# EAST CAROLINA UNIVERSITY

## MENDENHALL STUDENT CENTER

**ASSET CODE: MSCB**

**FACILITY CONDITION ANALYSIS**

**AUGUST 25, 2010**


ISES CORPORATION

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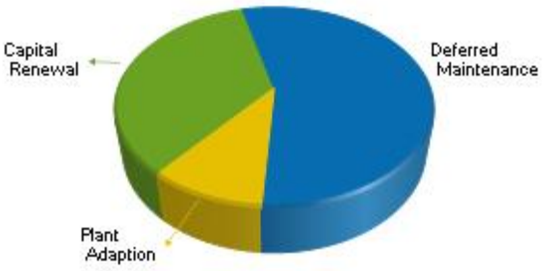
FACILITY CONDITION ANALYSIS

# SECTION 1

# GENERAL ASSET INFORMATION

# EXECUTIVE SUMMARY - MENDENHALL STUDENT CENTER

## PROJECT COSTS BY CLASSIFICATION



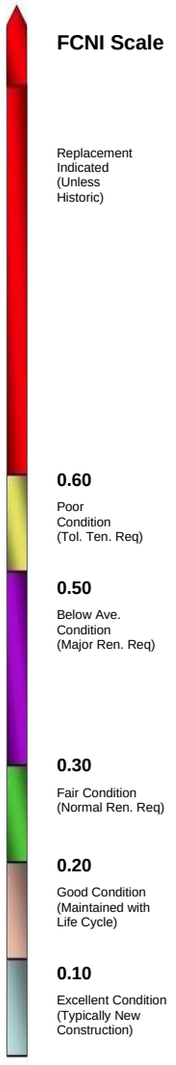

**Building Code:** MSCB
**Building Name:** MENDENHALL STUDENT CENTER
**Year Built:** 1974
**Building Use:** Student Union
**Square Feet:** 116,900

**Project Costs by Priority**

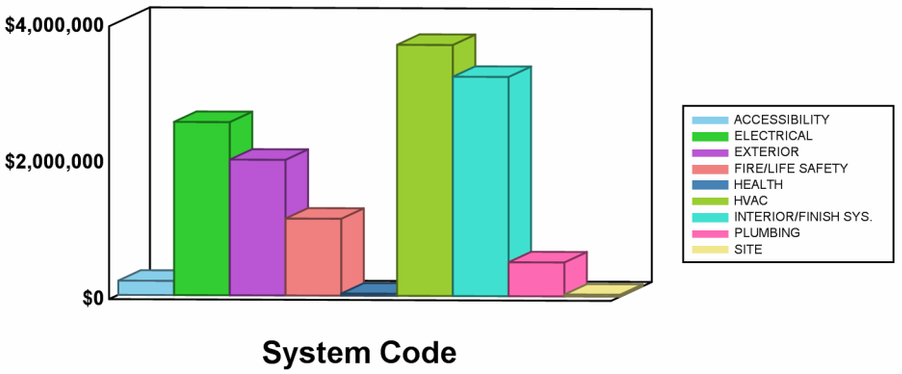
| | |
|---|---|
| **Priority 1:** | $6,881 |
| **Priority 2:** | $1,743,116 |
| **Priority 3:** | $8,577,207 |
| **Priority 4:** | $2,994,099 |
| **Total Project Costs:** | **$13,321,303** |

**Facility Replacement Cost:** **$37,108,237**

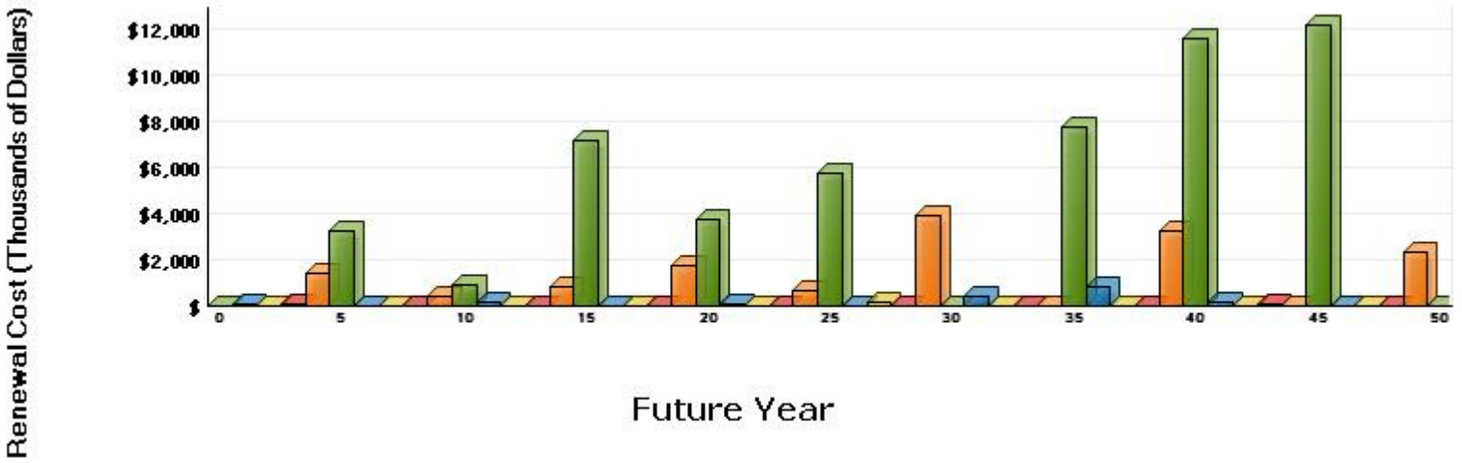
**Facility Condition Needs Index (FCNI):** **0.36**
(Project Costs / Replacement Cost)




## PROJECT COSTS BY SYSTEM CODE




## LIFE CYCLE MODEL EXPENDITURE PROJECTIONS




**Average Annual Renewal Cost Per SqFt $5.17**

## B. ASSET SUMMARY

The Mendenhall Student Center was reportedly constructed in 1974, with multiple subsequent additions and renovations over the ensuing years. The last major refurbishment was reportedly completed in the main first floor dining room in 2008. The building is located in the central main campus area and supports the adjacent residential dormitory buildings as well as the general campus population. The modern styled building includes a large central atrium, dining and meeting facilities, and a large 760 fixed seat auditorium. The building exterior includes a facade with exposed concrete structural frame, ornamental architectural concrete panels, and brick masonry. The building incorporates distinctive vertical precast concrete fins at some of the exterior windows to provide sun screening of the glazing systems. This multi-purpose building contains approximately 116,900 square feet of area on three main floors, including a partially below grade basement ground level floor. The reinforced cast-in-place concrete foundation supports a reinforced concrete structural superstructure with exposed areas of waffle pan joists.

The information for this report was gathered during a site visit that concluded on September 14, 2009.

### SITE

The building sits on a sloped parcel of land in a wooded campus setting. Landscaping consists of ornamental planting beds, shrubbery, specimen trees, and areas of turf. Vehicular service access is from the south and southwest and leads to loading docks at the main kitchen and auditorium. Service aprons are concrete pavements in good condition. The building has no designated parking areas other than for Accessibility and service personnel. Irrigation systems were noted to serve the landscaped areas, and due to the overall good condition of the landscaping, they appear to be operating effectively.

Stormwater drainage systems around the building include graded swales, diversion curbs, underground collection and piping systems, and controlled surface runoff that appear to divert water away from the structure adequately. No significant stormwater issues were observed during the on-site review that appear to have negatively impacted the building.

Pedestrian access to the facility is supported by concrete and brick masonry sidewalk systems in the immediate area of the facility that provide compliant ADA access to and from adjacent buildings and parking areas. The pedestrian paving systems are in overall fair to good condition, with isolated areas of settlement and uneven pavements that may potentially represent a liability to the owner. In-place grinding, selective area replacements, and brick paver resets are recommended.

### EXTERIOR STRUCTURE

The building structure is apparently supported by soil bearing spread footings that show no visible evidence of displacement or structural distress. The primary building structural frame includes reinforced concrete, with the predominant building facade being comprised of poured-in-place concrete walls and exposed structural frame, architectural precast concrete panels, and brick masonry.

There is evidence of water infiltration through portions of the ground floor foundation wall in mechanical room G026. Excavation and waterproofing system upgrades are recommended. Improve the slope of grade away from the foundation prior to restoring the landscaping.

Brick masonry veneer is one of the primary exterior facade finishes. While the brick is fundamentally sound, exposure to the elements has caused some deterioration of the mortar joints and expansion joints. Cleaning, surface preparation, selective repairs, and applied finish or penetrating sealant upgrades are recommended to restore the aesthetics and integrity of the building envelope. Selective area work includes masonry wall repairs at the vertical crack located at the auditorium loading dock.

The secondary facade finish includes exposed natural concrete and architectural concrete panels. This exterior concrete has become visibly soiled, and the construction joints are failing. Cleaning, surface preparation, selective repairs, and applied finish upgrades are recommended to restore the aesthetics and integrity of the building envelope. Elastomeric coatings should be applied to all horizontal concrete and panel surfaces to improve water shed and reduce infiltration into the wall assembly.

Portions of the exterior soffits have a painted stucco finish system. The substrate is sound, but exposure to the elements has deteriorated the trowelled stucco finish. There are numerous cracks and substantial color variation. Selective substrate repairs, surface preparation, trowelled finish application, and painting are recommended.

Replacements are recommended for the aging exterior door systems. This project includes the primary and secondary entrance and service doors. The replacement units should maintain the architectural design aspects of this facility and be modern, energy-efficient applications.

Approximately 20 percent of the exterior window wall systems have been replaced since the original construction. The newer systems include insulated glazing units. It is recommended that the remaining older single pane, aluminum-framed window wall applications be upgraded to thermal pane systems. Such double pane systems will reduce the energy required to operate the building. Repair or replacement of the windowsills and trim may also be necessary.

While the west roof section over Hendrix Theatre is only ten years old, the existing multi-ply built-up roofing system over the east section has failed and places the building interior at risk. Future budget modeling should include a provision for the replacement of all failing roofing systems. Replace this roof with a similar application. Replacement or major repairs to flashings, parapets, sealants, and other associated roofing system components should be included with the primary roofing system replacement to achieve the full effective useful life of the new replacement roofing system.

The associated roof drainage inlets are showing signs of ineffective channeling of rainwater from the flat membrane roof to interior piping systems. Repairs or replacement of these drainage systems is recommended to prevent water damage to the building interior. This work should be included with the replacement of the overall membrane roofing system.

## INTERIOR FINISHES / SYSTEMS

The predominant interior finishes in this building are generally in a variety of conditions ranging from poor to fair to relatively new. Interior ceiling, wall, and floor finish applications vary in age and type. These finish systems include suspended acoustical tile ceilings, painted gypsum board, and exposed structure

ceilings, painted walls, exposed brick masonry walls, wood paneling, ceramic tile walls and wainscoting, vinyl flooring tiles, hardwood flooring, ceramic /porcelain floor tiles, and carpeting. Ongoing finish renewals based on their effective useful life cycles are necessary to maintain a quality institutional building interior. Finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

The condition of the interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. Complete demolition of existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended.

Portions of the kitchen pantry areas, equipment, and storage cabinetry are in overall poor condition. New fully ADA compliant cabinetry should be installed as part of any future renovation efforts. The fixed seating in the assembly area is showing signs of wear and abuse. These seats should be upgraded during this review period. Replace the existing seating with new folding fixed seats in a similar row configuration. Ensure that ADA requirements are followed with the new seating layout.

The majority of the public area restroom fixtures and finishes are mostly original to the year of construction or latest renovation and do not meet modern accessibility standards. The fixtures are sound but aged and inefficient. The finishes are outdated. A comprehensive restroom renovation, including new fixtures, finishes, partitions, accessories, and dual level drinking fountains, is recommended.

The ground floor employee locker room fixtures and finishes are mostly original to the year of construction or latest major renovation. The fixtures are sound but dated and are spaced such that clearances are not ADA compliant. A comprehensive locker room renovation, including new fixtures, finishes, partitions, and accessories, is recommended. Locker room expansion may be necessary in order to meet modern minimum fixture counts and accessibility legislation.

## ACCESSIBILITY

Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that compliant, painted metal handrails be installed at all entrances as required.

Current accessibility legislation requires that places of assembly be accessible to the handicapped. The auditorium has multiple barriers to accessibility. There are no seating spaces designated for wheelchair use. It is recommended that approximately eight seating areas be modified to accommodate persons in wheelchairs. Install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance. The access steps at the auditorium stage lack supportive handrails. It is recommended that wall-mounted, compliant, painted metal handrails be installed.

Current legislation regarding building accessibility by the handicapped requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread / riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. The finishes on the stairs have

also deteriorated or are otherwise unsafe. Future renovation efforts should include comprehensive stair railing and finish upgrades. The installation of contrasting visual stair / step nosings should also be installed at all locations to improve stair safety.

Interior accessible routes generally have wall-mounted informational and directional signage designed for compliance with ADA accessibility standards. The antiquated drinking fountains throughout the building, however, are generally non-compliant with ADA standards and provide only single height fountains for public use. These older drinking fountains should be replaced with dual height units as part of recommended restroom renovations to provide ADA compliant fountains. The adjacent corridor walls at the newly installed fountains may require new alcove construction to provide adequate floor area access.

## HEALTH

Based on the availability of construction materials at the time the building structure was erected, it is possible that asbestos containing material (ACM), lead based paints, and other environmentally negative components may have been used in the original construction of the building. It is recommended that suspect items be tested and, if found to contain asbestos, abated and disposed of according to all applicable national, state, and local regulations.

Walk-in coolers / freezers are in service to support the needs of the food service facilities in this building. The mechanical components of these systems have been in service beyond their expected life cycles. It is recommended that they be replaced.

## FIRE / LIFE SAFETY

The facility appears to have adequate and reasonable egress paths consistent with its age and compliance with building codes at the time of construction / renovation. No apparent building egress deficiencies, obstructed egress pathways or visible compromises to fire-rated assemblies in the egress corridors were observed during the limited on-site review of the building, with some isolated exceptions. Structural fire separations are not maintained according to code requirements for new construction in some areas of this facility. Little or no regard has been given to the passive and active firestopping systems in the building. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly. A few of the egress corridors, for example the corridor outside of mechanical room 130, are obstructed by inappropriately stored materials. All obstructive items throughout the building should be removed and an ongoing monitoring program implemented.

This facility is protected by a central fire alarm system. The devices for this system include manual pull stations, audible / visible devices, and smoke detectors. The model 4002 fire alarm panel, which is now obsolete, was manufactured by Simplex and is located in mechanical room G030. There are no visible strobe devices mounted in the restrooms. The fire alarm system is inadequate compared to the current campus standard. It is recommended that this system be replaced.

The building is not protected by any form of automatic fire suppression. Manual, dry chemical fire extinguishers are available. However, it is recommended that an automatic fire suppression system be installed. Install an automatic fire sprinkler system throughout the facility. This project will reduce overall liability and potential for loss.

The exit signs in this facility are LED-illuminated and are connected to the emergency power network. Emergency egress lighting is available through standard interior light fixtures that are connected to the network. All egress lighting systems are adequate and in good condition. There are no proposed projects.

## HVAC

This facility is on the campus steam loop. Hot water is circulated as the heating medium. Two chillers—one water-cooled and one air-cooled—generate chilled water for building cooling. The water-cooled unit is a Trane Centravac unit estimated to have a capacity of approximately 380 tons. This unit should provide good service through the life of this report. The Carrier air-cooled unit, rated 170 tons, was installed in 1988 with the new addition. It has used most of its expected service life and can be expected to require replacement during the period of this report. A Marley cooling tower provides heat rejection for the water-cooled chiller. This unit is approximately 500 tons capacity and is in good condition. With proper maintenance, it will outlast the scope of this report.

The facility is served by a forced air HVAC system with multizone air handling units. The air handling units have hot water heating coils and chilled water cooling coils. The air distribution network furnishes constant volume air to the occupied spaces. The controls for this system are electro-pneumatic. The components of the HVAC systems have aged beyond their statistical life cycles, and the system is inefficient compared to modern standards. It is recommended that the existing HVAC system be replaced and updated.

The food service facility in this building is served by a number of exhaust hoods, some of which are not currently in service and some that are in areas under alteration at the time of the inspection. Hoods 4 and 5 appear to have been in service beyond their expected life cycles and are recommended for replacement. For the replacement systems, provide adequate makeup air and include the required fire suppression systems.

## ELECTRICAL

Incoming 277/480 volt power is distributed by a 2,500 amp main switch added in 1988 when the building addition was constructed. The existing main distribution panel for the original portion of the building was retained along with a new main panel in the addition. These 1,200 amp and 1,600 amp main distribution panels, respectively, are supplied at 480/277 volts by the 2,500 amp switchgear, which is located by the original building main switchboard in mechanical room G030. The original and added portions of the building have a number of step-down transformers ranging from 30 to 500 kVA and 208/120 volt main distribution panels.

It should be anticipated that the 277/480 volt main switchgear and distribution panels will require replacement within the outlook of this report. The secondary transformers and main distribution panels are in satisfactory condition, but are projected to require scheduled replacement within the scope of this analysis.

The electrical distribution network in this facility is a dual voltage configuration. The lighting and major mechanical systems are supported by the 277/480 volt circuits. Original building panels were manufactured predominantly by General Electric. Most of those originally installed in the addition were

made by Westinghouse. The electrical devices in this facility are aged and visibly worn. It should be anticipated that major components of the distribution network will require replacement during the term of this report.

The interior spaces of this facility are illuminated by fixtures that use compact fluorescent and T12 fluorescent lamps. The fluorescent fixtures are predominantly lay-in applications with acrylic lenses. Some fixtures are still fitted with inefficient, incandescent lamps. The lenses on the light fixtures are aged and often discolored or cracked. The interior lighting has generally served beyond its expected life cycle and is recommended for replacement. Specify energy-efficient light fixtures for the new interior lighting systems, and install occupancy sensors where possible.

Exterior illumination is provided primarily by downlights under covered areas and one or more HID wall-mounted fixtures. A lighting contactor supplied by the new addition supports thirty pole lights in the area. These exterior lighting systems are expected to remain serviceable through the period of this report.

Emergency power for this facility is produced by a diesel-fired emergency generator located in mechanical room G030. This unit has a 50 kW capacity and was manufactured by Cummins. The generator is currently adequate. However, in order to provide reliable emergency power to the critical systems in this facility, it is recommended that this generator be replaced.

## PLUMBING

Potable water is distributed throughout this facility through a copper piping network. Sanitary waste and storm water piping is primarily of bell-and-spigot and no-hub cast-iron. Some plastic piping is also used. The supply piping network in the original portion of the facility is aged and should be replaced to preclude excessive deterioration leading to significant leaks and potential collateral damage. Plumbing fixtures are well into their service lives but are expected to remain serviceable with normal maintenance and selective component replacements until replaced as part of a major restroom renovation.

Domestic water for this facility is heated by steam to hot water heat exchangers with a 119 gallon tank and circulating pumps in the distribution network. The older of the two heat exchangers is approaching the end of its service life and is expected to require replacement within the life of this report.

## VERTICAL TRANSPORTATION

The University commissioned an outside contractor to perform an elevator condition study in 2009. The aforementioned study did not identify any deficiencies requiring capital funding.

Note: The deficiencies outlined in this report were noted from a visual inspection. ISES engineers and architects developed projects with related costs that are needed over the next ten-year period to bring the facility to “like-new” condition. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, 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. However, existing fixed building components and systems were thoroughly inspected. The developed costs represent correcting existing deficiencies and anticipated life cycle failures (within a ten-year period) to bring the facility to modern standards without any anticipation of change to facility space layout or function. Please refer to Section Three of this report for recommended Specific Project Details.

## C. INSPECTION TEAM DATA

**DATE OF INSPECTION:** September 14, 2009

**INSPECTION TEAM PERSONNEL:**

| NAME | POSITION | SPECIALTY |
|---|---|---|
| Thomas Ferguson, AIA, LEED® AP | Project Architect | Interior Finishes / Exterior / ADA-Handicapped Accessibility / Site / Fire Safety / Life Safety / Health |
| Rob Gasaway, Q.E.I. | Facility Analyst | Interior Finishes / Exterior / ADA-Handicapped Accessibility / Site / Fire Safety / Life Safety / Health |
| John Holder, Q.E.I. | Project Engineer | Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health |
| Imelda Jordan | Project Engineer | Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health |
| James Lewis | Project Engineer | Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health |
| Carl Mason, PE, BSCP | Project Engineer | Interior Finishes / Exterior / ADA-Handicapped Accessibility / Site / Fire Safety / Life Safety / Health |
| Paul Southwell | Project Engineer | Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health |
| Norm Teahan, RA, AIA, NCARB | Project Architect | Interior Finishes / Exterior / ADA-Handicapped Accessibility / Site / Fire Safety / Life Safety / Health |

**FACILITY CONTACTS:**

| NAME | POSITION |
|---|---|
| William Bagwell | Associate Vice Chancellor, Campus Operations |

**REPORT DEVELOPMENT:**

Report Development by: ISES Corporation
2165 West Park Court
Suite N
Stone Mountain, GA 30087

Contact: Kyle Thompson, Project Manager
770-879-7376

## D. FACILITY CONDITION ANALYSIS - DEFINITIONS

The following information is a clarification of Asset Report Sections using example definitions.

### 1. REPORT DESCRIPTION

Section 1: Asset Executive Summary, Asset Summary, and General Report Information

Section 2: Detailed Project Summaries and Totals

A. Detailed Project Totals – Matrix with FCNI Data and Associated Charts
B. Detailed Projects by Priority Class / Priority Sequence
C. Detailed Projects by Cost within range [ $0 - < $100,000 ]
D. Detailed Projects by Cost within range [ ≥ $100,000 - < $500,000 ]
E. Detailed Projects by Cost within range [ ≥ $500,000 ]
F. Detailed Projects by Project Classification
G. Detailed Projects by Project Rating Type - Energy Conservation
H. Detailed Projects by Category / System Code

FCNI = Facility Condition Needs Index, Total Cost vs. Replacement Cost. The FCNI provides a life cycle cost comparison. Facility replacement cost is based on replacement with current construction standards for 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.

$$FCNI = \frac{\text{Deferred Maintenance / Modernization + Capital Renewal + Plant Adaption}}{\text{Plant / Facility Replacement Cost}}$$

Section 3: Specific Project Details Illustrating Description / Cost

Section 4: Drawings with Iconography

The drawings for this facility are marked with ICONS (see legend), denoting the specific location(s) for each project. Within each ICON is the last four characters of the respective project number (e.g., 0001IS01 is marked on plan by IS01). There is one set of drawings marked with ICONS representing all priority classes (1, 2, 3, and 4).

Section 5: Life Cycle Model Summary and Projections

Section 6: Photographic Log

## 2. PROJECT CLASSIFICATION

A. Plant / Program Adaption: Expenditures 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 changed teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).

