

EAST CAROLINA UNIVERSITY

MEDICAL HEATING FACILITY

ASSET CODE: UTIL

FACILITY CONDITION ANALYSIS

DECEMBER 17, 2009

EAST CAROLINA UNIVERSITY
Facility Condition Analysis

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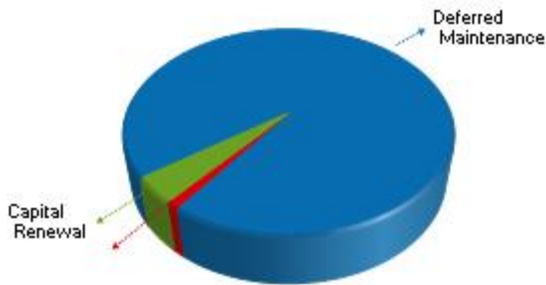
FACILITY CONDITION ANALYSIS

SECTION 1

GENERAL ASSET INFORMATION

EXECUTIVE SUMMARY - MEDICAL HEATING FACILITY

PROJECT COSTS BY CLASSIFICATION



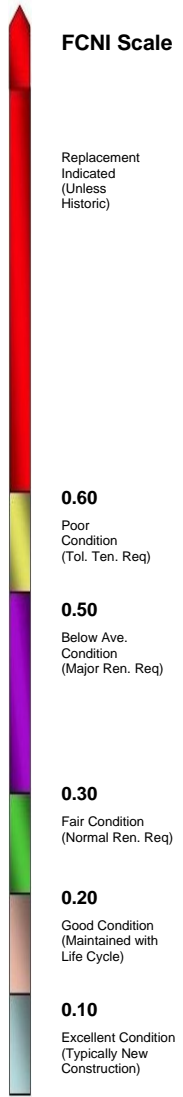
Building Code: UTIL
Building Name: MEDICAL HEATING FACILITY
Year Built: 1980
Building Use: Physical Plant / Utility
Square Feet: 11,863

Project Costs by Priority

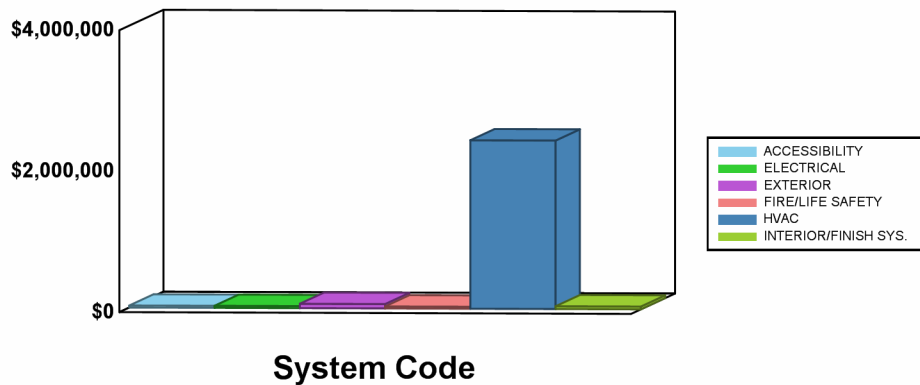
Priority 1:	\$0
Priority 2:	\$19,088
Priority 3:	\$2,521,271
Priority 4:	\$8,288
Total Project Costs:	\$2,548,647

Facility Replacement Cost: \$14,828,750

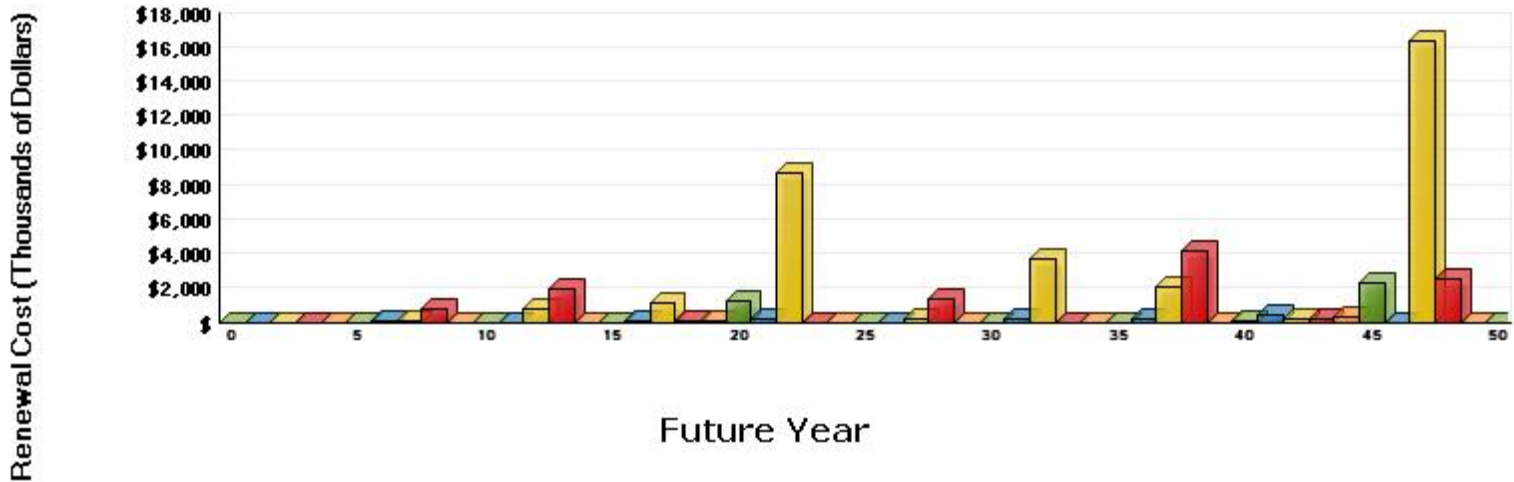
Facility Condition Needs Index (FCNI): 0.17
 (Project Costs / Replacement Cost)



PROJECT COSTS BY SYSTEM CODE



LIFE CYCLE MODEL EXPENDITURE PROJECTIONS



Average Annual Renewal Cost Per SqFt \$32.55

B. ASSET SUMMARY

Built in 1980, the Medical Heating Facility is a single-story utility plant. The building is constructed of a concrete structure on a slab on grade foundation. The exterior finishes consist of brick and metal facades and single-ply membrane roof systems. This structure is one-half of the Heating Plant at the Health Science Campus and is connected to the Incinerator Plant and Utility Building to the north. This portion of the plant houses mechanical systems and shop space that serve the entire campus. An addition to the south facade occurred in 2005 adding an enclosure for the cooling towers. The building now totals 11,863 square feet and is located at the Health Science Campus of East Carolina University in Greenville, North Carolina.

The information in this report was gathered during a site visit that concluded on September 1, 2009.

SITE

Landscaping around the building is minimal and consists of sparse lawns and natural wooded areas. Landscaping is in average condition, but should last the ten-year scope of this report, with routine maintenance. The asphalt paving and concrete sidewalks around the facility is included in the Incinerator Plant and Utility Building report.

EXTERIOR STRUCTURE

Brick veneer is the primary exterior finish. 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. The south facade consists of a metal siding exterior. This was added during a renovation in 2005 and is in good condition.

The single-ply membrane roofing system is not expected to outlast the scope of this analysis. Future budget modeling should include a provision for the replacement of all failing roofing systems. Replace this roof with a similar application.

Exterior doors consist of painted metal service doors and roll-up metal doors. These doors were found in good condition considering their use and should last the ten-year scope of this report. There are no windows associated with this facility.

INTERIOR FINISHES / SYSTEMS

Interior floor finishes include carpet and vinyl in the office areas and concrete in the mechanical spaces. The applications vary in age and condition from area to area. Floor finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Interior wall finishes are mostly painted concrete or plaster walls. These applications vary in age and condition. Wall finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Ceiling finishes include lay-in acoustical in the office areas and painted metal in the mechanical spaces. The applications vary in age and condition from area to area. Ceiling finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts. Interior doors are in good condition throughout the facility. Doors are equipped with proper fire rating and lever door hardware.

ACCESSIBILITY

Access to the building is provided by several at-grade entrances. There are no real transitions in floor level and no vertical transportation is needed. This building serves as a mechanical area for heat generation and is not open to the general public. The single user restroom provided was designed with proper space allocations and fixtures. Doors are equipped with proper signage and lever door hardware.

