



Library and Courts II Building (038)

900 "N" Street, Sacramento, CA 95814

Facility Condition Assessment

June 2015

Prepared for the State of California Department of General Services



TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
BACKGROUND	2
OBJECTIVE	2
SCOPE OF ASSESSMENT	3
SURVEY FINDINGS.....	3
INTRODUCTION.....	6
BUILDING BACKGROUND.....	6
BUILDING DESCRIPTION.....	6
FACILITY CONDITION ASSESSMENT.....	7
SCOPE OF ASSESSMENT	10
PRIORITY RANKING	10
CURRENT REPLACEMENT VALUE.....	15
FACILITY CONDITION INDEX.....	15
APPENDICES.....	18
APPENDIX A: ACCESSIBILITY ISSUES.....	18
APPENDIX B: GENERAL ASSESSMENT INFORMATION.....	19
APPENDIX C: CERTIFICATION.....	48
APPENDIX D: PHOTOS	50
APPENDIX F: BUILDING FACT SHEET	72
APPENDIX G: COST TABLES	74
APPENDIX H: SUPPORTING DOCUMENTATION	78
APPENDIX J: ELEVATOR REPORT	96

THIS PAGE INTENTIONALLY BLANK

EXECUTIVE SUMMARY

BACKGROUND

This Facility Condition Assessment (FCA), prepared by EMG Corporation (EMG) in collaboration with the Department of General Services (DGS) Real Estate Services Division (RESA) and the consulting team of Hellmuth, Obata & Kassabaum, Inc. (HOK), is a component of a comprehensive long-range strategic asset management plan for DGS's portfolio of general-purpose office buildings. The goal is to determine the best course of action to address DGS's general-purpose office buildings' infrastructure deficiencies and space needs with a focus on controlling long-term costs.

The DGS portfolio comprises nearly 17 million gross square feet (GSF) of state-owned office facilities statewide, contained within 54 general-purpose state-owned office building sites. The FCA inventories and evaluates each of the DGS general purpose office buildings to benchmark current condition and establish a replacement value. This FCA assesses the infrastructure conditions for the Library and Courts II Building (038).

The assessment methodology identifies infrastructure systems and components requiring immediate repair or replacement based on their useful life expectancy. In addition, the FCA projects the capital funding needs over a ten-year lifecycle horizon period of 2015 to 2024. The assessments evaluate envelope, structure, plumbing, heating, air conditioning, energy and lighting controls, electrical, data/communications, elevators, fire protection and suppression, security, and utility capacity and systems. The replacement value is determined by multiplying the existing building square footage (SF) by the cost per SF to construct a new, similar building on a similar site.

OBJECTIVE

The objective of the FCA is to identify the capital reserves for infrastructure lifecycle repair/replacement needs over the ten-year lifecycle. The FCA projections will become the basis for the Facility Condition Index (FCI). The FCI is the ratio of immediate repair costs or capital reserve needs to the current replacement value of the existing building. The FCI is a key performance indicator that is used to objectively quantify and evaluate the current condition of a building and can be used to compare the relative condition of the subject building with other buildings within the same portfolio and as a trending matrix for infrastructure "health" over time.

The Library and Courts II Building (038) FCI ratio will be incorporated as a comparative factor in the overall DGS portfolio analysis, enabling DGS to accurately rank and prioritize building repair/replacement needs in the long-range strategic plan.

SCOPE OF ASSESSMENT

The EMG evaluation team, comprised of engineers and architects, visited the Library and Courts II Building (038) on February 06, 2015. The evaluation team reviewed available engineering studies and construction documents to familiarize themselves with the physical conditions. The evaluation team conducted a walk-through of the building to observe building systems and components, identify physical deficiencies, and formulate recommendations to remedy any deficiencies.

SURVEY FINDINGS

One of the major goals of the FCA is to calculate the FCI, which gives an indication of a building's overall condition. Two FCI ratios are calculated and presented – Current Year and Ten-Year. The Current Year FCI is the ratio of Immediate Repair Costs to the building's Current Replacement Value. Similarly, the Ten-Year FCI is the ratio of anticipated Capital Reserve Needs over the next ten years to the Current Replacement Value.

The values are based on a scale from 0-100 percent. A lower FCI ratio indicates that the building's infrastructure is in "Good" condition. Based on industry standards, a "Good" condition building will have an FCI ratio at or below five percent. A "Fair" condition building will have an FCI ratio between five and ten percent. A "Poor" condition building will have an FCI ratio between 10 and 65 percent. A building with an FCI ratio exceeding 65 percent is considered "Very Poor" and is a candidate for replacement or divestment.

The table below represents summary-level findings for the FCA. The deficiencies identified in this assessment can be combined with potential new construction requirements to develop an overall strategy that can serve as the basis for a portfolio-wide capital improvement funding strategy. Key findings from the assessment include:

Key Finding	Metric
Current Replacement Value	\$43,046,325
Immediate Repair Costs (12 months)	\$2,159,059
1-5 Year Capital Needs	\$4,527,422
6-10 Year Capital Needs	\$179,139
Total 10-Year Capital Reserve Needs	\$6,865,620

$$FCI = \frac{\text{Immediate Repair Costs or Ten-Year Capital Reserve Needs}}{\text{Current Replacement Value of Building}}$$

Current Year FCI

$$\text{Current FCI} = \frac{\$2,159,059}{\$43,046,325}$$

Ten-Year FCI

$$\text{Ten-Year FCI} = \frac{\$6,865,620}{\$43,046,325}$$

Current Year FCI	Ten-Year FCI
5.02 %= Fair Condition	15.95 %= Poor Condition

The major issues contributing to the Immediate Repair Costs and the Current Year FCI ratio are summarized below:

- There is moisture intrusion in the basement, and a new waterproof coating should be applied to the exterior surface of the basement wall.
- Built-up roofing replacement, including new flashings and ballast, is recommended.
- Interior finish replacements, including painting and new flooring, are recommended.

Further detail on the specific costs that make up the Immediate Repair Costs can be found in the cost tables in the appendices.

THIS PAGE INTENTIONALLY BLANK

INTRODUCTION

BUILDING BACKGROUND

The Library and Courts II Building (038) was designed by the Architects Collaborative of San Francisco, in collaboration with associate architect Carissimi Roher Associates of Sacramento. Construction was completed in 1994. The five-story building is located at 900 N Street, one block from the State Capitol, and within the Sacramento downtown area. The Library and Courts II Building houses the California State Library, including the California History Room, which contains every newspaper ever printed in California, along with a collection of books, artifacts, and more. On the ground floor are the Braille and Talking Book Libraries, both of which are open to the public. The building is connected to the historic Stanley Mosk Library and Courts Building (003) via a tunnel under N Street.

The building has been continuously occupied since its completion. The Third District Court of Appeal, hence the name “Library & Courts II,” completed their relocation from the 4th floor to the historic Stanley Mosk Library and Courts Building in 2013. The California State Library immediately moved into the 4th floor and now occupies the entire building as a single tenant.

The gross area of the building is 115,000 SF with a net usable area of 115,000 SF. The ratio of net usable to gross building area is 100 percent. The building occupant capacity is 191. There is no on-site parking.

BUILDING DESCRIPTION

The building structural system is a steel superstructure with concrete-topped metal floor decks. The roof structure is flat with a built-up membrane and stone ballast.

The exterior walls are finished with polished granite and glazed curtain wall system panels.

The interior walls are painted drywall. The floor finishes in the office areas are commercial carpet, and vinyl composition tiles. The public lobbies have terrazzo flooring and the bathrooms have ceramic tile floors and wainscoting on the walls. The ceilings are finished with painted drywall or acoustic tiles.

The facility is served by two traction passenger elevators and a freight elevator that serve all five floors.

Domestic hot water is provided to the restrooms by commercial grade gas water heaters located in the penthouse mechanical room.

Heating and cooling are provided by a central across the street, adjacent to the parking garage. There is a steam-to-hot water converter with pumps, condensate pumps, and chilled water pumps.

Life safety systems include fire extinguishers, fire alarm, and fire sprinkler system.

The building covers nearly the entire site. There are perimeter planters, and a fragrance garden on the left side of the building, inside a decorative fence.

The sidewalks throughout the property are constructed of cast-in-place concrete.

Project Statistics

Item	Description
Project Name	Library and Courts II Building
Building ID	038
Property Type	Administration
Year Built	1994
Number of Stories	5
Occupied	Yes
Land Area (acres)	0.93
Gross Square Feet (GSF)	115,000

FACILITY CONDITION ASSESSMENT

The goal of the FCA is to gather the data necessary to understand the existing building’s condition, identify strategies to meet the building’s lifecycle needs, and create the foundation for a long-range strategic plan.

COMPONENTS OF THE FCA

Current conditions analysis

The current condition analysis identifies the existing building’s immediate requirements, including deferred maintenance, recommended discretionary improvements, and code non-compliance issues.

Anticipated building reserve analysis

The anticipated building reserve analysis projects the ongoing degradation of the building’s components and costs associated with the reserve or replacement of these components as they reach the end of their useful lives.

Funding needs analysis

The funding needs analysis results in a summary report of deferred maintenance and systems reserve funding needs.

CALCULATION OF FUNDING NEEDS

Calculating probable funding needs involves identifying and quantifying the building's infrastructure systems or components that require immediate or future action over their lifecycle horizon. Funding needs are segregated into two categories, Immediate Repair Costs and Capital Reserve Needs. A Replacement Value is calculated and a Remaining Useful Life Estimate is determined as well as Opinions of Probable Cost in order to establish the FCI. The terms are defined as follows:

Immediate Repair Costs

Immediate Repair Costs are Opinions of Probable Cost that require immediate action as a result of: (1) material existing or potentially unsafe conditions, (2) material building or fire code violations, or (3) conditions that, if left un-remedied, have the potential to result in, or contribute to, critical element or system failure within **one year** that will likely result in a significant escalation of its remedial cost. Immediate Repair Costs are items which require action within year one.

Capital Reserve Needs

Capital Reserve Needs are recurring probable expenditures, which are not considered operation or maintenance expenses, that should be budgeted annually. In general, Capital Reserve Needs are reasonably predictable both in terms of frequency and cost. However, Capital Reserve Needs may also include components or systems that have an indeterminable life but nonetheless have a potential liability for failure within a ten-year period. The Capital Reserve Needs presented in the FCA represent average industry costs as of 2015, without inflation. The Ten-Year Expenditure Forecast table in Appendix G includes inflation by assuming a five percent annual inflation rate on Total Capital Needs by year.

Current Replacement Value

Current Replacement Value is determined by multiplying the existing building's SF by the Cost per SF to construct a new, similar building on a similar site. Current Replacement Value is not an appraised or market value for the purposes of a property sale. To estimate the cost per SF, EMG referenced Marshall & Swift's *Marshall Valuation Service*. This building cost data index is an industry standard, adjusted annually, and relied upon by the insurance industry, as well as other agencies and organizations. Cost per SF is calculated by adjusting Marshall & Swift's unit cost for a Government Office Building to account for factors related to building systems, class of construction, and location to reflect the estimated cost of construction at the subject building site.

