

EAST CAROLINA UNIVERSITY

WILLIS BUILDING

ASSET CODE: WILS

FACILITY CONDITION ANALYSIS

DECEMBER 18, 2009



EAST CAROLINA UNIVERSITY
Facility Condition Analysis

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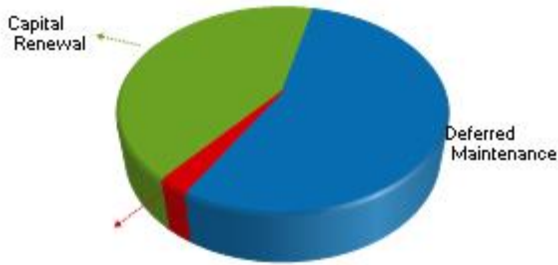
FACILITY CONDITION ANALYSIS

SECTION 1

GENERAL ASSET INFORMATION

EXECUTIVE SUMMARY - WILLIS BUILDING

PROJECT COSTS BY CLASSIFICATION



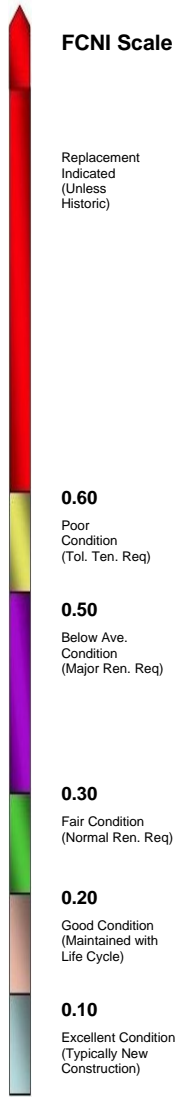
Building Code: WILS
Building Name: WILLIS BUILDING
Year Built: 1974
Building Use: Office / Administrative
Square Feet: 15,366

Project Costs by Priority

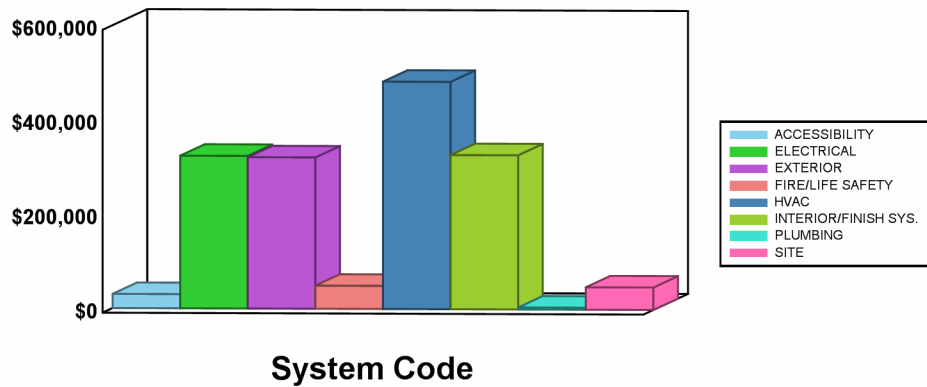
Priority 1:	\$7,890
Priority 2:	\$9,827
Priority 3:	\$1,494,550
Priority 4:	\$71,369
Total Project Costs:	\$1,583,636

Facility Replacement Cost: \$4,082,000

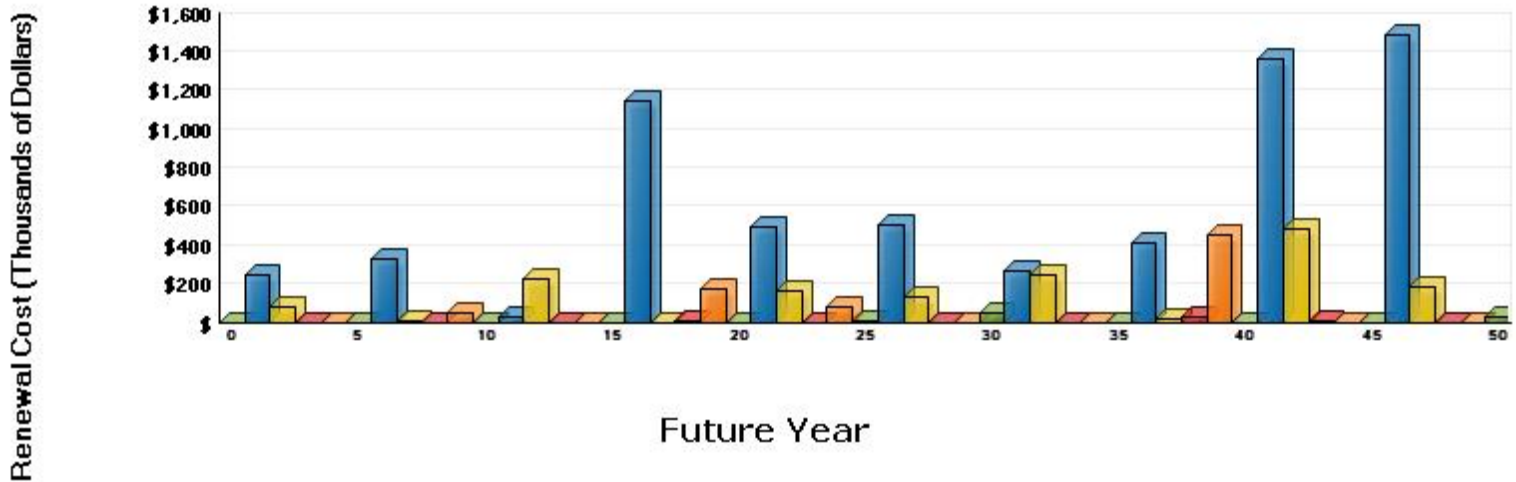
Facility Condition Needs Index (FCNI): 0.39
 (Project Costs / Replacement Cost)



PROJECT COSTS BY SYSTEM CODE



LIFE CYCLE MODEL EXPENDITURE PROJECTIONS



Average Annual Renewal Cost Per SqFt \$5.02

B. ASSET SUMMARY

The Willis Building was reportedly originally constructed in 1974 at East Carolina University in Greenville, North Carolina. It is located on the far northern section of the main campus in a commercial municipal area. The modern styled building and facade includes a brick masonry, exposed concrete structural frame and architectural concrete spandrel panels. This building contains approximately 15,366 square feet of area on a single level and is used primarily as an administrative office building with associated support space. The reinforced, cast-in-place concrete foundation supports a poured-in-place concrete frame and precast, pretensioned, single stem "T" roof framing system. The ground floor system is a cast-in-place slab on grade.

Information for this report was gathered during a site inspection that concluded on September 16, 2009.

SITE

The building sits on a gently sloped parcel of land in an urban, commercial and campus setting. The landscaping consists of ornamental planting beds, shrubbery, specimen trees, and areas of turf. Some of the shrubbery along the base of the exterior walls is in an overgrown condition and should be trimmed back away for the facade and finishes. The overall condition of the site is such that a major landscaping upgrade is warranted. In addition some of the larger specimen trees overhang the roof area and should be trimmed back to alleviate organic debris accumulation of the roof membrane.

Vehicular access is from all sides of the building. Parking is on the south side of the building in lot presumed to be allocated to just this building. A service driveway is located on the eastern end of the building. Vehicular paving systems in the adjacent parking lot are in good condition with a recently completed repaving project that should perform throughout the current review period.

There are ADA-compliant parking spaces and a defined pedestrian walkway and ramp structure that leads to a sidewalk system that serves the primary entrances. The pedestrian paving systems are in overall fair condition with isolated areas of uneven lippage and cracking that potentially represent a liability to the owner. In place repairs and grinding with selective area replacements of pedestrian pavements is warranted. The installation of an additional curb cut ramps and defined cross walk at the building entrance across from the parking area is also recommended.

EXTERIOR STRUCTURE

Brick masonry veneer is the primary exterior finish, with minor areas of architectural spandrel panels and painted concrete superstructure. 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 secondary facade elements, consisting of architectural concrete panels and exposed, painted concrete structural components, have become visibly soiled, the paint finishes are beginning to deteriorate, and the construction joints are failing. Cleaning, surface preparation, selective repairs, and applied finish upgrades are also recommended for these systems.

The flat roof has a multi-ply, built-up membrane roofing system that was reportedly installed in 2007 and is currently in good condition. The membrane roofing system is expected to perform consistent with its life cycle performance through the end of the current review period. Interim inspections and routine maintenance of flashings, parapets, coping caps, sealants and other components will be required to achieve the full effective useful life of the roofing system.

There is evidence of water infiltration through the elevated brick masonry planter retaining wall at the south west building corner. Excavation and drainage / waterproofing system upgrades are recommended. Improve the base wall drains at the foundation level to reduce lateral pressures and assure structural integrity of the retaining wall prior to restoring the landscaping.

It is recommended that aged and inefficient exterior door systems be replaced. This upgrade includes the primary and secondary entrance and service doors. The replacement units should maintain the architectural design aspects of this facility. They should be modern, energy-efficient applications that will protect the interior of the building from the elements.

It is recommended that the original construction single-pane, aluminum-framed and gasketed, single-pane window applications be upgraded to thermal-pane systems. Such double-pane systems will reduce the energy required to operate the building. Repair or replacement of the windowsills and trim may also be necessary.

INTERIOR FINISHES / SYSTEMS

The interior ceiling, wall, and floor finish applications vary in age, type, and condition. The predominant interior finish systems include suspended, acoustical tile ceilings, painted gypsum board ceilings, painted walls, decorative terrazzo, vinyl flooring tiles, ceramic floor tiles, and carpeting. Ongoing finish renewals based on effective useful life cycles are necessary to maintain a quality institutional interior building environment. Finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

The condition of the interior door systems is such that door replacements are recommended as part of a comprehensive renovation effort. The existing doors and hardware date from original construction and include many with non-compliant, unprotected door louvers. Complete demolition of the existing door systems and replacement according to a code-compliant plan to properly protect egress passages is recommended.

The restroom fixtures and finishes are mostly original to the year of construction. The fixtures are sound but aged and inefficient. The finishes are outdated. A comprehensive restroom renovation, including new fixtures, finishes, partitions, accessories, and dual-level drinking fountains, is recommended.

ACCESSIBILITY

This facility has accessible parking areas and designated accessible parking spaces located adjacent to the building that are generally compliant with applicable ADA standards. Access to the primary building entry is via concrete sidewalks and accessible ramps. Current legislation related to accessibility requires that building entrances be wheelchair accessible. To comply with the intent of this legislation, it is recommended that fully compliant, painted metal handrails be installed at the steps and ramps at all entrances as required.

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

Current accessibility legislation requires that places of assembly be accessible to the handicapped. In the auditorium, install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance.

The lobby area public restrooms have been previously modified for accessible use. However, the overall age and deterioration of finishes and fixtures warrants refurbishment. A recommended refurbishment of all of the restrooms in the building is detailed in the Interior Finishes section of this report.

HEALTH

No health related issues were observed or reported by facility personnel at the time of the on-site review for this building. Therefore, no Health category recommendations or assessment comments are included in this report.

FIRE / LIFE SAFETY

The facility appears to have adequate and reasonable egress paths consistent with the age and compliance with building codes at the time of construction / renovation. No apparent building egress deficiencies or obstructed egress pathways in the corridors 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 in this building, in particular the IT, electrical closets and mechanical rooms are not fully enclosed with rated wall / ceiling assemblies. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly.

