

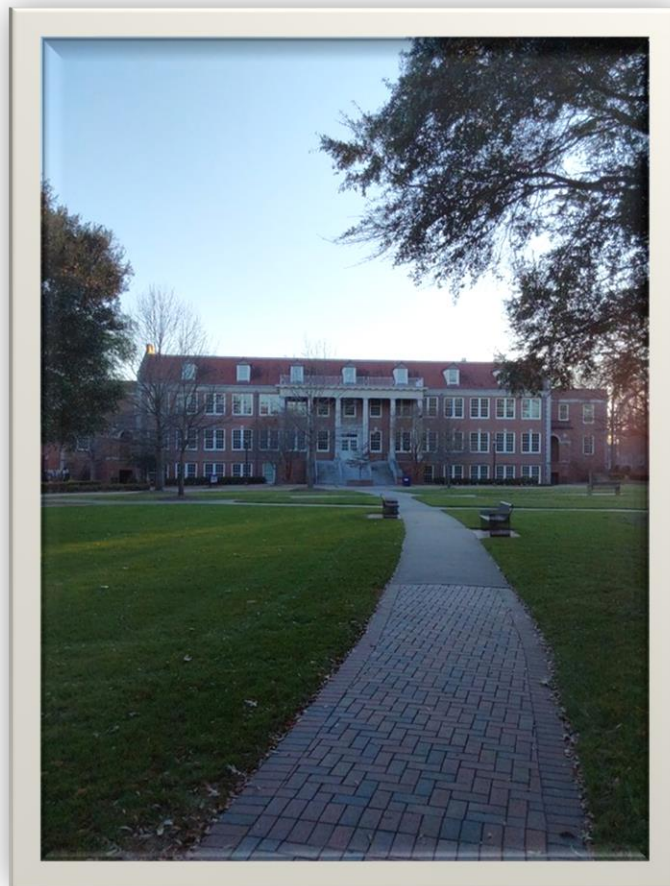
# EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Flanagan Building

Asset 002

Inspected January 9, 2023





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# FACILITY CONDITION ASSESSMENT

## SECTION 1

### ASSET OVERVIEW



## ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

|                                       |   |
|---------------------------------------|---|
| <b>ASSET CODE</b> 002                 | <b>CURRENT REPLACEMENT VALUE</b> \$48,142,000 |
| <b>ASSET NAME</b> FLANAGAN BUILDING   | <b>FACILITY CONDITION NEEDS INDEX</b> 0.14    |
| <b>ASSET USE</b> Classroom / Academic | <b>FACILITY CONDITION INDEX</b> 0.01          |
| <b>YEAR BUILT</b> 1939                | <b>10-YEAR \$/SF</b> 67.47                    |
| <b>GSF</b> 100,342                    |   |
| <b>INSPECTION DATE</b> 01/09/2023     |   |

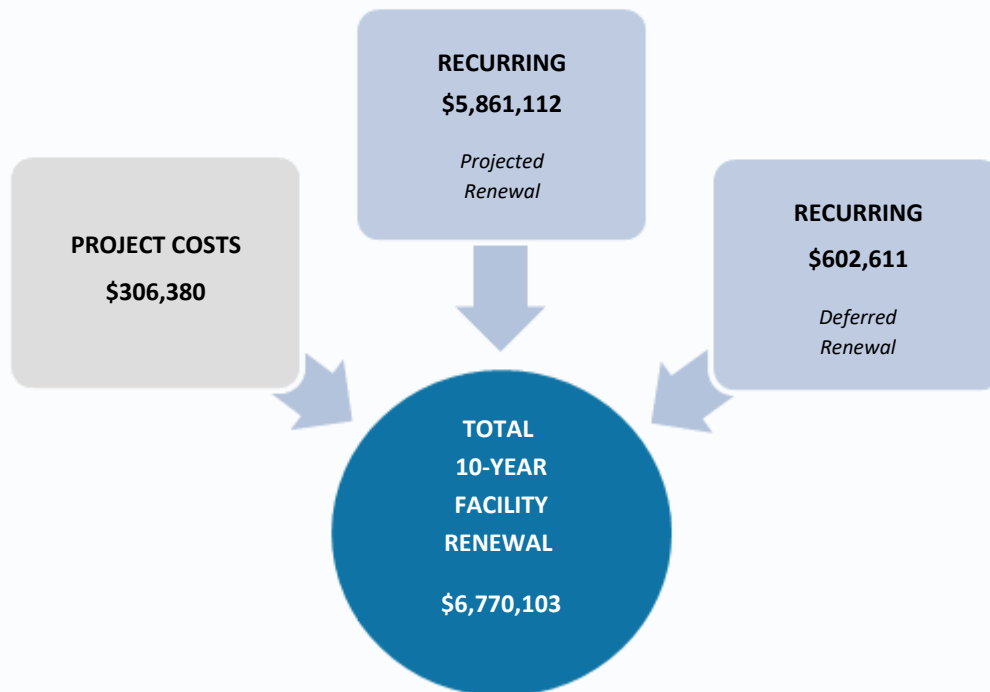
### FCNI Scale

The FCNI for this asset is **0.14**

- 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)



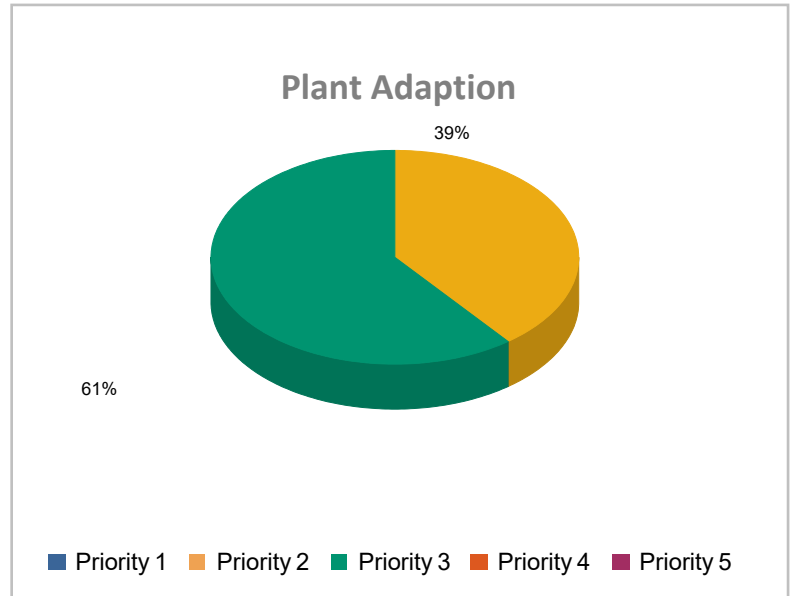
### Total Facility Renewal Costs



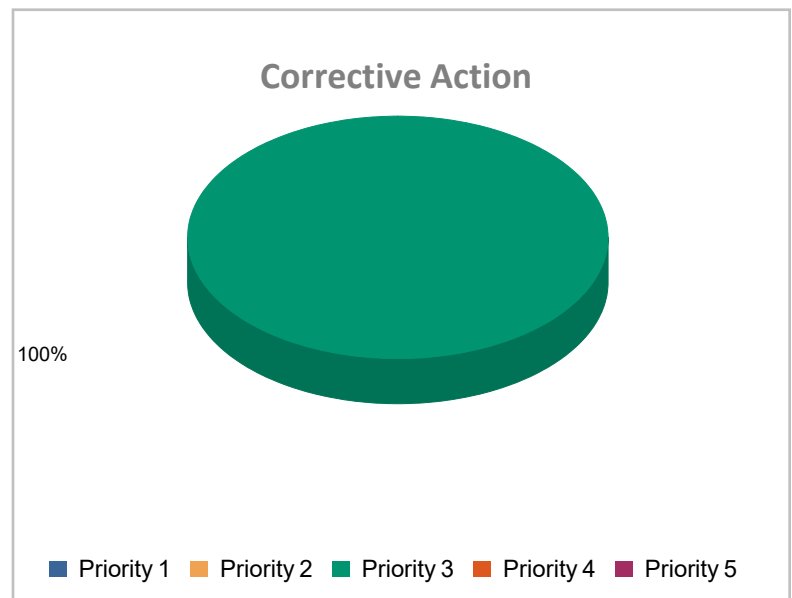
## Project Costs

### Project Cost by Priority

| PLANT ADAPTION |           |
|----------------|-----------|
| Priority 1     | \$0       |
| Priority 2     | \$91,870  |
| Priority 3     | \$140,953 |
| Priority 4     | \$0       |
| Priority 5     | \$0       |



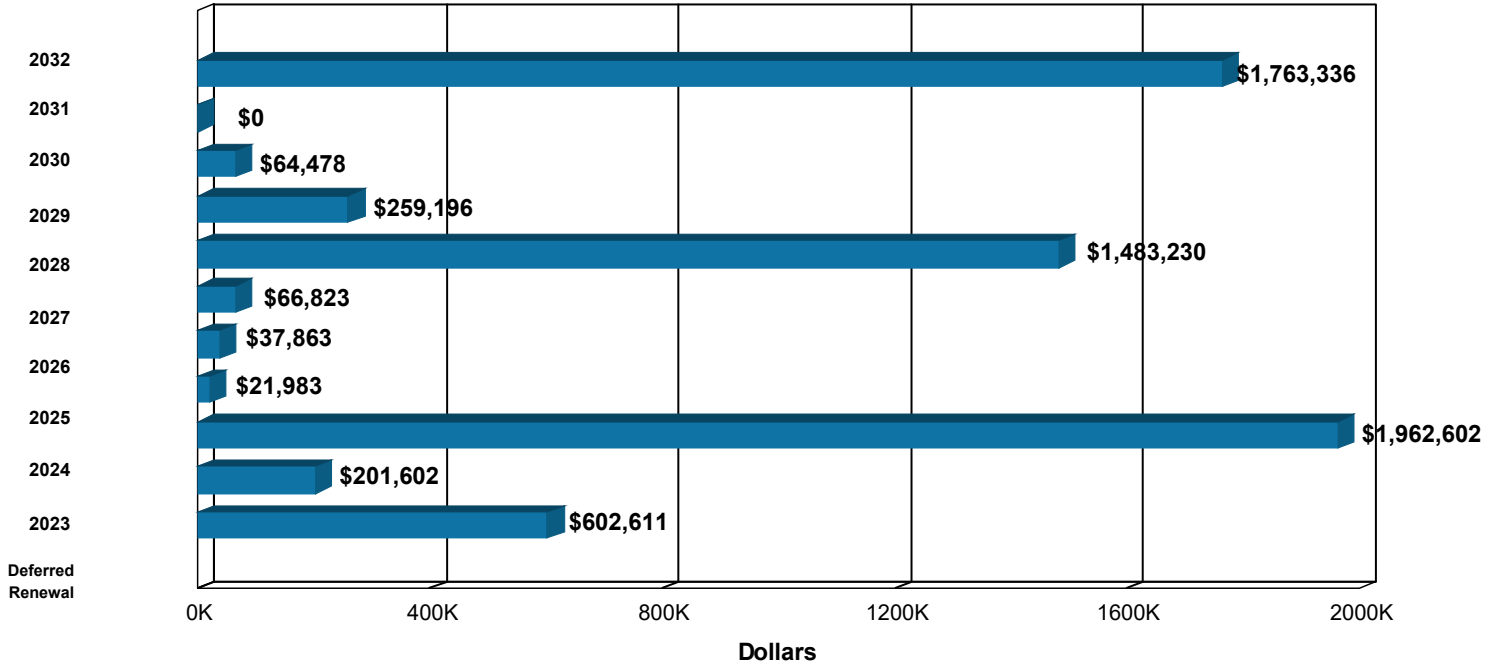
| CORRECTIVE ACTION |          |
|-------------------|----------|
| Priority 1        | \$0      |
| Priority 2        | \$0      |
| Priority 3        | \$73,557 |
| Priority 4        | \$0      |
| Priority 5        | \$0      |



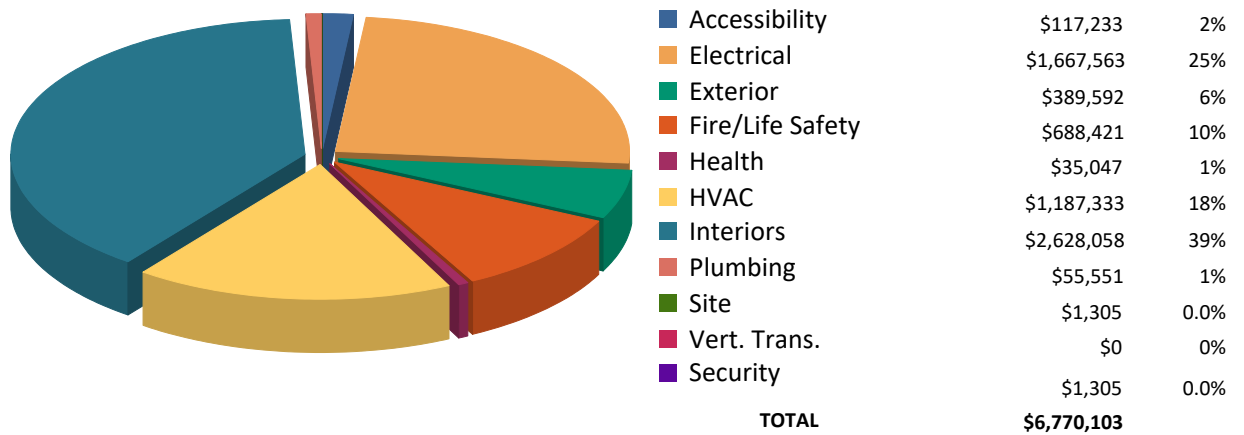


## Recurring Costs

Component Replacement Cost by Year



## Facilities Renewal Cost by System





## ASSET SUMMARY

Built in 1939 as a U-shaped three-story academic building, the Edward G. Flanagan building underwent a renovation in 2004, and an addition of a south wing in 2008. With a square footage of 100,342, the building consists of classroom and lab spaces with a steel structure and brick and stone cladding. The building is situated on the north end of the East Carolina University campus.

The information for this report was gathered during an inspection conducted on January 9, 2023.

### Site

The site is in overall good condition with ornamental trees, shrubbery, and surrounding pedestrian pavement that is free of damage. The parking lot on the east elevation is due for sealcoating and restriping.

### Exterior Structure

The overall condition of the exterior is fair, with minor repairs and cleaning, updates to accessibility, and a partial new roof needed on the older north, east, and west wings.

The modified bitumen roof on the older portion of the building shows a loss of aggregate as well as blistering on multiple areas. This roof should be replaced in the next year and the newer modified bitumen roof should be replaced in five years. The north terracotta tile portion of the roof is in good condition and should outlast the scope of this report. The gutter system for the modified bitumen portion of the roof is also due to be replaced within ten years. The lightning systems on the roofs should outlast the scope of this report.

The brick shows signs of cracking near the roof gutters on the southern wing. The brick joints on the walls of the tile roof are also showing signs of deterioration. Replacement of damaged bricks and repointing is recommended to restore the exterior brick. Additionally, multiple areas on the brick, stone, and concrete panels show signs of efflorescence and other deposits. It is recommended that these surfaces be given a light chemical treatment and power washed to restore their appearance.

It is recommended that all of the hollow-metal doors undergo cyclical painting. The exterior decorative aluminum muntin glass doors will need replacement within ten years. The dormers and louvers on the tile roof will also need to be repainted to restore their appearance. All of the exterior hardware will need to be replaced within ten years. Although the loading dock door does not require replacement at this time, the pads are overdue for replacement.

## Interior Finishes/Systems

The interior floors consist mainly of 12x12 vinyl tile with some carpet in break rooms and office spaces, ceramic tile in the restrooms, and an applied epoxy finish in lab and lecture spaces. The carpet and vinyl tile will need replacement within ten years, as will the ceramic tile in the north wing restrooms. The epoxy flooring is due for reapplication in the lecture areas and labs.

The ceilings are either suspended acoustical tile or painted gypsum. The older suspended acoustical tile ceilings in the north, east, and west wings will need to be replaced within ten years. The painted ceilings will also need to be repainted within five to ten years. The walls consist of painted gypsum with the lower half of the corridors covered in a vinyl protective covering. The painted walls are due for cyclical painting this year and the wall coverings will be due for replacement in two to five years. There is also a small amount of acoustical wall panels in the assembly areas that will be due for maintenance within ten years.

All of the interior doors appear to be fire rated as appropriate and are in good condition. However, a portion of the doors on the stair towers lack panic hardware and are addressed further in the Fire/Life Safety section. The interior door hardware will need to be replaced in ten years, including the interior and exterior powered door openers. The lab casework and lecture seating are both in good condition and should outlast the report scope. However, the casework in the break rooms throughout the building will be due for replacement within ten years. The restroom partitions will also need to be replaced within the scope of this report.

## Accessibility

The monumental entry stair on the north elevation exceeds the allowable width without freestanding railing in the center. It is recommended that freestanding rails be installed in addition to the existing railing. Additionally, the northwest and northeast entry stairs do not have compliant outboard and wall railings. It is recommended that new compliant railing be installed. Also, the curb ramps leading to the accessible entry on the east parking lot of the building do not have a nonslip surface and contain cracks. New ADA-compliant curb ramps should be installed.

The lecture classrooms do not have any indication of assisted listening devices. The installation of an inductive loop or infrared system is recommended.

Restroom door hardware may have too hard of a pull to operate at what is required by Accessibility legislation. It is recommended that all restrooms with accessible fixtures have a powered door opener installed.

## Health

This facility has three walk-in freezer/refrigerator on the first, second, and third floors. The refrigeration equipment is on the roof. The walk-in structures are in good condition but the refrigeration system

condensers have developed minor fin coil damage which reduces their heat transfer efficiency. Due to age and condition, it is recommended that the mechanical components of the walk-ins be updated.

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

## Fire/Life Safety

A portion of the north and the south interior stair tower doors leading in from the balconies do not have panic hardware. It is recommended that panic hardware be installed on all stair towers that act as a means of egress. Additionally, since the occupancy load is greater than 50 for each floor and the balcony doors serve as a means of egress, they are required to have panic hardware. It is recommended that the hardware be replaced to comply with IBC.

Both roof hatches do not have adequate fall protection on all sides. It is recommended that fall protection be added to comply with OSHA standards. Additionally, it is recommended that davits be installed for worker tie offs due to the lack of parapet walls on all flat roofs.

The interior stair towers without treads pose a safety hazard and are recommended for tread finish installation. The existing tread finishes in the remaining stair towers are due for replacement.

This facility is protected by a central fire alarm system. The Simplex point addressable fire alarm control panel (FACP) is in room 105. 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, but the FACP and devices will reach the end of their reliable service life within the next five 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 196 that includes a main fire pump, jockey pump, and control/transfer switch. Tamper switches were observed on the fire standpipes, and control valves are in locked rooms. With proper testing and maintenance, the fire system and components will outlast the scope of this report.

## HVAC

This facility is on the campus steam and chilled water loop. A pressure reducing valve station (PRV) equipped with safety relief valves facilitates low pressure steam to multiple shell-and-tube heat exchangers in room 153. The hot water from the exchangers is circulated to air handlers by variable volume electric pumps also in room 153. Ancillary equipment that supports the heating water system includes an air separator, expansion tank, flash tank, and duplex condensate return pump system. Overall, the heating water system is in proper working condition, but it should be anticipated that the two heating water pumps, variable speed drives for the pumps, relief valves, PRV, and flash tank will require renewal due to age and condition.

The chilled water from the campus utility system is distributed through the facility by two electric pumps equipped with 20 horsepower motors. These variable speed pumps are in room 187 and in good condition. There are no recommendations for the pumps. The variable speed drives will reach the end of their statistical life within the purview of this report assessment and will require renewal due to age and technological obsolescence.

The building is served by a variable volume, forced air HVAC system with three primary air handling units, unitary fan coils in mechanical spaces, and variable air volume terminal assemblies throughout. An additional air handler identified as DDU-1 is on the roof and provides dedicated fresh air to anatomy space 3203. The air distribution network furnishes temperate air to classrooms, labs, corridors, and office spaces. Overall, the mechanical components of the distribution are currently in proper working condition, but DDU-1 and most of the fan coils will reach the end of their reliable service life within the next ten years and should be replaced. Additionally, the variable speed drives that serve air handlers AHU-2 and AHU-3 will reach the end of their reliable service life in the next ten years and should be updated.

The HVAC distribution is comprised of a system of insulated steel ductwork with some stainless-steel duct identified for some exhaust systems. The piping systems consists of insulated steel heating and chilled water pipe. The duct and piping systems are in good condition.

The HVAC controls for this facility are a hybrid configuration that is mostly direct digital with some incorporated pneumatic. The software and control systems are made of updated Trane systems as well as some legacy equipment manufactured by Invensys. Most of the terminal assemblies have been retrofitted with modern, electronic Belimo actuators and digital, Trane thermostats. The air handlers and fan coils are still served by some of the original legacy pneumatic systems and electronic thermostats. The compressed air is generated by a duplex air compressor in room 158 that is supported by two refrigerated air dryers. While the system is currently in proper working condition, continuous reinvestment is required for the air dryers and controls systems due to technological obsolescence.

Many of the laboratory and research spaces are furnished with dedicated fume hoods that are in good condition. These hoods are supported by strobic type exhaust fans on the roof. These mixed flow fans have been the subject of continuous repair due to failing bearings and other operational anomalies. Six of these strobic type fans are supported by variable speed drives. Due to the operational inconsistencies of the fans and age of the drives, this equipment is recommended for renewal within the time period of this report assessment.

General facility and restroom exhaust systems are supported by nine centrifugal rooftop exhaust fans that were reported to be in proper working condition. Most of these fans will reach the end of their statistical service life within the next ten years and should be considered for renewal.

Additional equipment observed includes hydronic and electric unit heaters and an electric humidifier in anatomy lab 3203. The hydronic unit heaters have significant remaining service life but the humidifier and electric unit heater will require renewal due to age.

## Electrical

An exterior oil-filled transformer steps the incoming power down from 12,470 volts to 480/277 volts. This transformer and associated pad-mounted selector switch were 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 rooms. The main distribution panelboard is in room 105 and is rated for 1,200-amp capacity. A system of secondary panelboards throughout the building support major mechanical, plumbing, and general facility electrical needs. Overall, the system is in good condition but the panelboards, MDP, and associated main breaker will all reach the end of their lifecycle within the next ten years. The electrical distribution, branch wiring, and transformers all have significant remaining life that should remain reliable beyond the ten years scope of this report assessment.

Power for the emergency and life safety electrical circuits is provided from an exterior, diesel-fired, emergency generator that is rated for 450 kW. Two automatic transfer switches in room 105 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 includes a combination of recessed, pendant, and surface mount fixtures. The lighting system was subject to an energy retrofit in 2015 which included the installation of more modern, energy-efficient LED lamps. Occupancy sensors were observed throughout the building. The interior lighting is currently serviceable but will require renewal within the next ten years.

The exterior areas adjacent to the building, exterior balconies, and the central courtyard are illuminated by bollard, wall and ceiling mounted, and decorative type light fixtures. These light fixtures are currently in good condition. However, the ceiling-mounted fixtures within the balcony spaces should be scheduled for renewal within the outlook of this report due to age and wear. Install new, energy-efficient fixtures. There are no recommendations for the remaining exterior lighting.

## Plumbing

Potable water is distributed throughout this facility via an insulated copper piping network. Sanitary waste and stormwater piping is cast steel. The supply and drain piping networks are in proper working condition and no deficiencies were reported. A domestic water booster pump system in room 187 is in good condition with no recommendations. A backflow preventer in room 153 is presumed to be original. This Watts domestic cold water backflow device is currently operational but will require renewal due to age.

Domestic and lab hot are provided by two commercial-grade electric water heaters. Multiple circulating pumps support the electric water heaters. This equipment is in good condition and no update should be necessary for the next ten years. Facility research spaces are provided centralized compressed air by a duplex, reciprocating air compressor and associated refrigerated air dryer. This 2016 equipment is in room 187 and is in good condition with no recommendations for renewal at this time.

The plumbing fixtures include counter and wall-hung lavatories, urinals, and tankless water closets all in good condition. The dual-level drinking fountains throughout the building will reach the end of their service life within ten years and should be replaced.

## Vertical Transportation

This facility is provided vertical transportation by two hydraulic elevator systems. Both elevator systems are currently in proper working condition.

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

ISES Corporation  
3100 Breckinridge Boulevard, Suite 400  
Duluth, GA 30096

### Project Manager

Doug Fredendall  
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dougf@isescorp.com

### Date of Inspection

January 9, 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<br>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.