Present accessibility legislation requires that building amenities be generally accessible to all persons. The configuration of the break room kitchenette is a barrier to accessibility. The installation of wheelchair-accessible kitchenette cabinetry is recommended where applicable.

HEALTH

There were no reports or evidence of any asbestos containing material (ACM) or lead-based paint. No other health related issues were noted during the inspection.

FIRE / LIFE SAFETY

The paths of egress in this building are adequate regarding fire rating. There are no compromises involving doors, partitions or stairs. No fire or life safety issues related to architectural features were observed during the inspection of this facility.

Fire and life safety protection for the second floor area is provided by an addressable fire alarm system equipped with combination audible annunciators and xenon strobes, smoke detectors and fire pulls installed approximately in 1999. The first floor is served by the original system and the fire alarm devices are anticipated the end of its useful service life within the next five years. Renewal of the fire alarm system is recommended.

This facility is protected by a comprehensive, automatic, wet-pipe fire suppression system with fusible link-type sprinkler heads. New frangible glass bulb sprinkler heads serve the second floor addition. The statistical life cycle for a sprinkler head is approximately twenty years. During this time, scale can accumulate inside the head and cause it to malfunction when needed. It is recommended that the aging sprinkler heads be replaced to ensure that proper protection is available. Cost excludes the second floor office areas.

Emergency exits are indicated by original LED-type exit signs connected to the building emergency power network. The exit signs are in fair condition and should remain serviceable for the scope of this report. The path of egress is illuminated by select interior light fixtures connected to the generator power. Based on the daytime inspection, emergency egress illumination level was not easily identified. It is assumed there is sufficient emergency egress lighting, since no deficiencies were reported.

HVAC

Comfort heating and cooling for the second floor addition is served by a rooftop package unit accounted in the attached Incinerator building. Conditioned air for the first floor is limited. A small ceiling-mounted, split DX Magic Air system was observed. This system provides comfort cooling for the control room. The remaining areas of the first floor have natural cross-ventilation. Various steam unit heaters provide heating to the first floor. Building exhaust is provided by a few centrifugal and utility exhaust fans. Building automation is provided by a modern direct digital Johnson Control system. The mechanical systems serving the first floor have been in service since 1980, and anticipated to become maintenance intensive with age. A formal budget was created for the renewal of the mechanical systems serving the first floor area.

Located in this Medical Heating facility are two large steam boilers and a deaerator system. The 500 horsepower, natural gas, Kewanee boiler was installed approximately in 1995, with the larger 1000 horsepower Superior boiler installed in 2005. The deaerator system (DA-1) was installed within the past five years. The steam producing equipment has been well maintained and should remain serviceable for the scope of this assessment. No upgrade is warranted.

Chilled water for the medical campus is produced by seven centrifugal chillers of various capacity and age. Chillers 1 and 2 are original 1,200 ton units installed approximately in 1978. As the demand for chilled water increased, a 910 and 1,060 ton chillers (CHLR-4 and 5) were added in 1996. Three additional chillers were installed in 2003 and 2005 sized at approximately 910 tons, and two at 1,060 tons. Chilled water is circulated by primary and secondary chilled water pumps of various size and condition. Variable frequency drives (VFD) are utilized on the secondary chilled water pumps. Heat rejection for the chilled water system is accomplished via three, two-cell cooling towers. Two of the cooling towers were installed in 2005 as part of the chiller addition. The chilled water system is in fair operable condition, considering the flow issues due to undersized chilled water piping and anticipated maintenance issues with the original chillers. Budgetary consideration is allocated for the renewal of the two, original 1,200 ton chillers and original cooling tower (CT-1) within the next five years. Cost estimate includes funding to replace a portion of the undersized chilled water piping.

ELECTRICAL

High voltage power is reduced to 480/277 volt service via service entrance transformer. A new 4000 amp, Square D switchgear was observed in the electrical room of the 2005 addition. Mechanical equipment and lighting is circuited to the 480/277 volt system. Dry-type transformers reduce the 480/277 volt to 120/208 volt power for receptacle and miscellaneous low voltage power requirements. The main switchgear and electrical distribution network in this facility is also in good operating condition. However, it is recommended that minor deficiencies in the electrical distribution network be rectified. Such remedies include, but are not limited to, installing additional circuits, replacing worn switches and receptacles, replacing circuit breakers, and updating panel directories.

The current lighting configuration for the first floor of this facility consists of lay-in / surface-mounted, T8 fluorescent fixtures. Lighting for the second floor addition is illuminated by parabolic, T8 fluorescent fixtures. Based on life cycle depletion, replacement of the first floor interior fixtures is recommended. Select lamps with the same color temperatures and rendering indexes for lighting uniformity. Install occupancy sensors in select areas for additional energy conservation.

The exterior areas adjacent to the building are illuminated by building-mounted high, intensity discharge (HID) fixtures and pole-mounted street lighting. These exterior light fixtures are currently in good condition, no upgrade is warranted.

PLUMBING

Potable water is distributed throughout this facility via a copper piping network. Sanitary waste and storm water piping is of cast-iron, no-hub construction with copper run-outs. The supply and drain piping networks are adequate and in good condition. They will likely provide reliable service throughout the scope of this analysis. The plumbing fixtures are in good working order and there are no condition-related projects to recommend, at this time.

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 1, 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
 UTIL : MEDICAL HEATING FACILITY**

System Code	System Description	Priority Classes				Subtotal
		1	2	3	4	
AC	ACCESSIBILITY	0	0	0	8,288	8,288
EL	ELECTRICAL	0	0	25,928	0	25,928
ES	EXTERIOR	0	0	62,331	0	62,331
FS	FIRE/LIFE SAFETY	0	19,088	2,677	0	21,765
HV	HVAC	0	0	2,390,656	0	2,390,656
IS	INTERIOR/FINISH SYS.	0	0	39,680	0	39,680
	TOTALS	0	19,088	2,521,271	8,288	2,548,647

Facility Replacement Cost	\$14,828,750
Facility Condition Needs Index	0.17

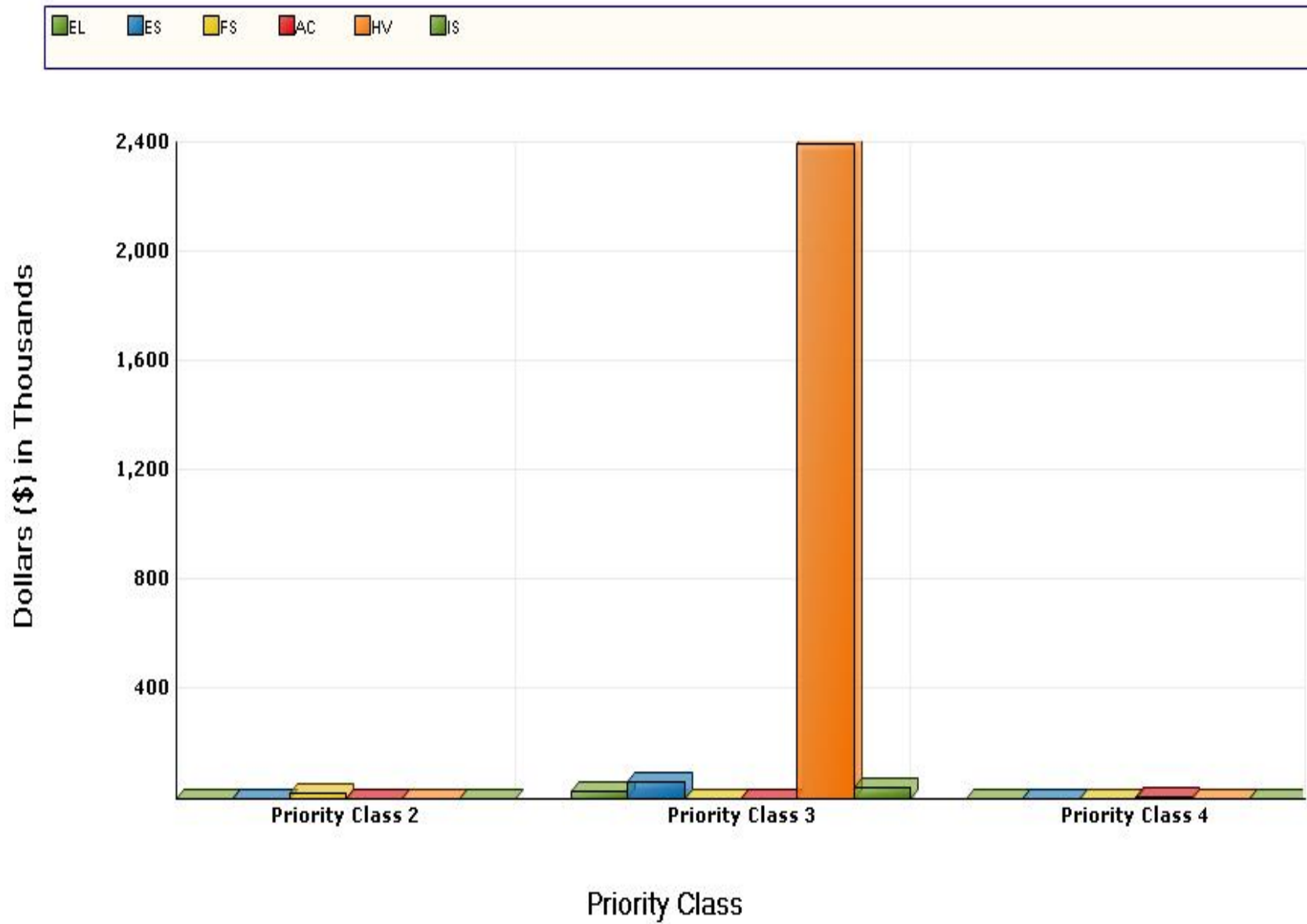
Gross Square Feet	11,863
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Total Cost Per Square Foot	\$214.84
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FACILITY CONDITION ANALYSIS