The building lacks a vertical access ladder to the main roof level elevation. Within the purview of this assessment, install a new interior ladder with transfer extension, cage, and roof hatch to promote user safety and limit liability.

This facility is protected by a central fire alarm system. The point addressable panel was manufactured by Notifier and is located in the east end of the south hallway. The devices that serve this system include manual pull stations, audible / visible devices, and smoke detectors. The fire alarm system will reach the

end of its normal service life and should be expected to need major component replacements and modernization within the scope of this analysis. This facility is not served by an automatic sprinkler system. Manual, dry-chemical fire extinguishers are available to provide fire suppression for the building.

The exit signs in this facility are LED-illuminated and have battery back-up power. Emergency lighting is available through unitary fixtures, including combination exit sign and egress lighting types with battery back-up power. Units are typically equipped with remote press-to-test devices to facilitate regular testing without requiring a ladder. All egress lighting systems are adequate and in good condition. No improvements are recommended at this time.

HVAC

Two Voyager, high efficiency, commercial water heaters are used to generate heating hot water for air handler coils and a small number of radiant heaters. These 80 gallon, natural gas-fired units are rated 199 MBH each and have a recovery rating at 100 degrees rise of 218 gallons per hour. Installed in 2008, these units are in good condition and, with proper maintenance, should last beyond the life of this report.

A multizone central air handler equipped with hot water and DX cooling coils provides conditioned air to building spaces. The air distribution network furnishes constant volume air to the occupied spaces. Honeywell controls for this system use a hybrid of electronics and pneumatic actuators. A 50 ton, air-cooled condenser, manufactured in 1994 by Trane, supplies the R-22 refrigerant cooling medium. Except for the two hot water units, the major system components are near the end of their service lives. The design of the system no longer meets building codes, in that louvered doors and hallways, which are emergency egress routes, serve as the return air path. Finally, the system is inefficient compared to modern standards and, together with air infiltration at windows, control limitations, and other factors, is not well suited to maintain adequate comfort conditions through all seasonal weather conditions. It is recommended that the existing HVAC system be redesigned and replaced using modern variable air volume (VAV) equipment with ducted return air, variable frequency drives (VFDs), direct digital controls (DDCs), and related technologies.

ELECTRICAL

The main distribution equipment is old and is recommended for replacement. The panel is a Square D unit rated for 800 amp service, with four breakers identified as service disconnects. The panel provides 120/208 volts but is inadequately labeled to identify specific distribution system equipment served. Likewise, sub-distribution panels are old, with directories in need of updating. Some ground fault current issues were noted, such as restroom outlets in light fixtures without evidence of ground fault circuit interrupter (GFCI) protection. A general update of the system is recommended.

The interior spaces of this facility are illuminated by a variety of fixture types, with some areas having both T8 and T12 fluorescent lamps. Styles vary also, but typically consist of square U-tube type fixtures in the hallways, surface-mounted, lay-in, and valence types in other locations, and some compact fluorescent fixtures. The illumination level is good, and the fixtures are generally well maintained. The present combination of fixture ages and types, however, is relatively inefficient and maintenance intensive, and appears likely to remain so as the older fixtures, ballasts, and T12 tubes increasingly present life cycle issues. A building-wide lighting update is recommended. Specify energy-efficient light fixtures for the new

interior lighting systems, and install occupancy sensors where possible. It is recommended that new fixture installations be coordinated with existing emergency egress lighting units to incorporate emergency battery packs as appropriate.

Exterior lighting is provided by recessed and surface-mounted fixtures in the outside overhangs. These applications are sufficient. There are no exterior lighting improvements to recommend for the timeframe covered by this report.

PLUMBING

The potable water distribution network uses copper pipe and fittings. Sanitary waste and storm water piping is of cast-iron, bell-and-spigot construction. The supply and drain piping networks are aging but do not appear likely to require replacement due to their condition. However, no backflow prevention device was found on the incoming water main, so it is recommended for installation. The plumbing fixtures show moderate wear but retain consistent styles, and uniform appearance and can be expected to remain serviceable through the period of this report. The age of the fixtures is such, however, that it would be prudent to replace them as part of the restroom renovation upgrade proposed in the Interior Finishes section of this report.

Domestic water for this facility is heated by a 40 gallon electric, residential-grade water heater. This unit is approaching the end of its expected life cycle. It should be anticipated that it will require replacement within the scope of this analysis. However, no recommendation has been prescribed due to limited cost and the ready availability of replacement units.

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 16, 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	SYSTEM DESCRIPTION
AC1A - AC4B	ACCESSIBILITY
EL1A - EL8A	ELECTRICAL
ES1A - ES6E	EXTERIOR STRUCTURE
FS1A - FS6A	FIRE / LIFE SAFETY
HE1A - HE7A	HEALTH
HV1A - HV8B	HVAC
IS1A - IS6D	INTERIOR FINISHES / SYSTEMS
PL1A - PL5A	PLUMBING
SI1A - SI4A	SITE
SS1A - SS7A	SECURITY SYSTEMS
VT1A - VT7A	VERTICAL TRANSPORTATION

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

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
EL4D	DEVICES AND FIXTURES	GFCI PROTECTION	Ground fault protection including GFCI receptacles and breakers.
EL4E	DEVICES AND FIXTURES	LIGHTNING PROTECTION	Lightning arrestation systems including air terminals and grounding conductors.
EL5A	EMERGENCY POWER SYSTEM	GENERATION/ DISTRIBUTION	Includes generators, central battery banks, transfer switches, emergency power grid, etc.
EL6A	SYSTEMS	UPS/DC POWER SUPPLY	Uninterruptible power supply systems and DC motor-generator sets and distribution systems.
EL7A	INFRASTRUCTURE	ABOVE GROUND TRANSMISSION	Includes poles, towers, conductors, insulators, fuses, disconnects, etc.
EL7B	INFRASTRUCTURE	UNDERGROUND TRANSMISSION	Includes direct buried feeders, ductbanks, conduit, manholes, feeders, switches, disconnects, etc.
EL7C	INFRASTRUCTURE	SUBSTATIONS	Includes incoming feeders, breakers, buses, switchgear, meters, CTs, PTs, battery systems, capacitor banks, and all associated auxiliary equipment.
EL7D	INFRASTRUCTURE	DISTRIBUTION SWITCHGEAR	Stand-alone sectionalizing switches, distribution switchboards, etc.
EL7F	INFRASTRUCTURE	AREA AND STREET LIGHTING	Area and street lighting systems including stanchions, fixtures, feeders, etc.
EL8A	GENERAL	OTHER	Electrical system components not catalogued elsewhere.
SYSTEM DESCRIPTION: EXTERIOR			
ES1A	FOUNDATION/FOOTING	STRUCTURE	Structural foundation improvements involving structural work on foundation wall/footing, piers, caissons, piles including crack repairs, shoring & pointing
ES1B	FOUNDATION/FOOTING	DAMP/PROOFING/ 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.
HE6A	HAZARDOUS MATERIAL	STRUCTURAL ASBESTOS	Testing, abatement and disposal of structural and building finish materials containing asbestos.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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 UPGRADE	Replacement of HVAC control systems.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
HV6B	CONTROLS	MODIFICATIONS/ REPAIRS	Repair or modification of HVAC control system.
HV6C	CONTROLS	AIR COMPRESSORS/ DRYERS	Repair or modification of control air compressors and dryers.
HV7A	INFRASTRUCTURE	STEAM/HOT WATER GENERATION	Generation of central steam and/or hot water including boilers and related components.
HV7B	INFRASTRUCTURE	STEAM/HOT WATER DISTRIBUTION	Distribution system for central hot water and/or steam.
HV7C	INFRASTRUCTURE	CHILLED WATER GENERATION	Generation of central chilled water including chillers and related components.
HV7D	INFRASTRUCTURE	CHILLED WATER DISTRIBUTION	Distribution system for central chilled water.
HV7E	INFRASTRUCTURE	TUNNELS/ MANHOLES/ TRENCHES	Repairs, installation, replacement of utility system access chambers.
HV7F	INFRASTRUCTURE	OTHER	HVAC infrastructure issues not specifically categorized elsewhere.
HV8A	GENERAL	CFC COMPLIANCE	Chiller conversions/replacements for CFC regulatory compliance, monitoring, etc.
HV8B	GENERAL	OTHER	HVAC issues not catalogued elsewhere.
SYSTEM DESCRIPTION: INTERIOR FINISHES / SYSTEMS			
IS1A	FLOOR	FINISHES-DRY	R & R of carpet, hardwood strip flooring, concrete coating, vinyl linoleum & tile, marble, terrazzo, rubber flooring, underlayment in predominantly dry areas ("dry" includes non-commercial kitchens)
IS1B	FLOOR	FINISHES-WET	Flooring finish/underlayment work in predominantly "wet" areas including work with linoleum, rubber, terrazzo, concrete coating, quarry tile, ceramic tile, epoxy aggregate, etc.
IS2A	PARTITIONS	STRUCTURE	Structural work on full height permanent interior partitions including wood/metal stud & drywall systems, CMU systems, structural brick, tile, glass block, etc.
IS2B	PARTITIONS	FINISHES	Work on full height permanent interior partitions including R & R to gypsum board, plaster, lath, wood paneling, acoustical panels, wall coverings, column coverings, tile, paint, etc.
IS3A	CEILINGS	REPAIR	Repair of interior ceilings (<40% of total) including tiles, gypsum board, plaster, paint, etc.
IS3B	CEILINGS	REPLACEMENT	Major refurbishments (>40% of total) to interior ceiling systems including grid system replacements, structural framing, new suspended systems, paint, plastering, etc.
IS4A	DOORS	GENERAL	Any work on interior non-fire rated doors, roll-up counter doors, mechanical/plumbing access doors, and all door hardware (except for reasons of access improvement).
IS5A	STAIRS	FINISH	Any finish restorative work to stair tower walking surfaces including replacement of rubber treads, safety grips, nosings, etc. (except as required to accommodate disabled persons).
IS6A	GENERAL	MOLDING	R & R to interior trim/molding systems including rubber/vinyl/wood base, crown/chair/ornamental moldings, cased openings, etc.
IS6B	GENERAL	CABINETRY	R & R work to interior casework systems including cabinets, countertops, wardrobes, lockers, mail boxes, built-in bookcases, lab/work benches, reagent shelving, etc. (except as required for access by the disabled).
IS6C	GENERAL	SCREENING	Work on temporary or partial height partitioning systems including toilet partitions, urinal/vanity screens, etc.
IS6D	GENERAL	OTHER	Any work on interior elements not logically or specifically categorized elsewhere including light covers, phone booths, interior light wells, etc.
SYSTEM DESCRIPTION: PLUMBING			
PL1A	DOMESTIC WATER	PIPING NETWORK	Repair or replacement of domestic water supply piping network, insulation, hangers, etc.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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.
SS2A	SITE	FENCING	Perimeter campus fencing, individual building fencing, includes both pedestrian and vehicular control fences.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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
 WILS : WILLIS BUILDING**

System Code	System Description	Priority Classes				Subtotal
		1	2	3	4	
AC	ACCESSIBILITY	0	0	0	30,156	30,156
EL	ELECTRICAL	0	0	323,833	0	323,833
ES	EXTERIOR	0	0	320,999	0	320,999
FS	FIRE/LIFE SAFETY	7,890	0	0	41,213	49,103
HV	HVAC	0	0	482,315	0	482,315
IS	INTERIOR/FINISH SYS.	0	0	327,077	0	327,077
PL	PLUMBING	0	2,536	0	0	2,536
SI	SITE	0	7,292	40,326	0	47,617
	TOTALS	7,890	9,827	1,494,550	71,369	1,583,636