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

#### Facility Condition Index (FCI)

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

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

## 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><br>Category Code = EL5A |                       |
|---|-----------------------|
| <b>EL</b>                               | System Description    |
| <b>5</b>                                | Component Description |
| <b>A</b>                                | 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 |                   |
| <b>0001</b>            | Asset Number      |
| <b>006</b>             | Photo Sequence    |
| <b>e</b>               | 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                          | 26,636          | 90,597           | 0  | 0                | 0                  | 0               | 0               | 0               | 0                  | 0                | 0               | 0          | 0                  | \$117,233          |
| EXTERIOR                                | 0                          | 0               | 20,822           | 2,558  | 155,508          | 14,566             | 0               | 0               | 0               | 126,671            | 69,467           | 0               | 0          | 0                  | \$389,592          |
| INTERIOR                                | 0                          | 0               | 0                | 584,713  | 0                | 773,378            | 0               | 0               | 59,111          | 167,621            | 0                | 56,305          | 0          | 986,930            | \$2,628,058        |
| PLUMBING                                | 0                          | 0               | 52,735           | 0  | 0                | 0                  | 0               | 2,816           | 0               | 0                  | 0                | 0               | 0          | 0                  | \$55,551           |
| HVAC                                    | 0                          | 0               | 0                | 14,035   | 12,920           | 719,461            | 3,923           | 0               | 7,711           | 261,379            | 159,730          | 8,173           | 0          | 0                  | \$1,187,333        |
| FIRE/LIFE SAFETY                        | 0                          | 65,234          | 50,356           | 0  | 0                | 0                  | 0               | 0               | 0               | 572,831            | 0                | 0               | 0          | 0                  | \$688,421          |
| ELECTRICAL                              | 0                          | 0               | 0                | 0  | 33,173           | 455,196            | 18,060          | 0               | 0               | 354,727            | 30,000           | 0               | 0          | 776,406            | \$1,667,563        |
| SITE                                    | 0                          | 0               | 0                | 1,305  | 0                | 0                  | 0               | 0               | 0               | 0                  | 0                | 0               | 0          | 0                  | \$1,305            |
| 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               | 35,047          | 0               | 0                  | 0                | 0               | 0          | 0                  | \$35,047           |
| <b>SUBTOTAL</b>                         | <b>\$0</b>                 | <b>\$91,870</b> | <b>\$214,510</b> | <b>\$602,611</b>                                   | <b>\$201,602</b> | <b>\$1,962,602</b> | <b>\$21,983</b> | <b>\$37,863</b> | <b>\$66,823</b> | <b>\$1,483,230</b> | <b>\$259,196</b> | <b>\$64,478</b> | <b>\$0</b> | <b>\$1,763,336</b> | <b>\$6,770,103</b> |
| <b>TOTAL NONRECURRING PROJECT NEEDS</b> |                            |                 | <b>\$306,380</b> | <b>TOTAL RECURRING COMPONENT REPLACEMENT NEEDS</b> |                  |                    |                 |                 |                 |                    |                  |                 |            | <b>\$6,463,723</b> |                    |

|                                       |                     |
|---------------------------------------|---------------------|
| <b>CURRENT REPLACEMENT VALUE</b>      | <b>\$48,142,000</b> |
| <b>FACILITY CONDITION NEEDS INDEX</b> | <b>0.14</b>         |
| <b>FACILITY CONDITION INDEX</b>       | <b>0.01</b>         |

|                |   |                         |
|----------------|---|-------------------------|
| <b>GSF</b>     | <b>TOTAL 10-YEAR FACILITY RENEWAL NEEDS</b> | <b>10-YEAR NEEDS/SF</b> |
| <b>100,342</b> | <b>\$6,770,103</b>                          | <b>\$67.47</b>          |

### RENEWAL NEEDS BY SYSTEM

*All costs shown as Present Value*

| CATEGORY         | NONRECURRING<br>PROJECT<br>COSTS | RECURRING<br>COMPONENT<br>REPLACEMENT COSTS | TOTAL 10-YEAR<br>FACILITY<br>RENEWAL COSTS |
|------------------|----------------------------------|---|--|
| ACCESSIBILITY    | \$117,233                        | \$0   | \$117,233                                  |
| EXTERIOR         | \$20,822                         | \$368,769                                   | \$389,592                                  |
| INTERIOR         | \$0                              | \$2,628,058                                 | \$2,628,058                                |
| PLUMBING         | \$52,735                         | \$2,816                                     | \$55,551                                   |
| HVAC             | \$0                              | \$1,187,333                                 | \$1,187,333                                |
| FIRE/LIFE SAFETY | \$115,589                        | \$572,831                                   | \$688,421                                  |
| ELECTRICAL       | \$0                              | \$1,667,563                                 | \$1,667,563                                |
| SITE             | \$0                              | \$1,305                                     | \$1,305                                    |
| VERT. TRANS      | \$0                              | \$0   | \$0  |
| HEALTH           | \$0                              | \$35,047                                    | \$35,047                                   |
| <b>TOTALS</b>    | <b>\$306,380</b>                 | <b>\$6,463,723</b>                          | <b>\$6,770,103</b>                         |

## FACILITIES RENEWAL PLAN

### RECURRING COMPONENT REPLACEMENT COSTS

*All costs shown as Present Value*

| ASSET CODE<br>COMP CODE | COMPONENT   | IDENTIFIER            | CUSTOMER ID | LOCATION   | UNI-<br>FORMAT | REPLACEMENT<br>YEAR | REPLACEMENT<br>COST |
|-------------------------|---|-----------------------|-------------|--|----------------|---------------------|---------------------|
| 002 DR30                | DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS                | METAL COILING         |             | LOADING DOCK   | B2030          | Deferred<br>Renewal | 2,558               |
| 002 IW01                | WALL FINISH - PAINT, STANDARD                                 | NEW PAINTED<br>GYPSUM |             | SOUTH WING   | C3010          | Deferred<br>Renewal | 51,162              |
| 002 IW01                | WALL FINISH - PAINT, STANDARD                                 | OLD PAINTED<br>GYPSUM |             | NORTH, EAST,<br>AND WEST<br>WINGS                    | C3010          | Deferred<br>Renewal | 153,459             |
| 002 IF14                | FLOORING - FLUID APPLIED, EPOXY / ACRYLIC /<br>POLYURETHANE   | EPOXY FLOOR           |             | 265, 349, 382,<br>384                                | C3020          | Deferred<br>Renewal | 380,092             |
| 002 BA48                | HVAC CONTROLS - MAJOR INSTRUMENTATION -<br>CLASSROOM          | ACTUATORS             |             | THROUGHOUT   | D3060          | Deferred<br>Renewal | 14,035              |
| 002 SI06                | ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE                | STANDARD<br>ASPHALT   |             | EAST PARKING<br>LOT                                  | G2020          | Deferred<br>Renewal | 1,305               |
| 002 RR07                | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED<br>BITUMEN, TORCH  | OLD MOD BIT           | 10155       | NORTH, EAST,<br>AND WEST<br>WINGS                    | B3010          | 2023                | 155,508             |
| 002 HU52                | UNIT HEATER, ELECTRIC   | UH-3                  |             | 196  | D3020          | 2023                | 986                 |
| 002 BA55                | HVAC CONTROLS - MAJOR INSTRUMENTATION -<br>LABORATORY         | ACTUATORS             |             | LAB SPACES   | D3060          | 2023                | 11,935              |
| 002 VF10                | VARIABLE FREQUENCY DRIVE (50-75 HP)                           | AHU-2 VFD             |             | 450  | D5010          | 2023                | 22,181              |
| 002 LE08                | LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC,<br>CFL, LED) | SURFACE BUCKET        |             | BALCONIES  | D5020          | 2023                | 10,992              |
| 002 RR20                | ROOF GUTTER AND LEADER - ALUMINUM OR<br>GALVANIZED, COATED    | GALV STEEL            |             | NORTH WING   | B3010          | 2024                | 6,383               |
| 002 RR20                | ROOF GUTTER AND LEADER - ALUMINUM OR<br>GALVANIZED, COATED    | GALV STEEL            |             | EAST AND WEST<br>WINGS                               | B3010          | 2024                | 8,183               |
| 002 IW14                | TOILET PARTITION WITH ACCESSORIES                             | PLASTIC               |             | 134, 138, 234,<br>238, 334, 338,<br>1204, 1206, 2204 | C1010          | 2024                | 75,257              |

**FACILITIES RENEWAL PLAN**  
**RECURRING COMPONENT REPLACEMENT COSTS**

*All costs shown as Present Value*

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|-------------------------|---|---------------------------------|-------------|--|----------------|---------------------|---------------------|
| 002 IW15                | URINAL PARTITION WITH ACCESSORIES                             | PLASTIC                         |             | 134, 234, 334  | C1010          | 2024                | 3,510               |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                   | OLD LEVER                       |             | NORTH, EAST,<br>AND WEST<br>WINGS                        | C1020          | 2024                | 32,271              |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                   | OLD LEVER                       |             | NORTH, EAST,<br>WEST WING<br>CRRDRS                      | C1020          | 2024                | 212,454             |
| 002 DR26                | DOOR PANIC HARDWARE   | OLD PANIC BAR                   |             | 240, 260, 340,<br>1001, 1002,<br>1003, 1004, 265,<br>349 | C1020          | 2024                | 30,799              |
| 002 CW01                | CASEWORK - WOOD BASE AND WALL, TOP, STANDARD                  | LAMINATE                        |             | 344, 381, 326,<br>258, 242                               | C1030          | 2024                | 58,427              |
| 002 IW09                | WALL FINISH - WALL COVERING, ROLL                             | OLD PROTECTIVE<br>WALL COVERING |             | NORTH, EAST,<br>AND WEST<br>WINGS                        | C3010          | 2024                | 47,100              |
| 002 IW12                | WALL FINISH - PANEL, MEDICAL / LABORATORY<br>APPLICATION      | ACOUSTIC WALL<br>PANEL          |             | 265, 349   | C3010          | 2024                | 11,673              |
| 002 IF03                | FLOORING - VINYL COMPOSITION TILE, STANDARD                   | OLD 12X12 TILES                 |             | MOST AREAS   | C3020          | 2024                | 301,887             |
| 002 AH05                | AIR HANDLING UNIT - INDOOR (3.25-6 HP)                        | DDU-1                           | 22396       | ROOF   | D3040          | 2024                | 53,468              |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22"<br>DIAMETER) | EF-6,<br>FLAN-EAF-006           |             | ROOF, SE<br>CORNER                                       | D3040          | 2024                | 7,711               |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22"<br>DIAMETER) | EF-4, S<br>FLAN-EAF-004         | 10184       | ROOF, WEST<br>WING                                       | D3040          | 2024                | 7,711               |
| 002 FN20                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30"<br>DIAMETER) | EF-1, W<br>FLAN-EAF-001         | 10173       | PENTHOUSE<br>ROOF  | D3040          | 2024                | 9,572               |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)              | LEF-9, C<br>FLAN-EAF-018        | 10182       | ROOF, SOUTH<br>WING                                      | D3040          | 2024                | 10,754              |

## FACILITIES RENEWAL PLAN

### RECURRING COMPONENT REPLACEMENT COSTS

*All costs shown as Present Value*

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|-------------------------|--|--------------------------|-------------|---------------------|----------------|---------------------|---------------------|
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | AEF-1, S<br>FLAN-EAF-012 | 10186       | ROOF, EAST<br>WING  | D3040          | 2024                | 16,132              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-4, S<br>FLAN-EAF-010 | 10178       | ROOF, WEST<br>WING  | D3040          | 2024                | 16,132              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-5, S<br>FLAN-EAF-011 | 10177       | ROOF, WEST<br>WING  | D3040          | 2024                | 16,132              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-1, S<br>FLAN-EAF-007 | 10170       | ROOF, EAST<br>WING  | D3040          | 2024                | 80,658              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-2, S<br>FLAN-EAF-008 | 10171       | ROOF, EAST<br>WING  | D3040          | 2024                | 80,658              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-3, S<br>FLAN-EAF-009 | 10185       | ROOF, EAST<br>WING  | D3040          | 2024                | 80,658              |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-6, W<br>FLAN-EAF-013 | 10176       | ROOF, SOUTH<br>WING | D3040          | 2024                | 107,544             |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-7, W<br>FLAN-EAF-014 | 10183       | ROOF, SOUTH<br>WING | D3040          | 2024                | 107,544             |
| 002 FN40                | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-8, W<br>FLAN-EAF-015 | 10174       | ROOF, SOUTH<br>WING | D3040          | 2024                | 107,544             |
| 002 PH02                | PUMP - ELECTRIC (10 - 15 HP)                     | HWP-1,<br>FLAN-PMP-004   | 10232       | 153                 | D3040          | 2024                | 17,245              |
| 002 SG02                | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)        | PANELBOARD               |             | 128                 | D5010          | 2024                | 37,390              |
| 002 SG02                | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)        | H1B                      |             | 172                 | D5010          | 2024                | 37,390              |
| 002 SG02                | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)        | EH1                      |             | 105                 | D5010          | 2024                | 37,390              |
| 002 SG04                | MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)       | MDP                      |             | 105                 | D5010          | 2024                | 106,529             |
| 002 VF03                | VARIABLE FREQUENCY DRIVE (7.5-10 HP)             | HWP-1 VFD                |             | 153                 | D5010          | 2024                | 6,378               |

## FACILITIES RENEWAL PLAN

### RECURRING COMPONENT REPLACEMENT COSTS

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|-------------------------|--|-----------------------------|-------------|----------------------|----------------|---------------------|---------------------|
| 002 VF03                | VARIABLE FREQUENCY DRIVE (7.5-10 HP)                                 | HWP-2 VFD                   |             | 153                  | D5010          | 2024                | 6,378               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-1 VFD                   |             | ROOF, EAST<br>WING   | D5010          | 2024                | 6,773               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-2 VFD                   |             | ROOF, EAST<br>WING   | D5010          | 2024                | 6,773               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-3 VFD                   |             | ROOF, EAST<br>WING   | D5010          | 2024                | 6,773               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-6 VFD                   |             | ROOF, SOUTH<br>WING  | D5010          | 2024                | 9,030               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-7 VFD                   |             | ROOF, SOUTH<br>WING  | D5010          | 2024                | 9,030               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | LEF-8 VFD                   |             | ROOF, SOUTH<br>WING  | D5010          | 2024                | 9,030               |
| 002 VF10                | VARIABLE FREQUENCY DRIVE (50-75 HP)                                  | AHU-3 VFD                   |             | 2205                 | D5010          | 2024                | 17,745              |
| 002 LI09                | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET                          | LIGHTING W/ LED<br>RETROFIT |             | ORIGINAL<br>BUILDING | D5020          | 2024                | 158,589             |
| 002 AD01                | AIR DRYER - REFRIGERATED - 0-10 CFM                                  | FLAN-DRY-001                | 10167       | 158                  | D3060          | 2025                | 1,961               |
| 002 AD01                | AIR DRYER - REFRIGERATED - 0-10 CFM                                  | AIR DRYER                   |             | 158                  | D3060          | 2025                | 1,961               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | CHP-1 VFD                   |             | 187                  | D5010          | 2025                | 9,030               |
| 002 VF05                | VARIABLE FREQUENCY DRIVE (15-20 HP)                                  | CHP-2 VFD                   |             | 187                  | D5010          | 2025                | 9,030               |
| 002 BF02                | BACKFLOW PREVENTER (1-2 INCHES)                                      | DCW WATTS<br>S#567089       |             | 153                  | D2020          | 2026                | 2,816               |
| 002 CR02                | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700<br>BTUH, CONDENSER | REFRIGERATION<br>SYSTEM     |             | 3224, ROOF           | E1020          | 2026                | 11,682              |



## FACILITIES RENEWAL PLAN

### RECURRING COMPONENT REPLACEMENT COSTS

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|-------------------------|---|------------------------------|-------------|---------------------|----------------|---------------------|---------------------|
| 002 CR02                | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER | REFRIGERATION SYSTEM         |             | 2220, ROOF          | E1020          | 2026                | 11,682              |
| 002 CR02                | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER | REFRIGERATION SYSTEM         |             | 1208, ROOF          | E1020          | 2026                | 11,682              |
| 002 IF01                | FLOORING - CARPET, TILE OR ROLL, STANDARD                         | CARPET TILE                  |             | 258, 344, 381       | C3020          | 2027                | 59,111              |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)        | EF-8, W FLAN-EAF-017         | 10187       | ROOF, SOUTH WING    | D3040          | 2027                | 7,711               |
| 002 DR28                | DOOR OPERATOR, POWER-ASSIST                                       | TOP MOUNTED                  | 10264       | 192                 | B2030          | 2028                | 10,508              |
| 002 DR28                | DOOR OPERATOR, POWER-ASSIST                                       | TOP MOUNTED                  | 10267       | 2201                | B2030          | 2028                | 10,508              |
| 002 DR28                | DOOR OPERATOR, POWER-ASSIST                                       | TOP MOUNTED                  | 10268       | 3201                | B2030          | 2028                | 10,508              |
| 002 DR28                | DOOR OPERATOR, POWER-ASSIST                                       | TOP MOUNTED                  | 10266       | 302                 | B2030          | 2028                | 10,508              |
| 002 DR28                | DOOR OPERATOR, POWER-ASSIST                                       | TOP MOUNTED                  | 10265       | 202                 | B2030          | 2028                | 10,508              |
| 002 RR07                | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH         | NEW MOD BIT                  | 10155       | SOUTH WING          | B3010          | 2028                | 74,129              |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                       | NEW LEVER                    |             | SOUTH WING CORRIDOR | C1020          | 2028                | 39,443              |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                       | NEW LEVER                    |             | SOUTH WING          | C1020          | 2028                | 6,275               |
| 002 DR26                | DOOR PANIC HARDWARE   | NEW PANIC BAR                |             | 1200, 198           | C1020          | 2028                | 4,400               |
| 002 IW09                | WALL FINISH - WALL COVERING, ROLL                                 | NEW PROTECTIVE WALL COVERING |             | SOUTH WING          | C3010          | 2028                | 8,278               |
| 002 IF03                | FLOORING - VINYL COMPOSITION TILE, STANDARD                       | NEW 12X12 TILES              |             | MOST AREAS          | C3020          | 2028                | 100,603             |
|                         |   |                              |             |                     |                |                     |                     |

**FACILITIES RENEWAL PLAN**  
**RECURRING COMPONENT REPLACEMENT COSTS**

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| ASSET CODE<br>COMP CODE | COMPONENT  | IDENTIFIER               | CUSTOMER ID | LOCATION                    | UNI-<br>FORMAT | REPLACEMENT<br>YEAR | REPLACEMENT<br>COST |
|-------------------------|--|--------------------------|-------------|-----------------------------|----------------|---------------------|---------------------|
| 002 IC04                | CEILING FINISH - PAINTED OR STAINED, STANDARD          | OLD STANDARD PAINT       |             | NORTH, EAST, AND WEST WINGS | C3030          | 2028                | 8,621               |
| 002 TK07                | CONDENSATE STORAGE TANK                                | FLASH TANK               |             | 453                         | D3020          | 2028                | 24,489              |
| 002 BA09                | HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET  | VAV                      |             | LAB SPACES                  | D3060          | 2028                | 236,890             |
| 002 FA01                | FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER           | FACP, FLAN-ALM-001       | 10162       | 105                         | D4030          | 2028                | 45,567              |
| 002 FA02                | FIRE ALARM SYSTEM - DEVICES                            | 2008 FA SYSTEM DEVICES   |             | 2008 ADDITION               | D4030          | 2028                | 131,367             |
| 002 FA02                | FIRE ALARM SYSTEM - DEVICES                            | 2004 FA SYSTEM DEVICES   |             | ORIGINAL BUILDING           | D4030          | 2028                | 395,898             |
| 002 SG02                | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)              | H1C                      |             | 1222                        | D5010          | 2028                | 37,390              |
| 002 LI02                | LIGHTING SYSTEM, INTERIOR - CLASSROOM                  | LIGHTING W/ LED RETROFIT |             | 2008 ADDITION               | D5020          | 2028                | 228,981             |
| 002 LI09                | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET            | LIGHTING W/ LED RETROFIT |             | 2008 ADDITION               | D5020          | 2028                | 88,357              |
| 002 DR05                | DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS | ALUM MUNTIN GLASS        |             | ALL ELEVATIONS              | B2030          | 2029                | 69,467              |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                | FC-1, FLAN-FCU-001       | 10219       | SE STAIR                    | D3040          | 2029                | 5,964               |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                | FC-2, FLAN-FCU-002       | 10217       | SE STAIR                    | D3040          | 2029                | 5,964               |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                | FC-3, FLAN-FCU-003       | 10216       | SW STAIR                    | D3040          | 2029                | 5,964               |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                | FC-4, FLAN-FCU-004       | 10218       | SW STAIR                    | D3040          | 2029                | 5,964               |

**FACILITIES RENEWAL PLAN**  
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|-------------------------|--|-------------------------|-------------|----------------------------|----------------|---------------------|---------------------|
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-5,<br>FLAN-FCU-005   | 10215       | 105                        | D3040          | 2029                | 5,964               |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-6,<br>FLAN-FCU-006   | 10220       | 153                        | D3040          | 2029                | 5,964               |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-9,<br>FLAN-FCU-009   | 10223       | 450                        | D3040          | 2029                | 10,844              |
| 002 AH01                | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-8,<br>FLAN-FCU-008   | 10222       | 450                        | D3040          | 2029                | 10,844              |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-2, N<br>FLAN-EAF-002 | 10181       | ROOF, EAST<br>WING         | D3040          | 2029                | 7,711               |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-3, N<br>FLAN-EAF-003 | 10179       | ROOF                       | D3040          | 2029                | 7,711               |
| 002 FN19                | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-5, S<br>FLAN-EAF-005 | 10172       | ROOF, EAST<br>WING         | D3040          | 2029                | 7,711               |
| 002 HX12                | PRESSURE REDUCING VALVE, STEAM SYSTEM (4")                 | FLAN-PRV-001            | 10239       | 153                        | D3040          | 2029                | 15,965              |
| 002 PH02                | PUMP - ELECTRIC (10 - 15 HP)                               | HWP-2,<br>FLAN-PMP-005  | 10228       | 153                        | D3040          | 2029                | 17,245              |
| 002 RV01                | SAFETY RELIEF VALVE  | STEAM RELIEF<br>VALVE   | 22053       | 153                        | D3040          | 2029                | 22,955              |
| 002 RV01                | SAFETY RELIEF VALVE  | STEAM RELIEF<br>VALVE   | 22052       | 153                        | D3040          | 2029                | 22,955              |
| 002 SG12                | MC SWGR BREAKER - FME Adjustable (800-1600 AMP)            | MDP - MAIN<br>BREAKER   |             | 105                        | D5010          | 2029                | 30,000              |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                | PULL                    |             | 124, 176, 192,<br>104      | C1020          | 2030                | 7,171               |
| 002 DR24                | DOOR LOCK, COMMERCIAL-GRADE                                | NEW LEVER               |             | SOUTH WING                 | C1020          | 2030                | 8,068               |
| 002 DR26                | DOOR PANIC HARDWARE  | OLD PANIC BAR           |             | 1001, 1002,<br>1003, 1004, | C1020          | 2030                | 17,599              |

**FACILITIES RENEWAL PLAN**  
RECURRING COMPONENT REPLACEMENT COSTS

*All costs shown as Present Value*

| ASSET CODE<br>COMP CODE | COMPONENT   | IDENTIFIER                  | CUSTOMER ID | LOCATION                          | UNI-<br>FORMAT | REPLACEMENT<br>YEAR | REPLACEMENT<br>COST |
|-------------------------|---|-----------------------------|-------------|-----------------------------------|----------------|---------------------|---------------------|
| 002 DR26                | DOOR PANIC HARDWARE                                     | NEW PANIC BAR               |             | SOUTH WING                        | C1020          | 2030                | 23,466              |
| 002 AH46                | HUMIDIFIER, ELECTRIC, POINT-OF-USE                      | NORTEC<br>HUMIDIFIER        |             | 3212                              | D3040          | 2030                | 8,173               |
| 002 IF06                | FLOORING - TILE, CERAMIC / STONE / QUARRY<br>STANDARD   | OLD BEIGE 12X12<br>CERAMIC  |             | NORTH, EAST,<br>WEST WING<br>RRS  | C3020          | 2032                | 245,769             |
| 002 IC01                | CEILING FINISH - SUSPENDED ACOUSTICAL TILE,<br>STANDARD | OLD 2X2 ACT                 |             | NORTH, EAST,<br>AND WEST<br>WINGS | C3030          | 2032                | 738,278             |
| 002 IC04                | CEILING FINISH - PAINTED OR STAINED, STANDARD           | NEW STANDARD<br>PAINT       |             | SOUTH WING                        | C3030          | 2032                | 2,883               |
| 002 LI02                | LIGHTING SYSTEM, INTERIOR - CLASSROOM                   | LIGHTING W/ LED<br>RETROFIT |             | ORIGINAL<br>BUILDING              | D5020          | 2032                | 776,406             |
| <b>TOTAL</b>            |   |                             |             |                                   |                |                     | <b>\$6,463,723</b>  |