Remaining Useful Life

Remaining Useful Life (RUL) estimate is based upon site observations, research, and judgment, along with reference to Expected Useful Life (EUL) tables from various industry sources. A sample copy of the EUL table is included in the appendices. EMG estimates when a system or component will likely need replacement based on a visual review of the current condition and the RUL estimate. Exposure to the elements, quality of installation, extent of use, and quality and amount of preventive maintenance exercised are factors that impact the effective age of a system or component. As a result, a system or component might have an effective age that is greater or less than its actual chronological age. The RUL of a system or component equals the EUL less its effective age.

Opinions of Probable Cost

Opinions of Probable Cost are estimates for individual repair or replacement and are a key consideration of this engagement. These estimates may be based on invoice or bid documents provided by the owner or building manager, cost estimates developed by construction resources (such as R.S. Means), or EMG's experience with similar properties, city cost indexes, and projections of economic conditions. Where quantities cannot be derived from building plans, lump sum costs or allowances are utilized.

Opinions of Probable Cost should only be construed as preliminary, order-of-magnitude budgets. Actual costs will likely vary from EMG's estimates depending on type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing of the work (if applicable), quality of contractor, market conditions, and whether competitive pricing is solicited. ASTM E2018-08¹ recognizes that certain Opinions of Probable Cost cannot be developed within the scope of an FCA without further study. Instances where a visual inspection is not possible and further study is recommended, EMG provides a cost estimate of the additional study in the FCA.

Facility Condition Index

The FCI gives an indication of a building's overall state of condition. The values are based on a 0-100 percent scale. The Current Year FCI is the ratio of Immediate Repair Costs to Current Replacement Value. The Ten-Year FCI is the ratio of Capital Reserve Needs (2015 – 2024) to Current Replacement Value. The Ten-Year FCI is calculated using uninflated 2015 dollars because the year of project implementation is likely unknown or subject to change. Since both the repair/replacement costs and Current Replacement Value will increase at the same inflation rate, the impacts of inflation do not significantly affect the FCI ratio.

¹ ASTM 2018-08 is the national guideline for preparing a Facility Condition Assessment published by the American Society for the Testing of Materials.

SCOPE OF ASSESSMENT

The evaluation team conducted a walk-through survey of Library and Courts II Building (038) on February 06, 2015. The survey included analysis and observation of the building's interior and exterior, including the roofs. The evaluation team interviewed the building maintenance staff to inquire about the subject property's previous repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements. Opinions were developed based on the site evaluation, interviews with relevant maintenance providers and facilities managers, and previous experience with comparable properties. The evaluation team questioned those knowledgeable of the subject property's physical condition and operation (or knowledgeable of similar systems) to gain comparative information to use in evaluation of the subject property. In addition, the building staff provided documents and information to the evaluation team that were relevant to the subject property's physical improvements, extent, and type of use and assisted the team in identifying potential discrepancies between reported information and observed conditions.

The evaluation team made a visual assessment for compliance with the American with Disabilities Act (ADA) Accessibility Guidelines and the California Title 24 disabled access requirements. Items determined to be out of compliance are included in the repair/replacement costs. The assessments did not include detailed measurements to determine compliance under the regulations.

The data collected in the FCA are the basis of the projected ten-year Capital Reserve Needs. The goals of the FCA are:

- Benchmark current building condition with recommended corrections for deficiencies to establish the Immediate Repair Costs.
- Estimate life expectancy of various building systems and components to establish the Capital Reserve Needs for infrastructure lifecycle repair/replacement for the ten-year assessment period from 2015 to 2024.
- Provide estimates for corrections for Immediate Repairs Costs and projections for Capital Reserve Needs for lifecycle component replacement within the ten-year projection timeframe.
- Serve as a guide for future replacement, repairs, and improvements and assist DGS in prioritizing its capital budget and expenditures across its real estate portfolio.

PRIORITY RANKING

The recorded existing conditions, identified problems and deficiencies, documented corrective action, and quantities of recommended repairs and/or replacements are documented during the assessment process. Data are collected and entered directly into the assessment and capital planning database using tablet computers. Based on the discussions with the client and industry standards, a Priority Ranking is calculated for each cost observation. The Priority Ranking calculation is a function of four key categories.

PRIORITY RANKING CATEGORIES

Building Mission Ranking

A building can be ranked on a scale of one to ten based on conversations with the client regarding the importance of each building to the overall mission of the building. The properties reviewed during this assessment are all general-purpose office buildings and for the purposes of this study are all ranked the same for Building Mission.

Remaining Useful Life Ranking

The EUL projection of the component is calibrated against the RUL as estimated by the field assessor. This ratio is then utilized as a factor in the priority ranking. An RUL of zero years is given the highest priority and always results in ranking the component as Priority 1.

Asset Component Category

Each material or system (asset) evaluated is assigned a unique Uniformat code. The Uniformat designation is then associated with a ranking based on the overall importance to the operation of the building. An asset that is related to the building envelope, e.g. roof, window, or exterior siding, is assigned a higher ranking than a component such as a flooring, carpeting, or other finish material.

Functional Asset Categories

The cost associated with each asset or component evaluated is assigned to a category to include: Code Compliance, Facility Operations, Environmental Factors, Facility Functionality, and Integrity of the Facility. The Asset Categories are given a ranking based on their relative importance. For example, Code Compliance is ranked higher than Maintenance.

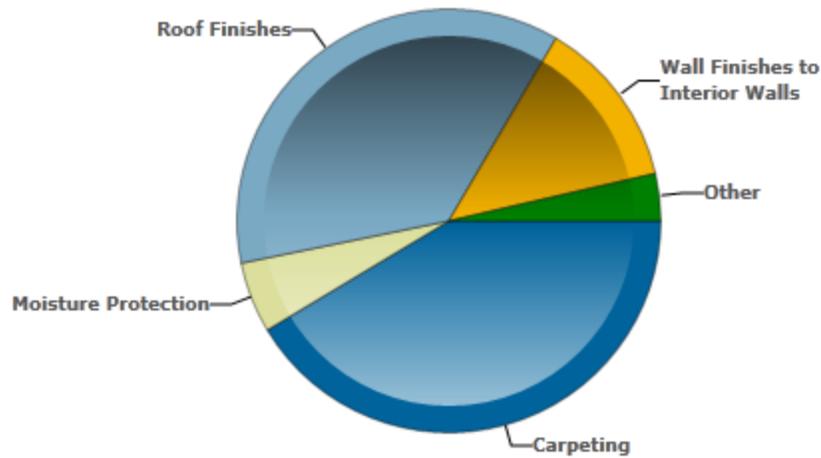
PRIORITY RATIO

The four categories above are assigned a numerical value and the values are multiplied together for each cost observation. The resulting number is then assigned a priority by the capital planning software with the lower range assigned Priority 1 and the higher range of numbers assigned among Priority 2, Priority 3, and Priority 4. Priority 5 is reserved for code issues that were permitted by the code at the time of construction but would be required only if a major renovation or code compliance project were to be undertaken.

The physical condition of building systems and related components are typically defined as being in one of four conditions: Good, Fair, Poor, or Very Poor, or a combination thereof. For the purposes of this report, the following definitions are used:

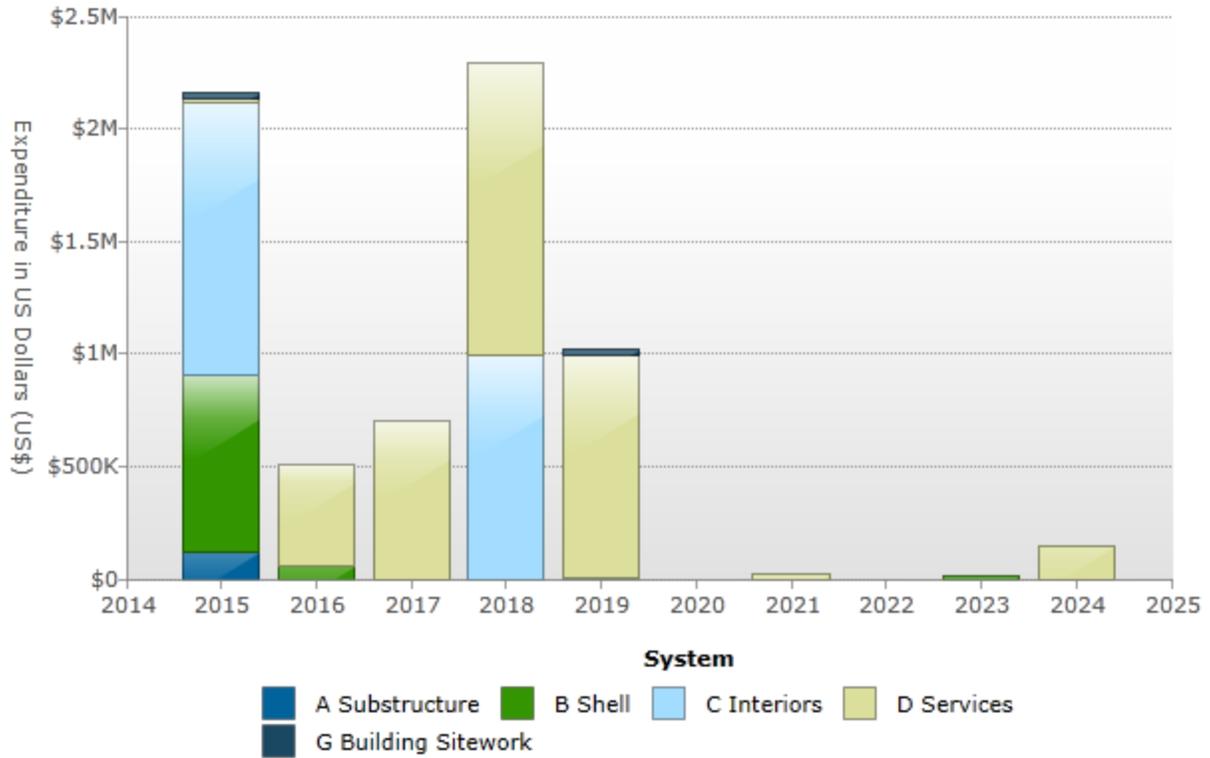
Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.
Very Poor	Subjected to hard or long-term wear. Has reached the end of its useful or serviceable life. Renewal is now necessary.