Facility Replacement Cost	\$4,082,000
Facility Condition Needs Index	0.39

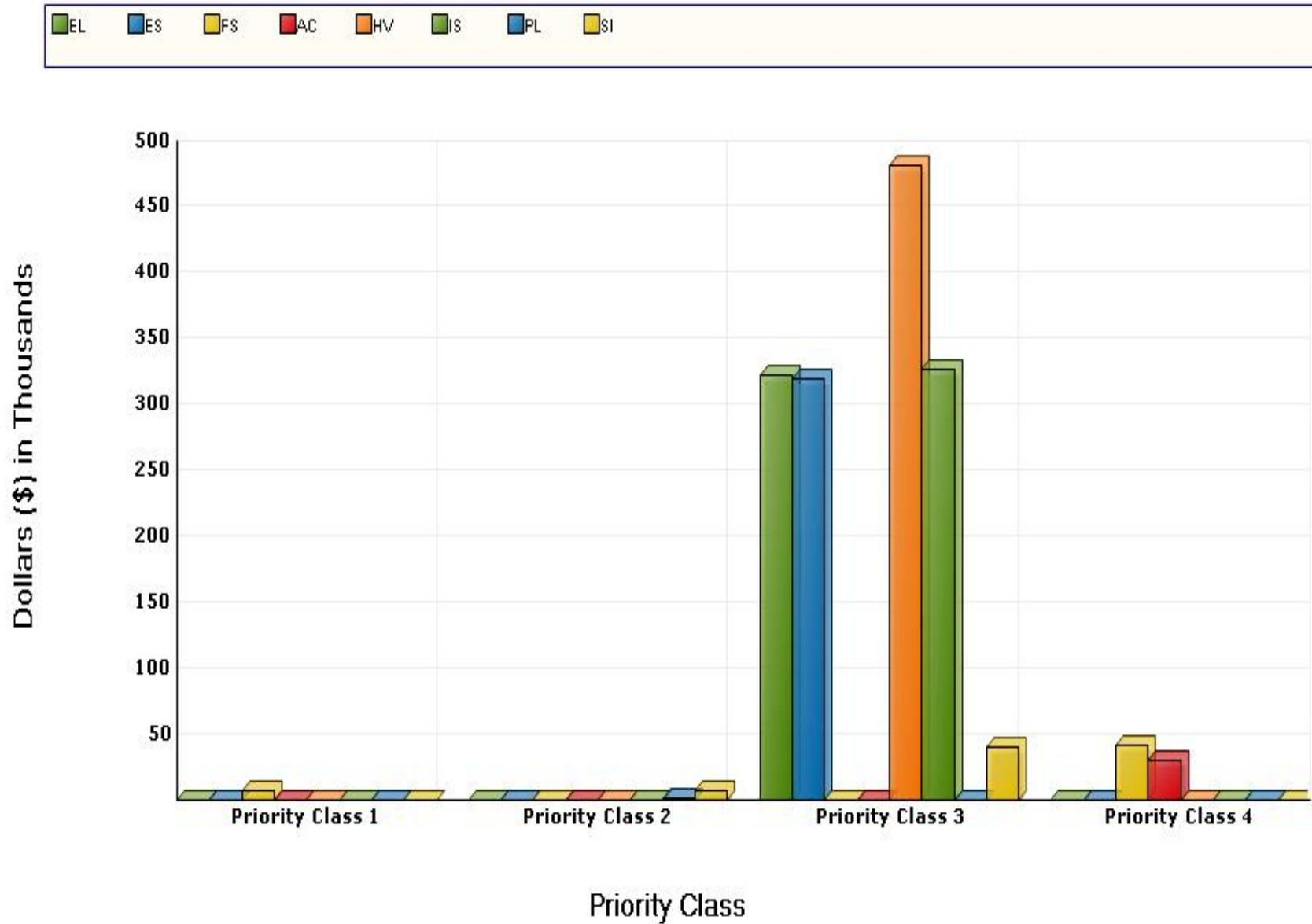
Gross Square Feet	15,366
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Total Cost Per Square Foot	\$103.06
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FACILITY CONDITION ANALYSIS

System Code by Priority Class

WILS : WILLIS BUILDING



**Detailed Project Totals
 Facility Condition Analysis
 System Code by Project Class
 WILS : WILLIS BUILDING**

System Code	System Description	Project Classes			Subtotal
		Capital Renewal	Deferred Maintenance	Plant Adaption	
AC	ACCESSIBILITY	0	0	30,156	30,156
EL	ELECTRICAL	185,432	138,401	0	323,833
ES	EXTERIOR	272,145	48,854	0	320,999
FS	FIRE/LIFE SAFETY	41,213	0	7,890	49,103
HV	HVAC	0	482,315	0	482,315
IS	INTERIOR/FINISH SYS.	167,450	159,627	0	327,077
PL	PLUMBING	0	0	2,536	2,536
SI	SITE	7,292	40,326	0	47,617
	TOTALS	673,532	869,523	40,582	1,583,636

Facility Replacement Cost	\$4,082,000
Facility Condition Needs Index	0.39

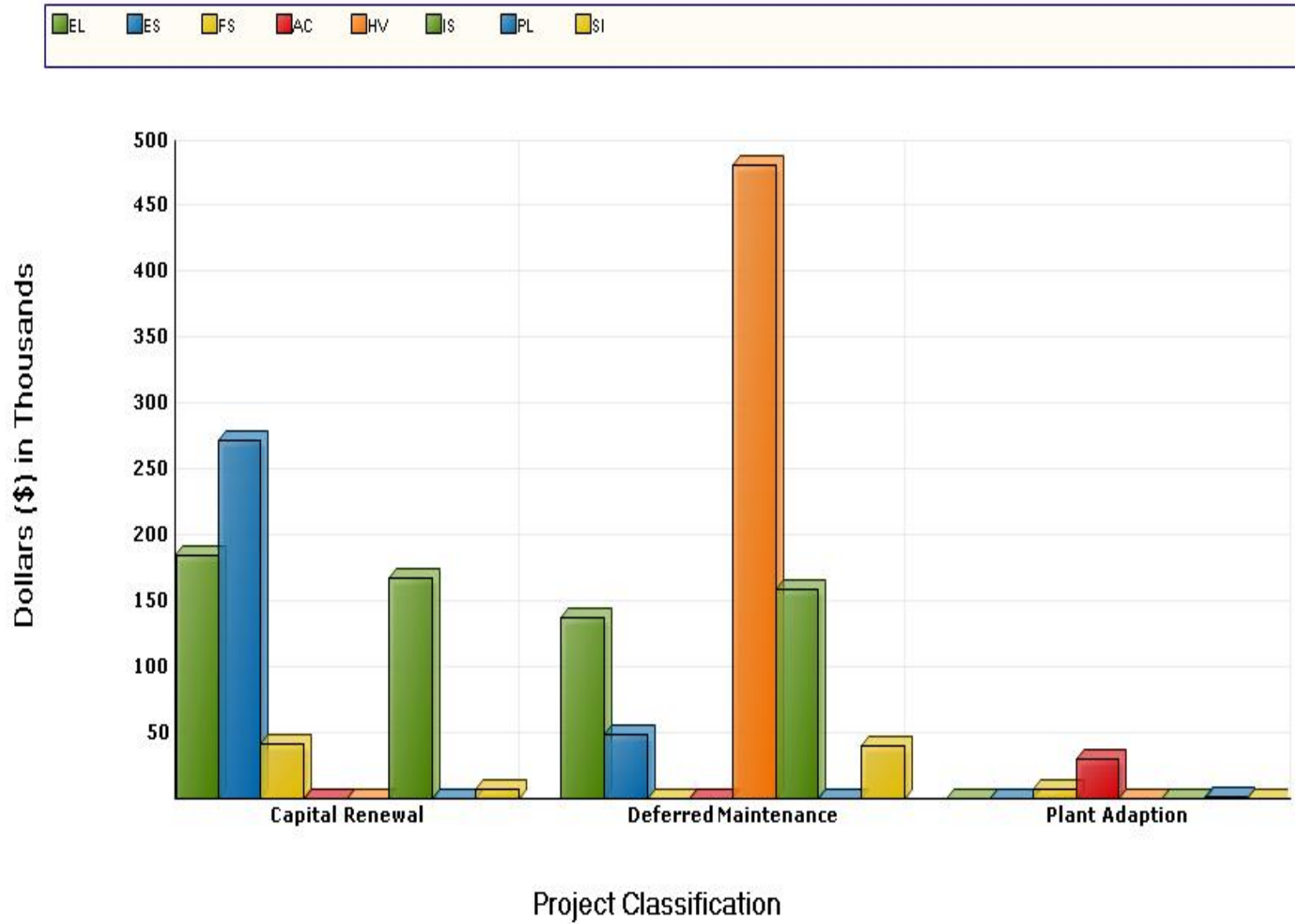
Gross Square Feet	15,366
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Total Cost Per Square Foot	\$103.06
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FACILITY CONDITION ANALYSIS

System Code by Project Class

WILS : WILLIS BUILDING



Detailed Project Summary
Facility Condition Analysis
Project Class by Priority Class
WILS : WILLIS BUILDING

Project Class	Priority Classes				Subtotal
	1	2	3	4	
Capital Renewal	0	7,292	625,027	41,213	673,532
Deferred Maintenance	0	0	869,523	0	869,523
Plant Adaption	7,890	2,536	0	30,156	40,582
TOTALS	7,890	9,827	1,494,550	71,369	1,583,636