## FACILITIES RENEWAL PLAN

### NONRECURRING PROJECT COSTS

*All costs shown as Present Value*

| PROJECT NUMBER | PROJECT TITLE                                     | UNI-FORMAT | PRIORITY CLASS | PROJECT CLASSIFICATION | PROJECT COST     |
|----------------|---|------------|----------------|------------------------|------------------|
| 002AC01        | IMPROVE SITE ACCESSIBILITY                        | G2020      | 2              | Plant Adaption         | 3,606            |
| 002AC02        | IMPROVE AUDITORIUM ACCESSIBILITY                  | C1010      | 2              | Plant Adaption         | 10,358           |
| 002AC04        | ADD HANDRAILS TO EXTERIOR STAIRS                  | B1010      | 2              | Plant Adaption         | 12,672           |
| 002FS01        | ADD ROOF HATCH FALL PROTECTION                    | B3020      | 2              | Plant Adaption         | 2,840            |
| 002FS03        | ADD ROPE DAVITS TO SUPPORT WORKER FALL PROTECTION | B3010      | 2              | Plant Adaption         | 55,734           |
| 002FS04        | ADD PANIC HARDWARE TO STAIR TOWER AND EXIT DOORS  | C1020      | 2              | Plant Adaption         | 6,660            |
| 002AC03        | IMPROVE RESTROOM ACCESSIBILITY                    | D2010      | 3              | Plant Adaption         | 90,597           |
| 002ES01        | RESTORE EXTERIOR MASONRY                          | B2010      | 3              | Corrective Action      | 2,688            |
| 002ES02        | CLEAN EXTERIOR WALLS                              | B2010      | 3              | Corrective Action      | 3,874            |
| 002ES03        | REPAINT EXTERIOR DOORS                            | C1020      | 3              | Corrective Action      | 12,789           |
| 002ES04        | REPAINT EXTERIOR DORMERS & LOUVERS                | B2010      | 3              | Corrective Action      | 1,471            |
| 002FS02        | UPGRADE INTERIOR STAIR FINISH                     | C2020      | 3              | Plant Adaption         | 50,356           |
| 002PL01        | REPLACE DUAL-LEVEL DRINKING FOUNTAIN              | D2010      | 3              | Corrective Action      | 52,735           |
| <b>TOTAL</b>   |   |            |                |                        | <b>\$306,380</b> |



FACILITY CONDITION ASSESSMENT

**SECTION 3**

**NONRECURRING  
PROJECT DETAILS**

All costs shown as Present Value

| ADD PANIC HARDWARE TO STAIR TOWER AND EXIT DOORS |                |                       |                     |
|--|----------------|-----------------------|---------------------|
| <b>Project Number:</b>                           | 002FS04        | <b>Category Code:</b> |                     |
| <b>Priority Sequence:</b>                        | 1              | FS5F                  |                     |
| <b>Priority Class:</b>                           | Medium         | <b>System:</b>        | FIRE/LIFE SAFETY    |
| <b>Project Class:</b>                            | Plant Adaption | <b>Component:</b>     | EGRESS PATH         |
| <b>Date Basis:</b>                               | 1/30/2023      | <b>Element:</b>       | FIRE DOORS/HARDWARE |

| Code Application: |          | Subclass/Savings: | Project Location:            |
|-------------------|----------|-------------------|------------------------------|
| IBC               | 1010.2.9 | Not Applicable    | Floor-wide: Floor(s) 1,2,3,P |

**Description**

A portion of the north interior stair tower doors and the south stair tower doors leading in from the balconies do not have panic hardware. It is recommended that panic hardware be installed on all stair towers that act as a means of egress. Additionally, since the occupancy load is greater than 50 for each floor and the balcony doors serve as a means of egress, they are required to have panic hardware. It is recommended that the hardware be replaced to comply with IBC.



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 panic bars on egress stair doors         | EA        | 3   | \$455              | \$1,366             | \$182           | \$547            | \$1,914        |
| Install panic bars on balcony egress stair doors | EA        | 4   | \$620              | \$2,481             | \$182           | \$730            | \$3,210        |
| <b>Base Material/Labor Costs</b>                 |           |     |                    | <b>\$3,847</b>      |                 | <b>\$1,277</b>   |                |
| <b>Indexed Material/Labor Costs</b>              |           |     |                    | <b>\$3,874</b>      |                 | <b>\$911</b>     | <b>\$4,785</b> |
| <b>Construction Mark Up at 20.0%</b>             |           |     |                    |                     |                 |                  | <b>\$957</b>   |
| <b>Original Construction Cost</b>                |           |     |                    |                     |                 |                  | <b>\$5,742</b> |
| <b>Date of Original Estimate:</b>                | 1/30/2023 |     | <b>Inflation</b>   |                     |                 | <b>\$0</b>       |                |
| <b>Current Year Construction Cost</b>            |           |     |                    |                     |                 |                  | <b>\$5,742</b> |
| <b>Professional Fees at 16.0%</b>                |           |     |                    |                     |                 |                  | <b>\$919</b>   |
| <b>TOTAL PROJECT COST</b>                        |           |     |                    |                     |                 |                  | <b>\$6,660</b> |

All costs shown as Present Value

| ADD ROPE DAVITS TO SUPPORT WORKER FALL PROTECTION |                |                       |                  |
|---|----------------|-----------------------|------------------|
| <b>Project Number:</b>                            | 002FS03        | <b>Category Code:</b> |                  |
| <b>Priority Sequence:</b>                         | 2              | FS6A                  |                  |
| <b>Priority Class:</b>                            | Medium         | <b>System:</b>        | FIRE/LIFE SAFETY |
| <b>Project Class:</b>                             | Plant Adaption | <b>Component:</b>     | GENERAL          |
| <b>Date Basis:</b>                                | 1/30/2023      | <b>Element:</b>       | OTHER            |

| Code Application: |                 | Subclass/Savings: | Project Location:      |
|-------------------|-----------------|-------------------|------------------------|
| OSHA              | 29 CFR 1926.500 | Not Applicable    | Floor-wide: Floor(s) R |

**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 life-lines 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        | 52  | \$358              | \$18,609            | \$574           | \$29,872         | \$48,482        |
| <b>Base Material/Labor Costs</b>   |           |     |                    | <b>\$18,609</b>     |                 | <b>\$29,872</b>  |                 |
| <b>Indexed Material/Labor Costs</b>                                      |           |     |                    | <b>\$18,740</b>     |                 | <b>\$21,299</b>  | <b>\$40,039</b> |
| <b>Construction Mark Up at 20.0%</b>                                     |           |     |                    |                     |                 |                  | <b>\$8,008</b>  |
| <b>Original Construction Cost</b>  |           |     |                    |                     |                 |                  | <b>\$48,046</b> |
| <b>Date of Original Estimate:</b>  | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b>                                    |           |     |                    |                     |                 |                  | <b>\$48,046</b> |
| <b>Professional Fees at 16.0%</b>  |           |     |                    |                     |                 |                  | <b>\$7,687</b>  |
| <b>TOTAL PROJECT COST</b>  |           |     |                    |                     |                 |                  | <b>\$55,734</b> |

All costs shown as Present Value

| ADD ROOF HATCH FALL PROTECTION |                |                       |                  |
|--------------------------------|----------------|-----------------------|------------------|
| <b>Project Number:</b>         | 002FS01        | <b>Category Code:</b> |                  |
| <b>Priority Sequence:</b>      | 3              | FS6A                  |                  |
| <b>Priority Class:</b>         | Medium         | <b>System:</b>        | FIRE/LIFE SAFETY |
| <b>Project Class:</b>          | Plant Adaption | <b>Component:</b>     | GENERAL          |
| <b>Date Basis:</b>             | 1/30/2023      | <b>Element:</b>       | OTHER            |

| Code Application: |                          | Subclass/Savings: | Project Location:     |
|-------------------|--------------------------|-------------------|-----------------------|
| OSHA              | 29 CFR 1910.21(A)<br>(4) | Not Applicable    | Item Only: Floor(s) R |
| OSHA              | 29 CFR 1910.23(E)<br>(8) |                   |                       |

**Description**

The tile roof hatch, as well as a portion of the roof hatch on the modified bitumen roof, is missing fall protection. It is recommended that fall protection be added to improve the safety of the hatches.

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        | 19  | \$90.49            | \$1,719             | \$22.80         | \$433            | \$2,153        |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$1,719</b>      |                 | <b>\$433</b>     |                |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$1,731</b>      |                 | <b>\$309</b>     | <b>\$2,040</b> |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                 |                  | <b>\$408</b>   |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                 |                  | <b>\$2,448</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>     |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                 |                  | <b>\$2,448</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                 |                  | <b>\$392</b>   |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                 |                  | <b>\$2,840</b> |

All costs shown as Present Value

| IMPROVE SITE ACCESSIBILITY |                |                       |                 |
|----------------------------|----------------|-----------------------|-----------------|
| <b>Project Number:</b>     | 002AC01        | <b>Category Code:</b> |                 |
| <b>Priority Sequence:</b>  | 4              | AC1B                  |                 |
| <b>Priority Class:</b>     | Medium         | <b>System:</b>        | ACCESSIBILITY   |
| <b>Project Class:</b>      | Plant Adaption | <b>Component:</b>     | SITE            |
| <b>Date Basis:</b>         | 1/30/2023      | <b>Element:</b>       | RAMPS AND WALKS |

| Code Application: |     | Subclass/Savings:          | Project Location:     |
|-------------------|-----|----------------------------|-----------------------|
| ADAAG             | 502 | DOJ1 - Approach & Entrance | Item Only: Floor(s) 1 |

**Description**

The existing ADA curb ramp does not have proper traction bars. It is recommended that the existing ramps be replaced with ADA-compliant ramps.

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     |
|---------------------------------------|-----------|-----|--------------------|---------------------|-----------------|------------------|----------------|
| Construct concrete curb ramp          | EA        | 2   | \$784              | \$1,567             | \$710           | \$1,420          | \$2,987        |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$1,567</b>      |                 | <b>\$1,420</b>   |                |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$1,578</b>      |                 | <b>\$1,012</b>   | <b>\$2,590</b> |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                 |                  | <b>\$518</b>   |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                 |                  | <b>\$3,108</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>     |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                 |                  | <b>\$3,108</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                 |                  | <b>\$497</b>   |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                 |                  | <b>\$3,606</b> |

All costs shown as Present Value

| IMPROVE AUDITORIUM ACCESSIBILITY |                |                       |                       |
|----------------------------------|----------------|-----------------------|-----------------------|
| <b>Project Number:</b>           | 002AC02        | <b>Category Code:</b> |                       |
| <b>Priority Sequence:</b>        | 5              | AC4A                  |                       |
| <b>Priority Class:</b>           | Medium         | <b>System:</b>        | ACCESSIBILITY         |
| <b>Project Class:</b>            | Plant Adaption | <b>Component:</b>     | GENERAL               |
| <b>Date Basis:</b>               | 1/30/2023      | <b>Element:</b>       | FUNCTIONAL SPACE MOD. |

**Code Application:**

**Subclass/Savings:**

**Project Location:**

ADAAG

219.3, 706.1

DOJ2 - Access to Goods & Services

Room Only: Floor(s) 2,3

**Description**

The assembly areas do not show indication of available audible assistance. Install transmitter and headphone receiver sets to accommodate those who require audible assistance.



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      |
|--|-----------|-----|--------------------|---------------------|-----------------|------------------|-----------------|
| Infrared transmitter and headphone receiver sets | SYS       | 2   | \$2,280            | \$4,559             | \$1,998         | \$3,997          | \$8,556         |
| <b>Base Material/Labor Costs</b>                 |           |     |                    | <b>\$4,559</b>      |                 | <b>\$3,997</b>   |                 |
| <b>Indexed Material/Labor Costs</b>              |           |     |                    | <b>\$4,591</b>      |                 | <b>\$2,850</b>   | <b>\$7,441</b>  |
| <b>Construction Mark Up at 20.0%</b>             |           |     |                    |                     |                 |                  | <b>\$1,488</b>  |
| <b>Original Construction Cost</b>                |           |     |                    |                     |                 |                  | <b>\$8,929</b>  |
| <b>Date of Original Estimate:</b>                | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b>            |           |     |                    |                     |                 |                  | <b>\$8,929</b>  |
| <b>Professional Fees at 16.0%</b>                |           |     |                    |                     |                 |                  | <b>\$1,429</b>  |
| <b>TOTAL PROJECT COST</b>                        |           |     |                    |                     |                 |                  | <b>\$10,358</b> |

All costs shown as Present Value

| ADD HANDRAILS TO EXTERIOR STAIRS |                |                       |                |
|----------------------------------|----------------|-----------------------|----------------|
| <b>Project Number:</b>           | 002AC04        | <b>Category Code:</b> |                |
| <b>Priority Sequence:</b>        | 6              | AC2A                  |                |
| <b>Priority Class:</b>           | Medium         | <b>System:</b>        | ACCESSIBILITY  |
| <b>Project Class:</b>            | Plant Adaption | <b>Component:</b>     | BUILDING ENTRY |
| <b>Date Basis:</b>               | 1/30/2023      | <b>Element:</b>       | GENERAL        |

| Code Application: |            | Subclass/Savings:          | Project Location:     |
|-------------------|------------|----------------------------|-----------------------|
| ADAAG             | 403.6, 505 | DOJ1 - Approach & Entrance | Item Only: Floor(s) 1 |
| IBC               | 1011, 1014 |                            |                       |

**Description**

The monumental entry stair on the north elevation exceeds the allowable width without freestanding railing in the center. It is recommended that freestanding rails be installed in addition to existing railing. Additionally, the northwest and northeast entry stairs do not have compliant outboard railing and wall railing. It is recommended that new compliant railing 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      |
|--|-----------|-----|--------------------|---------------------|-----------------|------------------|-----------------|
| Install new freestanding rails                 | SF        | 25  | \$48.72            | \$1,218             | \$42.45         | \$1,061          | \$2,279         |
| Wall-mounted handrail system per floor         | FLR       | 1   | \$859              | \$859               | \$781           | \$781            | \$1,639         |
| Switchback handrail/guardrail system per floor | FLR       | 2   | \$1,945            | \$3,891             | \$1,249         | \$2,498          | \$6,389         |
| <b>Base Material/Labor Costs</b>               |           |     |                    | <b>\$5,968</b>      |                 | <b>\$4,340</b>   |                 |
| <b>Indexed Material/Labor Costs</b>            |           |     |                    | <b>\$6,009</b>      |                 | <b>\$3,094</b>   | <b>\$9,104</b>  |
| <b>Construction Mark Up at 20.0%</b>           |           |     |                    |                     |                 |                  | <b>\$1,821</b>  |
| <b>Original Construction Cost</b>              |           |     |                    |                     |                 |                  | <b>\$10,925</b> |
| <b>Date of Original Estimate:</b>              | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b>          |           |     |                    |                     |                 |                  | <b>\$10,925</b> |
| <b>Professional Fees at 16.0%</b>              |           |     |                    |                     |                 |                  | <b>\$1,748</b>  |
| <b>TOTAL PROJECT COST</b>                      |           |     |                    |                     |                 |                  | <b>\$12,672</b> |

All costs shown as Present Value

| UPGRADE INTERIOR STAIR FINISH |                |                       |                    |
|-------------------------------|----------------|-----------------------|--------------------|
| <b>Project Number:</b>        | 002FS02        | <b>Category Code:</b> |                    |
| <b>Priority Sequence:</b>     | 7              | FS5E                  |                    |
| <b>Priority Class:</b>        | Low            | <b>System:</b>        | FIRE/LIFE SAFETY   |
| <b>Project Class:</b>         | Plant Adaption | <b>Component:</b>     | EGRESS PATH        |
| <b>Date Basis:</b>            | 1/30/2023      | <b>Element:</b>       | STAIRS AND RAILING |

**Code Application:**

IBC 1011, 1014  
 Not Applicable

**Subclass/Savings:**

Not Applicable

**Project Location:**

Floor-wide: Floor(s) 1,2,3,P

**Description**

The south stair tower treads do not have a finish and the north stair tower treads are due to be replaced. Stair towers that act as a means of egress are required to have a tread with a gripping surface. It is recommended that proper tread finishes be added to these stairs.

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      |
|---|-----------|-----|--------------------|---------------------|-----------------|------------------|-----------------|
| Stair tread and landing finish upgrades per floor | FLR       | 12  | \$2,173            | \$26,080            | \$1,159         | \$13,902         | \$39,982        |
| <b>Base Material/Labor Costs</b>                  |           |     |                    | <b>\$26,080</b>     |                 | <b>\$13,902</b>  |                 |
| <b>Indexed Material/Labor Costs</b>               |           |     |                    | <b>\$26,263</b>     |                 | <b>\$9,912</b>   | <b>\$36,175</b> |
| <b>Construction Mark Up at 20.0%</b>              |           |     |                    |                     |                 |                  | <b>\$7,235</b>  |
| <b>Original Construction Cost</b>                 |           |     |                    |                     |                 |                  | <b>\$43,410</b> |
| <b>Date of Original Estimate:</b>                 | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b>             |           |     |                    |                     |                 |                  | <b>\$43,410</b> |
| <b>Professional Fees at 16.0%</b>                 |           |     |                    |                     |                 |                  | <b>\$6,946</b>  |
| <b>TOTAL PROJECT COST</b>                         |           |     |                    |                     |                 |                  | <b>\$50,356</b> |

All costs shown as Present Value

| IMPROVE RESTROOM ACCESSIBILITY |                |                       |                         |
|--------------------------------|----------------|-----------------------|-------------------------|
| <b>Project Number:</b>         | 002AC03        | <b>Category Code:</b> |                         |
| <b>Priority Sequence:</b>      | 8              | AC3E                  |                         |
| <b>Priority Class:</b>         | Low            | <b>System:</b>        | ACCESSIBILITY           |
| <b>Project Class:</b>          | Plant Adaption | <b>Component:</b>     | INTERIOR PATH OF TRAVEL |
| <b>Date Basis:</b>             | 1/30/2023      | <b>Element:</b>       | RESTROOMS/BATHROOMS     |

**Code Application:**

ADAAG 309

**Subclass/Savings:**

DOJ3 - Restrooms

**Project Location:**

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

**Description**

Restroom doors may be difficult to operate. It is recommended that door operators be installed on all restrooms that are accessible.

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                         | EA        | 12  | \$4,521            | \$54,255            | \$1,221         | \$14,656         | \$68,910        |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$54,255</b>     |                 | <b>\$14,656</b>  |                 |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$54,635</b>     |                 | <b>\$10,450</b>  | <b>\$65,084</b> |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                 |                  | <b>\$13,017</b> |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                 |                  | <b>\$78,101</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                 |                  | <b>\$78,101</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                 |                  | <b>\$12,496</b> |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                 |                  | <b>\$90,597</b> |

All costs shown as Present Value

| REPAINT EXTERIOR DOORS    |                   |                       |               |
|---------------------------|-------------------|-----------------------|---------------|
| <b>Project Number:</b>    | 002ES03           | <b>Category Code:</b> |               |
| <b>Priority Sequence:</b> | 9                 | ES5A                  |               |
| <b>Priority Class:</b>    | Low               | <b>System:</b>        | EXTERIOR      |
| <b>Project Class:</b>     | Corrective Action | <b>Component:</b>     | FENESTRATIONS |
| <b>Date Basis:</b>        | 1/30/2023         | <b>Element:</b>       | DOORS         |

**Code Application:**

Not Applicable

**Subclass/Savings:**

Not Applicable

**Project Location:**

Building-wide: Floor(s) 1,2,3,R

**Description**

The exterior doors are due for repainting. It is recommended that they be repainted to restore the appearance of the building.



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      |
|---------------------------------------|-----------|-----|--------------------|---------------------|-----------------|------------------|-----------------|
| Paint exterior doors                  | EA        | 29  | \$58.54            | \$1,698             | \$362           | \$10,488         | \$12,186        |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$1,698</b>      |                 | <b>\$10,488</b>  |                 |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$1,710</b>      |                 | <b>\$7,478</b>   | <b>\$9,188</b>  |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                 |                  | <b>\$1,838</b>  |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                 |                  | <b>\$11,025</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                 |                  | <b>\$11,025</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                 |                  | <b>\$1,764</b>  |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                 |                  | <b>\$12,789</b> |

All costs shown as Present Value

| REPAINT EXTERIOR DORMERS & LOUVERS |                   |                       |          |
|------------------------------------|-------------------|-----------------------|----------|
| <b>Project Number:</b>             | 002ES04           | <b>Category Code:</b> |          |
| <b>Priority Sequence:</b>          | 10                | ES6C                  |          |
| <b>Priority Class:</b>             | Low               | <b>System:</b>        | EXTERIOR |
| <b>Project Class:</b>              | Corrective Action | <b>Component:</b>     | GENERAL  |
| <b>Date Basis:</b>                 | 1/30/2023         | <b>Element:</b>       | TRIM     |

**Code Application:**

Not Applicable

**Subclass/Savings:**

Not Applicable

**Project Location:**

Area Wide: Floor(s) 1,R

**Description**

The exterior louvers and dormers are due for repainting. It is recommended that they be repainted to restore the appearance of the building.

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     |
|---------------------------------------|-----------|-----|--------------------|---------------------|------------------|------------------|----------------|
| Paint exterior dormers                | SF        | 300 | \$0.63             | \$189               | \$1.58           | \$474            | \$663          |
| Paint exterior louvers                | SF        | 300 | \$0.63             | \$189               | \$1.58           | \$474            | \$663          |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$378</b>        |                  | <b>\$948</b>     |                |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$381</b>        |                  | <b>\$676</b>     | <b>\$1,057</b> |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                  |                  | <b>\$211</b>   |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                  |                  | <b>\$1,268</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     | <b>Inflation</b> |                  | <b>\$0</b>     |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                  |                  | <b>\$1,268</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                  |                  | <b>\$203</b>   |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                  |                  | <b>\$1,471</b> |

All costs shown as Present Value

| RESTORE EXTERIOR MASONRY  |                   |                       |                     |
|---------------------------|-------------------|-----------------------|---------------------|
| <b>Project Number:</b>    | 002ES01           | <b>Category Code:</b> |                     |
| <b>Priority Sequence:</b> | 11                | ES2B                  |                     |
| <b>Priority Class:</b>    | Low               | <b>System:</b>        | EXTERIOR            |
| <b>Project Class:</b>     | Corrective Action | <b>Component:</b>     | COLUMNS/BEAMS/WALLS |
| <b>Date Basis:</b>        | 1/30/2023         | <b>Element:</b>       | FINISH              |

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

**Description**

The brick exterior shows signs of spalling adjacent to the gutters on the south wing. It is recommended that this portion of the exterior walls be repaired. Additionally, the brick adjacent to the tile roof shows signs of joint deterioration. It is recommended that the joints be repointed.

