

EAST CAROLINA UNIVERSITY

FLEMING RESIDENCE HALL

ASSET CODE: FLEM

FACILITY CONDITION ANALYSIS

NOVEMBER 4, 2009



EAST CAROLINA UNIVERSITY
Facility Condition Analysis

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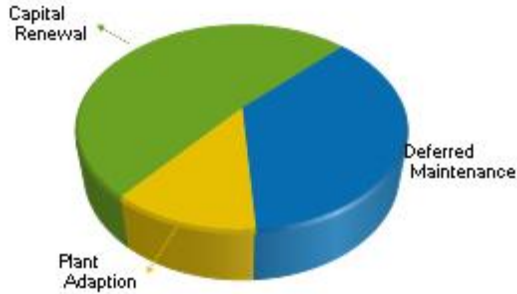
FACILITY CONDITION ANALYSIS

SECTION 1

GENERAL ASSET INFORMATION

EXECUTIVE SUMMARY - FLEMING RESIDENCE HALL

PROJECT COSTS BY CLASSIFICATION



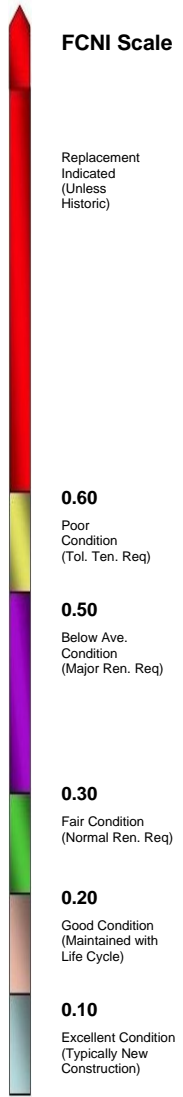
Building Code: FLEM
Building Name: FLEMING RESIDENCE HALL
Year Built: 1923
Building Use: Dormitory / Apartments
Square Feet: 32,428

Project Costs by Priority

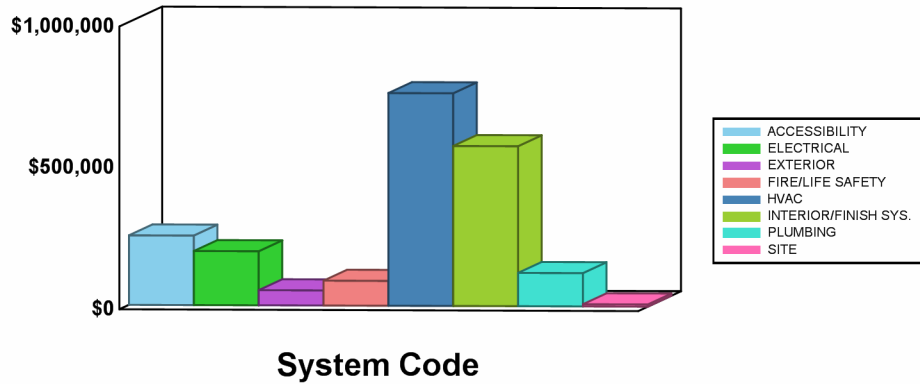
Priority 1:	\$999
Priority 2:	\$28,370
Priority 3:	\$1,591,147
Priority 4:	\$401,241
Total Project Costs:	\$2,021,756

Facility Replacement Cost: \$10,072,000

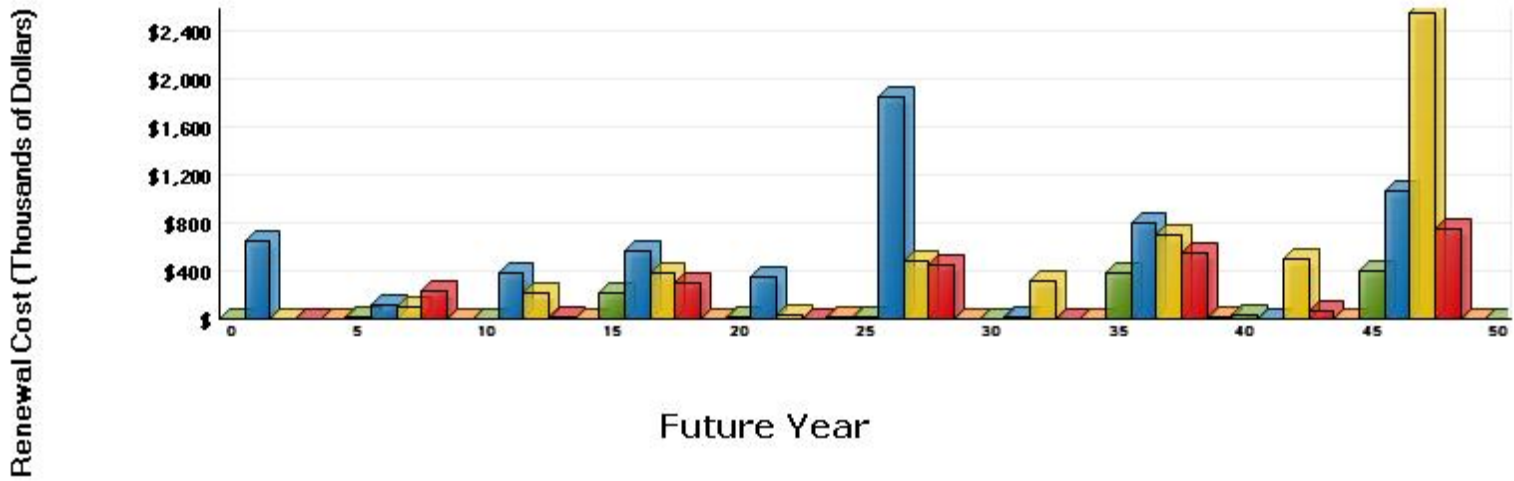
Facility Condition Needs Index (FCNI): 0.20
 (Project Costs / Replacement Cost)



PROJECT COSTS BY SYSTEM CODE



LIFE CYCLE MODEL EXPENDITURE PROJECTIONS



Average Annual Renewal Cost Per SqFt \$3.84

B. ASSET SUMMARY

The Fleming Residence Hall, located on the main campus of the East Carolina University in Greenville, North Carolina, was reportedly constructed in 1923, with multiple subsequent additions and renovations over the ensuing years. The last major refurbishment / renovation was reportedly completed in 2000 and included roof, facade, and interior finish upgrades.

The majority of the floor area in this dormitory building is utilized for double occupancy dorm rooms, with shared restrooms and showers on each floor. There are limited areas for common lobbies, shared kitchens, administrative offices, and a staff residence apartment. This historic, classical design dormitory has three above grade floor levels, a steeply pitched tile roof, and an accessible attic area. The building is comprised of approximately 32,428 total gross square feet.

Information for this report was collected during an on-site review conducted on September 15, 2009.

SITE

The building is sited on a flat parcel of land in the central campus area adjacent to the open commons. Portions of the general site around this building are reasonably well landscaped and appear to be adequately maintained and in overall good condition, predominantly planted with turf grasses, ornamental shrubbery, accent planting beds, and a few mature native trees. Irrigation systems were noted to serve the landscaped areas, and there is evidence that they are, in general, operating effectively.

Stormwater drainage systems around the building include graded swales, diversion curbs, underground collection and piping systems, and controlled surface run-off, and generally appear to divert water away from the structure adequately. However, the stormwater inlet and localized irrigation system components at the southwest corner of the east wing are suspected of deterioration and are a possible contributing cause of the adjacent basement wall leaks. The systems should be inspected and repaired as necessary.

There is no on-site vehicular parking at the building other than a limited number of curb side parking spaces along the adjacent streets. A small designated service vehicle and loading area is located at the rear of the building at the southeast corner.

Pedestrian access to the facility is supported by concrete sidewalk systems in the immediate area that provide compliant ADA access to and from adjacent buildings and parking areas. These pedestrian pavements are generally in good condition, with no immediate repairs necessary.

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 structural frame includes reinforced concrete, wood timber roof framing, structural steel, and load-bearing masonry. Numerous and distinctive architectural features, such as ornamental stone window casements, sills, lintels, quoins, plinths, and other wall features, make up the classically styled exterior facade. Brick masonry is the

primary exterior facade finish, with minor areas of natural and cast stone ornamentation. While the brick and stone are 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. Upgrades have been accomplished in recent renovations, but several areas of deterioration remain and corrective actions are required.

The windows in this building are metal-framed, operable, double-hung units with insulated glazing. Exterior doors are painted composite fiberglass. These fenestrations were reportedly upgraded in 2000 and are performing adequately, with no major signs of deterioration. Periodic cleaning, finish renewals, and routine maintenance appropriate to the various components should assure continued life cycle performance throughout this review period.

The steeply pitched roof is a clay flat tile system reportedly installed in 2000 and currently in good condition. It is expected to perform adequately over the next ten years. Interim inspections and routine maintenance of flashings, parapets, sealants, and other components will be required to achieve the full effective useful life of the system. The associated drainage inlets, custom copper guttering, and downspout systems appear to be adequately channeling rainwater from the pitched roof to ground level stormwater collection systems and isolated grade-level discharge.

There is evidence of water infiltration through the basement foundation wall. Excavation and waterproofing system upgrades are recommended. Improve the slope of grade away from the foundation prior to restoring the landscaping.

INTERIOR FINISHES / SYSTEMS

The flooring finishes include tiled pavers in portions of the public lobby areas, vinyl composition tiles (VCT) in kitchens and work areas, carpeting in circulation corridors, dorm rooms, offices, and administrative areas, and ceramic tiles in public restrooms and shower rooms. The carpet and ceramic tile finishes are recommended for upgrade. The back-of-house service areas, mechanical and electrical rooms, and unoccupied storage areas typically have either VCT or natural sealed concrete flooring.

Interior walls are typically a framed stud and trowel applied cementitious plaster wall assembly with a painted applied finish. The predominant ceiling systems are suspended acoustical tiles, with painted drop soffits and painted plaster in some service areas, restrooms, and the main lobby. While some interior finishes, particularly in recently renovated areas, are well maintained and acceptable in appearance, routine and periodic refinishing and selective replacements are required to maintain quality institutional appearances. The wall and floor finishes in some areas of the building, however, are in poor condition and require near-term upgrades. Also, the attic level ceiling insulation has been damaged and is no longer effective. It should be replaced in conjunction with the ceiling upgrade to improve the thermal performance of the building.

Interior doors are typically solid core, painted wood in painted hollow metal frames and are equipped with upgraded hardware, including ADA compliant lever locksets that are in good working order and appearance. However, the condition of most of the basement level service area interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. Complete demolition of the door systems and replacement according to a code compliant plan to properly protect egress passages is recommended.

The shared restrooms on each floor have fixtures and finishes that are mostly original to the year of construction and some subsequent partial renovations. The fixtures are sound but aged and inefficient, and the finishes are outdated and deteriorating in some areas. A comprehensive restroom renovation, including new fixtures, finishes, partitions, accessories, and associated common corridor dual level drinking fountains, is recommended. All future renovations provide for full compliance with ADA accessibility guidelines.

ACCESSIBILITY

The primary entrance doors do not provide compliant grade level access to the main floor / lobby area. The doors are elevated above the surrounding pedestrian access pavements, and the existing stairways are not ADA compliant. A major accessible entry system is required. The installation of a compliant ramp and handrail system at one of the building entrance doors is recommended to provide suitable handicapped access to the main lobby. ADA upgrades to the existing exterior stairway handrails are also required.

This older dormitory does not include designated accessible rooms or shared restroom areas. The university has made other dorms available to individuals requiring ADA accommodations. However, current accessibility legislation requires wheelchair access to all floors in a building over two stories in height. There is no wheelchair access to the upper floors of this residential building. The installation of an interior hydraulic elevator is proposed. This installation may entail using at least one resident room for the shaft and/or lobby. This loss of revenue will need to be calculated to determine the final true cost of this project.

Interior doors and the associated operable hardware are generally compliant with ADA standards, providing adequate maneuvering space at door jambs and graspable lever action hardware. One exception is the raised curbs at the restroom entrances. A related shared restroom renovation project recommendation would incorporate modifications at these entry doorways.