Distribution of Immediate Needs by Building System



Level	Building System	Estimated Cost
A2022	Moisture Protection	\$116,941
B3011	Roof Finishes	\$791,122
C3012	Wall Finishes to Interior Walls	\$279,732
C3024	Flooring	\$31,445
C3025	Carpeting	\$893,602
D1011	Passenger Elevators	\$9,000
D1012	Freight Elevators	\$8,500
G2031	Paving & Surfacing	\$5,667
G2053	Top Soil and Planting Beds	\$23,052
	Total	\$2,159,059

Total Capital Needs By System and Year



Year	Building System							Total
	A Sub-Structure	B Shell	C Interiors	D Services	E Equip. & Furnishings	F Spec. Const. & Demolition	G Bldg. Site Work	
2015	\$116,941	\$791,122	\$1,204,778	\$17,500	\$0	\$0	\$28,718	\$2,159,059
2016	\$0	\$60,633	\$0	\$450,000	\$0	\$0	\$0	\$510,633
2017	\$0	\$0	\$0	\$703,740	\$0	\$0	\$0	\$703,740
2018	\$0	\$0	\$996,093	\$1,295,143	\$0	\$0	\$0	\$2,291,236
2019	\$0	\$0	\$6,656	\$988,807	\$0	\$0	\$26,350	\$1,021,813
2021	\$0	\$0	\$0	\$18,868	\$0	\$0	\$0	\$18,868
2023	\$0	\$13,007	\$0	\$0	\$0	\$0	\$0	\$13,007
2024	\$0	\$0	\$0	\$147,264	\$0	\$0	\$0	\$147,264
Total	\$116,941	\$864,761	\$2,207,528	\$3,621,322	\$0	\$0	\$55,068	\$6,865,620

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as \$43,046,325 for the Library and Courts II Building Building (038). The Current Replacement Value is the existing building SF multiplied by the Cost per SF to construct a new, similar building. As noted previously, the basis of the Cost per SF amount is the Marshall & Swift Cost Valuation system. A copy of the cost calculation is included in Appendix H of this report.

Building Area	Cost/SF	Current Replacement Value
115,000 GSF	\$374	\$43,046,325

FACILITY CONDITION INDEX

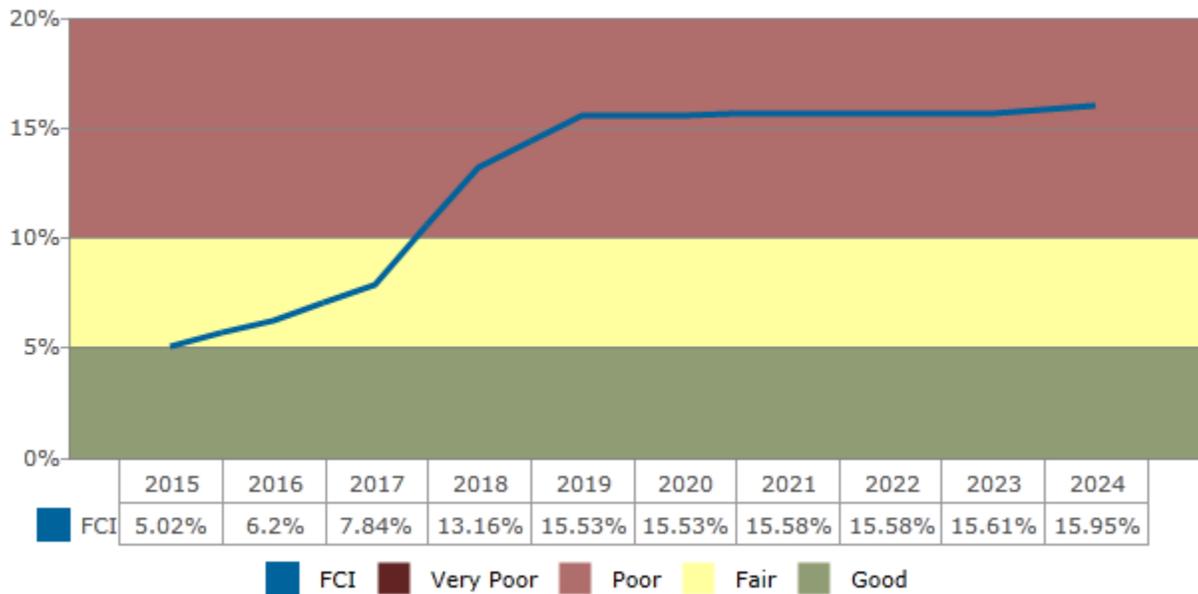
The FCI¹ is an indication of a building’s current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the “rule of two-thirds,” is the threshold for identifying potential candidates for replacement or divestment.² Once the FCI ratio reaches 65 percent, or roughly two-thirds of the Current Replacement Value of the estimated cost to replace a building, it may not be prudent to continue to fund repairs. In cases where aggressive facilities planning is expected to be necessary, this threshold may be adjusted to address more pressing needs.

Condition	Definition	Value
Good	In new or well-maintained condition, with no visual evidence of wear, soiling or other deficiencies.	0% to 5%
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.	Greater than 5% to 10%
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	Greater than 10% to 65%
Very Poor	Subjected to hard or long-term wear. Has reached the end of its useful or serviceable life. Renewal is now necessary.	Greater than 65%

² Sean C. Rush (1991). *Managing the Facilities Portfolio: a Practical Approach to Institutional Facility Renewal and Deferred Maintenance*. National Association of College and University Business Officers. pp. 26–66. ISBN 978-0-915164-59-2.

The chart below indicates the cumulative effects of the FCI ratio over the ten-year study period assuming the required funds are NOT provided to address the identified repairs and replacements for each year.

Cumulative Effects of FCI over the Study Period



THIS PAGE INTENTIONALLY BLANK

APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A20 BASEMENT CONSTRUCTION

Item	Description
A2022 Moisture Protection	A2022 Waterproof Coating
Condition	Poor
Qty / UOM	1 / LS
RUL (years)	0
Location	Basement

OBSERVATIONS/COMMENTS:

There are signs of water intrusion on the basement walls at the west elevation. The application of an elastomeric waterproof coating to the exterior walls of the basement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
A2022	Replace A2022 Waterproof Coating	1.0 - LS	74400.0	OP - Maintenance	Priority I	2015	74,400

Item	Description
A2022 Moisture Protection	A2022 Crack Repair
Condition	Poor
Qty / UOM	350 / LF
RUL (years)	0
Location	Basement walls

OBSERVATIONS/COMMENTS:

Cracks in the basement walls and concrete slab require repair with concrete epoxy injection.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
A2022	A2022 Repair Crack	350.0 - LF	121.5	OP - Maintenance	Priority I	2015	42,541

COST SUMMARY:

Type	Year	Total Expenditures
A20 Basement Construction	2015	\$116,941

B Shell Systems

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2011 Exterior Walls
Condition	Good
Qty / UOM	41550 / SF
RUL (years)	15
Location	Throughout exterior
Exterior Wall Construction	Exposed Aggregate Precast Concrete Panels
Parapets	Yes
Balcony Walls and Handrails	Concrete
Exterior Soffits	Concealed
Lintels and Sills	Concrete

OBSERVATIONS/COMMENTS:

Exterior walls do not require further action.

Item	Description
B2011 Exterior Wall Construction	B2011 Curtain Wall Glazing
Condition	Good
Qty / UOM	3820 / SF
RUL (years)	11
Location	Throughout exterior
Exterior Wall Construction	Exposed Aggregate Precast Concrete Panels
Parapets	Yes
Balcony Walls and Handrails	Concrete
Exterior Soffits	Concealed

OBSERVATIONS/COMMENTS:

Curtain walls do not require further action.

Item	Description
B202I Windows	B202I Windows, Single Pane Aluminum
Condition	Fair - Good
Qty / UOM	103 / EA
RUL (years)	10
Location	Throughout exterior
Window Type	Fixed
Windows Material	Steel
Windows Glazing	Double Glazed
Window Operation	Manual

OBSERVATIONS/COMMENTS:

The single pane windows were installed in 1994. Sealant and gasket maintenance will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B202I	B202I Replace sealant and gasket throughout building	3,950.0 - LF	15.4	OP - Maintenance	Priority 2	2016	60,633

Item	Description
B203I Glazed Doors & Entrances	B203I Main Entrance doors
Condition	Good
Qty / UOM	3 / EA
RUL (years)	8
Location	First floor exterior
Door Hardware	Push Plate
Door Operation	Manual
Glass Type	Tempered Glass
Door Frame	Metal Framed
Door Use	Entrance

OBSERVATIONS/COMMENTS:

Based on their estimated RUL, the lobby entrance doors will require replacement toward the end of the ten-year study period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B2031	Replace B2031 Main Entrance doors	3.0 - EA	4335.5	OP - Maintenance	Priority 4	2023	13,007

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2016	\$60,633
B20 Exterior Enclosure	2023	\$13,007

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 Built-up Roof
Condition	Poor
Qty / UOM	425 / SQ
RUL (years)	0
Location	Roof
Insulation	None
Flashings and Trim	Metal
Roof Eaves and Soffits	No
Roof Drainage	Internal Building Piping
Roof Warranty	No

OBSERVATIONS/COMMENTS:

The built-up roof system is the original installation and has reached the end of its expected life. There is reported moisture intrusion occurring on the south side. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3011	Replace B3011 Built-up Roof	425.0 - SQ	1861.5	IN - Beyond Rated Life	Priority I	2015	791,122

COST SUMMARY:

Type	Year	Total Expenditures
B30 Roofing	2015	\$791,122

C Interiors Systems

C10 INTERIOR CONSTRUCTION

Item	Description
C1021 Interior Doors	C1021 Interior Doors
Condition	Fair
Qty / UOM	104 / EA
RUL (years)	11
Location	All Floors

OBSERVATIONS/COMMENTS:

Periodic adjustments to the interior doors will be required as part of maintenance work. Painting is anticipated and this work is included with the interior wall painting work.

Item	Description
C1021 Interior Doors	C1021 Double Doors, Wood with Vision Lites
Condition	Fair
Qty / UOM	22 / EA
RUL (years)	4
Location	Throughout interior

OBSERVATIONS/COMMENTS:

Based on current condition, door repainting is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C1021	C1021 Refinish wood double doors with vision lites	22.0 - EA	302.6	IN - Appearance	Priority 4	2019	6,656

COST SUMMARY:

Type	Year	Total Expenditures
C10 Interior Construction	2019	\$6,656

C20 STAIRS

Item	Description
C2011 Regular Stairs	C2011 Fire Exit Stairs
Condition	Good
Qty / UOM	4600 / SF
RUL (years)	11
Location	Stairs
Stairs Frame	Steel
Stair Riser	Closed
Stair Treads	Concrete
Stair Railings	Metal
Stair Soffit Finishes	Plaster
Stair Handrail Finishes	Painted

OBSERVATIONS/COMMENTS:

There are three steel fire exit stairways with concrete flooring and an additional stairway adjacent to the elevators with terrazzo flooring. No further action is required.