System Code by Priority Class

UTIL : MEDICAL HEATING FACILITY



**Detailed Project Totals
 Facility Condition Analysis
 System Code by Project Class
 UTIL : MEDICAL HEATING FACILITY**

System Code	System Description	Project Classes			Subtotal
		Capital Renewal	Deferred Maintenance	Plant Adaption	
AC	ACCESSIBILITY	0	0	8,288	8,288
EL	ELECTRICAL	0	25,928	0	25,928
ES	EXTERIOR	62,331	0	0	62,331
FS	FIRE/LIFE SAFETY	0	2,677	19,088	21,765
HV	HVAC	0	2,390,656	0	2,390,656
IS	INTERIOR/FINISH SYS.	39,680	0	0	39,680
	TOTALS	102,010	2,419,261	27,376	2,548,647

Facility Replacement Cost	\$14,828,750
Facility Condition Needs Index	0.17

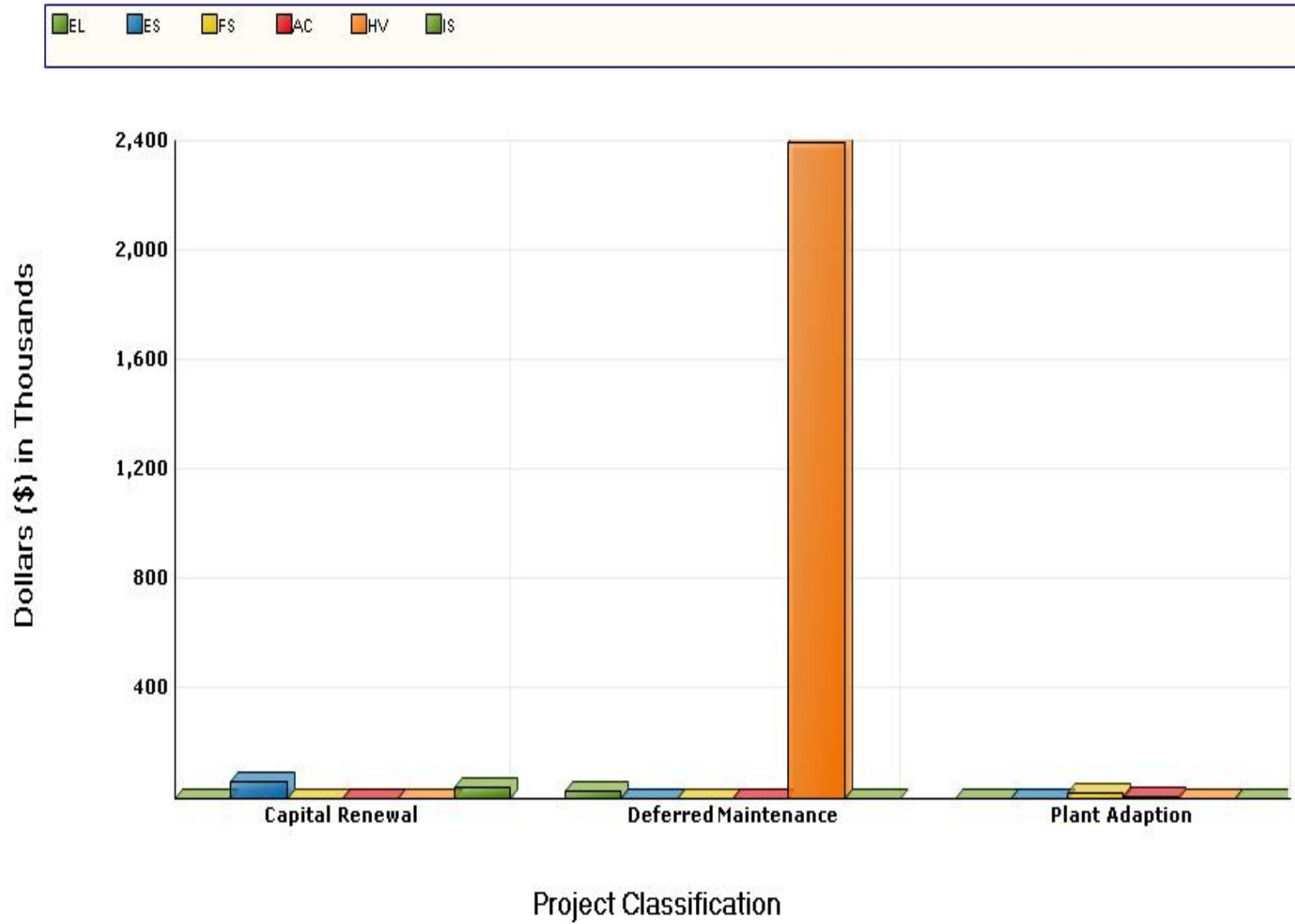
Gross Square Feet	11,863
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Total Cost Per Square Foot	\$214.84
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FACILITY CONDITION ANALYSIS

System Code by Project Class

UTIL : MEDICAL HEATING FACILITY



Detailed Project Summary
Facility Condition Analysis
Project Class by Priority Class
UTIL : MEDICAL HEATING FACILITY

Project Class	Priority Classes				Subtotal
	1	2	3	4	
Capital Renewal	0	0	102,010	0	102,010
Deferred Maintenance	0	0	2,419,261	0	2,419,261
Plant Adaption	0	19,088	0	8,288	27,376
TOTALS	0	19,088	2,521,271	8,288	2,548,647