With inadequate wheelchair maneuvering areas, room layouts, and entry doors, the public restrooms on each floor are generally not compliant with accessibility standards. The restroom lavatories, water closets, stalls, grab bars, toilet accessories, and other features are generally designed and installed in a manner that does not provide public accommodation for the disabled. A complimentary interior restroom renovation project would include ADA compliance items. The main floor lobby area does have an ADA compliant single occupancy restroom.

The antiquated, single level drinking fountains located throughout the building are generally not compliant with ADA standards. As part of the recommended restroom upgrades, these older fountains should be replaced with dual level units. The adjacent corridor walls at the newly installed fountains may require new alcove construction to provide adequate floor area access.

Current accessibility legislation 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). The finishes on the stairs have deteriorated or are otherwise unsafe. 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. Future renovation efforts should include comprehensive stair railing and finish upgrades to improve user safety.

HEALTH

Based on the date of construction, it is possible that asbestos-containing materials (ACM), lead based paints, and other environmentally harmful components may have been used in the original building construction. It is recommended that suspect items be tested and, if found to contain asbestos, be abated and disposed of according to all applicable national, state, and local regulations. Based on the lack of reliable data provided by the university, any prior completed or future abatement projects are not included in the scope of this report.

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 or obstructed egress pathways were observed during the limited on-site review of the building.

Structural fire separations are not maintained according to code requirements for new construction in many areas of this facility. Little or no regard has been given to the passive and active firestopping systems. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly.

This facility is protected by a central fire alarm system. The point addressable panel was manufactured by Notifier and is located in mechanical room 002. The devices that serve this system include manual pull stations, audible / visible devices, and smoke detectors. The fire alarm system is approaching the end of its intended life cycle. It should be anticipated that it will require life cycle replacement within the scope of this analysis.

The basement, first floor, and second floor are protected by an automatic wet-pipe sprinkler system with a mix of sprinkler heads. A dry-pipe system protects the attic. These systems are adequate and in good condition. With proper testing and maintenance, the fire suppression system will outlast the scope of this report.

Exit signs are LED illuminated and connected to the emergency power network. Emergency lighting is available through standard interior light fixtures that are also connected to the emergency network. No emergency lighting or exit signage upgrades are deemed necessary at this time.

HVAC

This facility is on the campus steam loop. Hot water circulated as the heating medium is produced in the basement mechanical area using steam and a shell-and-tube heat exchanger. Two local area air-cooled liquid chillers support Fleming, Cotten, and Jarvis Residence Halls. The chillers are located, along with generators, transformers, and backflow preventers, in outdoor enclosures in the two areas separating the three buildings. The identity of buildings supporting or served by transformers, chillers, and backflow preventers is not generally indicated by labels or physical equipment locations. To the extent that project recommendations are made for such equipment, they will be found in the report for the building at which the equipment is located. For example, the 110 ton chiller in the enclosure attached to Fleming is supplied electrically from Jarvis and produces chilled water used in that facility. Manufactured by Trane

in 1982 according to its serial number, this chiller should be expected to have little remaining service life and is recommended for replacement. Because of its location in the enclosure attached to the Fleming Residence Hall, the proposed project for replacement of the chiller is contained in this report.

This facility is served by a forced-air HVAC system with single-zone air handling units employing chilled water and hot water coils. Additionally, a small split system heat pump serves the Coordinator apartment located at the northeast corner of the first floor. The air distribution network furnishes constant volume air to the occupied spaces. Dormitory rooms are not equipped with controls for occupant use. The pneumatic controls for this system interface with Siebe control panels.

The major components of the air distribution network were installed in 1984 and are approaching the end of their expected service lives. The heat pump for the Coordinator apartment is a 2002 model in good condition, but will reach its expected service life during the next few years. Modernization of the design and replacement of the entire system, including service for the Coordinator apartment area, is recommended.

ELECTRICAL

Electrical power at 120/208 volts is supplied to the building from a 300 kVA transformer located in an enclosure between Fleming and Cotton Residence Halls. A 500 kVA transformer at that location supplies power to the 198.4 ton liquid chiller for Fleming and Cotten. As mentioned in the HVAC section, it should be noted that transformers and other utility systems equipment in the enclosures adjacent to Fleming, Cotten, and Jarvis are shared with or sourced from buildings other than their physical location would readily indicate. Projects relating to electrical service and HVAC systems equipment in the three buildings are included in reports according to physical location. Emergency power for this facility is supplied by a generator located nearby at the Jarvis Residence Hall. The generator is addressed further in the report for that facility.

The main distribution panel for the electrical distribution system is rated for 1,000 amp service. It should be anticipated that the 1,000 amp main switch and distribution panel will require life cycle replacement within the outlook of this report. The electrical distribution network supplies 120/208 volt power throughout the building. The panels were manufactured predominantly by General Electric. The electrical devices are aged and visibly worn. It is recommended that physical and functional obsolescence of the electrical distribution network be rectified. Such remedies include, but are not limited to, installing additional circuits, installing additional outlets in occupant rooms, replacing worn switches and receptacles, replacing circuit breakers, and updating panel directories.

The interior spaces of this facility are illuminated by fixtures that utilize compact and T12 fluorescent lamps. The fluorescent fixtures are predominantly surface-mounted types with acrylic lenses. Some fixtures are still fitted with inefficient incandescent lamps. The lenses on the many of the light fixtures are aged and, in some cases, cracked or discolored. The interior lighting is inefficient, well into or beyond its expected life, and is recommended for replacement in conjunction with other proposed electrical work. Specify energy-efficient fixtures, and install occupancy sensors where possible.

Limited exterior lighting consists of wall-mounted exterior fixtures near locations such as the mechanical room entry door. These exterior fixtures are generally in good condition and are recommended for normal routine maintenance and replacement as necessary.

PLUMBING

Potable water is distributed throughout this facility via a copper piping network. Sanitary waste water piping is predominantly of cast-iron, bell-and-spigot construction. Limited quantities of plastic and no-hub cast-iron piping have been used on a limited basis for maintenance and repair of the system. The network is adequate and not expected to require any major capital renewal projects. The supply piping network, however, is projected to become vulnerable to life cycle failures within the scope of this analysis, and piping to some plumbing fixtures was noted to be aged and corroded. Piping and fixture replacements should be undertaken as part of any major restroom renovations detailed elsewhere in this report. Domestic water is heated by heat exchangers that utilize steam. These units are adequate and in good condition. With proper maintenance, they will outlast the purview of this analysis.

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 15, 2009

INSPECTION TEAM PERSONNEL:

<u>NAME</u>	<u>POSITION</u>	<u>SPECIALTY</u>
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:

<u>NAME</u>	<u>POSITION</u>
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.

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

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:

	<u>PRIORITY CLASS 1</u>	
CODE	PROJECT NO.	PRIORITY SEQUENCE
HV2C	0001HV04	01
PL1D	0001PL02	02

	<u>PRIORITY CLASS 2</u>	
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

<u>Building Number</u>	<u>Photo Sequence</u>	<u>Arch / Eng / VT</u>
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

AC1A - AC4B
EL1A - EL8A
ES1A - ES6E
FS1A - FS6A
HE1A - HE7A
HV1A - HV8B
IS1A - IS6D
PL1A - PL5A
SI1A - SI4A
SS1A - SS7A
VT1A - VT7A

SYSTEM DESCRIPTION

ACCESSIBILITY
ELECTRICAL
EXTERIOR STRUCTURE
FIRE / LIFE SAFETY
HEALTH
HVAC
INTERIOR FINISHES / SYSTEMS
PLUMBING
SITE
SECURITY SYSTEMS
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	CABINETY	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
 FLEM : FLEMING RESIDENCE HALL**

System Code	System Description	Priority Classes				Subtotal
		1	2	3	4	
AC	ACCESSIBILITY	0	0	0	245,841	245,841
EL	ELECTRICAL	0	0	191,067	0	191,067
ES	EXTERIOR	0	20,483	33,007	0	53,491
FS	FIRE/LIFE SAFETY	999	0	86,975	0	87,974
HV	HVAC	0	0	751,985	0	751,985
IS	INTERIOR/FINISH SYS.	0	0	528,113	37,584	565,697
PL	PLUMBING	0	0	0	117,816	117,816
SI	SITE	0	7,886	0	0	7,886
	TOTALS	999	28,370	1,591,147	401,241	2,021,756

Facility Replacement Cost	\$10,072,000
Facility Condition Needs Index	0.20

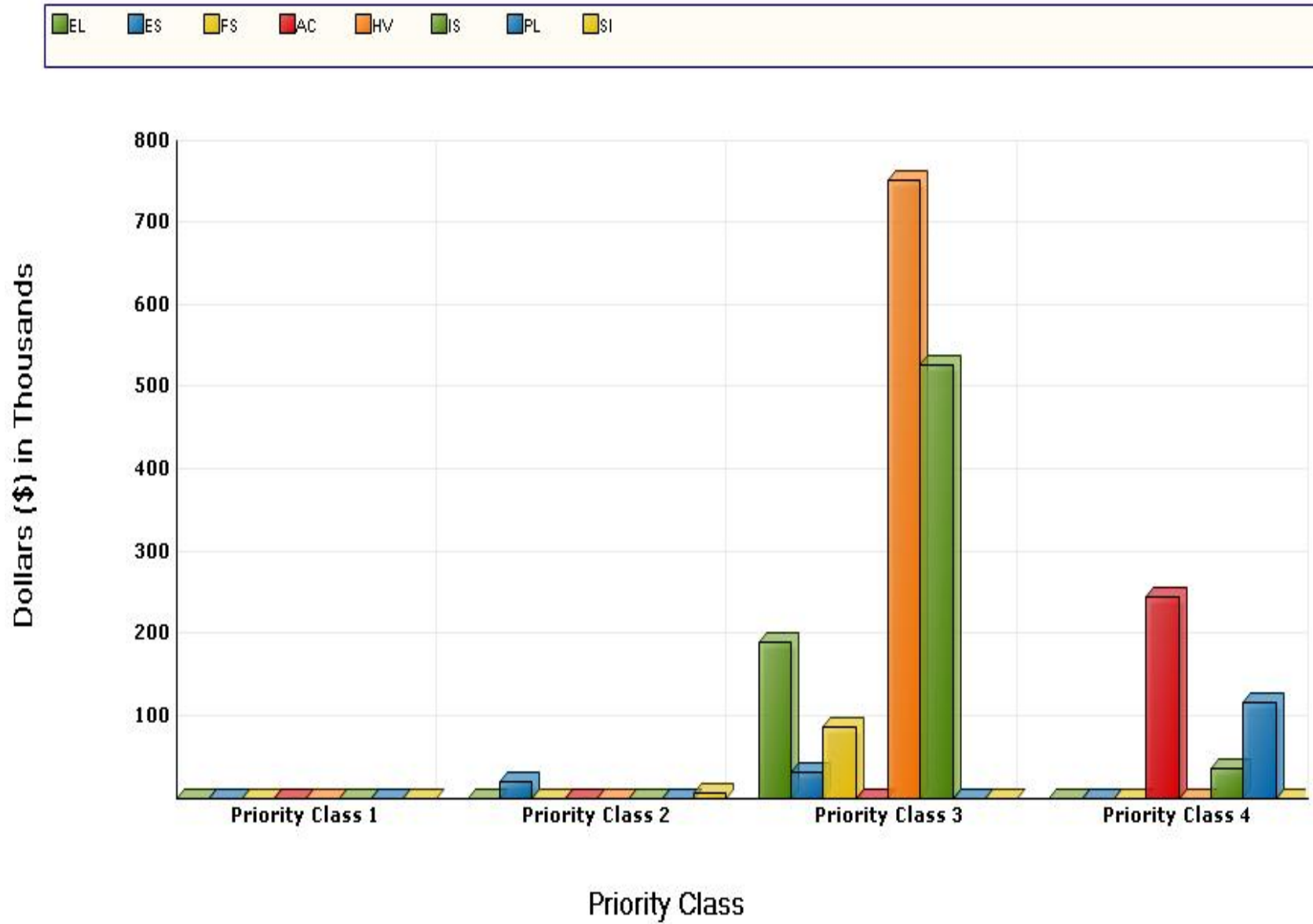
Gross Square Feet	32,428
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Total Cost Per Square Foot	\$62.35
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FACILITY CONDITION ANALYSIS