C30 INTERIOR FINISHES

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Paint Interior Walls, Drywall
Condition	Fair
Qty / UOM	124500 / SF
RUL (years)	0
Location	Throughout interior

OBSERVATIONS/COMMENTS:

Based on the RUL, the interior walls will require painting during the reserve term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3012	C3012 Paint Interior Walls	124,500.0 - SF	2.1	IN - Appearance	Priority 2	2015	265,534

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Wall Finishes - Elevator Lobby
Condition	Fair
Qty / UOM	4580 / SF
RUL (years)	0
Location	Throughout interior

OBSERVATIONS/COMMENTS:

The elevator lobby walls and ceilings are painted drywall. Based on the RUL, repainting the walls and ceilings is anticipated during the reserve term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3012	C3012 Paint wall finishes to interior walls	4,580.0 - SF	3.1	IN - Appearance	Priority 2	2015	14,198

Item	Description
C3024 Flooring	C3024 Vinyl Tile
Condition	Fair
Qty / UOM	250 / SY
RUL (years)	0
Location	Throughout interior
Floor Toppings	Light Weight Concrete

OBSERVATIONS/COMMENTS:

Based on the RUL, vinyl tile replacement is anticipated during the reserve term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3024	Replace C3024 Vinyl Tile	250.0 - SY	125.8	IN - Appearance	Priority 2	2015	31,445

Item	Description
C3025 Carpeting	C3025 Carpet flooring
Condition	Fair
Qty / UOM	9250 / SY
RUL (years)	0
Location	Throughout Building
Floor Toppings	Light Weight Concrete

OBSERVATIONS/COMMENTS:

All office areas and corridors have carpet tile flooring. Based on the RUL, carpet tile replacement is anticipated during the reserve term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3025	Replace C3025 Carpet flooring	9,250.0 - SY	96.6	IN - Appearance	Priority 2	2015	893,602

Item	Description
C3032 Suspended Ceilings	C3032 Acoustical Ceiling Tile
Condition	Fair
Qty / UOM	829 / CSF
RUL (years)	3
Location	Throughout building

OBSERVATIONS/COMMENTS:

Based on the RUL and condition, acoustic ceiling tile replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3032	Replace C3032 Acoustical Ceiling Tile	829.0 - CSF	1201.6	IN - Appearance	Priority 3	2018	996,093

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2015	\$1,204,778
C30 Interior Finishes	2018	\$996,093

D Services Systems

D10 CONVEYING SYSTEMS

Item	Description
D1011 Passenger Elevators	D1011 Passenger Elevators
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	2
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The elevator consultant's report is included in the appendices of this report.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	D1011 Adjust elevator cars for optimal performance	2.0 - EA	1500.0	IN - Reliability	Priority 2	2015	3,000
D1011	D1011 Perform five year full load tests on all 2 traction cars	2.0 - EA	3000.0	CC - Building Code	Priority 1	2015	6,000
D1011	D1011 Modernize Passenger Cars 1-2	2.0 - EA	225000.0	FN - Modernization	Priority 3	2016	450,000

Item	Description
D1012 Freight Elevators	D1011 Traction Elevator
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The elevator consultant's report is included in the appendices of this report.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1012	D1012 Perform five year full load tests on traction car	1.0 - EA	3000.0	CC - Building Code	Priority 1	2015	3,000
D1012	D1012 Upgrade dock material lift with some added safety circuits	1.0 - EA	4000.0	CC - Building Code	Priority 1	2015	4,000
D1012	D1012 Adjust elevator car for optimal performance	1.0 - EA	1500.0	IN - Reliability	Priority 2	2015	1,500
D1012	D1012 Modernize Service traction Car 3	1.0 - EA	235000.0	FN - Modernization	Priority 3	2019	235,000

Item	Description
D1013 Lifts	Wheelchair Lift To 8'
Condition	Good
Qty / UOM	1 / EA
RUL (years)	15
Location	Northwest entrance at Conner

OBSERVATIONS/COMMENTS:

No further action is recommended.

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2015	\$17,500
D10 Conveying Systems	2016	\$450,000
D10 Conveying Systems	2019	\$235,000

D20 PLUMBING

Item	Description
D2011 Water Closets	D2011 Commercial Grade Water Closet, 1.6 GPF Unit
Condition	Good
Qty / UOM	36 / EA
RUL (years)	14
Location	Restrooms
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Manual flush valves were observed on the majority of plumbing fixtures. Automatic flush valves are recommended for improved sanitation and potential water conservation.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2011	D2011 Install automatic flush valves on toilets	20.0 - EA	400.0	OP - Energy	Priority 2	2017	8,000

Item	Description
D2012 Urinals	D2012 Urinal
Condition	Good
Qty / UOM	10 / EA
RUL (years)	14
Location	Restrooms
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Manual flush valves were observed on the majority of urinals. Automatic flush valves are recommended for improved sanitation and water conservation.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2012	D2012 Install automatic flush valves on urinals	7.0 - EA	400.0	OP - Energy	Priority 2	2017	2,800

Item	Description
D2013 Lavatories	D2013 Counter Top Sink and Faucet
Condition	Good
Qty / UOM	42 / EA
RUL (years)	14
Location	Restrooms

OBSERVATIONS/COMMENTS:

Manual flush valves were observed on the majority of plumbing fixtures. Automatic flush valves are recommended for water conservation.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2013	D2013 Install automatic faucets with motion sensors	20.0 - EA	400.0	OP - Energy	Priority 2	2017	8,000

Item	Description
D2022 Hot Water Service	D2030 Domestic Water Heater
Condition	Good
Qty / UOM	1 / EA
RUL (years)	6
Location	Rooftop

OBSERVATIONS/COMMENTS:

A 100-gallon natural gas fired water heater is located in the penthouse. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2022	Replace D2030 Domestic Water Heater	1.0 - EA	18868.2	IN - Beyond Rated Life	Priority 3	2021	18,868

Item	Description
D2043 Rainwater Drainage Equipment	D2043 Sanitary & Storm Water System Pumps
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	2
Location	Basement

OBSERVATIONS/COMMENTS:

Two sump pumps are located in the basement. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2043	Replace D2043 Sanitary & Storm Water System Pumps	2.0 - EA	28164.2	IN - Beyond Rated Life	Priority 2	2017	56,328

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2017	\$75,128
D20 Plumbing	2021	\$18,868

D30 HVAC

Energy Supply	
Item	Description
Fuel Oil Type	N/A
Fuel Gas Type	Natural Gas
Solid Fuel Type	N/A
District Heat Type	District Steam
District Cooling Type	District Chilled Water
Solar Thermal	No
Fuel Tank Type	N/A
Fuel Tank Size (gallons)	N/A
Fuel Tank Location	N/A
Gas Meter Location	N/A
Electrical Meter Location	Main Electrical Room
Water Meter Location	Exterior of building, above ground.

Item	Description
D3041.1 Air Handling Units	D3041 Air Handling Unit
Condition	Fair - Good
Qty / UOM	7 / EA
RUL (years)	2
Location	Mechanical Rooms

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by 7 interior air handling units (AHUs), which feed VAV boxes located in each space. Based on the estimated RUL, replacement of AHUs is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 Air Handling Unit	7.0 - EA	35811.5	IN - Beyond Rated Life	Priority 2	2017	250,681

Item	Description
D3041.2 Terminal Units VAV	D3041 VAV Boxes
Condition	Fair - Good
Qty / UOM	148 / EA
RUL (years)	3
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by variable air volume (VAV) boxes supplied with conditioned air from the central system air handlers. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 VAV Boxes	148.0 - EA	2496.7	IN - Beyond Rated Life	Priority 2	2018	369,514

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Return Air Distribution Ducting
Condition	Fair - Good
Qty / UOM	115000 / SF
RUL (years)	3
Location	Throughout building

OBSERVATIONS/COMMENTS:

Replacement of the exhaust ducting at the same time as the VAV boxes and ceiling tile replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Return Air Distribution Ducting	115,000.0 - SF	3.9	FN - Modernization	Priority 3	2018	452,088

Item	Description
D3063 Heating/Cooling Air Handling Units	D3063 Variable Frequency Drive
Condition	Poor - Fair
Qty / UOM	24 / EA
RUL (years)	3
Location	Mechanical Rooms

OBSERVATIONS/COMMENTS:

Based on the condition and RUL, it is anticipated that VFDs will require replacement during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3063	Replace D3063 Variable Frequency Drive	24.0 - EA	19730.9	IN - Beyond Rated Life	Priority 2	2018	473,541

Item	Description
D3068 Building Automation Systems	D3068 DDC Controls
Condition	Good
Qty / UOM	115000 / SF
RUL (years)	17
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Direct Digital Controls were installed 2012. No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2017	\$250,681
D30 HVAC	2018	\$1,295,143

D40 FIRE PROTECTION SYSTEMS

Fire and Life Safety System	
Item	Description
Fire Alarm System Components Present	
Smoke detectors	Yes
Pull stations	Yes
Audible alarms	Yes
Strobe lights	Yes
Central fire alarm panel	Yes
Annunciator panel	Yes
Smoke Detectors Power Supply	N/A
Carbon Monoxide Detectors	Yes
Heat Detector	Yes
Central Fire Alarm Panel Location	N/A
Annunciator Panel Location	N/A
Fire Extinguishers	Yes
Fire Extinguisher Inspection Date	May 7, 2014
Distance to Nearest Fire Hydrant (ft)	N/A
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	N/A
Halon Gas Systems	N/A
Smoke Evacuation Systems	N/A
Fire-rated Stairwells	Yes
Fire-rated Stairwell Finish	XXXX
Stairwell Discharge	Exterior of the building at Grade
Stairwell Pressurized	N/A
Fire-Rated Doors Observed	Yes
Location of Fire-Rated Doors	Stairwells
Fire Alarm Service Company	N/A
Date of Last Fire Alarm Service	N/A
Are the individual office unit fire alarm systems monitored?	N/A
Are the common area fire alarm systems monitored?	N/A
Types of Common Areas Monitored	N/A

Fire and Life Safety System	
Item	Description
Fire Alarm Monitoring Company	N/A

Item	Description
D4011 Sprinkler Water Supply	D4011 Sprinkler Heads
Condition	Fair
Qty / UOM	115000 / SF
RUL (years)	4
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The sprinkler riser and heads are more than twenty-one years old. The sprinkler heads should be replaced.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D4011	Replace D4011 Sprinkler Heads	115,000.0 - SF	2.3	CC - Life Safety	Priority 2	2019	268,088

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Fire Pump Electric
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Basement

OBSERVATIONS/COMMENTS:

The fire pump, controller, and transfer switch are original to the building and installed in 1994. Based on the RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D4012	Replace D4012 Fire Pump Electric	1.0 - EA	78619.2	CC - Life Safety	Priority 2	2019	78,619

COST SUMMARY:

Type	Year	Total Expenditures
D40 Fire Protection Systems	2019	\$346,707

D50 ELECTRICAL SYSTEMS

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 225 Amps, 30 Circuits
Condition	Good
Qty / UOM	20 / EA
RUL (years)	19
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The majority of the electrical panels are 1994 Westinghouse equipment and original to the building. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 2000 Amps
Condition	Good
Qty / UOM	3 / EA
RUL (years)	9
Location	Main Electrical Room

OBSERVATIONS/COMMENTS:

The main switchgear is the original 1994 Westinghouse equipment. Based on its estimated RUL replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5012	Replace D5010 Switchgear, Mainframe, 2000 Amps	3.0 - EA	49088.0	IN - Beyond Rated Life	Priority 4	2024	147,264

Item	Description
D5022 Lighting Equipment	D5022 Lighting Fixtures
Condition	Fair
Qty / UOM	942 / EA
RUL (years)	2
Location	

OBSERVATIONS/COMMENTS:

Replacement of the lighting fixtures will be required when the ceiling tile systems are replaced.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5022	Replace D5022 Lighting Fixtures	942.0 - EA	401.2	FN - Modernization	Priority 2	2017	377,930

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm System
Condition	Fair - Good
Qty / UOM	115000 / SF
RUL (years)	4
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The fire alarm system appears to have adequate number of strobes and modern devices placed throughout the spaces. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5037	Replace D5037 Fire Alarm System	115,000.0 - SF	3.5	CC - Life Safety	Priority 2	2019	407,100

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2017	\$377,930
D50 Electrical Systems	2019	\$407,100
D50 Electrical Systems	2024	\$147,264

G Building Sitework Systems

G20 SITE IMPROVEMENTS

Site Information	
Item	Description
Main Ingress and Egress	N Street
Access from	NW
Additional Entrances	N/A
Access from	SW
Parking Count: Open lot	0
Parking Count: Sheltered by carports	4
Parking Count: Private garages	0
Parking Count: Subterranean garage	0
Parking Count: Freestanding parking structure	0
Number of ADA Compliant Spaces	1
Number of ADA Compliant Spaces for Vans	0
Method of obtaining parking count	Physical count
Property Identification Sign-Primary	Structure mounted
Property Identification Sign- Secondary	N/A
Illuminated Identification Signage	N/A
Building Identification Sign	Yes
Illuminated Sign	N/A
Location of Property ID Sign	North side of the property
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	Yes
Flower beds Present	Yes
Decorative Rocks Present	Yes
Lava Rocks Present	N/A
Ponds Present	N/A
Fountains Present	Yes
Topography	Flat

Item	Description
G2031 Paving & Surfacing	G2031 Concrete Pavement
Condition	Fair
Qty / UOM	250 / SF
RUL (years)	0
Location	Site

OBSERVATIONS/COMMENTS:

There are several cracks on sidewalks around the building which could cause potential trip hazards as the cracks widen due to expansion, contraction and load. Replacement of damaged sections is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2031	Replace G2031 Concrete Pavement	250.0 - SF	22.7	OP - Maintenance	Priority 2	2015	5,667

Item	Description
G2053 Top Soil and Planting Beds	G2053 Landscaping
Condition	Fair
Qty / UOM	3250 / SF
RUL (years)	0
Location	Site

OBSERVATIONS/COMMENTS:

Replacement of the landscaping treatments at the northwest exterior portion of the building will be required in conjunction with the recommended waterproofing of the basement west wall. See A20 Basement Construction.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2053	Replace G2053 Landscaping	3,250.0 - SF	7.1	IN - Appearance	Priority 2	2015	23,052

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2015	\$28,718

G30 SITE CIVIL/MECHANICAL UTILITIES

Item	Description
G3015 Pumping Stations	G3015 Domestic Water Booster System
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Basement

OBSERVATIONS/COMMENTS:

A triplex water booster pump system is located in the basement. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G3015	Replace G3015 Domestic Water Booster System	1.0 - EA	26350.0	IN - Beyond Rated Life	Priority 3	2019	26,350

COST SUMMARY:

Type	Year	Total Expenditures
G30 Site Civil/Mechanical Utilities	2019	\$26,350

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	54
Weather Conditions	Rainy
Snow Covering Ground	No
Wind Conditions	Light Winds

The documentation provided at the time of the assessment is as:

Item	Description
Site Plan Reviewed	Yes
Floor Plan Reviewed	Yes
Construction Drawings Reviewed	Yes
Termite Inspection Report Reviewed	No
Boiler Certificates Reviewed	
Document Year Built Information Obtained From	Fact Sheet

APPENDIX C: CERTIFICATION

EMG has completed a FCA of the subject property listed on the cover page. The FCA was performed at the Client's request using methods and procedures consistent with good commercial and customary practice conforming with ASTM E2018-08, Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process. Within this Property Condition Report (PCR), EMG's reference to the Client follows the ASTM guide's definition of User, that is, the party that retains EMG for the preparation of a baseline FCA of the subject property.

This report is exclusively for the use and benefit of the Client identified on the first page of this report. The purpose for which this report shall be used shall be limited to the use as stated in the contract between the client and EMG.

The opinions EMG expresses in this report were formed utilizing the degree of skill and care ordinarily exercised by any prudent architect or engineer in the same community under similar circumstances. EMG assumes no responsibility or liability for the accuracy of information contained within this report that has been obtained from the Client or the Client's representatives, from other interested parties, or from the public domain. The conclusions presented represent EMG's professional judgment based on information obtained during the course of this assignment. EMG's evaluations, analyses, and opinions are not representations regarding the building design, structural soundness, or actual value of the property. Factual information regarding operations, conditions, and test data provided by the Client or the Client's representative has been assumed to be correct and complete. The conclusions presented within this report are based on the data provided, observations made, and conditions that existed specifically on the date of the assessment. EMG certifies that EMG has no undisclosed interest in the subject property, that EMG's relationship with the Client is at arms-length, and that EMG's employment and compensation are not contingent upon the findings or estimated costs to remedy any noted deficiencies due to deferred maintenance and/or any noted component or system replacements.

EMG's FCA cannot wholly eliminate the uncertainty regarding the presence of physical deficiencies and/or the performance of a subject property's building systems. Preparation of a FCA in accordance with ASTM E2018-08 is intended to reduce, but not eliminate, the uncertainty regarding the potential for component or system failure and to reduce the potential that such component or system failure may not be initially observed. This FCA was prepared recognizing the inherent subjective nature of EMG's opinions as to such issues as workmanship, quality of original installation, and estimating the remaining useful life of any given component or system. It should be understood that EMG's suggested remedy may be determined under time constraints or may be formed without the aid of engineering calculations, testing, exploratory probing, the removal of materials, or design. Furthermore, there may be other alternate or more appropriate schemes or methods to remedy the noted physical deficiencies. EMG's opinions are generally formed without detailed knowledge from individuals familiar with the performance of noted components or systems.

Any questions regarding this report should be directed to the Program Manager.

Prepared By: Djahan Nabili, Field Observer

Reviewed By: 
Matt Anderson, Program Manager

APPENDIX D: PHOTOS



:- Main Entrance



A2022 Crack Repair



A2022 Crack Repair



A2022 Crack Repair



A2022 Waterproof Coating



A2022 Waterproof Coating



B2011 Exterior Walls



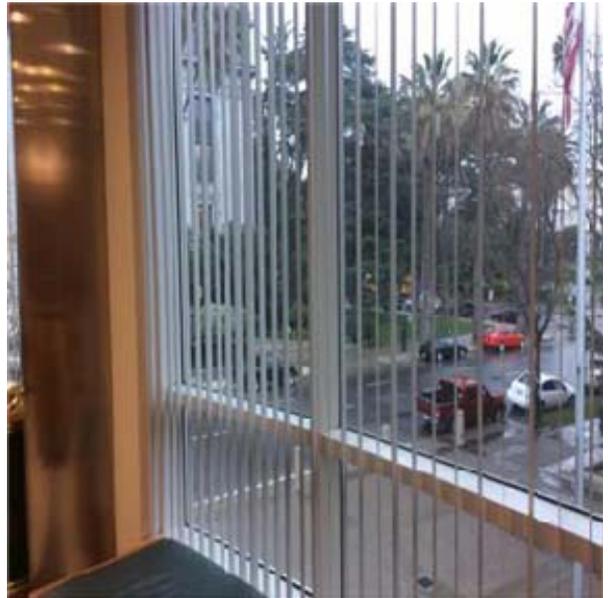
B201 | Exterior Walls



B201 | Exterior Walls



B201 | Curtain Wall Glazing



B201 | Curtain Wall Glazing



B201 | Curtain Wall Glazing



B202 | Windows, Single Pane Aluminum



B202 | Windows, Single Pane Aluminum



B203 | Main Entrance doors



B2031 Main Entrance doors



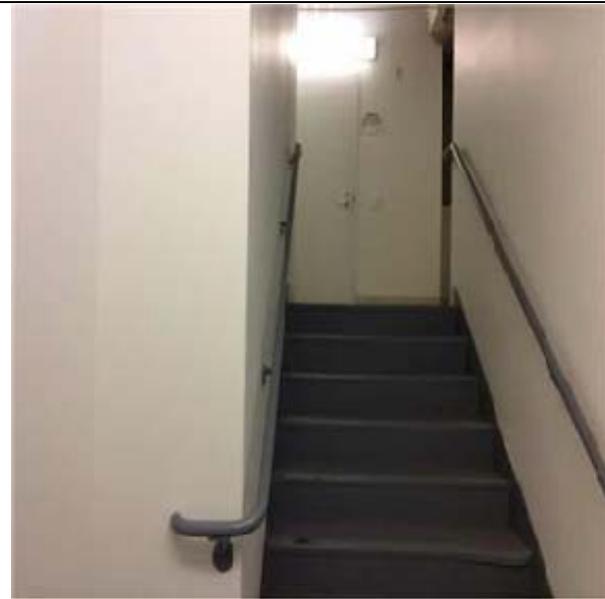
B3011 Built-up Roof



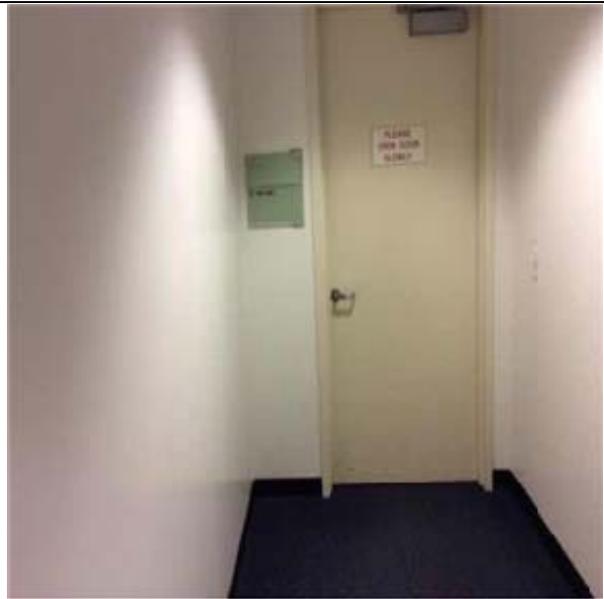
B3011 Built-up Roof



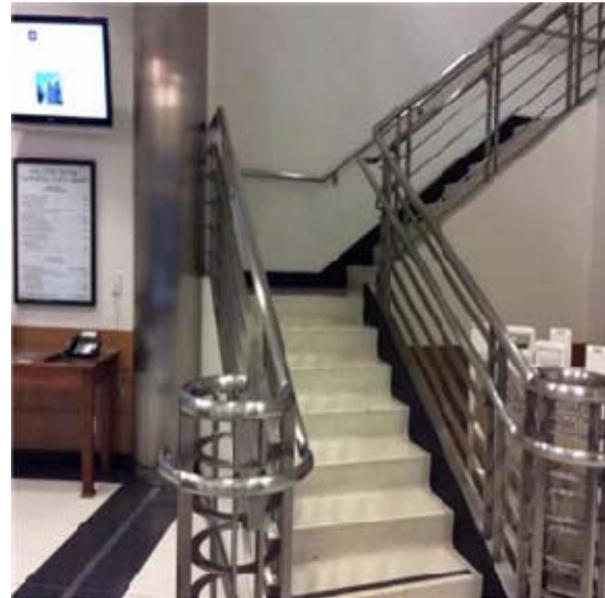
CI021 Double Doors, Wood with Vision Lites