Facility Replacement Cost	\$14,828,750
Facility Condition Needs Index	0.17

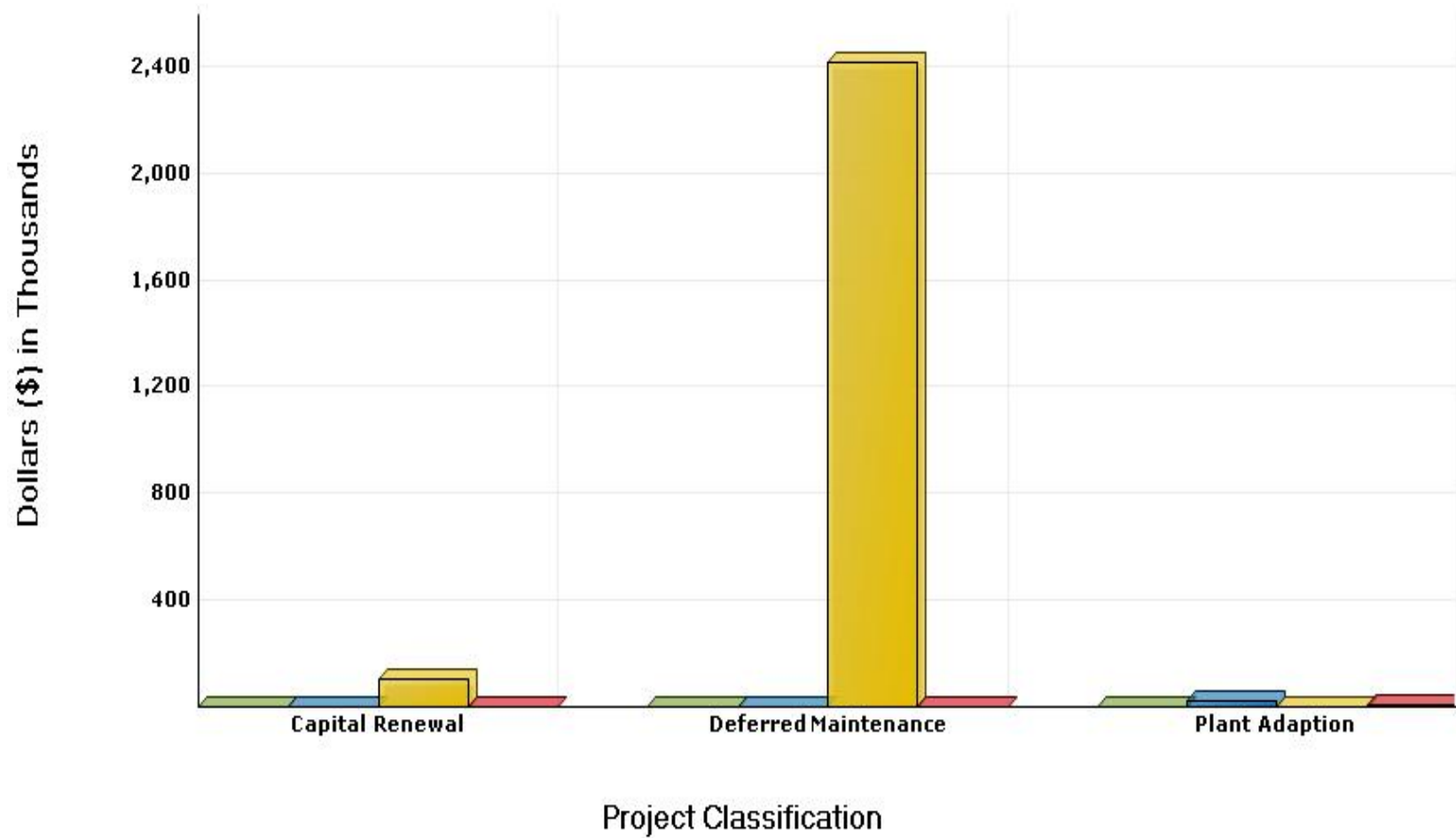
Gross Square Feet	11,863
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Total Cost Per Square Foot	\$214.84
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FACILITY CONDITION ANALYSIS

Project Class by Priority Class

UTIL : MEDICAL HEATING FACILITY



Detailed Project Summary
Facility Condition Analysis
Priority Class - Priority Sequence
 UTIL : MEDICAL HEATING FACILITY

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS2A	UTILFS01	2	1	FIRE ALARM SYSTEM REPLACEMENT	16,456	2,633	19,088
Totals for Priority Class 2					16,456	2,633	19,088
FS3A	UTILFS02	3	2	REPLACE SPRINKLER HEADS	2,307	369	2,677
ES4B	UTILES02	3	3	MEMBRANE ROOF REPLACEMENT	42,336	6,774	49,110
ES2B	UTILES01	3	4	RESTORE BRICK VENEER	11,397	1,824	13,221
HV3A	UTILHV02	3	5	HVAC SYSTEM REPLACEMENT	94,630	15,141	109,770
HV2A	UTILHV01	3	6	REPLACE CHILLED WATER GENERATION EQUIPMENT	1,966,281	314,605	2,280,886
EL3B	UTILEL02	3	7	ELECTRICAL SYSTEM REPAIRS	4,769	763	5,531
EL4B	UTILEL01	3	8	INTERIOR LIGHTING UPGRADE	17,583	2,813	20,397
IS1A	UTILIS01	3	9	REFINISH FLOORING	12,162	1,946	14,107
IS2B	UTILIS02	3	10	REFINISH WALLS	13,082	2,093	15,175
IS3B	UTILIS03	3	11	REFINISH CEILINGS	8,964	1,434	10,398
Totals for Priority Class 3					2,173,510	347,762	2,521,271
AC4A	UTILAC01	4	12	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,145	1,143	8,288
Totals for Priority Class 4					7,145	1,143	8,288
Grand Total:					2,197,110	351,538	2,548,647

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
UTIL : MEDICAL HEATING FACILITY

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS2A	UTILFS01	2	1	FIRE ALARM SYSTEM REPLACEMENT	16,456	2,633	19,088
Totals for Priority Class 2					16,456	2,633	19,088
ES2B	UTILES01	3	4	RESTORE BRICK VENEER	11,397	1,824	13,221
ES4B	UTILES02	3	3	MEMBRANE ROOF REPLACEMENT	42,336	6,774	49,110
IS1A	UTILIS01	3	9	REFINISH FLOORING	12,162	1,946	14,107
IS2B	UTILIS02	3	10	REFINISH WALLS	13,082	2,093	15,175
IS3B	UTILIS03	3	11	REFINISH CEILINGS	8,964	1,434	10,398
FS3A	UTILFS02	3	2	REPLACE SPRINKLER HEADS	2,307	369	2,677
EL4B	UTILEL01	3	8	INTERIOR LIGHTING UPGRADE	17,583	2,813	20,397
EL3B	UTILEL02	3	7	ELECTRICAL SYSTEM REPAIRS	4,769	763	5,531
Totals for Priority Class 3					112,599	18,016	130,615
AC4A	UTILAC01	4	12	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,145	1,143	8,288
Totals for Priority Class 4					7,145	1,143	8,288
Grand Totals for Projects < 100,000					136,199	21,792	157,991

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
 UTIL : MEDICAL HEATING FACILITY

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
HV3A	UTILHV02	3	5	HVAC SYSTEM REPLACEMENT	94,630	15,141	109,770
				Totals for Priority Class 3	94,630	15,141	109,770
				Grand Totals for Projects >= 100,000 and < 500,000	94,630	15,141	109,770

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
 UTIL : MEDICAL HEATING FACILITY

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
HV2A	UTILHV01	3	6	REPLACE CHILLED WATER GENERATION EQUIPMENT	1,966,281	314,605	2,280,886
Totals for Priority Class 3					1,966,281	314,605	2,280,886
Grand Totals for Projects >= 500,000					1,966,281	314,605	2,280,886
Grand Totals For All Projects:					2,197,110	351,538	2,548,647

Detailed Project Summary
Facility Condition Analysis
Project Classification
UTIL : MEDICAL HEATING FACILITY

Cat Code	Project Number	Pri. Seq.	Project Classification	Pri. Cls	Project Title	Total Cost
ES4B	UTILES02	3	Capital Renewal	3	MEMBRANE ROOF REPLACEMENT	49,110
ES2B	UTILES01	4	Capital Renewal	3	RESTORE BRICK VENEER	13,221
IS1A	UTILIS01	9	Capital Renewal	3	REFINISH FLOORING	14,107
IS2B	UTILIS02	10	Capital Renewal	3	REFINISH WALLS	15,175
IS3B	UTILIS03	11	Capital Renewal	3	REFINISH CEILINGS	10,398
Totals for Capital Renewal						102,010
FS3A	UTILFS02	2	Deferred Maintenance	3	REPLACE SPRINKLER HEADS	2,677
HV3A	UTILHV02	5	Deferred Maintenance	3	HVAC SYSTEM REPLACEMENT	109,770
HV2A	UTILHV01	6	Deferred Maintenance	3	REPLACE CHILLED WATER GENERATION EQUIPMENT	2,280,886
EL3B	UTILEL02	7	Deferred Maintenance	3	ELECTRICAL SYSTEM REPAIRS	5,531
EL4B	UTILEL01	8	Deferred Maintenance	3	INTERIOR LIGHTING UPGRADE	20,397
Totals for Deferred Maintenance						2,419,261
FS2A	UTILFS01	1	Plant Adaption	2	FIRE ALARM SYSTEM REPLACEMENT	19,088
AC4A	UTILAC01	12	Plant Adaption	4	INTERIOR AMENITY ACCESSIBILITY UPGRADES	8,288
Totals for Plant Adaption						27,376
Grand Total:						2,548,647

