost for Asset No. 059 for 2030

RECURRING NEEDS BY YEAR

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

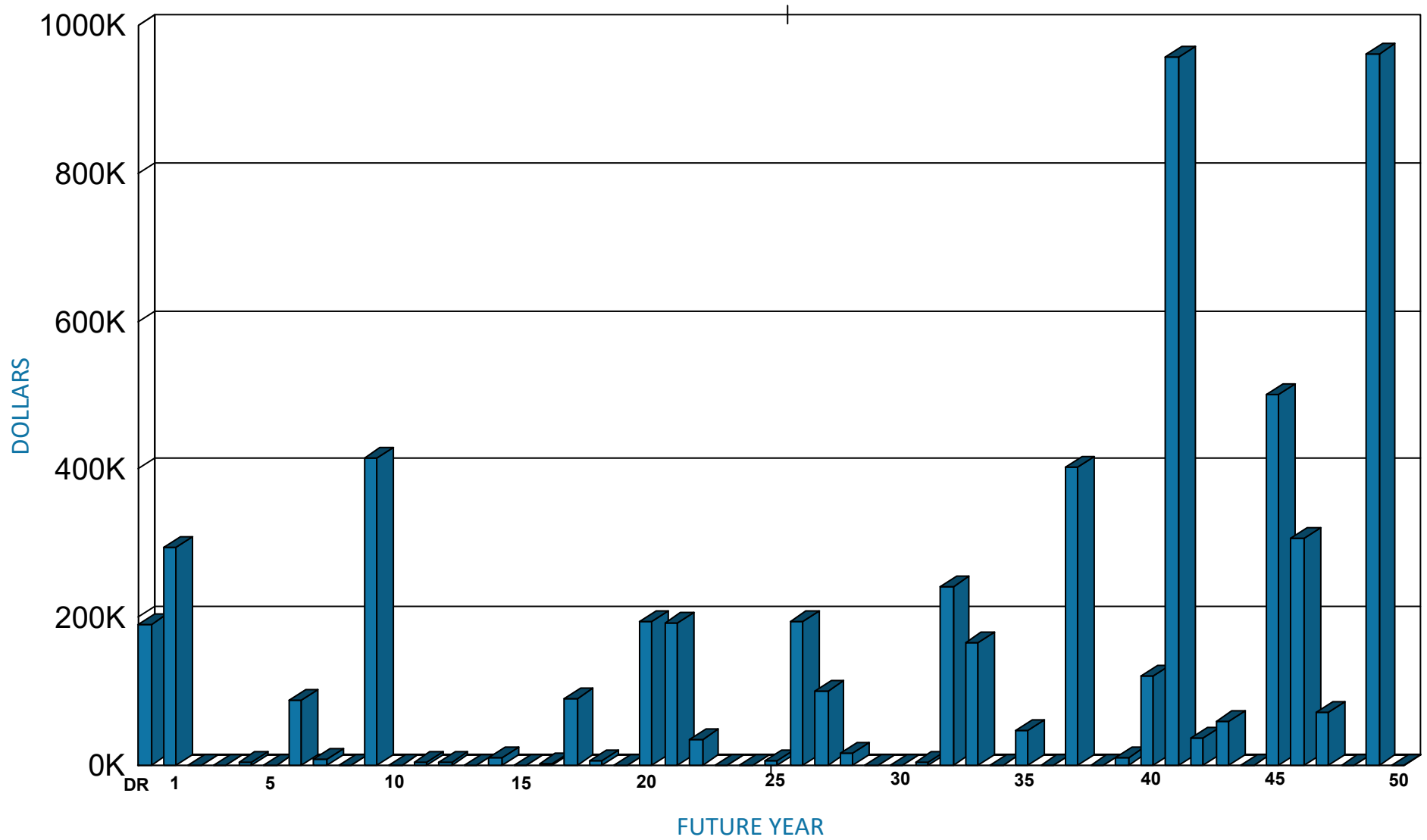
2031									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		ALL AREAS	C3010	8,160	SF	\$27,849	2031
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	LOOM CARPET		MOST AREAS	C3020	2,730	SF	\$50,978	2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #4		116	D3030	45	MBH	\$5,213	2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #3		116	D3030	45	MBH	\$5,213	2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #2		116	D3030	45	MBH	\$5,213	2031
HU14	EVAPORATOR UNIT, NATURAL GAS HEAT (<=45 MBH)	FURNACE #1		116	D3030	45	MBH	\$5,213	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #4		EXTERIOR	D3030	2	TON	\$6,541	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #2		EXTERIOR	D3030	2	TON	\$6,541	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #3		EXTERIOR	D3030	2	TON	\$6,541	2031
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	COND UNIT #1		EXTERIOR	D3030	2	TON	\$6,541	2031
HV02	HVAC DISTRIBUTION NETWORKS - CLASSROOM	METAL DUCT WORK		BUILDING WIDE	D3040	4,800	SF	\$277,318	2031
2031 PROJECTED COMPONENT REPLACEMENT COST								\$403,163	