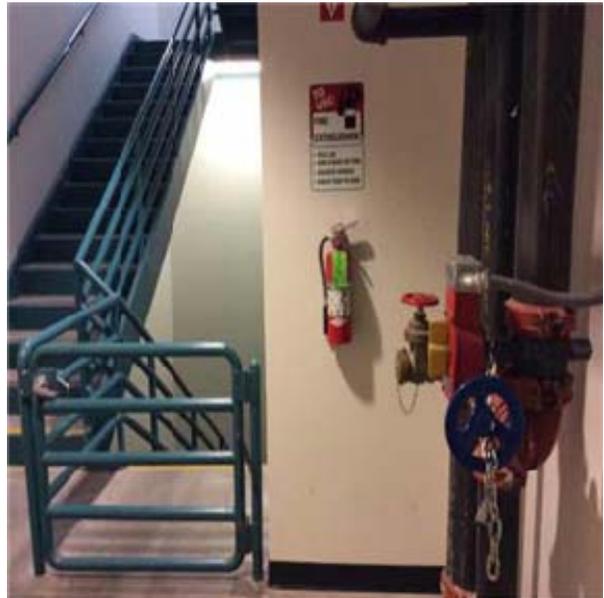
C1021 Interior Doors



C1021 Interior Doors



C2011 Fire Exit Stairs



C2011 Fire Exit Stairs



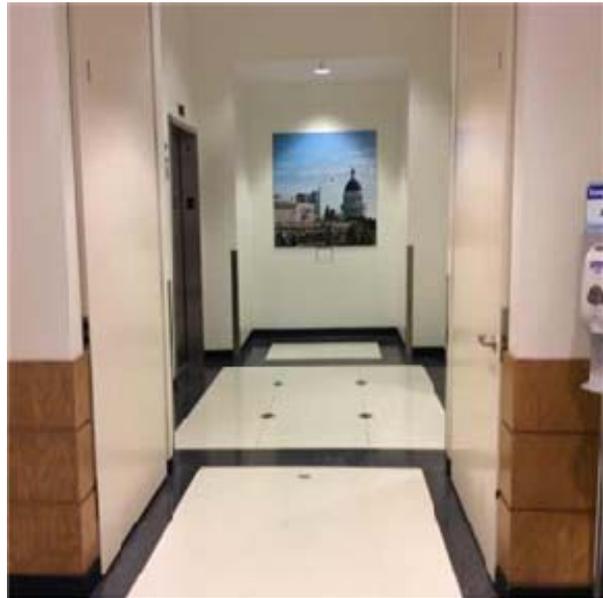
C3012 Paint Interior Walls, Drywall



C3012 Paint Interior Walls, Drywall



C3012 Wall Finishes - Elevator Lobby



C3012 Wall Finishes - Elevator Lobby



C3024 Vinyl Tile



C3024 Vinyl Tile



C3025 Carpet flooring



C3025 Carpet flooring



C3025 Carpet flooring



C3032 Acoustical Ceiling Tile



C3032 Acoustical Ceiling Tile



C3032 Acoustical Ceiling Tile



D1011 Passenger Elevators



D1011 Traction Elevator



D2011 Commercial Grade Water Closet, 1.6 GPF Unit



D2030 Domestic Water Heater



D2043 Sanitary & Storm Water System Pumps



D304I Air Handling Unit



D3063 Variable Frequency Drive



D3068 DDC Controls



D4011 Sprinkler Heads



D4012 Fire Pump Electric



D5010 Switchgear, Mainframe, 2000 Amps



D5012 Breaker Panel 225 Amps, 30 Circuits



G203I Concrete Pavement



G203I Concrete Pavement



G203I Concrete Pavement



G2053 Landscaping



G2053 Landscaping



G3015 Domestic Water Booster System

APPENDIX E: TERMINOLOGY AND ABBREVIATIONS

TERMINOLOGY and ABBREVIATIONS	
Actual Knowledge	Information or observations known first hand by EMG.
ADA	The Americans with Disabilities Act
AHU	Air Handling Unit
Ancillary Structures	Structures that are not the primary improvements of the Property but which may have been constructed to provide support uses.
ASTM	American Society for Testing and Materials
Baseline	A minimum scope level of observation, inquiry, research, documentation review, and cost estimating for conducting a Property Condition Assessment as normally conducted by EMG.
BOMA	Building Owners & Managers Association
Building	Referring to the primary building or buildings on the Property, which are within the scope of the FCA.
Building Codes	A compilation of rules adopted by the municipal, county and/or state governments having jurisdiction over the Property that govern the property's design &/or construction of buildings.
Building Department Records	Information concerning the Property's compliance with applicable Building, Fire and Zoning Codes that is readily available for use by EMG within the time frame required for production of the Property Condition Assessment.
Building Systems	Interacting or interdependent components that comprise a building such as structural, roofing, side wall, plumbing, HVAC, water, sanitary sewer and electrical systems.
BUR	Built Up Roof
CBC	California Building Code
Component	A piece of equipment or element in its entirety that is part of a system.
CFM	Cubic Feet per Minute, usually referring to air flow in a heating or cooling system.
Dangerous or Adverse Conditions	Situations which may pose a threat or possible injury to the Project Manager, or those situations which may require the use of special protective clothing, safety equipment, access equipment, or any precautionary measures.
Deferred Maintenance	Deficiencies that result from postponed maintenance, or repairs that have been put off until a later time and that require repair or replacement to an acceptable condition relative to the age of the system or property.
DHW	Domestic Hot Water
DDC	Direct Digital Controls, for HVAC systems
Dismantle	To take apart; disassemble; tear down any component, device or piece of equipment that is bolted, screwed, secured, or fastened by other means.
DWV	Drainage Waste Ventilation
EPDM	Ethylene propylene diene terpolymer, a single ply roofing material, usually black
EIFS	Exterior Insulation and Finish System
EMS	Energy Management System
Engineering	Analysis or design work requiring extensive formal education, preparation and experience in the use of mathematics, chemistry, physics, and the engineering sciences as provided by a Professional Engineer licensed to practice engineering by any state of the 50 states.
Expected Useful Life (EUL)	The average amount of time in years that a system or component is estimated to function when installed new.

TERMINOLOGY and ABBREVIATIONS	
FEMA	Federal Emergency Management Agency
Fire Department Records	Information generated or acquired by the Fire Department having jurisdiction over the Property, and that is readily available to EMG within the time frame required for production of the FCA.
FIRM	Flood Insurance Rate Maps
FM	Factory Mutual
FRT	Fire Retardant Treated
Guide	A series of options or instructions that do not recommend a specific course of action.
HP	Horse Power, a unit of measure for pumps and motors.
HVAC	Heating, Ventilating & Air Conditioning
IAQ	Indoor Air Quality
Immediate Repairs	Physical deficiencies that require immediate action as a result of: (i) existing or potentially material unsafe conditions, (ii) significant negative conditions impacting tenancy/marketability, (iii) material building code violations, or (iv) poor or deteriorated condition of critical element or system, or (v) a condition that if left "as is", with an extensive delay in addressing same, has the potential to result in or contribute to critical element or system failure within one (1) year.
Interviews	Interrogatory with those knowledgeable about the Property.
kVA	Kilo Volt Amps, a measurement used for electrical devices where Amps is the plural of Amperage, a measure of electrical force.
kW	One thousand Watts, a measure of electrical output.
Material	Having significant importance or great consequence to the asset's intended use or physical condition.
MEP	Mechanical, Electrical, and Plumbing
NFPA	National Fire Protection Association
Observations	The results of the Project Manager's Walk-through Survey.
Observe	The act of conducting a visual, unaided survey of items, systems or conditions that are readily accessible and easily visible on a given day as a result of the Project Manager's walk-through.
Obvious	That which is plain or evident; a condition that is readily accessible and can be easily seen by the Project Manager as a result of his Walk-through without the removal of materials, moving of chattel, or the aid of any instrument, device, or equipment.
Owner	The entity holding the deed to the Property that is the subject of the FCA.
Physical Deficiency	<p>Patent, conspicuous defects, or significant deferred maintenance of the Property's material systems, components, or equipment as observed during the Project Manager's Walk-through Survey.</p> <p>Material systems, components, or equipment that are approaching, have realized, or have exceeded their typical Expected Useful Life (EUL); or, that have exceeded their useful life result of abuse, excessive wear and tear, exposure to the elements, or lack of proper or adequate maintenance.</p> <p>This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous repairs, normal operating maintenance, and conditions that do not present a material deficiency to the Property.</p>
PVC	Poly Vinyl Chloride