B. Deferred Maintenance: Refers to expenditures for repairs which were not accomplished as a part of normal maintenance or capital repair which have accumulated to the point that facility deterioration is evident and could impair the proper functioning of the facility. Costs estimated for deferred maintenance projects should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to affect the needed repairs. Deferred maintenance projects represent catch up expenses.

C. Capital Renewal: A subset of regular or normal facility maintenance which refers to major repairs or the replacement / rebuilding of major facility components (e.g., roof replacement at the end of its normal useful life is capital repair; roof replacement several years after its normal useful life is deferred maintenance).

## 3. PROJECT SUBCLASS TYPE

A. Energy Conservation: Projects with energy conservation opportunities, based on simple payback analysis.

## 4. PRIORITY SEQUENCE BY PRIORITY CLASS (Shown in Sections 2 and 3)

All projects are assigned both a Priority Sequence number and Priority Class number for categorizing and sorting projects based on criticality and recommended execution order.

Example:

PRIORITY CLASS 1

| CODE | PROJECT NO. | PRIORITY SEQUENCE |
|---|---|---|
| HV2C | 0001HV04 | 01 |
| PL1D | 0001PL02 | 02 |

PRIORITY CLASS 2

| CODE | PROJECT NO. | PRIORITY SEQUENCE |
|---|---|---|
| IS1E | 0001IS06 | 03 |
| EL4C | 0001EL03 | 04 |

## 5. PRIORITY CLASS (Shown in Sections 2 and 3)

### PRIORITY 1 - Currently Critical (Immediate)

Projects in this category require immediate action to:
a. return a facility to normal operation
b. stop accelerated deterioration
c. correct a cited safety hazard

### PRIORITY 2 - Potentially Critical (Year One)

Projects in this category, if not corrected expeditiously, will become critical within a year. Situations in this category include:
a. intermittent interruptions
b. rapid deterioration
c. potential safety hazards

### PRIORITY 3 - Necessary - Not Yet Critical (Years Two to Five)

Projects in this category include conditions requiring appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

### PRIORITY 4 - Recommended (Years Six to Ten)

Projects in this category include items that represent a sensible improvement to existing conditions. These items are not required for the most basic function of a facility; however, Priority 4 projects will either improve overall usability and / or reduce long-term maintenance.

## 6. COST SUMMARIES AND TOTALS

The cost summaries and totals are illustrated by Detailed Projects sorted in multiple formats (shown in Sections 2 and 3).

City Index material / labor cost factors: (shown in Sections 2 and 3)

Cost factors are based on the Greenville City Index and are adjusted for material and labor cost factors (2009). Refer to the project related labor report found later in this section.

| Global Markup Percentages | | R.S. MEANS |
|---|---|---|
| Local Labor Index: | 51.3 % | of National Average |
| Local Materials Index: | 100.7 % | of National average |
| General Contractor Markup: | 20.0 % | Contractor profit & overhead, bonds & insurance |
| Professional Fees: | 16.0 % | Arch. / Eng. Firm design fees and in-house design cost |

### 7. PROJECT NUMBER (Shown in Sections 2 and 3)

Example:

Project Number = 0001-EL-04 (unique for each independent project)

| | | |
|---|---|---|
| 0001 | - | Building Identification Number |
| EL | - | System Code, EL represents Electrical |
| 04 | - | Sequential Assignment Project Number by Category / System |

### 8. PHOTO NUMBER (Shown in Section 6)

A code shown on the Photographic Log identifies the building number, photo sequence, and architect, engineer, or vertical transportation.

Example: 0001006e

| Building Number | Photo Sequence | Arch / Eng / VT |
|---|---|---|
| 0001 | 006 | e |

### 9. LIFE CYCLE COST MODEL DESCRIPTION AND DEFINITIONS (Shown in Section 5)

Included in this report is a Life Cycle Cost Model. This model consists of two elements, one is the component listing (starting on page 5.1.1) and the other is the Life Cycle Cost Projections Graph (page 5.2.1). The component list is a summary of all major systems and components within the facility. Each indicated component has the following associated information:

| | |
|---|---|
| Uniformat Code | This is the standard Uniformat Code that applies to the component |
| Component Description | This line item describes the individual component |
| Qty | The quantity of the listed component |
| Units | The unit of measure associated with the quantity |
| Unit Cost | The cost to replace each individual component unit (This cost is in today's dollars) |
| Total Cost | Unit cost multiplied by Quantity, also in today's dollars. Note that this is a one time renewal / replacement cost |
| Install Date | Year that the component was installed. Where this data is not available, it defaults to the year the asset was constructed |
| Life Exp | Average life expectancy for each individual component |

The component listing forms the basis for the Life Cycle Cost Projections Graph shown on page 5.2.1. This graph represents a projection over a fifty-year period (starting from the date the report is run) of expected component renewals based on each individual item's renewal cost and life span. Some components might require renewal several times within the fifty-year model, while others might not occur at all. Each individual component is assigned a renewal year based on life cycles, and the costs for each item are inflated forward to the appropriate year. The vertical bars shown on the graph represent the accumulated (and inflated) total costs for each individual year. At the bottom of the graph, the average annual cost per gross square foot ($/GSF) is shown for the facility. In this calculation, all costs are not inflated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

**10. CATEGORY CODE** (Shown in Sections 2 and 3)

Refer to the following Category Code Report.

Example: Category Code = EL5A

EL = System Description
5 = Component Description
A = Element Description

| 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 |
| SS1A | - | SS7A | SECURITY SYSTEMS |
| VT1A | - | VT7A | VERTICAL TRANSPORTATION |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| **SYSTEM DESCRIPTION: ACCESSIBILITY** | | | |
| AC1A | SITE | STAIR AND RAILINGS | Includes exterior stairs and railings which are not part of the building entrance points. |
| AC1B | SITE | RAMPS AND WALKS | Includes sidewalks, grade change ramps (except for a building entrance), curb ramps, etc. |
| AC1C | SITE | PARKING | Designated parking spaces including striping, signage, access aisles and ramps, etc. |
| AC1D | SITE | TACTILE WARNINGS | Raised tactile warnings located at traffic crossing and elevation changes. |
| AC2A | BUILDING ENTRY | GENERAL | Covers all aspects of entry into the building itself including ramps, lifts, doors and hardware, power operators, etc. |
| AC3A | INTERIOR PATH OF TRAVEL | LIFTS/RAMPS/ ELEVATORS | Interior lifts, ramps and elevators designed to accommodate level changes inside a building. Includes both installation and retrofitting. |
| AC3B | INTERIOR PATH OF TRAVEL | STAIRS AND RAILINGS | Upgrades to interior stairs and handrails for accessibility reasons. |
| AC3C | INTERIOR PATH OF TRAVEL | DOORS AND HARDWARE | Accessibility upgrades to the interior doors including widening, replacing hardware power, assisted operators, etc. |
| AC3D | INTERIOR PATH OF TRAVEL | SIGNAGE | Interior building signage upgrades for compliance with ADA. |
| AC3E | INTERIOR PATH OF TRAVEL | RESTROOMS/ BATHROOMS | Modifications to and installation of accessible public restrooms and bathrooms. Bathrooms, which are an integral part of residential suites, are catalogued under HC4A. |
| AC3F | INTERIOR PATH OF TRAVEL | DRINKING FOUNTAINS | Upgrading/replacing drinking fountains for reasons of accessibility. |
| AC3G | INTERIOR PATH OF TRAVEL | PHONES | Replacement/modification of public access telephones. |
| AC4A | GENERAL | FUNCTIONAL SPACE MODIFICATIONS | This category covers all necessary interior modifications necessary to make the services and functions of a building accessible. It includes installation of assistive listening systems, modification of living quarters, modifications to laboratory workstations, etc. Bathrooms, which are integral to efficiency suites, are catalogued here. |
| AC4B | GENERAL | OTHER | All accessibility issues not catalogued elsewhere. |
| **SYSTEM DESCRIPTION: ELECTRICAL** | | | |
| EL1A | INCOMING SERVICE | TRANSFORMER | Main building service transformer. |
| EL1B | INCOMING SERVICE | DISCONNECTS | Main building disconnect and switchgear. |
| EL1C | INCOMING SERVICE | FEEDERS | Incoming service feeders. Complete incoming service upgrades, including transformers, feeders, and main distribution panels are catalogued here. |
| EL1D | INCOMING SERVICE | METERING | Installation of meters to record consumption and/or demand. |
| EL2A | MAIN DISTRIBUTION PANELS | CONDITION UPGRADE | Main distribution upgrade due to deficiencies in condition. |
| EL2B | MAIN DISTRIBUTION PANELS | CAPACITY UPGRADE | Main distribution upgrades due to inadequate capacity. |
| EL3A | SECONDARY DISTRIBUTION | STEP DOWN TRANSFORMERS | Secondary distribution stepdown and isolation transformers. |
| EL3B | SECONDARY DISTRIBUTION | DISTRIBUTION NETWORK | Includes conduit, conductors, sub-distribution panels, switches, outlets, etc. Complete interior rewiring of a facility is catalogued here. |
| EL3C | SECONDARY DISTRIBUTION | MOTOR CONTROLLERS | Mechanical equipment motor starters and control centers. |
| EL4A | DEVICES AND FIXTURES | EXTERIOR LIGHTING | Exterior building lighting fixtures including supply conductors and conduit. |
| EL4B | DEVICES AND FIXTURES | INTERIOR LIGHTING | Interior lighting fixtures (also system wide emergency lighting) including supply conductors and conduits. |
| EL4C | DEVICES AND FIXTURES | LIGHTING CONTROLLERS | Motion sensors, photocell controllers, lighting contactors, etc. |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| EL4D | DEVICES AND FIXTURES | GFCI PROTECTION | Ground fault protection including GFCI receptacles and breakers. |
| EL4E | DEVICES AND FIXTURES | LIGHTNING PROTECTION | Lightning arrestation systems including air terminals and grounding conductors. |
| EL5A | EMERGENCY POWER SYSTEM | GENERATION/ DISTRIBUTION | Includes generators, central battery banks, transfer switches, emergency power grid, etc. |
| EL6A | SYSTEMS | UPS/DC POWER SUPPLY | Uninterruptible power supply systems and DC motor-generator sets and distribution systems. |
| EL7A | INFRASTRUCTURE | ABOVE GROUND TRANSMISSION | Includes poles, towers, conductors, insulators, fuses, disconnects, etc. |
| EL7B | INFRASTRUCTURE | UNDERGROUND TRANSMISSION | Includes direct buried feeders, ductbanks, conduit, manholes, feeders, switches, disconnects, etc. |
| EL7C | INFRASTRUCTURE | SUBSTATIONS | Includes incoming feeders, breakers, buses, switchgear, meters, CTs, PTs, battery systems, capacitor banks, and all associated auxiliary equipment. |
| EL7D | INFRASTRUCTURE | DISTRIBUTION SWITCHGEAR | Stand-alone sectionalizing switches, distribution switchboards, etc. |
| EL7F | INFRASTRUCTURE | AREA AND STREET LIGHTING | Area and street lighting systems including stanchions, fixtures, feeders, etc. |
| EL8A | GENERAL | OTHER | Electrical system components not catalogued elsewhere. |
| **SYSTEM DESCRIPTION: EXTERIOR** | | | |
| ES1A | FOUNDATION/FOOTING | STRUCTURE | Structural foundation improvements involving structural work on foundation wall/footing, piers, caissons, piles including crack repairs, shoring & pointing |
| ES1B | FOUNDATION/FOOTING | DAMPPROOFING/ DEWATERING | Foundation/footing waterproofing work including, damp proofing, dewatering, insulation, etc. |
| ES2A | COLUMNS/BEAMS/ WALLS | STRUCTURE | Structural work to primary load-bearing structural components aside from floors including columns, beams, bearing walls, lintels, arches, etc. |
| ES2B | COLUMNS/BEAMS/ WALLS | FINISH | Work involving restoration of the appearance and weatherproof integrity of exterior wall/structural envelope components including masonry/pointing, expansion joints, efflorescence & stain removal, grouting, surfacing, chimney repairs, etc. |
| ES3A | FLOOR | STRUCTURE | Work concerning the structural integrity of the load supporting floors both exposed and unexposed including deformation, delamination, spalling, shoring, crack repair, etc. |
| ES4A | ROOF | REPAIR | Work on waterproof horizontal finish (roof) involving repair and/or limited replacement (<40% total) including membrane patching, flashing repair, coping caulk/resetting, PPT wall parging/coating, walkpad installation, skylight and roof hatch R&R, etc. |
| ES4B | ROOF | REPLACEMENT | Work involving total refurbishment of roofing system including related component rehab. |
| ES5A | FENESTRATIONS | DOORS | Work on exterior exit/access door including storefronts, airlocks, air curtains, vinyl slat doors, all power/manual operating hardware (except handicapped), etc. |
| ES5B | FENESTRATIONS | WINDOWS | Work on exterior fenestration closure & related components including glass/metal/wood curtain walls, fixed or operable window sashes, glazing, frames, sills, casings, stools, seats, coatings, treatments, screens, storm windows, etc. |
| ES6A | GENERAL | ATTACHED STRUCTURE | Work on attached exterior structure components not normally considered in above categories including porches, stoops, decks, monumental entrance stairs, cupolas, tower, etc. |
| ES6B | GENERAL | AREAWAYS | Work on attached grade level or below structural features including subterranean light wells, areaways, basement access stairs, etc. |
| ES6C | GENERAL | TRIM | Work on ornamental exterior (generally non-structural) elements including beltlines, quoins, porticos, soffits, cornices, moldings, trim, etc. |
| ES6D | GENERAL | SUPERSTRUCTURE | Finish and structural work on non-standard structures with exposed load-bearing elements such as stadiums, bag houses, bleachers, freestanding towers, etc. |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| ES6E | GENERAL | OTHER | Any exterior work not specifically categorized elsewhere including finish and structural work on freestanding boiler stacks. |
| **SYSTEM DESCRIPTION: FIRE / LIFE SAFETY** | | | |
| FS1A | LIGHTING | EGRESS LIGHTING/EXIT SIGNAGE | R & R work on exit signage and packaged AC/DC emergency lighting. |
| FS2A | DETECTION/ALARM | GENERAL | Repair or replacement of fire alarm/detection system/components including alarms, pull boxes, smoke/heat detectors, annunciator panels, central fire control stations, remote dialers, fire station communications, etc. |
| FS3A | SUPPRESSION | SPRINKLERS | Repair or installation of water sprinklers type automatic fire suppressions including wet pipe & dry pipe systems, heads, piping, deflectors, valves, monitors, associated fire pump, etc. |
| FS3B | SUPPRESSION | STANDPIPE/HOSE | Repair or installation of standpipe system or components including hardware, hoses, cabinets, nozzles, necessary fire pumping system, etc. |
| FS3C | SUPPRESSION | EXTINGUISHERS | Repairs or upgrades to F.E. cabinets/wall fastenings and handheld extinguisher testing/replacement. |
| FS3D | SUPPRESSION | OTHER | Other fire suppression items not specifically categorized elsewhere including fire blankets, carbon dioxide automatic systems, Halon systems, dry chemical systems, etc. |
| FS4A | HAZARDOUS MATERIALS | STORAGE ENVIRONMENT | Installation or repair of special storage environment for the safe holding of flammable or otherwise dangerous materials/supplies including vented flammables storage cabinets, holding pens/rooms, cages, fire safe chemical storage rooms, etc. |
| FS4B | HAZARDOUS MATERIALS | USER SAFETY | Improvements, repairs, installation, or testing of user safety equipment including emergency eyewashes, safety showers, emergency panic/shut-down system, etc. |
| FS5A | EGRESS PATH | DESIGNATION | Installation, relocation or repair of posted diagrammatic emergency evacuation routes. |
| FS5B | EGRESS PATH | DISTANCE/ GEOMETRY | Work involving remediation of egress routing problems including elimination of dead end corridors, excessive egress distance modifications and egress routing inadequacies. |
| FS5C | EGRESS PATH | SEPARATION RATING | Restoration of required fire protective barriers including wall rating compromises, fire rated construction, structural fire proofing, wind/safety glazing, transom retrofitting, etc. |
| FS5D | EGRESS PATH | OBSTRUCTION | Clearance of items restricting the required egress routes. |
| FS5E | EGRESS PATH | STAIRS RAILING | Retrofit of stair/landing configurations/structure, railing heights/geometries, etc. |
| FS5F | EGRESS PATH | FIRE DOORS/ HARDWARE | Installation/replacement/repair of fire doors and hardware including labeled fire doors, fire shutters, closers, magnetic holders, panic hardware, etc. |
| FS5G | EGRESS PATH | FINISH/FURNITURE RATINGS | Remediation of improper fire/smoke ratings of finishes and furniture along egress routes. |
| FS6A | GENERAL | OTHER | Life/fire safety items not specifically categorized elsewhere. |
| **SYSTEM DESCRIPTION: HEALTH** | | | |
| HE1A | ENVIRONMENTAL CONTROL | EQUIPMENT AND ENCLOSURES | Temperature control chambers (both hot and cold) for non-food storage. Includes both chamber and all associated mechanical equipment. |
| HE1B | ENVIRONMENTAL CONTROL | OTHER | General environmental control problems not catalogued elsewhere. |
| HE2A | PEST CONTROL | GENERAL | Includes all measures necessary to control and destroy insects, rodents and other pests. |
| HE3A | REFUSE | GENERAL | Issues related to the collection, handling and disposal of refuse. |
| HE4A | SANITATION EQUIPMENT | LABORATORY AND PROCESS | Includes autoclaves, cage washers, steam cleaners, etc. |
| HE5A | FOOD SERVICE | KITCHEN EQUIPMENT | Includes ranges, grilles, cookers, sculleries, etc. |
| HE5B | FOOD SERVICE | COLD STORAGE | Includes the cold storage room and all associated refrigeration equipment. |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| HE6A | HAZARDOUS MATERIAL | STRUCTURAL ASBESTOS | Testing, abatement and disposal of structural and building finish materials containing asbestos. |
| HE6B | HAZARDOUS MATERIAL | MECHANICAL ASBESTOS | Testing, abatement and disposal of mechanical insulation materials containing asbestos. |
| HE6C | HAZARDOUS MATERIAL | PCBs | Includes testing, demolition, disposal and cleanup of PCB contaminated substances. |
| HE6D | HAZARDOUS MATERIAL | FUEL STORAGE | Includes monitoring, removal and replacement of above and below ground fuel storage and distribution systems. Also includes testing and disposal of contaminated soils. |
| HE6E | HAZARDOUS MATERIAL | LEAD PAINT | Testing, removal and disposal of lead-based paint systems. |
| HE6F | HAZARDOUS MATERIAL | OTHER | Handling, storage, and disposal of other hazardous materials. |
| HE7A | GENERAL | OTHER | Health related issues not catalogued elsewhere. |
| **SYSTEM DESCRIPTION: HVAC** | | | |
| HV1A | HEATING | BOILERS/STACKS/ CONTROLS | Boilers for heating purposes including their related stacks, flues, and controls. |
| HV1B | HEATING | RADIATORS/ CONVECTORS | Including cast iron radiators, fin tube radiators, baseboard radiators, etc. |
| HV1C | HEATING | FURNACE | Furnaces and their related controls, flues, etc. |
| HV1D | HEATING | FUEL SUPPLY/STORAGE | Storage and/or distribution of fuel for heating purposes, including tanks and piping networks and related leak detection/monitoring. |
| HV2A | COOLING | CHILLERS/ CONTROLS | Chiller units for production of chilled water for cooling purposes, related controls (not including mods for CFC compliance). |
| HV2B | COOLING | HEAT REJECTION | Repair/replacement of cooling towers, dry coolers, air-cooling and heat rejection. (Includes connection of once-through system to cooling tower.) |
| HV3A | HEATING/COOLING | SYSTEM RETROFIT/ REPLACE | Replacement or major retrofit of HVAC systems. |
| HV3B | HEATING/COOLING | WATER TREATMENT | Treatment of hot water, chilled water, steam, condenser water, etc. |
| HV3C | HEATING/COOLING | PACKAGE/SELF-CONTAINED UNITS | Repair/replacement of self-contained/package type units including stand up units, rooftop units, window units, etc; both air conditioners and heat pumps. |
| HV3D | HEATING/COOLING | CONVENTIONAL SPLIT SYSTEMS | Repair, installation, or replacement of conventional split systems; both air conditioners and heat pumps including independent component replacements of compressors and condensers. |
| HV4A | AIR MOVING/ VENTILATION | AIR HANDLERS/ FAN UNITS | Includes air handlers & coils, fan coil units, unit ventilators, filtration upgrades, etc., not including package/self-contained units, split systems or other specifically categorized systems. |
| HV4B | AIR MOVING/ VENTILATION | EXHAUST FANS | Exhaust fan systems including fans, range and fume hoods, controls, and related ductwork. |
| HV4C | AIR MOVING/ VENTILATION | OTHER FANS | Supply, return, or any other fans not incorporated into a component categorized elsewhere. |
| HV4D | AIR MOVING/ VENTILATION | AIR DISTRIBUTION NETWORK | Repair, replacement, or cleaning of air distribution network including ductwork, terminal reheat/cool, VAV units, induction units, power induction units, insulation, dampers, linkages, etc. |
| HV5A | STEAM/HYDRONIC DISTRIBUTION | PIPING NETWORK | Repair/replacement of piping networks for heating and cooling systems including pipe, fittings, insulation, related components, etc. |
| HV5B | STEAM/HYDRONIC DISTRIBUTION | PUMPS | Repair or replacement of pumps used in heating and cooling systems, related control components, etc. |
| HV5C | STEAM/HYDRONIC DISTRIBUTION | HEAT EXCHANGERS | Including shell and tube heat exchangers and plate heat exchangers for heating and cooling. |
| HV6A | CONTROLS | COMPLETE SYSTEM | Replacement of HVAC control systems. |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| | | UPGRADE | |
| HV6B | CONTROLS | MODIFICATIONS/ REPAIRS | Repair or modification of HVAC control system. |
| HV6C | CONTROLS | AIR COMPRESSORS/ DRYERS | Repair or modification of control air compressors and dryers. |
| HV7A | INFRASTRUCTURE | STEAM/HOT WATER GENERATION | Generation of central steam and/or hot water including boilers and related components. |
| HV7B | INFRASTRUCTURE | STEAM/HOT WATER DISTRIBUTION | Distribution system for central hot water and/or steam. |
| HV7C | INFRASTRUCTURE | CHILLED WATER GENERATION | Generation of central chilled water including chillers and related components. |
| HV7D | INFRASTRUCTURE | CHILLED WATER DISTRIBUTION | Distribution system for central chilled water. |
| HV7E | INFRASTRUCTURE | TUNNELS/ MANHOLES/ TRENCHES | Repairs, installation, replacement of utility system access chambers. |
| HV7F | INFRASTRUCTURE | OTHER | HVAC infrastructure issues not specifically categorized elsewhere. |
| HV8A | GENERAL | CFC COMPLIANCE | Chiller conversions/replacements for CFC regulatory compliance, monitoring, etc. |
| HV8B | GENERAL | OTHER | HVAC issues not catalogued elsewhere. |
| **SYSTEM DESCRIPTION: INTERIOR FINISHES / SYSTEMS** | | | |
| IS1A | FLOOR | FINISHES-DRY | R & R of carpet, hardwood strip flooring, concrete coating, vinyl linoleum & tile, marble, terrazzo, rubber flooring, underlayment in predominantly dry areas ("dry" includes non-commercial kitchens) |
| IS1B | FLOOR | FINISHES-WET | Flooring finish/underlayment work in predominantly "wet" areas including work with linoleum, rubber, terrazzo, concrete coating, quarry tile, ceramic tile, epoxy aggregate, etc. |
| IS2A | PARTITIONS | STRUCTURE | Structural work on full height permanent interior partitions including wood/metal stud & drywall systems, CMU systems, structural brick, tile, glass block, etc. |
| IS2B | PARTITIONS | FINISHES | Work on full height permanent interior partitions including R & R to gypsum board, plaster, lath, wood paneling, acoustical panels, wall coverings, column coverings, tile, paint, etc. |
| IS3A | CEILINGS | REPAIR | Repair of interior ceilings (<40% of total) including tiles, gypsum board, plaster, paint, etc. |
| IS3B | CEILINGS | REPLACEMENT | Major refurbishments (>40% of total) to interior ceiling systems including grid system replacements, structural framing, new suspended systems, paint, plastering, etc. |
| IS4A | DOORS | GENERAL | Any work on interior non-fire rated doors, roll-up counter doors, mechanical/plumbing access doors, and all door hardware (except for reasons of access improvement). |
| IS5A | STAIRS | FINISH | Any finish restorative work to stair tower walking surfaces including replacement of rubber treads, safety grips, nosings, etc. (except as required to accommodate disabled persons). |
| IS6A | GENERAL | MOLDING | R & R to interior trim/molding systems including rubber/vinyl/wood base, crown/chair/ornamental moldings, cased openings, etc. |
| IS6B | GENERAL | CABINETRY | R & R work to interior casework systems including cabinets, countertops, wardrobes, lockers, mail boxes, built-in bookcases, lab/work benches, reagent shelving, etc. (except as required for access by the disabled). |
| IS6C | GENERAL | SCREENING | Work on temporary or partial height partitioning systems including toilet partitions, urinal/vanity screens, etc. |
| IS6D | GENERAL | OTHER | Any work on interior elements not logically or specifically categorized elsewhere including light coves, phone booths, interior light wells, etc. |
| **SYSTEM DESCRIPTION: PLUMBING** | | | |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| PL1A | DOMESTIC WATER | PIPING NETWORK | Repair or replacement of domestic water supply piping network, insulation, hangers, etc. |
| PL1B | DOMESTIC WATER | PUMPS | Domestic water booster pumps, circulating pumps, related controls, etc. |
| PL1C | DOMESTIC WATER | STORAGE/ TREATMENT | Equipment or vessels for storage or treatment of domestic water. |
| PL1D | DOMESTIC WATER | METERING | Installation, repair, or replacement of water meters. |
| PL1E | DOMESTIC WATER | HEATING | Domestic water heaters including gas, oil, and electric water heaters, shell and tube heat exchangers, tank type and instantaneous. |
| PL1F | DOMESTIC WATER | COOLING | Central systems for cooling and distributing drinking water. |
| PL1G | DOMESTIC WATER | FIXTURES | Plumbing fixtures including sinks, drinking fountains, water closets, urinals, etc. |
| PL1H | DOMESTIC WATER | CONSERVATION | Alternations made to the water distribution system to conserve water. |
| PL1I | DOMESTIC WATER | BACKFLOW PROTECTION | Backflow protection devices including backflow preventers, vacuum breakers, etc. |
| PL2A | WASTEWATER | PIPING NETWORK | Repair or replacement of building wastewater piping network. |
| PL2B | WASTEWATER | PUMPS | Pump systems used to lift wastewater including sewage ejectors and other sump systems. |
| PL3A | SPECIAL SYSTEMS | PROCESS GAS/FLUIDS | Generation and/or distribution of process steam, compressed air, natural and LP gas, process water, vacuum, etc. |
| PL4A | INFRASTRUCTURE | POTABLE WATER STORAGE/ TREATMENT | Storage and treatment of potable water for distribution. |
| PL4B | INFRASTRUCTURE | INDUSTRIAL WATER DISTRIBUTION/ TREATMENT | Storage and treatment of industrial water for distribution. |
| PL4C | INFRASTRUCTURE | SANITARY WATER COLLECTION | Sanitary water collection systems, sanitary sewer systems; including combined systems. |
| PL4D | INFRASTRUCTURE | STORM WATER COLLECTION | Storm water collection systems, storm sewer systems; storm water only. |
| PL4E | INFRASTRUCTURE | POTABLE WATER DISTRIBUTION | Potable water distribution network. |
| PL4F | INFRASTRUCTURE | WASTEWATER TREATMENT | Wastewater treatment plants, associated equipment, etc. |
| PL5A | GENERAL | OTHER | Plumbing issues not categorized elsewhere. |
| **SYSTEM DESCRIPTION: SITE** | | | |
| SI1A | ACCESS | PEDESTRIAN | Paved pedestrian surfaces including walks, site stairs, step ramps, paths, pedestrian signage, sidewalk bridges/canopies, pedestrian plaza/mall areas, etc. |
| SI1B | ACCESS | VEHICULAR | Paved vehicular surfaces including roads, paths, curbs, guards, bollards, bridges, skyways, joints, shoulder work, culverts, ditches, vehicular signage, etc. |
| SI2A | LANDSCAPE | GRADE/FLORA | Landscape related work including new grass/turf refurbishment, grade improvements, catch basins, swales, berms, pruning, new ornamental flora, etc. |
| SI3A | HARDSCAPE | STRUCTURE | Permanent hard site features, predominantly ornamental, including terraces, fences, statues, freestanding signage, fountains, benches, etc. |
| SI4A | GENERAL | OTHER | Other site work not specifically categorized elsewhere. |
| **SYSTEM DESCRIPTION: SECURITY SYSTEMS** | | | |
| SS1A | LIGHTING | EXTERIOR | Fixtures, stanchions, foliage interference, cleanliness, locations, etc. |