System Code by Priority Class

FLEM : FLEMING RESIDENCE HALL



**Detailed Project Totals
 Facility Condition Analysis
 System Code by Project Class
 FLEM : FLEMING RESIDENCE HALL**

System Code	System Description	Project Classes				Subtotal
		Capital Renewal	Deferred Maintenance	FCAP	Plant Adaption	
AC	ACCESSIBILITY	0	0	0	245,841	245,841
EL	ELECTRICAL	31,045	160,021	0	0	191,067
ES	EXTERIOR	0	53,491	0	0	53,491
FS	FIRE/LIFE SAFETY	86,975	0	0	999	87,974
HV	HVAC	751,985	0	0	0	751,985
IS	INTERIOR/FINISH SYS.	43,996	521,702	0	0	565,697
PL	PLUMBING	117,816	0	0	0	117,816
SI	SITE	7,886	0	0	0	7,886
	TOTALS	1,039,703	735,214	0	246,840	2,021,756

Facility Replacement Cost	\$10,072,000
Facility Condition Needs Index	0.20

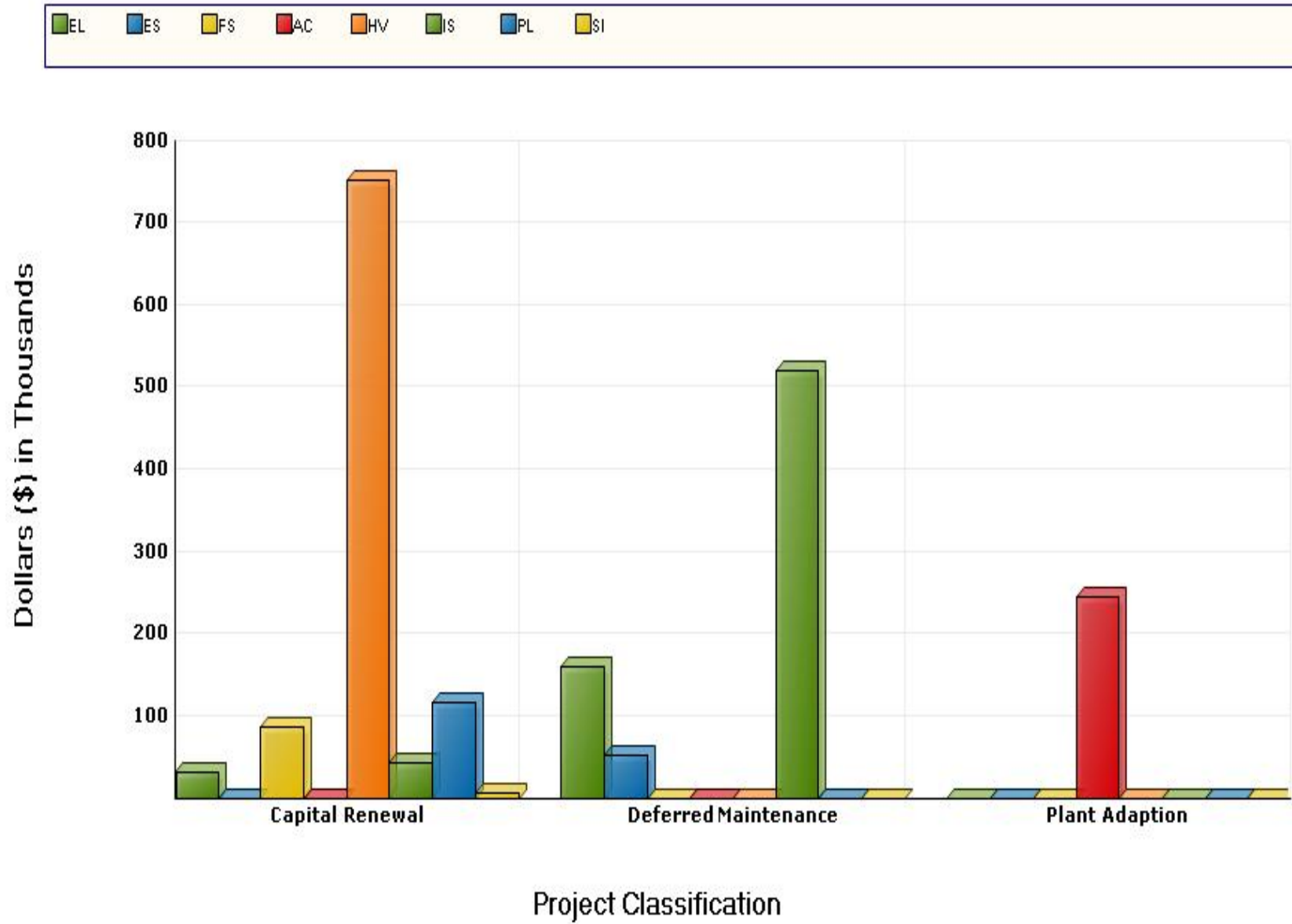
Gross Square Feet	32,428
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Total Cost Per Square Foot	\$62.35
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FACILITY CONDITION ANALYSIS

System Code by Project Class

FLEM : FLEMING RESIDENCE HALL



Detailed Project Summary
Facility Condition Analysis
Project Class by Priority Class
FLEM : FLEMING RESIDENCE HALL

Project Class	Priority Classes				Subtotal
	1	2	3	4	
Capital Renewal	0	7,886	876,417	155,401	1,039,703
Deferred Maintenance	0	20,483	714,730	0	735,214
Plant Adaption	999	0	0	245,841	246,840
TOTALS	999	28,370	1,591,147	401,241	2,021,756

Facility Replacement Cost	\$10,072,000
Facility Condition Needs Index	0.20

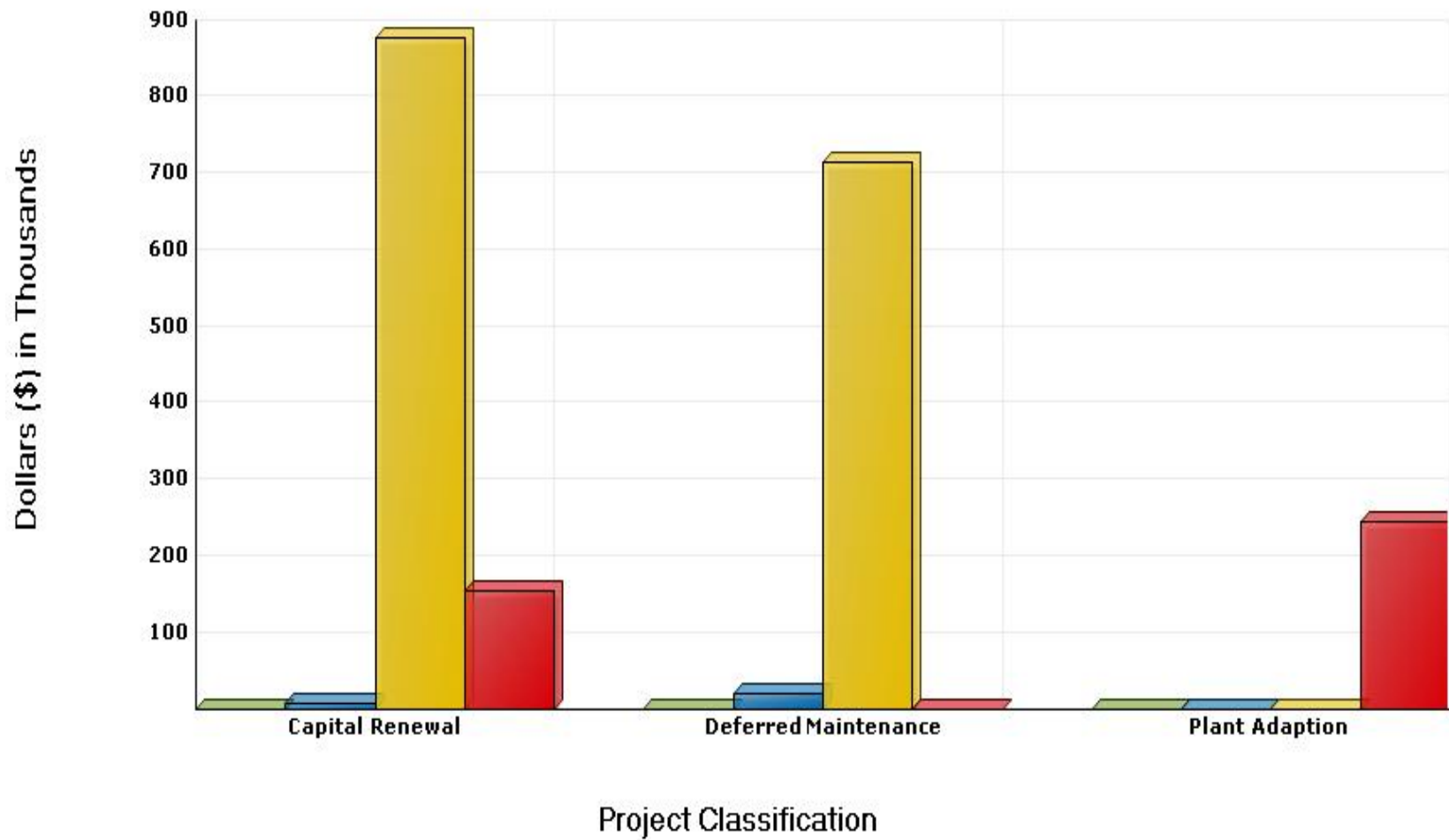
Gross Square Feet	32,428
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Total Cost Per Square Foot	\$62.35
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FACILITY CONDITION ANALYSIS

Project Class by Priority Class

FLEM : FLEMING RESIDENCE HALL



Detailed Project Summary
Facility Condition Analysis
Priority Class - Priority Sequence
FLEM : FLEMING RESIDENCE HALL

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS5C	FLEMFS01	1	1	ELIMINATE FIRE RATING COMPROMISES	861	138	999
Totals for Priority Class 1					861	138	999
ES1B	FLEMES03	2	2	WATERPROOFING OF EXTERIOR FOUNDATION WALL	17,658	2,825	20,483
SI4A	FLEMSI01	2	3	STORMWATER COLLECTION AND IRRIGATION SYSTEM REPAIRS	6,798	1,088	7,886
Totals for Priority Class 2					24,457	3,913	28,370
FS2A	FLEMFS02	3	4	FIRE ALARM SYSTEM REPLACEMENT	74,978	11,997	86,975
ES2B	FLEMES01	3	5	RESTORE BRICK MASONRY	27,984	4,477	32,461
ES2B	FLEMES02	3	6	RESTORE ARCHITECTURAL ORNAMENTAL CONCRETE AND STONE	471	75	546
HV2A	FLEMHV02	3	7	REPLACE AIR-COOLED LIQUID CHILLER	100,073	16,012	116,085
HV3A	FLEMHV01	3	8	HVAC SYSTEM REPLACEMENT	548,190	87,710	635,900
EL3B	FLEMEL03	3	9	ELECTRICAL SYSTEM REPAIRS	15,209	2,433	17,642
EL4B	FLEMEL02	3	10	INTERIOR LIGHTING UPGRADE	122,741	19,639	142,379
EL2A	FLEMEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	26,763	4,282	31,045
IS1A	FLEMIS01	3	12	REFINISH FLOORING	200,059	32,009	232,068
IS2B	FLEMIS02	3	13	REFINISH WALLS	65,020	10,403	75,424
IS6D	FLEMIS05	3	14	MAJOR UPGRADE AND RESTROOM RENOVATIONS	184,664	29,546	214,210
IS4A	FLEMIS04	3	15	REPLACE INTERIOR SERVICE DOORS	5,527	884	6,411
Totals for Priority Class 3					1,371,678	219,469	1,591,147
AC3A	FLEMAC01	4	16	ELEVATOR INSTALLATION	162,171	25,947	188,118
AC3B	FLEMAC02	4	17	STAIR SAFETY UPGRADES	23,600	3,776	27,376
AC2A	FLEMAC03	4	18	ACCESSIBLE BUILDING ENTRANCE UPGRADE	26,161	4,186	30,347
IS3B	FLEMIS03	4	19	REFINISH CEILINGS	32,400	5,184	37,584
PL1A	FLEMPL01	4	20	WATER SUPPLY PIPING REPLACEMENT	101,566	16,251	117,816
Totals for Priority Class 4					345,898	55,344	401,241
Grand Total:					1,742,894	278,863	2,021,756