RECURRING NEEDS BY YEAR

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

No Projected Component Replacement Cost for Asset No. 059 for 2032

RECURRING COMPONENT EXPENDITURE PROJECTIONS

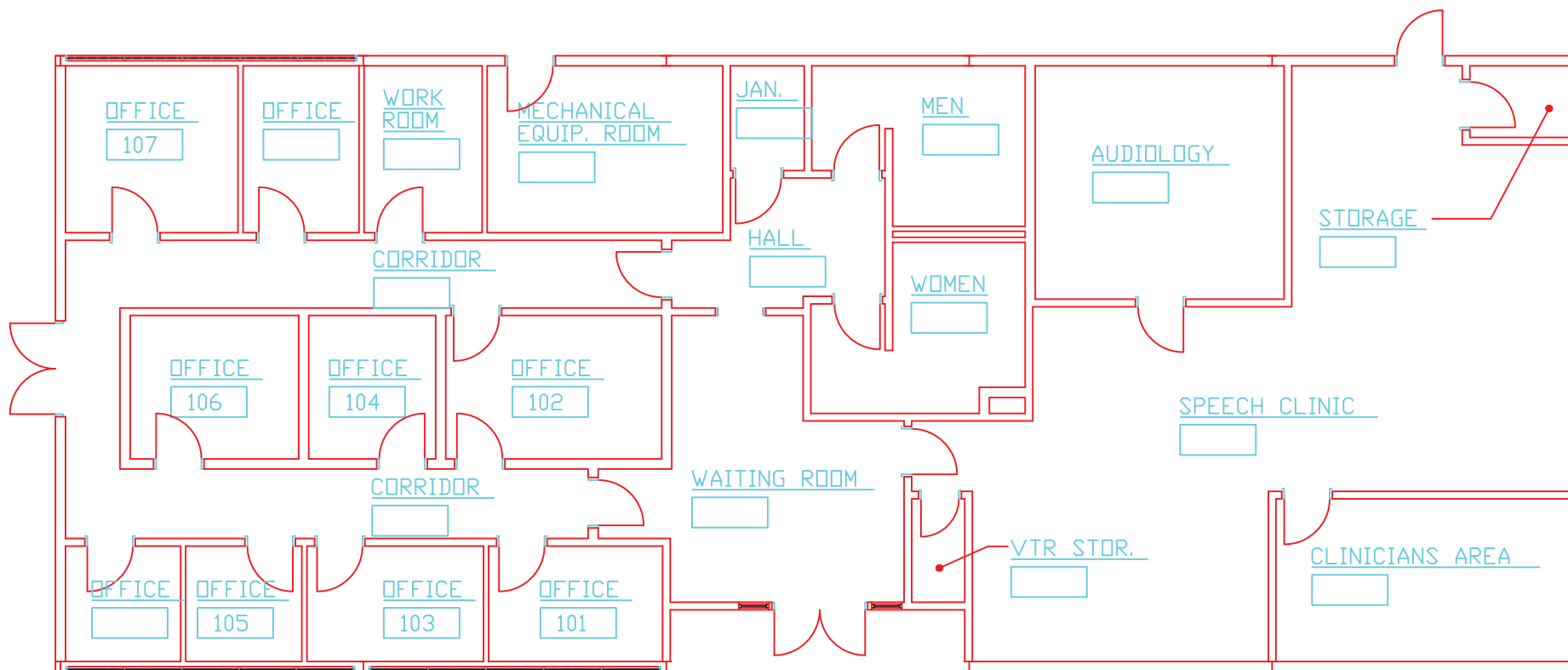


Average Annual Renewal Cost per SF \$9.98

FACILITY CONDITION ASSESSMENT

SECTION 5

DRAWINGS



FACILITY CONDITION ASSESSMENT

SECTION 6

PHOTOGRAPHS



059001a 1/11/2023
Modified bitumen roof
Roof



059001e 1/11/2023
Furnace vent stack and rooftop exhaust fan
Roof



059002a 1/11/2023
Anodized aluminum door with operator
Waiting room



059002e 1/11/2023
2x4 recessed lighting with LED retrofit
Waiting room



059003a 1/11/2023
Dual-height water fountains
Waiting room



059003e 1/11/2023
HVAC distribution supply/return vent
Waiting room



059004a 1/11/2023
Pass-through transaction window
Waiting room



059004e 1/11/2023
Surface-mounted light fixture with T12 fluorescent lamp
Waiting room



059005a 1/11/2023
Exterior window
Room 101



059005e 1/11/2023
Aged, surface-mounted light fixtures
Corridor



059006a 1/11/2023
Nonrated wood door with knob hardware
Room 102



059006e 1/11/2023
2x4 recessed lighting with LED retrofit