| CATEGORY CODE REPORT | | | |
|---|---|---|---|
| **CODE** | **COMPONENT DESCRIPTION** | **ELEMENT DESCRIPTION** | **DEFINITION** |
| SS2A | SITE | FENCING | Perimeter campus fencing, individual building fencing, includes both pedestrian and vehicular control fences. |
| SS2B | SITE | GENERAL | Hidden areas due to foliage, fencing, parking, walls, etc. |
| SS3A | COMMUNICATIONS | EMERGENCY PHONES | Access, locations, visibility, function, reliability, etc. |
| SS4A | ACCESS CONTROL | DOORS | Access, locks, keys, two way speakers, reliability, redundancy, etc. |
| SS4B | ACCESS CONTROL | WINDOWS | Locks, screens, access, reliability, etc. |
| SS4C | ACCESS CONTROL | SYSTEMS | Card key, proximity devices, data control, data use, reliability, system design, etc. |
| SS5A | MONITORING | SYSTEMS | Cameras, audio communication, monitoring stations, locations, system design, etc. |
| SS6A | CIRCULATION | PEDESTRIAN | On campus as well as to and from off campus housing and class locations, etc. |
| SS6B | CIRCULATION | VEHICULAR | Guard gates, access, systems, data control and use, identification, etc. |
| SS7A | GENERAL | OTHER | General information/projects pertaining to security issues. |
| **SYSTEM DESCRIPTION: VERTICAL TRANSPORTATION** | | | |
| VT1A | MACHINE ROOM | GENERAL | Machine, worm gear, thrust bearing, brake, motors, sheaves, generator, controller, selector, governor, pump(s), valves, oil, access, lighting, ventilation, floor. |
| VT2A | CAR | GENERAL | Position indicator, lighting, floor, gate-doors, operation devices, safeties, safety shoe, light ray/detection, emergency light, fire fighter service, car top, door operator, stop switch, car frame, car guides, sheaves, phone, ventilation. |
| VT3A | HOISTWAY | GENERAL | Enclosure, fascia, interlock, doors, hangers, closers, sheaves, rails, hoistway switches, ropes, traveling cables, selector tape, weights, compensation. |
| VT4A | HALL FIXTURES | GENERAL | Operating panel, position indicator, hall buttons, lobby panel, hall lanterns, fire fighter service, audible signals, card/key access. |
| VT5A | PIT | GENERAL | Buffer(s), guards, sheaves, hydro packing, floor, lighting, safety controls. |
| VT6A | OPERATING CONDITIONS | GENERAL | Door open time, door close time, door thrust, acceleration, deceleration, leveling, dwell time, speed, OFR time, nudging. |
| VT7A | GENERAL | OTHER | General information/projects relating to vertical transportation system components. |

FACILITY CONDITION ANALYSIS

# SECTION 2

# DETAILED PROJECT SUMMARIES AND TOTALS

**Detailed Project Totals**

**Facility Condition Analysis**

**System Code by Priority Class**

## MSCB : MENDENHALL STUDENT CENTER

| System Code | System Description | Priority Classes 1 | 2 | 3 | 4 | Subtotal |
|---|---|---|---|---|---|---|
| AC | ACCESSIBILITY | 0 | 0 | 0 | 208,964 | 208,964 |
| EL | ELECTRICAL | 0 | 0 | 1,364,274 | 1,174,891 | 2,539,165 |
| ES | EXTERIOR | 0 | 621,482 | 221,983 | 1,145,676 | 1,989,141 |
| FS | FIRE/LIFE SAFETY | 6,881 | 1,121,634 | 0 | 0 | 1,128,515 |
| HE | HEALTH | 0 | 0 | 31,966 | 0 | 31,966 |
| HV | HVAC | 0 | 0 | 3,681,091 | 0 | 3,681,091 |
| IS | INTERIOR/FINISH SYS. | 0 | 0 | 3,215,578 | 0 | 3,215,578 |
| PL | PLUMBING | 0 | 0 | 34,553 | 464,568 | 499,121 |
| SI | SITE | 0 | 0 | 27,762 | 0 | 27,762 |
| | TOTALS | 6,881 | 1,743,116 | 8,577,207 | 2,994,099 | 13,321,303 |

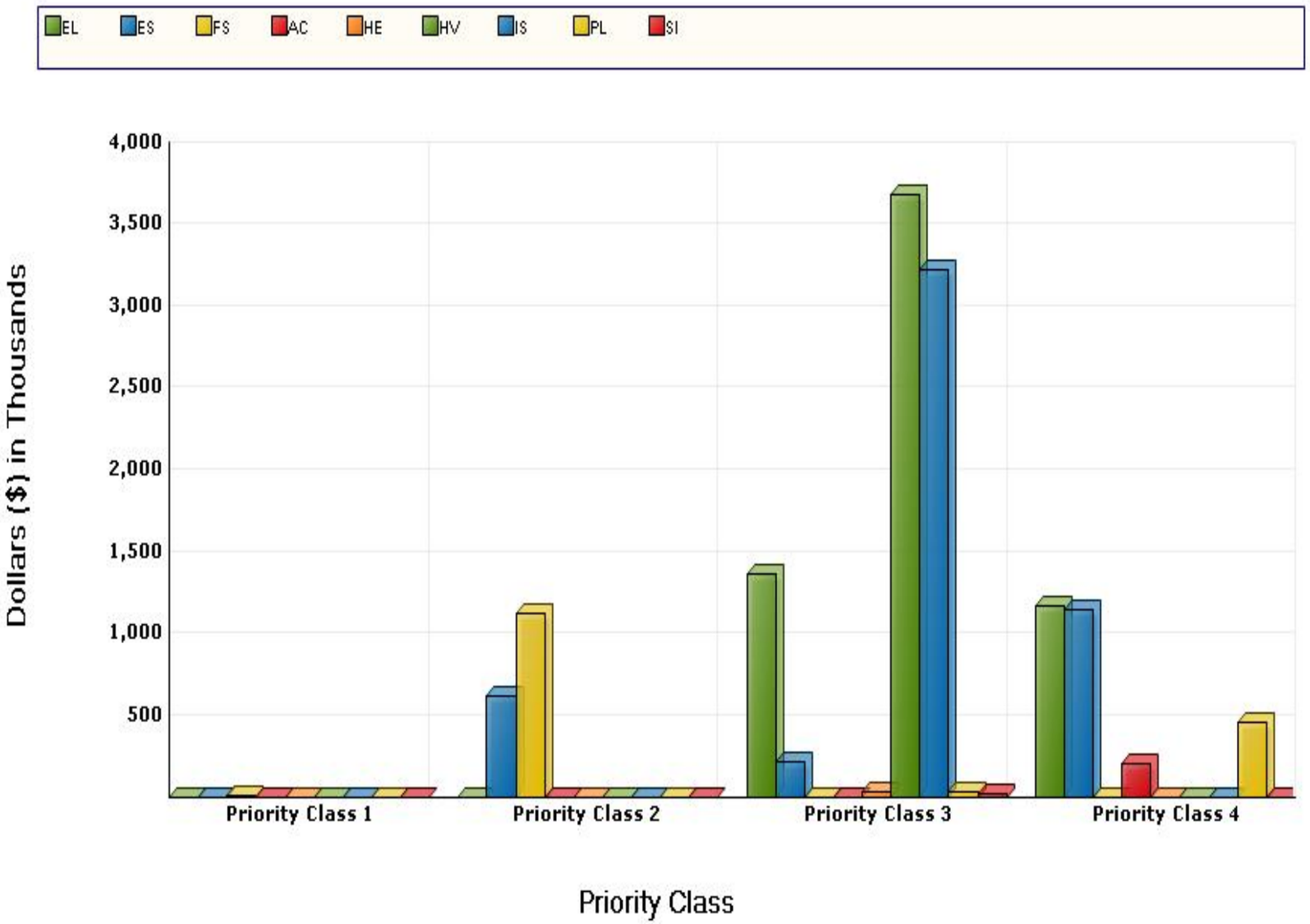
| | |
|---|---|
| **Facility Replacement Cost** | $37,108,237 |
| **Facility Condition Needs Index** | 0.36 |

| | | | |
|---|---|---|---|
| **Gross Square Feet** | 116,900 | **Total Cost Per Square Foot** | $113.95 |

# FACILITY CONDITION ANALYSIS

## System Code by Priority Class

### MSCB : MENDENHALL STUDENT CENTER



**Detailed Project Totals**

**Facility Condition Analysis**

**System Code by Project Class**

## MSCB : MENDENHALL STUDENT CENTER

| System Code | System Description | Project Classes: Captial Renewal | Deferred Maintenance | Plant Adaption | Subtotal |
|---|---|---|---|---|---|
| AC | ACCESSIBILITY | 0 | 0 | 208,964 | 208,964 |
| EL | ELECTRICAL | 1,237,369 | 1,301,796 | 0 | 2,539,165 |
| ES | EXTERIOR | 1,870,261 | 118,880 | 0 | 1,989,141 |
| FS | FIRE/LIFE SAFETY | 0 | 0 | 1,128,515 | 1,128,515 |
| HE | HEALTH | 0 | 31,966 | 0 | 31,966 |
| HV | HVAC | 201,859 | 3,479,232 | 0 | 3,681,091 |
| IS | INTERIOR/FINISH SYS. | 856,984 | 2,358,593 | 0 | 3,215,578 |
| PL | PLUMBING | 499,121 | 0 | 0 | 499,121 |
| SI | SITE | 0 | 27,762 | 0 | 27,762 |
| | TOTALS | 4,665,595 | 7,318,229 | 1,337,479 | 13,321,303 |

| | |
|---|---|
| **Facility Replacement Cost** | $37,108,237 |
| **Facility Condition Needs Index** | 0.36 |

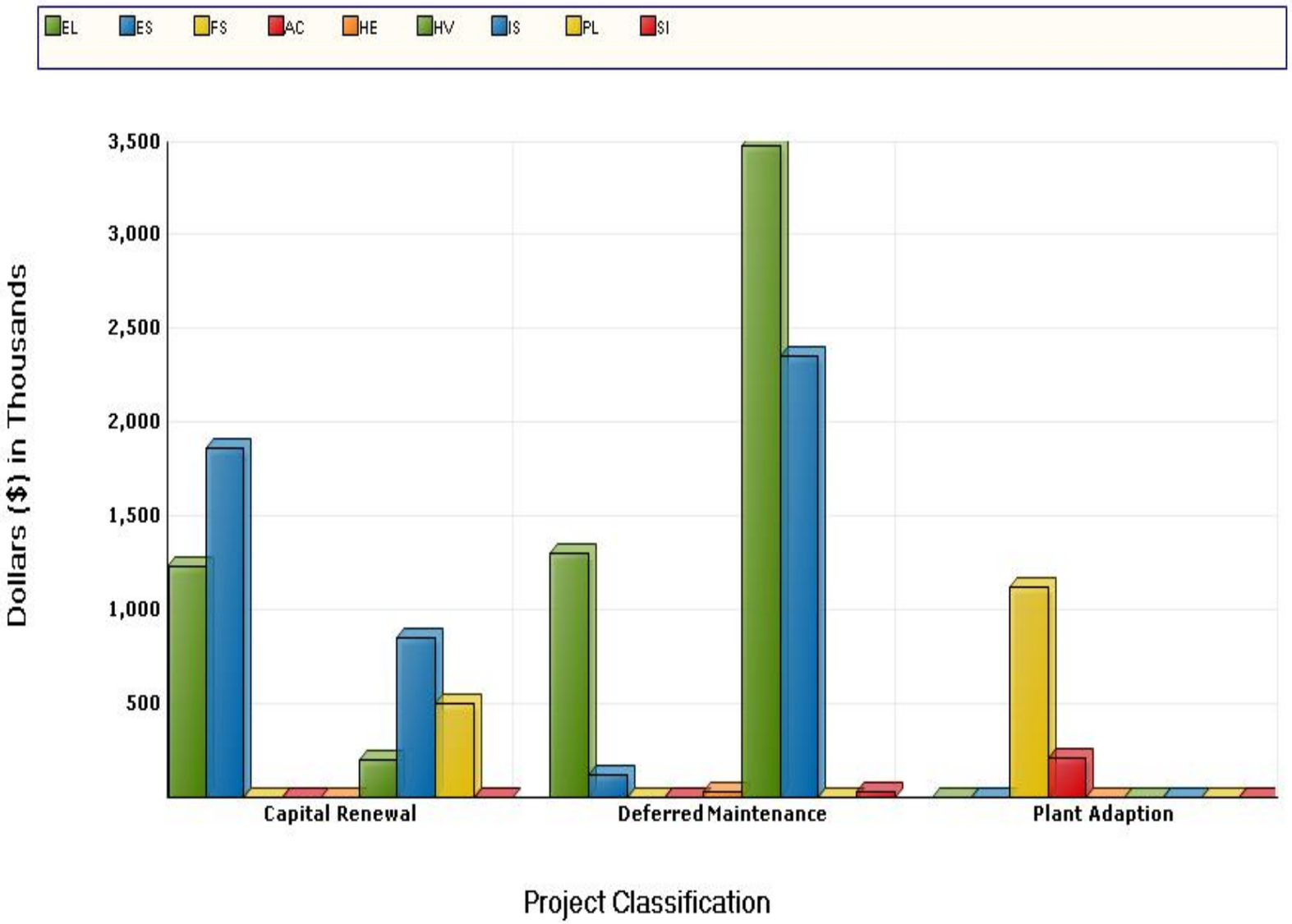
| | |
|---|---|
| **Gross Square Feet** | 116,900 |

| | |
|---|---|
| **Total Cost Per Square Foot** | $113.95 |

# FACILITY CONDITION ANALYSIS

## System Code by Project Class

### MSCB : MENDENHALL STUDENT CENTER



**Detailed Project Summary**
**Facility Condition Analysis**
**Project Class by Priority Class**
## MSCB : MENDENHALL STUDENT CENTER

| | Priority Classes | | | | |
|---|---|---|---|---|---|
| **Project Class** | **1** | **2** | **3** | **4** | **Subtotal** |
| **Capital Renewal** | 0 | 600,358 | 1,280,102 | 2,785,135 | 4,665,595 |
| **Deferred Maintenance** | 0 | 21,125 | 7,297,105 | 0 | 7,318,229 |
| **Plant Adaption** | 6,881 | 1,121,634 | 0 | 208,964 | 1,337,479 |
| **TOTALS** | 6,881 | 1,743,116 | 8,577,207 | 2,994,099 | 13,321,303 |

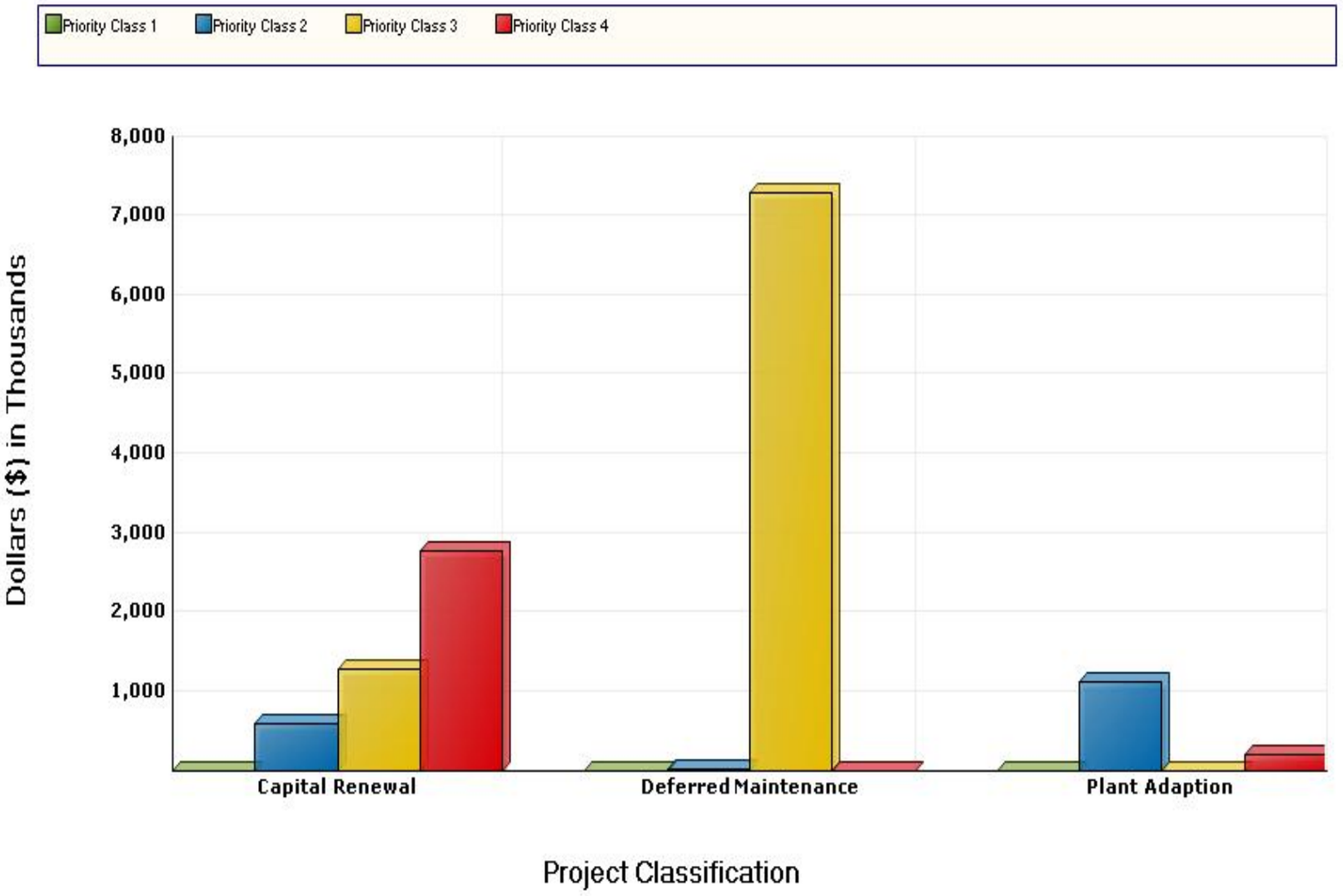
| | |
|---|---|
| **Facility Replacement Cost** | $37,108,237 |
| **Facility Condition Needs Index** | 0.36 |

| | | | |
|---|---|---|---|
| **Gross Square Feet** | 116,900 | **Total Cost Per Square Foot** | $113.95 |