Detailed Project Summary
Facility Condition Analysis
Energy Conservation
 UTIL : MEDICAL HEATING FACILITY

Cat Code	Project Number	Pri Cls	Pri Seq	Project Title	Total Cost	Annual Savings	Simple Payback
ES4B	UTILES02	3	3	MEMBRANE ROOF REPLACEMENT	49,110	700	70.16
HV3A	UTILHV02	3	5	HVAC SYSTEM REPLACEMENT	109,770	3,100	35.41
Totals for Priority Class 3					158,880	3,800	41.81
Grand Total:					158,880	3,800	41.81

Detailed Project Summary
Facility Condition Analysis
Category/System Code
UTIL : MEDICAL HEATING FACILITY

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC4A	UTILAC01	4	12	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,145	1,143	8,288
Totals for System Code: ACCESSIBILITY					7,145	1,143	8,288
EL3B	UTILEL02	3	7	ELECTRICAL SYSTEM REPAIRS	4,769	763	5,531
EL4B	UTILEL01	3	8	INTERIOR LIGHTING UPGRADE	17,583	2,813	20,397
Totals for System Code: ELECTRICAL					22,352	3,576	25,928
ES4B	UTILES02	3	3	MEMBRANE ROOF REPLACEMENT	42,336	6,774	49,110
ES2B	UTILES01	3	4	RESTORE BRICK VENEER	11,397	1,824	13,221
Totals for System Code: EXTERIOR					53,733	8,597	62,331
FS2A	UTILFS01	2	1	FIRE ALARM SYSTEM REPLACEMENT	16,456	2,633	19,088
FS3A	UTILFS02	3	2	REPLACE SPRINKLER HEADS	2,307	369	2,677
Totals for System Code: FIRE/LIFE SAFETY					18,763	3,002	21,765
HV3A	UTILHV02	3	5	HVAC SYSTEM REPLACEMENT	94,630	15,141	109,770
HV2A	UTILHV01	3	6	REPLACE CHILLED WATER GENERATION EQUIPMENT	1,966,281	314,605	2,280,886
Totals for System Code: HVAC					2,060,911	329,746	2,390,656
IS1A	UTILIS01	3	9	REFINISH FLOORING	12,162	1,946	14,107
IS2B	UTILIS02	3	10	REFINISH WALLS	13,082	2,093	15,175
IS3B	UTILIS03	3	11	REFINISH CEILINGS	8,964	1,434	10,398
Totals for System Code: INTERIOR/FINISH SYS.					34,207	5,473	39,680
Grand Total:					2,197,110	351,538	2,548,647

FACILITY CONDITION ANALYSIS

SECTION 3

SPECIFIC PROJECT DETAILS
ILLUSTRATING DESCRIPTION / COST

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILFS01	Title:	FIRE ALARM SYSTEM REPLACEMENT
Priority Sequence:	1		
Priority Class:	2		
Category Code:	FS2A	System:	FIRE/LIFE SAFETY
		Component:	DETECTION ALARM
		Element:	GENERAL
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	702.1	
	NFPA	1, 101	
Project Class:	Plant Adaption		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

Upgrade the existing fire alarm system with a modern application. Specify a point addressable supervised main fire alarm panel with an annunciator. This work includes pull stations, audible and visible alarms, smoke and heat detectors, and 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. Cost excludes the second floor office space.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILFS01

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	7,117	\$1.46	\$10,391	\$0.89	\$6,334	\$16,725
Project Totals:				\$10,391		\$6,334	\$16,725

Material/Labor Cost		\$16,725
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$13,713</u>
General Contractor Mark Up at 20.0%	+	<u>\$2,743</u>
Construction Cost		<u>\$16,456</u>
Professional Fees at 16.0%	+	<u>\$2,633</u>
Total Project Cost		<u>\$19,088</u>

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILFS02	Title:	REPLACE SPRINKLER HEADS
Priority Sequence:	2		
Priority Class:	3		
Category Code:	FS3A	System:	FIRE/LIFE SAFETY
		Component:	SUPPRESSION
		Element:	SPRINKLERS
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	NFPA	1, 13, 13D, 101	
Project Class:	Deferred Maintenance		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

The sprinkler heads are recommended for replacement. The statistical life cycle for a sprinkler head is approximately twenty years. During this time, scale can accumulate inside the head and cause it to malfunction when needed. It is recommended that the aging sprinkler heads be replaced to ensure that proper protection is available. Cost excludes the second floor office space.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILFS02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Fire sprinkler head replacement	SF	7,117	\$0.09	\$641	\$0.35	\$2,491	\$3,131
Project Totals:				\$641		\$2,491	\$3,131

Material/Labor Cost		\$3,131
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,923
General Contractor Mark Up at 20.0%	+	\$385
Construction Cost		\$2,307
Professional Fees at 16.0%	+	\$369
Total Project Cost		\$2,677

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILES02	Title:	MEMBRANE ROOF REPLACEMENT
Priority Sequence:	3		
Priority Class:	3		
Category Code:	ES4B	System:	EXTERIOR
		Component:	ROOF
		Element:	REPLACEMENT
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Energy Conservation	\$700	
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/8/2009		
Project Location:	Floor-wide: Floor(s) R		

Project Description

The single-ply membrane roofing system is not expected to outlast the scope of this analysis. Future budget modeling should include a provision for the replacement of all failing roofing systems. Replace this roof with a similar application.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILES02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Membrane roof	SF	7,500	\$3.79	\$28,425	\$1.73	\$12,975	\$41,400
Project Totals:				\$28,425		\$12,975	\$41,400

Material/Labor Cost		\$41,400
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$35,280</u>
General Contractor Mark Up at 20.0%	+	<u>\$7,056</u>
Construction Cost		<u>\$42,336</u>
Professional Fees at 16.0%	+	<u>\$6,774</u>
Total Project Cost		<u>\$49,110</u>

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILES01	Title:	RESTORE BRICK VENEER
Priority Sequence:	4		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/8/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

Brick veneer is the primary exterior finish. 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.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILES01

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	6,940	\$0.11	\$763	\$0.22	\$1,527	\$2,290
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	694	\$2.45	\$1,700	\$4.99	\$3,463	\$5,163
Applied finish or sealant	SF	6,940	\$0.22	\$1,527	\$0.82	\$5,691	\$7,218
Project Totals:				\$3,991		\$10,681	\$14,671

Material/Labor Cost		\$14,671
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$9,498
General Contractor Mark Up at 20.0%	+	\$1,900
Construction Cost		\$11,397
Professional Fees at 16.0%	+	\$1,824
Total Project Cost		\$13,221

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILHV02	Title:	HVAC SYSTEM REPLACEMENT
Priority Sequence:	5		
Priority Class:	3		
Category Code:	HV3A	System:	HVAC
		Component:	HEATING/COOLING
		Element:	SYSTEM RETROFIT/REPLACE
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Energy Conservation	\$3,100	
Code Application:	ASHRAE	62-2004	
Project Class:	Deferred Maintenance		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1, R		

Project Description

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

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILHV02

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	7,117	\$6.78	\$48,253	\$8.29	\$59,000	\$107,253
Project Totals:				\$48,253		\$59,000	\$107,253

Material/Labor Cost		\$107,253
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$78,858
General Contractor Mark Up at 20.0%	+	\$15,772
Construction Cost		\$94,630
Professional Fees at 16.0%	+	\$15,141
Total Project Cost		\$109,770

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILHV01	Title:	REPLACE CHILLED WATER GENERATION EQUIPMENT
Priority Sequence:	6		
Priority Class:	3		
Category Code:	HV2A	System:	HVAC
		Component:	COOLING
		Element:	CHILLERS/CONTROLS
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	ASHRAE	15-2004	
Project Class:	Deferred Maintenance		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