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
FLEM : FLEMING RESIDENCE HALL

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS5C	FLEMFS01	1	1	ELIMINATE FIRE RATING COMPROMISES	861	138	999
Totals for Priority Class 1					861	138	999
ES1B	FLEMES03	2	2	WATERPROOFING OF EXTERIOR FOUNDATION WALL	17,658	2,825	20,483
SI4A	FLEMSI01	2	3	STORMWATER COLLECTION AND IRRIGATION SYSTEM REPAIRS	6,798	1,088	7,886
Totals for Priority Class 2					24,457	3,913	28,370
ES2B	FLEMES01	3	5	RESTORE BRICK MASONRY	27,984	4,477	32,461
ES2B	FLEMES02	3	6	RESTORE ARCHITECTURAL ORNAMENTAL CONCRETE AND STONE	471	75	546
IS2B	FLEMIS02	3	13	REFINISH WALLS	65,020	10,403	75,424
IS4A	FLEMIS04	3	15	REPLACE INTERIOR SERVICE DOORS	5,527	884	6,411
FS2A	FLEMFS02	3	4	FIRE ALARM SYSTEM REPLACEMENT	74,978	11,997	86,975
EL2A	FLEMEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	26,763	4,282	31,045
EL3B	FLEMEL03	3	9	ELECTRICAL SYSTEM REPAIRS	15,209	2,433	17,642
Totals for Priority Class 3					215,952	34,552	250,504
AC3B	FLEMAC02	4	17	STAIR SAFETY UPGRADES	23,600	3,776	27,376
IS3B	FLEMIS03	4	19	REFINISH CEILINGS	32,400	5,184	37,584
AC2A	FLEMAC03	4	18	ACCESSIBLE BUILDING ENTRANCE UPGRADE	26,161	4,186	30,347
Totals for Priority Class 4					82,161	13,146	95,307
Grand Totals for Projects < 100,000					323,431	51,749	375,180

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
 FLEM : FLEMING RESIDENCE HALL

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
IS1A	FLEMIS01	3	12	REFINISH FLOORING	200,059	32,009	232,068
IS6D	FLEMIS05	3	14	MAJOR UPGRADE AND RESTROOM RENOVATIONS	184,664	29,546	214,210
HV2A	FLEMHV02	3	7	REPLACE AIR-COOLED LIQUID CHILLER	100,073	16,012	116,085
EL4B	FLEMEL02	3	10	INTERIOR LIGHTING UPGRADE	122,741	19,639	142,379
Totals for Priority Class 3					607,536	97,206	704,742
AC3A	FLEMAC01	4	16	ELEVATOR INSTALLATION	162,171	25,947	188,118
PL1A	FLEMPL01	4	20	WATER SUPPLY PIPING REPLACEMENT	101,566	16,251	117,816
Totals for Priority Class 4					263,737	42,198	305,934
Grand Totals for Projects >= 100,000 and < 500,000					871,273	139,404	1,010,676

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
 FLEM : FLEMING RESIDENCE HALL

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
HV3A	FLEMHV01	3	8	HVAC SYSTEM REPLACEMENT	548,190	87,710	635,900
				Totals for Priority Class 3	548,190	87,710	635,900
				Grand Totals for Projects >= 500,000	548,190	87,710	635,900
				Grand Totals For All Projects:	1,742,894	278,863	2,021,756

Detailed Project Summary
Facility Condition Analysis
Project Classification
FLEM : FLEMING RESIDENCE HALL

Cat Code	Project Number	Pri. Seq.	Project Classification	Pri. Cls	Project Title	Total Cost
SI4A	FLEMSI01	3	Capital Renewal	2	STORMWATER COLLECTION AND IRRIGATION SYSTEM REPAIRS	7,886
FS2A	FLEMFS02	4	Capital Renewal	3	FIRE ALARM SYSTEM REPLACEMENT	86,975
HV2A	FLEMHV02	7	Capital Renewal	3	REPLACE AIR-COOLED LIQUID CHILLER	116,085
HV3A	FLEMHV01	8	Capital Renewal	3	HVAC SYSTEM REPLACEMENT	635,900
EL2A	FLEMEL01	11	Capital Renewal	3	REPLACE 120/208 VOLT SWITCHGEAR	31,045
IS4A	FLEMIS04	15	Capital Renewal	3	REPLACE INTERIOR SERVICE DOORS	6,411
IS3B	FLEMIS03	19	Capital Renewal	4	REFINISH CEILINGS	37,584
PL1A	FLEMPLO1	20	Capital Renewal	4	WATER SUPPLY PIPING REPLACEMENT	117,816
Totals for Capital Renewal						1,039,703
ES1B	FLEMES03	2	Deferred Maintenance	2	WATERPROOFING OF EXTERIOR FOUNDATION WALL	20,483
ES2B	FLEMES01	5	Deferred Maintenance	3	RESTORE BRICK MASONRY	32,461
ES2B	FLEMES02	6	Deferred Maintenance	3	RESTORE ARCHITECTURAL ORNAMENTAL CONCRETE AND STONE	546
EL3B	FLEMEL03	9	Deferred Maintenance	3	ELECTRICAL SYSTEM REPAIRS	17,642
EL4B	FLEMEL02	10	Deferred Maintenance	3	INTERIOR LIGHTING UPGRADE	142,379
IS1A	FLEMIS01	12	Deferred Maintenance	3	REFINISH FLOORING	232,068
IS2B	FLEMIS02	13	Deferred Maintenance	3	REFINISH WALLS	75,424
IS6D	FLEMIS05	14	Deferred Maintenance	3	MAJOR UPGRADE AND RESTROOM RENOVATIONS	214,210
Totals for Deferred Maintenance						735,214
FS5C	FLEMFS01	1	Plant Adaption	1	ELIMINATE FIRE RATING COMPROMISES	999
AC3A	FLEMAC01	16	Plant Adaption	4	ELEVATOR INSTALLATION	188,118
AC3B	FLEMAC02	17	Plant Adaption	4	STAIR SAFETY UPGRADES	27,376
AC2A	FLEMAC03	18	Plant Adaption	4	ACCESSIBLE BUILDING ENTRANCE UPGRADE	30,347
Totals for Plant Adaption						246,840
Grand Total:						2,021,756

Detailed Project Summary
Facility Condition Analysis
Energy Conservation
 FLEM : FLEMING RESIDENCE HALL

Cat Code	Project Number	Pri Cls	Pri Seq	Project Title	Total Cost	Annual Savings	Simple Payback
HV3A	FLEMHV01	3	8	HVAC SYSTEM REPLACEMENT	635,900	15,620	40.71
EL4B	FLEMEL02	3	10	INTERIOR LIGHTING UPGRADE	142,379	4,960	28.71
Totals for Priority Class 3					778,280	20,580	37.82
Grand Total:					778,280	20,580	37.82

Detailed Project Summary
Facility Condition Analysis
Category/System Code
FLEM : FLEMING RESIDENCE HALL

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC3A	FLEMAC01	4	16	ELEVATOR INSTALLATION	162,171	25,947	188,118
AC3B	FLEMAC02	4	17	STAIR SAFETY UPGRADES	23,600	3,776	27,376
AC2A	FLEMAC03	4	18	ACCESSIBLE BUILDING ENTRANCE UPGRADE	26,161	4,186	30,347
Totals for System Code: ACCESSIBILITY					211,932	33,909	245,841
EL3B	FLEMEL03	3	9	ELECTRICAL SYSTEM REPAIRS	15,209	2,433	17,642
EL4B	FLEMEL02	3	10	INTERIOR LIGHTING UPGRADE	122,741	19,639	142,379
EL2A	FLEMEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	26,763	4,282	31,045
Totals for System Code: ELECTRICAL					164,713	26,354	191,067
ES1B	FLEMES03	2	2	WATERPROOFING OF EXTERIOR FOUNDATION WALL	17,658	2,825	20,483
ES2B	FLEMES01	3	5	RESTORE BRICK MASONRY	27,984	4,477	32,461
ES2B	FLEMES02	3	6	RESTORE ARCHITECTURAL ORNAMENTAL CONCRETE AND STONE	471	75	546
Totals for System Code: EXTERIOR					46,113	7,378	53,491
FS5C	FLEMFS01	1	1	ELIMINATE FIRE RATING COMPROMISES	861	138	999
FS2A	FLEMFS02	3	4	FIRE ALARM SYSTEM REPLACEMENT	74,978	11,997	86,975
Totals for System Code: FIRE/LIFE SAFETY					75,839	12,134	87,974
HV2A	FLEMHV02	3	7	REPLACE AIR-COOLED LIQUID CHILLER	100,073	16,012	116,085
HV3A	FLEMHV01	3	8	HVAC SYSTEM REPLACEMENT	548,190	87,710	635,900
Totals for System Code: HVAC					648,263	103,722	751,985
IS1A	FLEMIS01	3	12	REFINISH FLOORING	200,059	32,009	232,068
IS2B	FLEMIS02	3	13	REFINISH WALLS	65,020	10,403	75,424
IS6D	FLEMIS05	3	14	MAJOR UPGRADE AND RESTROOM RENOVATIONS	184,664	29,546	214,210
IS4A	FLEMIS04	3	15	REPLACE INTERIOR SERVICE DOORS	5,527	884	6,411
IS3B	FLEMIS03	4	19	REFINISH CEILINGS	32,400	5,184	37,584
Totals for System Code: INTERIOR/FINISH SYS.					487,670	78,027	565,697
PL1A	FLEMPLO1	4	20	WATER SUPPLY PIPING REPLACEMENT	101,566	16,251	117,816
Totals for System Code: PLUMBING					101,566	16,251	117,816
SI4A	FLEMSI01	2	3	STORMWATER COLLECTION AND IRRIGATION SYSTEM REPAIRS	6,798	1,088	7,886
Totals for System Code: SITE					6,798	1,088	7,886
Grand Total:					1,742,894	278,863	2,021,756

FACILITY CONDITION ANALYSIS

SECTION 3

SPECIFIC PROJECT DETAILS
ILLUSTRATING DESCRIPTION / COST

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMFS01	Title:	ELIMINATE FIRE RATING COMPROMISES
Priority Sequence:	1		
Priority Class:	1		
Category Code:	FS5C	System:	FIRE/LIFE SAFETY
		Component:	EGRESS PATH
		Element:	SEPARATION RATING
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
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, B		

Project Description

Structural fire separations are not maintained according to code requirements for new construction in many areas of this facility. Little or no regard has been given to the passive and active firestopping systems. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMFS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Moderate passive firestopping and structural separation repairs	SF	4,860	\$0.06	\$292	\$0.17	\$826	\$1,118
Project Totals:				\$292		\$826	\$1,118

Material/Labor Cost		\$1,118
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$717
General Contractor Mark Up at 20.0%	+	\$144
Construction Cost		\$861
Professional Fees at 16.0%	+	\$138
Total Project Cost		\$999

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMES03	Title:	WATERPROOFING OF EXTERIOR FOUNDATION WALL
Priority Sequence:	2		
Priority Class:	2		
Category Code:	ES1B	System:	EXTERIOR
		Component:	FOUNDATION/FOOTING
		Element:	DAMPPROOFING/DEWATERING
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/9/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

There is evidence of water infiltration through the basement foundation wall. 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
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMES03

Task Cost Estimate

Task Description	Unit	Qty	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
Construction Cost		\$17,658
Professional Fees at 16.0%	+	\$2,825
Total Project Cost		\$20,483

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMSI01	Title:	STORMWATER COLLECTION AND IRRIGATION SYSTEM REPAIRS
Priority Sequence:	3		
Priority Class:	2		
Category Code:	SI4A	System:	SITE
		Component:	GENERAL
		Element:	OTHER
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/9/2009		
Project Location:	Floor-wide: Floor(s) B		