# FACILITY CONDITION ANALYSIS

## Project Class by Priority Class

### MSCB : MENDENHALL STUDENT CENTER



**Detailed Project Summary**

**Facility Condition Analysis**

**Priority Class - Priority Sequence**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| FS5C | MSCBFS01 | 1 | 1 | ELIMINATE FIRE RATING COMPROMISES AND EGRESS OBSTRUCTIONS | 5,932 | 949 | 6,881 |
| | | | | **Totals for Priority Class 1** | **5,932** | **949** | **6,881** |
| FS2A | MSCBFS02 | 2 | 2 | FIRE ALARM SYSTEM REPLACEMENT | 267,041 | 42,726 | 309,767 |
| FS3A | MSCBFS03 | 2 | 3 | FIRE SPRINKLER SYSTEM INSTALLATION | 699,885 | 111,982 | 811,867 |
| ES1B | MSCBES04 | 2 | 4 | WATERPROOFING OF EXTERIOR FOUNDATION WALL | 18,211 | 2,914 | 21,125 |
| ES4B | MSCBES07 | 2 | 5 | BUILT-UP ROOF REPLACEMENT | 517,550 | 82,808 | 600,358 |
| | | | | **Totals for Priority Class 2** | **1,502,687** | **240,430** | **1,743,116** |
| HE1A | MSCBHE01 | 3 | 6 | FOOD SERVICE COLD BOX REFRIGERATION SYSTEM REPLACEMENT | 27,557 | 4,409 | 31,966 |
| ES2B | MSCBES01 | 3 | 7 | RESTORE BRICK MASONRY VENEER | 43,924 | 7,028 | 50,951 |
| ES2B | MSCBES03 | 3 | 8 | STUCCO SOFFIT AND WALL FINISH UPGRADES | 6,691 | 1,071 | 7,761 |
| ES2B | MSCBES02 | 3 | 9 | RESTORE ARCHITECTURAL CONCRETE FINISHES | 33,658 | 5,385 | 39,043 |
| ES5A | MSCBES05 | 3 | 10 | EXTERIOR DOOR REPLACEMENT | 107,092 | 17,135 | 124,227 |
| HV3A | MSCBHV01 | 3 | 11 | HVAC SYSTEM REPLACEMENT | 2,935,989 | 469,758 | 3,405,747 |
| HV4B | MSCBHV03 | 3 | 12 | KITCHEN VENTILATION SYSTEM REPLACEMENT | 63,349 | 10,136 | 73,485 |
| HV2A | MSCBHV02 | 3 | 13 | REPLACE AIR-COOLED CHILLER | 174,017 | 27,843 | 201,859 |
| EL2A | MSCBEL02 | 3 | 14 | REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT | 441,429 | 70,629 | 512,057 |
| EL4B | MSCBEL03 | 3 | 15 | INTERIOR LIGHTING UPGRADE | 680,809 | 108,929 | 789,738 |
| EL5A | MSCBEL01 | 3 | 16 | REPLACE EMERGENCY GENERATOR | 53,861 | 8,618 | 62,479 |
| IS1A | MSCBIS01 | 3 | 17 | REFINISH FLOORING | 658,329 | 105,333 | 763,662 |
| IS2B | MSCBIS02 | 3 | 18 | REFINISH WALLS | 299,579 | 47,933 | 347,512 |
| IS3B | MSCBIS03 | 3 | 19 | REFINISH CEILINGS | 276,667 | 44,267 | 320,934 |
| IS4A | MSCBIS04 | 3 | 20 | REPLACE INTERIOR DOORS | 798,695 | 127,791 | 926,486 |
| IS6B | MSCBIS05 | 3 | 21 | REPLACE STANDARD CASEWORK | 59,351 | 9,496 | 68,847 |
| IS6D | MSCBIS06 | 3 | 22 | FIXED SEATING UPGRADE | 192,240 | 30,758 | 222,998 |
| IS6D | MSCBIS07 | 3 | 23 | PUBLIC RESTROOM RENOVATION | 437,407 | 69,985 | 507,392 |
| IS6D | MSCBIS08 | 3 | 24 | EMPLOYEE LOCKER ROOM RENOVATION | 49,782 | 7,965 | 57,748 |
| PL1E | MSCBPL01 | 3 | 25 | DOMESTIC HOT WATER HEAT EXCHANGER REPLACEMENT | 29,787 | 4,766 | 34,553 |

**Detailed Project Summary**

**Facility Condition Analysis**

**Priority Class - Priority Sequence**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| SI4A | MSCBSI01 | 3 | 26 | SITE PAVING UPGRADES | 23,933 | 3,829 | 27,762 |
| | | | | **Totals for Priority Class 3** | **7,394,144** | **1,183,063** | **8,577,207** |
| AC2A | MSCBAC01 | 4 | 27 | BUILDING ENTRY ACCESSIBILITY UPGRADES | 40,199 | 6,432 | 46,630 |
| AC4B | MSCBAC02 | 4 | 28 | AUDITORIUM ACCESSIBILITY UPGRADES | 16,432 | 2,629 | 19,062 |
| AC3B | MSCBAC03 | 4 | 29 | STAIR SAFETY UPGRADES | 123,511 | 19,762 | 143,272 |
| ES5B | MSCBES06 | 4 | 30 | WINDOW WALL REPLACEMENT AND UPGRADES | 987,652 | 158,024 | 1,145,676 |
| EL3B | MSCBEL04 | 4 | 31 | UPGRADE ELECTRICAL DISTRIBUTION NETWORK | 1,012,837 | 162,054 | 1,174,891 |
| PL1A | MSCBPL02 | 4 | 32 | WATER SUPPLY PIPING REPLACEMENT | 400,490 | 64,078 | 464,568 |
| | | | | **Totals for Priority Class 4** | **2,581,120** | **412,979** | **2,994,099** |
| | | | | **Grand Total:** | **11,483,882** | **1,837,421** | **13,321,303** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Project Cost Range**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| FS5C | MSCBFS01 | 1 | 1 | ELIMINATE FIRE RATING COMPROMISES AND EGRESS OBSTRUCTIONS | 5,932 | 949 | 6,881 |
| | | | | **Totals for Priority Class 1** | **5,932** | **949** | **6,881** |
| ES1B | MSCBES04 | 2 | 4 | WATERPROOFING OF EXTERIOR FOUNDATION WALL | 18,211 | 2,914 | 21,125 |
| | | | | **Totals for Priority Class 2** | **18,211** | **2,914** | **21,125** |
| ES2B | MSCBES01 | 3 | 7 | RESTORE BRICK MASONRY VENEER | 43,924 | 7,028 | 50,951 |
| ES2B | MSCBES02 | 3 | 9 | RESTORE ARCHITECTURAL CONCRETE FINISHES | 33,658 | 5,385 | 39,043 |
| ES2B | MSCBES03 | 3 | 8 | STUCCO SOFFIT AND WALL FINISH UPGRADES | 6,691 | 1,071 | 7,761 |
| IS6B | MSCBIS05 | 3 | 21 | REPLACE STANDARD CASEWORK | 59,351 | 9,496 | 68,847 |
| IS6D | MSCBIS08 | 3 | 24 | EMPLOYEE LOCKER ROOM RENOVATION | 49,782 | 7,965 | 57,748 |
| SI4A | MSCBSI01 | 3 | 26 | SITE PAVING UPGRADES | 23,933 | 3,829 | 27,762 |
| HE1A | MSCBHE01 | 3 | 6 | FOOD SERVICE COLD BOX REFRIGERATION SYSTEM REPLACEMENT | 27,557 | 4,409 | 31,966 |
| HV4B | MSCBHV03 | 3 | 12 | KITCHEN VENTILATION SYSTEM REPLACEMENT | 63,349 | 10,136 | 73,485 |
| EL5A | MSCBEL01 | 3 | 16 | REPLACE EMERGENCY GENERATOR | 53,861 | 8,618 | 62,479 |
| PL1E | MSCBPL01 | 3 | 25 | DOMESTIC HOT WATER HEAT EXCHANGER REPLACEMENT | 29,787 | 4,766 | 34,553 |
| | | | | **Totals for Priority Class 3** | **391,892** | **62,703** | **454,595** |
| AC2A | MSCBAC01 | 4 | 27 | BUILDING ENTRY ACCESSIBILITY UPGRADES | 40,199 | 6,432 | 46,630 |
| AC4B | MSCBAC02 | 4 | 28 | AUDITORIUM ACCESSIBILITY UPGRADES | 16,432 | 2,629 | 19,062 |
| | | | | **Totals for Priority Class 4** | **56,631** | **9,061** | **65,692** |
| | | | | **Grand Totals for Projects < 100,000** | **472,666** | **75,627** | **548,292** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Project Cost Range**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| FS2A | MSCBFS02 | 2 | 2 | FIRE ALARM SYSTEM REPLACEMENT | 267,041 | 42,726 | 309,767 |
| | | | | **Totals for Priority Class 2** | **267,041** | **42,726** | **309,767** |
| ES5A | MSCBES05 | 3 | 10 | EXTERIOR DOOR REPLACEMENT | 107,092 | 17,135 | 124,227 |
| IS2B | MSCBIS02 | 3 | 18 | REFINISH WALLS | 299,579 | 47,933 | 347,512 |
| IS3B | MSCBIS03 | 3 | 19 | REFINISH CEILINGS | 276,667 | 44,267 | 320,934 |
| IS6D | MSCBIS06 | 3 | 22 | FIXED SEATING UPGRADE | 192,240 | 30,758 | 222,998 |
| HV2A | MSCBHV02 | 3 | 13 | REPLACE AIR-COOLED CHILLER | 174,017 | 27,843 | 201,859 |
| | | | | **Totals for Priority Class 3** | **1,049,595** | **167,935** | **1,217,530** |
| AC3B | MSCBAC03 | 4 | 29 | STAIR SAFETY UPGRADES | 123,511 | 19,762 | 143,272 |
| PL1A | MSCBPL02 | 4 | 32 | WATER SUPPLY PIPING REPLACEMENT | 400,490 | 64,078 | 464,568 |
| | | | | **Totals for Priority Class 4** | **524,000** | **83,840** | **607,840** |
| | | | | **Grand Totals for Projects >= 100,000 and < 500,000** | **1,840,635** | **294,502** | **2,135,137** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Project Cost Range**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| ES4B | MSCBES07 | 2 | 5 | BUILT-UP ROOF REPLACEMENT | 517,550 | 82,808 | 600,358 |
| FS3A | MSCBFS03 | 2 | 3 | FIRE SPRINKLER SYSTEM INSTALLATION | 699,885 | 111,982 | 811,867 |
| | | | | **Totals for Priority Class 2** | **1,217,435** | **194,790** | **1,412,225** |
| IS1A | MSCBIS01 | 3 | 17 | REFINISH FLOORING | 658,329 | 105,333 | 763,662 |
| IS4A | MSCBIS04 | 3 | 20 | REPLACE INTERIOR DOORS | 798,695 | 127,791 | 926,486 |
| IS6D | MSCBIS07 | 3 | 23 | PUBLIC RESTROOM RENOVATION | 437,407 | 69,985 | 507,392 |
| HV3A | MSCBHV01 | 3 | 11 | HVAC SYSTEM REPLACEMENT | 2,935,989 | 469,758 | 3,405,747 |
| EL2A | MSCBEL02 | 3 | 14 | REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT | 441,429 | 70,629 | 512,057 |
| EL4B | MSCBEL03 | 3 | 15 | INTERIOR LIGHTING UPGRADE | 680,809 | 108,929 | 789,738 |
| | | | | **Totals for Priority Class 3** | **5,952,657** | **952,425** | **6,905,082** |
| ES5B | MSCBES06 | 4 | 30 | WINDOW WALL REPLACEMENT AND UPGRADES | 987,652 | 158,024 | 1,145,676 |
| EL3B | MSCBEL04 | 4 | 31 | UPGRADE ELECTRICAL DISTRIBUTION NETWORK | 1,012,837 | 162,054 | 1,174,891 |
| | | | | **Totals for Priority Class 4** | **2,000,489** | **320,078** | **2,320,567** |
| | | | | **Grand Totals for Projects >= 500,000** | **9,170,581** | **1,467,293** | **10,637,874** |
| | | | | **Grand Totals For All Projects:** | **11,483,882** | **1,837,421** | **13,321,303** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Project Classification**

MSCB : MENDENHALL STUDENT CENTER

| Cat Code | Project Number | Pri. Seq. | Project Classification | Pri. Cls | Project Title | Total Cost |
|---|---|---|---|---|---|---|
| ES4B | MSCBES07 | 5 | Capital Renewal | 2 | BUILT-UP ROOF REPLACEMENT | 600,358 |
| ES5A | MSCBES05 | 10 | Capital Renewal | 3 | EXTERIOR DOOR REPLACEMENT | 124,227 |
| HV2A | MSCBHV02 | 13 | Capital Renewal | 3 | REPLACE AIR-COOLED CHILLER | 201,859 |
| EL5A | MSCBEL01 | 16 | Capital Renewal | 3 | REPLACE EMERGENCY GENERATOR | 62,479 |
| IS6B | MSCBIS05 | 21 | Capital Renewal | 3 | REPLACE STANDARD CASEWORK | 68,847 |
| IS6D | MSCBIS06 | 22 | Capital Renewal | 3 | FIXED SEATING UPGRADE | 222,998 |
| IS6D | MSCBIS07 | 23 | Capital Renewal | 3 | PUBLIC RESTROOM RENOVATION | 507,392 |
| IS6D | MSCBIS08 | 24 | Capital Renewal | 3 | EMPLOYEE LOCKER ROOM RENOVATION | 57,748 |
| PL1E | MSCBPL01 | 25 | Capital Renewal | 3 | DOMESTIC HOT WATER HEAT EXCHANGER REPLACEMENT | 34,553 |
| ES5B | MSCBES06 | 30 | Capital Renewal | 4 | WINDOW WALL REPLACEMENT AND UPGRADES | 1,145,676 |
| EL3B | MSCBEL04 | 31 | Capital Renewal | 4 | UPGRADE ELECTRICAL DISTRIBUTION NETWORK | 1,174,891 |
| PL1A | MSCBPL02 | 32 | Capital Renewal | 4 | WATER SUPPLY PIPING REPLACEMENT | 464,568 |
| | | | | | **Totals for Capital Renewal** | **4,665,595** |
| ES1B | MSCBES04 | 4 | Deferred Maintenance | 2 | WATERPROOFING OF EXTERIOR FOUNDATION WALL | 21,125 |
| HE1A | MSCBHE01 | 6 | Deferred Maintenance | 3 | FOOD SERVICE COLD BOX REFRIGERATION SYSTEM REPLACEMENT | 31,966 |
| ES2B | MSCBES01 | 7 | Deferred Maintenance | 3 | RESTORE BRICK MASONRY VENEER | 50,951 |
| ES2B | MSCBES03 | 8 | Deferred Maintenance | 3 | STUCCO SOFFIT AND WALL FINISH UPGRADES | 7,761 |
| ES2B | MSCBES02 | 9 | Deferred Maintenance | 3 | RESTORE ARCHITECTURAL CONCRETE FINISHES | 39,043 |
| HV3A | MSCBHV01 | 11 | Deferred Maintenance | 3 | HVAC SYSTEM REPLACEMENT | 3,405,747 |
| HV4B | MSCBHV03 | 12 | Deferred Maintenance | 3 | KITCHEN VENTILATION SYSTEM REPLACEMENT | 73,485 |
| EL2A | MSCBEL02 | 14 | Deferred Maintenance | 3 | REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT | 512,057 |
| EL4B | MSCBEL03 | 15 | Deferred Maintenance | 3 | INTERIOR LIGHTING UPGRADE | 789,738 |
| IS1A | MSCBIS01 | 17 | Deferred Maintenance | 3 | REFINISH FLOORING | 763,662 |
| IS2B | MSCBIS02 | 18 | Deferred Maintenance | 3 | REFINISH WALLS | 347,512 |
| IS3B | MSCBIS03 | 19 | Deferred Maintenance | 3 | REFINISH CEILINGS | 320,934 |
| IS4A | MSCBIS04 | 20 | Deferred Maintenance | 3 | REPLACE INTERIOR DOORS | 926,486 |
| SI4A | MSCBSI01 | 26 | Deferred Maintenance | 3 | SITE PAVING UPGRADES | 27,762 |
| | | | | | **Totals for Deferred Maintenance** | **7,318,229** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Project Classification**

MSCB : MENDENHALL STUDENT CENTER

| Cat Code | Project Number | Pri. Seq. | Project Classification | Pri. Cls | Project Title | Total Cost |
|---|---|---|---|---|---|---|
| FS5C | MSCBFS01 | 1 | Plant Adaption | 1 | ELIMINATE FIRE RATING COMPROMISES AND EGRESS OBSTRUCTIONS | 6,881 |
| FS2A | MSCBFS02 | 2 | Plant Adaption | 2 | FIRE ALARM SYSTEM REPLACEMENT | 309,767 |
| FS3A | MSCBFS03 | 3 | Plant Adaption | 2 | FIRE SPRINKLER SYSTEM INSTALLATION | 811,867 |
| AC2A | MSCBAC01 | 27 | Plant Adaption | 4 | BUILDING ENTRY ACCESSIBILITY UPGRADES | 46,630 |
| AC4B | MSCBAC02 | 28 | Plant Adaption | 4 | AUDITORIUM ACCESSIBILITY UPGRADES | 19,062 |
| AC3B | MSCBAC03 | 29 | Plant Adaption | 4 | STAIR SAFETY UPGRADES | 143,272 |
| | | | | | **Totals for Plant Adaption** | **1,337,479** |
| | | | | | **Grand Total:** | **13,321,303** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Energy Conservation**

MSCB : MENDENHALL STUDENT CENTER

| Cat Code | Project Number | Pri Cls | Pri Seq | Project Title | Total Cost | Annual Savings | Simple Payback |
|---|---|---|---|---|---|---|---|
| ES4B | MSCBES07 | 2 | 5 | BUILT-UP ROOF REPLACEMENT | 600,358 | 9,100 | 65.97 |
| | | | | **Totals for Priority Class 2** | **600,358** | **9,100** | **65.97** |
| HV3A | MSCBHV01 | 3 | 11 | HVAC SYSTEM REPLACEMENT | 3,405,747 | 74,630 | 45.64 |
| EL4B | MSCBEL03 | 3 | 15 | INTERIOR LIGHTING UPGRADE | 789,738 | 23,850 | 33.11 |
| | | | | **Totals for Priority Class 3** | **4,195,486** | **98,480** | **42.6** |
| ES5B | MSCBES06 | 4 | 30 | WINDOW WALL REPLACEMENT AND UPGRADES | 1,145,676 | 2,200 | 520.76 |
| | | | | **Totals for Priority Class 4** | **1,145,676** | **2,200** | **520.76** |
| | | | | **Grand Total:** | **5,941,520** | **109,780** | **54.12** |