The original cooling generation equipment (chillers 1 and 2 and cooling tower) is recommended for replacement. This includes the chiller and cooling tower. Replace the chiller with a new energy-efficient unit that contains the latest non-CFC refrigerant. Remove the old chiller and install a new unit including electrical and piping connections, and related controls and programming. Install refrigeration safety systems in accordance with the ASHRAE safety code for mechanical refrigeration. This includes refrigerant leak detection equipment and an interconnected emergency exhaust system. Replace the cooling tower with a new, galvanized steel-enclosed unit. The project cost includes all piping, balancing valves, condenser control system, programming, and start-up.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILHV01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Chillers 1 and 2, all connections and mounting, controls, and demolition of existing unit	TON	2,400	\$462	\$1,108,992	\$80.06	\$192,144	\$1,301,136
Replace original cooling tower to include demolition of existing unit	TON	3,120	\$104	\$323,981	\$60.60	\$189,072	\$513,053
Project Totals:				\$1,432,973		\$381,216	\$1,814,189

Material/Labor Cost		\$1,814,189
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,638,567
General Contractor Mark Up at 20.0%	+	\$327,713
Construction Cost		\$1,966,281
Professional Fees at 16.0%	+	\$314,605
Total Project Cost		\$2,280,886

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILEL02	Title:	ELECTRICAL SYSTEM REPAIRS
Priority Sequence:	7		
Priority Class:	3		
Category Code:	EL3B	System:	ELECTRICAL
		Component:	SECONDARY DISTRIBUTION
		Element:	DISTRIBUTION NETWORK
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Articles 100, 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1, 2		

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
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILEL02

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, and miscellaneous materials	SF	11,863	\$0.19	\$2,254	\$0.28	\$3,322	\$5,576
Project Totals:				\$2,254		\$3,322	\$5,576

Material/Labor Cost		\$5,576
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$3,974
General Contractor Mark Up at 20.0%	+	\$795
Construction Cost		\$4,769
Professional Fees at 16.0%	+	\$763
Total Project Cost		\$5,531

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILEL01	Title:	INTERIOR LIGHTING UPGRADE
Priority Sequence:	8		
Priority Class:	3		
Category Code:	EL4B	System:	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	INTERIOR LIGHTING
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Energy Conservation		
Code Application:	NEC	Articles 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	11/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

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 temperatures and rendering indexes for lighting uniformity. Install occupancy sensors in select areas for additional energy conservation. Cost excludes the second floor office space.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILEL01

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	7,117	\$1.26	\$8,967	\$1.54	\$10,960	\$19,928
Project Totals:				\$8,967		\$10,960	\$19,928

Material/Labor Cost		\$19,928
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$14,653
General Contractor Mark Up at 20.0%	+	\$2,931
Construction Cost		\$17,583
Professional Fees at 16.0%	+	\$2,813
Total Project Cost		\$20,397

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILIS01	Title:	REFINISH FLOORING
Priority Sequence:	9		
Priority Class:	3		
Category Code:	IS1A	System:	INTERIOR/FINISH SYS.
		Component:	FLOOR
		Element:	FINISHES-DRY

Building Code:	UTIL
Building Name:	MEDICAL HEATING FACILITY
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Capital Renewal
Project Date:	10/8/2009

Project Location:	Floor-wide: Floor(s) 1
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Project Description

Interior floor finishes include carpet and vinyl in the office areas and concrete in the mechanical spaces. The applications vary in age and condition from area to area. Floor finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILIS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Carpet	SF	900	\$5.36	\$4,824	\$2.00	\$1,800	\$6,624
Vinyl floor tile	SF	900	\$3.53	\$3,177	\$2.50	\$2,250	\$5,427
Project Totals:				\$8,001		\$4,050	\$12,051

Material/Labor Cost		\$12,051
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$10,135
General Contractor Mark Up at 20.0%	+	\$2,027
Construction Cost		\$12,162
Professional Fees at 16.0%	+	\$1,946
Total Project Cost		\$14,107

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILIS02	Title:	REFINISH WALLS
Priority Sequence:	10		
Priority Class:	3		
Category Code:	IS2B	System:	INTERIOR/FINISH SYS.
		Component:	PARTITIONS
		Element:	FINISHES

Building Code:	UTIL
Building Name:	MEDICAL HEATING FACILITY
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Capital Renewal
Project Date:	10/8/2009

Project Location:	Floor-wide: Floor(s) 1
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Project Description

Interior wall finishes are mostly painted concrete or plaster walls. The applications vary in age and condition. Wall finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILIS02

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	18,580	\$0.17	\$3,159	\$0.81	\$15,050	\$18,208
Project Totals:				\$3,159		\$15,050	\$18,208

Material/Labor Cost		\$18,208
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$10,901</u>
General Contractor Mark Up at 20.0%	+	<u>\$2,180</u>
Construction Cost		<u>\$13,082</u>
Professional Fees at 16.0%	+	<u>\$2,093</u>
Total Project Cost		<u><u>\$15,175</u></u>

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILIS03	Title:	REFINISH CEILINGS
Priority Sequence:	11		
Priority Class:	3		
Category Code:	IS3B	System:	INTERIOR/FINISH SYS.
		Component:	CEILINGS
		Element:	REPLACEMENT

Building Code:	UTIL
Building Name:	MEDICAL HEATING FACILITY
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Capital Renewal
Project Date:	10/8/2009

Project Location:	Floor-wide: Floor(s) 1
--------------------------	------------------------

Project Description

Ceiling finishes include layin acoustical in the office areas and painted metal in the mechanical spaces. The applications vary in age and condition from area to area. Ceiling finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILIS03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Acoustical tile ceiling system	SF	1,070	\$2.12	\$2,268	\$2.98	\$3,189	\$5,457
Painted ceiling finish application	SF	6,050	\$0.17	\$1,029	\$0.81	\$4,901	\$5,929
Project Totals:				\$3,297		\$8,089	\$11,386

Material/Labor Cost		\$11,386
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$7,470
General Contractor Mark Up at 20.0%	+	\$1,494
Construction Cost		\$8,964
Professional Fees at 16.0%	+	\$1,434
Total Project Cost		\$10,398

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Description

Project Number:	UTILAC01	Title:	INTERIOR AMENITY ACCESSIBILITY UPGRADES
Priority Sequence:	12		
Priority Class:	4		
Category Code:	AC4A	System:	ACCESSIBILITY
		Component:	GENERAL
		Element:	FUNCTIONAL SPACE MOD.
Building Code:	UTIL		
Building Name:	MEDICAL HEATING FACILITY		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	804	
Project Class:	Plant Adaption		
Project Date:	10/8/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

Present accessibility legislation requires that building amenities be generally accessible to all persons. The configuration of the break room kitchenette is a barrier to accessibility. The installation of wheelchair-accessible kitchenette cabinetry is recommended where applicable.

Specific Project Details
Facility Condition Analysis
Section Three
UTIL : MEDICAL HEATING FACILITY

Project Cost

Project Number: UTILAC01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
ADA compliant kitchenette unit with base cabinetry, overhead cabinetry, and amenities	SYS	1	\$4,894	\$4,894	\$1,999	\$1,999	\$6,893
Project Totals:				\$4,894		\$1,999	\$6,893

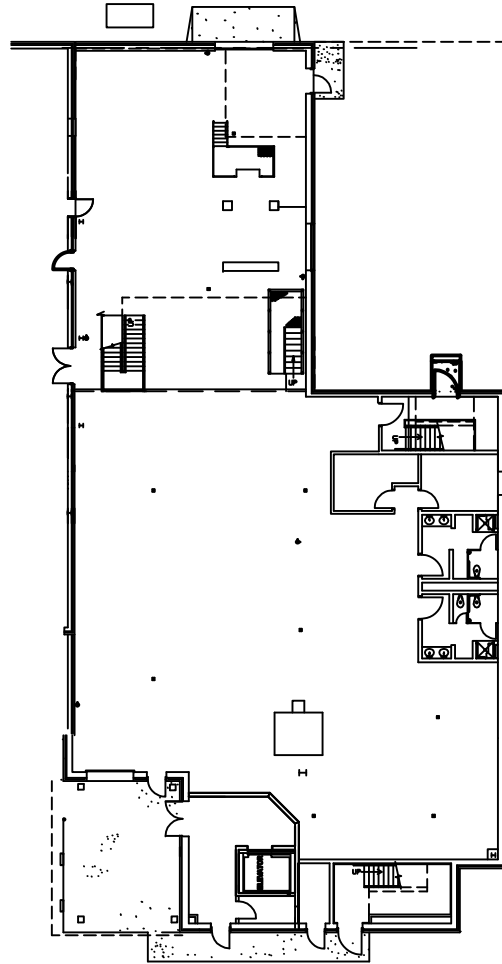
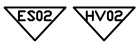
Material/Labor Cost		\$6,893
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$5,954
General Contractor Mark Up at 20.0%	+	\$1,191
Construction Cost		\$7,145
Professional Fees at 16.0%	+	\$1,143
Total Project Cost		\$8,288