Project Description

The stormwater inlet and localized irrigation system components at the southwest corner of the east wing are suspected of deterioration and are a possible contributing cause of the adjacent basement wall leaks. The systems should be inspected and repaired as necessary.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMSI01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Stormwater and irrigation system inspection and repairs	LOT	1	\$2,875	\$2,875	\$5,400	\$5,400	\$8,275
Project Totals:				\$2,875		\$5,400	\$8,275

Material/Labor Cost		\$8,275
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$5,665</u>
General Contractor Mark Up at 20.0%	+	<u>\$1,133</u>
Construction Cost		<u>\$6,798</u>
Professional Fees at 16.0%	+	<u>\$1,088</u>
Total Project Cost		<u>\$7,886</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMFS02	Title:	FIRE ALARM SYSTEM REPLACEMENT
Priority Sequence:	4		
Priority Class:	3		
Category Code:	FS2A	System:	FIRE/LIFE SAFETY
		Component:	DETECTION ALARM
		Element:	GENERAL
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	702.1	
	NFPA	1, 101	
Project Class:	Capital Renewal		
Project Date:	10/12/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, B		

Project Description

Provide life cycle replacement and upgrades to the fire alarm system components using modern, point addressable equipment. Specify a point addressable supervised main fire alarm panel with an annunciator. Include pull stations, audible and visible 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
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMFS02

Task Cost Estimate

Task Description	Unit	Qty	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, cut and patching materials	SF	32,428	\$1.46	\$47,345	\$0.89	\$28,861	\$76,206
Project Totals:				\$47,345		\$28,861	\$76,206

Material/Labor Cost		\$76,206
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$62,482</u>
General Contractor Mark Up at 20.0%	+	<u>\$12,496</u>
Construction Cost		<u>\$74,978</u>
Professional Fees at 16.0%	+	<u>\$11,997</u>
Total Project Cost		<u>\$86,975</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMES01	Title:	RESTORE BRICK MASONRY
Priority Sequence:	5		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
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 is the primary exterior facade finish, with minor areas of cast stone and stone ornamentation. 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. Upgrades have been accomplished in recent renovations, but several areas of deterioration remain and corrective actions are required.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMES01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Cleaning and surface preparation	SF	17,040	\$0.11	\$1,874	\$0.22	\$3,749	\$5,623
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	1,704	\$2.45	\$4,175	\$4.99	\$8,503	\$12,678
Applied finish or sealant	SF	17,040	\$0.22	\$3,749	\$0.82	\$13,973	\$17,722
Project Totals:				\$9,798		\$26,225	\$36,023

Material/Labor Cost		\$36,023
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$23,320
General Contractor Mark Up at 20.0%	+	\$4,664
Construction Cost		\$27,984
Professional Fees at 16.0%	+	\$4,477
Total Project Cost		\$32,461

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMES02	Title:	RESTORE ARCHITECTURAL ORNAMENTAL CONCRETE AND STONE
Priority Sequence:	6		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
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 architectural ornamental concrete and stone exterior has become visibly soiled, and the construction joints are failing. Cleaning, surface preparation, and selective repairs are recommended to restore the aesthetics and integrity of the building envelope.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMES02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Cleaning and surface preparation	SF	540	\$0.11	\$59	\$0.22	\$119	\$178
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	54	\$2.45	\$132	\$4.99	\$269	\$402
Project Totals:				\$192		\$388	\$580

Material/Labor Cost		\$580
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$392
General Contractor Mark Up at 20.0%	+	\$78
Construction Cost		\$471
Professional Fees at 16.0%	+	\$75
Total Project Cost		\$546

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMHV02	Title:	REPLACE AIR-COOLED LIQUID CHILLER
Priority Sequence:	7		
Priority Class:	3		
Category Code:	HV2A	System:	HVAC
		Component:	COOLING
		Element:	CHILLERS/CONTROLS
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	ASHRAE	15-2004	
Project Class:	Capital Renewal		
Project Date:	10/12/2009		
Project Location:	Item Only: Floor(s) 1		

Project Description

It is recommended that the chiller be replaced with a new energy-efficient unit that contains the latest ozone friendly refrigerant. The project cost includes removal and disposal of the existing chiller, installation of a new chiller, electrical and piping connections, and related controls and programming. Install refrigeration safety systems in accordance with the ASHRAE safety code for mechanical refrigeration.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMHV02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Chiller, all connections and mounting, controls, demolition of existing unit	TON	110	\$577	\$63,432	\$346	\$38,048	\$101,479
Project Totals:				\$63,432		\$38,048	\$101,479

Material/Labor Cost		\$101,479
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$83,394</u>
General Contractor Mark Up at 20.0%	+	<u>\$16,679</u>
Construction Cost		<u>\$100,073</u>
Professional Fees at 16.0%	+	<u>\$16,012</u>
Total Project Cost		<u>\$116,085</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMHV01	Title:	HVAC SYSTEM REPLACEMENT
Priority Sequence:	8		
Priority Class:	3		
Category Code:	HV3A	System:	HVAC
		Component:	HEATING/COOLING
		Element:	SYSTEM RETROFIT/REPLACE
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Energy Conservation	\$15,620	
Code Application:	ASHRAE	62-2004	
Project Class:	Capital Renewal		
Project Date:	10/12/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, B, 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 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 for the new equipment. Incorporate variable frequency drives into the new HVAC design as applicable.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMHV01

Task Cost Estimate

Task Description	Unit	Qty	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	32,428	\$8.62	\$279,529	\$10.54	\$341,791	\$621,320
Project Totals:				\$279,529		\$341,791	\$621,320

Material/Labor Cost		\$621,320
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$456,825
General Contractor Mark Up at 20.0%	+	\$91,365
Construction Cost		\$548,190
Professional Fees at 16.0%	+	\$87,710
Total Project Cost		\$635,900

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMEL03	Title:	ELECTRICAL SYSTEM REPAIRS
Priority Sequence:	9		
Priority Class:	3		
Category Code:	EL3B	System:	ELECTRICAL
		Component:	SECONDARY DISTRIBUTION
		Element:	DISTRIBUTION NETWORK
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Articles 100, 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	10/12/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, B		

Project Description

Aging devices, including wall switches and receptacles, are potential shock and fire hazards. Replace all worn or damaged switches, receptacles, and cover plates. Install GFCI receptacles where required by code. Test power panels for proper operation, replacing faulty breakers as needed. Update power panel directories for circuit identification.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMEL03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Switches, receptacles, cover plates, breakers, miscellaneous materials	SF	32,428	\$0.22	\$7,134	\$0.33	\$10,701	\$17,835
Project Totals:				\$7,134		\$10,701	\$17,835

Material/Labor Cost		\$17,835
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$12,674</u>
General Contractor Mark Up at 20.0%	+	<u>\$2,535</u>
Construction Cost		<u>\$15,209</u>
Professional Fees at 16.0%	+	<u>\$2,433</u>
Total Project Cost		<u>\$17,642</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMEL02	Title:	INTERIOR LIGHTING UPGRADE
Priority Sequence:	10		
Priority Class:	3		
Category Code:	EL4B	System:	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	INTERIOR LIGHTING
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Energy Conservation	\$4,960	
Code Application:	NEC	Articles 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	10/12/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, B		

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.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMEL02

Task Cost Estimate

Task Description	Unit	Qty	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	32,428	\$1.93	\$62,586	\$2.36	\$76,530	\$139,116
Project Totals:				\$62,586		\$76,530	\$139,116

Material/Labor Cost		\$139,116
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$102,284
General Contractor Mark Up at 20.0%	+	\$20,457
Construction Cost		\$122,741
Professional Fees at 16.0%	+	\$19,639
Total Project Cost		\$142,379

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMEL01	Title:	REPLACE 120/208 VOLT SWITCHGEAR
Priority Sequence:	11		
Priority Class:	3		
Category Code:	EL2A	System:	ELECTRICAL
		Component:	MAIN DISTRIBUTION PANELS
		Element:	CONDITION UPGRADE
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Article 230	
Project Class:	Capital Renewal		
Project Date:	10/12/2009		
Project Location:	Item Only: Floor(s) B		

Project Description

The 120/208 volt switchgear is recommended for replacement. The existing aged circuit breakers could serve as fire hazards should they fail to interrupt a circuit in an overload or short circuit condition. The switchgear should be replaced in its entirety. New switchgear components should include a ground fault main circuit breaker, digital metering for remote control / monitoring, and transient surge protection.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMEL01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
120/208 V switchgear, includes switchboard, circuit breakers, feeders, digital metering, transient surge protector, and demolition of existing equipment	AMP	1,000	\$15.52	\$15,520	\$13.01	\$13,010	\$28,530
Project Totals:				\$15,520		\$13,010	\$28,530

Material/Labor Cost		\$28,530
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$22,303
General Contractor Mark Up at 20.0%	+	\$4,461
Construction Cost		\$26,763
Professional Fees at 16.0%	+	\$4,282
Total Project Cost		\$31,045

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMIS01	Title:	REFINISH FLOORING
Priority Sequence:	12		
Priority Class:	3		
Category Code:	IS1A	System:	INTERIOR/FINISH SYS.
		Component:	FLOOR
		Element:	FINISHES-DRY

Building Code: FLEM
Building Name: FLEMING RESIDENCE HALL
Subclass/Savings: Not Applicable

Code Application: Not Applicable
EPA 40 CFR 61.M, 763
OSHA 29 CFR 1910.1001, 1926.1101

Project Class: Deferred Maintenance
Project Date: 10/9/2009

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

Project Description

The flooring finishes include tiled pavers in portions of the public lobby areas, vinyl composition tiles (VCT) in kitchens and work areas, carpeting in circulation corridors, dorm rooms, offices, and administrative areas, and ceramic tiles in public restrooms and shower rooms. The carpet and ceramic tile finishes are recommended for upgrade. The back-of-house service areas, mechanical and electrical rooms, and unoccupied storage areas typically have either VCT or natural sealed concrete flooring. An ACM abatement allowance is provided.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMIS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Carpet	SF	20,750	\$5.36	\$111,220	\$2.00	\$41,500	\$152,720
Ceramic tile	SF	2,590	\$7.24	\$18,752	\$10.63	\$27,532	\$46,283
Allowance for abatement of suspected ACM	SF	400	\$0.23	\$92	\$1.60	\$640	\$732
Project Totals:				\$130,064		\$69,672	\$199,735

Material/Labor Cost		\$199,735
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$166,716</u>
General Contractor Mark Up at 20.0%	+	<u>\$33,343</u>
Construction Cost		<u>\$200,059</u>
Professional Fees at 16.0%	+	<u>\$32,009</u>
Total Project Cost		<u>\$232,068</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMIS02	Title:	REFINISH WALLS
Priority Sequence:	13		
Priority Class:	3		
Category Code:	IS2B	System:	INTERIOR/FINISH SYS.
		Component:	PARTITIONS
		Element:	FINISHES

Building Code: FLEM
Building Name: FLEMING RESIDENCE HALL
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, B

Project Description

Interior walls are typically a framed stud and trowel applied cementitious plaster wall assembly with a painted applied finish. The wall finishes vary in age, type, and condition, and should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMIS02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Standard wall finish (paint, wall covering, etc.)	SF	92,350	\$0.17	\$15,700	\$0.81	\$74,804	\$90,503
Project Totals:				\$15,700		\$74,804	\$90,503

Material/Labor Cost		\$90,503
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$54,184</u>
General Contractor Mark Up at 20.0%	+	<u>\$10,837</u>
Construction Cost		<u>\$65,020</u>
Professional Fees at 16.0%	+	<u>\$10,403</u>
Total Project Cost		<u>\$75,424</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMIS05	Title:	MAJOR UPGRADE AND RESTROOM RENOVATIONS
Priority Sequence:	14		
Priority Class:	3		
Category Code:	IS6D	System:	INTERIOR/FINISH SYS.
		Component:	GENERAL
		Element:	OTHER
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
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, B		

Project Description

The shared restrooms on each floor have fixtures and finishes that are mostly original to the year of construction and some subsequent partial renovations. The fixtures are sound but aged and inefficient, and the finishes are outdated and deteriorating in some areas. A comprehensive restroom renovation, including new fixtures, finishes, partitions, accessories, and associated common corridor dual level drinking fountains, is recommended. All future renovations provide for full compliance with ADA accessibility guidelines.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMIS05