Facility Replacement Cost	\$4,082,000
Facility Condition Needs Index	0.39

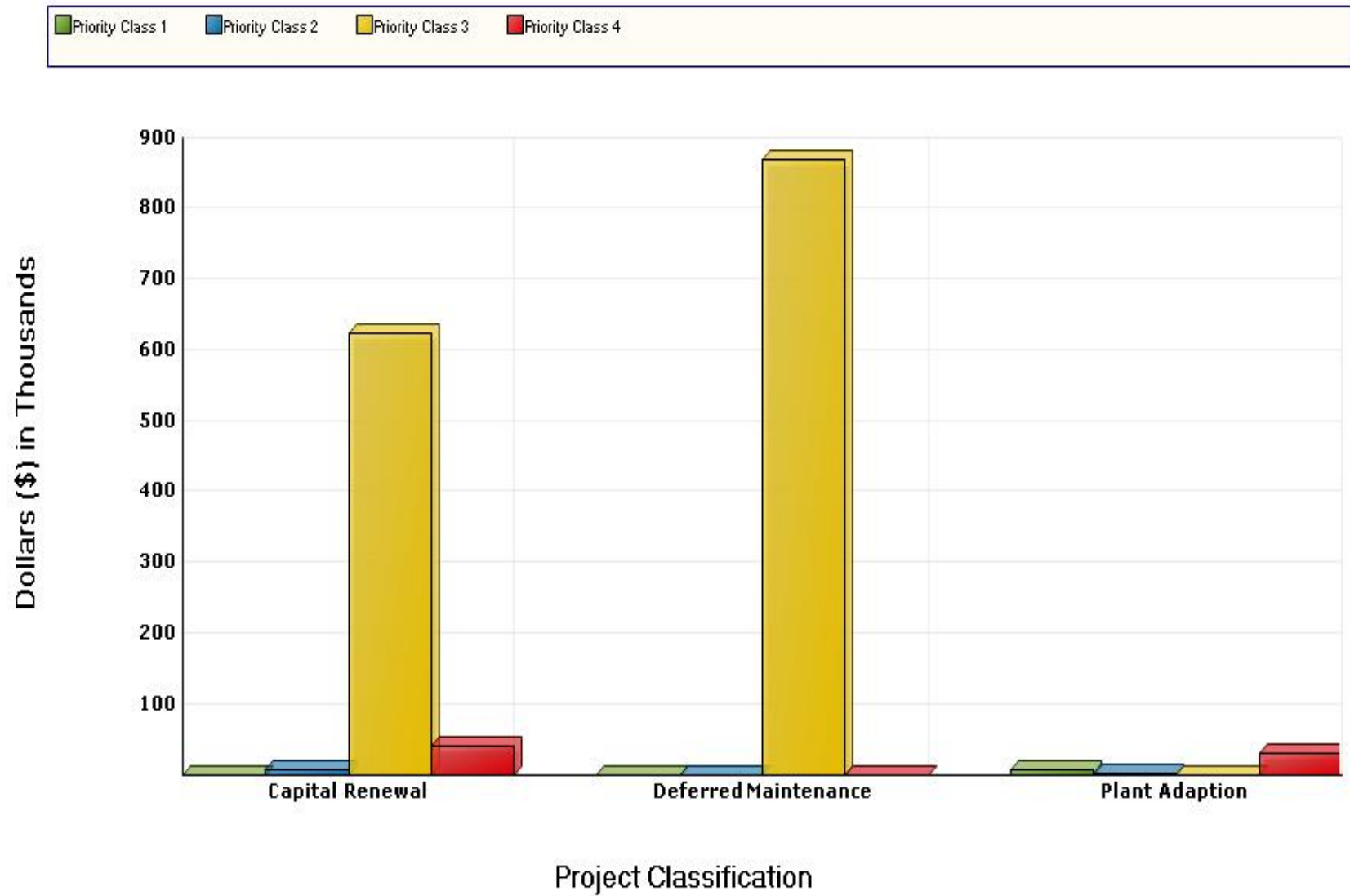
Gross Square Feet	15,366
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Total Cost Per Square Foot	\$103.06
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FACILITY CONDITION ANALYSIS

Project Class by Priority Class

WILS : WILLIS BUILDING



Detailed Project Summary
Facility Condition Analysis
Priority Class - Priority Sequence
WILS : WILLIS BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS5A	WILSFS01	1	1	INSTALL COMPLIANT ROOF ACCESS LADDER	1,308	209	1,518
FS5C	WILSFS03	1	2	ELIMINATE FIRE RATING COMPROMISES	5,493	879	6,372
Totals for Priority Class 1					6,802	1,088	7,890
PL1I	WILSPL01	2	3	BACKFLOW PREVENTER INSTALLATION	2,186	350	2,536
SI2A	WILSSI02	2	4	LANDSCAPING UPGRADE	6,286	1,006	7,292
Totals for Priority Class 2					8,472	1,355	9,827
ES5A	WILSES03	3	5	PARTIAL EXTERIOR DOOR REPLACEMENT	24,560	3,930	28,490
ES2B	WILSES01	3	6	RESTORE BRICK MASONRY VENEER	13,171	2,107	15,278
ES2B	WILSES02	3	7	RESTORE ARCHITECTURAL CONCRETE PANELS AND FINISHES	4,385	702	5,086
ES5B	WILSES04	3	8	WINDOW REPLACEMENT	234,608	37,537	272,145
HV3A	WILSHV01	3	9	HVAC SYSTEM REPLACEMENT	335,686	53,710	389,396
HV2A	WILSHV02	3	10	INSTALL AIR-COOLED CHILLER	80,102	12,816	92,919
EL2A	WILSEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	21,411	3,426	24,836
EL4B	WILSEL02	3	12	INTERIOR LIGHTING UPGRADE	97,900	15,664	113,564
EL3B	WILSEL03	3	13	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	159,855	25,577	185,432
IS2B	WILSIS02	3	14	REFINISH WALLS	30,215	4,834	35,050
IS3B	WILSIS03	3	15	REFINISH CEILINGS	52,628	8,420	61,049
IS4A	WILSIS04	3	16	REPLACE INTERIOR DOORS	54,766	8,763	63,529
IS1A	WILSIS01	3	17	REFINISH FLOORING	65,722	10,516	76,238
IS6D	WILSIS05	3	18	RESTROOM RENOVATION	78,631	12,581	91,212
SI3A	WILSSI01	3	19	DRAINAGE REPAIRS AT PLANTER RETAINING WALLS	25,740	4,118	29,859
SI1A	WILSSI03	3	20	SITE PAVING AND ACCESS UPGRADES	9,023	1,444	10,467
Totals for Priority Class 3					1,288,405	206,145	1,494,550
FS2A	WILSFS02	4	21	FIRE ALARM SYSTEM REPLACEMENT	35,528	5,685	41,213
AC2A	WILSAC01	4	22	BUILDING ENTRY ACCESSIBILITY UPGRADES	16,195	2,591	18,786
AC4A	WILSAC02	4	23	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,144	1,143	8,288
AC4B	WILSAC03	4	24	AUDITORIUM ACCESSIBILITY UPGRADES	2,657	425	3,083
Totals for Priority Class 4					61,525	9,844	71,369
Grand Total:					1,365,204	218,433	1,583,636

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
WILS : WILLIS BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS5A	WILSFS01	1	1	INSTALL COMPLIANT ROOF ACCESS LADDER	1,308	209	1,518
FS5C	WILSFS03	1	2	ELIMINATE FIRE RATING COMPROMISES	5,493	879	6,372
Totals for Priority Class 1					6,802	1,088	7,890
SI2A	WILSSI02	2	4	LANDSCAPING UPGRADE	6,286	1,006	7,292
PL1I	WILSPL01	2	3	BACKFLOW PREVENTER INSTALLATION	2,186	350	2,536
Totals for Priority Class 2					8,472	1,355	9,827
ES2B	WILSES01	3	6	RESTORE BRICK MASONRY VENEER	13,171	2,107	15,278
ES2B	WILSES02	3	7	RESTORE ARCHITECTURAL CONCRETE PANELS AND FINISHES	4,385	702	5,086
SI3A	WILSSI01	3	19	DRAINAGE REPAIRS AT PLANTER RETAINING WALLS	25,740	4,118	29,859
ES5A	WILSES03	3	5	PARTIAL EXTERIOR DOOR REPLACEMENT	24,560	3,930	28,490
IS1A	WILSIS01	3	17	REFINISH FLOORING	65,722	10,516	76,238
IS2B	WILSIS02	3	14	REFINISH WALLS	30,215	4,834	35,050
IS3B	WILSIS03	3	15	REFINISH CEILINGS	52,628	8,420	61,049
IS4A	WILSIS04	3	16	REPLACE INTERIOR DOORS	54,766	8,763	63,529
IS6D	WILSIS05	3	18	RESTROOM RENOVATION	78,631	12,581	91,212
SI1A	WILSSI03	3	20	SITE PAVING AND ACCESS UPGRADES	9,023	1,444	10,467
HV2A	WILSHV02	3	10	INSTALL AIR-COOLED CHILLER	80,102	12,816	92,919
EL2A	WILSEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	21,411	3,426	24,836
Totals for Priority Class 3					460,355	73,657	534,012
AC2A	WILSAC01	4	22	BUILDING ENTRY ACCESSIBILITY UPGRADES	16,195	2,591	18,786
AC4A	WILSAC02	4	23	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,144	1,143	8,288
AC4B	WILSAC03	4	24	AUDITORIUM ACCESSIBILITY UPGRADES	2,657	425	3,083
FS2A	WILSFS02	4	21	FIRE ALARM SYSTEM REPLACEMENT	35,528	5,685	41,213
Totals for Priority Class 4					61,525	9,844	71,369
Grand Totals for Projects < 100,000					537,154	85,945	623,098

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
 WILS : WILLIS BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
ES5B	WILSES04	3	8	WINDOW REPLACEMENT	234,608	37,537	272,145
HV3A	WILSHV01	3	9	HVAC SYSTEM REPLACEMENT	335,686	53,710	389,396
EL4B	WILSEL02	3	12	INTERIOR LIGHTING UPGRADE	97,900	15,664	113,564
EL3B	WILSEL03	3	13	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	159,855	25,577	185,432
Totals for Priority Class 3					828,050	132,488	960,538
Grand Totals for Projects >= 100,000 and < 500,000					828,050	132,488	960,538
Grand Totals For All Projects:					1,365,204	218,433	1,583,636

Detailed Project Summary
Facility Condition Analysis
Project Classification
WILS : WILLIS BUILDING

Cat Code	Project Number	Pri. Seq.	Project Classification	Pri. Cls	Project Title	Total Cost
SI2A	WILSSI02	4	Capital Renewal	2	LANDSCAPING UPGRADE	7,292
ES5B	WILSES04	8	Capital Renewal	3	WINDOW REPLACEMENT	272,145
EL3B	WILSEL03	13	Capital Renewal	3	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	185,432
IS1A	WILSIS01	17	Capital Renewal	3	REFINISH FLOORING	76,238
IS6D	WILSIS05	18	Capital Renewal	3	RESTROOM RENOVATION	91,212
FS2A	WILSFS02	21	Capital Renewal	4	FIRE ALARM SYSTEM REPLACEMENT	41,213
Totals for Capital Renewal						673,532
ES5A	WILSES03	5	Deferred Maintenance	3	PARTIAL EXTERIOR DOOR REPLACEMENT	28,490
ES2B	WILSES01	6	Deferred Maintenance	3	RESTORE BRICK MASONRY VENEER	15,278
ES2B	WILSES02	7	Deferred Maintenance	3	RESTORE ARCHITECTURAL CONCRETE PANELS AND FINISHES	5,086
HV3A	WILSHV01	9	Deferred Maintenance	3	HVAC SYSTEM REPLACEMENT	389,396
HV2A	WILSHV02	10	Deferred Maintenance	3	INSTALL AIR-COOLED CHILLER	92,919
EL2A	WILSEL01	11	Deferred Maintenance	3	REPLACE 120/208 VOLT SWITCHGEAR	24,836
EL4B	WILSEL02	12	Deferred Maintenance	3	INTERIOR LIGHTING UPGRADE	113,564
IS2B	WILSIS02	14	Deferred Maintenance	3	REFINISH WALLS	35,050
IS3B	WILSIS03	15	Deferred Maintenance	3	REFINISH CEILINGS	61,049
IS4A	WILSIS04	16	Deferred Maintenance	3	REPLACE INTERIOR DOORS	63,529
SI3A	WILSSI01	19	Deferred Maintenance	3	DRAINAGE REPAIRS AT PLANTER RETAINING WALLS	29,859
SI1A	WILSSI03	20	Deferred Maintenance	3	SITE PAVING AND ACCESS UPGRADES	10,467
Totals for Deferred Maintenance						869,523
FS5A	WILSFS01	1	Plant Adaption	1	INSTALL COMPLIANT ROOF ACCESS LADDER	1,518
FS5C	WILSFS03	2	Plant Adaption	1	ELIMINATE FIRE RATING COMPROMISES	6,372
PL1I	WILSPL01	3	Plant Adaption	2	BACKFLOW PREVENTER INSTALLATION	2,536
AC2A	WILSAC01	22	Plant Adaption	4	BUILDING ENTRY ACCESSIBILITY UPGRADES	18,786
AC4A	WILSAC02	23	Plant Adaption	4	INTERIOR AMENITY ACCESSIBILITY UPGRADES	8,288
AC4B	WILSAC03	24	Plant Adaption	4	AUDITORIUM ACCESSIBILITY UPGRADES	3,083
Totals for Plant Adaption						40,582
Grand Total:						1,583,636