**Detailed Project Summary**

**Facility Condition Analysis**

**Category/System Code**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| AC2A | MSCBAC01 | 4 | 27 | BUILDING ENTRY ACCESSIBILITY UPGRADES | 40,199 | 6,432 | 46,630 |
| AC4B | MSCBAC02 | 4 | 28 | AUDITORIUM ACCESSIBILITY UPGRADES | 16,432 | 2,629 | 19,062 |
| AC3B | MSCBAC03 | 4 | 29 | STAIR SAFETY UPGRADES | 123,511 | 19,762 | 143,272 |
| | | | | **Totals for System Code: ACCESSIBILITY** | **180,142** | **28,823** | **208,964** |
| EL2A | MSCBEL02 | 3 | 14 | REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT | 441,429 | 70,629 | 512,057 |
| EL4B | MSCBEL03 | 3 | 15 | INTERIOR LIGHTING UPGRADE | 680,809 | 108,929 | 789,738 |
| EL5A | MSCBEL01 | 3 | 16 | REPLACE EMERGENCY GENERATOR | 53,861 | 8,618 | 62,479 |
| EL3B | MSCBEL04 | 4 | 31 | UPGRADE ELECTRICAL DISTRIBUTION NETWORK | 1,012,837 | 162,054 | 1,174,891 |
| | | | | **Totals for System Code: ELECTRICAL** | **2,188,935** | **350,230** | **2,539,165** |
| ES1B | MSCBES04 | 2 | 4 | WATERPROOFING OF EXTERIOR FOUNDATION WALL | 18,211 | 2,914 | 21,125 |
| ES4B | MSCBES07 | 2 | 5 | BUILT-UP ROOF REPLACEMENT | 517,550 | 82,808 | 600,358 |
| ES2B | MSCBES01 | 3 | 7 | RESTORE BRICK MASONRY VENEER | 43,924 | 7,028 | 50,951 |
| ES2B | MSCBES03 | 3 | 8 | STUCCO SOFFIT AND WALL FINISH UPGRADES | 6,691 | 1,071 | 7,761 |
| ES2B | MSCBES02 | 3 | 9 | RESTORE ARCHITECTURAL CONCRETE FINISHES | 33,658 | 5,385 | 39,043 |
| ES5A | MSCBES05 | 3 | 10 | EXTERIOR DOOR REPLACEMENT | 107,092 | 17,135 | 124,227 |
| ES5B | MSCBES06 | 4 | 30 | WINDOW WALL REPLACEMENT AND UPGRADES | 987,652 | 158,024 | 1,145,676 |
| | | | | **Totals for System Code: EXTERIOR** | **1,714,777** | **274,364** | **1,989,141** |
| FS5C | MSCBFS01 | 1 | 1 | ELIMINATE FIRE RATING COMPROMISES AND EGRESS OBSTRUCTIONS | 5,932 | 949 | 6,881 |
| FS2A | MSCBFS02 | 2 | 2 | FIRE ALARM SYSTEM REPLACEMENT | 267,041 | 42,726 | 309,767 |
| FS3A | MSCBFS03 | 2 | 3 | FIRE SPRINKLER SYSTEM INSTALLATION | 699,885 | 111,982 | 811,867 |
| | | | | **Totals for System Code: FIRE/LIFE SAFETY** | **972,857** | **155,657** | **1,128,515** |
| HE1A | MSCBHE01 | 3 | 6 | FOOD SERVICE COLD BOX REFRIGERATION SYSTEM REPLACEMENT | 27,557 | 4,409 | 31,966 |
| | | | | **Totals for System Code: HEALTH** | **27,557** | **4,409** | **31,966** |
| HV3A | MSCBHV01 | 3 | 11 | HVAC SYSTEM REPLACEMENT | 2,935,989 | 469,758 | 3,405,747 |
| HV4B | MSCBHV03 | 3 | 12 | KITCHEN VENTILATION SYSTEM REPLACEMENT | 63,349 | 10,136 | 73,485 |
| HV2A | MSCBHV02 | 3 | 13 | REPLACE AIR-COOLED CHILLER | 174,017 | 27,843 | 201,859 |
| | | | | **Totals for System Code: HVAC** | **3,173,355** | **507,737** | **3,681,091** |
| IS1A | MSCBIS01 | 3 | 17 | REFINISH FLOORING | 658,329 | 105,333 | 763,662 |
| IS2B | MSCBIS02 | 3 | 18 | REFINISH WALLS | 299,579 | 47,933 | 347,512 |
| IS3B | MSCBIS03 | 3 | 19 | REFINISH CEILINGS | 276,667 | 44,267 | 320,934 |
| IS4A | MSCBIS04 | 3 | 20 | REPLACE INTERIOR DOORS | 798,695 | 127,791 | 926,486 |

**Detailed Project Summary**

**Facility Condition Analysis**

**Category/System Code**

MSCB : MENDENHALL STUDENT CENTER

| Cat. Code | Project Number | Pri Cls | Pri Seq | Project Title | Construction Cost | Professional Fee | Total Cost |
|---|---|---|---|---|---|---|---|
| IS6B | MSCBIS05 | 3 | 21 | REPLACE STANDARD CASEWORK | 59,351 | 9,496 | 68,847 |
| IS6D | MSCBIS06 | 3 | 22 | FIXED SEATING UPGRADE | 192,240 | 30,758 | 222,998 |
| IS6D | MSCBIS07 | 3 | 23 | PUBLIC RESTROOM RENOVATION | 437,407 | 69,985 | 507,392 |
| IS6D | MSCBIS08 | 3 | 24 | EMPLOYEE LOCKER ROOM RENOVATION | 49,782 | 7,965 | 57,748 |
| | | | | **Totals for System Code: INTERIOR/FINISH SYS.** | **2,772,050** | **443,528** | **3,215,578** |
| PL1E | MSCBPL01 | 3 | 25 | DOMESTIC HOT WATER HEAT EXCHANGER REPLACEMENT | 29,787 | 4,766 | 34,553 |
| PL1A | MSCBPL02 | 4 | 32 | WATER SUPPLY PIPING REPLACEMENT | 400,490 | 64,078 | 464,568 |
| | | | | **Totals for System Code: PLUMBING** | **430,277** | **68,844** | **499,121** |
| SI4A | MSCBSI01 | 3 | 26 | SITE PAVING UPGRADES | 23,933 | 3,829 | 27,762 |
| | | | | **Totals for System Code: SITE** | **23,933** | **3,829** | **27,762** |
| | | | | **Grand Total:** | **11,483,882** | **1,837,421** | **13,321,303** |

FACILITY CONDITION ANALYSIS

# SECTION 3

# SPECIFIC PROJECT DETAILS ILLUSTRATING DESCRIPTION / COST

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBFS01 | **Title:** | ELIMINATE FIRE RATING COMPROMISES AND EGRESS OBSTRUCTIONS |
| **Priority Sequence:** | 1 | | |
| **Priority Class:** | 1 | | |
| **Category Code:** | FS5C | **System:** | FIRE/LIFE SAFETY |
| | | **Component:** | EGRESS PATH |
| | | **Element:** | SEPARATION RATING |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | IBC 711.3 | | |
| **Project Class:** | Plant Adaption | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Structural fire separations are not maintained according to code requirements for new construction in some areas of this facility. Little or no regard has been given to the passive and active firestopping systems in the building. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly. A few of the egress corridor are obstructed by inappropriately stored materials. All obstructive items should be removed and an ongoing monitoring program implemented.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBFS01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Moderate passive firestopping and structural separation repairs | SF | 18,000 | $0.06 | $1,080 | $0.17 | $3,060 | $4,140 |
| Remove egress route corridor obstructions | LOT | 1 | $1,000 | $1,000 | $2,200 | $2,200 | $3,200 |
| **Project Totals:** | | | | **$2,080** | | **$5,260** | **$7,340** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $7,340 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $4,793 |
| **General Contractor Mark Up at 20.0%** | + | $959 |
| **Inflation** | + | $180 |
| **Construction Cost** | | $5,932 |
| **Professional Fees at 16.0%** | + | $949 |
| **Total Project Cost** | | **$6,881** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBFS02 | **Title:** | FIRE ALARM SYSTEM REPLACEMENT |
| **Priority Sequence:** | 2 | | |
| **Priority Class:** | 2 | | |
| **Category Code:** | FS2A | **System:** | FIRE/LIFE SAFETY |
| | | **Component:** | DETECTION ALARM |
| | | **Element:** | GENERAL |

| | |
|---|---|
| **Building Code:** | MSCB |
| **Building Name:** | MENDENHALL STUDENT CENTER |
| **Subclass/Savings:** | Not Applicable |

| | | |
|---|---|---|
| **Code Application:** | ADAAG | 702.1 |
| | NFPA | 1, 101 |

| | |
|---|---|
| **Project Class:** | Plant Adaption |
| **Project Date:** | 11/2/2009 |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G |

**Project Description**

Update the existing fire alarm system using new, late model components. Specify a point addressable supervised main fire alarm panel with an annunciator and additional remote annunciator panels as appropriate. Include pull stations, audible and visible strobe alarms, smoke and heat detectors, and a wiring network. Install all devices in accordance with current NFPA and ADA requirements. The system should be monitored to report activation or trouble to an applicable receiving station.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBFS02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Fire alarm control panel(s), annunciator, smoke and heat detectors, manual pull stations, audible and visual alarms, wiring, raceways, and cut and patching materials | SF | 116,900 | $1.40 | $163,660 | $0.85 | $99,365 | $263,025 |
| **Project Totals:** | | | | **$163,660** | | **$99,365** | **$263,025** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $263,025 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $215,780 |
| **General Contractor Mark Up at 20.0%** | + | $43,156 |
| **Inflation** | + | $8,105 |
| **Construction Cost** | | $267,041 |
| **Professional Fees at 16.0%** | + | $42,726 |
| **Total Project Cost** | | **$309,767** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBFS03 | **Title:** | FIRE SPRINKLER SYSTEM INSTALLATION |
| **Priority Sequence:** | 3 | | |
| **Priority Class:** | 2 | | |
| **Category Code:** | FS3A | **System:** | FIRE/LIFE SAFETY |
| | | **Component:** | SUPPRESSION |
| | | **Element:** | SPRINKLERS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | NFPA 1, 13, 13R, 101 | | |
| **Project Class:** | Plant Adaption | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Install a building-wide automatic fire sprinkler system. Include piping, valves, sprinkler heads, and piping supports. Install flow switches and sensors to interface with the fire alarm system.

**Project Cost**

**Project Number:** MSCBFS03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Install wet-pipe sprinkler system, including valves, piping, sprinkler heads, piping supports, etc. | SF | 116,900 | $2.96 | $346,024 | $3.62 | $423,178 | $769,202 |
| **Project Totals:** | | | | **$346,024** | | **$423,178** | **$769,202** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $769,202 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $565,536 |
| **General Contractor Mark Up at 20.0%** | + | $113,107 |
| **Inflation** | + | $21,242 |
| **Construction Cost** | | $699,885 |
| **Professional Fees at 16.0%** | + | $111,982 |
| **Total Project Cost** | | **$811,867** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES04 | **Title:** | WATERPROOFING OF EXTERIOR FOUNDATION WALL |
| **Priority Sequence:** | 4 | | |
| **Priority Class:** | 2 | | |
| **Category Code:** | ES1B | **System:** | EXTERIOR |
| | | **Component:** | FOUNDATION/FOOTING |
| | | **Element:** | DAMPPROOFING/DEWATERING |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Area Wide: Floor(s) 1 | | |

**Project Description**

There is evidence of water infiltration through portions of the ground floor foundation wall in mechanical room G026. Excavation and waterproofing system upgrades are recommended. Improve the slope of grade away from the foundation prior to restoring the landscaping.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBES04

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Excavation and backfill to a depth of 10 feet | LF | 48 | $121 | $5,808 | $257 | $12,336 | $18,144 |
| Landscape restoration 20 feet from building | LF | 48 | $11.49 | $552 | $8.62 | $414 | $965 |
| Dampproofing application to a height of 10 feet | LF | 48 | $21.35 | $1,025 | $29.99 | $1,440 | $2,464 |
| **Project Totals:** | | | | **$7,384** | | **$14,189** | **$21,574** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $21,574 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $14,715 |
| **General Contractor Mark Up at 20.0%** | + | $2,943 |
| **Inflation** | + | $553 |
| **Construction Cost** | | $18,211 |
| **Professional Fees at 16.0%** | + | $2,914 |
| **Total Project Cost** | | **$21,125** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES07 | **Title:** | BUILT-UP ROOF REPLACEMENT |
| **Priority Sequence:** | 5 | | |
| **Priority Class:** | 2 | | |
| **Category Code:** | ES4B | **System:** | EXTERIOR |
| | | **Component:** | ROOF |
| | | **Element:** | REPLACEMENT |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Energy Conservation $9,100 | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) R | | |

**Project Description**

While the west roof section over Hendrix Theatre is only ten years old, the east section built-up roofing system has failed and places the building interior at risk. Future budget modeling should include a provision for the replacement of all failing roofing systems. Replace this roof with a similar application. The associated roof drainage inlets are showing signs of ineffective channeling of rainwater from the flat membrane roof to interior piping systems. Repairs or replacement of these drainage systems is recommended to prevent water damage to the building interior.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBES07

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Built-up roof | SF | 83,736 | $3.06 | $256,232 | $3.58 | $299,775 | $556,007 |
| Roof drainage system inlet upgrades | LOT | 1 | $3,800 | $3,800 | $5,000 | $5,000 | $8,800 |
| **Project Totals:** | | | | **$260,032** | | **$304,775** | **$564,807** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $564,807 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $418,202 |
| **General Contractor Mark Up at 20.0%** | + | $83,640 |
| **Inflation** | + | $15,708 |
| **Construction Cost** | | $517,550 |
| **Professional Fees at 16.0%** | + | $82,808 |
| **Total Project Cost** | | **$600,358** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBHE01 | **Title:** | FOOD SERVICE COLD BOX REFRIGERATION SYSTEM REPLACEMENT |
| **Priority Sequence:** | 6 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | HE1A | **System:** | HEALTH |
| | | **Component:** | ENVIRONMENTAL CONTROL |
| | | **Element:** | EQUIPMENT AND ENCLOSURES |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | ASHRAE 15-2004 | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Item Only: Floor(s) 1 | | |

**Project Description**

Replacement of the food service walk-in cooler / freezer refrigeration systems is recommended. Remove the existing systems. Install new non-CFC / HCFC refrigerant based systems of the latest energy-efficient design.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBHE01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Refrigeration system, including compressor, evaporator unit, controls, refrigerant, and demolition of existing equipment | SYS | 5 | $3,210 | $16,050 | $2,380 | $11,900 | $27,950 |
| **Project Totals:** | | | | **$16,050** | | **$11,900** | **$27,950** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $27,950 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $22,267 |
| **General Contractor Mark Up at 20.0%** | + | $4,453 |
| **Inflation** | + | $836 |
| **Construction Cost** | | $27,557 |
| **Professional Fees at 16.0%** | + | $4,409 |
| **Total Project Cost** | | **$31,966** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES01 | **Title:** | RESTORE BRICK MASONRY VENEER |
| **Priority Sequence:** | 7 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | ES2B | **System:** | EXTERIOR |
| | | **Component:** | COLUMNS/BEAMS/WALLS |
| | | **Element:** | FINISH |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Building-wide: Floor(s) 1 | | |

**Project Description**

Brick masonry veneer is one of the primary exterior facade finishes. While the brick is fundamentally sound, exposure to the elements has caused some deterioration of the mortar joints and expansion joints. Cleaning, surface preparation, selective repairs, and applied finish or penetrating sealant upgrades are recommended to restore the aesthetics and integrity of the building envelope. Selective area work includes masonry wall repairs at the vertical crack located at the auditorium loading dock.

**Project Cost**

**Project Number:** MSCBES01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Cleaning and surface preparation | SF | 24,050 | $0.11 | $2,646 | $0.22 | $5,291 | $7,937 |
| Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope) | LF | 2,405 | $2.45 | $5,892 | $4.99 | $12,001 | $17,893 |
| Applied finish or sealant | SF | 24,050 | $0.22 | $5,291 | $0.82 | $19,721 | $25,012 |
| Masonry wall repairs at vertical crack at auditorium loading dock | LF | 20 | $64.88 | $1,298 | $124 | $2,480 | $3,778 |
| **Project Totals:** | | | | **$15,126** | | **$39,493** | **$54,619** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $54,619 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $35,492 |
| **General Contractor Mark Up at 20.0%** | + | $7,098 |
| **Inflation** | + | $1,333 |
| **Construction Cost** | | $43,924 |
| **Professional Fees at 16.0%** | + | $7,028 |
| **Total Project Cost** | | **$50,951** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES03 | **Title:** | STUCCO SOFFIT AND WALL FINISH UPGRADES |
| **Priority Sequence:** | 8 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | ES2B | **System:** | EXTERIOR |
| | | **Component:** | COLUMNS/BEAMS/WALLS |
| | | **Element:** | FINISH |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

**Code Application:** IBC IRC- Part III, Ch. R7, 703.9

| | |
|---|---|
| **Project Class:** | Deferred Maintenance |
| **Project Date:** | 10/9/2009 |
| **Project Location:** | Building-wide: Floor(s) 1 |

**Project Description**

Portions of the exterior soffits have a painted stucco finish system. The substrate is sound, but exposure to the elements has deteriorated the trowelled stucco finish. There are numerous cracks and substantial color variation. Selective substrate repairs, surface preparation, trowelled finish application, and painting are recommended to restore the aesthetics and integrity of the building envelope.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBES03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Natural masonry base, aggregate, surface stucco finish | SF | 800 | $1.56 | $1,248 | $3.36 | $2,688 | $3,936 |
| Surface preparation | SF | 3,200 | $0.11 | $352 | $0.22 | $704 | $1,056 |
| Paint | SF | 3,200 | $0.22 | $704 | $0.82 | $2,624 | $3,328 |
| **Project Totals:** | | | | **$2,304** | | **$6,016** | **$8,320** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $8,320 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $5,406 |
| **General Contractor Mark Up at 20.0%** | + | $1,081 |
| **Inflation** | + | $203 |
| **Construction Cost** | | $6,691 |
| **Professional Fees at 16.0%** | + | $1,071 |
| **Total Project Cost** | | **$7,761** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES02 | **Title:** | RESTORE ARCHITECTURAL CONCRETE FINISHES |
| **Priority Sequence:** | 9 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | ES2B | **System:** | EXTERIOR |
| | | **Component:** | COLUMNS/BEAMS/WALLS |
| | | **Element:** | FINISH |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Building-wide: Floor(s) 1 | | |

**Project Description**

The secondary facade finish includes exposed natural concrete and architectural concrete panels. This exterior concrete has become visibly soiled, and the construction joints are failing. Cleaning, surface preparation, selective repairs, and applied finish upgrades are recommended to restore the aesthetics and integrity of the building envelope. Elastomeric coatings should be applied to all horizontal concrete and panel surfaces to improve water shed and reduce infiltration into the wall assembly.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBES02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Cleaning and surface preparation | SF | 17,490 | $0.11 | $1,924 | $0.22 | $3,848 | $5,772 |
| Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope) | LF | 1,749 | $2.45 | $4,285 | $4.99 | $8,728 | $13,013 |
| Applied finish or sealant | SF | 17,490 | $0.22 | $3,848 | $0.82 | $14,342 | $18,190 |
| Elastomeric coating applications | SF | 3,200 | $0.36 | $1,152 | $1.28 | $4,096 | $5,248 |
| **Project Totals:** | | | | **$11,209** | | **$31,013** | **$42,222** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $42,222 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $27,197 |
| **General Contractor Mark Up at 20.0%** | + | $5,439 |
| **Inflation** | + | $1,022 |
| **Construction Cost** | | $33,658 |
| **Professional Fees at 16.0%** | + | $5,385 |
| **Total Project Cost** | | **$39,043** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES05 | **Title:** | EXTERIOR DOOR REPLACEMENT |
| **Priority Sequence:** | 10 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | ES5A | **System:** | EXTERIOR |
| | | **Component:** | FENESTRATIONS |
| | | **Element:** | DOORS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Building-wide: Floor(s) 1 | | |

**Project Description**

Replacements are recommended for the aging exterior door systems. This project includes the primary and secondary entrance and service doors. The replacement units should maintain the architectural design aspects of this facility and be modern, energy-efficient applications.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBES05

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| High traffic door system | LEAF | 22 | $1,978 | $43,516 | $1,999 | $43,978 | $87,494 |
| Low traffic door system | LEAF | 12 | $1,031 | $12,372 | $1,250 | $15,000 | $27,372 |
| **Project Totals:** | | | | **$55,888** | | **$58,978** | **$114,866** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $114,866 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $86,535 |
| **General Contractor Mark Up at 20.0%** | + | $17,307 |
| **Inflation** | + | $3,250 |
| **Construction Cost** | | $107,092 |
| **Professional Fees at 16.0%** | + | $17,135 |
| **Total Project Cost** | | **$124,227** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBHV01 | **Title:** | HVAC SYSTEM REPLACEMENT |
| **Priority Sequence:** | 11 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | HV3A | **System:** | HVAC |
| | | **Component:** | HEATING/COOLING |
| | | **Element:** | SYSTEM RETROFIT/REPLACE |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Energy Conservation $74,630 | | |
| **Code Application:** | ASHRAE 62-2004 | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G, R | | |

**Project Description**

A complete redesign and replacement of the HVAC system is recommended. Demolish and dispose of existing equipment. Install a new modern HVAC system with variable air volume (VAV) and constant volume air distribution as needed. This includes new air handlers, exhaust fans, ductwork, terminal units, heat exchangers, pumps, piping, controls, and related electrical components. Specify direct digital controls (DDCs) for the new equipment. Incorporate variable frequency drives (VFDs) into the new HVAC design as applicable.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBHV01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Air handlers, exhaust fans, ductwork, VAVs, VFDs, DDCs, heat exchangers, pumps, piping, electrical connections, and demolition of existing equipment | SF | 116,900 | $12.42 | $1,451,898 | $15.18 | $1,774,542 | $3,226,440 |
| **Project Totals:** | | | | **$1,451,898** | | **$1,774,542** | **$3,226,440** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $3,226,440 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $2,372,401 |
| **General Contractor Mark Up at 20.0%** | + | $474,480 |
| **Inflation** | + | $89,107 |
| **Construction Cost** | | $2,935,989 |
| **Professional Fees at 16.0%** | + | $469,758 |
| **Total Project Cost** | | **$3,405,747** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBHV03 | **Title:** | KITCHEN VENTILATION SYSTEM REPLACEMENT |
| **Priority Sequence:** | 12 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | HV4B | **System:** | HVAC |
| | | **Component:** | AIR MOVING/VENTILATION |
| | | **Element:** | EXHAUST FANS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | ASHRAE 62-2004 | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Room Only: Floor(s) 1 | | |

**Project Description**

Replacement of the aging kitchen exhaust systems is recommended. Remove the existing equipment, and install new kitchen exhaust and makeup air systems. This work includes the exhaust fans, makeup air units, controls, ductwork, connections, and demolition of the existing equipment.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBHV03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Commercial kitchen exhaust / makeup air system and demolition of existing equipment | SYS | 2 | $19,170 | $38,341 | $12,261 | $24,521 | $62,862 |
| **Project Totals:** | | | | **$38,341** | | **$24,521** | **$62,862** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $62,862 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $51,189 |
| **General Contractor Mark Up at 20.0%** | + | $10,238 |
| **Inflation** | + | $1,923 |
| **Construction Cost** | | $63,349 |
| **Professional Fees at 16.0%** | + | $10,136 |
| **Total Project Cost** | | **$73,485** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBHV02 | **Title:** | REPLACE AIR-COOLED CHILLER |
| **Priority Sequence:** | 13 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | HV2A | **System:** | HVAC |
| | | **Component:** | COOLING |
| | | **Element:** | CHILLERS/CONTROLS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | ASHRAE 15-2004 | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Item Only: Floor(s) 1 | | |

**Project Description**

The existing Carrier air-cooled chiller is recommended for replacement. Remove the existing chiller. Install a new chiller, along with electrical connections and related controls and programming. Specify an energy-efficient replacement system that utilizes a non-CFC refrigerant.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBHV02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Air-cooled chiller replacement and removal of existing unit | TON | 170 | $731 | $124,272 | $177 | $30,158 | $154,430 |
| **Project Totals:** | | | | **$124,272** | | **$30,158** | **$154,430** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $154,430 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $140,613 |
| **General Contractor Mark Up at 20.0%** | + | $28,123 |
| **Inflation** | + | $5,281 |
| **Construction Cost** | | $174,017 |
| **Professional Fees at 16.0%** | + | $27,843 |
| **Total Project Cost** | | **$201,859** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBEL02 | **Title:** | REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT |
| **Priority Sequence:** | 14 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | EL2A | **System:** | ELECTRICAL |
| | | **Component:** | MAIN DISTRIBUTION PANELS |
| | | **Element:** | CONDITION UPGRADE |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | NEC Article 230 | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Room Only: Floor(s) 1, 2, G | | |

**Project Description**

The main electrical distribution equipment components are recommended for replacement. This includes 277/480 volt switchgear and main distribution panels, step-down transformers, and 120/208 volt main distribution panels. With increasing age, the risk increases that circuit breaker and transformer failures could become fire hazards or cause other damage.