Task Cost Estimate

Task Description	Unit	Qty	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	48	\$1,969	\$94,512	\$1,699	\$81,552	\$176,064
Dual level drinking fountain	EA	4	\$1,216	\$4,864	\$374	\$1,496	\$6,360
Alcove construction	EA	4	\$877	\$3,508	\$3,742	\$14,968	\$18,476
Project Totals:				\$102,884		\$98,016	\$200,900

Material/Labor Cost		\$200,900
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$153,886
General Contractor Mark Up at 20.0%	+	\$30,777
Construction Cost		\$184,664
Professional Fees at 16.0%	+	\$29,546
Total Project Cost		\$214,210

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMIS04	Title:	REPLACE INTERIOR SERVICE DOORS
Priority Sequence:	15		
Priority Class:	3		
Category Code:	IS4A	System:	INTERIOR/FINISH SYS.
		Component:	DOORS
		Element:	GENERAL
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/9/2009		
Project Location:	Floor-wide: Floor(s) B		

Project Description

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

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMIS04

Task Cost Estimate

Task Description	Unit	Qty	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	8	\$370	\$2,960	\$396	\$3,168	\$6,128
Project Totals:				\$2,960		\$3,168	\$6,128

Material/Labor Cost		\$6,128
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$4,606
General Contractor Mark Up at 20.0%	+	\$921
Construction Cost		\$5,527
Professional Fees at 16.0%	+	\$884
Total Project Cost		\$6,411

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMAC01	Title:	ELEVATOR INSTALLATION
Priority Sequence:	16		
Priority Class:	4		
Category Code:	AC3A	System:	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	LIFTS/RAMPS/ELEVATORS
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	ASME	A17.1	
	ADAAG	407	
Project Class:	Plant Adaption		
Project Date:	10/9/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

Accessibility legislation requires wheelchair access to all floors in a building over two stories in height. There is no wheelchair access to the upper floors of this residential building. The installation of an interior hydraulic elevator is proposed. This installation may entail using at least one resident room for the shaft and/or lobby. This loss of revenue will need to be calculated to determine the final true cost of this project.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMAC01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Elevator installation within the current building footprint (two stops)	SYS	1	\$72,266	\$72,266	\$53,731	\$53,731	\$125,997
Each additional stop	FLR	1	\$16,661	\$16,661	\$35,144	\$35,144	\$51,805
Project Totals:				\$88,927		\$88,875	\$177,802

Material/Labor Cost		\$177,802
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$135,142</u>
General Contractor Mark Up at 20.0%	+	<u>\$27,028</u>
Construction Cost		<u>\$162,171</u>
Professional Fees at 16.0%	+	<u>\$25,947</u>
Total Project Cost		<u>\$188,118</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMAC02	Title:	STAIR SAFETY UPGRADES
Priority Sequence:	17		
Priority Class:	4		
Category Code:	AC3B	System:	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	STAIRS AND RAILINGS
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
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, B		

Project Description

Current accessibility legislation 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). The finishes on the stairs have deteriorated or are otherwise unsafe. 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. Future renovation efforts should include comprehensive stair railing and finish upgrades to improve user safety.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMAC02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system per floor	FLR	6	\$573	\$3,438	\$521	\$3,126	\$6,564
Center handrail / guardrail system per floor	FLR	2	\$1,297	\$2,594	\$833	\$1,666	\$4,260
Stair tread and landing finish upgrades per floor	FLR	6	\$1,449	\$8,694	\$773	\$4,638	\$13,332
Project Totals:				\$14,726		\$9,430	\$24,156

Material/Labor Cost		\$24,156
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$19,667
General Contractor Mark Up at 20.0%	+	\$3,933
Construction Cost		\$23,600
Professional Fees at 16.0%	+	\$3,776
Total Project Cost		\$27,376

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMAC03	Title:	ACCESSIBLE BUILDING ENTRANCE UPGRADE
Priority Sequence:	18		
Priority Class:	4		
Category Code:	AC2A	System:	ACCESSIBILITY
		Component:	BUILDING ENTRY
		Element:	GENERAL
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	403.6, 405, 406, 410	
Project Class:	Plant Adaption		
Project Date:	10/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

Current legislation related to accessibility requires that at least one building entrance be wheelchair accessible. To comply with the intent of this legislation, it is recommended that a wheelchair ramp be installed at the entrance closest to the nearest primary sidewalk circulation area. Upgrades and modifications to the existing exterior stairway handrails for ADA compliance are also required.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMAC03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Ramp, including handrails	VFT	6	\$1,999	\$11,994	\$1,770	\$10,620	\$22,614
Exterior handrail upgrades and modifications at existing stairs	LOT	1	\$2,485	\$2,485	\$3,455	\$3,455	\$5,940
Project Totals:				\$14,479		\$14,075	\$28,554

Material/Labor Cost		\$28,554
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$21,801
General Contractor Mark Up at 20.0%	+	\$4,360
Construction Cost		\$26,161
Professional Fees at 16.0%	+	\$4,186
Total Project Cost		\$30,347

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEMIS03	Title:	REFINISH CEILINGS
Priority Sequence:	19		
Priority Class:	4		
Category Code:	IS3B	System:	INTERIOR/FINISH SYS.
		Component:	CEILINGS
		Element:	REPLACEMENT

Building Code: FLEM
Building Name: FLEMING RESIDENCE HALL
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, B

Project Description

The predominant ceiling systems are suspended acoustical tiles, with painted drop soffits and painted plaster in some service areas, restrooms, and the main lobby. Ceiling finish applications vary in age, type, and condition, and should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts. Also, the attic level ceiling insulation has been damaged and is no longer effective. It should be replaced to improve the thermal performance of the building.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMIS03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Remove and replace attic insulation system	SF	16,000	\$0.85	\$13,600	\$1.25	\$20,000	\$33,600
Painted ceiling finish application	SF	5,190	\$0.17	\$882	\$0.81	\$4,204	\$5,086
Project Totals:				\$14,482		\$24,204	\$38,686

Material/Labor Cost		\$38,686
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$27,000</u>
General Contractor Mark Up at 20.0%	+	<u>\$5,400</u>
Construction Cost		<u>\$32,400</u>
Professional Fees at 16.0%	+	<u>\$5,184</u>
Total Project Cost		<u>\$37,584</u>

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Description

Project Number:	FLEML01	Title:	WATER SUPPLY PIPING REPLACEMENT
Priority Sequence:	20		
Priority Class:	4		
Category Code:	PL1A	System:	PLUMBING
		Component:	DOMESTIC WATER
		Element:	PIPING NETWORK
Building Code:	FLEM		
Building Name:	FLEMING RESIDENCE HALL		
Subclass/Savings:	Not Applicable		
Code Application:	IPC	Chapter 6	
Project Class:	Capital Renewal		
Project Date:	10/12/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, B		

Project Description

Replacement of the aging water piping network 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.

Specific Project Details
Facility Condition Analysis
Section Three
FLEM : FLEMING RESIDENCE HALL

Project Cost

Project Number: FLEMPLO1

Task Cost Estimate

Task Description	Unit	Qty	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	32,428	\$1.14	\$36,968	\$2.85	\$92,420	\$129,388
Project Totals:				\$36,968		\$92,420	\$129,388

Material/Labor Cost		\$129,388
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$84,638
General Contractor Mark Up at 20.0%	+	\$16,928
Construction Cost		\$101,566
Professional Fees at 16.0%	+	\$16,251
Total Project Cost		\$117,816

FACILITY CONDITION ANALYSIS

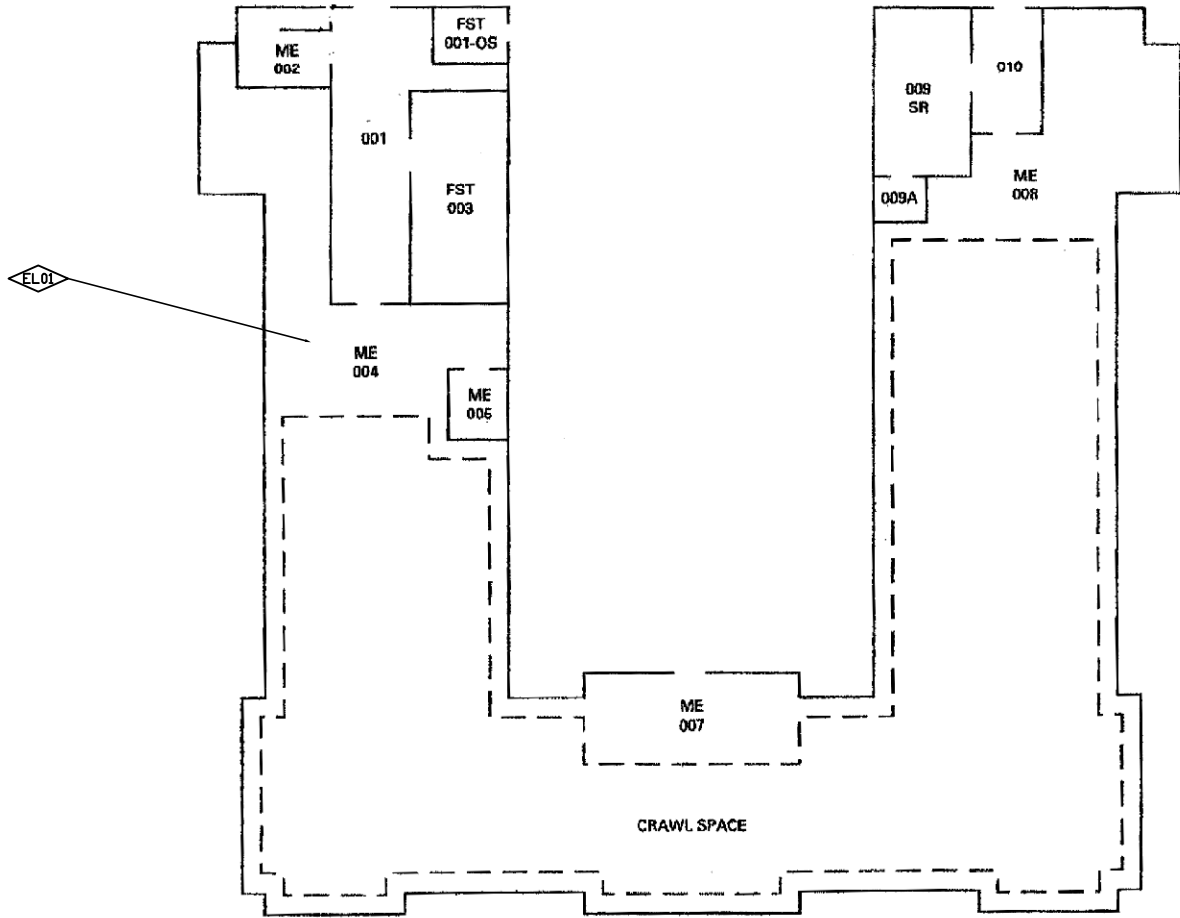
SECTION 4

**DRAWINGS
AND PROJECT LOCATIONS**



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: 10/30/09

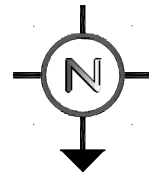
Drawn by: J.T.V.

Project No. 09-041

BASEMENT
FLOOR
PLAN

Sheet No.