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 brick exterior wall, average bond | SF        | 50  | \$9.87             | \$494               | \$29.41         | \$1,471          | \$1,964        |
| Repoint joints in exterior masonry walls | SF        | 50  | \$0.93             | \$47                | \$9.51          | \$476            | \$522          |
| <b>Base Material/Labor Costs</b>         |           |     |                    | <b>\$540</b>        |                 | <b>\$1,946</b>   |                |
| <b>Indexed Material/Labor Costs</b>      |           |     |                    | <b>\$544</b>        |                 | <b>\$1,387</b>   | <b>\$1,931</b> |
| <b>Construction Mark Up at 20.0%</b>     |           |     |                    |                     |                 |                  | <b>\$386</b>   |
| <b>Original Construction Cost</b>        |           |     |                    |                     |                 |                  | <b>\$2,318</b> |
| <b>Date of Original Estimate:</b>        | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>     |
| <b>Current Year Construction Cost</b>    |           |     |                    |                     |                 |                  | <b>\$2,318</b> |
| <b>Professional Fees at 16.0%</b>        |           |     |                    |                     |                 |                  | <b>\$371</b>   |
| <b>TOTAL PROJECT COST</b>                |           |     |                    |                     |                 |                  | <b>\$2,688</b> |

All costs shown as Present Value

| CLEAN EXTERIOR WALLS      |                   |                       |                     |
|---------------------------|-------------------|-----------------------|---------------------|
| <b>Project Number:</b>    | 002ES02           | <b>Category Code:</b> |                     |
| <b>Priority Sequence:</b> | 12                | ES2B                  |                     |
| <b>Priority Class:</b>    | Low               | <b>System:</b>        | EXTERIOR            |
| <b>Project Class:</b>     | Corrective Action | <b>Component:</b>     | COLUMNS/BEAMS/WALLS |
| <b>Date Basis:</b>        | 1/30/2023         | <b>Element:</b>       | FINISH              |

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

**Description**

Multiple areas along the exterior brick, concrete, and stone walls contain efflorescence and other deposits that detract from the appearance of the building. A light chemical and pressure washing treatment are 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     |
|---|-----------|-------|--------------------|---------------------|-----------------|------------------|----------------|
| General exterior wall surface clean and pressure wash with light chemical | SF        | 1,500 | \$0.32             | \$480               | \$2.15          | \$3,225          | \$3,705        |
| <b>Base Material/Labor Costs</b>  |           |       |                    | <b>\$480</b>        |                 | <b>\$3,225</b>   |                |
| <b>Indexed Material/Labor Costs</b>                                       |           |       |                    | <b>\$483</b>        |                 | <b>\$2,299</b>   | <b>\$2,783</b> |
| <b>Construction Mark Up at 20.0%</b>                                      |           |       |                    |                     |                 |                  | <b>\$557</b>   |
| <b>Original Construction Cost</b>   |           |       |                    |                     |                 |                  | <b>\$3,339</b> |
| <b>Date of Original Estimate:</b>   | 1/30/2023 |       |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>     |
| <b>Current Year Construction Cost</b>                                     |           |       |                    |                     |                 |                  | <b>\$3,339</b> |
| <b>Professional Fees at 16.0%</b>   |           |       |                    |                     |                 |                  | <b>\$534</b>   |
| <b>TOTAL PROJECT COST</b>   |           |       |                    |                     |                 |                  | <b>\$3,874</b> |

All costs shown as Present Value

| REPLACE DUAL-LEVEL DRINKING FOUNTAIN |                   |                       |                |
|--------------------------------------|-------------------|-----------------------|----------------|
| <b>Project Number:</b>               | 002PL01           | <b>Category Code:</b> |                |
| <b>Priority Sequence:</b>            | 13                | PL1G                  |                |
| <b>Priority Class:</b>               | Low               | <b>System:</b>        | PLUMBING       |
| <b>Project Class:</b>                | Corrective Action | <b>Component:</b>     | DOMESTIC WATER |
| <b>Date Basis:</b>                   | 1/30/2023         | <b>Element:</b>       | FIXTURES       |

**Code Application:**

Not Applicable

**Subclass/Savings:**

Not Applicable

**Project Location:**

Floor-wide: Floor(s) 1,2,3

**Description**

The dual-height water fountains will reach the end of their life within ten years and will need to 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      |
|---------------------------------------|-----------|-----|--------------------|---------------------|-----------------|------------------|-----------------|
| Replace dual-height water fountains   | EA        | 18  | \$1,920            | \$34,555            | \$241           | \$4,331          | \$38,886        |
| <b>Base Material/Labor Costs</b>      |           |     |                    | <b>\$34,555</b>     |                 | <b>\$4,331</b>   |                 |
| <b>Indexed Material/Labor Costs</b>   |           |     |                    | <b>\$34,796</b>     |                 | <b>\$3,088</b>   | <b>\$37,885</b> |
| <b>Construction Mark Up at 20.0%</b>  |           |     |                    |                     |                 |                  | <b>\$7,577</b>  |
| <b>Original Construction Cost</b>     |           |     |                    |                     |                 |                  | <b>\$45,462</b> |
| <b>Date of Original Estimate:</b>     | 1/30/2023 |     |                    |                     |                 | <b>Inflation</b> | <b>\$0</b>      |
| <b>Current Year Construction Cost</b> |           |     |                    |                     |                 |                  | <b>\$45,462</b> |
| <b>Professional Fees at 16.0%</b>     |           |     |                    |                     |                 |                  | <b>\$7,274</b>  |
| <b>TOTAL PROJECT COST</b>             |           |     |                    |                     |                 |                  | <b>\$52,735</b> |



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 PANELS     |             | SOUTH WING                  | 2,310  | SF    | 1.27       | \$68,053    | 2008        | 25          |                 | 2033      |
| WN01      | GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD                 | ALUM MUNTIN WINDOWS |             | EAST, WEST, AND NORTH WINGS | 14,180 | SF    | 1.27       | \$3,318,496 | 2004        | 40          |                 | 2044      |
| DR05      | DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS    | ALUM MUNTIN GLASS   |             | ALL ELEVATIONS              | 20     | LEAF  | 1.00       | \$69,467    | 2004        | 25          |                 | 2029      |
| DR08      | DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL          | W/ VISION GLASS     |             | SOUTH ELEVATION             | 16     | LEAF  | 1.00       | \$39,118    | 2008        | 40          |                 | 2048      |
| DR08      | DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL          | OLD HOLLOW METAL    |             | MECHANICAL ATTIC            | 4      | LEAF  | 1.00       | \$9,779     | 2004        | 40          |                 | 2044      |
| DR08      | DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL          | NEW HOLLOW METAL    |             | SOUTH ELEVATION             | 9      | LEAF  | 1.00       | \$22,004    | 2008        | 40          |                 | 2048      |
| DR19      | DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK              | STEEL COILING       |             | LOADING DOCK                | 90     | SF    | 1.00       | \$10,633    | 2004        | 30          |                 | 2034      |
| DR28      | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED         | 10264       | 192                         | 1      | EA    | 1.00       | \$10,508    | 2008        | 20          |                 | 2028      |
| DR28      | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED         | 10267       | 2201                        | 1      | EA    | 1.00       | \$10,508    | 2008        | 20          |                 | 2028      |
| DR28      | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED         | 10268       | 3201                        | 1      | EA    | 1.00       | \$10,508    | 2008        | 20          |                 | 2028      |
| DR28      | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED         | 10266       | 302                         | 1      | EA    | 1.00       | \$10,508    | 2008        | 20          |                 | 2028      |
| DR28      | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED         | 10265       | 202                         | 1      | EA    | 1.00       | \$10,508    | 2008        | 20          |                 | 2028      |
| DR30      | DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS            | METAL COILING       |             | LOADING DOCK                | 1      | EA    | 1.00       | \$2,558     | 2004        | 15          |                 | DR        |
| RR07      | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH | OLD MOD BIT         | 10155       | NORTH, EAST, AND WEST WINGS | 21,629 | SF    | 1.18       | \$155,508   | 2004        | 20          | -1              | 2023      |

### RENEWABLE COMPONENT INVENTORY

| COMP CODE | COMPONENT DESCRIPTION   | IDENTIFIER                           | CUSTOMER ID | LOCATION                                       | QTY   | UNITS | CPLX FACTR | TOTAL COST | INSL DATE | USEFUL LIFE | USEFUL LIFE ADJ | REPL YEAR |
|-----------|---|--------------------------------------|-------------|--|-------|-------|------------|------------|-----------|-------------|-----------------|-----------|
| RR07      | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH         | NEW MOD BIT                          | 10155       | SOUTH WING                                     | 9,012 | SF    | 1.35       | \$74,074   | 2008      | 20          |                 | 2028      |
| RR18      | ROOF - TILE, CLAY, FLAT   | TERRACOTTA                           | 10155       | NORTH WING                                     | 5,407 | SF    | 1.21       | \$341,630  | 2004      | 70          |                 | 2074      |
| RR20      | ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED           | GALV STEEL                           |             | EAST AND WEST WINGS                            | 400   | LF    | 1.00       | \$8,183    | 2004      | 20          |                 | 2024      |
| RR20      | ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED           | GALV STEEL                           |             | NORTH WING                                     | 312   | LF    | 1.00       | \$6,383    | 2004      | 20          |                 | 2024      |
| RR22      | ROOF GUTTER AND LEADER - COPPER, MILLED-FINISH OR STAINLESS STEEL | 10155                                |             | SOUTH WING                                     | 8     | LF    | 1.00       | \$376      | 2008      | 70          |                 | 2078      |
| RR29      | ROOF HATCH - ACCESS   | MODULAR STEEL                        |             | NORTH WING                                     | 1     | EA    | 1.00       | \$5,706    | 2004      | 30          |                 | 2034      |
| RR29      | ROOF HATCH - ACCESS   |                                      |             | SOUTH WING                                     | 1     | EA    | 1.00       | \$5,706    | 2008      | 30          |                 | 2038      |
| IW14      | TOILET PARTITION WITH ACCESSORIES                                 | PLASTIC                              |             | 134, 138, 234, 238, 334, 338, 1204, 1206, 2204 | 24    | SYS   | 1.00       | \$75,257   | 2004      | 20          |                 | 2024      |
| IW15      | URINAL PARTITION WITH ACCESSORIES                                 | PLASTIC                              |             | 134, 234, 334                                  | 6     | EA    | 1.00       | \$3,510    | 2004      | 20          |                 | 2024      |
| DR01      | DOOR AND FRAME, INTERIOR, NON-RATED                               | OLD COMPOSITE WOOD                   |             | NORTH, EAST, AND WEST WINGS                    | 10    | LEAF  | 1.00       | \$26,059   | 2004      | 40          |                 | 2044      |
| DR01      | DOOR AND FRAME, INTERIOR, NON-RATED                               | OLD COMPOSITE WOOD WITH VISION GLASS |             | NORTH, EAST, AND WEST WINGS                    | 26    | LEAF  | 1.00       | \$67,753   | 2004      | 40          |                 | 2044      |
| DR01      | DOOR AND FRAME, INTERIOR, NON-RATED                               | NEW COMPOSITE WOOD                   |             | SOUTH WING                                     | 7     | LEAF  | 1.00       | \$18,241   | 2008      | 40          |                 | 2048      |
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED                              | OLD COMPOSITE WOOD                   |             | NORTH, EAST, WEST WING CRRDRS                  | 102   | LEAF  | 1.00       | \$459,078  | 2004      | 40          |                 | 2044      |

### RENEWABLE COMPONENT INVENTORY

| COMP CODE | COMPONENT DESCRIPTION                | IDENTIFIER                           | CUSTOMER ID | LOCATION                      | QTY | UNITS | CPLX FACTR | TOTAL COST | INSLT DATE | USEFUL LIFE | USEFUL LIFE ADJ | REPL YEAR |
|-----------|--------------------------------------|--------------------------------------|-------------|-------------------------------|-----|-------|------------|------------|------------|-------------|-----------------|-----------|
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED | OLD COMPOSITE WOOD WITH VISION GLASS |             | NORTH, EAST, WEST WING CRRDRS | 91  | LEAF  | 1.00       | \$409,570  | 2004       | 40          |                 | 2044      |
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED | OLD HOLLOW METAL WITH VISION GLASS   |             | NORTH, EAST, WEST WING CRRDRS | 12  | LEAF  | 1.00       | \$54,009   | 2004       | 40          |                 | 2044      |
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED | NEW COMPOSITE WOOD                   |             | SOUTH WING CORRIDORS          | 6   | LEAF  | 1.00       | \$27,005   | 2008       | 40          |                 | 2048      |
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED | NEW COMPOSITE WOOD WITH VISION GLASS |             | SOUTH WING CORRIDORS          | 41  | LEAF  | 1.00       | \$184,531  | 2008       | 40          |                 | 2048      |
| DR02      | DOOR AND FRAME, INTERIOR, FIRE-RATED | OLD HOLLOW METAL                     |             | NORTH, EAST, WEST WING CRRDRS | 5   | LEAF  | 1.00       | \$22,504   | 2004       | 40          |                 | 2044      |
| DR03      | DOOR - OVERHEAD, INTERIOR            | COILING OVERHEAD FIRE                | 26000       | 1202B                         | 70  | SF    | 1.00       | \$8,270    | 2008       | 30          |                 | 2038      |
| DR03      | DOOR - OVERHEAD, INTERIOR            | COILING OVERHEAD FIRE                | 26001       | 2202B                         | 70  | SF    | 1.00       | \$8,270    | 2008       | 30          |                 | 2038      |
| DR03      | DOOR - OVERHEAD, INTERIOR            | COILING OVERHEAD FIRE                | 26002       | 2302B                         | 70  | SF    | 1.00       | \$8,270    | 2008       | 30          |                 | 2038      |
| DR24      | DOOR LOCK, COMMERCIAL-GRADE          | OLD LEVER                            |             | NORTH, EAST, AND WEST WINGS   | 36  | EA    | 1.00       | \$32,271   | 2004       | 20          |                 | 2024      |
| DR24      | DOOR LOCK, COMMERCIAL-GRADE          | NEW LEVER                            |             | SOUTH WING                    | 7   | EA    | 1.00       | \$6,275    | 2008       | 20          |                 | 2028      |
| DR24      | DOOR LOCK, COMMERCIAL-GRADE          | OLD LEVER                            |             | NORTH, EAST, WEST WING CRRDRS | 237 | EA    | 1.00       | \$212,454  | 2004       | 20          |                 | 2024      |
| DR24      | DOOR LOCK, COMMERCIAL-GRADE          | NEW LEVER                            |             | SOUTH WING CORRIDOR           | 44  | EA    | 1.00       | \$39,443   | 2008       | 20          |                 | 2028      |
| DR24      | DOOR LOCK, COMMERCIAL-GRADE          | PULL                                 |             | 124, 176, 192, 104            | 8   | EA    | 1.00       | \$7,171    | 2004       | 20          | 6               | 2030      |

### 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 |
|-----------|---|------------------------------|-------------|--|--------|-------|------------|-------------|-------------|-------------|-----------------|-----------|
| DR24      | DOOR LOCK, COMMERCIAL-GRADE                           | NEW LEVER                    |             | SOUTH WING   | 9      | EA    | 1.00       | \$8,068     | 2008        | 20          | 2               | 2030      |
| DR26      | DOOR PANIC HARDWARE                                   | OLD PANIC BAR                |             | 240, 260, 340,<br>1001, 1002,<br>1003, 1004,<br>265, 349 | 21     | EA    | 1.00       | \$30,799    | 2004        | 20          |                 | 2024      |
| DR26      | DOOR PANIC HARDWARE                                   | NEW PANIC BAR                |             | 1200, 198  | 3      | EA    | 1.00       | \$4,400     | 2008        | 20          |                 | 2028      |
| DR26      | DOOR PANIC HARDWARE                                   | OLD PANIC BAR                |             | 1001, 1002,<br>1003, 1004,                               | 12     | EA    | 1.00       | \$17,599    | 2004        | 20          | 6               | 2030      |
| DR26      | DOOR PANIC HARDWARE                                   | NEW PANIC BAR                |             | SOUTH WING   | 16     | EA    | 1.00       | \$23,466    | 2008        | 20          | 2               | 2030      |
| CW01      | CASEWORK - WOOD BASE AND WALL, TOP, STANDARD          | LAMINATE                     |             | 344, 381, 326,<br>258, 242                               | 90     | LF    | 1.00       | \$58,427    | 2004        | 20          |                 | 2024      |
| CW04      | CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP | LAMINATE WOOD AND RESIN      |             | 355, 382, 3205,<br>3212                                  | 10,540 | SF    | 0.60       | \$1,142,234 | 2004        | 40          |                 | 2044      |
| CW04      | CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP | LAMINATE WOOD AND RESIN      |             | 2215, 2213,<br>284, 184, 188                             | 19,570 | SF    | 0.30       | \$1,060,413 | 2004        | 40          |                 | 2044      |
| IW01      | WALL FINISH - PAINT, STANDARD                         | OLD PAINTED GYPSUM           |             | NORTH, EAST,<br>AND WEST<br>WINGS                        | 56,960 | SF    | 1.00       | \$153,459   | 2004        | 12          | 6               | DR        |
| IW01      | WALL FINISH - PAINT, STANDARD                         | NEW PAINTED GYPSUM           |             | SOUTH WING   | 18,990 | SF    | 1.00       | \$51,162    | 2008        | 12          | 2               | DR        |
| IW09      | WALL FINISH - WALL COVERING, ROLL                     | OLD PROTECTIVE WALL COVERING |             | NORTH, EAST,<br>AND WEST<br>WINGS                        | 7,510  | SF    | 1.00       | \$47,100    | 2004        | 20          |                 | 2024      |
| IW09      | WALL FINISH - WALL COVERING, ROLL                     | NEW PROTECTIVE WALL COVERING |             | SOUTH WING   | 1,320  | SF    | 1.00       | \$8,278     | 2008        | 20          |                 | 2028      |
| IW12      | WALL FINISH - PANEL, MEDICAL / LABORATORY APPLICATION | ACOUSTIC WALL PANEL          |             | 265, 349   | 880    | SF    | 1.00       | \$11,673    | 2004        | 20          |                 | 2024      |



### RENEWABLE COMPONENT INVENTORY

| COMP CODE | COMPONENT DESCRIPTION                                    | IDENTIFIER                  | CUSTOMER ID | LOCATION                    | QTY    | UNITS | CPLX FACTR | TOTAL COST | INSL DATE | USEFUL LIFE | USEFUL LIFE ADJ | REPL YEAR |
|-----------|--|-----------------------------|-------------|-----------------------------|--------|-------|------------|------------|-----------|-------------|-----------------|-----------|
| IF01      | FLOORING - CARPET, TILE OR ROLL, STANDARD                | CARPET TILE                 |             | 258, 344, 381               | 4,010  | SF    | 1.00       | \$59,111   | 2004      | 12          | 11              | 2027      |
| IF03      | FLOORING - VINYL COMPOSITION TILE, STANDARD              | OLD 12X12 TILES             |             | MOST AREAS                  | 39,130 | SF    | 1.00       | \$301,887  | 2004      | 20          |                 | 2024      |
| IF03      | FLOORING - VINYL COMPOSITION TILE, STANDARD              | NEW 12X12 TILES             |             | MOST AREAS                  | 13,040 | SF    | 1.00       | \$100,603  | 2008      | 20          |                 | 2028      |
| IF06      | FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD       | OLD BEIGE 12X12 CERAMIC     |             | NORTH, EAST, WEST WING RRS  | 6,420  | SF    | 1.00       | \$245,769  | 2004      | 30          | -2              | 2032      |
| IF06      | FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD       | NEW BEIGE 12X12 CERAMIC     |             | SOUTH WING RESTROOMS        | 1,610  | SF    | 1.00       | \$61,634   | 2008      | 30          |                 | 2038      |
| IF14      | FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE | EPOXY FLOOR                 |             | 265, 349, 382, 384          | 16,060 | SF    | 1.00       | \$380,092  | 2004      | 15          |                 | DR        |
| IC01      | CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD     | OLD 2X2 ACT                 |             | NORTH, EAST, AND WEST WINGS | 60,770 | SF    | 1.00       | \$738,278  | 2004      | 30          | -2              | 2032      |
| IC01      | CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD     | NEW 2X2 ACT                 |             | SOUTH WING                  | 20,260 | SF    | 1.00       | \$246,133  | 2008      | 30          |                 | 2038      |
| IC04      | CEILING FINISH - PAINTED OR STAINED, STANDARD            | OLD STANDARD PAINT          |             | NORTH, EAST, AND WEST WINGS | 3,200  | SF    | 1.00       | \$8,621    | 2004      | 24          |                 | 2028      |
| IC04      | CEILING FINISH - PAINTED OR STAINED, STANDARD            | NEW STANDARD PAINT          |             | SOUTH WING                  | 1,070  | SF    | 1.00       | \$2,883    | 2008      | 24          |                 | 2032      |
| VT03      | ELEVATOR MODERNIZATION - HYDRAULIC                       | ELEV-B, P<br>FLAN-ELV-22760 |             | 193                         | 1      | EA    | 1.00       | \$363,640  | 2004      | 25          | 5               | 2034      |
| VT03      | ELEVATOR MODERNIZATION - HYDRAULIC                       | ELEV-A,<br>FLAN-ELV-6641    |             | 101                         | 1      | EA    | 1.25       | \$454,550  | 2008      | 25          | 1               | 2034      |
| VT04      | ELEVATOR CAB RENOVATION - PASSENGER                      | ELEV-B, P<br>FLAN-ELV-22760 |             | ELEVATOR B                  | 1      | EA    | 1.00       | \$64,123   | 2004      | 12          | 18              | 2034      |
| VT04      | ELEVATOR CAB RENOVATION - PASSENGER                      | ELEV-A,<br>FLAN-ELV-6641    |             | 101                         | 1      | EA    | 1.25       | \$80,154   | 2004      | 12          | 18              | 2034      |