Detailed Project Summary
Facility Condition Analysis
Energy Conservation
 WILS : WILLIS BUILDING

Cat Code	Project Number	Pri Cls	Pri Seq	Project Title	Total Cost	Annual Savings	Simple Payback
ES5B	WILSES04	3	8	WINDOW REPLACEMENT	272,145	500	544.29
HV3A	WILSHV01	3	9	HVAC SYSTEM REPLACEMENT	389,396	8,700	44.76
EL4B	WILSEL02	3	12	INTERIOR LIGHTING UPGRADE	113,564	4,700	24.16
Totals for Priority Class 3					775,106	13,900	55.76
Grand Total:					775,106	13,900	55.76

Detailed Project Summary
Facility Condition Analysis
Category/System Code
WILS : WILLIS BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC2A	WILSAC01	4	22	BUILDING ENTRY ACCESSIBILITY UPGRADES	16,195	2,591	18,786
AC4A	WILSAC02	4	23	INTERIOR AMENITY ACCESSIBILITY UPGRADES	7,144	1,143	8,288
AC4B	WILSAC03	4	24	AUDITORIUM ACCESSIBILITY UPGRADES	2,657	425	3,083
Totals for System Code: ACCESSIBILITY					25,997	4,160	30,156
EL2A	WILSEL01	3	11	REPLACE 120/208 VOLT SWITCHGEAR	21,411	3,426	24,836
EL4B	WILSEL02	3	12	INTERIOR LIGHTING UPGRADE	97,900	15,664	113,564
EL3B	WILSEL03	3	13	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	159,855	25,577	185,432
Totals for System Code: ELECTRICAL					279,166	44,667	323,833
ES5A	WILSES03	3	5	PARTIAL EXTERIOR DOOR REPLACEMENT	24,560	3,930	28,490
ES2B	WILSES01	3	6	RESTORE BRICK MASONRY VENEER	13,171	2,107	15,278
ES2B	WILSES02	3	7	RESTORE ARCHITECTURAL CONCRETE PANELS AND FINISHES	4,385	702	5,086
ES5B	WILSES04	3	8	WINDOW REPLACEMENT	234,608	37,537	272,145
Totals for System Code: EXTERIOR					276,723	44,276	320,999
FS5A	WILSFS01	1	1	INSTALL COMPLIANT ROOF ACCESS LADDER	1,308	209	1,518
FS5C	WILSFS03	1	2	ELIMINATE FIRE RATING COMPROMISES	5,493	879	6,372
FS2A	WILSFS02	4	21	FIRE ALARM SYSTEM REPLACEMENT	35,528	5,685	41,213
Totals for System Code: FIRE/LIFE SAFETY					42,330	6,773	49,103
HV3A	WILSHV01	3	9	HVAC SYSTEM REPLACEMENT	335,686	53,710	389,396
HV2A	WILSHV02	3	10	INSTALL AIR-COOLED CHILLER	80,102	12,816	92,919
Totals for System Code: HVAC					415,789	66,526	482,315
IS2B	WILSIS02	3	14	REFINISH WALLS	30,215	4,834	35,050
IS3B	WILSIS03	3	15	REFINISH CEILINGS	52,628	8,420	61,049
IS4A	WILSIS04	3	16	REPLACE INTERIOR DOORS	54,766	8,763	63,529
IS1A	WILSIS01	3	17	REFINISH FLOORING	65,722	10,516	76,238
IS6D	WILSIS05	3	18	RESTROOM RENOVATION	78,631	12,581	91,212
Totals for System Code: INTERIOR/FINISH SYS.					281,963	45,114	327,077
PL1I	WILSPL01	2	3	BACKFLOW PREVENTER INSTALLATION	2,186	350	2,536
Totals for System Code: PLUMBING					2,186	350	2,536
SI2A	WILSSI02	2	4	LANDSCAPING UPGRADE	6,286	1,006	7,292
SI3A	WILSSI01	3	19	DRAINAGE REPAIRS AT PLANTER RETAINING WALLS	25,740	4,118	29,859

Detailed Project Summary
Facility Condition Analysis
Category/System Code
 WILS : WILLIS BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
SI1A	WILSSI03	3	20	SITE PAVING AND ACCESS UPGRADES	9,023	1,444	10,467
Totals for System Code: SITE					41,049	6,568	47,617
Grand Total:					1,365,204	218,433	1,583,636

FACILITY CONDITION ANALYSIS

SECTION 3

SPECIFIC PROJECT DETAILS
ILLUSTRATING DESCRIPTION / COST

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSFS01	Title:	INSTALL COMPLIANT ROOF ACCESS LADDER
Priority Sequence:	1		
Priority Class:	1		
Category Code:	FS5A	System:	FIRE/LIFE SAFETY
		Component:	EGRESS PATH
		Element:	DESIGNATION
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	OSHA	1910.27	
Project Class:	Plant Adaption		
Project Date:	10/2/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

The building lacks a vertical access ladder to the main roof level elevation. Install a new ladder, cage, and roof hatch to promote user safety and limit liability.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSFS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Vertical safety ladder with cage	LF	14	\$62.48	\$875	\$29.16	\$408	\$1,283
Project Totals:				\$875		\$408	\$1,283

Material/Labor Cost		\$1,283
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,090
General Contractor Mark Up at 20.0%	+	\$218
Construction Cost		\$1,308
Professional Fees at 16.0%	+	\$209
Total Project Cost		\$1,518

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSFS03	Title:	ELIMINATE FIRE RATING COMPROMISES
Priority Sequence:	2		
Priority Class:	1		
Category Code:	FS5C	System:	FIRE/LIFE SAFETY
		Component:	EGRESS PATH
		Element:	SEPARATION RATING
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IBC	711.3	
Project Class:	Plant Adaption		
Project Date:	10/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

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 in this building, in particular the IT, electrical closets and mechanical rooms are not fully enclosed with rated wall / ceiling assemblies. Moderate structural separation repairs and intumescent passive firestopping should be accomplished promptly.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSFS03

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	800	\$2.85	\$2,280	\$5.56	\$4,448	\$6,728
Project Totals:				\$2,280		\$4,448	\$6,728

Material/Labor Cost		\$6,728
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$4,578
General Contractor Mark Up at 20.0%	+	\$916
Construction Cost		\$5,493
Professional Fees at 16.0%	+	\$879
Total Project Cost		\$6,372

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSPL01	Title:	BACKFLOW PREVENTER INSTALLATION
Priority Sequence:	3		
Priority Class:	2		
Category Code:	PL11	System:	PLUMBING
		Component:	DOMESTIC WATER
		Element:	BACKFLOW PREVENTION
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IPC	608	
Project Class:	Plant Adaption		
Project Date:	10/16/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

There is no backflow preventer on the domestic water main. Install a backflow preventer assembly at the water main, including backflow preventer, isolation valves, and related piping. This will prevent cross-contamination between the building and the potable water supply.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSPL01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Backflow preventer, isolation valves, piping, and miscellaneous materials	EA	1	\$1,468	\$1,468	\$669	\$669	\$2,137
Project Totals:				\$1,468		\$669	\$2,137

Material/Labor Cost		\$2,137
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,821
General Contractor Mark Up at 20.0%	+	\$364
Construction Cost		\$2,186
Professional Fees at 16.0%	+	\$350
Total Project Cost		\$2,536

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSSI02	Title:	LANDSCAPING UPGRADE
Priority Sequence:	4		
Priority Class:	2		
Category Code:	SI2A	System:	SITE
		Component:	LANDSCAPE
		Element:	GRADE/FLORA
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/2/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

The landscaping on this small relatively flat site consists of turf, shrubs, and specimen trees. Some of the shrubbery along the base of the exterior walls is in an overgrown condition and should be trimmed back away for the facade and finishes. The overall condition of the site is such that a major landscaping project is warranted. In addition some of the larger specimen trees overhang the roof area and should be trimmed back to alleviate organic debris accumulation of the roof membrane.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSSI02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Trees and shrubs, thin, trim, and selective removals away from exterior walls and roof.	LOT	1	\$2,400	\$2,400	\$5,500	\$5,500	\$7,900
Project Totals:				\$2,400		\$5,500	\$7,900

Material/Labor Cost		\$7,900
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$5,238
General Contractor Mark Up at 20.0%	+	\$1,048
Construction Cost		\$6,286
Professional Fees at 16.0%	+	\$1,006
Total Project Cost		\$7,292

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSES03	Title:	PARTIAL EXTERIOR DOOR REPLACEMENT
Priority Sequence:	5		
Priority Class:	3		
Category Code:	ES5A	System:	EXTERIOR
		Component:	FENESTRATIONS
		Element:	DOORS
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

It is recommended that aged and inefficient exterior door systems be replaced. This project includes the primary and secondary entrance and service doors. The replacement units should maintain the architectural design aspects of this facility. They should be modern, energy-efficient applications that will protect the interior of the building from the elements.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSES03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
High traffic door system	LEAF	4	\$1,978	\$7,912	\$1,999	\$7,996	\$15,908
Low traffic door system	LEAF	5	\$1,031	\$5,155	\$1,250	\$6,250	\$11,405
Project Totals:				\$13,067		\$14,246	\$27,313

Material/Labor Cost		\$27,313
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$20,467
General Contractor Mark Up at 20.0%	+	\$4,093
Construction Cost		\$24,560
Professional Fees at 16.0%	+	\$3,930
Total Project Cost		\$28,490

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSES01	Title:	RESTORE BRICK MASONRY VENEER
Priority Sequence:	6		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

Brick masonry veneer is the primary exterior finish with minor areas of architectural panels and painted concrete. 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
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSES01

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	8,020	\$0.11	\$882	\$0.22	\$1,764	\$2,647
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	802	\$2.45	\$1,965	\$4.99	\$4,002	\$5,967
Applied finish or sealant	SF	8,020	\$0.22	\$1,764	\$0.82	\$6,576	\$8,341
Project Totals:				\$4,612		\$12,343	\$16,954

Material/Labor Cost		\$16,986
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$10,976
General Contractor Mark Up at 20.0%	+	\$2,195
Construction Cost		\$13,171
Professional Fees at 16.0%	+	\$2,107
Total Project Cost		\$15,278

Specific Project Details

**Facility Condition Analysis
Section Three**

WILS : WILLIS BUILDING

Project Description

Project Number:	WILSES02	Title:	RESTORE ARCHITECTURAL CONCRETE PANELS AND FINISHES
Priority Sequence:	7		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

The secondary facade elements, consisting of architectural concrete panels and exposed, painted concrete structural components, have become visibly soiled, the paint finishes are beginning to deteriorate, and the construction joints are failing. Cleaning, surface preparation, selective repairs, and applied finish upgrades are also recommended for these systems.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSES02

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	2,670	\$0.11	\$294	\$0.22	\$587	\$881
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	267	\$2.45	\$654	\$4.99	\$1,332	\$1,986
Applied finish or sealant	SF	2,670	\$0.22	\$587	\$0.82	\$2,189	\$2,777
Project Totals:				\$1,535		\$4,109	\$5,644

Material/Labor Cost		\$5,644
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$3,654
General Contractor Mark Up at 20.0%	+	\$731
Construction Cost		\$4,385
Professional Fees at 16.0%	+	\$702
Total Project Cost		\$5,086