**Project Cost**

**Project Number:** MSCBEL02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| 277/480 V switchgear, rated 2500, 1600, and 1200 amps, in rooms G030, G117, and G030, respectively, includes switchboards, circuit breakers, feeders, digital metering, transient surge protectors | LOT | 1 | $168,856 | $168,856 | $106,400 | $106,400 | $275,256 |
| 120/208 V switchgear, rated 1600, 800, and 800 amps in rooms G117, 126, and 113, respectively, including switchboards, circuit breakers, feeders, digital metering, transient surge protectors | LOT | 1 | $47,680 | $47,680 | $39,968 | $39,968 | $87,648 |
| 277/480 V to 120/208 V dry type transformers: 2 at 30 kVA, rooms G030 and G119; 3 at 75 kVA, rooms G026, G119, and 225; 1 at 112.5 kVA, room 113; 1 at 225 kVA, room G030; 1 at 500 kVA, room G117 | LOT | 1 | $43,270 | $43,270 | $38,950 | $38,950 | $82,220 |
| **Project Totals:** | | | | **$259,806** | | **$185,318** | **$445,124** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $445,124 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $356,693 |
| **General Contractor Mark Up at 20.0%** | + | $71,339 |
| **Inflation** | + | $13,397 |
| **Construction Cost** | | $441,429 |
| **Professional Fees at 16.0%** | + | $70,629 |
| **Total Project Cost** | | **$512,057** |

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBEL03 | **Title:** | INTERIOR LIGHTING UPGRADE |
| **Priority Sequence:** | 15 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | EL4B | **System:** | ELECTRICAL |
| | | **Component:** | DEVICES AND FIXTURES |
| | | **Element:** | INTERIOR LIGHTING |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Energy Conservation $23,850 | | |
| **Code Application:** | NEC Articles 210, 410 | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

An interior lighting upgrade is recommended. Replace existing aged and / or inefficient light fixtures with modern fixtures of the latest energy-efficient design. Select lamps with the same color temperature and rendering index for lighting uniformity. Install occupancy sensors in select areas for additional energy conservation.

**Project Cost**

**Project Number:** MSCBEL03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| High efficiency fluorescent fixtures, occupancy sensors, and demolition of existing lighting | SF | 116,900 | $2.88 | $336,672 | $3.52 | $411,488 | $748,160 |
| **Project Totals:** | | | | **$336,672** | | **$411,488** | **$748,160** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $748,160 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $550,122 |
| **General Contractor Mark Up at 20.0%** | + | $110,024 |
| **Inflation** | + | $20,663 |
| **Construction Cost** | | $680,809 |
| **Professional Fees at 16.0%** | + | $108,929 |
| **Total Project Cost** | | **$789,738** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBEL01 | **Title:** | REPLACE EMERGENCY GENERATOR |
| **Priority Sequence:** | 16 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | EL5A | **System:** | ELECTRICAL |
| | | **Component:** | EMERGENCY POWER SYSTEM |
| | | **Element:** | GENERATION/DISTRIBUTION |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | NEC Article 700 | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Item Only: Floor(s) G | | |

**Project Description**

Replace the existing emergency generator set with an appropriately sized unit based on current facility requirements. Replacement costs include the demolition of existing equipment and installation a new generator, automatic transfer switches (ATS), diesel fuel tank, battery and charger, exhaust system, and necessary electrical connections. Specify a diesel-fired unit unless otherwise directed by local standards.

**Project Cost**

**Project Number:** MSCBEL01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Diesel generator set, including fuel tank, battery, charger, exhaust, and automatic transfer switches | KW | 125 | $305 | $38,125 | $80.00 | $10,000 | $48,125 |
| **Project Totals:** | | | | **$38,125** | | **$10,000** | **$48,125** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $48,125 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $43,522 |
| **General Contractor Mark Up at 20.0%** | + | $8,704 |
| **Inflation** | + | $1,635 |
| **Construction Cost** | | $53,861 |
| **Professional Fees at 16.0%** | + | $8,618 |
| **Total Project Cost** | | **$62,479** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS01 | **Title:** | REFINISH FLOORING |
| **Priority Sequence:** | 17 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS1A | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | FLOOR |
| | | **Element:** | FINISHES-DRY |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Interior floor finish applications vary in age, type, and condition. Floor finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

**Project Cost**

**Project Number:** MSCBIS01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Carpet | SF | 38,200 | $5.36 | $204,752 | $2.00 | $76,400 | $281,152 |
| Vinyl floor tile | SF | 3,550 | $3.53 | $12,532 | $2.50 | $8,875 | $21,407 |
| Ceramic tile | SF | 15,100 | $7.24 | $109,324 | $10.63 | $160,513 | $269,837 |
| Sand and finish hardwood flooring | SF | 11,376 | $0.36 | $4,095 | $3.92 | $44,594 | $48,689 |
| Hardwood replacement | SF | 2,844 | $9.11 | $25,909 | $16.37 | $46,556 | $72,465 |
| **Project Totals:** | | | | **$356,612** | | **$336,938** | **$693,550** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $693,550 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $531,957 |
| **General Contractor Mark Up at 20.0%** | + | $106,391 |
| **Inflation** | + | $19,980 |
| **Construction Cost** | | $658,329 |
| **Professional Fees at 16.0%** | + | $105,333 |
| **Total Project Cost** | | **$763,662** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS02 | **Title:** | REFINISH WALLS |
| **Priority Sequence:** | 18 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS2B | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | PARTITIONS |
| | | **Element:** | FINISHES |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Interior wall finish applications vary in age, type, and condition. Wall finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

**Project Cost**

**Project Number:** MSCBIS02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Standard wall finish (paint, wall covering, etc.) | SF | 179,740 | $0.17 | $30,556 | $0.81 | $145,589 | $176,145 |
| Premium wall finish (epoxy, tile, wood panel, etc.) | SF | 31,720 | $2.28 | $72,322 | $3.92 | $124,342 | $196,664 |
| **Project Totals:** | | | | **$102,877** | | **$269,932** | **$372,809** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $372,809 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $242,073 |
| **General Contractor Mark Up at 20.0%** | + | $48,415 |
| **Inflation** | + | $9,092 |
| **Construction Cost** | | $299,579 |
| **Professional Fees at 16.0%** | + | $47,933 |
| **Total Project Cost** | | **$347,512** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS03 | **Title:** | REFINISH CEILINGS |
| **Priority Sequence:** | 19 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS3B | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | CEILINGS |
| | | **Element:** | REPLACEMENT |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Ceiling finish applications vary in age, type, and condition.  Ceiling finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

**Project Cost**

**Project Number:** MSCBIS03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Acoustical tile ceiling system | SF | 57,750 | $2.12 | $122,430 | $2.98 | $172,095 | $294,525 |
| Painted ceiling finish application | SF | 20,430 | $0.17 | $3,473 | $0.81 | $16,548 | $20,021 |
| **Project Totals:** | | | | **$125,903** | | **$188,643** | **$314,546** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $314,546 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $223,558 |
| **General Contractor Mark Up at 20.0%** | + | $44,712 |
| **Inflation** | + | $8,397 |
| **Construction Cost** | | $276,667 |
| **Professional Fees at 16.0%** | + | $44,267 |
| **Total Project Cost** | | **$320,934** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS04 | **Title:** | REPLACE INTERIOR DOORS |
| **Priority Sequence:** | 20 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS4A | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | DOORS |
| | | **Element:** | GENERAL |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Deferred Maintenance | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

The condition of the interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. Complete demolition of existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended.

**Project Cost**

**Project Number:** MSCBIS04

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Interior door and frame installation with all hardware and accessible signage | EA | 200 | $370 | $74,000 | $396 | $79,200 | $153,200 |
| Rated door and rated metal frame, including all hardware and accessible signage | EA | 485 | $672 | $325,920 | $812 | $393,820 | $719,740 |
| **Project Totals:** | | | | **$399,920** | | **$473,020** | **$872,940** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $872,940 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $645,379 |
| **General Contractor Mark Up at 20.0%** | + | $129,076 |
| **Inflation** | + | $24,240 |
| **Construction Cost** | | $798,695 |
| **Professional Fees at 16.0%** | + | $127,791 |
| **Total Project Cost** | | **$926,486** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS05 | **Title:** | REPLACE STANDARD CASEWORK |
| **Priority Sequence:** | 21 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS6B | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | GENERAL |
| | | **Element:** | CABINETRY |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

Portions of the kitchen pantry areas, equipment, and storage cabinetry are in overall poor condition. New fully ADA compliant cabinetry should be installed as part of any future renovation efforts.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBIS05

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Base or wall cabinetry | LF | 240 | $156 | $37,440 | $83.30 | $19,992 | $57,432 |
| **Project Totals:** | | | | **$37,440** | | **$19,992** | **$57,432** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $57,432 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $47,958 |
| **General Contractor Mark Up at 20.0%** | + | $9,592 |
| **Inflation** | + | $1,801 |
| **Construction Cost** | | $59,351 |
| **Professional Fees at 16.0%** | + | $9,496 |
| **Total Project Cost** | | **$68,847** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS06 | **Title:** | FIXED SEATING UPGRADE |
| **Priority Sequence:** | 22 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS6D | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | GENERAL |
| | | **Element:** | OTHER |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Undefined: Floor(s) 1 | | |

**Project Description**

The fixed seating in the assembly area is worn and should be upgraded. Replace the existing seating with new folding fixed seats in a similar row configuration. Ensure that ADA requirements are followed with the new seating layout.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBIS06

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Basic, upholstered, folding, and fixed seating | EA | 760 | $160 | $121,600 | $84.35 | $64,106 | $185,706 |
| **Project Totals:** | | | | **$121,600** | | **$64,106** | **$185,706** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $185,706 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $155,338 |
| **General Contractor Mark Up at 20.0%** | + | $31,068 |
| **Inflation** | + | $5,834 |
| **Construction Cost** | | $192,240 |
| **Professional Fees at 16.0%** | + | $30,758 |
| **Total Project Cost** | | **$222,998** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS07 | **Title:** | PUBLIC RESTROOM RENOVATION |
| **Priority Sequence:** | 23 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS6D | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | GENERAL |
| | | **Element:** | OTHER |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G | | |

**Project Description**

The majority of the public area restroom fixtures and finishes are mostly original to the year of construction or latest renovation and do not meet modern accessibility standards. The fixtures are sound but aged and inefficient. The finishes are outdated. A comprehensive restroom renovation, including new fixtures, finishes, partitions, accessories, and dual level drinking fountains, is recommended.

**Project Cost**

**Project Number:** MSCBIS07

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Major restroom renovation, including fixtures, finishes, partitions, accessories, and expansion if necessary (assumes 55 square feet of restroom area per fixture) | FIXT | 112 | $1,969 | $220,528 | $1,699 | $190,288 | $410,816 |
| Dual level drinking fountain | EA | 8 | $1,216 | $9,728 | $374 | $2,992 | $12,720 |
| Alcove construction | EA | 8 | $877 | $7,016 | $3,742 | $29,936 | $36,952 |
| **Project Totals:** | | | | **$237,272** | | **$223,216** | **$460,488** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $460,488 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $353,443 |
| **General Contractor Mark Up at 20.0%** | + | $70,689 |
| **Inflation** | + | $13,275 |
| **Construction Cost** | | $437,407 |
| **Professional Fees at 16.0%** | + | $69,985 |
| **Total Project Cost** | | **$507,392** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBIS08 | **Title:** | EMPLOYEE LOCKER ROOM RENOVATION |
| **Priority Sequence:** | 24 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | IS6D | **System:** | INTERIOR/FINISH SYS. |
| | | **Component:** | GENERAL |
| | | **Element:** | OTHER |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) G | | |

**Project Description**

The ground floor employee locker room fixtures and finishes are mostly original to the year of construction or latest major renovation. The fixtures are sound but dated and are spaced such that clearances are not ADA compliant. A comprehensive locker room renovation, including new fixtures, finishes, partitions, and accessories, is recommended. Locker room expansion may be necessary in order to meet modern minimum fixture counts and accessibility legislation.

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBIS08

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Major restroom renovation, including fixtures, finishes, partitions, accessories, and expansion if necessary | FIXT | 8 | $1,969 | $15,752 | $1,699 | $13,592 | $29,344 |
| Shower, 125 square feet of locker room renovation, partitions, accessories, and expansion if necessary | FIXT | 2 | $5,141 | $10,282 | $6,859 | $13,718 | $24,000 |
| **Project Totals:** | | | | **$26,034** | | **$27,310** | **$53,344** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $53,344 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $40,226 |
| **General Contractor Mark Up at 20.0%** | + | $8,045 |
| **Inflation** | + | $1,511 |
| **Construction Cost** | | $49,782 |
| **Professional Fees at 16.0%** | + | $7,965 |
| **Total Project Cost** | | **$57,748** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBPL01 | **Title:** | DOMESTIC HOT WATER HEAT EXCHANGER REPLACEMENT |
| **Priority Sequence:** | 25 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | PL1E | **System:** | PLUMBING |
| | | **Component:** | DOMESTIC WATER |
| | | **Element:** | HEATING |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Item Only: Floor(s) G | | |

**Project Description**

Replacement of the domestic hot water converter is recommended. With age, heat exchanger efficiency is reduced by internal tube scaling. Internal wear will eventually lead to failure, allowing contaminates to enter the water system. Remove the existing system. Install a new heat exchanger, pumps, piping, and controls as needed.

**Project Cost**

**Project Number:** MSCBPL01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Heat exchanger, pumps, piping, valves, controls, insulation, and demolition | GPM | 96 | $176 | $16,880 | $144 | $13,785 | $30,664 |
| **Project Totals:** | | | | **$16,880** | | **$13,785** | **$30,664** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $30,664 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $24,069 |
| **General Contractor Mark Up at 20.0%** | + | $4,814 |
| **Inflation** | + | $904 |
| **Construction Cost** | | $29,787 |
| **Professional Fees at 16.0%** | + | $4,766 |
| **Total Project Cost** | | **$34,553** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBSI01 | **Title:** | SITE PAVING UPGRADES |
| **Priority Sequence:** | 26 | | |
| **Priority Class:** | 3 | | |
| **Category Code:** | SI4A | **System:** | SITE |
| | | **Component:** | GENERAL |
| | | **Element:** | OTHER |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

**Code Application:** ADAAG 502

**Project Class:** Deferred Maintenance

**Project Date:** 10/9/2009

**Project Location:** Undefined: Floor(s) 1

**Project Description**

The pedestrian paving systems are in overall fair to good condition, with isolated areas of settlement and uneven pavements that may potentially represent a liability to the owner. In-place grinding, selective area replacements, and brick paver resets are recommended.

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Cost**

**Project Number:** MSCBSI01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Concrete pedestrian paving | SF | 800 | $2.97 | $2,376 | $3.64 | $2,912 | $5,288 |
| Brick pedestrian paving | SF | 1,200 | $6.98 | $8,376 | $6.77 | $8,124 | $16,500 |
| Brick paver resets and concrete grinding | LOT | 1 | $1,200 | $1,200 | $3,200 | $3,200 | $4,400 |
| **Project Totals:** | | | | **$11,952** | | **$14,236** | **$26,188** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $26,188 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $19,339 |
| **General Contractor Mark Up at 20.0%** | + | $3,868 |
| **Inflation** | + | $726 |
| **Construction Cost** | | $23,933 |
| **Professional Fees at 16.0%** | + | $3,829 |
| **Total Project Cost** | | **$27,762** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBAC01 | **Title:** | BUILDING ENTRY ACCESSIBILITY UPGRADES |
| **Priority Sequence:** | 27 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | AC2A | **System:** | ACCESSIBILITY |
| | | **Component:** | BUILDING ENTRY |
| | | **Element:** | GENERAL |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

**Code Application:** ADAAG 403.6, 505

| | |
|---|---|
| **Project Class:** | Plant Adaption |
| **Project Date:** | 10/9/2009 |
| **Project Location:** | Undefined: Floor(s) 1 |

**Project Description**

Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that compliant, painted metal handrails be installed at all entrances as required.

**Project Cost**

**Project Number:** MSCBAC01

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Freestanding handrail system, painted (15 foot minimum) | LF | 132 | $91.11 | $12,027 | $150 | $19,800 | $31,827 |
| Wall-mounted handrail system, painted (15 foot minimum) | LF | 148 | $50.50 | $7,474 | $35.40 | $5,239 | $12,713 |
| **Project Totals:** | | | | **$19,501** | | **$25,039** | **$44,540** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $44,540 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $32,482 |
| **General Contractor Mark Up at 20.0%** | + | $6,496 |
| **Inflation** | + | $1,220 |
| **Construction Cost** | | $40,199 |
| **Professional Fees at 16.0%** | + | $6,432 |
| **Total Project Cost** | | **$46,630** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBAC02 | **Title:** | AUDITORIUM ACCESSIBILITY UPGRADES |
| **Priority Sequence:** | 28 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | AC4B | **System:** | ACCESSIBILITY |
| | | **Component:** | GENERAL |
| | | **Element:** | OTHER |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

| | | |
|---|---|---|
| **Code Application:** | ADAAG | 219.3, 706.1, 806, 505 |

| | |
|---|---|
| **Project Class:** | Plant Adaption |
| **Project Date:** | 10/9/2009 |
| **Project Location:** | Undefined: Floor(s) 1 |

**Project Description**

Current accessibility legislation requires that places of assembly be accessible to the handicapped. The auditorium has multiple barriers to accessibility. There are no seating spaces designated for wheelchair use. It is recommended that approximately eight seating areas be modified to accommodate persons in wheelchairs. Install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance. The access steps at the auditorium stage lack supportive handrails. It is recommended that wall-mounted, compliant, painted metal handrails be installed.

**Project Cost**

**Project Number:** MSCBAC02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Accessible seating modifications | LOT | 8 | $885 | $7,080 | $555 | $4,440 | $11,520 |
| Infrared transmitter and headphone receiver sets | SYS | 1 | $1,520 | $1,520 | $1,333 | $1,333 | $2,853 |
| Wall-mounted handrail system (15 foot minimum) | LF | 24 | $50.50 | $1,212 | $35.40 | $850 | $2,062 |
| **Project Totals:** | | | | **$9,812** | | **$6,623** | **$16,435** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $16,435 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $13,278 |
| **General Contractor Mark Up at 20.0%** | + | $2,656 |
| **Inflation** | + | $499 |
| **Construction Cost** | | $16,432 |
| **Professional Fees at 16.0%** | + | $2,629 |
| **Total Project Cost** | | **$19,062** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBAC03 | **Title:** | STAIR SAFETY UPGRADES |
| **Priority Sequence:** | 29 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | AC3B | **System:** | ACCESSIBILITY |
| | | **Component:** | INTERIOR PATH OF TRAVEL |
| | | **Element:** | STAIRS AND RAILINGS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

| | | |
|---|---|---|
| **Code Application:** | IBC | 1003.3 |
| | ADAAG | 505 |

| | |
|---|---|
| **Project Class:** | Plant Adaption |
| **Project Date:** | 10/9/2009 |
| **Project Location:** | Floor-wide: Floor(s) 1, 2, G |

**Project Description**

Current legislation regarding building accessibility by the handicapped requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread / riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. The finishes on the stairs have also deteriorated or are otherwise unsafe. Future renovation efforts should include comprehensive stair railing and finish upgrades. The installation of contrasting visual stair / step nosings should also be installed at all locations to improve stair safety.

**Project Cost**

**Project Number:** MSCBAC03

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Wall-mounted handrail system per floor | FLR | 20 | $573 | $11,460 | $521 | $10,420 | $21,880 |
| Center handrail / guardrail system per floor | FLR | 20 | $1,297 | $25,940 | $833 | $16,660 | $42,600 |
| Stair tread and landing finish upgrades per floor | FLR | 26 | $1,449 | $37,674 | $773 | $20,098 | $57,772 |
| **Project Totals:** | | | | **$75,074** | | **$47,178** | **$122,252** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $122,252 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $99,802 |
| **General Contractor Mark Up at 20.0%** | + | $19,960 |
| **Inflation** | + | $3,749 |
| **Construction Cost** | | $123,511 |
| **Professional Fees at 16.0%** | + | $19,762 |
| **Total Project Cost** | | **$143,272** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBES06 | **Title:** | WINDOW WALL REPLACEMENT AND UPGRADES |
| **Priority Sequence:** | 30 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | ES5B | **System:** | EXTERIOR |
| | | **Component:** | FENESTRATIONS |
| | | **Element:** | WINDOWS |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Energy Conservation $2,200 | | |
| **Code Application:** | Not Applicable | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 10/9/2009 | | |
| **Project Location:** | Building-wide: Floor(s) 1 | | |

**Project Description**

Approximately 20 percent of the exterior window wall systems have been replaced since the original construction. The newer systems include insulated glazing units. It is recommended that the remaining older single pane, aluminum-framed window wall applications be upgraded to thermal pane systems. Such double pane systems will reduce the energy required to operate the building. Repair or replacement of the windowsills and trim may also be necessary.

**Project Cost**

**Project Number:** MSCBES06

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Typical standard glazing applications | SF | 10,450 | $57.27 | $598,472 | $36.45 | $380,903 | $979,374 |
| **Project Totals:** | | | | **$598,472** | | **$380,903** | **$979,374** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $979,374 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $798,064 |
| **General Contractor Mark Up at 20.0%** | + | $159,613 |
| **Inflation** | + | $29,975 |
| **Construction Cost** | | $987,652 |
| **Professional Fees at 16.0%** | + | $158,024 |
| **Total Project Cost** | | **$1,145,676** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBEL04 | **Title:** | UPGRADE ELECTRICAL DISTRIBUTION NETWORK |
| **Priority Sequence:** | 31 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | EL3B | **System:** | ELECTRICAL |
| | | **Component:** | SECONDARY DISTRIBUTION |
| | | **Element:** | DISTRIBUTION NETWORK |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |

**Code Application:** NEC Articles 110, 210, 220, 230

**Project Class:** Capital Renewal

**Project Date:** 11/2/2009

**Project Location:** Floor-wide: Floor(s) 1, 2, G

**Project Description**

An upgrade of the building electrical system is recommended. Aging components, such as the circuit breakers, could serve as fire hazards if they fail to open a circuit in an overload or short circuit condition. Remove existing 1970s vintage electrical components and branch circuitry. Install new power panels, switches, raceways, conductors, and devices. Provide molded case thermal magnetic circuit breakers and HACR circuit breakers for HVAC equipment. Redistribute the electrical loads to the appropriate areas to ensure safe and reliable power to building occupants. In original building areas and subsequent additions, provide ground fault circuit interrupter (GFCI) protection where required, and clearly label all panels for circuit identification. In 1988 addition areas, update switches, receptacles, cover plates, and miscellaneous items as indicated in the task descriptions.