### 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 |
|-----------|---|-------------------|-------------|--|-----|-------|------------|------------|------------|-------------|-----------------|-----------|
| FX01      | PLUMBING FIXTURE - LAVATORY, COUNTER      | SOLID SURF        |             | 134, 138, 234, 238, 334, 338                   | 24  | EA    | 1.00       | \$38,079   | 2004       | 35          |                 | 2039      |
| FX02      | PLUMBING FIXTURE - LAVATORY, WALL HUNG    | SST SINK          |             | 1204, 1206, 2204, 2206, 3204, 3206             | 6   | EA    | 1.00       | \$9,608    | 2008       | 35          |                 | 2043      |
| FX10      | PLUMBING FIXTURE - URINAL                 | OLD TANKLESS      |             | 134, 234, 334                                  | 9   | EA    | 1.00       | \$22,947   | 2004       | 35          |                 | 2039      |
| FX12      | PLUMBING FIXTURE - WATER CLOSET, TANKLESS | OLD TANKLESS      |             | 134, 138, 234, 238, 334, 338, 1204, 1206, 2204 | 27  | EA    | 1.00       | \$63,334   | 2004       | 35          |                 | 2039      |
| FX12      | PLUMBING FIXTURE - WATER CLOSET, TANKLESS | NEW TANKLESS      |             | 1204, 1206, 2204, 2206, 3204, 3206             | 6   | EA    | 1.00       | \$14,074   | 2008       | 35          |                 | 2043      |
| FX14      | PLUMBING FIXTURE - EMERGENCY SHOWER       | EMERGENCY SHOWER  |             | 3202   | 1   | EA    | 1.00       | \$1,816    | 2010       | 35          |                 | 2045      |
| FX14      | PLUMBING FIXTURE - EMERGENCY SHOWER       | EMERGENCY SHOWER  |             | 2202   | 1   | EA    | 1.00       | \$1,816    | 2010       | 35          |                 | 2045      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | FLAN-EWS-382B     | 10209       | 382  | 1   | EA    | 1.00       | \$5,641    | 2004       | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | FLAN-EWS-388B     | 10211       | 388  | 1   | EA    | 1.00       | \$5,641    | 2004       | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | EMERGENCY EYEWASH |             | 384  | 1   | EA    | 1.00       | \$5,641    | 2004       | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | EMERGENCY EYEWASH |             | 3212   | 1   | EA    | 1.00       | \$5,641    | 2010       | 35          |                 | 2045      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | EMERGENCY EYEWASH |             | 2221   | 1   | EA    | 1.00       | \$5,641    | 2010       | 35          |                 | 2045      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH      | FLAN-EWS-0153     | 10192       | 153  | 1   | EA    | 1.00       | \$5,641    | 2004       | 35          |                 | 2039      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|---|-------------------|-------------|----------|-----|-------|------------|------------|-------------|-------------|-----------------|-----------|
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | EYEWASH           |             | 386      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | EYEWASH           |             | 1205     | 1   | EA    | 1.00       | \$5,641    | 2008        | 35          |                 | 2043      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-188B     | 10201       | 188      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-279B     | 10202       | 279      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-312B     | 10204       | 312      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-312A     | 10205       | 312      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-0316     | 10206       | 316      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-0355     | 10207       | 355      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-182B     | 10196       | 182      | 1   | EA    | 1.00       | \$5,641    | 2008        | 35          |                 | 2043      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | EMERGENCY EYEWASH |             | 1212     | 1   | EA    | 1.00       | \$5,641    | 2008        | 35          |                 | 2043      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-0106     | 10191       | 106      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-178C     | 10193       | 178      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-178B     | 10194       | 178      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX15      | PLUMBING FIXTURE - EMERGENCY EYEWASH                    | FLAN-EWS-184B     | 10198       | 184      | 1   | EA    | 1.00       | \$5,641    | 2004        | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-382A     | 10208       | 382      | 1   | EA    | 1.00       | \$9,696    | 2004        | 35          |                 | 2039      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|---|--------------------------------|--------------|-------------------|--------|-------|------------|------------|-----------|-------------|-----------------|-----------|
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-384                   | 10210        | 384               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-388A                  | 10212        | 388               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-182A                  | 10197        | 182               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-178A                  | 10195        | 178               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-184A                  | 10199        | 184               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-188A                  | 10200        | 188               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | FLAN-EWS-279A                  | 10203        | 279               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | COMBINATION                    |              | 386               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| FX16      | PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH | COMBINATION                    |              | 384               | 1      | EA    | 1.00       | \$9,696    | 2004      | 35          |                 | 2039      |
| BF02      | BACKFLOW PREVENTER (1-2 INCHES)                         | DCW WATTS<br>S#567089          |              | 153               | 1      | EA    | 1.00       | \$2,816    | 2004      | 10          | 12              | 2026      |
| PP01      | DOMESTIC WATER BOOSTER SYSTEM                           | HP-1,<br>FLAN-PMP-009 &<br>010 | 10227, 10236 | 187               | 10     | HP    | 1.00       | \$155,221  | 2008      | 20          | 6               | 2034      |
| PS02      | SUPPLY PIPING SYSTEM - CLASSROOM                        | POTABLE SUPPLY                 |              | ORIGINAL BUILDING | 64,932 | SF    | 1.07       | \$813,192  | 2004      | 35          |                 | 2039      |
| PS02      | SUPPLY PIPING SYSTEM - CLASSROOM                        | POTABLE SUPPLY                 |              | 2008 ADDITION     | 19,150 | SF    | 1.07       | \$239,830  | 2008      | 35          |                 | 2043      |
| PS09      | SUPPLY PIPING SYSTEM - LABORATORY, WET                  | LAB SUPPLY                     |              | ORIGINAL BUILDING | 10,500 | SF    | 1.18       | \$204,847  | 2004      | 35          |                 | 2039      |
| PS09      | SUPPLY PIPING SYSTEM - LABORATORY, WET                  | LAB SUPPLY                     |              | 2008 ADDITION     | 5,850  | SF    | 1.18       | \$114,129  | 2004      | 35          |                 | 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 |
|-----------|---|-----------------------|-------------|-------------------|--------|-------|------------|-------------|-------------|-------------|-----------------|-----------|
| WH12      | WATER HEATER - COMMERCIAL, ELECTRIC (30-70 GAL) | STATE DWH & TANK      |             | 187               | 50     | GAL   | 1.00       | \$14,637    | 2022        | 20          |                 | 2042      |
| WH13      | WATER HEATER - COMMERCIAL, ELECTRIC (70-90 GAL) | FLAN-TAN-002          | 10169       | 2205              | 80     | GAL   | 1.00       | \$16,379    | 2017        | 20          |                 | 2037      |
| PD02      | DRAIN PIPING SYSTEM - CLASSROOM                 | CAST STEEL WASTE      |             | ORIGINAL BUILDING | 64,932 | SF    | 1.07       | \$1,228,198 | 2004        | 40          |                 | 2044      |
| PD02      | DRAIN PIPING SYSTEM - CLASSROOM                 | CAST STEEL WASTE      |             | 2008 ADDITION     | 19,150 | SF    | 1.07       | \$362,225   | 2008        | 40          |                 | 2048      |
| PD09      | DRAIN PIPING SYSTEM - LABORATORY, WET           | CAST STEEL WASTE      |             | ORIGINAL BUILDING | 10,500 | SF    | 1.18       | \$309,080   | 2004        | 40          |                 | 2044      |
| PD09      | DRAIN PIPING SYSTEM - LABORATORY, WET           | CAST STEEL WASTE      |             | 2008 ADDITION     | 5,850  | SF    | 1.18       | \$172,202   | 2008        | 40          |                 | 2048      |
| PG16      | AIR COMPRESSOR - UTILITY (>5 HP)                | BLDG/LAB FLAN-AIR-002 | 10160       | 187               | 10     | HP    | 1.00       | \$23,607    | 2016        | 25          |                 | 2041      |
| HU52      | UNIT HEATER, ELECTRIC                           | UH-3                  |             | 196               | 5      | KW    | 1.00       | \$986       | 2008        | 15          |                 | 2023      |
| HU53      | UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)    | UH-19, FLAN-UHT-019   | 10261       | 450               | 1      | EA    | 1.00       | \$1,346     | 2004        | 35          | 5               | 2044      |
| HU53      | UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)    | UH-20, FLAN-UHT-020   | 10262       | 450               | 1      | EA    | 1.00       | \$1,346     | 2004        | 35          | 5               | 2044      |
| HU53      | UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)    | UH-17, FLAN-UHT-017   | 10258       | 450               | 1      | EA    | 1.00       | \$1,346     | 2004        | 35          | 5               | 2044      |
| HU53      | UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)    | UH-16, FLAN-UHT-016   | 10259       | 450               | 1      | EA    | 1.00       | \$1,346     | 2004        | 35          | 5               | 2044      |
| HU53      | UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)    | UH-18, FLAN-UHT-018   | 10260       | 450               | 1      | EA    | 1.00       | \$1,346     | 2004        | 35          | 5               | 2044      |
| TK05      | EXPANSION TANK (61-100 GAL)                     | FLAN-TAN-001          | 10240       | 158               | 80     | GAL   | 1.00       | \$15,696    | 2006        | 25          | 5               | 2036      |
| TK05      | EXPANSION TANK (61-100 GAL)                     | CHW EXPANSION TANK    |             | 187               | 119    | GAL   | 1.00       | \$23,348    | 2012        | 25          |                 | 2037      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|---|---------------------|-------------|----------|-----|-------|------------|------------|-------------|-------------|-----------------|-----------|
| TK07      | CONDENSATE STORAGE TANK                 | FLASH TANK          |             | 453      | 1   | EA    | 1.25       | \$24,489   | 2004        | 20          | 4               | 2028      |
| TK33      | EXPANSION TANK, DIAPHRAGM (250-550 GAL) | HW AIR SEPARATOR    |             | 158      | 300 | GAL   | 1.00       | \$23,564   | 2004        | 25          | 5               | 2034      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-9, FLAN-FCU-009  | 10223       | 450      | 1   | HP    | 1.00       | \$10,844   | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-8, FLAN-FCU-008  | 10222       | 450      | 1   | HP    | 1.00       | \$10,844   | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-10, FLAN-FCU-010 | 10214       | 2205     | 1   | HP    | 1.00       | \$10,844   | 2008        | 25          |                 | 2033      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-7, FLAN-FCU-007  | 10221       | 187      | 1   | HP    | 0.65       | \$7,049    | 2008        | 25          |                 | 2033      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-1, FLAN-FCU-001  | 10219       | SE STAIR | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-2, FLAN-FCU-002  | 10217       | SE STAIR | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-3, FLAN-FCU-003  | 10216       | SW STAIR | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-4, FLAN-FCU-004  | 10218       | SW STAIR | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-5, FLAN-FCU-005  | 10215       | 105      | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP) | FC-6, FLAN-FCU-006  | 10220       | 153      | 1   | HP    | 0.55       | \$5,964    | 2004        | 25          |                 | 2029      |
| AH05      | AIR HANDLING UNIT - INDOOR (3.25-6 HP)  | DDU-1               | 22396       | ROOF     | 5   | HP    | 1.00       | \$53,468   | 2004        | 25          | -5              | 2024      |
| AH13      | AIR HANDLING UNIT - INDOOR (45-63 HP)   | AHU-3, FLAN-AHU-003 | 10157       | 2205     | 60  | HP    | 1.00       | \$345,666  | 2008        | 25          | 2               | 2035      |
| AH14      | AIR HANDLING UNIT - INDOOR (63-88 HP)   | AHU-2, FLAN-AHU-002 | 10159       | 450      | 75  | HP    | 1.00       | \$383,401  | 2004        | 25          | 5               | 2034      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|--|--------------------------|-------------|------------------|-----|-------|------------|------------|------------|-------------|-----------------|-----------|
| AH14      | AIR HANDLING UNIT - INDOOR (63-88 HP)                      | AHU-1,<br>FLAN-AHU-001   | 10158       | 450              | 75  | HP    | 1.00       | \$383,401  | 2004       | 25          | 5               | 2034      |
| AH46      | HUMIDIFIER, ELECTRIC, POINT-OF-USE                         | NORTEC<br>HUMIDIFIER     |             | 3212             | 1   | EA    | 1.00       | \$8,173    | 2010       | 20          |                 | 2030      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-2, N<br>FLAN-EAF-002  | 10181       | ROOF, EAST WING  | 1   | EA    | 1.00       | \$7,711    | 2004       | 20          | 5               | 2029      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-3, N<br>FLAN-EAF-003  | 10179       | ROOF             | 1   | EA    | 1.00       | \$7,711    | 2004       | 20          | 5               | 2029      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-5, S<br>FLAN-EAF-005  | 10172       | ROOF, EAST WING  | 1   | EA    | 1.00       | \$7,711    | 2004       | 20          | 5               | 2029      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-6,<br>FLAN-EAF-006    |             | ROOF, SE CORNER  | 1   | EA    | 1.00       | \$7,711    | 2004       | 20          |                 | 2024      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-8, W<br>FLAN-EAF-017  | 10187       | ROOF, SOUTH WING | 1   | EA    | 1.00       | \$7,711    | 2007       | 20          |                 | 2027      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-4, S<br>FLAN-EAF-004  | 10184       | ROOF, WEST WING  | 1   | EA    | 1.00       | \$7,711    | 2004       | 20          |                 | 2024      |
| FN19      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EXHAUST FAN              | 22423       | 105              | 1   | EA    | 0.55       | \$4,241    | 2008       | 20          | 5               | 2033      |
| FN20      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER) | EF-7, E<br>FLAN-EAF-016  | 10175       | ROOF, SOUTH WING | 1   | EA    | 1.00       | \$9,572    | 2007       | 20          | 6               | 2033      |
| FN20      | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER) | EF-1, W<br>FLAN-EAF-001  | 10173       | PENTHOUSE ROOF   | 1   | EA    | 1.00       | \$9,572    | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | AEF-1, S<br>FLAN-EAF-012 | 10186       | ROOF, EAST WING  | 3   | HP    | 1.00       | \$16,132   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-1, S<br>FLAN-EAF-007 | 10170       | ROOF, EAST WING  | 15  | HP    | 1.00       | \$80,658   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-2, S<br>FLAN-EAF-008 | 10171       | ROOF, EAST WING  | 15  | HP    | 1.00       | \$80,658   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-3, S<br>FLAN-EAF-009 | 10185       | ROOF, EAST WING  | 15  | HP    | 1.00       | \$80,658   | 2004       | 20          |                 | 2024      |

### RENEWABLE COMPONENT INVENTORY

| COMP CODE | COMPONENT DESCRIPTION                            | IDENTIFIER               | CUSTOMER ID | LOCATION          | QTY    | UNITS | CPLX FACTR | TOTAL COST  | INSTR DATE | USEFUL LIFE | USEFUL LIFE ADJ | REPL YEAR |
|-----------|--|--------------------------|-------------|-------------------|--------|-------|------------|-------------|------------|-------------|-----------------|-----------|
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-9, C<br>FLAN-EAF-018 | 10182       | ROOF, SOUTH WING  | 2      | HP    | 1.00       | \$10,754    | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-6, W<br>FLAN-EAF-013 | 10176       | ROOF, SOUTH WING  | 20     | HP    | 1.00       | \$107,544   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-7, W<br>FLAN-EAF-014 | 10183       | ROOF, SOUTH WING  | 20     | HP    | 1.00       | \$107,544   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-8, W<br>FLAN-EAF-015 | 10174       | ROOF, SOUTH WING  | 20     | HP    | 1.00       | \$107,544   | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-4, S<br>FLAN-EAF-010 | 10178       | ROOF, WEST WING   | 3      | HP    | 1.00       | \$16,132    | 2004       | 20          |                 | 2024      |
| FN40      | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP) | LEF-5, S<br>FLAN-EAF-011 | 10177       | ROOF, WEST WING   | 3      | HP    | 1.00       | \$16,132    | 2004       | 20          |                 | 2024      |
| HD01      | HOOD, FUME                                       | 384-1                    |             | 384               | 5      | LF    | 1.00       | \$14,273    | 2004       | 20          | 10              | 2034      |
| HD01      | HOOD, FUME                                       | 2213 FUME HOOD           |             | 2213              | 5      | LF    | 1.00       | \$14,273    | 2008       | 20          | 6               | 2034      |
| HD01      | HOOD, FUME                                       | STAINLESS EXHAUST HOOD   |             | 182               | 6      | LF    | 0.50       | \$8,564     | 2004       | 20          | 10              | 2034      |
| HD01      | HOOD, FUME                                       | FUME HOOD                |             | 182               | 5      | LF    | 1.00       | \$14,273    | 2004       | 20          | 10              | 2034      |
| HD01      | HOOD, FUME                                       | FUME HOOD                |             | 1212              | 5      | LF    | 1.00       | \$14,273    | 2008       | 20          | 6               | 2034      |
| HV02      | HVAC DISTRIBUTION NETWORKS - CLASSROOM           | HVAC DISTRIBUTION        |             | ORIGINAL BUILDING | 64,932 | SF    | 0.98       | \$2,459,474 | 2004       | 40          |                 | 2044      |
| HV02      | HVAC DISTRIBUTION NETWORKS - CLASSROOM           | 2008 HVAC DISTRIBUTION   |             | 2008 ADDITION     | 19,150 | SF    | 0.98       | \$725,358   | 2008       | 40          |                 | 2048      |
| HV09      | HVAC DISTRIBUTION NETWORKS - LABORATORY, WET     | HVAC DISTRIBUTION        |             | ORIGINAL BUILDING | 10,500 | SF    | 1.18       | \$1,148,316 | 2004       | 40          |                 | 2044      |
| HV09      | HVAC DISTRIBUTION NETWORKS - LABORATORY, WET     | 2008 HVAC DISTRIBUTION   |             | 2008 ADDITION     | 5,850  | SF    | 1.18       | \$639,776   | 2008       | 40          |                 | 2048      |



### 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 |
|-----------|---|-------------------------|--------------|----------|-----|-------|------------|------------|-------------|-------------|-----------------|-----------|
| HX02      | HEAT EXCHANGER - SHELL & TUBE WATER TO WATER (85-255 GPM) | FLAN-HEX-001            | 10225        | 153      | 150 | GPM   | 1.00       | \$40,339   | 2004        | 35          |                 | 2039      |
| HX02      | HEAT EXCHANGER - SHELL & TUBE WATER TO WATER (85-255 GPM) | FLAN-HEX-002            | 10226        | 153      | 150 | GPM   | 1.00       | \$40,339   | 2008        | 35          |                 | 2043      |
| HX12      | PRESSURE REDUCING VALVE, STEAM SYSTEM (4")                | FLAN-PRV-001            | 10239        | 153      | 1   | EA    | 1.35       | \$15,965   | 2004        | 20          | 5               | 2029      |
| PH01      | PUMP - ELECTRIC (<=10 HP)                                 | DHW,<br>FLAN-PMP-008    | 10235        | 2205     | 1   | HP    | 1.00       | \$1,981    | 2008        | 25          | 1               | 2034      |
| PH01      | PUMP - ELECTRIC (<=10 HP)                                 | DHW                     |              | 187      | 1   | HP    | 1.00       | \$1,981    | 2008        | 25          | 1               | 2034      |
| PH02      | PUMP - ELECTRIC (10 - 15 HP)                              | HWP-2,<br>FLAN-PMP-005  | 10228        | 153      | 10  | HP    | 1.00       | \$17,245   | 2004        | 25          |                 | 2029      |
| PH02      | PUMP - ELECTRIC (10 - 15 HP)                              | HWP-1,<br>FLAN-PMP-004  | 10232        | 153      | 10  | HP    | 1.00       | \$17,245   | 2004        | 25          | -5              | 2024      |
| PH03      | PUMP - ELECTRIC (15 - 20 HP)                              | CHP-1,<br>FLAN-PMP-002  | 10230        | 187      | 20  | HP    | 1.00       | \$25,689   | 2008        | 25          | 5               | 2038      |
| PH03      | PUMP - ELECTRIC (15 - 20 HP)                              | CHP-2,<br>FLAN-PMP-003  | 10238        | 187      | 20  | HP    | 1.00       | \$25,689   | 2008        | 25          | 5               | 2038      |
| PH14      | CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS                    | CU-1                    | 10233, 10234 | 153      | 6   | HP    | 1.00       | \$53,716   | 2004        | 20          | 9               | 2033      |
| RV01      | SAFETY RELIEF VALVE                                       | STEAM RELIEF VALVE      | 22053        | 153      | 1   | EA    | 1.00       | \$22,955   | 2004        | 25          |                 | 2029      |
| RV01      | SAFETY RELIEF VALVE                                       | STEAM RELIEF VALVE      | 22052        | 153      | 1   | EA    | 1.00       | \$22,955   | 2004        | 25          |                 | 2029      |
| AC02      | AIR COMPRESSOR SYSTEM - HVAC CONTROLS (6-10 TOTAL HP)     | AC-1/2,<br>FLAN-AIR-001 | 10161        | 158      | 6   | HP    | 1.00       | \$14,457   | 2019        | 20          |                 | 2039      |
| AD01      | AIR DRYER - REFRIGERATED - 0-10 CFM                       | FLAN-DRY-001            | 10167        | 158      | 1   | EA    | 1.00       | \$1,961    | 2005        | 15          | 5               | 2025      |
| AD01      | AIR DRYER - REFRIGERATED - 0-10 CFM                       | AIR DRYER               |              | 158      | 1   | EA    | 1.00       | \$1,961    | 2010        | 15          |                 | 2025      |

### 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 |
|-----------|--|---------------------------|-------------|-------------------|--------|-------|------------|-------------|-------------|-------------|-----------------|-----------|
| AD04      | AIR DRYER - REFRIGERATED - 51-75 CFM                   | BLDG/LAB<br>FLAN-DRY-002  | 10168       | 187               | 1      | EA    | 1.00       | \$4,988     | 2016        | 15          | 3               | 2034      |
| BA02      | HVAC CONTROLS - TERMINAL ASSEMBLIES - CLASSROOM        | VAV CONTROLLER            |             | THROUGHOUT        | 75,432 | SF    | 1.24       | \$348,625   | 2022        | 20          |                 | 2042      |
| BA09      | HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET  | VAV                       |             | LAB SPACES        | 25,000 | SF    | 1.00       | \$236,890   | 2008        | 20          |                 | 2028      |
| BA25      | HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM  | SOFTWARE,<br>THERMOSTATS  |             | THROUGHOUT        | 75,342 | SF    | 1.00       | \$78,573    | 2023        | 10          |                 | 2033      |
| BA32      | HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - LABORATORY | SOFTWARE,<br>THERMOSTATS  |             | LAB SPACES        | 25,000 | SF    | 1.00       | \$66,656    | 2023        | 10          |                 | 2033      |
| BA48      | HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM      | ACTUATORS                 |             | THROUGHOUT        | 75,432 | SF    | 0.65       | \$26,064    | 2023        | 10          |                 | 2033      |
| BA48      | HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM      | ACTUATORS                 |             | THROUGHOUT        | 75,432 | SF    | 0.35       | \$14,035    | 2008        | 10          |                 | DR        |
| BA55      | HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY     | ACTUATORS                 |             | LAB SPACES        | 25,000 | SF    | 0.35       | \$11,935    | 2008        | 10          | 5               | 2023      |
| BA55      | HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY     | ACTUATORS                 |             | LAB SPACES        | 25,000 | SF    | 0.65       | \$22,164    | 2023        | 10          |                 | 2033      |
| FP09      | FIRE PUMP - ELECTRIC, 250 GPM, 2" ID (<=15 HP)         | JP-1,<br>FLAN-PMP-012     | 10231       | 196               | 1.50   | HP    | 1.00       | \$4,813     | 2004        | 25          | 10              | 2039      |
| FP10      | FIRE PUMP - ELECTRIC, 500 GPM, 3" ID (15-65 HP)        | FP-1,<br>FLAN-PMP-FP1     | 10237       | 196               | 50     | HP    | 1.00       | \$49,713    | 2004        | 25          | 10              | 2039      |
| FS01      | FIRE SPRINKLER SYSTEM                                  | WET PIPE,<br>FLAN-SPR-001 | 10269       | ORIGINAL BUILDING | 75,342 | SF    | 1.07       | \$1,218,357 | 2004        | 80          |                 | 2084      |
| FS01      | FIRE SPRINKLER SYSTEM                                  | WET PIPE,<br>FLAN-SPR-001 | 10269       | 2008 ADDITION     | 25,000 | SF    | 1.07       | \$404,275   | 2008        | 80          |                 | 2088      |
| FA01      | FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER           | FACP,<br>FLAN-ALM-001     | 10162       | 105               | 1      | EA    | 1.00       | \$45,567    | 2008        | 15          | 5               | 2028      |
| FA02      | FIRE ALARM SYSTEM - DEVICES                            | 2004 FA SYSTEM DEVICES    |             | ORIGINAL BUILDING | 75,342 | SF    | 1.07       | \$395,898   | 2004        | 18          | 6               | 2028      |

### 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 |
|-----------|--|------------------------|-------------|---------------|--------|-------|------------|-------------|-------------|-------------|-----------------|-----------|
| FA02      | FIRE ALARM SYSTEM - DEVICES                            | 2008 FA SYSTEM DEVICES |             | 2008 ADDITION | 25,000 | SF    | 1.07       | \$131,367   | 2008        | 18          | 2               | 2028      |
| SE02      | ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM            | SECONDARY ELECTRIC     |             | BUILDING WIDE | 64,932 | SF    | 0.95       | \$1,634,322 | 2004        | 40          |                 | 2044      |
| SE02      | ELECTRICAL DISTRIBUTION NETWORK - CLASSROOM            | SECONDARY ELECTRIC     |             | 2008 ADDITION | 25,000 | SF    | 0.95       | \$629,244   | 2008        | 40          |                 | 2048      |
| SE09      | ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET      | SECONDARY ELECTRIC     |             | BUILDING WIDE | 10,500 | SF    | 1.18       | \$369,294   | 2004        | 40          |                 | 2044      |
| SE09      | ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET      | SECONDARY ELECTRIC     |             | 2008 ADDITION | 5,850  | SF    | 1.18       | \$205,750   | 2008        | 40          |                 | 2048      |
| SG02      | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)              | PANELBOARD             |             | 128           | 400    | AMP   | 1.00       | \$37,390    | 2004        | 20          |                 | 2024      |
| SG02      | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)              | H1B                    |             | 172           | 400    | AMP   | 1.00       | \$37,390    | 2004        | 20          |                 | 2024      |
| SG02      | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)              | EH1                    |             | 105           | 400    | AMP   | 1.00       | \$37,390    | 2004        | 20          |                 | 2024      |
| SG02      | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)              | H1C                    |             | 1222          | 400    | AMP   | 1.00       | \$37,390    | 2008        | 20          |                 | 2028      |
| SG04      | MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)             | MDP                    |             | 105           | 1,200  | AMP   | 1.00       | \$106,529   | 2004        | 20          |                 | 2024      |
| SG12      | MC SWGR BREAKER - FME Adjustable (800-1600 AMP)        | MDP - MAIN BREAKER     |             | 105           | 1,200  | AMP   | 1.00       | \$30,000    | 2004        | 25          |                 | 2029      |
| TX24      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA) | XLSLI, FLAN-TRA-009    | 10242       | 105           | 15     | KVA   | 1.00       | \$5,546     | 2004        | 30          |                 | 2034      |
| TX24      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA) | XL4, FLAN-TRA-008      | 10249       | 450           | 15     | KVA   | 1.00       | \$5,546     | 2004        | 30          |                 | 2034      |
| TX24      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA) | XL3C, FLAN-TRA-012     | 10252       | 3222          | 30     | KVA   | 1.00       | \$11,092    | 2008        | 30          |                 | 2038      |
| TX24      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA) | XL2C, FLAN-TRA-011     | 10251       | 2222          | 30     | KVA   | 1.00       | \$11,092    | 2008        | 30          |                 | 2038      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|---|-----------------------|-------------|------------------|-----|-------|------------|------------|-------------|-------------|-----------------|-----------|
| TX24      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (9-30 KVA)  | FLAN-TRA-010          |             | 1222             | 30  | KVA   | 1.00       | \$11,092   | 2008        | 30          |                 | 2038      |
| TX25      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA) | XL3B,<br>FLAN-TRA-007 | 10248       | 372              | 45  | KVA   | 1.00       | \$10,613   | 2004        | 30          |                 | 2034      |
| TX25      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA) | XL2B,<br>FLAN-TRA-005 | 10246       | 272              | 45  | KVA   | 1.00       | \$10,613   | 2004        | 30          |                 | 2034      |
| TX25      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA) | XL2A,<br>FLAN-TRA-004 | 10245       | 228              | 45  | KVA   | 1.00       | \$10,613   | 2004        | 30          |                 | 2034      |
| TX25      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA) | XL1A,<br>FLAN-TRA-002 | 10243       | 128              | 45  | KVA   | 1.00       | \$10,613   | 2004        | 30          |                 | 2034      |
| TX25      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (30-50 KVA) | XL3A,<br>FLAN-TRA-006 | 10247       | 328              | 45  | KVA   | 1.00       | \$10,613   | 2004        | 30          |                 | 2034      |
| TX26      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (50-75 KVA) | XL1B,<br>FLAN-TRA-003 | 10244       | 172              | 75  | KVA   | 1.00       | \$14,633   | 2004        | 30          |                 | 2034      |
| TX26      | TRANSFORMER - DRY-TYPE, 3PH, 480V SECONDARY (50-75 KVA) | XEL1,<br>FLAN-TRA-001 | 10241       | 105              | 75  | KVA   | 1.00       | \$14,633   | 2004        | 30          |                 | 2034      |
| VF03      | VARIABLE FREQUENCY DRIVE (7.5-10 HP)                    | HWP-1 VFD             |             | 153              | 10  | HP    | 1.00       | \$6,378    | 2004        | 12          | 8               | 2024      |
| VF03      | VARIABLE FREQUENCY DRIVE (7.5-10 HP)                    | HWP-2 VFD             |             | 153              | 10  | HP    | 1.00       | \$6,378    | 2004        | 12          | 8               | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                     | LEF-1 VFD             |             | ROOF, EAST WING  | 15  | HP    | 1.00       | \$6,773    | 2015        | 12          | -3              | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                     | LEF-2 VFD             |             | ROOF, EAST WING  | 15  | HP    | 1.00       | \$6,773    | 2015        | 12          | -3              | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                     | LEF-3 VFD             |             | ROOF, EAST WING  | 15  | HP    | 1.00       | \$6,773    | 2015        | 12          | -3              | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                     | LEF-6 VFD             |             | ROOF, SOUTH WING | 20  | HP    | 1.00       | \$9,030    | 2015        | 12          | -3              | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                     | LEF-7 VFD             |             | ROOF, SOUTH WING | 20  | HP    | 1.00       | \$9,030    | 2015        | 12          | -3              | 2024      |