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSES04	Title:	WINDOW REPLACEMENT
Priority Sequence:	8		
Priority Class:	3		
Category Code:	ES5B	System:	EXTERIOR
		Component:	FENESTRATIONS
		Element:	WINDOWS
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Energy Conservation	\$500	
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/2/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

It is recommended that the original construction single-pane, aluminum-framed and gasketed, single-pane window applications be upgraded to thermal-pane systems. Such double-pane systems will reduce the energy required to operate the building. Repair or replacement of the windowsills and trim may also be necessary.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSES04

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Typical standard glazing applications	SF	2,560	\$57.27	\$146,611	\$36.45	\$93,312	\$239,923
Project Totals:				\$146,611		\$93,312	\$239,923

Material/Labor Cost		\$239,923
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$195,507
General Contractor Mark Up at 20.0%	+	\$39,101
Construction Cost		\$234,608
Professional Fees at 16.0%	+	\$37,537
Total Project Cost		\$272,145

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSHV01	Title:	HVAC SYSTEM REPLACEMENT
Priority Sequence:	9		
Priority Class:	3		
Category Code:	HV3A	System:	HVAC
		Component:	HEATING/COOLING
		Element:	SYSTEM RETROFIT/REPLACE
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Energy Conservation	\$8,700	
Code Application:	ASHRAE	62-2004	
Project Class:	Deferred Maintenance		
Project Date:	10/16/2009		
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 and constant volume air distribution as needed. This includes new air handlers, exhaust fans, ductwork, terminal units, 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
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSHV01

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, pumps, piping, electrical connections, and demolition of existing equipment	SF	15,366	\$11.14	\$171,177	\$13.62	\$209,285	\$380,462
Project Totals:				\$171,177		\$209,285	\$380,462

Material/Labor Cost		\$380,415
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$279,739
General Contractor Mark Up at 20.0%	+	\$55,948
Construction Cost		\$335,686
Professional Fees at 16.0%	+	\$53,710
Total Project Cost		\$389,396

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSHV02	Title:	INSTALL AIR-COOLED CHILLER
Priority Sequence:	10		
Priority Class:	3		
Category Code:	HV2A	System:	HVAC
		Component:	COOLING
		Element:	CHILLERS/CONTROLS
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ASHRAE	15-2004	
Project Class:	Deferred Maintenance		
Project Date:	10/16/2009		
Project Location:	Item Only: Floor(s) 1		

Project Description

The existing split system condensing unit provides refrigerant cooling to the existing air handling system that is recommended for redesign and replacement. Remove the existing condensing unit. Install a new air-cooled, liquid chiller in conjunction with the HVAC system replacement, along with electrical connections and related controls and programming. Specify an energy-efficient replacement system that utilizes a non-CFC refrigerant.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSHV02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Air-cooled liquid chiller, electrical connections, piping, controls, and demolition of existing condensing unit.	TON	50	\$1,051	\$52,557	\$539	\$26,955	\$79,511
Project Totals:				\$52,557		\$26,955	\$79,511

Material/Labor Cost		\$79,511
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$66,752
General Contractor Mark Up at 20.0%	+	\$13,350
Construction Cost		\$80,102
Professional Fees at 16.0%	+	\$12,816
Total Project Cost		\$92,919

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSEL01	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:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Article 230	
Project Class:	Deferred Maintenance		
Project Date:	10/16/2009		
Project Location:	Item Only: Floor(s) 1		

Project Description

The 120/208 V 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 existing 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
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSEL01

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	800	\$15.52	\$12,416	\$13.01	\$10,408	\$22,824
Project Totals:				\$12,416		\$10,408	\$22,824

Material/Labor Cost		\$22,819
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$17,842
General Contractor Mark Up at 20.0%	+	\$3,568
Construction Cost		\$21,411
Professional Fees at 16.0%	+	\$3,426
Total Project Cost		\$24,836

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSEL02	Title:	INTERIOR LIGHTING UPGRADE
Priority Sequence:	12		
Priority Class:	3		
Category Code:	EL4B	System:	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	INTERIOR LIGHTING
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Energy Conservation	\$4,700	
Code Application:	NEC	Articles 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	10/16/2009		
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 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
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSEL02

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	15,366	\$3.25	\$49,940	\$3.97	\$61,003	\$110,943
Project Totals:				\$49,940		\$61,003	\$110,943

Material/Labor Cost		\$111,004
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$81,584
General Contractor Mark Up at 20.0%	+	\$16,317
Construction Cost		\$97,900
Professional Fees at 16.0%	+	\$15,664
Total Project Cost		\$113,564

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSEL03	Title:	UPGRADE ELECTRICAL DISTRIBUTION NETWORK
Priority Sequence:	13		
Priority Class:	3		
Category Code:	EL3B	System:	ELECTRICAL
		Component:	SECONDARY DISTRIBUTION
		Element:	DISTRIBUTION NETWORK
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Articles 110, 210, 220, 230	
Project Class:	Capital Renewal		
Project Date:	10/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

An upgrade of the building electrical system is recommended. Aging components, such as the circuit breakers, could serve as fire hazards if they fail to open a circuit in an overload or short circuit condition. Remove existing aged electrical components and branch circuitry. Install new power panels, switches, raceways, conductors, and devices. Provide molded case thermal magnetic circuit breakers and HACR circuit breakers for HVAC equipment. Redistribute the electrical loads to the appropriate areas to ensure safe and reliable power to building occupants. Provide GFCI protection where required, and clearly label all panels for circuit identification.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSEL03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Power panels, conductors, raceways, devices, demolition, and cut and patching materials	SF	15,366	\$4.88	\$74,986	\$7.32	\$112,479	\$187,465
Project Totals:				\$74,986		\$112,479	\$187,465

Material/Labor Cost		\$187,465
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$133,213
General Contractor Mark Up at 20.0%	+	\$26,643
Construction Cost		\$159,855
Professional Fees at 16.0%	+	\$25,577
Total Project Cost		\$185,432

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSIS02	Title:	REFINISH WALLS
Priority Sequence:	14		
Priority Class:	3		
Category Code:	IS2B	System:	INTERIOR/FINISH SYS.
		Component:	PARTITIONS
		Element:	FINISHES

Building Code:	WILS
Building Name:	WILLIS BUILDING
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Deferred Maintenance
Project Date:	10/2/2009

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

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

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSIS02

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	30,950	\$0.17	\$5,262	\$0.81	\$25,070	\$30,331
Premium wall finish (epoxy, tile, wood panel, etc.)	SF	1,630	\$2.28	\$3,716	\$3.92	\$6,390	\$10,106
Project Totals:				\$8,978		\$31,459	\$40,437

Material/Labor Cost		\$40,394
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$25,179
General Contractor Mark Up at 20.0%	+	\$5,036
Construction Cost		\$30,215
Professional Fees at 16.0%	+	\$4,834
Total Project Cost		\$35,050

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSIS03	Title:	REFINISH CEILINGS
Priority Sequence:	15		
Priority Class:	3		
Category Code:	IS3B	System:	INTERIOR/FINISH SYS.
		Component:	CEILINGS
		Element:	REPLACEMENT

Building Code:	WILS
Building Name:	WILLIS BUILDING
Subclass/Savings:	Not Applicable

Code Application:	Not Applicable
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Project Class:	Deferred Maintenance
Project Date:	10/2/2009

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

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

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSIS03

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	11,750	\$2.12	\$24,910	\$2.98	\$35,015	\$59,925
Painted ceiling finish application	SF	1,380	\$0.17	\$235	\$0.81	\$1,118	\$1,352
Project Totals:				\$25,145		\$36,133	\$61,277

Material/Labor Cost		\$61,304
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$43,857
General Contractor Mark Up at 20.0%	+	\$8,771
Construction Cost		\$52,628
Professional Fees at 16.0%	+	\$8,420
Total Project Cost		\$61,049

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSIS04	Title:	REPLACE INTERIOR DOORS
Priority Sequence:	16		
Priority Class:	3		
Category Code:	IS4A	System:	INTERIOR/FINISH SYS.
		Component:	DOORS
		Element:	GENERAL
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	309.4	
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

The condition of the interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. The existing doors and hardware date from original construction and include many with non-compliant, unprotected door louvers. Complete demolition of existing 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
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSIS04

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	28	\$370	\$10,360	\$396	\$11,088	\$21,448
Rated door and rated metal frame, including all hardware and accessible signage	EA	27	\$672	\$18,144	\$812	\$21,924	\$40,068
Project Totals:				\$28,504		\$33,012	\$61,516

Material/Labor Cost		\$61,516
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$45,639
General Contractor Mark Up at 20.0%	+	\$9,128
Construction Cost		\$54,766
Professional Fees at 16.0%	+	\$8,763
Total Project Cost		\$63,529

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSIS01	Title:	REFINISH FLOORING
Priority Sequence:	17		
Priority Class:	3		
Category Code:	IS1A	System:	INTERIOR/FINISH SYS.
		Component:	FLOOR
		Element:	FINISHES-DRY
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/2/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

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

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSIS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Carpet	SF	6,360	\$5.36	\$34,090	\$2.00	\$12,720	\$46,810
Vinyl floor tile	SF	690	\$3.53	\$2,436	\$2.50	\$1,725	\$4,161
Ceramic tile	SF	830	\$7.24	\$6,009	\$10.63	\$8,823	\$14,832
Project Totals:				\$42,535		\$23,268	\$65,802

Material/Labor Cost		\$65,813
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$54,769</u>
General Contractor Mark Up at 20.0%	+	<u>\$10,954</u>
Construction Cost		<u>\$65,722</u>
Professional Fees at 16.0%	+	<u>\$10,516</u>
Total Project Cost		<u>\$76,238</u>

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSIS05	Title:	RESTROOM RENOVATION
Priority Sequence:	18		
Priority Class:	3		
Category Code:	IS6D	System:	INTERIOR/FINISH SYS.
		Component:	GENERAL
		Element:	OTHER
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	211, 602, 604, 605, 606	
Project Class:	Capital Renewal		
Project Date:	10/2/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

The restroom fixtures and finishes are mostly original to the year of construction. The fixtures are sound but aged and inefficient. The finishes are outdated. A comprehensive restroom renovation including new fixtures, finishes, partitions, accessories, and dual-level drinking fountains is recommended.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSIS05

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	20	\$1,969	\$39,380	\$1,699	\$33,980	\$73,360
Dual-level drinking fountain	EA	2	\$1,216	\$2,432	\$374	\$748	\$3,180
Alcove construction	EA	2	\$877	\$1,754	\$3,742	\$7,484	\$9,238
Project Totals:				\$43,566		\$42,212	\$85,778

Material/Labor Cost		\$85,778
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$65,526
General Contractor Mark Up at 20.0%	+	\$13,105
Construction Cost		\$78,631
Professional Fees at 16.0%	+	\$12,581
Total Project Cost		\$91,212

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSSI01	Title:	DRAINAGE REPAIRS AT PLANTER RETAINING WALLS
Priority Sequence:	19		
Priority Class:	3		
Category Code:	SI3A	System:	SITE
		Component:	HARDSCAPE
		Element:	STRUCTURE
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Area Wide: Floor(s) 1		

Project Description

There is evidence of water infiltration through the elevated brick masonry planter retaining wall at the south west building corner. Excavation and drainage / waterproofing system upgrades are recommended. Improve the base wall drains at the foundation level to reduce lateral pressures and assure structural integrity of the retaining wall prior to restoring the landscaping.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSSI01