**Project Cost**

**Project Number:** MSCBEL04

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Power panels, conductors, raceways, devices, demolition, and cut and patching materials in the original 1974 areas of the building | SF | 88,129 | $5.07 | $446,814 | $7.60 | $669,780 | $1,116,594 |
| Switches, receptacles, cover plates, breakers, and miscellaneous materials in 1988 addition areas of the building | SF | 35,771 | $0.39 | $13,951 | $0.59 | $21,105 | $35,056 |
| **Project Totals:** | | | | **$460,765** | | **$690,885** | **$1,151,650** |

| | | |
|---|---|---|
| **Material/Labor Cost** | | $1,151,650 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $818,414 |
| **General Contractor Mark Up at 20.0%** | + | $163,683 |
| **Inflation** | + | $30,740 |
| **Construction Cost** | | $1,012,837 |
| **Professional Fees at 16.0%** | + | $162,054 |
| **Total Project Cost** | | **$1,174,891** |

**Specific Project Details**

**Facility Condition Analysis**
**Section Three**
MSCB : MENDENHALL STUDENT CENTER

**Project Description**

| | | | |
|---|---|---|---|
| **Project Number:** | MSCBPL02 | **Title:** | WATER SUPPLY PIPING REPLACEMENT |
| **Priority Sequence:** | 32 | | |
| **Priority Class:** | 4 | | |
| **Category Code:** | PL1A | **System:** | PLUMBING |
| | | **Component:** | DOMESTIC WATER |
| | | **Element:** | PIPING NETWORK |
| **Building Code:** | MSCB | | |
| **Building Name:** | MENDENHALL STUDENT CENTER | | |
| **Subclass/Savings:** | Not Applicable | | |
| **Code Application:** | IPC Chapter 6 | | |
| **Project Class:** | Capital Renewal | | |
| **Project Date:** | 11/2/2009 | | |
| **Project Location:** | Floor-wide: Floor(s) 1,2,G | | |

**Project Description**

Replacement of the aging water piping network in the original 1974 portion of the facility is recommended. Failure to replace the water piping will result in frequent leaks and escalating maintenance costs. Remove the existing water supply network. Install new copper water supply piping with fiberglass insulation. Install isolation valves, pressure regulators, shock absorbers, backflow preventers, and vacuum breakers as needed.

**Project Cost**

**Project Number:** MSCBPL02

**Task Cost Estimate**

| Task Description | Unit | Qnty | Material Unit Cost | Total Material Cost | Labor Unit Cost | Total Labor Cost | Total Cost |
|---|---|---|---|---|---|---|---|
| Copper pipe and fittings, valves, backflow prevention devices, insulation, hangers, demolition, and cut and patching materials | SF | 81,129 | $1.74 | $141,164 | $4.36 | $353,722 | $494,887 |
| **Project Totals:** | | | | **$141,164** | | **$353,722** | **$494,887** |

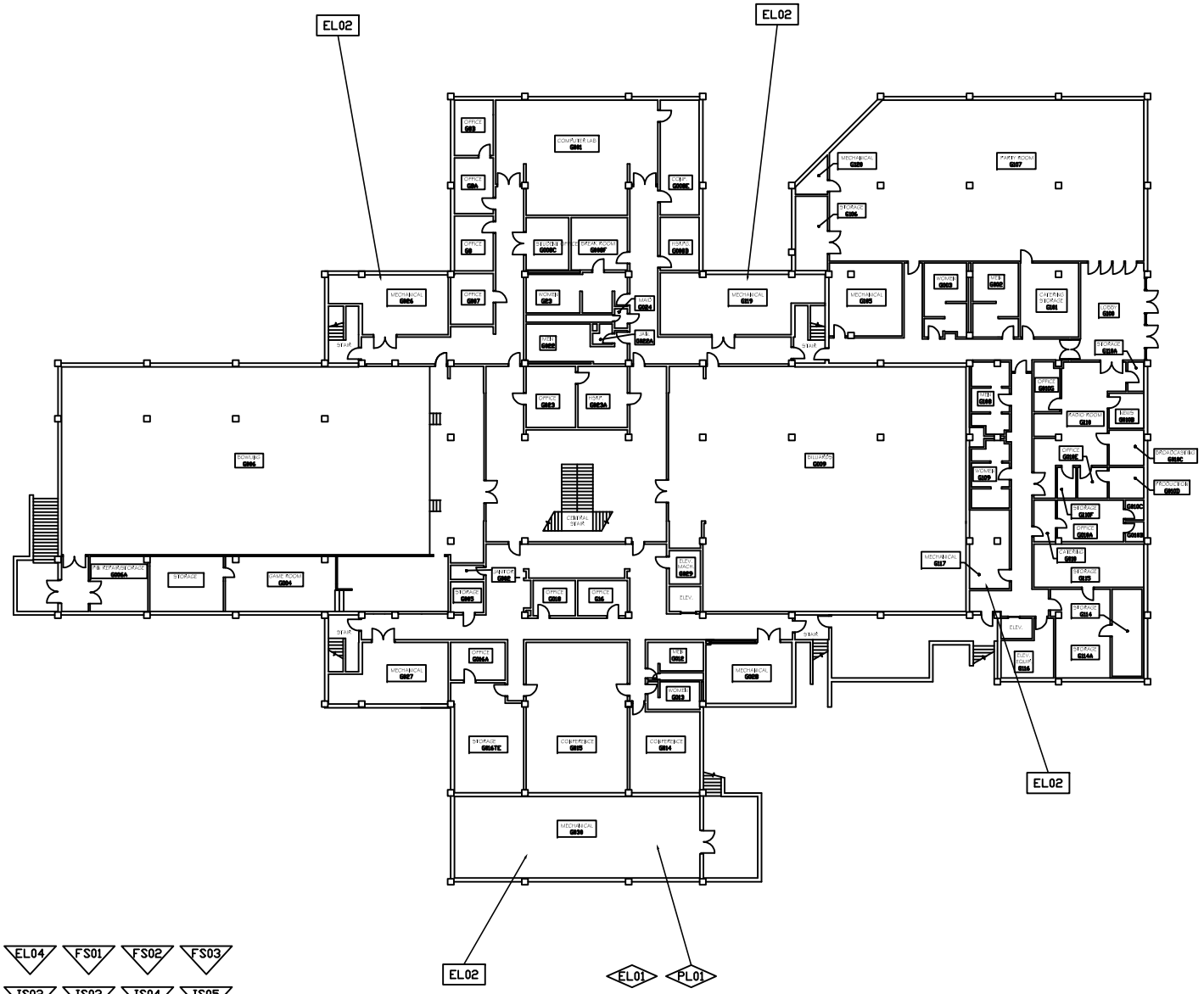
| | | |
|---|---|---|
| **Material/Labor Cost** | | $494,887 |
| **Material Index** | | 100.7% |
| **Labor Index** | | 51.3% |
| **Material/Labor Indexed Cost** | | $323,612 |
| **General Contractor Mark Up at 20.0%** | + | $64,722 |
| **Inflation** | + | $12,155 |
| **Construction Cost** | | $400,490 |
| **Professional Fees at 16.0%** | + | $64,078 |
| **Total Project Cost** | | **$464,568** |

FACILITY CONDITION ANALYSIS

# SECTION 4

# DRAWINGS AND PROJECT LOCATIONS

EAST CAROLINA UNIVERSITY




AC03 EL03 EL04 FS01 FS02 FS03
HV01 IS01 IS02 IS03 IS04 IS05
IS07 IS08 PL02

MENDENHALL
STUDENT CENTER

BLDG NO. MSCB

ISES CORPORATION

FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

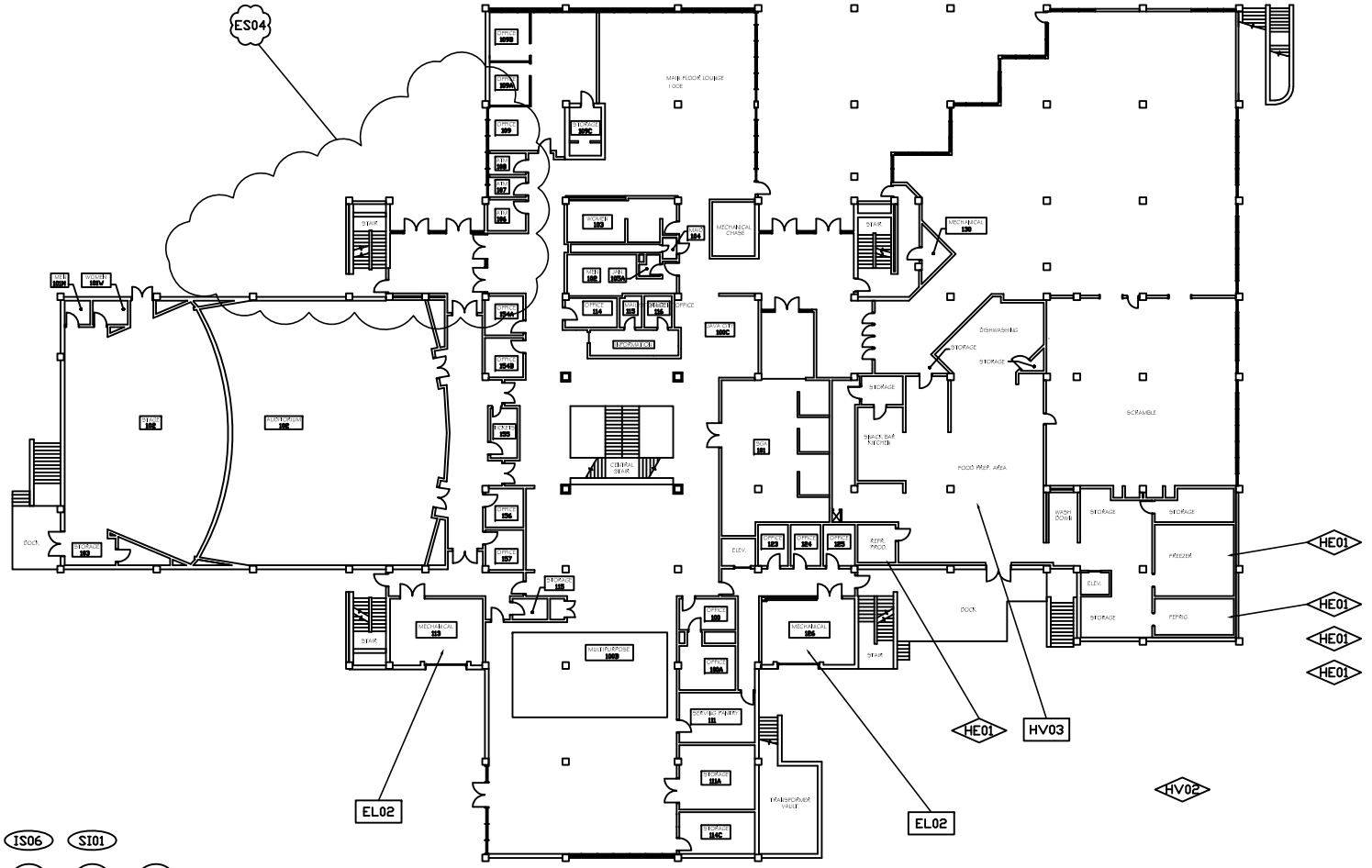
PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/16/09
Drawn by: J.T.V.
Project No. 09-041

# GROUND FLOOR PLAN

Sheet No.
1 of 3

EAST CAROLINA UNIVERSITY




AC01 AC02 IS06 SI01

ES01 ES02 ES03 ES05 ES06

AC03 EL03 EL04 FS01 FS02 FS03

HV01 IS01 IS02 IS03 IS04 IS05

IS07 PL02

MENDENHALL
STUDENT CENTER

BLDG NO. MSCB

ISES CORPORATION

FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/16/09
Drawn by: J.T.V.
Project No. 09-041

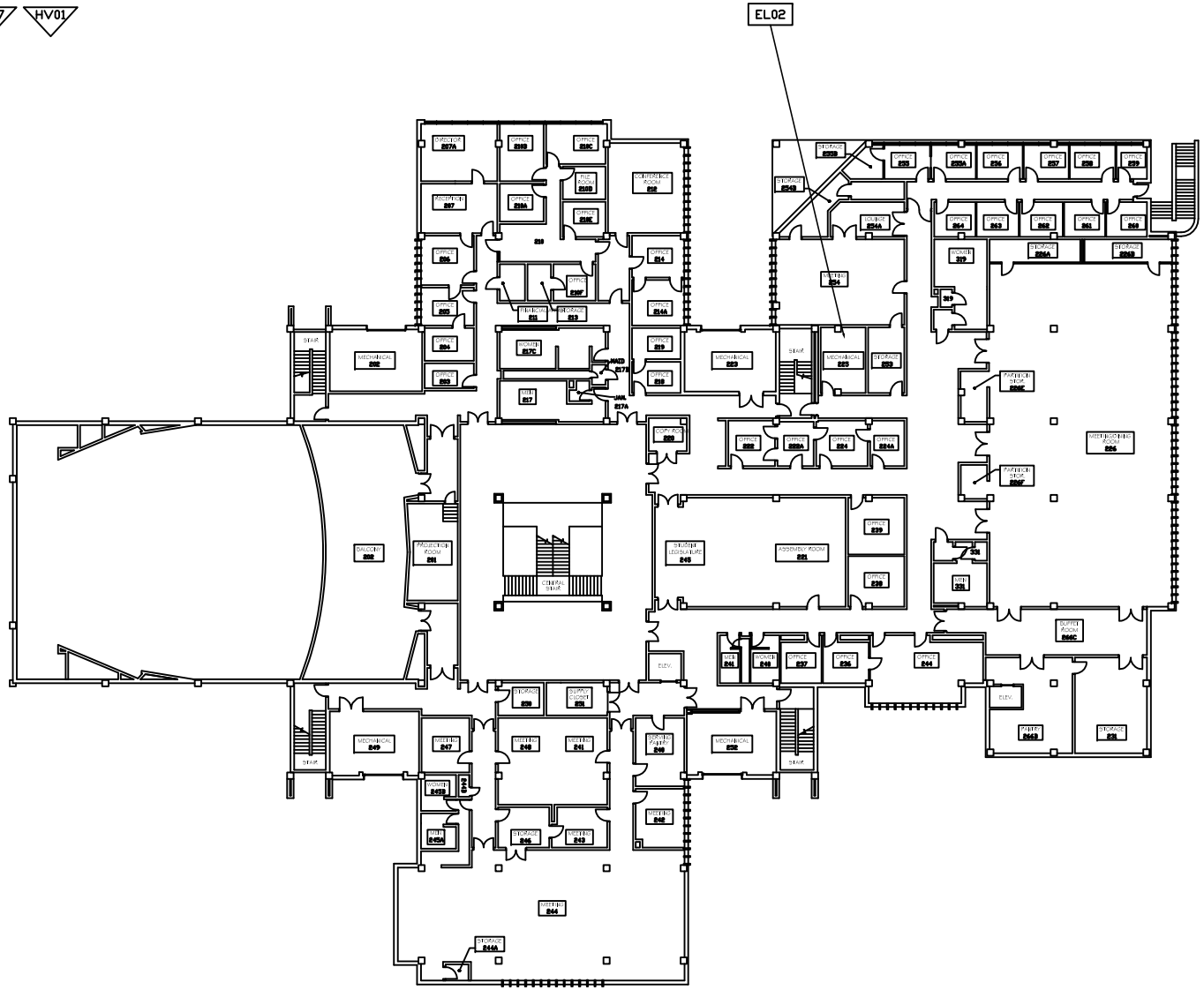
# FIRST FLOOR PLAN

Sheet No.
2 of 3

EAST CAROLINA UNIVERSITY

ROOF

ES07 HV01




AC03 EL03 EL04 FS01 FS02 FS03

HV01 IS01 IS02 IS03 IS04 IS05

IS07 PL02

MENDENHALL
STUDENT CENTER

BLDG NO. MSCB

ISES CORPORATION

FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/16/09
Drawn by: J.T.V.
Project No. 09-041

SECOND FLOOR PLAN

Sheet No.
3 of 3

FACILITY CONDITION ANALYSIS

# SECTION 5

# LIFE CYCLE MODEL SUMMARY AND PROJECTIONS

**Life Cycle Model**

**Building Component Summary**

**MSCB : MENDENHALL STUDENT CENTER**

| Uniformat Code | Component Description | Qty | Units | Unit Cost | Complx Adj | Total Cost | Install Date | Life Exp |
|---|---|---|---|---|---|---|---|---|
| B2010 | EXTERIOR FINISH RENEWAL | 17,490 | SF | $1.30 | | $22,800 | 1974 | 10 |
| B2010 | EXTERIOR FINISH RENEWAL | 24,050 | SF | $1.30 | .31 | $9,719 | 1974 | 10 |
| B2010 | STUCCO FINISH RENEWAL | 2,190 | SF | $3.33 | | $7,293 | 1974 | 30 |
| B2020 | STANDARD GLAZING AND CURTAIN WALL | 10,450 | SF | $104.04 | | $1,087,182 | 1974 | 55 |
| B2020 | STANDARD GLAZING AND CURTAIN WALL | 2,610 | SF | $104.04 | | $271,535 | 1990 | 55 |
| B2030 | HIGH TRAFFIC EXTERIOR DOOR SYSTEM | 10 | LEAF | $4,311.24 | | $43,112 | 1974 | 20 |
| B2030 | HIGH TRAFFIC EXTERIOR DOOR SYSTEM | 12 | LEAF | $4,311.24 | | $51,735 | 1990 | 20 |
| B2030 | LOW TRAFFIC EXTERIOR DOOR SYSTEM | 12 | LEAF | $2,863.29 | | $34,359 | 1974 | 40 |
| B3010 | BUILT-UP ROOF | 83,736 | SF | $6.70 | | $561,251 | 1989 | 20 |
| B3010 | BUILT-UP ROOF | 20,934 | SF | $6.70 | | $140,313 | 2000 | 20 |
| C1020 | STANDARD DOOR AND FRAME INCLUDING HARDWARE | 200 | LEAF | $783.68 | | $156,736 | 1974 | 35 |
| C1020 | RATED DOOR AND FRAME INCLUDING HARDWARE | 485 | LEAF | $1,489.06 | | $722,194 | 1974 | 35 |
| C1020 | INTERIOR DOOR HARDWARE | 485 | EA | $423.04 | | $205,176 | 1974 | 15 |
| C1020 | INTERIOR DOOR HARDWARE | 200 | EA | $423.04 | | $84,608 | 1974 | 15 |
| C3010 | STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.) | 179,740 | SF | $0.80 | | $143,979 | 1974 | 10 |
| C3010 | PREMIUM WALL FINISH (EPOXY, TILE, WOOD PANEL, ETC.) | 31,720 | SF | $5.87 | | $186,071 | 1974 | 20 |
| C3020 | CARPET | 38,200 | SF | $8.75 | | $334,115 | 1974 | 10 |
| C3020 | VINYL FLOOR TILE | 3,550 | SF | $6.59 | | $23,387 | 1974 | 15 |
| C3020 | CERAMIC FLOOR TILE | 15,100 | SF | $17.36 | | $262,172 | 1974 | 20 |
| C3020 | RESURFACE AND SEAL CONCRETE OR TERRAZZO | 17,770 | SF | $5.85 | | $103,896 | 1974 | 50 |
| C3020 | HARDWOOD REPLACEMENT | 14,220 | SF | $23.94 | | $340,381 | 1974 | 50 |
| C3020 | SAND AND FINISH HARDWOOD FLOORING | 14,220 | SF | $3.24 | | $46,041 | 1974 | 15 |
| C3030 | ACOUSTICAL TILE CEILING SYSTEM | 57,750 | SF | $4.99 | | $288,346 | 1974 | 15 |
| C3030 | PAINTED CEILING FINISH APPLICATION | 20,430 | SF | $0.80 | | $16,365 | 1974 | 15 |
| D1010 | ELEVATOR MODERNIZATION - HYDRAULIC | 1 | EA | $158,628.64 | | $158,629 | 2004 | 25 |
| D1010 | ELEVATOR MODERNIZATION - HYDRAULIC | 1 | EA | $158,628.64 | | $158,629 | 1988 | 25 |
| D1010 | ELEVATOR CAB RENOVATION - PASSENGER | 1 | EA | $26,616.80 | | $26,617 | 2004 | 12 |
| D1010 | ELEVATOR CAB RENOVATION - PASSENGER | 1 | EA | $26,616.80 | | $26,617 | 1988 | 12 |
| D2010 | PLUMBING FIXTURES - STUDENT UNION | 81,129 | SF | $7.96 | | $645,575 | 1974 | 35 |