### RENEWABLE COMPONENT INVENTORY

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|-----------|--|--------------------------|-------------|-------------------|--------|-------|------------|------------|------------|-------------|-----------------|-----------|
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                        | LEF-8 VFD                |             | ROOF, SOUTH WING  | 20     | HP    | 1.00       | \$9,030    | 2020       | 12          | -8              | 2024      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                        | CHP-1 VFD                |             | 187               | 20     | HP    | 1.00       | \$9,030    | 2008       | 12          | 5               | 2025      |
| VF05      | VARIABLE FREQUENCY DRIVE (15-20 HP)                        | CHP-2 VFD                |             | 187               | 20     | HP    | 1.00       | \$9,030    | 2008       | 12          | 5               | 2025      |
| VF10      | VARIABLE FREQUENCY DRIVE (50-75 HP)                        | AHU-2 VFD                |             | 450               | 75     | HP    | 1.00       | \$22,181   | 2004       | 16          | 3               | 2023      |
| VF10      | VARIABLE FREQUENCY DRIVE (50-75 HP)                        | AHU-1 VFD                |             | 450               | 75     | HP    | 1.00       | \$22,181   | 2016       | 16          | 2               | 2034      |
| VF10      | VARIABLE FREQUENCY DRIVE (50-75 HP)                        | AHU-3 VFD                |             | 2205              | 60     | HP    | 1.00       | \$17,745   | 2008       | 16          |                 | 2024      |
| LE01      | LIGHTING - EXTERIOR, BOLLARD (SV, MH, ID, LED) COM         | BOLLARD LIGHTING         |             | EXTERIOR          | 12     | EA    | 1.00       | \$33,627   | 2008       | 15          | 12              | 2035      |
| LE07      | LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)          | SURFACE LED              |             | EXTERIOR          | 1      | EA    | 1.00       | \$1,190    | 2016       | 15          | 2               | 2033      |
| LE07      | LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)          | SURFACE ELEGANT          |             | EXTERIOR          | 2      | EA    | 1.00       | \$2,380    | 2004       | 15          | 15              | 2034      |
| LE08      | LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED) | ELEGANT PENDENT          |             | EXTERIOR          | 4      | EA    | 1.00       | \$1,999    | 2004       | 15          | 15              | 2034      |
| LE08      | LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED) | SURFACE BUCKET           |             | BALCONIES         | 22     | EA    | 1.00       | \$10,992   | 2008       | 15          |                 | 2023      |
| LI02      | LIGHTING SYSTEM, INTERIOR - CLASSROOM                      | LIGHTING W/ LED RETROFIT |             | ORIGINAL BUILDING | 64,932 | SF    | 0.98       | \$776,406  | 2004       | 20          | 8               | 2032      |
| LI02      | LIGHTING SYSTEM, INTERIOR - CLASSROOM                      | LIGHTING W/ LED RETROFIT |             | 2008 ADDITION     | 19,150 | SF    | 0.98       | \$228,981  | 2008       | 20          |                 | 2028      |
| LI09      | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET                | LIGHTING W/ LED RETROFIT |             | ORIGINAL BUILDING | 10,500 | SF    | 1.18       | \$158,589  | 2004       | 20          |                 | 2024      |
| LI09      | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET                | LIGHTING W/ LED RETROFIT |             | 2008 ADDITION     | 5,850  | SF    | 1.18       | \$88,357   | 2008       | 20          |                 | 2028      |

### 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 |
|-----------|--|--|--------------|------------------------------|--------|-------|------------|------------|-------------|-------------|-----------------|-----------|
| GN04      | GENERATOR - DIESEL (200-500 KW)                                      | FLAN-EMG-001                             | 10190        | EXTERIOR                     | 450    | KW    | 1.00       | \$264,718  | 2008        | 25          |                 | 2033      |
| GN15      | SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)                          | EM ATS-2,<br>FLAN-TSW-ATS2               | 10254        | 105                          | 400    | AMP   | 1.00       | \$19,798   | 2004        | 25          | 5               | 2034      |
| GN15      | SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)                          | LS ATS-1,<br>FLAN-TSW-ATS1               | 10255        | 105                          | 400    | AMP   | 1.00       | \$19,798   | 2004        | 25          | 5               | 2034      |
| GN15      | SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)                          | FLAN-TSW-FPC1 /<br>FPC2                  | 10256, 10257 | 196                          | 400    | AMP   | 2.15       | \$42,566   | 2004        | 25          | 10              | 2039      |
| LP01      | LIGHTNING PROTECTION   | AIR TERMINALS<br>AND ALUM CABLE          | 10155        | ROOF<br>PARAPET AND<br>EQUIP | 21,629 | SF    | 1.00       | \$39,267   | 2004        | 50          |                 | 2054      |
| LP01      | LIGHTNING PROTECTION   | WIRE WITH<br>RODS                        | 10155        | ROOF<br>PERIMETER            | 5,407  | SF    | 1.00       | \$9,816    | 2004        | 50          |                 | 2054      |
| LP01      | LIGHTNING PROTECTION   | WIRE WITH<br>RODS                        | 10155        | ROOF EQUIP &<br>PERIMETER    | 9,012  | SF    | 1.00       | \$16,361   | 2008        | 50          |                 | 2058      |
| CR01      | WALK-IN REFRIGERATOR OR FREEZER<br>STRUCTURE                         | FREEZER                                  |              | 3224                         | 90     | SF    | 1.18       | \$43,859   | 2008        | 35          |                 | 2043      |
| CR01      | WALK-IN REFRIGERATOR OR FREEZER<br>STRUCTURE                         | COLD ROOM                                |              | 2220                         | 80     | SF    | 1.18       | \$38,986   | 2008        | 35          |                 | 2043      |
| CR01      | WALK-IN REFRIGERATOR OR FREEZER<br>STRUCTURE                         | COLD ROOM                                |              | 1208                         | 100    | SF    | 1.18       | \$48,733   | 2008        | 35          |                 | 2043      |
| CR02      | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP<br>FANS, 6700 BTUH, CONDENSER | REFRIGERATION<br>SYSTEM                  |              | 3224, ROOF                   | 1      | EA    | 1.00       | \$11,682   | 2008        | 10          | 8               | 2026      |
| CR02      | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP<br>FANS, 6700 BTUH, CONDENSER | REFRIGERATION<br>SYSTEM                  |              | 2220, ROOF                   | 1      | EA    | 1.00       | \$11,682   | 2008        | 10          | 8               | 2026      |
| CR02      | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP<br>FANS, 6700 BTUH, CONDENSER | REFRIGERATION<br>SYSTEM                  |              | 1208, ROOF                   | 1      | EA    | 1.00       | \$11,682   | 2008        | 10          | 8               | 2026      |
| SF02      | SEATING, FIXED, FOLDING, PREMIUM                                     | PLASTIC BACKED<br>FOLDING<br>UPHOLSTERED |              | 265                          | 100    | EA    | 1.00       | \$101,637  | 2004        | 60          |                 | 2064      |

### 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 |
|---------------------|--|------------------------------------|-------------|------------------|-----|-------|------------|---------------------|------------|-------------|-----------------|-----------|
| SF02                | SEATING, FIXED, FOLDING, PREMIUM               | PLASTIC BACKED FOLDING UPHOLSTERED |             | 349              | 110 | EA    | 1.00       | \$111,801           | 2004       | 60          |                 | 2064      |
| SIO6                | ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE | STANDARD ASPHALT                   |             | EAST PARKING LOT | 300 | SY    | 1.00       | \$1,305             | 2008       | 7           | 7               | DR        |
| <b>Grand Total:</b> |  |                                    |             |                  |     |       |            | <b>\$31,531,143</b> |            |             |                 |           |

### 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 |
| DR30                               | DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS           | METAL COILING      |             | LOADING DOCK                | B2030      | 1      | EA    | \$2,558          | DR   |
| IW01                               | WALL FINISH - PAINT, STANDARD                            | OLD PAINTED GYPSUM |             | NORTH, EAST, AND WEST WINGS | C3010      | 56,960 | SF    | \$153,459        | DR   |
| IW01                               | WALL FINISH - PAINT, STANDARD                            | NEW PAINTED GYPSUM |             | SOUTH WING                  | C3010      | 18,990 | SF    | \$51,162         | DR   |
| IF14                               | FLOORING - FLUID APPLIED, EPOXY / ACRYLIC / POLYURETHANE | EPOXY FLOOR        |             | 265, 349, 382, 384          | C3020      | 16,060 | SF    | \$380,092        | DR   |
| BA48                               | HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM        | ACTUATORS          |             | THROUGHOUT                  | D3060      | 75,432 | SF    | \$14,035         | DR   |
| SI06                               | ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE           | STANDARD ASPHALT   |             | EAST PARKING LOT            | G2020      | 300    | SY    | \$1,305          | DR   |
| <b>TOTAL DEFERRED RENEWAL COST</b> |  |                    |             |                             |            |        |       | <b>\$602,611</b> |      |

| 2023      |                       |            |             |          |            |     |       |                  |      |
|-----------|-----------------------|------------|-------------|----------|------------|-----|-------|------------------|------|
| 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*

|  |  |                |       |                             |       |        |    |                  |      |
|--|--|----------------|-------|-----------------------------|-------|--------|----|------------------|------|
| RR07   | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH  | OLD MOD BIT    | 10155 | NORTH, EAST, AND WEST WINGS | B3010 | 21,629 | SF | \$155,508        | 2023 |
| HU52   | UNIT HEATER, ELECTRIC                                      | UH-3           |       | 196                         | D3020 | 5      | KW | \$986            | 2023 |
| BA55   | HVAC CONTROLS - MAJOR INSTRUMENTATION - LABORATORY         | ACTUATORS      |       | LAB SPACES                  | D3060 | 25,000 | SF | \$11,935         | 2023 |
| VF10   | VARIABLE FREQUENCY DRIVE (50-75 HP)                        | AHU-2 VFD      |       | 450                         | D5010 | 75     | HP | \$22,181         | 2023 |
| LE08   | LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED) | SURFACE BUCKET |       | BALCONIES                   | D5020 | 22     | EA | \$10,992         | 2023 |
| <b>2023 PROJECTED COMPONENT REPLACEMENT COST</b> |  |                |       |                             |       |        |    | <b>\$201,602</b> |      |

### 2024

| COMP CODE | COMPONENT DESCRIPTION                                   | IDENTIFIER | CUSTOMER ID | LOCATION                                       | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
|-----------|---|------------|-------------|--|------------|-----|-------|------------------|------|
| RR20      | ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED | GALV STEEL |             | EAST AND WEST WINGS                            | B3010      | 400 | LF    | \$8,428          | 2024 |
| RR20      | ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED | GALV STEEL |             | NORTH WING                                     | B3010      | 312 | LF    | \$6,574          | 2024 |
| IW14      | TOILET PARTITION WITH ACCESSORIES                       | PLASTIC    |             | 134, 138, 234, 238, 334, 338, 1204, 1206, 2204 | C1010      | 24  | SYS   | \$77,514         | 2024 |
| IW15      | URINAL PARTITION WITH ACCESSORIES                       | PLASTIC    |             | 134, 234, 334                                  | C1010      | 6   | EA    | \$3,615          | 2024 |

### RECURRING NEEDS BY YEAR

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

|      |  |                                 |       |  |       |        |    |           |      |
|------|--|---------------------------------|-------|--|-------|--------|----|-----------|------|
| DR24 | DOOR LOCK, COMMERCIAL-GRADE                              | OLD LEVER                       |       | NORTH, EAST,<br>AND WEST<br>WINGS                        | C1020 | 36     | EA | \$33,240  | 2024 |
| DR24 | DOOR LOCK, COMMERCIAL-GRADE                              | OLD LEVER                       |       | NORTH, EAST,<br>WEST WING<br>CRRDRS                      | C1020 | 237    | EA | \$218,828 | 2024 |
| DR26 | DOOR PANIC HARDWARE                                      | OLD PANIC BAR                   |       | 240, 260, 340,<br>1001, 1002,<br>1003, 1004, 265,<br>349 | C1020 | 21     | EA | \$31,723  | 2024 |
| CW01 | CASEWORK - WOOD BASE AND WALL, TOP,<br>STANDARD          | LAMINATE                        |       | 344, 381, 326,<br>258, 242                               | C1030 | 90     | LF | \$60,180  | 2024 |
| IW09 | WALL FINISH - WALL COVERING, ROLL                        | OLD PROTECTIVE<br>WALL COVERING |       | NORTH, EAST,<br>AND WEST<br>WINGS                        | C3010 | 7,510  | SF | \$48,513  | 2024 |
| IW12 | WALL FINISH - PANEL, MEDICAL / LABORATORY<br>APPLICATION | ACOUSTIC WALL<br>PANEL          |       | 265, 349   | C3010 | 880    | SF | \$12,023  | 2024 |
| IF03 | FLOORING - VINYL COMPOSITION TILE,<br>STANDARD           | OLD 12X12 TILES                 |       | MOST AREAS   | C3020 | 39,130 | SF | \$310,944 | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST<br>(≤30 HP)       | AEF-1, S<br>FLAN-EAF-012        | 10186 | ROOF, EAST<br>WING                                       | D3040 | 3      | HP | \$16,616  | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST<br>(≤30 HP)       | LEF-1, S<br>FLAN-EAF-007        | 10170 | ROOF, EAST<br>WING                                       | D3040 | 15     | HP | \$83,078  | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST<br>(≤30 HP)       | LEF-2, S<br>FLAN-EAF-008        | 10171 | ROOF, EAST<br>WING                                       | D3040 | 15     | HP | \$83,078  | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST<br>(≤30 HP)       | LEF-3, S<br>FLAN-EAF-009        | 10185 | ROOF, EAST<br>WING                                       | D3040 | 15     | HP | \$83,078  | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST<br>(≤30 HP)       | LEF-9, C<br>FLAN-EAF-018        | 10182 | ROOF, SOUTH<br>WING                                      | D3040 | 2      | HP | \$11,077  | 2024 |

### RECURRING NEEDS BY YEAR

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

|      |  |                          |       |                  |       |       |     |           |      |
|------|--|--------------------------|-------|------------------|-------|-------|-----|-----------|------|
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-6, W<br>FLAN-EAF-013 | 10176 | ROOF, SOUTH WING | D3040 | 20    | HP  | \$110,770 | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-7, W<br>FLAN-EAF-014 | 10183 | ROOF, SOUTH WING | D3040 | 20    | HP  | \$110,770 | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-8, W<br>FLAN-EAF-015 | 10174 | ROOF, SOUTH WING | D3040 | 20    | HP  | \$110,770 | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-4, S<br>FLAN-EAF-010 | 10178 | ROOF, WEST WING  | D3040 | 3     | HP  | \$16,616  | 2024 |
| FN40 | FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)           | LEF-5, S<br>FLAN-EAF-011 | 10177 | ROOF, WEST WING  | D3040 | 3     | HP  | \$16,616  | 2024 |
| AH05 | AIR HANDLING UNIT - INDOOR (3.25-6 HP)                     | DDU-1                    | 22396 | ROOF             | D3040 | 5     | HP  | \$55,072  | 2024 |
| FN19 | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-6, FLAN-EAF-006       |       | ROOF, SE CORNER  | D3040 | 1     | EA  | \$7,943   | 2024 |
| FN19 | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-4, S<br>FLAN-EAF-004  | 10184 | ROOF, WEST WING  | D3040 | 1     | EA  | \$7,943   | 2024 |
| FN20 | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (25"-30" DIAMETER) | EF-1, W<br>FLAN-EAF-001  | 10173 | PENTHOUSE ROOF   | D3040 | 1     | EA  | \$9,859   | 2024 |
| PH02 | PUMP - ELECTRIC (10 - 15 HP)                               | HWP-1,<br>FLAN-PMP-004   | 10232 | 153              | D3040 | 10    | HP  | \$17,762  | 2024 |
| SG02 | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)                  | PANELBOARD               |       | 128              | D5010 | 400   | AMP | \$38,512  | 2024 |
| SG02 | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)                  | H1B                      |       | 172              | D5010 | 400   | AMP | \$38,512  | 2024 |
| SG02 | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)                  | EH1                      |       | 105              | D5010 | 400   | AMP | \$38,512  | 2024 |
| SG04 | MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)                 | MDP                      |       | 105              | D5010 | 1,200 | AMP | \$109,725 | 2024 |

### RECURRING NEEDS BY YEAR

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

|  |   |                          |  |                   |       |        |    |                    |      |
|--|---|--------------------------|--|-------------------|-------|--------|----|--------------------|------|
| VF03   | VARIABLE FREQUENCY DRIVE (7.5-10 HP)        | HWP-1 VFD                |  | 153               | D5010 | 10     | HP | \$6,569            | 2024 |
| VF03   | VARIABLE FREQUENCY DRIVE (7.5-10 HP)        | HWP-2 VFD                |  | 153               | D5010 | 10     | HP | \$6,569            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-1 VFD                |  | ROOF, EAST WING   | D5010 | 15     | HP | \$6,976            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-2 VFD                |  | ROOF, EAST WING   | D5010 | 15     | HP | \$6,976            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-3 VFD                |  | ROOF, EAST WING   | D5010 | 15     | HP | \$6,976            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-6 VFD                |  | ROOF, SOUTH WING  | D5010 | 20     | HP | \$9,301            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-7 VFD                |  | ROOF, SOUTH WING  | D5010 | 20     | HP | \$9,301            | 2024 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP)         | LEF-8 VFD                |  | ROOF, SOUTH WING  | D5010 | 20     | HP | \$9,301            | 2024 |
| VF10   | VARIABLE FREQUENCY DRIVE (50-75 HP)         | AHU-3 VFD                |  | 2205              | D5010 | 60     | HP | \$18,277           | 2024 |
| LI09   | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET | LIGHTING W/ LED RETROFIT |  | ORIGINAL BUILDING | D5020 | 10,500 | SF | \$163,346          | 2024 |
| <b>2024 PROJECTED COMPONENT REPLACEMENT COST</b> |   |                          |  |                   |       |        |    | <b>\$2,021,480</b> |      |

### RECURRING NEEDS BY YEAR

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

| 2025   |                                     |              |             |          |            |     |       |                  |      |
|--|-------------------------------------|--------------|-------------|----------|------------|-----|-------|------------------|------|
| COMP CODE  | COMPONENT DESCRIPTION               | IDENTIFIER   | CUSTOMER ID | LOCATION | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
| AD01   | AIR DRYER - REFRIGERATED - 0-10 CFM | FLAN-DRY-001 | 10167       | 158      | D3060      | 1   | EA    | \$2,081          | 2025 |
| AD01   | AIR DRYER - REFRIGERATED - 0-10 CFM | AIR DRYER    |             | 158      | D3060      | 1   | EA    | \$2,081          | 2025 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP) | CHP-1 VFD    |             | 187      | D5010      | 20  | HP    | \$9,580          | 2025 |
| VF05   | VARIABLE FREQUENCY DRIVE (15-20 HP) | CHP-2 VFD    |             | 187      | D5010      | 20  | HP    | \$9,580          | 2025 |
| <b>2025 PROJECTED COMPONENT REPLACEMENT COST</b> |                                     |              |             |          |            |     |       | <b>\$23,322</b>  |      |

| 2026      |   |                       |             |            |            |     |       |                  |      |
|-----------|---|-----------------------|-------------|------------|------------|-----|-------|------------------|------|
| COMP CODE | COMPONENT DESCRIPTION   | IDENTIFIER            | CUSTOMER ID | LOCATION   | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
| BF02      | BACKFLOW PREVENTER (1-2 INCHES)                                   | DCW WATTS<br>S#567089 |             | 153        | D2020      | 1   | EA    | \$3,077          | 2026 |
| CR02      | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER | REFRIGERATION SYSTEM  |             | 3224, ROOF | E1020      | 1   | EA    | \$12,766         | 2026 |
| CR02      | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER | REFRIGERATION SYSTEM  |             | 2220, ROOF | E1020      | 1   | EA    | \$12,766         | 2026 |

### RECURRING NEEDS BY YEAR

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

|  |   |                      |  |            |       |   |    |                 |      |
|--|---|----------------------|--|------------|-------|---|----|-----------------|------|
| CR02   | REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER | REFRIGERATION SYSTEM |  | 1208, ROOF | E1020 | 1 | EA | \$12,766        | 2026 |
| <b>2026 PROJECTED COMPONENT REPLACEMENT COST</b> |   |                      |  |            |       |   |    | <b>\$41,374</b> |      |

| 2027   |  |                      |             |                  |            |       |       |                  |      |
|--|--|----------------------|-------------|------------------|------------|-------|-------|------------------|------|
| COMP CODE  | COMPONENT DESCRIPTION                                      | IDENTIFIER           | CUSTOMER ID | LOCATION         | UNI-FORMAT | QTY   | UNITS | REPLACEMENT COST | YEAR |
| IF01   | FLOORING - CARPET, TILE OR ROLL, STANDARD                  | CARPET TILE          |             | 258, 344, 381    | C3020      | 4,010 | SF    | \$66,530         | 2027 |
| FN19   | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-8, W FLAN-EAF-017 | 10187       | ROOF, SOUTH WING | D3040      | 1     | EA    | \$8,679          | 2027 |
| <b>2027 PROJECTED COMPONENT REPLACEMENT COST</b> |  |                      |             |                  |            |       |       | <b>\$75,210</b>  |      |

| 2028      |                             |             |             |          |            |     |       |                  |      |
|-----------|-----------------------------|-------------|-------------|----------|------------|-----|-------|------------------|------|
| COMP CODE | COMPONENT DESCRIPTION       | IDENTIFIER  | CUSTOMER ID | LOCATION | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
| DR28      | DOOR OPERATOR, POWER-ASSIST | TOP MOUNTED | 10264       | 192      | B2030      | 1   | EA    | \$12,182         | 2028 |

### RECURRING NEEDS BY YEAR

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

|      |   |                              |       |                             |       |        |    |           |      |
|------|---|------------------------------|-------|-----------------------------|-------|--------|----|-----------|------|
| DR28 | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED                  | 10267 | 2201                        | B2030 | 1      | EA | \$12,182  | 2028 |
| DR28 | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED                  | 10268 | 3201                        | B2030 | 1      | EA | \$12,182  | 2028 |
| DR28 | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED                  | 10266 | 302                         | B2030 | 1      | EA | \$12,182  | 2028 |
| DR28 | DOOR OPERATOR, POWER-ASSIST                               | TOP MOUNTED                  | 10265 | 202                         | B2030 | 1      | EA | \$12,182  | 2028 |
| RR07 | ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH | NEW MOD BIT                  | 10155 | SOUTH WING                  | B3010 | 9,012  | SF | \$85,872  | 2028 |
| DR24 | DOOR LOCK, COMMERCIAL-GRADE                               | NEW LEVER                    |       | SOUTH WING                  | C1020 | 7      | EA | \$7,274   | 2028 |
| DR24 | DOOR LOCK, COMMERCIAL-GRADE                               | NEW LEVER                    |       | SOUTH WING CORRIDOR         | C1020 | 44     | EA | \$45,725  | 2028 |
| DR26 | DOOR PANIC HARDWARE                                       | NEW PANIC BAR                |       | 1200, 198                   | C1020 | 3      | EA | \$5,101   | 2028 |
| IW09 | WALL FINISH - WALL COVERING, ROLL                         | NEW PROTECTIVE WALL COVERING |       | SOUTH WING                  | C3010 | 1,320  | SF | \$9,597   | 2028 |
| IF03 | FLOORING - VINYL COMPOSITION TILE, STANDARD               | NEW 12X12 TILES              |       | MOST AREAS                  | C3020 | 13,040 | SF | \$116,627 | 2028 |
| IC04 | CEILING FINISH - PAINTED OR STAINED, STANDARD             | OLD STANDARD PAINT           |       | NORTH, EAST, AND WEST WINGS | C3030 | 3,200  | SF | \$9,994   | 2028 |
| TK07 | CONDENSATE STORAGE TANK                                   | FLASH TANK                   |       | 453                         | D3020 | 1      | EA | \$28,390  | 2028 |
| BA09 | HVAC CONTROLS - TERMINAL ASSEMBLIES - LABORATORY, WET     | VAV                          |       | LAB SPACES                  | D3060 | 25,000 | SF | \$274,620 | 2028 |
| FA01 | FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER              | FACP, FLAN-ALM-001           | 10162 | 105                         | D4030 | 1      | EA | \$52,824  | 2028 |