Office 101



059007a 1/11/2023
Typical corridor, with painted walls, carpeting, lay-in
acoustical tile ceiling
Corridor



059007e 1/11/2023
Typical secondary electric power outlet
Office 101



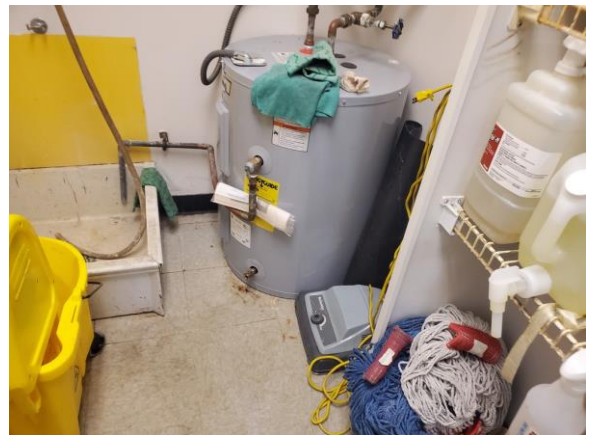
059008a 1/11/2023
Typical office, with painted walls, carpeting, lay-in
acoustical tile ceiling
Room 107



059008e 1/11/2023
Dry chemical fire extinguisher
Corridor



059009a 1/11/2023
Exit doors with old style panic hardware
Corridor



059009e 1/11/2023
Electric domestic water heater
Custodial room 115



059010a 1/11/2023
Mop sink
Custodial room 115



059010e 1/11/2023
Copper supply piping
Custodial room 115



059011a 1/11/2023
Wall-mounted lavatory
Men's restroom 113



059011e 1/11/2023
Interior lighting and HVAC diffuser
Women's restroom 114



059012a 1/11/2023
Wall-mounted urinal
Men's restroom 113



059012e 1/11/2023
Digital thermostat
Room 120



059013a 1/11/2023
Tankless toilet
Men's restroom 113



059013e 1/11/2023
Natural gas meter and regulating valve
Exterior



059014a 1/11/2023
Toilet partitions
Women's restroom 114



059014e 1/11/2023
Aged electromechanical HVAC equipment starters
Mechanical room 116