**Life Cycle Model**

**Building Component Summary**

**MSCB : MENDENHALL STUDENT CENTER**

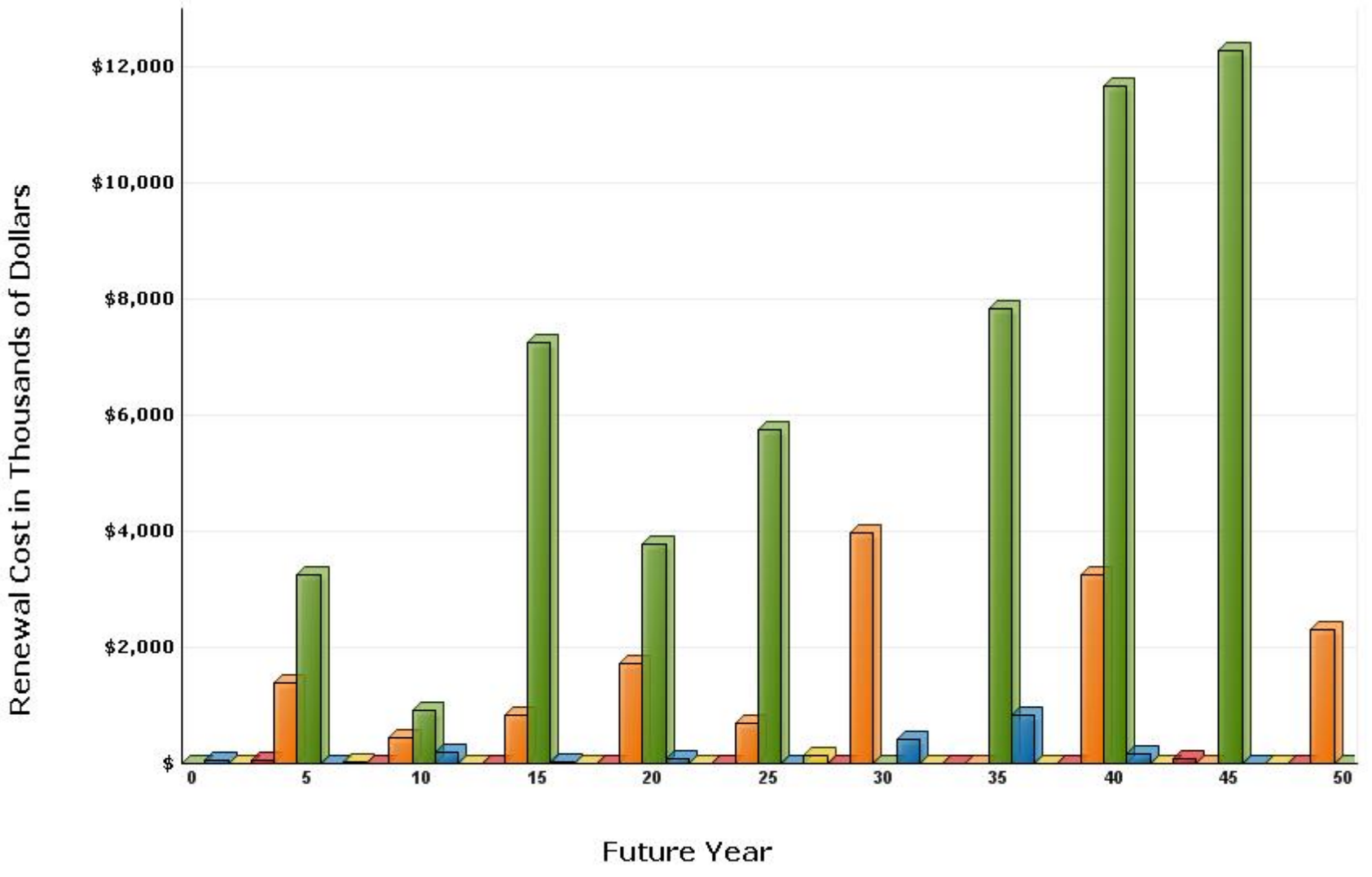
| Uniformat Code | Component Description | Qty | Units | Unit Cost | Complx Adj | Total Cost | Install Date | Life Exp |
|---|---|---|---|---|---|---|---|---|
| D2010 | PLUMBING FIXTURES - STUDENT UNION | 35,771 | SF | $7.96 | | $284,644 | 1988 | 35 |
| D2020 | WATER PIPING - STUDENT UNION | 81,129 | SF | $5.66 | | $459,414 | 1974 | 35 |
| D2020 | WATER PIPING - STUDENT UNION | 35,771 | SF | $5.66 | | $202,563 | 1988 | 35 |
| D2020 | WATER HEATER, SHELL AND TUBE HEAT EXCHANGER | 96 | GPM | $355.69 | | $34,146 | 1988 | 24 |
| D2030 | DRAIN PIPING - STUDENT UNION | 81,129 | SF | $8.60 | | $697,306 | 1974 | 40 |
| D2030 | DRAIN PIPING - STUDENT UNION | 35,771 | SF | $8.60 | | $307,453 | 1988 | 40 |
| D2030 | SUMP PUMP SYS (2 PUMPS, CONTROLS) | 2 | SYS | $8,276.49 | | $16,553 | 2005 | 20 |
| D2030 | SUMP PUMP SYS (2 PUMPS, CONTROLS) | 2 | SYS | $8,276.49 | | $16,553 | 1974 | 20 |
| D2050 | AIR COMPRESSOR PACKAGE (AVERAGE SIZE) | 1 | SYS | $6,456.49 | | $6,456 | 1974 | 25 |
| D2050 | AIR COMPRESSOR PACKAGE (AVERAGE SIZE) | 1 | SYS | $6,456.49 | | $6,456 | 1988 | 25 |
| D3030 | COLD BOX REFRIGERATION SYSTEM | 5 | SYS | $6,324.50 | | $31,622 | 1988 | 15 |
| D3030 | CHILLER - WATER COOLED (200-1000 TONS) | 380 | TON | $686.38 | | $260,825 | 2004 | 25 |
| D3030 | CHILLER - AIR COOLED (OVER 100 TONS) | 170 | TON | $1,173.39 | | $199,476 | 1988 | 20 |
| D3030 | COOLING TOWER (OVER 300 TONS) | 500 | TON | $184.81 | | $92,407 | 2004 | 20 |
| D3040 | CONDENSATE RECEIVER | 1 | SYS | $9,504.01 | | $9,504 | 2004 | 15 |
| D3040 | CONDENSATE RECEIVER | 1 | SYS | $9,504.01 | | $9,504 | 1988 | 15 |
| D3040 | EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR | 13 | EA | $2,768.62 | | $35,992 | 1974 | 20 |
| D3040 | EXHAUST FAN - UTILITY SET OR SIMILAR | 11 | EA | $3,660.81 | | $40,269 | 1974 | 20 |
| D3040 | EXHAUST FAN - PROPELLER TYPE OR SIMILAR | 1 | EA | $1,357.34 | | $1,357 | 1974 | 20 |
| D3040 | KITCHEN EXHAUST SYSTEM WITH MAKE-UP UNIT | 1 | SYS | $54,113.61 | | $54,114 | 1974 | 20 |
| D3040 | ELECTRIC UNIT HEATER (10 KW) | 2 | EA | $1,255.64 | | $2,511 | 1974 | 22 |
| D3040 | HVAC SYSTEM - STUDENT UNION | 81,129 | SF | $28.79 | | $2,335,560 | 1974 | 25 |
| D3040 | HVAC SYSTEM - STUDENT UNION | 35,771 | SF | $28.79 | | $1,029,784 | 1988 | 25 |
| D3040 | BASE MTD. PUMP - UP TO 15 HP | 50 | HP | $3,175.77 | | $158,788 | 2004 | 20 |
| D3040 | BASE MTD. PUMP - 15 HP TO 50 HP | 35 | HP | $1,142.19 | | $39,977 | 2004 | 20 |
| D3040 | BASE MTD. PUMP - 50 HP TO 150 HP | 40 | HP | $782.99 | | $31,319 | 2004 | 25 |
| D5010 | ELECTRICAL SYSTEM - STUDENT UNION | 81,129 | SF | $12.78 | | $1,036,472 | 1974 | 50 |
| D5010 | ELECTRICAL SYSTEM - STUDENT UNION | 35,771 | SF | $12.78 | | $456,996 | 1988 | 50 |
| D5010 | ELECTRICAL SWITCHGEAR 120/208V | 1,600 | AMP | $32.96 | | $52,742 | 1988 | 20 |

**Life Cycle Model**
**Building Component Summary**
**MSCB : MENDENHALL STUDENT CENTER**

| Uniformat Code | Component Description | Qty | Units | Unit Cost | Complx Adj | Total Cost | Install Date | Life Exp |
|---|---|---|---|---|---|---|---|---|
| D5010 | ELECTRICAL SWITCHGEAR 120/208V | 800 | AMP | $32.96 | | $26,371 | 1974 | 20 |
| D5010 | ELECTRICAL SWITCHGEAR 277/480V | 1,200 | AMP | $39.56 | | $47,476 | 1974 | 20 |
| D5010 | ELECTRICAL SWITCHGEAR 277/480V | 2,500 | AMP | $39.56 | | $98,909 | 1988 | 20 |
| D5010 | ELECTRICAL SWITCHGEAR 277/480V | 1,600 | AMP | $39.56 | | $63,302 | 1988 | 20 |
| D5020 | EXIT SIGNS (CENTRAL POWER) | 118 | EA | $163.78 | | $19,326 | 1974 | 20 |
| D5020 | EXTERIOR LIGHT (HID) | 1 | EA | $689.58 | | $690 | 1974 | 20 |
| D5020 | LIGHTING - STUDENT UNION | 81,129 | SF | $6.68 | | $542,236 | 1974 | 20 |
| D5020 | LIGHTING - STUDENT UNION | 35,771 | SF | $6.68 | | $239,080 | 1988 | 20 |
| D5030 | FIRE ALARM SYSTEM, POINT ADDRESSABLE | 116,900 | SF | $2.61 | | $305,646 | 1988 | 15 |
| D5040 | GENERATOR, DIESEL (50-100KW) | 50 | KW | $717.93 | | $35,897 | 1988 | 25 |
| E2010 | STANDARD BASE OR WALL CABINETRY | 240 | LF | $272.50 | | $65,400 | 1994 | 20 |
| E2010 | BASIC FOLDING FIXED SEATING | 760 | EA | $278.95 | | $212,001 | 1994 | 20 |
| F1020 | ENVIRONMENTAL CHAMBER | 400 | SF | $139.02 | | $55,606 | 1988 | 35 |
| | | | | | | **$15,781,537** | | |

# Life Cycle Model Expenditure Projections

## MSCB : MENDENHALL STUDENT CENTER




**Average Annual Renewal Cost Per SqFt $5.17**

FACILITY CONDITION ANALYSIS

# SECTION 6

# PHOTOGRAPHIC LOG

**Photo Log - Facility Condition Analysis**

**MSCB : MENDENHALL STUDENT CENTER**

| Photo ID No | Description | Location | Date |
|---|---|---|---|
| MSCB001a | Building facade | East elevation | 9/14/2009 |
| MSCB001e | Air-cooled liquid chiller in foreground and Marley cooling tower in background | From roof, looking south | 9/14/2008 |
| MSCB002a | Loading dock | South elevation | 9/14/2009 |
| MSCB002e | Out-of-service Ansul dry extinguishing system | Serving pantry 240 | 9/14/2008 |
| MSCB003a | Loading dock | South elevation | 9/14/2009 |
| MSCB003e | AHU9 with outside air disconnected and closed off | Mechanical room 249 | 9/14/2008 |
| MSCB004a | Building facade | East elevation | 9/14/2009 |
| MSCB004e | Floor drain | Mechanical room 249 | 9/14/2008 |
| MSCB005a | Building facade | East elevation | 9/14/2009 |
| MSCB005e | Floor drain and piping penetrations | Mechanical room 249 | 9/14/2008 |
| MSCB006a | Building facade | West elevation | 9/14/2009 |
| MSCB006e | Negative air pressure at drain inlet | Mechanical room 249 | 9/14/2008 |
| MSCB007a | Outdoor terrace | Southwest building corner | 9/14/2009 |
| MSCB007e | Mineral deposits at valve and fittings | Mechanical room 249 | 9/14/2008 |
| MSCB008a | Building facade | South elevation | 9/14/2009 |
| MSCB008e | Pendant type ceiling diffuser | Auditorium 102, balcony | 9/14/2008 |
| MSCB009a | Outdoor terrace | Southwest building corner | 9/14/2009 |
| MSCB009e | Trane Climate Changer air handling unit | Mechanical room 113 | 9/14/2008 |
| MSCB010a | Building facade | South elevation | 9/14/2009 |
| MSCB010e | Fluorescent vanity lighting fixtures | Women's restroom 103 | 9/14/2008 |
| MSCB011a | Building facade | West elevation | 9/14/2009 |
| MSCB011e | Chilled water pump for addition, Carrier liquid chiller system | Mechanical room G105 | 9/14/2008 |
| MSCB012a | Building facade | West elevation | 9/14/2009 |
| MSCB012e | Duplex control air compressor | Mechanical room G105 | 9/14/2008 |
| MSCB013a | Primary entrance and facade | North elevation | 9/14/2009 |
| MSCB013e | Carrier air handling unit | Mechanical room G105 | 9/14/2008 |
| MSCB014a | Primary entrance and facade | North elevation | 9/14/2009 |
| MSCB014e | Two shell-and-tube heat exchangers | Mechanical room G105 | 9/14/2008 |
| MSCB015a | Primary entrance and facade | Northeast building corner elevation | 9/14/2009 |
| MSCB015e | Duplex condensate receiver | Mechanical room G105 | 9/14/2008 |
| MSCB016a | Building facade | East elevation | 9/14/2009 |

**Photo Log - Facility Condition Analysis**

**MSCB : MENDENHALL STUDENT CENTER**

| Photo ID No | Description | Location | Date |
|---|---|---|---|
| MSCB016e | Missing insulation and dripping unions at domestic hot water heat exchanger | Mechanical room G105 | 9/14/2008 |
| MSCB017a | Mechanical equipment screenwall | Southeast building corner | 9/14/2009 |
| MSCB017e | Vertical-mount sump pumps | Mechanical room G105 | 9/14/2008 |
| MSCB018a | Architectural precast concrete panels | Building facade | 9/14/2009 |
| MSCB018e | Typical lavatory | Men's restroom G012 | 9/14/2008 |
| MSCB019a | Failing sealant joints in precast panels | Building facade | 9/14/2009 |
| MSCB019e | Simplex 4002 fire alarm control panel | Mechanical room G030 | 9/14/2008 |
| MSCB020a | Failing sealant joints in precast panels | Building facade | 9/14/2009 |
| MSCB020e | Main 2,500 amp switchboard added in 1988 and original switchboard BD | Mechanical room G030 | 9/14/2008 |
| MSCB021a | Water damaged brick wall at exterior stairway | Northeast building corner | 9/14/2009 |
| MSCB021e | Cummins diesel emergency generator | Mechanical room G030 | 9/14/2008 |
| MSCB022a | Failing sealant joints in precast panels | Building facade | 9/14/2009 |
| MSCB022e | Heat exchanger for heating hot water | Mechanical room G030 | 9/14/2008 |
| MSCB023a | Failing sealant joints in precast panels | Building facade | 9/14/2009 |
| MSCB023e | Heat exchanger for domestic hot water | Mechanical room G030 | 9/14/2008 |
| MSCB024a | Impact damage at loading dock wall | Loading dock | 9/14/2009 |
| MSCB024e | Automatic transfer switch, emergency panels, panel EE, and transformer | Mechanical room G030 | 9/14/2008 |
| MSCB025a | Structural masonry wall crack at dock | Auditorium dock, west | 9/14/2009 |
| MSCB025e | Carrier liquid chiller, three of six compressors | South of building | 9/14/2008 |
| MSCB026a | Structural masonry wall crack at dock | Auditorium dock, west | 9/14/2009 |
| MSCB026e | Carrier liquid chiller, three of six compressors | South of building | 9/14/2008 |
| MSCB027a | Water infiltration at basement wall | Mechanical room G028 | 9/14/2009 |
| MSCB028a | Typical original exterior window wall | Building facade | 9/14/2009 |
| MSCB029a | Stucco soffit over window wall | Building facade | 9/14/2009 |
| MSCB030a | Typical original exterior window wall | Building facade | 9/14/2009 |
| MSCB031a | Stucco soffit over window wall | Building facade | 9/14/2009 |
| MSCB032a | Deteriorating exterior service door | Southeast ground floor egress | 9/14/2009 |
| MSCB033a | Light monitor penthouse | Main roof | 9/14/2009 |
| MSCB034a | Overview of membrane roofing system | Main roof | 9/14/2009 |
| MSCB035a | Failed roof membrane with blisters | Main roof | 9/14/2009 |
| MSCB036a | Failed roof membrane with blisters | Main roof | 9/14/2009 |

**Photo Log - Facility Condition Analysis**

**MSCB : MENDENHALL STUDENT CENTER**

| Photo ID No | Description | Location | Date |
|---|---|---|---|
| MSCB037a | Failed roof membrane base flashing | Main roof | 9/14/2009 |
| MSCB038a | Overview of membrane roofing system | Main roof, east | 9/14/2009 |
| MSCB039a | Failed roof membrane and exposed felt fibers | Main roof, east | 9/14/2009 |
| MSCB040a | Unprotected top surface on precast panel | Main roof, perimeter curb | 9/14/2009 |
| MSCB041a | Failed roof membrane with blisters | Main roof | 9/14/2009 |
| MSCB042a | Failed roof membrane seams | Main roof | 9/14/2009 |
| MSCB043a | Failed roof membrane with blisters | Main roof | 9/14/2009 |
| MSCB044a | Failed roof membrane seams | Main roof | 9/14/2009 |
| MSCB045a | Failed roof membrane seams | Main roof | 9/14/2009 |
| MSCB046a | Failed roof membrane seams | Main roof | 9/14/2009 |
| MSCB047a | Failed roof membrane seams | Main roof | 9/14/2009 |
| MSCB048a | Obstructed roof drain inlet | Main roof | 9/14/2009 |
| MSCB049a | Obstructed roof drain inlet | Main roof | 9/14/2009 |
| MSCB050a | Obstructed roof drain inlet | Main roof | 9/14/2009 |
| MSCB051a | Failing sealant joints in precast panels | Roof parapet wall | 9/14/2009 |
| MSCB052a | Meeting room interior | Second floor | 9/14/2009 |
| MSCB053a | Clerestory lighting windows | Second floor | 9/14/2009 |
| MSCB054a | Non-compliant fire separation door | First floor | 9/14/2009 |
| MSCB055a | Non-compliant fire separation door | First floor | 9/14/2009 |
| MSCB056a | Overview of dining area, Grille | First floor | 9/14/2009 |
| MSCB057a | Overview of dining area, Grille | First floor | 9/14/2009 |
| MSCB058a | Main kitchen area, Grille | First floor | 9/14/2009 |
| MSCB059a | Non-compliant fire separation door | Typical stairwell | 9/14/2009 |
| MSCB060a | Bowling alley lanes | Ground floor | 9/14/2009 |
| MSCB061a | Billiard room | Ground floor | 9/14/2009 |
| MSCB062a | Typical corridor | Ground floor | 9/14/2009 |
| MSCB063a | Missing fire safing | Electrical / mechanical room | 9/14/2009 |
| MSCB064a | Improperly blocked egress corridor | Outside mechanical room 130 | 9/14/2009 |
| MSCB065a | Overhead storage room door | Main kitchen | 9/14/2009 |
| MSCB066a | Mold growth at leaking piping | Main electrical room G17 | 9/14/2009 |
| MSCB067a | Mold growth at leaking piping | Main electrical room G17 | 9/14/2009 |
| MSCB068a | Non-compliant thumb latch door hardware | Typical stairwell | 9/14/2009 |
| MSCB069a | Non-compliant handrail | Typical stairwell | 9/14/2009 |

**Photo Log - Facility Condition Analysis**

**MSCB : MENDENHALL STUDENT CENTER**

| Photo ID No | Description | Location | Date |
|---|---|---|---|
| MSCB070a | Non-compliant knob type door hardware | Typical stairwell | 9/14/2009 |
| MSCB071a | Missing handrailing | Stage steps, meeting room 214 | 9/14/2009 |
| MSCB072a | Non-compliant railing systems | Central stair | 9/14/2009 |
| MSCB073a | Non-compliant railing systems | Central stair | 9/14/2009 |
| MSCB074a | Non-compliant handrailing | Typical stairwell | 9/14/2009 |
| MSCB075a | Missing handrailing | Ground floor, service elevator | 9/14/2009 |
| MSCB076a | Missing handrailing | Exterior egress steps | 9/14/2009 |
| MSCB077a | Missing handrailing | Exterior access ramp | 9/14/2009 |
| MSCB078a | Non-compliant handrailing | Exterior egress steps | 9/14/2009 |
| MSCB079a | Missing handrailing | Exterior access ramp | 9/14/2009 |
| MSCB080a | Missing handrailing | Exterior egress steps | 9/14/2009 |
| MSCB081a | Non-contrast stair nosings | Exterior egress steps | 9/14/2009 |
| MSCB082a | Non-contrast stair nosings | Exterior egress steps | 9/14/2009 |
| MSCB083a | Undersized accessible stall | Public restroom | 9/14/2009 |
| MSCB084a | Partially compliant, aging lavatory | Public restroom | 9/14/2009 |
| MSCB085a | Trip hazard at elevator doorsill | Second floor, service elevator | 9/14/2009 |
| MSCB086a | Aging fixtures and partitions | Public restroom | 9/14/2009 |
| MSCB087a | Aging fixtures and finishes | Public restroom | 9/14/2009 |
| MSCB088a | Aging fixtures and partitions | Public restroom | 9/14/2009 |
| MSCB089a | Aging and non-compliant drinking fountain | Public corridor | 9/14/2009 |
| MSCB090a | Typical folding theater seat | Second floor, auditorium | 9/14/2009 |
| MSCB091a | Non-contrast stair nosings | Exterior egress steps | 9/14/2009 |
| MSCB092a | Trip hazard at settled brick pavers | Exterior terrace | 9/14/2009 |
| MSCB093a | Overview of cooling tower enclosure | Building exterior, southeast | 9/14/2009 |

Facility Condition Analysis - Photo Log

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MSCB001E.jpg

MSCB002A.jpg

MSCB002E.jpg

MSCB003A.jpg

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MSCB005A.jpg

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MSCB006A.jpg

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MSCB007A.jpg

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MSCB008A.jpg

MSCB008E.jpg

MSCB009A.jpg

MSCB009E.jpg

MSCB010A.jpg

MSCB010E.jpg

Facility Condition Analysis - Photo Log

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MSCB012A.jpg

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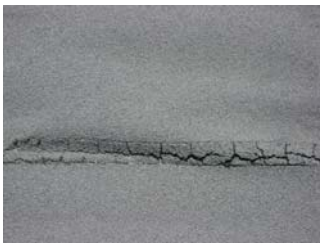

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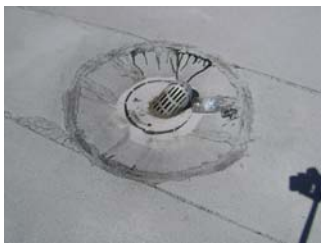

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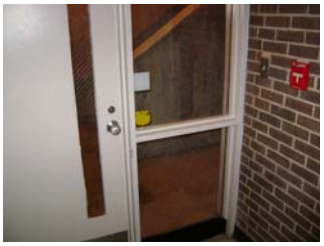

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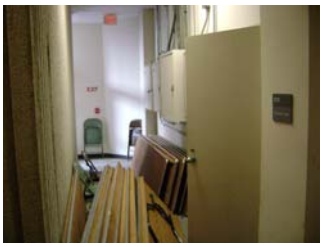

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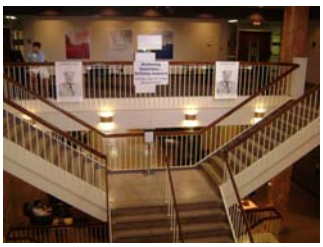

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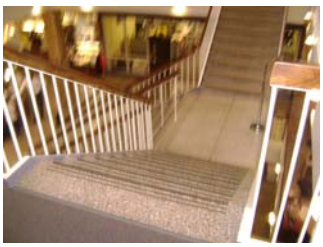

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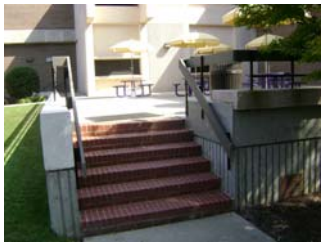

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