FACILITY CONDITION ANALYSIS

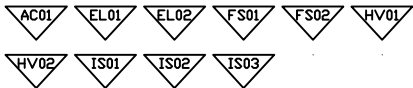
SECTION 4

**DRAWINGS
AND PROJECT LOCATIONS**

ROOF



SECOND









MEDICAL HEATING FACILITY

BLDG NO. UTIL



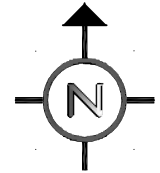
FACILITY CONDITION ANALYSIS
 2165 West Park Court
 Suite N
 Stone Mountain GA 30087
 770.879.7376

-  PROJECT NUMBER APPLIES TO ONE ROOM ONLY
-  PROJECT NUMBER APPLIES TO ONE ITEM ONLY
-  PROJECT NUMBER APPLIES TO ENTIRE BUILDING
-  PROJECT NUMBER APPLIES TO ENTIRE FLOOR
-  PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS
-  PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/15/09
 Drawn by: J.T.V.
 Project No. 09-041

FIRST FLOOR PLAN

Sheet No.
 1 of 1



FACILITY CONDITION ANALYSIS

SECTION 5

LIFE CYCLE MODEL SUMMARY
AND PROJECTIONS

Life Cycle Model
Building Component Summary
UTIL : MEDICAL HEATING FACILITY

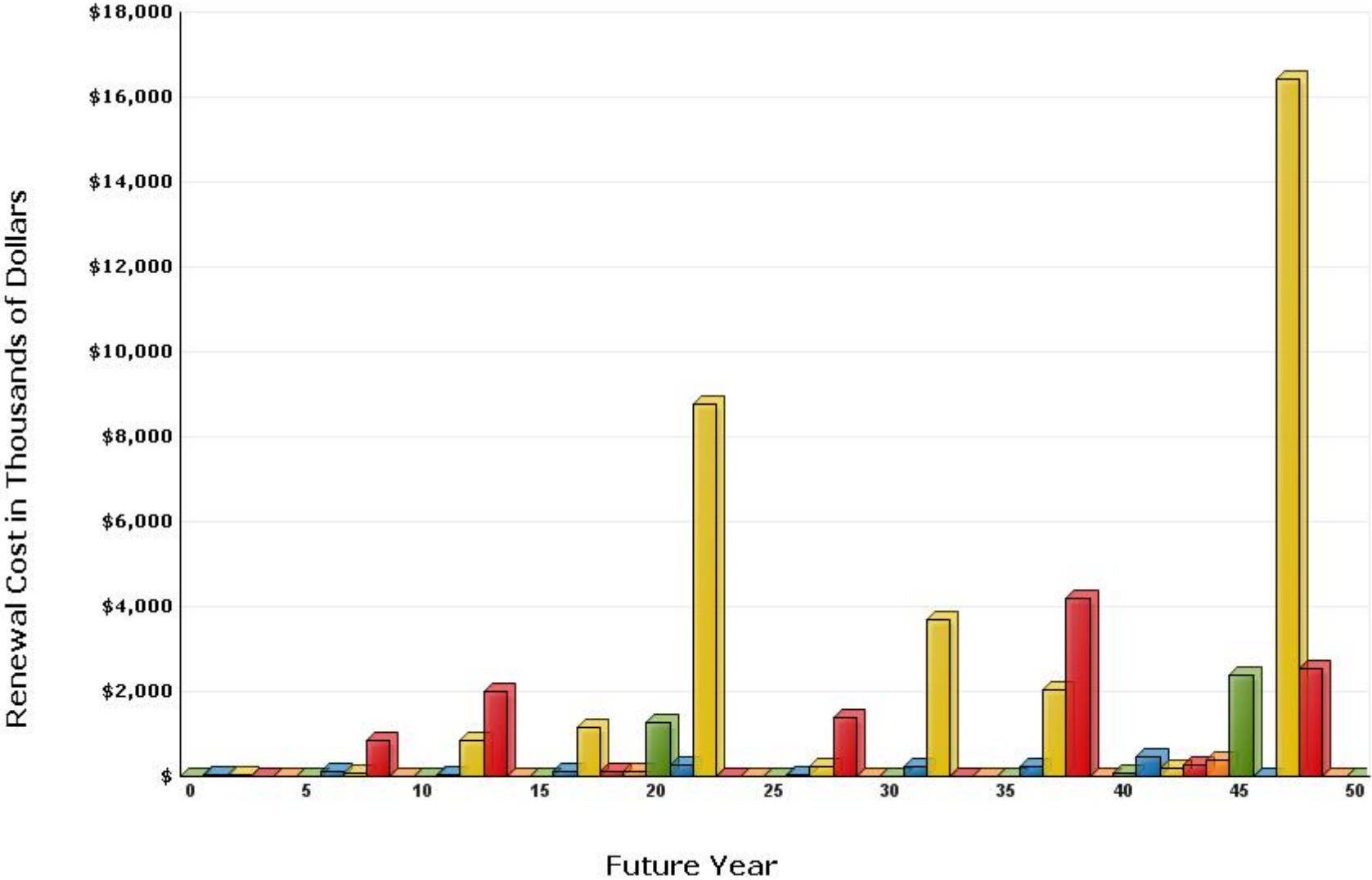
Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
B2010	EXTERIOR FINISH RENEWAL	6,940	SF	\$1.30	.31	\$2,805	1999	10
B2010	PAINTED METAL SIDING	1,740	SF	\$7.36		\$12,807	2005	35
B2030	OVERHEAD GARAGE DOOR	6	EA	\$7,425.74		\$44,554	1999	30
B2030	LOW TRAFFIC EXTERIOR DOOR SYSTEM	16	LEAF	\$2,863.29		\$45,813	1999	40
B3010	MEMBRANE ROOF	7,500	SF	\$6.41		\$48,051	1999	15
C1020	RATED DOOR AND FRAME INCLUDING HARDWARE	15	LEAF	\$1,489.06		\$22,336	1999	35
C1020	INTERIOR DOOR HARDWARE	15	EA	\$423.04		\$6,346	1999	15
C3010	STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.)	18,580	SF	\$0.80		\$14,883	1999	10
C3020	CARPET	900	SF	\$8.75		\$7,872	1999	10
C3020	VINYL FLOOR TILE	900	SF	\$6.59		\$5,929	1999	15
C3020	RESURFACE AND SEAL CONCRETE OR TERRAZZO	7,210	SF	\$5.85		\$42,155	1980	50
C3030	ACOUSTICAL TILE CEILING SYSTEM	1,070	SF	\$4.99		\$5,343	1999	15
C3030	PAINTED CEILING FINISH APPLICATION	6,050	SF	\$0.80		\$4,846	1999	15
D2010	PLUMBING FIXTURES - SHOPS / TRADES	11,863	SF	\$2.90		\$34,452	1980	35
D2020	WATER PIPING - SHOPS / TRADES	11,863	SF	\$2.08		\$24,625	1980	35
D2020	DOMESTIC WATER PRESSURE BOOSTER SYSTEM	1	SYS	\$8,868.58	1.5	\$13,303	2005	20
D2030	DRAIN PIPING - SHOPS / TRADES	11,863	SF	\$3.15		\$37,346	1980	40
D3020	BOILER (OVER 10,000 MBH)	16,709	MBH	\$23.67		\$395,451	1995	35
D3020	BOILER (OVER 10,000 MBH)	33,417	MBH	\$23.67		\$790,879	2005	35
D3020	DEAERATOR SYSTEM - 75,000 lbs/hr	50,000	LBS/HR	\$1.94		\$97,128	2005	30
D3030	CHILLER - WATER COOLED (OVER 1000 TONS)	2,400	TON	\$689.86		\$1,655,674	1980	25
D3030	CHILLER - WATER COOLED (OVER 1000 TONS)	1,970	TON	\$689.86		\$1,359,033	1996	25
D3030	CHILLER - WATER COOLED (OVER 1000 TONS)	910	TON	\$689.86		\$627,777	2003	25
D3030	CHILLER - WATER COOLED (OVER 1000 TONS)	2,220	TON	\$689.86		\$1,531,499	2005	25
D3030	COOLING TOWER (OVER 300 TONS)	2,760	TON	\$184.81		\$510,085	1980	20
D3030	COOLING TOWER (OVER 300 TONS)	3,300	TON	\$184.81		\$609,885	1996	20
D3030	COOLING TOWER (OVER 300 TONS)	2,438	TON	\$184.81		\$450,575	2005	20
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	5	EA	\$2,768.62		\$13,843	1980	20
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	2	EA	\$2,768.62		\$5,537	2005	20