059015a 1/11/2023
Tankless toilet
Women's restroom 114



059015e 1/11/2023
Furnace and evaporator coil system #4
Mechanical room 116



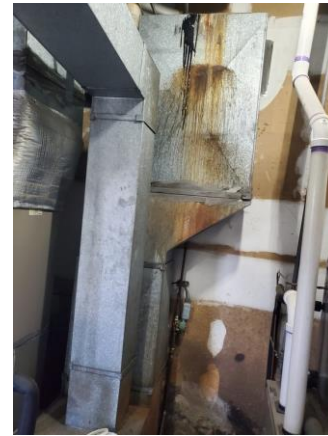
059016a 1/11/2023
Wall-mounted lavatory
Women's restroom 114



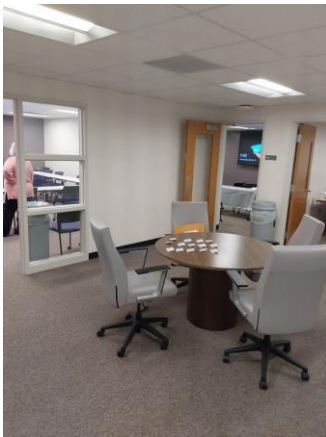
059016e 1/11/2023
Corroded metal ductwork
Mechanical room 116



059017a 1/11/2023
Corridor door with glass and exit signage
Speech clinic



059017e 1/11/2023
Aged metal ductwork
Mechanical room 116



059018a 1/11/2023
Carpeting, painted walls, lay-in acoustical tile ceiling,
wood doors
Speech clinic



059018e 1/11/2023
Furnace and evaporator coil system #3
Mechanical room 116



059019a 1/11/2023
Exit door with signage and panic hardware
North exit



059019e 1/11/2023
120/240 volt, 350 amp main electrical panel
Mechanical room 116



059020a 1/11/2023
Vinyl tile floor
Room 120A



059020e 1/11/2023
Air-cooled condensers
Exterior



059021a 1/11/2023
Broken exterior entrance stair railing
West site



059021e 1/11/2023
Corroded disconnect housing
Exterior



059022a 1/11/2023
Wheelchair ramp without handrail
West site



059022e 1/11/2023
Aged surface-mounted exterior light with HID lamp
Exterior



059023a 1/11/2023
Concrete panel facade and glazing
West elevation



059023e 1/11/2023
Updated exterior lighting with LED lamps
North elevation



059024a 1/11/2023
Concrete panel facade and exterior glass and aluminum door
North elevation



059024e 1/11/2023
Aged recessed light fixture
Exterior



059025a 1/11/2023
Concrete panel facade, glass and aluminum exterior door,
and louver
East elevation



059026a 1/11/2023
Painted metal door and canopy
East elevation



059027a 1/11/2023
Painted metal door and louver
East elevation



059028a 1/11/2023
Curb bump safety hazard
East 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	059
Asset Name	Belk Annex 1
Year Built or Last Energy Renovation	1976

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.

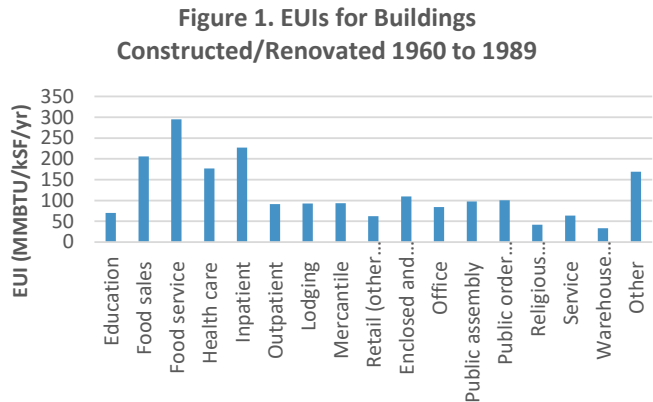
Metric #1: Energy Use Intensity (EUI)