### RECURRING NEEDS BY YEAR

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

|  |   |                          |  |                   |       |        |     |                    |      |
|--|---|--------------------------|--|-------------------|-------|--------|-----|--------------------|------|
| FA02   | FIRE ALARM SYSTEM - DEVICES                 | 2004 FA SYSTEM DEVICES   |  | ORIGINAL BUILDING | D4030 | 75,342 | SF  | \$458,954          | 2028 |
| FA02   | FIRE ALARM SYSTEM - DEVICES                 | 2008 FA SYSTEM DEVICES   |  | 2008 ADDITION     | D4030 | 25,000 | SF  | \$152,290          | 2028 |
| SG02   | MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)   | H1C                      |  | 1222              | D5010 | 400    | AMP | \$43,345           | 2028 |
| LI02   | LIGHTING SYSTEM, INTERIOR - CLASSROOM       | LIGHTING W/ LED RETROFIT |  | 2008 ADDITION     | D5020 | 19,150 | SF  | \$265,451          | 2028 |
| LI09   | LIGHTING SYSTEM, INTERIOR - LABORATORY, WET | LIGHTING W/ LED RETROFIT |  | 2008 ADDITION     | D5020 | 5,850  | SF  | \$102,429          | 2028 |
| <b>2028 PROJECTED COMPONENT REPLACEMENT COST</b> |   |                          |  |                   |       |        |     | <b>\$1,719,406</b> |      |

### 2029

| COMP CODE | COMPONENT DESCRIPTION                                  | IDENTIFIER         | CUSTOMER ID | LOCATION       | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
|-----------|--|--------------------|-------------|----------------|------------|-----|-------|------------------|------|
| DR05      | DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS | ALUM MUNTIN GLASS  |             | ALL ELEVATIONS | B2030      | 20  | LEAF  | \$82,947         | 2029 |
| RV01      | SAFETY RELIEF VALVE                                    | STEAM RELIEF VALVE | 22053       | 153            | D3040      | 1   | EA    | \$27,410         | 2029 |
| RV01      | SAFETY RELIEF VALVE                                    | STEAM RELIEF VALVE | 22052       | 153            | D3040      | 1   | EA    | \$27,410         | 2029 |
| AH01      | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                | FC-9, FLAN-FCU-009 | 10223       | 450            | D3040      | 1   | HP    | \$12,949         | 2029 |



### RECURRING NEEDS BY YEAR

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

|  |  |                         |       |                 |       |       |     |                  |      |
|--|--|-------------------------|-------|-----------------|-------|-------|-----|------------------|------|
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-8, FLAN-FCU-008      | 10222 | 450             | D3040 | 1     | HP  | \$12,949         | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-1, FLAN-FCU-001      | 10219 | SE STAIR        | D3040 | 1     | HP  | \$7,122          | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-2, FLAN-FCU-002      | 10217 | SE STAIR        | D3040 | 1     | HP  | \$7,122          | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-3, FLAN-FCU-003      | 10216 | SW STAIR        | D3040 | 1     | HP  | \$7,122          | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-4, FLAN-FCU-004      | 10218 | SW STAIR        | D3040 | 1     | HP  | \$7,122          | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-5, FLAN-FCU-005      | 10215 | 105             | D3040 | 1     | HP  | \$7,122          | 2029 |
| AH01   | AIR HANDLING UNIT - INDOOR (.5-1.25 HP)                    | FC-6, FLAN-FCU-006      | 10220 | 153             | D3040 | 1     | HP  | \$7,122          | 2029 |
| FN19   | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-2, N<br>FLAN-EAF-002 | 10181 | ROOF, EAST WING | D3040 | 1     | EA  | \$9,208          | 2029 |
| FN19   | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-3, N<br>FLAN-EAF-003 | 10179 | ROOF            | D3040 | 1     | EA  | \$9,208          | 2029 |
| FN19   | FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER) | EF-5, S<br>FLAN-EAF-005 | 10172 | ROOF, EAST WING | D3040 | 1     | EA  | \$9,208          | 2029 |
| HX12   | PRESSURE REDUCING VALVE, STEAM SYSTEM (4")                 | FLAN-PRV-001            | 10239 | 153             | D3040 | 1     | EA  | \$19,063         | 2029 |
| PH02   | PUMP - ELECTRIC (10 - 15 HP)                               | HWP-2,<br>FLAN-PMP-005  | 10228 | 153             | D3040 | 10    | HP  | \$20,591         | 2029 |
| SG12   | MC SWGR BREAKER - FME Adjustable (800-1600 AMP)            | MDP - MAIN<br>BREAKER   |       | 105             | D5010 | 1,200 | AMP | \$35,821         | 2029 |
| <b>2029 PROJECTED COMPONENT REPLACEMENT COST</b> |  |                         |       |                 |       |       |     | <b>\$309,494</b> |      |

### RECURRING NEEDS BY YEAR

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

| 2030   |                                    |                   |             |                         |            |     |       |                  |      |
|--|------------------------------------|-------------------|-------------|-------------------------|------------|-----|-------|------------------|------|
| COMP CODE  | COMPONENT DESCRIPTION              | IDENTIFIER        | CUSTOMER ID | LOCATION                | UNI-FORMAT | QTY | UNITS | REPLACEMENT COST | YEAR |
| DR24   | DOOR LOCK, COMMERCIAL-GRADE        | PULL              |             | 124, 176, 192, 104      | C1020      | 8   | EA    | \$8,820          | 2030 |
| DR24   | DOOR LOCK, COMMERCIAL-GRADE        | NEW LEVER         |             | SOUTH WING              | C1020      | 9   | EA    | \$9,922          | 2030 |
| DR26   | DOOR PANIC HARDWARE                | OLD PANIC BAR     |             | 1001, 1002, 1003, 1004, | C1020      | 12  | EA    | \$21,645         | 2030 |
| DR26   | DOOR PANIC HARDWARE                | NEW PANIC BAR     |             | SOUTH WING              | C1020      | 16  | EA    | \$28,860         | 2030 |
| AH46   | HUMIDIFIER, ELECTRIC, POINT-OF-USE | NORTEC HUMIDIFIER |             | 3212                    | D3040      | 1   | EA    | \$10,052         | 2030 |
| <b>2030 PROJECTED COMPONENT REPLACEMENT COST</b> |                                    |                   |             |                         |            |     |       | <b>\$79,300</b>  |      |

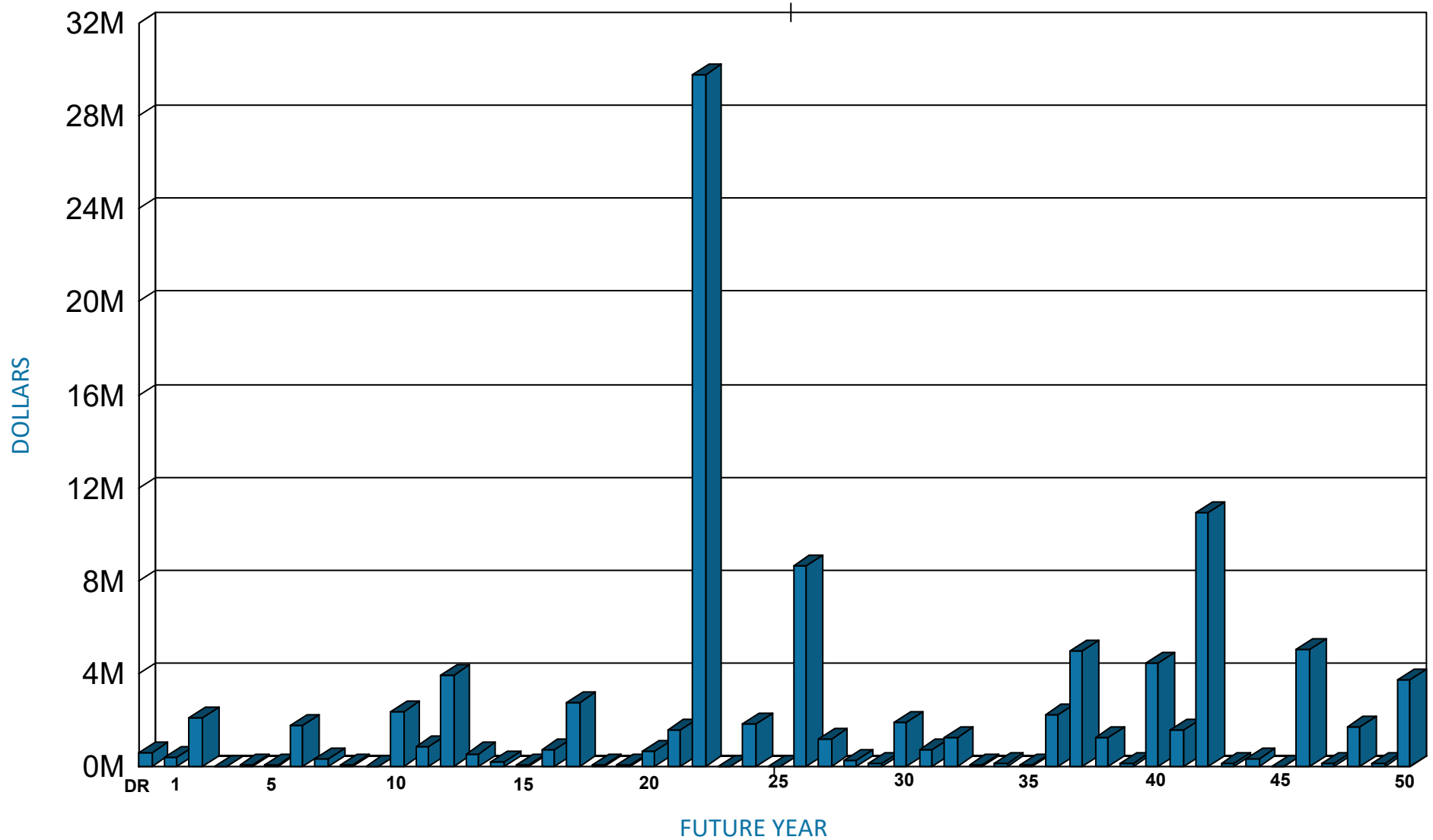
*No Projected Component Replacement Cost for Asset No. 002 for 2031*

### RECURRING NEEDS BY YEAR

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

| 2032   |  |                          |             |                             |            |        |       |                    |      |
|--|--|--------------------------|-------------|-----------------------------|------------|--------|-------|--------------------|------|
| COMP CODE  | COMPONENT DESCRIPTION                                | IDENTIFIER               | CUSTOMER ID | LOCATION                    | UNI-FORMAT | QTY    | UNITS | REPLACEMENT COST   | YEAR |
| IF06   | FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD   | OLD BEIGE 12X12 CERAMIC  |             | NORTH, EAST, WEST WING RRS  | C3020      | 6,420  | SF    | \$320,673          | 2032 |
| IC01   | CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD | OLD 2X2 ACT              |             | NORTH, EAST, AND WEST WINGS | C3030      | 60,770 | SF    | \$963,286          | 2032 |
| IC04   | CEILING FINISH - PAINTED OR STAINED, STANDARD        | NEW STANDARD PAINT       |             | SOUTH WING                  | C3030      | 1,070  | SF    | \$3,761            | 2032 |
| LI02   | LIGHTING SYSTEM, INTERIOR - CLASSROOM                | LIGHTING W/ LED RETROFIT |             | ORIGINAL BUILDING           | D5020      | 64,932 | SF    | \$1,013,034        | 2032 |
| <b>2032 PROJECTED COMPONENT REPLACEMENT COST</b> |  |                          |             |                             |            |        |       | <b>\$2,300,753</b> |      |

### RECURRING COMPONENT EXPENDITURE PROJECTIONS



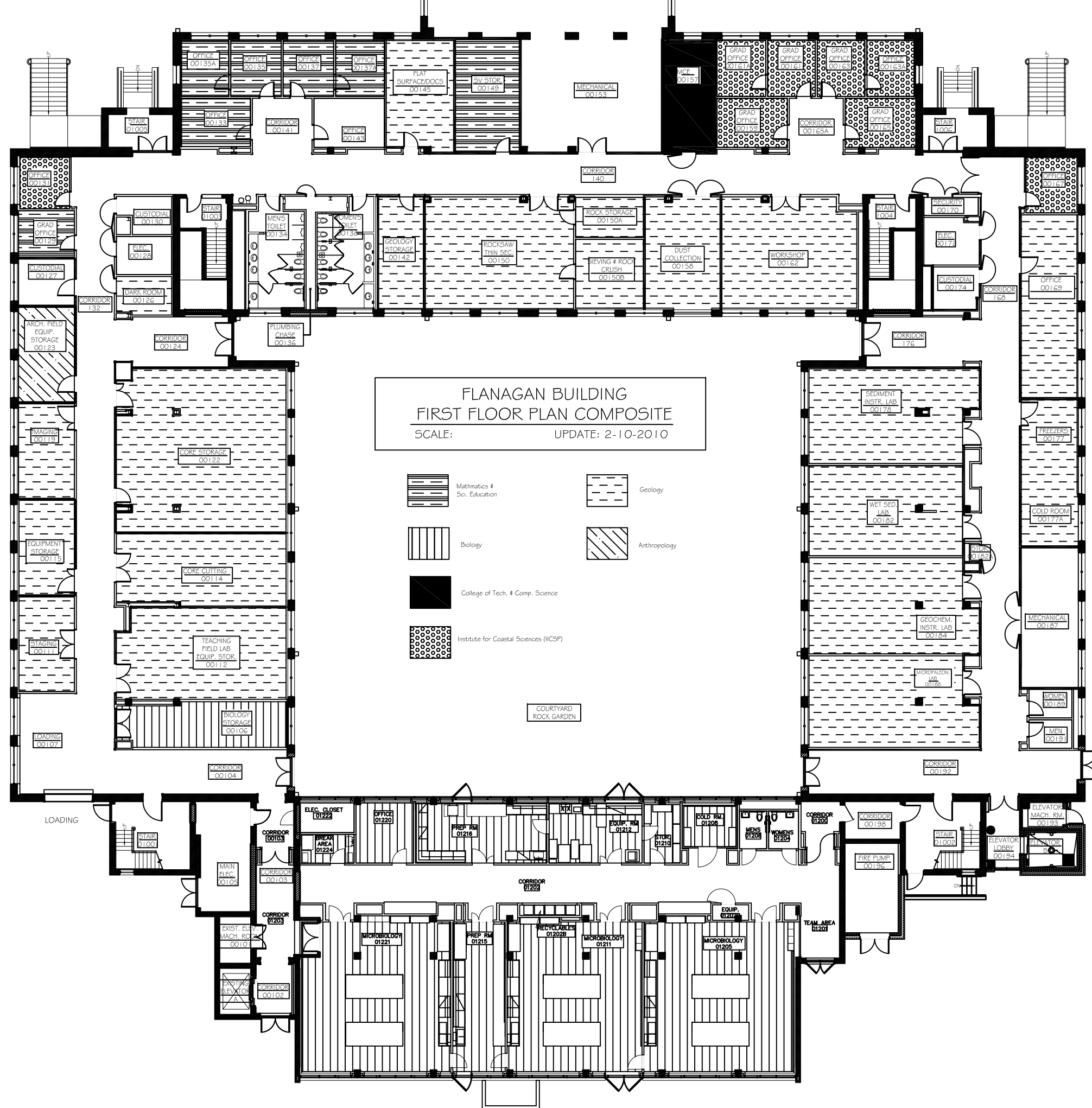
Average Annual Renewal Cost per SF \$9.27

FACILITY CONDITION ASSESSMENT

**SECTION 5**

DRAWINGS

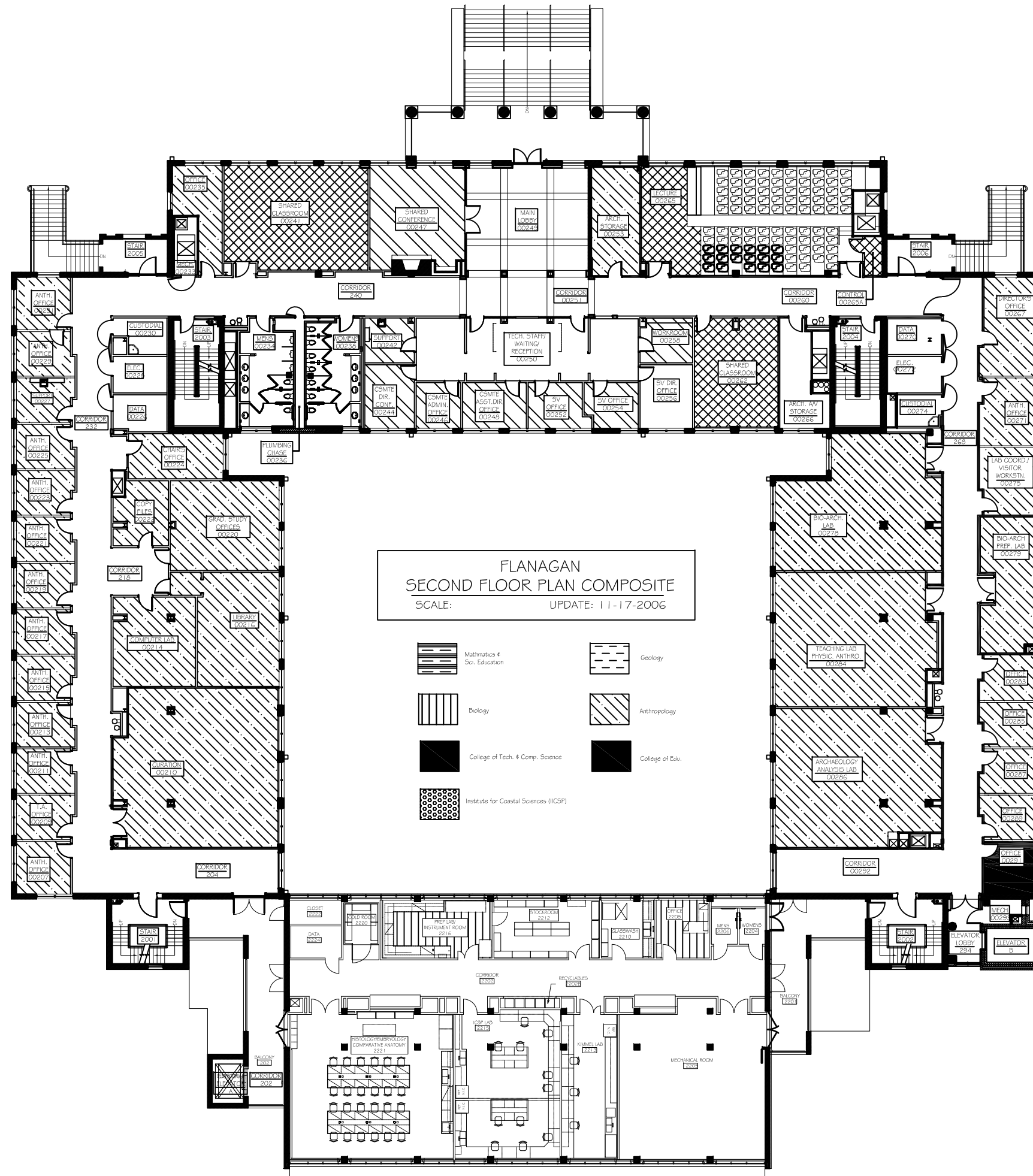




**FLANAGAN BUILDING**  
**FIRST FLOOR PLAN COMPOSITE**  
 SCALE: \_\_\_\_\_ UPDATE: 2-10-2010

- |   |  |
|---|--|
| <p>  Mathematics &amp; Sci. Education<br/>  Biology<br/>  College of Tech. &amp; Comp. Science<br/>  Institute for Coastal Sciences (ICSP)         </p> | <p>  Geology<br/>  Anthropology         </p> |
|---|--|

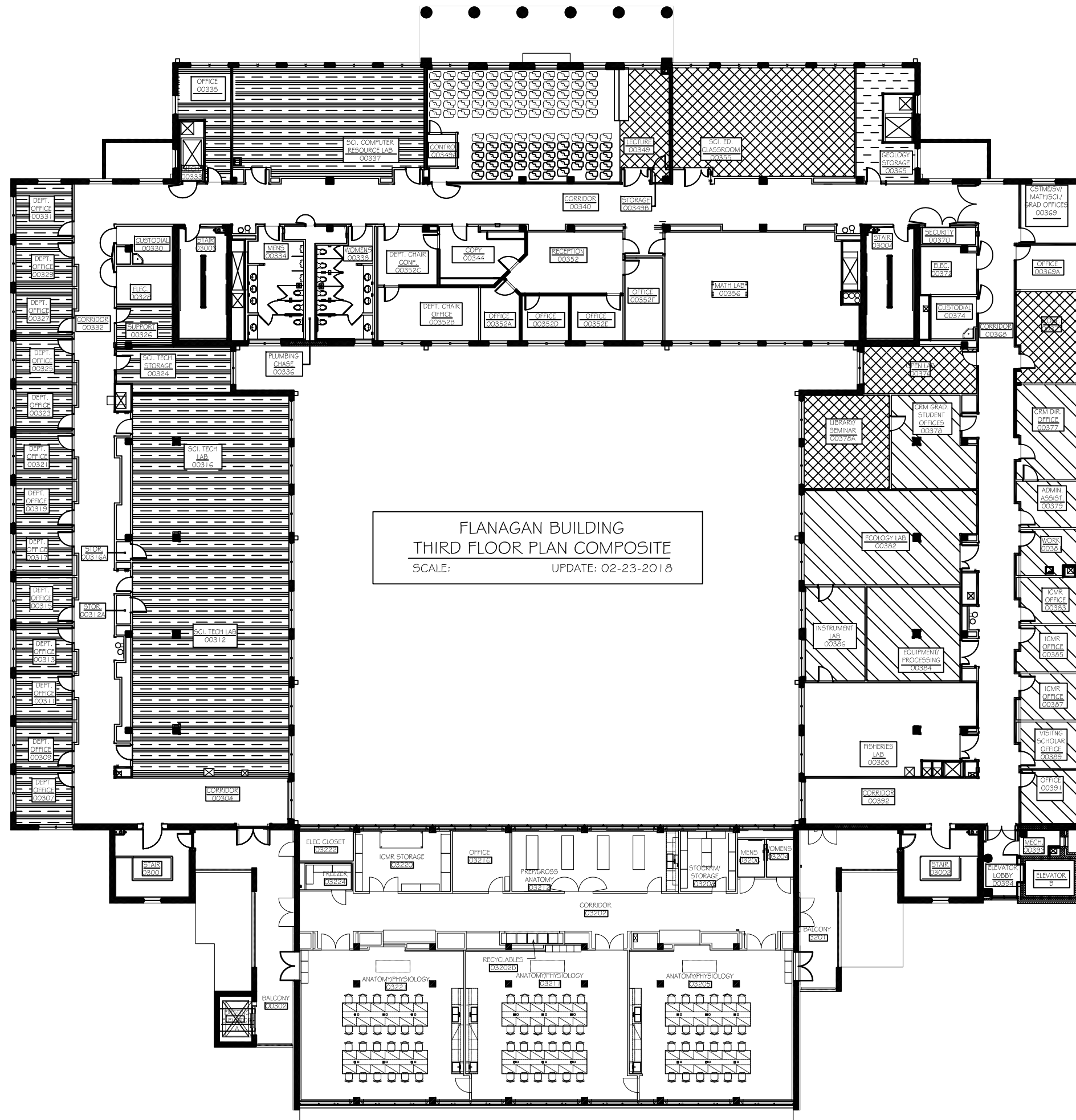
COURTYARD  
ROCK GARDEN



**FLANAGAN**  
**SECOND FLOOR PLAN COMPOSITE**  
 SCALE:                      UPDATE: 11-17-2006

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li> Mathematics &amp; Sc. Education</li> <li> Biology</li> <li> College of Tech. &amp; Comp. Science</li> <li> Institute for Coastal Sciences (ICSP)</li> </ul> | <ul style="list-style-type: none"> <li> Geology</li> <li> Anthropology</li> <li> College of Edu.</li> </ul> |
|---|---|