**Life Cycle Model
Building Component Summary
UTIL : MEDICAL HEATING FACILITY**

Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
D3040	EXHAUST FAN - UTILITY SET OR SIMILAR	1	EA	\$3,660.81		\$3,661	1980	20
D3040	HVAC SYSTEM - SHOPS / TRADES	4,746	SF	\$15.10		\$71,672	1999	25
D3040	BASE MTD. PUMP - 15 HP TO 50 HP	50	HP	\$1,142.19		\$57,110	2005	20
D3040	BASE MTD. PUMP - 15 HP TO 50 HP	25	HP	\$1,142.19		\$28,555	2008	20
D3040	BASE MTD. PUMP - 50 HP TO 150 HP	160	HP	\$782.99		\$125,278	1980	25
D3040	BASE MTD. PUMP - 50 HP TO 150 HP	525	HP	\$782.99		\$411,068	2005	25
D3050	PLATE HEAT EXCHANGER	500	GPM	\$154.48		\$77,240	2001	25
D4010	FIRE SPRINKLER SYSTEM	7,117	SF	\$6.86		\$48,830	1980	80
D4010	FIRE SPRINKLER SYSTEM	4,746	SF	\$6.86		\$32,563	1999	80
D4010	FIRE SPRINKLER HEADS	4,746	SF	\$0.38		\$1,790	1999	20
D4010	FIRE SPRINKLER HEADS	7,117	SF	\$0.38		\$2,684	1980	20
D4020	FIRE PUMP - ELECTRIC (750 GPM PLUS)	1,000	GPM	\$60.46		\$60,464	2002	25
D5010	ELECTRICAL SYSTEM - SHOPS / TRADES	4,746	SF	\$8.72		\$41,385	1999	50
D5010	ELECTRICAL SYSTEM - SHOPS / TRADES	7,117	SF	\$8.72		\$62,061	1980	50
D5010	ELECTRICAL SWITCHGEAR 277/480V	4,000	AMP	\$39.56		\$158,254	2005	20
D5010	VARIABLE FREQUENCY DRIVE (10 - 50 HP)	25	HP	\$388.17		\$9,704	1980	12
D5010	VARIABLE FREQUENCY DRIVE (OVER 50 HP)	160	HP	\$237.46		\$37,994	1980	12
D5020	EXIT SIGNS (CENTRAL POWER)	14	EA	\$163.78		\$2,293	2005	20
D5020	EXTERIOR LIGHT (HID)	10	EA	\$689.58		\$6,896	2000	20
D5020	LIGHTING - SHOPS / TRADES	4,746	SF	\$2.80		\$13,285	1999	20
D5020	LIGHTING - SHOPS / TRADES	7,117	SF	\$2.80		\$19,922	1980	20
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	7,117	SF	\$2.61		\$18,608	1980	15
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	4,746	SF	\$2.61		\$12,409	1999	15
D5040	GENERATOR, DIESEL (OVER 500KW)	1,000	KW	\$348.71		\$348,707	2005	25
E2010	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	1	LOT	\$5,940.22		<u>\$5,940</u>	1980	20
						\$10,079,204		

Life Cycle Model Expenditure Projections

UTIL : MEDICAL HEATING FACILITY



Average Annual Renewal Cost Per SqFt \$32.55

FACILITY CONDITION ANALYSIS

SECTION 6

PHOTOGRAPHIC LOG

**Photo Log - Facility Condition
Analysis
UTIL : MEDICAL HEATING FACILITY**

Photo ID No	Description	Location	Date
UTIL001a	Roof detail	Roof	9/1/2009
UTIL001e	Exhaust fan	Roof	9/1/2009
UTIL002a	Roof detail	Roof	9/1/2009
UTIL002e	Utility exhaust fan	Roof	9/1/2009
UTIL003a	Interior finishes	First floor	9/1/2009
UTIL003e	Original exhaust fans	Roof	9/1/2009
UTIL004a	Break room sink	First floor	9/1/2009
UTIL004e	Original cooling tower	Exterior	9/1/2009
UTIL005a	Mechanical room finishes	First floor	9/1/2009
UTIL005e	New T8 lighting and sprinkler heads	Second floor, office	9/1/2009
UTIL006a	East facade	Exterior elevation	9/1/2009
UTIL006e	Xenon strobes	Second floor, office	9/1/2009
UTIL007a	East facade	Exterior elevation	9/1/2009
UTIL007e	LED exit sign	Second floor, office	9/1/2009
UTIL008a	South facade	Exterior elevation	9/1/2009
UTIL008e	Energy recovery unit	Store room 212	9/1/2009
UTIL009a	East facade	Exterior elevation	9/1/2009
UTIL009e	Hydraulic elevator	First floor	9/1/2009
UTIL010e	Condensate return unit	First floor	9/1/2009
UTIL011e	Typical cast-iron, no-hub storm and vent piping	First floor	9/1/2009
UTIL012e	HID fixture	First floor	9/1/2009
UTIL013e	Split DX Magic Air system	Grounds room 115	9/1/2009
UTIL014e	Hot water unit heater	Grounds room 115	9/1/2009
UTIL015e	Johnson Control DDC system	Room 106	9/1/2009
UTIL016e	Original 280 ton centrifugal chiller	Chiller room	9/1/2009
UTIL017e	Variable frequency drives	Chiller room	9/1/2009
UTIL018e	Original 1,200 ton chiller	Chiller room	9/1/2009
UTIL019e	2003 centrifugal chiller	Chiller room	9/1/2009
UTIL020e	Secondary chilled water pump	Chiller room	9/1/2009
UTIL021e	Primary chilled water pump	Chiller room	9/1/2009
UTIL022e	New frame plate heat exchanger	Chiller room	9/1/2009
UTIL023e	Original air handler	Mechanical room	9/1/2009
UTIL024e	Original chiller #4	Chiller room	9/1/2009

**Photo Log - Facility Condition
Analysis
UTIL : MEDICAL HEATING FACILITY**

Photo ID No	Description	Location	Date
UTIL025e	Backflow preventer	Mechanical room	9/1/2009
UTIL026e	Domestic booster pump system	Mechanical room	9/1/2009
UTIL027e	Electric 125 hp fire pump	Mechanical room	9/1/2009
UTIL028e	Condenser water pumps	Mechanical room	9/1/2009
UTIL029e	New 4,000 amp switchboard	Mechanical room	9/1/2009
UTIL030e	New automatic transfer switch	Mechanical room	9/1/2009
UTIL031e	1995 Kewanee fire tube boiler	Boiler room	9/1/2009
UTIL032e	2005 deaerator system	Boiler room	9/1/2009
UTIL033e	Condensate return unit	Boiler room	9/1/2009
UTIL034e	2005 cooling tower	East exterior	9/1/2009
UTIL035e	New service entrance transformers	East exterior	9/1/2009
UTIL036e	2005 diesel generator	East exterior	9/1/2009
UTIL037e	Original service entrance transformer	Exterior	9/1/2009

Facility Condition Analysis - Photo Log



UTIL001A.jpg



UTIL001E.jpg



UTIL002A.jpg



UTIL002E.jpg



UTIL003A.jpg



UTIL003E.jpg



UTIL004A.jpg



UTIL004E.jpg



UTIL005A.jpg



UTIL005E.jpg



UTIL006A.jpg



UTIL006E.jpg



UTIL007A.jpg



UTIL007E.jpg



UTIL008A.jpg



UTIL008E.jpg



UTIL009A.jpg



UTIL009E.jpg



UTIL010E.jpg



UTIL011E.jpg

Facility Condition Analysis - Photo Log



UTIL012E.jpg



UTIL013E.jpg



UTIL014E.jpg



UTIL015E.jpg



UTIL016E.jpg



UTIL017E.jpg



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Facility Condition Analysis - Photo Log



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