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	1960 to 1989
Benchmark EUI (MMBTU/kSF/yr) =	70.1
Building EUI to be Calculated by Client (MMBTU/kSF/yr) =	

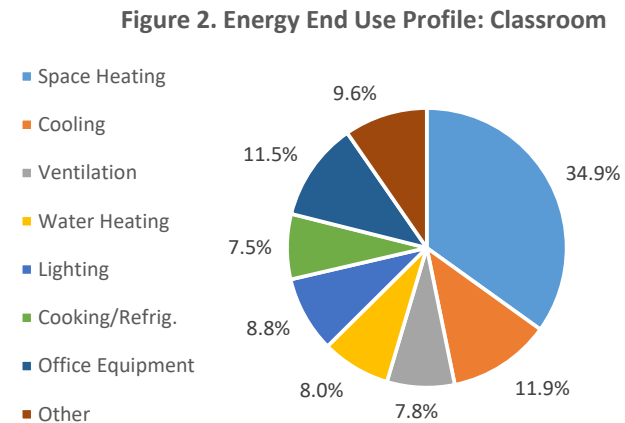
TABLE 3. EUI COMPARISON	
Very Energy Efficient (consumes more than 30% less energy)	EUI < 49.1
Energy Efficient (consumes 10% to 30% less energy)	49.1 <= EUI <= 63.1
Similar (consumes within 10% less or 10% more energy)	63.1 < EUI < 77.1
Energy Inefficient (consumes 10% to 30% more energy)	77.1 <= EUI <= 91.1
Very Energy Inefficient (consumes more than 30% more energy)	EUI > 91.1



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
Lighting - Interior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high bay, T5 lighting fixtures or LED fixtures should be considered as an alternate. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as T8, T5, or LED lamp fixtures.	N/A, Varies
Lighting - Interior, Controls	INSTALL LIGHTING CONTROLS. Oftentimes, lighting fixtures on switches do not get turned off when a space is unoccupied. Occupancy sensors, photocell sensors, and lighting control systems can help reduce lighting energy consumption. For example, consider installing occupancy sensors in offices, common areas, and other areas that have variable occupancy. In areas where there is natural lighting, consider using photocell sensors to dim or shut off fixtures that aren't needed. Alternatively, install a comprehensive light control system that uses time clock schedules, occupancy sensors, photocell sensors, etc., to monitor and control lighting throughout an entire building.	N/A, Varies
Lighting - Exterior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high intensity T5 or LED fixtures should be considered. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as high intensity fluorescent or LED lamp fixtures.	N/A, Varies
Lighting - Exterior, Controls	INSTALL LIGHTING CONTROLS. Consider using photocell sensors or timeclocks to shut off building/parking lot fixtures during daylight hours.	N/A, Varies
HVAC - Air Dist. Network Insulation	INSULATE DUCTWORK. Insulating HVAC ductwork reduces heat loss and decreases energy consumption.	CAP

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
HVAC - Unitary Equipment	INSTALL EFFICIENT UNITARY EQUIPMENT. Consider replacing the existing equipment with FEMP recommended/ENERGY STAR qualified unitary equipment.	LC/NC; CAP
Plumbing - Water Closets	INSTALL LOW-FLOW FLUSH VALVES/NEW WATER CLOSETS. WaterSense labeled water closets save water and reduce the energy required to pump water.	LC/NC; CAP
Plumbing - Urinals	INSTALL LOW-FLOW URINALS. WaterSense labeled urinals save water and reduce the energy required to pump water.	LC/NC; CAP