FLANAGAN BUILDING  
 THIRD FLOOR PLAN COMPOSITE  
 SCALE: UPDATE: 02-23-2018



# FACILITY CONDITION ASSESSMENT

## SECTION 6

### PHOTOGRAPHS





002001a 1/9/2023  
Low parapet wall with lightning protection  
Roof



002001e 1/9/2023  
Rooftop exhaust fan EF-2  
Roof



002002a 1/9/2023  
Modified bitumen roof with blistering  
Roof



002002e 1/9/2023  
Strobic exhaust fans AEF-1, LEF-1 through LEF-3  
Roof



002003a 1/9/2023  
Roof edge with no parapet  
Roof



002003e 1/9/2023  
Variable speed drives for LEF-1 through LEF-3  
Roof



002004a 1/9/2023  
Grime on EIFS siding of dormers  
Roof



002004e 1/9/2023  
Fire alarm system notifier  
Room 450



002005a 1/9/2023  
Transfer ladder of parapet  
Roof



002005e 1/9/2023  
Surface-mounted lighting  
Room 450



002006a 1/9/2023  
Roof hatch with worn fall protection  
Roof



002006e 1/9/2023  
Fire alarm pull station  
Room 450



002007a 1/9/2023  
Cracked brick above gutter  
Roof



002007e 1/9/2023  
Hydronic unit heater UH-20  
Room 450



002008a 1/9/2023  
Parapet transfer ladder  
Roof



002008e 1/9/2023  
Sprinkler head  
Room 450



002009a 1/9/2023  
Worn sealant on parapet joints  
Roof



002009e 1/9/2023  
HVAC duct work detector  
Room 450



002010a 1/9/2023  
Lighting protection system detached from roof  
Roof



002010e 1/9/2023  
Various secondary electrical  
Room 450



002011a 1/9/2023  
Corrosion of structural steel members  
Roof attic



002011e 1/9/2023  
HVAC with legacy DDC control equipment  
Room 450



002012a 1/9/2023  
Hole in substructure of terracotta roof  
Roof attic

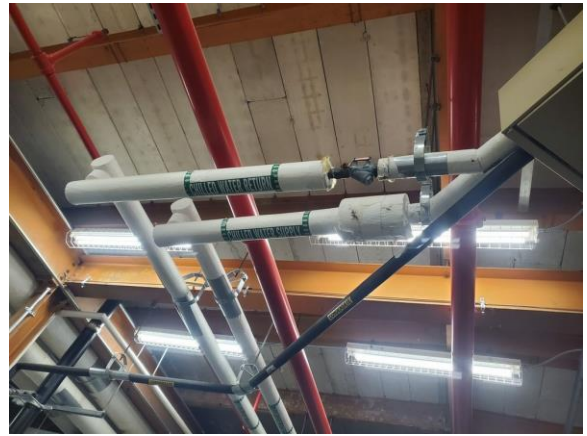


002012e 1/9/2023  
Ceiling fan coil FC-9  
Room 450





002013a 1/9/2023  
Exit signage and roof attic  
Roof attic



002013e 1/9/2023  
Chilled water supply and return pipe  
Room 450



002014a 1/9/2023  
Corrosion of structural steel members  
Roof attic



002014e 1/9/2023  
Heating water supply and return pipe  
Room 450



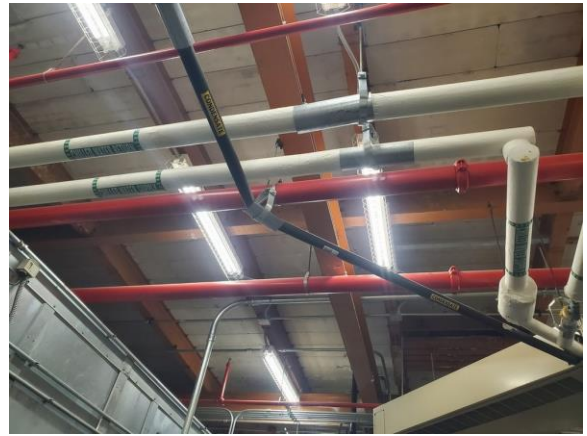
002015a 1/9/2023  
Exterior brick damage on west end of attic  
Roof



002015e 1/9/2023  
Insulated, metal HVAC system ductwork  
Room 450



002016a 1/9/2023  
Signs of water infiltration from exterior  
Roof attic



002016e 1/9/2023  
Condensate return pipe  
Room 450



002017a 1/9/2023  
Roof ladder to flat portion of tile roof  
Roof attic



002017e 1/9/2023  
Aged thermostat  
Room 450



002018a 1/9/2023  
Signs of water damage  
Roof attic



002018e 1/9/2023  
Air handler AHU-2 and VFD  
Room 450



002019a 1/9/2023  
Exit signage and roof attic  
Roof attic



002019e 1/9/2023  
Heating and chilled water pipe for AHU-2 coils  
Room 450



002020a 1/9/2023  
Roof ladder and extinguisher  
Roof attic



002020e 1/9/2023  
Various system piping  
Room 450



002021a 1/9/2023  
Extinguisher with fire pull and alarm  
Roof attic



002021e 1/9/2023  
Air handler AHU-1  
Room 450



002022a 1/9/2023  
Stair tower handrails  
Stair 3



002022e 1/9/2023  
Updated control system actuators  
Room 450



002023a 1/9/2023  
Stair tower fire glass rating  
Stair 3



002023e 1/9/2023  
Cold room refrigeration unit  
Roof



002024a 1/9/2023  
Noncompliant door hardware  
Stair 3



002024e 1/9/2023  
Damaged refrigeration unit fin coils  
Roof



002025a 1/9/2023  
Dual height water fountains  
Room 340



002025e 1/9/2023  
Air handler DDU-1 for room 3212  
Roof



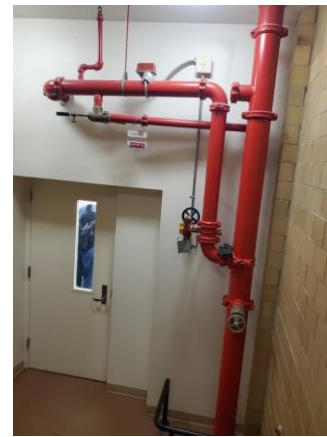
002026a 1/9/2023  
Typical lecture classroom with finishes shown  
Room 337



002026e 1/9/2023  
Stainless-steel ductwork  
Roof



002027a 1/9/2023  
Classroom AV system without listening assist  
Room 337



002027e 1/9/2023  
Fire suppression system riser, tamper switch, etc.  
Stair 3003



002028a 1/9/2023  
Typical urinals with ADA height  
Room 334



002028e 1/9/2023  
Overview of corridor systems  
Corridor 340



002029a 1/9/2023  
Solid surface sink counter  
Room 334



002029e 1/9/2023  
Overview of restroom systems  
Restroom 334



002030a 1/9/2023  
Typical toilet partitions  
Room 334



002030e 1/9/2023  
Overview of computer lab systems  
Room 337



002031a 1/9/2023  
Typical ADA stall sink configuration  
Room 334



002031e 1/9/2023  
Occupancy sensor in computer lab  
Room 337



002032a 1/9/2023  
ADA toilet and grab bars  
Room 334



002032e 1/9/2023  
Thermostat to be replaced in 2023  
Room 337



002033a 1/9/2023  
Nonrated safety tempered glass on doors  
Room 340



002033e 1/9/2023  
Waste piping  
Plumbing chase 336



002034a 1/9/2023  
Fire-rated door with rated glass  
Room 349



002034e 1/9/2023  
Insulated potable water pipe  
Plumbing chase 336



002035a 1/9/2023  
Rated door with side panel and vision glass  
Room 349



002035e 1/9/2023  
Overview of Lecture room systems  
Room 349



002036a 1/9/2023  
Lecture classroom with permanent seating  
Room 349



002036e 1/9/2023  
Typical electrical outlet and CAT connection  
Room 372





002037a 1/9/2023  
Ramp railing separating ADA wheelchair spot  
Room 349



002037e 1/9/2023  
Secondary electric panelboards  
Room 372



002038a 1/9/2023  
Ramp finish with tiered seating  
Room 349



002038e 1/9/2023  
Dry-type transformer  
Room 372



002039a 1/9/2023  
Stair with railings at rear of assembly area  
Room 349



002039e 1/9/2023  
2x4 recessed light fixtures with LED retrofit  
Room 372



002040a 1/9/2023  
Panic hardware of assembly area  
Room 349



002040e 1/9/2023  
Combination eyewash/safety shower  
Room 382



002041a 1/9/2023  
Laminate countertop with wood cabinetry  
Room 344



002041e 1/9/2023  
Fume snorkel arms  
Room 382



002042a 1/9/2023  
Solid surface lab counter with casework  
Room 355



002042e 1/9/2023  
Emergency eyewash station  
Room 382



002043a 1/9/2023  
Missing panic hardware at Stair tower  
Stair 4



002043e 1/9/2023  
Fume hood  
Room 384



002044a 1/9/2023  
Door access control box  
Room 370



002044e 1/9/2023  
Elevator B passenger car doors  
Lobby 394



002045a 1/9/2023  
Door access control box nameplate  
Room 370



002045e 1/9/2023  
Surface mounted exterior lighting  
Balcony 3201



002046a 1/9/2023  
Door access box third floor  
Room 370



002046e 1/9/2023  
Overview of corridor systems in 2008 addition  
Corridor 3202



002047a 1/9/2023  
Laminate casework with solid surface top  
Room 376



002047e 1/9/2023  
Ductwork from AHU DDU-1  
Room 3212



002048a 1/9/2023  
Laminate casework counter with sink  
Room 381



002048e 1/9/2023  
Electric humidification device  
Room 3212



002049a 1/9/2023  
Solid surface lab counter and laminate cabinets  
Room 382



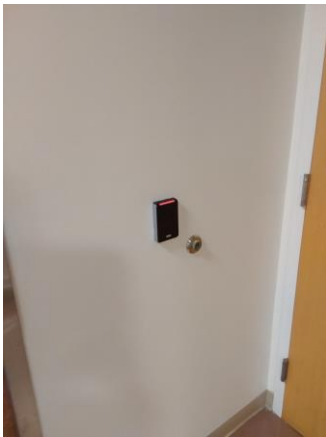
002049e 1/9/2023  
Walk-in freezer  
Room 3224



002050a 1/9/2023  
Lab storage with epoxy flooring and ACT ceiling  
Room 384



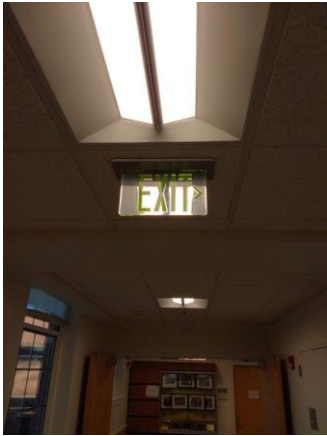
002050e 1/9/2023  
Interior of Freight Elevator A  
Balcony 302



002051a 1/9/2023  
Typical key card entry  
Room 384



002051e 1/9/2023  
Air handler AHU-3  
Room 2205



002052a 1/9/2023  
Typical corridor exit signage  
Room 340



002052e 1/9/2023  
Electric water heater  
Room 2205



002053a 1/9/2023  
Corridor doors with panic hardware  
Room 340



002053e 1/9/2023  
Various piping systems  
Room 2205



002054a 1/9/2023  
Elevator operating button  
Elevator B



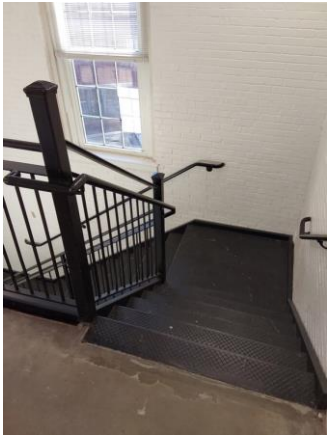
002054e 1/9/2023  
Elegant, pendent style exterior light  
Stair 2006



002055a 1/9/2023  
Elevator control panel  
Elevator B



002055e 1/9/2023  
Bollard type lighting  
Courtyard/rock garden



002056a 1/9/2023  
Compliant stair tower with railing  
Stair 2



002056e 1/9/2023  
Overview of mechanical room  
Room 153



002057a 1/9/2023  
Typical panic hardware  
Stair 2



002057e 1/9/2023  
Heating water pumps HWP-1 and 2  
Room 153



002058a 1/9/2023  
Missing panic hardware  
Stair 2, 3201



002058e 1/9/2023  
Deteriorating paint on HWP-1  
Room 153



002059a 1/9/2023  
Typical lecture lab with solid surface counters  
Room 3205



002059e 1/9/2023  
Steam safety relief  
Room 153



002060a 1/9/2023  
Roll-up fire door  
Room 3202



002060e 1/9/2023  
Steam pressure reducing station  
Room 153





002061a 1/9/2023  
Freezer with adjacent finishes  
Room 3202



002061e 1/9/2023  
Duplex condensate return system CU-1  
Room 153



002062a 1/9/2023  
Panic hardware with power door opener  
Room 3202



002062e 1/9/2023  
Flash tank  
Room 153



002063a 1/9/2023  
Lab with epoxy flooring and damaged ceiling  
Room 3212



002063e 1/9/2023  
Heating water shell-and-tube heat exchanger  
Room 153



002064a 1/9/2023  
Typical mop sink  
Room 330



002064e 1/9/2023  
Heating water shell-and-tube heat exchanger  
Room 153



002065a 1/9/2023  
Double wall laminate casework and countertop  
Room 326



002065e 1/9/2023  
Updated pneumatic control air compressor  
Room 153



002066a 1/9/2023  
Laminate casework and countertop  
Room 227



002066e 1/9/2023  
Refrigerated air dryers  
Room 153



002067a 1/9/2023  
Solid surface counter with wood casework  
Room 214



002067e 1/9/2023  
Updated HVAC system control panelboard  
Room 153



002068a 1/9/2023  
Freight elevator control panel  
Room 214



002068e 1/9/2023  
Domestic water booster pump system  
Room 187



002069a 1/9/2023  
Doors with power door operator  
Room 2202



002069e 1/9/2023  
Chilled water system pumps  
Room 187



002070a 1/9/2023  
Exterior windows and joints  
Room 2221



002070e 1/9/2023  
Electric water heater  
Room 187



002071a 1/9/2023  
Typical fire extinguisher cabinet  
Room 2202



002071e 1/9/2023  
Laboratory air compressor  
Room 187



002072a 1/9/2023  
Solid surface lab countertop islands  
Room 2215



002072e 1/9/2023  
Fire alarm control panel  
Room 105



002073a 1/9/2023  
Solid surface lab wall countertop  
Room 2213



002073e 1/9/2023  
1,200-amp MDP and main circuit breaker  
Room 105



002074a 1/9/2023  
Typical single-user restroom  
Room 204



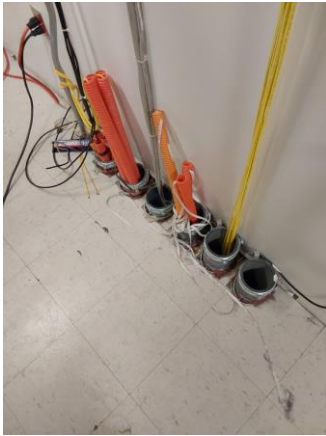
002074e 1/9/2023  
Emergency and Life Safety electrical transfer switches  
Room 105



002075a 1/9/2023  
Typical lab with sink  
Room 284



002075e 1/9/2023  
Hydraulic elevator machine  
Room 101



002076a 1/9/2023  
Lack of fire blocking and penetrations  
Room 270



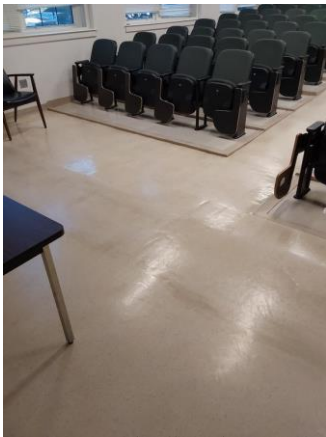
002076e 1/9/2023  
450-kW diesel fire emergency generator  
Site



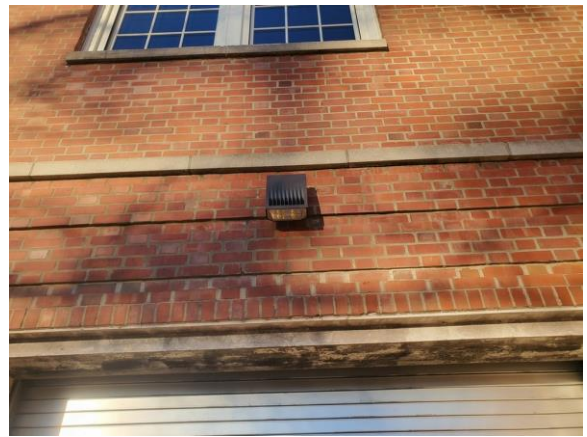
002077a 1/9/2023  
Lecture classroom with permanent seating  
Room 265



002077e 1/9/2023  
Through wall exhaust fan  
Room 105



002078a 1/9/2023  
Assembly area with finishes shown  
Room 265



002078e 1/9/2023  
Surface mounted exterior light  
Exterior



002079a 1/9/2023  
Exterior doors with panic hardware  
Room 245



002079e 1/9/2023  
Elegant surface mounted exterior light  
Exterior



002080a 1/9/2023  
Laminate casework cabinetry  
Room 258



002080e 1/9/2023  
Fire pump controller and transfer switch  
Room 196



002081a 1/9/2023  
Break room with laminate countertop  
Room 242



002081e 1/9/2023  
Electric fire suppression system pump  
Room 196



002082a 1/9/2023  
Typical restroom finishes with tile floor  
Room 234



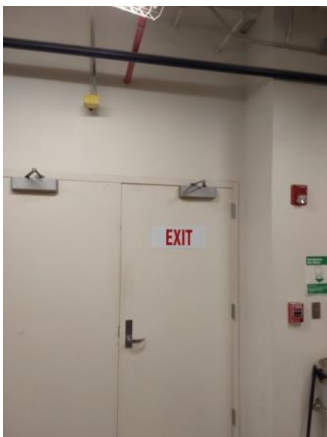
002083a 1/9/2023  
Corridors with welded seam vinyl flooring  
Room 140



002084a 1/9/2023  
Acoustic wall covering  
Room 140



002085a 1/9/2023  
Exposed steel fireproofing  
Room 153



002086a 1/9/2023  
Improper exit signage  
Room 153



002087a 1/9/2023  
Door access control boxes first floor  
Room 170





002088a 1/9/2023  
Solid surface lab countertop islands  
Room 178



002089a 1/9/2023  
Solid surface lab wall countertop with case work  
Room 184



002090a 1/9/2023  
Typical lab with finishes shown  
Room 188



002091a 1/9/2023  
Exit door in need of panic hardware  
Stair 2



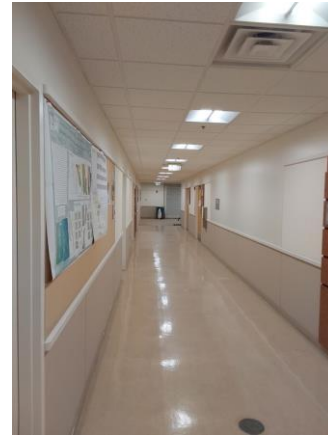
002092a 1/9/2023  
Roll-up overhead door  
Room 1202



002093a 1/9/2023  
Epoxy floor with acoustic wall covering  
Room 1202



002094a 1/9/2023  
Loading dock overhead door  
Room 107



002095a 1/9/2023  
Corridor with vinyl wall covering and epoxy floor  
Room 124



002096a 1/9/2023  
Exterior brick and ribbon glazing  
Inside South wing



002097a 1/9/2023  
Exterior brick and windows with lower  
Inside north wing



002098a 1/9/2023  
Exterior brick and windows with exterior door  
Inside west wing



002099a 1/9/2023  
Exterior brick and gutters  
Inside east wing



002100a 1/9/2023  
Noncompliant stair rail  
Northwest elevation



002101a 1/9/2023  
Exterior brick and glazing  
Northwest elevation



002102a 1/9/2023  
Concrete backer against brick has deteriorated  
West elevation



002103a 1/9/2023  
Exterior brick and windows with adjacent walk  
West elevation



002104a 1/9/2023  
Exterior balconies and brick efflorescence  
Southwest elevation



002105a 1/9/2023  
Exterior brick and storefront glazing  
South elevation



002106a 1/9/2023  
Exterior brick and concrete panel  
Southeast elevation



002107a 1/9/2023  
Exterior brick, windows, and ADA entry  
East elevation



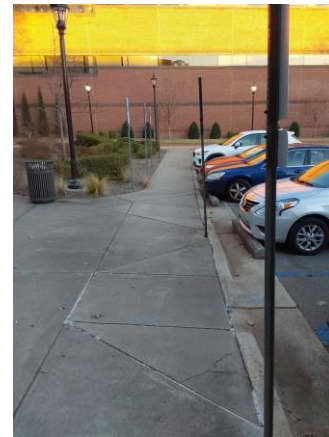
002108a 1/9/2023  
Exterior brick and stone entry  
Northeast elevation



002109a 1/9/2023  
Front approach to main entry  
North elevation



002110a 1/9/2023  
Exit doors with power door operator  
East elevation



002111a 1/9/2023  
Noncompliant ADA curb wheelchair ramps  
East elevation



002112a

1/9/2023

Water deposits on brick  
South elevation



002113a

1/9/2023

Damaged brick knee wall  
South elevation



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                         | 002                      |
| Asset Name                           | Flanagan Building        |
| Year Built or Last Energy Renovation | 2015                     |

## 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.

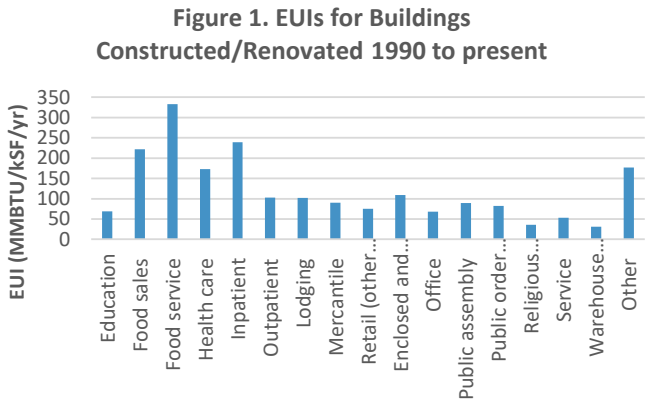
### Metric #1: Energy Use Intensity (EUI)

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 |
| <b>Benchmark EUI (MMBTU/kSF/yr) =</b>                           | <b>69</b>       |
| <b>Building EUI to be Calculated by Client (MMBTU/kSF/yr) =</b> |                 |

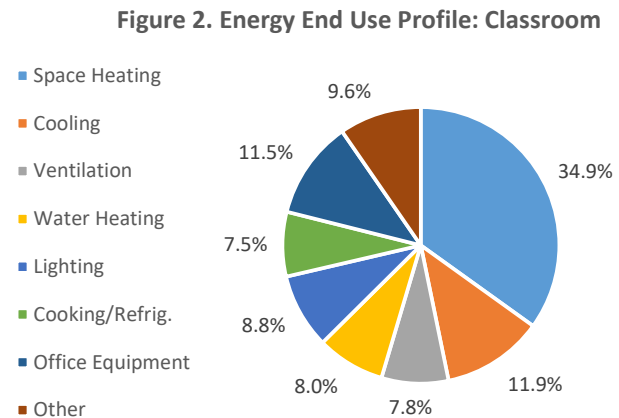
| TABLE 3. EUI COMPARISON   |                     |
|---|---------------------|
| <b>Very Energy Efficient</b> (consumes more than 30% less energy)   | EUI < 48.3          |
| <b>Energy Efficient</b> (consumes 10% to 30% less energy)           | 48.3 <= EUI <= 62.1 |
| <b>Similar</b> (consumes within 10% less or 10% more energy)        | 62.1 < EUI < 75.9   |
| <b>Energy Inefficient</b> (consumes 10% to 30% more energy)         | 75.9 <= EUI <= 89.7 |
| <b>Very Energy Inefficient</b> (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%          |
| <b>Total</b>                               | <b>100.0%</b> |



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, 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   |
| HVAC - Exhaust Ventilation    | INSTALL ENERGY RECOVERY SYSTEM. Energy Recovery Ventilation (ERV) systems exchange heat between outgoing exhaust air and the incoming outdoor air. Investigate the feasibility of installing an ERV system to pre-heat/cool ventilation air.  | LC/NC; CAP    |