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	60	\$121	\$7,260	\$257	\$15,420	\$22,680
Landscape restoration 20 feet from building	LF	60	\$11.49	\$689	\$8.62	\$517	\$1,207
Drainage system restoration and Dampproofing application to a height of 10 feet	LF	60	\$12.85	\$771	\$22.50	\$1,350	\$2,121
Brick masonry wall repairs	LOT	1	\$1,800	\$1,800	\$3,875	\$3,875	\$5,675
Project Totals:				\$10,520		\$21,162	\$31,683

Material/Labor Cost		\$31,682
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$21,450</u>
General Contractor Mark Up at 20.0%	+	<u>\$4,290</u>
Construction Cost		<u>\$25,740</u>
Professional Fees at 16.0%	+	<u>\$4,118</u>
Total Project Cost		<u>\$29,859</u>

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSSI03	Title:	SITE PAVING AND ACCESS UPGRADES
Priority Sequence:	20		
Priority Class:	3		
Category Code:	SI1A	System:	SITE
		Component:	ACCESS
		Element:	PEDESTRIAN
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	406	
Project Class:	Deferred Maintenance		
Project Date:	10/2/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

Pedestrian paving systems are in overall fair condition with isolated areas of uneven lippage and cracking that potentially represent a liability to the owner. In place repairs and grinding with selective area replacements of pedestrian pavements is warranted. The installation of an additional curb cut ramps and defined cross walk at the building entrance across from the parking area is also recommended.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSSI03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Concrete pedestrian paving repairs and selective replacements	SF	800	\$2.97	\$2,376	\$3.64	\$2,912	\$5,288
Install new curb cut ramp and graphics at crosswalk	LOT	1	\$1,850	\$1,850	\$3,450	\$3,450	\$5,300
Project Totals:				\$4,226		\$6,362	\$10,588

Material/Labor Cost		\$10,588
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$7,519
General Contractor Mark Up at 20.0%	+	\$1,504
Construction Cost		\$9,023
Professional Fees at 16.0%	+	\$1,444
Total Project Cost		\$10,467

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSFS02	Title:	FIRE ALARM SYSTEM REPLACEMENT
Priority Sequence:	21		
Priority Class:	4		
Category Code:	FS2A	System:	FIRE/LIFE SAFETY
		Component:	DETECTION ALARM
		Element:	GENERAL
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	702.1	
	NFPA	1, 101	
Project Class:	Capital Renewal		
Project Date:	10/16/2009		
Project Location:	Floor-wide: Floor(s) 1		

Project Description

Upgrade the existing fire alarm system with a modern components. Specify a point addressable, supervised, main fire alarm panel with an annunciator. Include 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.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSFS02

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, and cut and patching materials	SF	15,366	\$1.46	\$22,434	\$0.89	\$13,676	\$36,110
Project Totals:				\$22,434		\$13,676	\$36,110

Material/Labor Cost		\$36,110
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$29,607</u>
General Contractor Mark Up at 20.0%	+	<u>\$5,921</u>
Construction Cost		<u>\$35,528</u>
Professional Fees at 16.0%	+	<u>\$5,685</u>
Total Project Cost		<u>\$41,213</u>

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSAC01	Title:	BUILDING ENTRY ACCESSIBILITY UPGRADES
Priority Sequence:	22		
Priority Class:	4		
Category Code:	AC2A	System:	ACCESSIBILITY
		Component:	BUILDING ENTRY
		Element:	GENERAL
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	403.6, 505	
Project Class:	Plant Adaption		
Project Date:	10/2/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

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

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSAC01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Freestanding handrail system, painted (15 feet minimum)	LF	80	\$91.11	\$7,289	\$150	\$12,000	\$19,289
Project Totals:				\$7,289		\$12,000	\$19,289

Material/Labor Cost		\$19,289
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$13,496</u>
General Contractor Mark Up at 20.0%	+	<u>\$2,699</u>
Construction Cost		<u>\$16,195</u>
Professional Fees at 16.0%	+	<u>\$2,591</u>
Total Project Cost		<u>\$18,786</u>

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSAC02	Title:	INTERIOR AMENITY ACCESSIBILITY UPGRADES
Priority Sequence:	23		
Priority Class:	4		
Category Code:	AC4A	System:	ACCESSIBILITY
		Component:	GENERAL
		Element:	FUNCTIONAL SPACE MOD.
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	804	
Project Class:	Plant Adaption		
Project Date:	10/2/2009		
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 existing employee break room kitchenette is a barrier to accessibility. The installation of wheelchair-accessible kitchenette cabinetry and associated amenities are recommended where applicable.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSAC02

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

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Description

Project Number:	WILSAC03	Title:	AUDITORIUM ACCESSIBILITY UPGRADES
Priority Sequence:	24		
Priority Class:	4		
Category Code:	AC4B	System:	ACCESSIBILITY
		Component:	GENERAL
		Element:	OTHER
Building Code:	WILS		
Building Name:	WILLIS BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	219.3, 706.1	
Project Class:	Plant Adaption		
Project Date:	10/2/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

Current accessibility legislation requires that places of assembly be accessible to the handicapped. Install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance.

Specific Project Details
Facility Condition Analysis
Section Three
WILS : WILLIS BUILDING

Project Cost

Project Number: WILSAC03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Infrared transmitter and headphone receiver sets	SYS	1	\$1,520	\$1,520	\$1,333	\$1,333	\$2,853
Project Totals:				\$1,520		\$1,333	\$2,853

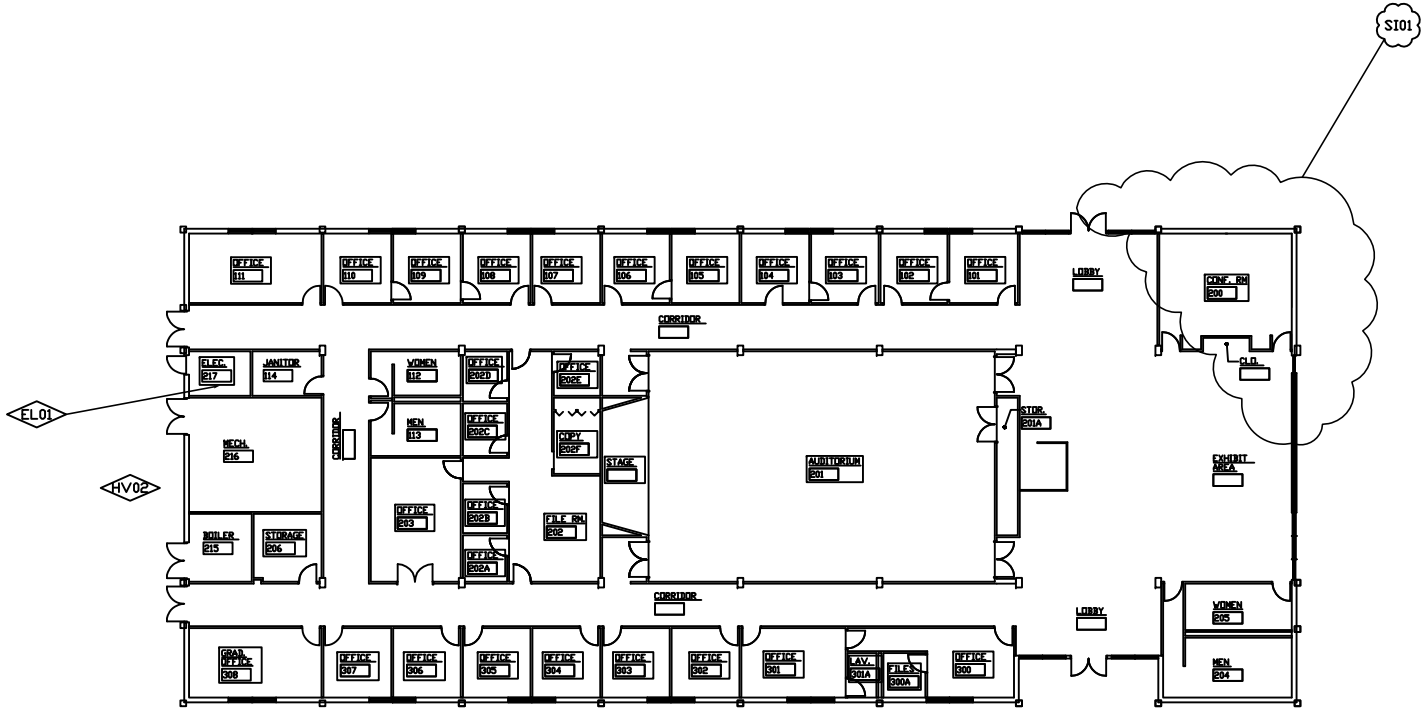
Material/Labor Cost		\$2,853
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$2,214
General Contractor Mark Up at 20.0%	+	\$443
Construction Cost		\$2,657
Professional Fees at 16.0%	+	\$425
Total Project Cost		\$3,083

FACILITY CONDITION ANALYSIS

SECTION 4

**DRAWINGS
AND PROJECT LOCATIONS**

ROOF
HV01



- AC01
- AC03
- FS01
- PL01
- S102
- S103
- ES01
- ES02
- ES03
- ES04
- AC02
- EL02
- EL03
- FS02
- FS03
- HV01
- IS01
- IS02
- IS03
- IS04
- IS05