1 of 3

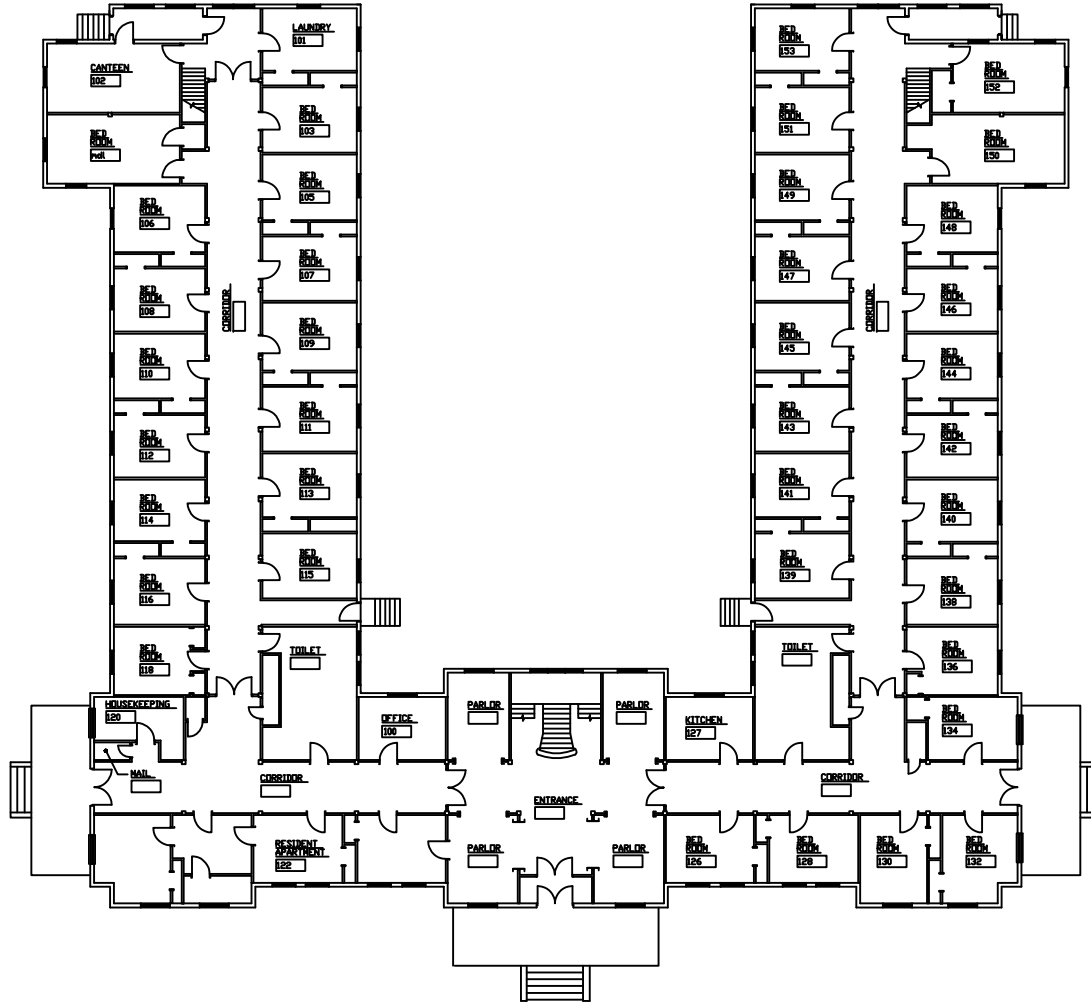


- AC02
- EL02
- EL03
- FS01
- FS02
- HV01
- IS01
- IS02
- IS03
- IS04
- IS05
- PL01
- ST01



FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376



- AC01
- ES01
- ES02
- AC02
- AC03
- EL02
- EL03
- ES03
- FS01
- FS02
- HV01
- IS01
- IS02
- IS03
- IS05
- PL01

PROJECT NUMBER
APPLIES TO
ONE ROOM ONLY

PROJECT NUMBER
APPLIES TO
ONE ITEM ONLY

PROJECT NUMBER
APPLIES TO
ENTIRE BUILDING

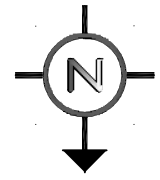
PROJECT NUMBER
APPLIES TO
ENTIRE FLOOR

PROJECT NUMBER
APPLIES TO A SITUATION
OF UNDEFINED EXTENTS

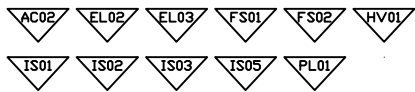
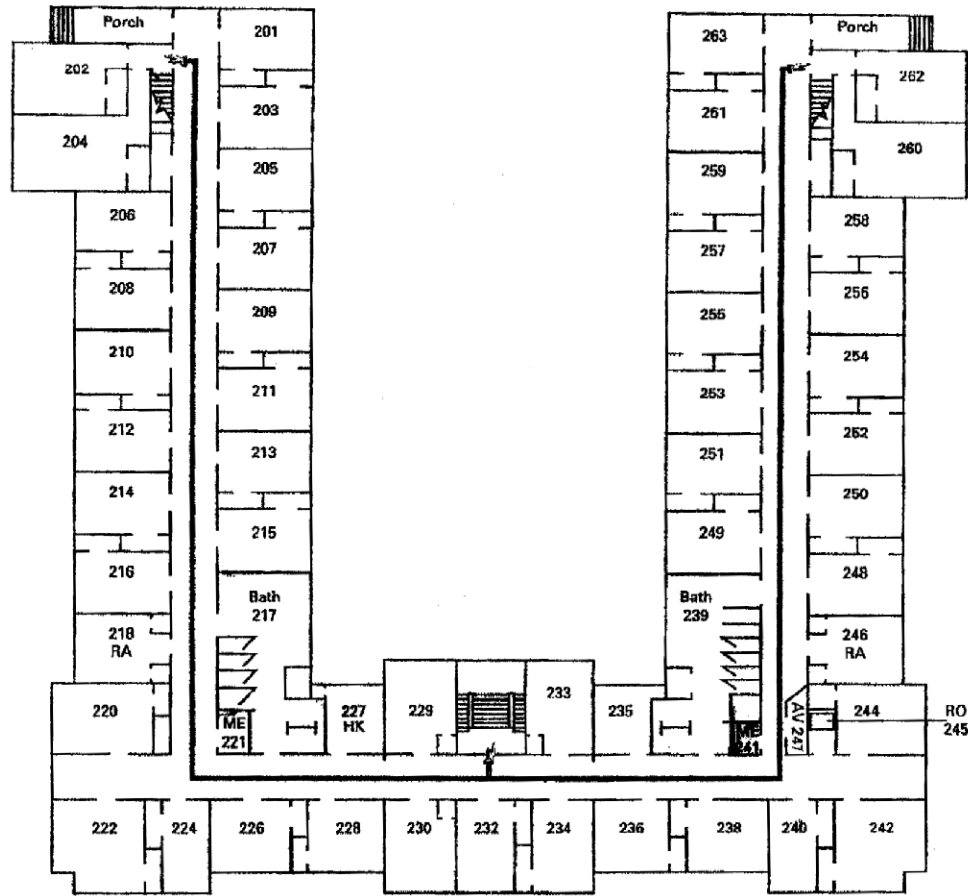
PROJECT NUMBER
APPLIES TO AREA
AS NOTED

Date: 10/30/09
Drawn by: J.T.V.
Project No. 09-041

FIRST
FLOOR
PLAN



ROOF
HV01



FLEMING
RESIDENCE
HALL

BLDG NO. FLEM



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

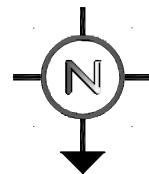
Date: 10/30/09

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
FLEM : FLEMING RESIDENCE HALL

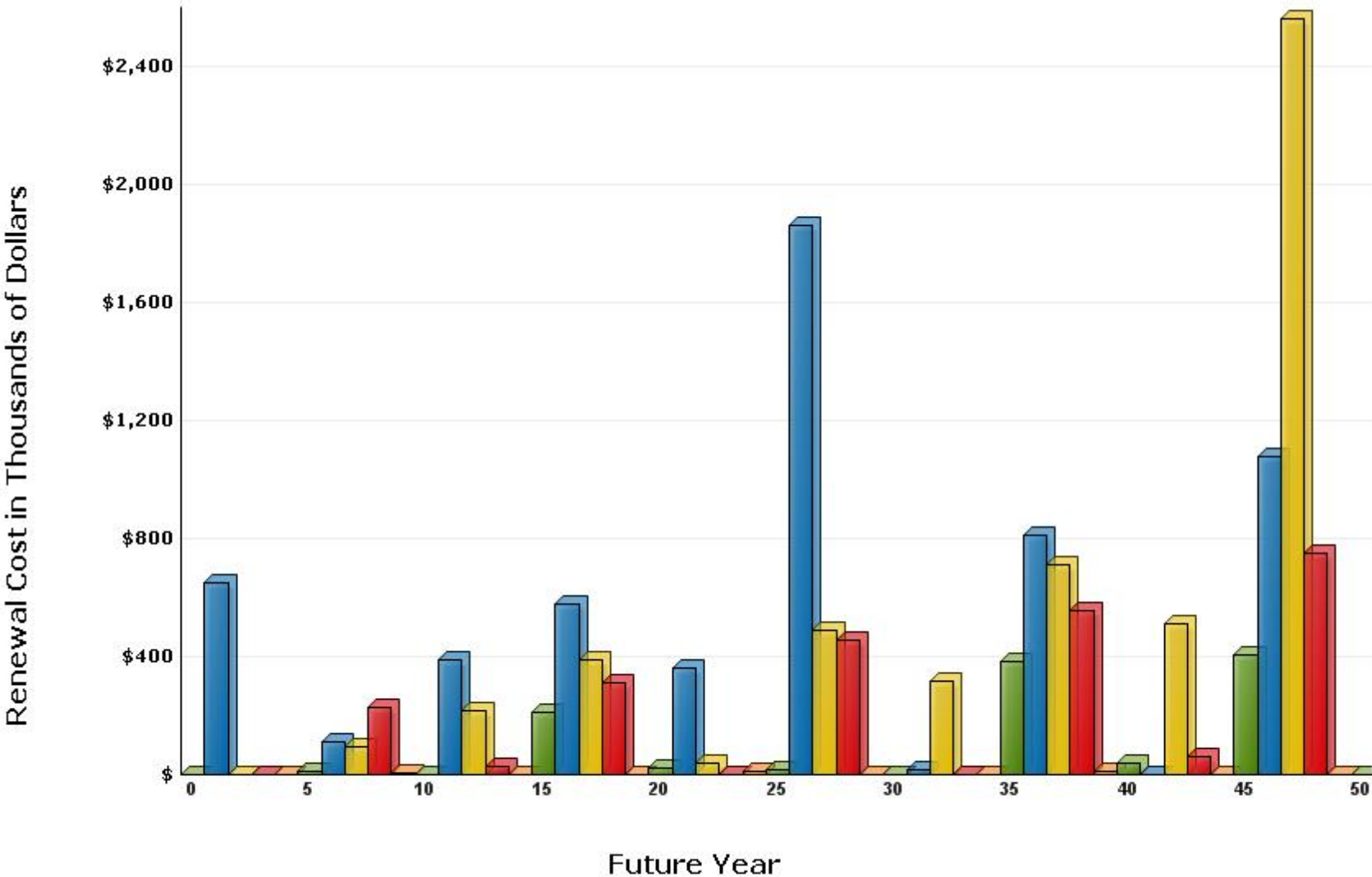
Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
B2010	EXTERIOR FINISH RENEWAL	540	SF	\$1.30		\$704	1923	10
B2010	EXTERIOR FINISH RENEWAL	360	SF	\$1.30		\$469	1923	10
B2010	EXTERIOR FINISH RENEWAL	17,040	SF	\$1.30	.31	\$6,886	1923	10
B2020	STANDARD GLAZING AND CURTAIN WALL	5,360	SF	\$104.04		\$557,636	2000	55
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	10	LEAF	\$4,311.24		\$43,112	2005	20
B3010	TILE ROOF	20,000	SF	\$19.15		\$382,926	2000	70
B3010	PAINTED METAL ROOF	1,200	SF	\$7.07		\$8,487	2000	30
B3010	STANDARD METAL GUTTER SYSTEM	780	LF	\$9.80		\$7,644	2000	30
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	21	LEAF	\$783.68		\$16,457	2005	35
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	8	LEAF	\$783.68		\$6,269	1985	35
C1020	RATED DOOR AND FRAME INCLUDING HARDWARE	72	LEAF	\$1,489.06		\$107,212	2005	35
C1020	INTERIOR DOOR HARDWARE	72	EA	\$423.04		\$30,459	2005	15
C1020	INTERIOR DOOR HARDWARE	21	EA	\$423.04		\$8,884	2005	15
C1020	INTERIOR DOOR HARDWARE	8	EA	\$423.04		\$3,384	1985	15
C3010	STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.)	92,350	SF	\$0.80		\$73,976	2005	10
C3020	CARPET	20,750	SF	\$8.75		\$181,489	2006	10
C3020	VINYL FLOOR TILE	2,590	SF	\$6.59		\$17,063	2006	15
C3020	CERAMIC FLOOR TILE	2,590	SF	\$17.36		\$44,969	1985	20
C3030	ACOUSTICAL TILE CEILING SYSTEM	20,750	SF	\$4.99		\$103,605	2005	15
C3030	PAINTED CEILING FINISH APPLICATION	5,190	SF	\$0.80		\$4,157	2005	15
D2010	PLUMBING FIXTURES - DORMITORY / APARTMENTS	32,428	SF	\$4.99		\$161,728	1984	35
D2020	WATER PIPING - DORMITORY / APARTMENTS	32,428	SF	\$3.55		\$115,161	1984	35
D2020	WATER HEATER, SHELL AND TUBE HEAT EXCHANGER	280	GPM	\$355.69		\$99,593	2005	24
D2030	DRAIN PIPING - DORMITORY / APARTMENTS	32,428	SF	\$5.40		\$175,148	1984	40
D2050	AIR COMPRESSOR PACKAGE (AVERAGE SIZE)	1	SYS	\$6,456.49		\$6,456	1984	25
D3030	CHILLER - AIR COOLED (OVER 100 TONS)	110	TON	\$1,173.39		\$129,073	1983	20
D3040	CONDENSATE RECEIVER	1	SYS	\$9,504.01		\$9,504	1984	15
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	2	EA	\$2,768.62		\$5,537	1984	20