TERMINOLOGY and ABBREVIATIONS	
Practically Reviewable	Information that is practically reviewable means that the information is provided by the source in a manner and form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.
Practice	A definitive procedure for performing one or more specific operations or functions that does not produce a test result.
Primary Improvements	The site and building improvements that are of fundamental importance with respect to the Property.
Project Manager	The individual Professional Engineer, Contractor, or Registered Architect having a general, well rounded knowledge of all pertinent site and building systems and components that conducts the on site visit and walk-through observation.
Property	The site and building improvements, which are specifically within the scope of the FCA to be prepared in accordance with the agreement between the Client and EMG.
Readily Accessible	Those areas of the Property that are promptly made available for observation by the Project Manager without the removal of materials or chattel, or the aid of any instrument, device, or equipment at the time of the Walk-through Survey.
Reasonably Ascertainable	Information that is publicly available, provided to EMG's offices from either its source or an information research/retrieval concern, practically reviewable, and available at a nominal cost for either retrieval, reproduction or forwarding.
Recreational Facilities	Spas, saunas, steam baths, swimming pools, tennis courts, playground equipment, and other exercise, entertainment, or athletic facilities.
Remaining Useful Life (RUL)	<p>The consultant's professional opinion of the number of years before a system or component will require replacement or reconditioning. The estimate is based upon observation, available maintenance records, and accepted EUL's for similar items or systems.</p> <p>Inclement weather, exposure to the elements, demand on the system, quality of installation, extent of use, and the degree and quality of preventive maintenance exercised are all factors that could impact the RUL of a system or component. As a result, a system or component may have an effective age greater or less than its actual age. The RUL may be greater or less than its Expected Useful Life (EUL) less actual age.</p>
Replacement Costs	Costs to replace the system or component "in kind" based on Invoices or Bid Documents provided by the current owner or the client, construction costs developed by construction resources such as <i>Means</i> and <i>Dodge</i> , EMG's experience with past costs for similar properties, or the current owner's historical incurred costs.
RTU	Rooftop Unit
Shut-Down	Equipment or systems that are not operating at the time of the Project Manager's Walk-through Survey. Equipment or systems may be considered shutdown if it is not in operation as a result of seasonal temperatures.
Significant	Important, material, and/or serious.
Site Visit	The visit to the property by EMG's Project Manager including walk-through visual observations of the Property, interviews of available project personnel and tenants (if appropriate), review of available documents and interviews of available municipal personnel at municipal offices, all in accordance with the agreement for the Property Condition Assessment.

TERMINOLOGY and ABBREVIATIONS	
Specialty Consultants	Practitioners in the fields of engineering, architecture; or, building system mechanics, specialized service personnel or other specialized individuals that have experience in the maintenance and repair of a particular building component, equipment, or system that have acquired detailed, specialized knowledge in the design, assessment, operation, repair, or installation of the particular component, equipment, or system.
Structural Component	A component of the building, which supports non-variable forces or weights (dead loads) and variable forces or weights (live loads).
Suggested Remedy	A preliminary opinion as to a course of action to remedy or repair a physical deficiency. There may be alternate methods that may be more commensurate with the Client's requirements. Further investigation might make other schemes more appropriate or the suggested remedy unworkable. The suggested remedy may be to conduct further research or testing, or to employ Specialty Consultants to gain a better understanding of the cause, extent of a deficiency (whether observed or highly probable), and the appropriate remedy.
Survey	Observations as the result of a walk-through scan or reconnaissance to obtain information by EMG of the Property's readily accessible and easily visible components or systems.
System	A combination of interacting or interdependent components assembled to carry out one or more functions.
Technically Exhaustive	The use of measurements, instruments, testing, calculations, exploratory probing or discover, and/or other means to discover and/or troubleshoot Physical Deficiencies, develop scientific or Engineering findings, conclusions, and recommendations.
Term	Reserve Term: The number of years that Capital Reserves are projected for as specified in the Expenditure Forecast.
TPO	Thermoplastic polyolefin, a white single ply roofing material, usually white
Timely Access	Entry provided to the Project Manager at the time of his site visit.
UST	Underground Storage Tank
Walk-through Survey	The Project Manager's site visit of the Property consisting of his visual reconnaissance and scan of readily accessible and easily visible components and systems. This definition connotes that such a survey should not be considered in depth, and is to be conducted without the aid of special protective clothing, exploratory probing, removal of materials, testing, or the use of special equipment such as ladders, scaffolding, binoculars, moisture meters, air flow meters, or metering/testing equipment or devices of any kind. It is literally the Project Manager's walk of the Property and observations.

APPENDIX F: BUILDING FACT SHEET

LIBRARY AND COURTS II BUILDING FACT SHEET

900 N Street
Sacramento
Sacramento County

Category 4 - Low Priority - Constructed in Last 20 Years, Special Repairs and Maintenance

BUILDING INFORMATION

- Age: 20 years (completed in 1994)
- Size:*
 - 5-story
 - 115,000 GSF 115,000 NUSF 115,000 Assigned SF
 - 0.93 Acre Parcel
 - No parking available
 - Capacity - 191 occupants
- Financial:
 - State Public Works Board
 - Lease-Revenue Bonds 1998 Series A Refinance, Maturity Date May 2018
 - Original Bond \$52,225,000 - Balance as of 6/30/13 \$10,585,000
 - Bond is paid through Library and Courts General Fund appropriation
 - Billed for BPM partial services
 - Central Plant rate an additional \$0.60/month per SF
- LEED Status: Registered for LEED-EB Certification as part of DGS blanket registration in 2008
- Tenants: Occupied by a single agency, the offices of the California State Library



SPI Structure #: 2208
Real Property #: 9712
BPM #: 038

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

No known studies completed recently.

ADDITIONAL BUILDING ISSUES

There is water intrusion on the basement level, and sections of tar and gravel roof will need to be replaced in the future.

CURRENT UTILIZATION PROJECTS

No utilization projects.

RECENTLY COMPLETED PROJECTS

TBD

Cost

ACTIVE PROJECTS

TBD

Cost

PLANNED SPECIAL REPAIRS BY FISCAL YEAR

TBD

Estimated Cost

PLANNED ADA BUILDING UPGRADES

An ADA survey has not yet been completed for this building, therefore, the extent of needed repairs and deferred maintenance is not yet known. A plan for this building must be established.

DGS STRATEGY: Continue to operate/maintain the building as-is through the special repair/maintenance process; no capital outlay work required for this building at this time.

* Source: Statewide Property Inventory

APPENDIX G: COST TABLES

10 YEAR EXPENDITURE FORECAST



Library and Courts II Building
900 N Street
Sacramento

Useful Life	Estimated Useful Life
	Remaining Useful Life

Plan Type	OP: Operations	CC: Code Compliance
	EN: Environmental	FN: Functionality
	IN: Integrity	