WILLIS BUILDING

BLDG NO. WILS

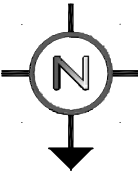


FACILITY CONDITION ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

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

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



FIRST FLOOR PLAN

Sheet No.
1 of 1

FACILITY CONDITION ANALYSIS

SECTION 5

LIFE CYCLE MODEL SUMMARY
AND PROJECTIONS

Life Cycle Model
Building Component Summary
WILS : WILLIS BUILDING

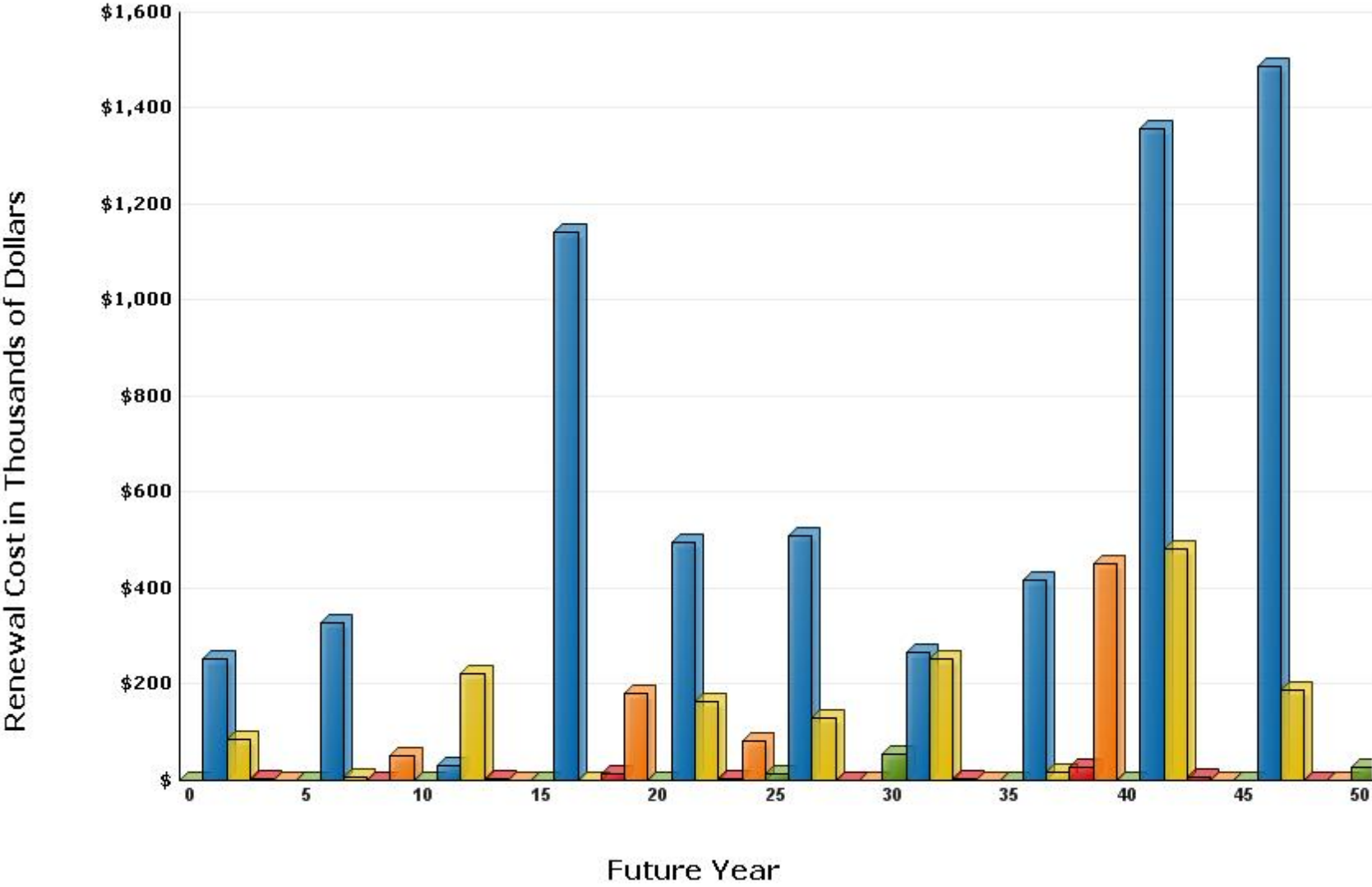
Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
B2010	EXTERIOR FINISH RENEWAL	2,670	SF	\$1.30		\$3,481	1974	10
B2010	EXTERIOR FINISH RENEWAL	8,020	SF	\$1.30	.31	\$3,241	1974	10
B2020	STANDARD GLAZING AND CURTAIN WALL	2,560	SF	\$104.04		\$266,334	1974	55
B2020	STANDARD GLAZING AND CURTAIN WALL	450	SF	\$104.04		\$46,816	2000	55
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	4	LEAF	\$4,311.24		\$17,245	2000	20
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	4	LEAF	\$4,311.24		\$17,245	1974	20
B2030	LOW TRAFFIC EXTERIOR DOOR SYSTEM	5	LEAF	\$2,863.29		\$14,316	1974	40
B3010	BUILT-UP ROOF	15,340	SF	\$6.70		\$102,818	2007	20
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	28	LEAF	\$783.68		\$21,943	1974	35
C1020	RATED DOOR AND FRAME INCLUDING HARDWARE	27	LEAF	\$1,489.06		\$40,205	1974	35
C1020	INTERIOR DOOR HARDWARE	27	EA	\$423.04		\$11,422	1974	15
C1020	INTERIOR DOOR HARDWARE	28	EA	\$423.04		\$11,845	1974	15
C3010	STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.)	30,950	SF	\$0.80		\$24,792	2000	10
C3010	PREMIUM WALL FINISH (EPOXY, TILE, WOOD PANEL, ETC.)	1,630	SF	\$5.87		\$9,562	1974	20
C3020	CARPET	6,360	SF	\$8.75		\$55,627	2000	10
C3020	VINYL FLOOR TILE	690	SF	\$6.59		\$4,546	2000	15
C3020	CERAMIC FLOOR TILE	830	SF	\$17.36		\$14,411	1974	20
C3020	RESURFACE AND SEAL CONCRETE OR TERRAZZO	5,950	SF	\$5.85		\$34,788	1974	50
C3030	ACOUSTICAL TILE CEILING SYSTEM	11,750	SF	\$4.99		\$58,668	1990	15
C3030	PAINTED CEILING FINISH APPLICATION	1,380	SF	\$0.80		\$1,105	2000	15
D2010	PLUMBING FIXTURES - OFFICE / ADMINISTRATION	15,366	SF	\$2.85		\$43,846	1974	35
D2020	WATER PIPING - OFFICE / ADMINISTRATION	15,366	SF	\$2.03		\$31,192	1974	35
D2020	WATER HEATER (RES., ELEC.)	40	GAL	\$47.95		\$1,918	2001	10
D2030	DRAIN PIPING - OFFICE / ADMINISTRATION	15,366	SF	\$3.08		\$47,358	1974	40
D2050	AIR COMPRESSOR PACKAGE (AVERAGE SIZE)	1	SYS	\$6,456.49		\$6,456	2008	25
D3020	BOILER (UP TO 2000 MBH)	398	MBH	\$56.73		\$22,580	2008	30
D3020	HEATING SYSTEM, STEAM OR HYDRONIC	6	SF	\$7.30		\$44	1974	25
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	5	EA	\$2,768.62		\$13,843	1974	20
D3040	EXHAUST FAN - PROPELLER TYPE OR SIMILAR	1	EA	\$1,357.34		\$1,357	1974	20

**Life Cycle Model
Building Component Summary
WILS : WILLIS BUILDING**

Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
D3040	HVAC SYSTEM - OFFICE / ADMINISTRATION	15,360	SF	\$24.80		\$380,965	1974	25
D3040	BASE MTD. PUMP - UP TO 15 HP	2	HP	\$3,175.77		\$6,352	1994	20
D3050	SPLIT DX SYSTEM	50	TON	\$2,143.89		\$107,194	1994	15
D5010	ELECTRICAL SYSTEM - OFFICE / ADMINISTRATION	15,366	SF	\$11.82		\$181,569	1974	50
D5010	ELECTRICAL SWITCHGEAR 120/208V	800	AMP	\$32.96		\$26,371	1974	20
D5020	EMERGENCY LIGHT (BATTERY)	14	EA	\$283.62		\$3,971	2006	20
D5020	EXIT SIGNS (BATTERY)	18	EA	\$280.76		\$5,054	2006	20
D5020	LIGHTING - OFFICE / ADMINISTRATION	15,366	SF	\$7.24		\$111,194	1974	20
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	15,366	SF	\$2.61		\$40,176	2002	15
E2010	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	1	LOT	\$5,940.22		<u>\$5,940</u>	1974	20
						\$1,797,790		

Life Cycle Model Expenditure Projections

WILS : WILLIS BUILDING



Average Annual Renewal Cost Per SqFt \$5.02

FACILITY CONDITION ANALYSIS

SECTION 6

PHOTOGRAPHIC LOG

**Photo Log - Facility Condition
Analysis**

WILS : WILLIS BUILDING

Photo ID No	Description	Location	Date
WILS001a	Primary building street frontage	Northwest building corner	9/16/2009
WILS001e	Two gas-fired, 80 gallon, commercial water heaters	Boiler room 215	9/16/2009
WILS002a	Built-up membrane roofing system	Main roof, south	9/16/2009
WILS002e	Honeywell controller #4 for air handler 1	Mechanical room 216	9/16/2009
WILS003a	Built-up membrane roofing system	Main roof, east	9/16/2009
WILS003e	Air handling unit 1	Mechanical room 216	9/16/2009
WILS004a	Built-up membrane roofing system	Main roof, north	9/16/2009
WILS004e	Two small fan-powered ventilators	Roof, east end	9/16/2009
WILS005a	Upper clerestory windows	Main roof, west	9/16/2009
WILS005e	One large fan-powered ventilator	Roof, east end	9/16/2009
WILS006a	Paint finish deterioration on lintel	Main roof at clerestory	9/16/2009
WILS006e	50 ton, air-cooled DX condensing unit	South exterior	9/16/2009
WILS007a	Gasketed single-pane clerestory window unit	Main roof at clerestory	9/16/2009
WILS007e	Exit sign and emergency light combination unit	Auditorium 201	9/16/2009
WILS008a	Main building entrance	North elevation	9/16/2009
WILS008e	Office doors with louvers for return-air circulation	North, side hallway	9/16/2009
WILS009a	Building facade	West elevation	9/16/2009
WILS009e	Hallway return-air intake	East, end hallway	9/16/2009
WILS010a	Main building entrance	South elevation	9/16/2009
WILS011a	Building facade and service court	East elevation	9/16/2009
WILS012a	Typical window unit	North elevation	9/16/2009
WILS013a	Overhang soffit along facade	North elevation	9/16/2009
WILS014a	Architectural concrete roof spandrel panels	Northeast building corner	9/16/2009
WILS015a	Building facade	East elevation	9/16/2009
WILS016a	Exterior egress doors	East elevation	9/16/2009
WILS017a	Typical interior corridor	Building interior	9/16/2009
WILS018a	Main lobby	Building interior	9/16/2009
WILS019a	Main entry doors at south lobby	Building interior	9/16/2009
WILS020a	Auditorium with clerestory lighting	Building interior	9/16/2009
WILS021a	Auditorium with clerestory lighting	Building interior	9/16/2009
WILS022a	Typical non-compliant interior door louver	Corridor	9/16/2009
WILS023a	Typical exterior egress doors	Main corridor, north	9/16/2009
WILS024a	Badly worn carpeting	Building interior	9/16/2009

**Photo Log - Facility Condition
Analysis**

WILS : WILLIS BUILDING

Photo ID No	Description	Location	Date
WILS025a	File room with clerestory lighting	Building interior	9/16/2009
WILS026a	Non-compliant, unrated partition enclosure	Electrical and IT room	9/16/2009
WILS027a	Non-compliant, unrated partition enclosure	Electrical and IT room	9/16/2009
WILS028a	Non-compliant knob door hardware	Building interior	9/16/2009
WILS029a	Missing drain piping protection at lavatory	Lobby, public restroom	9/16/2009
WILS030a	Non-compliant employee break room	Break room 206	9/16/2009
WILS031a	Drinking fountain installation	Main corridor, north	9/16/2009
WILS032a	Aging drinking fountain	Lobby	9/16/2009
WILS033a	Low-flow drinking fountain	Main corridor, north	9/16/2009
WILS034a	Non-compliant handrailing systems at steps	Main exterior building entry, south	9/16/2009
WILS035a	Non-compliant handrailing systems at ramp	Main exterior building entry, south	9/16/2009
WILS036a	Overgrown shrubbery	South elevation	9/16/2009
WILS037a	Efflorescence staining at planter wall	Site, west	9/16/2009
WILS038a	Faulty wall drainage at planter	Site, west	9/16/2009
WILS039a	Building facade	North elevation	9/16/2009
WILS040a	Service yard and dumpsters	Site, west	9/16/2009
WILS041a	Service yard, dumpsters, and HVAC unit	Site, west	9/16/2009

Facility Condition Analysis - Photo Log



WILS001A.jpg



WILS001E.jpg



WILS002A.jpg



WILS002E.jpg



WILS003A.jpg



WILS003E.jpg



WILS004A.jpg



WILS004E.jpg



WILS005A.jpg



WILS005E.jpg



WILS006A.jpg



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Facility Condition Analysis - Photo Log



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WILS031A.jpg

Facility Condition Analysis - Photo Log



WILS032A.jpg



WILS033A.jpg



WILS034A.jpg



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WILS036A.jpg



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WILS038A.jpg



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WILS040A.jpg



WILS041A.jpg