**Life Cycle Model
Building Component Summary
FLEM : FLEMING RESIDENCE HALL**

Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
D3040	EXHAUST FAN - UTILITY SET OR SIMILAR	2	EA	\$3,660.81		\$7,322	1984	20
D3040	HVAC SYSTEM - DORMITORY / APARTMENTS	32,428	SF	\$19.20		\$622,583	1984	25
D3040	BASE MTD. PUMP - UP TO 15 HP	15	HP	\$3,175.77		\$47,637	2005	20
D3040	BASE MTD. PUMP - UP TO 15 HP	6	HP	\$3,175.77		\$19,055	2005	20
D3050	SPLIT DX SYSTEM	2	TON	\$2,143.89		\$4,288	2002	15
D4010	FIRE SPRINKLER SYSTEM	24,320	SF	\$6.86		\$166,862	2008	80
D4010	FIRE SPRINKLER SYSTEM	8,110	SF	\$6.86		\$55,643	2008	80
D4010	FIRE SPRINKLER HEADS	24,320	SF	\$0.38		\$9,172	2008	20
D4010	FIRE SPRINKLER HEADS	8,110	SF	\$0.38		\$3,059	2008	20
D5010	ELECTRICAL SYSTEM - DORMITORY / APARTMENTS	32,428	SF	\$7.21		\$233,724	1984	50
D5010	ELECTRICAL SWITCHGEAR 120/208V	1,000	AMP	\$32.96		\$32,964	1984	20
D5020	EXIT SIGNS (CENTRAL POWER)	36	EA	\$163.78		\$5,896	1999	20
D5020	LIGHTING - DORMITORY / APARTMENTS	32,428	SF	\$4.30		\$139,449	1984	20
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	32,428	SF	\$2.61		\$84,786	1999	15
E2010	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	1	LOT	\$5,940.22		<u>\$5,940</u>	2005	20
						\$3,746,369		

Life Cycle Model Expenditure Projections

FLEM : FLEMING RESIDENCE HALL



Average Annual Renewal Cost Per SqFt \$3.84

FACILITY CONDITION ANALYSIS

SECTION 6

PHOTOGRAPHIC LOG

**Photo Log - Facility Condition
Analysis
FLEM : FLEMING RESIDENCE HALL**

Photo ID No	Description	Location	Date
FLEM001a	Main building entrance	North elevation	9/15/2009
FLEM001e	Typical LED exit sign	Second floor, east wing, south end	9/16/2009
FLEM002a	Secondary entrance	Northeast building corner	9/15/2009
FLEM002e	Typical water closet with standard flush valve	Second floor, bath 217	9/16/2009
FLEM003a	Building facade	East wing, west elevation	9/15/2009
FLEM003e	Bell-and-hub wastewater piping	Second floor, mechanical room 221	9/16/2009
FLEM004a	Building egress door	West wing, east elevation	9/15/2009
FLEM004e	Typical corner lavatory	Second floor, typical occupant room	9/16/2009
FLEM005a	Building facade	West wing, east elevation	9/15/2009
FLEM005e	Typical supply air grille	Second floor, typical occupant room	9/16/2009
FLEM006a	Building facade	Central wing, south elevation	9/15/2009
FLEM006e	Typical return air grille	Second floor, typical occupant room	9/16/2009
FLEM007a	Building facade	West wing, south elevation	9/15/2009
FLEM007e	Typical shower stall	Second floor, bath 239	9/16/2009
FLEM008a	Building courtyard	South elevation	9/15/2009
FLEM008e	Typical water closet with standard flush valve	Second floor, bath 239	9/16/2009
FLEM009a	Building facade	West wing, south elevation	9/15/2009
FLEM009e	One of two air handling units	Attic, west wing	9/16/2009
FLEM010a	Chiller plant yard	East wing, southeast corner	9/15/2009
FLEM010e	Sprinkler system riser and compressor	Attic, east wing	9/16/2009
FLEM011a	Building facade	West wing, west elevation	9/15/2009
FLEM011e	Utility set exhaust fan	Attic, east wing, south end	9/16/2009
FLEM012a	Building facade	West wing, west elevation	9/15/2009
FLEM012e	Typical laundry sink used for handwashing	First floor, west wing, bath 129	9/16/2009
FLEM013a	Secondary entrance	Northwest building corner	9/15/2009
FLEM013e	HVAC shell-and-tube heat exchanger	Basement, mechanical room 005	9/16/2009
FLEM014a	Secondary entrance	Northwest building corner	9/15/2009
FLEM014e	Duplex condensate receiver	Basement, mechanical room 005	9/16/2009
FLEM015a	Secondary entrance	Northwest building corner	9/15/2009

**Photo Log - Facility Condition
Analysis
FLEM : FLEMING RESIDENCE HALL**

Photo ID No	Description	Location	Date
FLEM015e	Two heating water pumps	Basement, mechanical room 005	9/16/2009
FLEM016a	Building facade	North elevation	9/15/2009
FLEM016e	Two chilled water pumps	Basement, mechanical room 005	9/16/2009
FLEM017a	Building facade	East wing, east elevation	9/15/2009
FLEM017e	Two Aerco domestic water heaters	Basement, mechanical room 004	9/16/2009
FLEM018a	Entrance porch	Northeast building corner	9/15/2009
FLEM018e	Simplex air compressor and refrigerated air dryer	Basement, mechanical room 004	9/16/2009
FLEM019a	Main electrical transformer	Chiller plant yard	9/15/2009
FLEM019e	Notifier fire alarm control panel	Basement, mechanical room 002	9/16/2009
FLEM020a	Damaged brick cheek wall	Main building entry	9/15/2009
FLEM020e	General view	North exterior	9/16/2009
FLEM021a	Basement wall leak	East wing, room FST 003	9/15/2009
FLEM021e	General view	West exterior	9/16/2009
FLEM022a	Basement wall leak	East wing, room FST 003	9/15/2009
FLEM023a	Basement wall leak	East wing, room FST 003	9/15/2009
FLEM024a	Failed stormwater system inlet	East wing, at southwest corner	9/15/2009
FLEM025a	Typical facade window	Building exterior	9/15/2009
FLEM026a	Typical exterior service door	Basement entrance, west wing	9/15/2009
FLEM027a	Typical facade window	Building exterior	9/15/2009
FLEM028a	Metal roofing system	East wing, secondary entry northeast	9/15/2009
FLEM029a	Main corridor	Second floor	9/15/2009
FLEM030a	Main corridor	Second floor	9/15/2009
FLEM031a	Service closet flooring	Second floor	9/15/2009
FLEM032a	IT closet, ACM flooring tile	Second floor	9/15/2009
FLEM033a	Void	Void	9/15/2009
FLEM034a	Void	Void	9/15/2009
FLEM035a	Void	Void	9/15/2009
FLEM036a	Aging finishes and fixtures	Common restrooms	9/15/2009
FLEM037a	Damaged and ineffective ceiling insulation	Attic	9/15/2009
FLEM038a	Smoke partition, access door and walkway	Attic	9/15/2009

**Photo Log - Facility Condition
Analysis
FLEM : FLEMING RESIDENCE HALL**

Photo ID No	Description	Location	Date
FLEM039a	Damaged and ineffective ceiling insulation	Attic	9/15/2009
FLEM040a	Missing firesafing	IT closet	9/15/2009
FLEM041a	Mold growth, high moisture environment	Basement, room ME 007	9/15/2009
FLEM042a	Latent ACM piping insulation	Basement, room ME 007	9/15/2009
FLEM043a	Missing railing systems	Egress stairway	9/15/2009
FLEM044a	Missing wall and non-compliant railing systems	Egress stairway	9/15/2009
FLEM045a	Missing wall and non-compliant railing systems	Egress stairway	9/15/2009
FLEM046a	Void	Void	9/15/2009
FLEM047a	Substantially ADA compliant kitchen	Common kitchen, room 127	9/15/2009
FLEM048a	Non-compliant aging drinking fountain	Second floor, main corridor	9/15/2009
FLEM049a	Non-compliant aging drinking fountain	Second floor, main corridor	9/15/2009
FLEM050a	Typical dorm room lavatory	Typical dorm room	9/15/2009
FLEM051a	Non-compliant aging drinking fountain	First floor, main corridor	9/15/2009

Facility Condition Analysis - Photo Log



FLEM001A.jpg



FLEM001E.jpg



FLEM002A.jpg



FLEM002E.jpg



FLEM003A.jpg



FLEM003E.jpg



FLEM004A.jpg



FLEM004E.jpg



FLEM005A.jpg



FLEM005E.jpg



FLEM006A.jpg



FLEM006E.jpg



FLEM007A.jpg



FLEM007E.jpg



FLEM008A.jpg



FLEM008E.jpg



FLEM009A.jpg



FLEM009E.jpg



FLEM010A.jpg



FLEM010E.jpg

Facility Condition Analysis - Photo Log



FLEM011A.jpg



FLEM011E.jpg



FLEM012A.jpg



FLEM012E.jpg



FLEM013A.jpg



FLEM013E.jpg



FLEM014A.jpg



FLEM014E.jpg



FLEM015A.jpg



FLEM015E.jpg



FLEM016A.jpg



FLEM016E.jpg



FLEM017A.jpg



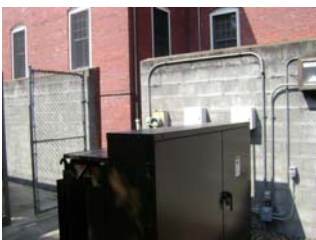
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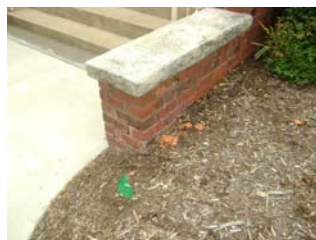
FLEM018E.jpg



FLEM019A.jpg



FLEM019E.jpg



FLEM020A.jpg



FLEM020E.jpg

Facility Condition Analysis - Photo Log



FLEM021A.jpg



FLEM021E.jpg



FLEM022A.jpg



FLEM023A.jpg



FLEM024A.jpg



FLEM025A.jpg



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FLEM030A.jpg



FLEM031A.jpg



FLEM032A.jpg



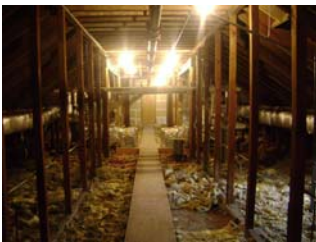
FLEM036A.jpg



FLEM037A.jpg



FLEM038A.jpg



FLEM039A.jpg



FLEM040A.jpg



FLEM041A.jpg



FLEM042A.jpg

Facility Condition Analysis - Photo Log



FLEM043A.jpg



FLEM044A.jpg



FLEM045A.jpg



FLEM047A.jpg



FLEM048A.jpg



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