Legend
Deferred
Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total - Deferred	Total - Scheduled			
												Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9					
A. SUBSTRUCTURE																										
A20 BASEMENT CONSTRUCTION																										
A2022	A2022 Moisture Protection	A2022 Crack Repair	Basement walls	A2022 Repair Crack	35	0	350.00	LF	\$121.54	OP - Maintenance	Priority 1	\$42,541	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$42,541	\$0			
A2022	A2022 Moisture Protection	A2022 Waterproof Coating	Basement	Replace A2022 Waterproof Coating	50	0	1.00	LS	\$74,400.00	OP - Maintenance	Priority 1	\$74,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$74,400	\$0			
Substructure Subtotal												\$116,941	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$116,941	\$0
B. SHELL																										
B20 EXTERIOR ENCLOSURE																										
B2021	Aluminum Window (+20 SF)	B2021 Windows, Single Pane Aluminum	Throughout exterior	B2021 Replace sealant and gasket throughout building	10	1	3,950.00	LF	\$15.35	OP - Maintenance	Priority 2	\$0	\$60,633	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$60,633		
B2031	Tempered Glass 3'-0" X 7'-0"	B2031 Main Entrance doors	First floor exterior	Replace B2031 Main Entrance doors	30	8	3.00	EA	\$4,335.51	OP - Maintenance	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,007	\$0	\$0	\$13,007			
B30 ROOFING																										
B3011	Built-Up Roofing, Total Roof	B3011 Built-up Roof	Roof	Replace B3011 Built-up Roof	20	0	425.00	SQ	\$1,861.46	IN - Beyond Rated Life	Priority 1	\$791,122	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$791,122	\$0		
Shell Subtotal												\$791,122	\$60,633	\$0	\$0	\$0	\$0	\$0	\$0	\$13,007	\$0	\$791,122	\$73,639			
C. INTERIORS																										
C10 INTERIOR CONSTRUCTION																										
C1021	Vision Lite Glazing with Wire Reinforced Glass,Including Demo	C1021 Double Doors, Wood with Vision Lites	Throughout interior	C1021 Refinish wood double doors with vision lites	25	4	22.00	EA	\$302.56	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$6,656	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,656		
C30 INTERIOR FINISHES																										
C3012	Paint Interior Walls, Drywall	C3012 Paint Interior Walls, Drywall	Throughout interior	C3012 Paint Interior Walls	10	0	124,500.00	SF	\$2.13	IN - Appearance	Priority 2	\$265,534	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$265,534	\$0		
C3012	Plaster - Painted Smooth Finish	C3012 Wall Finishes - Elevator Lobby	Throughout interior	C3012 Paint wall finishes to interior walls	10	0	4,580.00	SF	\$3.10	IN - Appearance	Priority 2	\$14,198	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,198	\$0		
C3024	Vinyl Tile	C3024 Vinyl Tile	Throughout interior	Replace C3024 Vinyl Tile	18	0	250.00	SY	\$125.78	IN - Appearance	Priority 2	\$31,445	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,445	\$0		
C3025	Carpet, Standard Commercial, Medium Traffic	C3025 Carpet flooring	Throughout Building	Replace C3025 Carpet flooring	10	0	9,250.00	SY	\$96.61	IN - Appearance	Priority 2	\$893,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$893,602	\$0		
C3032	Acoustical Tile With Exposed Grid System	C3032 Acoustical Ceiling Tile	Throughout building	Replace C3032 Acoustical Ceiling Tile	20	3	829.00	CSF	\$1,201.56	IN - Appearance	Priority 3	\$0	\$0	\$0	\$996,093	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$996,093	\$0		
Interiors Subtotal												\$1,204,778	\$0	\$0	\$996,093	\$6,656	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,204,778	\$1,002,750
D. SERVICES																										
D10 CONVEYING SYSTEMS																										
D1011	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Passenger Elevators	Throughout Facility	D1011 Adjust elevator cars for optimal performance	0	0	2.00	EA	\$1,500.00	IN - Reliability	Priority 2	\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,000	\$0		
	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Passenger Elevators	Throughout Facility	D1011 Modernize Passenger Cars 1-2	0	1	2.00	EA	\$225,000.00	FN - Modernization	Priority 3	\$0	\$450,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$450,000		
	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Passenger Elevators	Throughout Facility	D1011 Perform five year full load tests on all 2 traction cars	0	0	2.00	EA	\$3,000.00	CC - Building Code	Priority 1	\$6,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000	\$0		
D1012	D1012 Freight Elevators	D1011 Traction Elevator	Throughout Facility	D1012 Adjust elevator car for optimal performance	0	0	1.00	EA	\$1,500.00	IN - Reliability	Priority 2	\$1,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,500	\$0		
	D1012 Freight Elevators	D1011 Traction Elevator	Throughout Facility	D1012 Modernize Service traction Car 3	0	4	1.00	EA	\$235,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$235,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$235,000	\$0		
	D1012 Freight Elevators	D1011 Traction Elevator	Throughout Facility	D1012 Perform five year full load tests on traction car	0	0	1.00	EA	\$3,000.00	CC - Building Code	Priority 1	\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,000	\$0		
	D1012 Freight Elevators	D1011 Traction Elevator	Throughout Facility	D1012 Upgrade dock material lift with some added safety circuits	0	0	1.00	EA	\$4,000.00	CC - Building Code	Priority 1	\$4,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000	\$0		
D20 PLUMBING																										
D2011	Commercial Grade Water Closet With 1.6 Gpf Unit	D2011 Commercial Grade Water Closet, 1.6 GPF Unit	Restrooms	D2011 Install automatic flush valves on toilets	0	2	20.00	EA	\$400.00	OP - Energy	Priority 2	\$0	\$0	\$8,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,000		
D2012	Urinal	D2012 Urinal	Restrooms	D2012 Install automatic flush valves on urinals	0	2	7.00	EA	\$400.00	OP - Energy	Priority 2	\$0	\$0	\$2,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,800		
D2013	Counter Top Sink and Faucet	D2013 Counter Top Sink and Faucet	Restrooms	D2013 Install automatic faucets with motion sensors	0	2	20.00	EA	\$400.00	OP - Energy	Priority 2	\$0	\$0	\$8,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,000		
D2022	Domestic Hot Water Heater - Gas	D2030 Domestic Water Heater	Rooftop	Replace D2030 Domestic Water Heater	25	6	1.00	EA	\$18,868.20	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$18,868	\$0	\$0	\$0	\$0	\$18,868			
D2043	Storm Water System Pump, 20 HP	D2043 Sanitary & Storm Water System Pumps	Basement	Replace D2043 Sanitary & Storm Water System Pumps	20	2	2.00	EA	\$28,164.24	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$56,328	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,328		
D30 HVAC																										
D3041.1	Air Handler 18,000-20,000 CFM	D3041 Air Handling Unit	Mechanical Rooms	Replace D3041 Air Handling Unit	15	2	7.00	EA	\$35,811.55	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$250,681	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,681		
D3041.2	Vav Box , 270 to 600 CFM	D3041 VAV Boxes	Throughout Facility	Replace D3041 VAV Boxes	30	3	148.00	EA	\$2,496.72	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$369,514	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$369,514		
D3042	D3042 Exhaust Ventilation Systems	D3042 Return Air Distribution Ducting	Throughout building	Replace D3042 Return Air Distribution Ducting	30	3	115,000.00	SF	\$3.93	FN - Modernization	Priority 3	\$0	\$0	\$452,088	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$452,088		
D3063	Variable Frequency Drive, 20 HP Motor	D3063 Variable Frequency Drive	Mechanical Rooms	Replace D3063 Variable Frequency Drive	15	3	24.00	EA	\$19,730.88	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$473,541	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$473,541		
D40 FIRE PROTECTION SYSTEMS																										
D4011	Sprinkler Head	D4011 Sprinkler Heads	Throughout Facility	Replace D4011 Sprinkler Heads	25	4	115,000.00	SF	\$2.33	CC - Life Safety	Priority 2	\$0	\$0	\$0	\$0	\$268,088	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$268,088		
D4012	Fire Pump Electric 750 Gpm 44 HP	D4012 Fire Pump Electric	Basement	Replace D4012 Fire Pump Electric	25	4	1.00	EA	\$78,619.15	CC - Life Safety	Priority 2	\$0	\$0	\$0	\$0	\$78,619	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$78,619		
D50 ELECTRICAL SYSTEMS																										
D5012	Switchgear, Mainframe, 1600 Amps	D5010 Switchgear, Mainframe, 2000 Amps	Main Electrical Room	Replace D5010 Switchgear, Mainframe, 2000 Amps	40	9	3.00	EA	\$49,088.00	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$147,264	\$0	\$147,264		
D5022	D5022 Lighting Equipment	D5022 Lighting Fixtures		Replace D5022 Lighting Fixtures	20	2	942.00	EA	\$401.20	FN - Modernization	Priority 2	\$0	\$0	\$377,930	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$377,930		
D5037	Fire Alarm System, Install New	D5037 Fire Alarm System	Throughout Facility	Replace D5037 Fire Alarm System	25	4	115,000.00	SF	\$3.54	CC - Life Safety	Priority 2	\$0	\$0	\$0	\$0	\$407,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$407,100		
Services Subtotal												\$17,500	\$450,000	\$703,740	\$1,295,143	\$988,807	\$0	\$18,868	\$0	\$0	\$147,264	\$17,500	\$3,603,822			
E. EQUIPMENT & FURNISHING																										
Equipment & Furnishing Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
F. SPECIAL CONSTRUCTION AND DEMOLITION																										
Special Construction And Demolition Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
G. BUILDING SITWORK																										
G20 SITE IMPROVEMENTS																										
G2031	Concrete Sidewalk	G2031 Concrete Pavement	Site	Replace G2031 Concrete Pavement	25	0	250.00	SF	\$22.67	OP - Maintenance	Priority 2	\$5,667	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,667	\$0		
G2053	Landscaping Allowance, Large Area	G2053 Landscaping	Site	Replace G2053 Landscaping	25	0	3,250.00	SF	\$7.09	IN - Appearance	Priority 2	\$23,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,052	\$0		
G30 SITE CIVIL/MECHANICAL UTILITIES																										
G3015	G3015 Pumping Stations	G3015 Domestic Water Booster System	Basement	Replace G3015 Domestic Water Booster System	25	4	1.00	EA	\$26,350.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$26,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,350		
Building Sitework Subtotal												\$28,718	\$0	\$0	\$0	\$26,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,718	\$26,350

10 YEAR EXPENDITURE FORECAST

Library and Courts II Building
900 N Street
Sacramento

Useful Life ¹	Estimated Useful Life	Plan Type ²	OP: Operations	CC: Code Compliance	Legend
	Remaining Useful Life		EN: Environmental	FN: Functionality	
			IN: Integrity		Deferred
					Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority ³	2015 Year 0	2016 Year 1	2017 Year 2	2018 Year 3	2019 Year 4	2020 Year 5	2021 Year 6	2022 Year 7	2023 Year 8	2024 Year 9	Total - Deferred	Total - Scheduled
-----------	-----------------------	-------	----------	--------	-----------	-----------	------	---------------	-----------	-----------	-----------------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	---------------------	----------------------

Z. GENERAL																																	
General Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

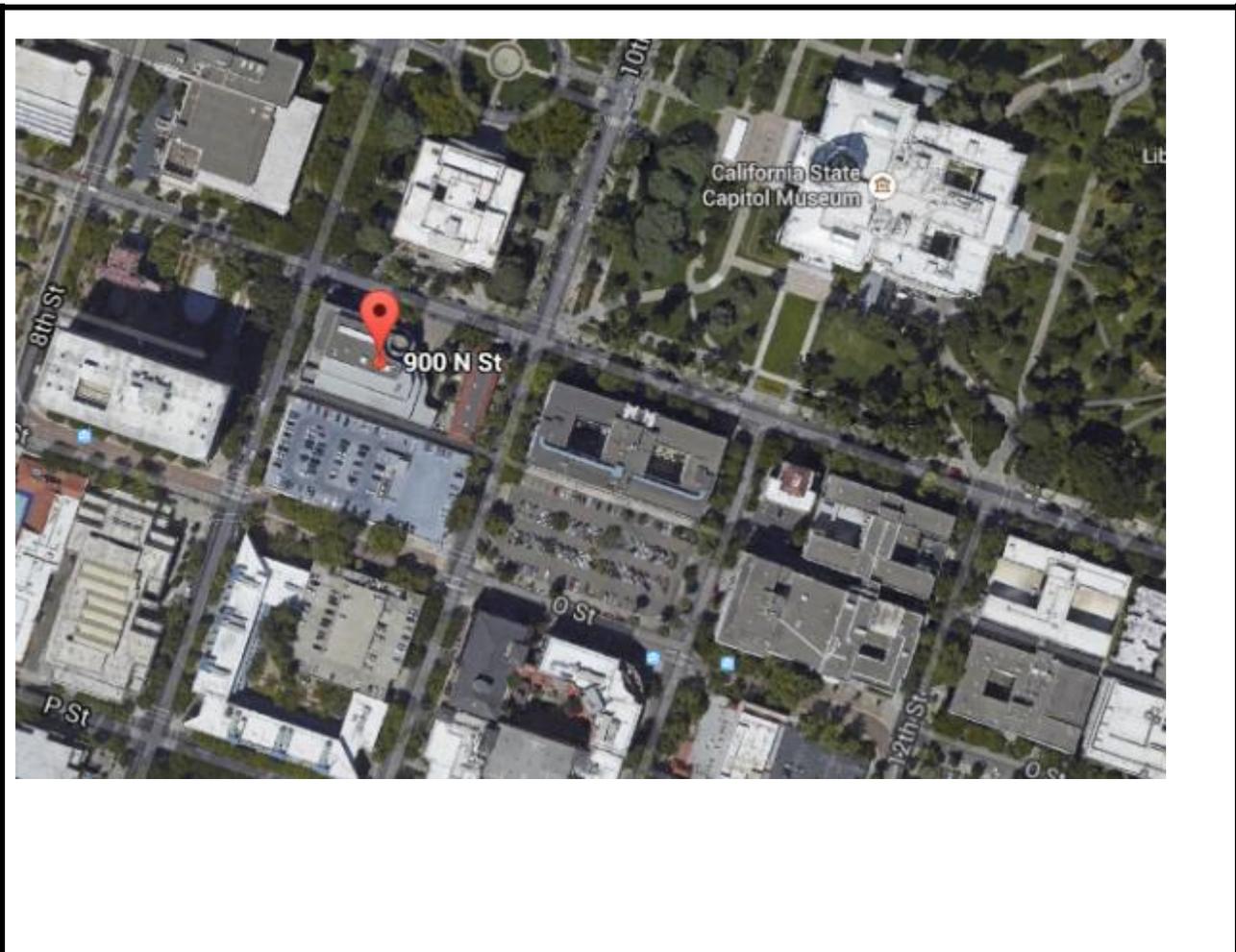
Expenditure Totals per Year	\$2,159,059	\$510,632	\$703,740	\$2,291,236	\$1,021,813	\$0	\$18,868	\$0	\$13,007	\$147,264	\$2,159,059	\$4,706,561
Total Cost (Inflated @ 3% per Yr.)	\$2,159,059	\$536,164	\$775,873	\$2,652,392	\$1,242,021	\$0	\$25,285	\$0	\$19,217	\$228,455	Total *	\$6,865,620

* - Present Value Currency

Footnotes
 1 Detailed descriptions for Useful Life and Plan Type can be found in the Appendices of the Facility Condition
 2 Detailed Descriptions of the Priorities can be found in the Appendices of the Facility Condition Assessment

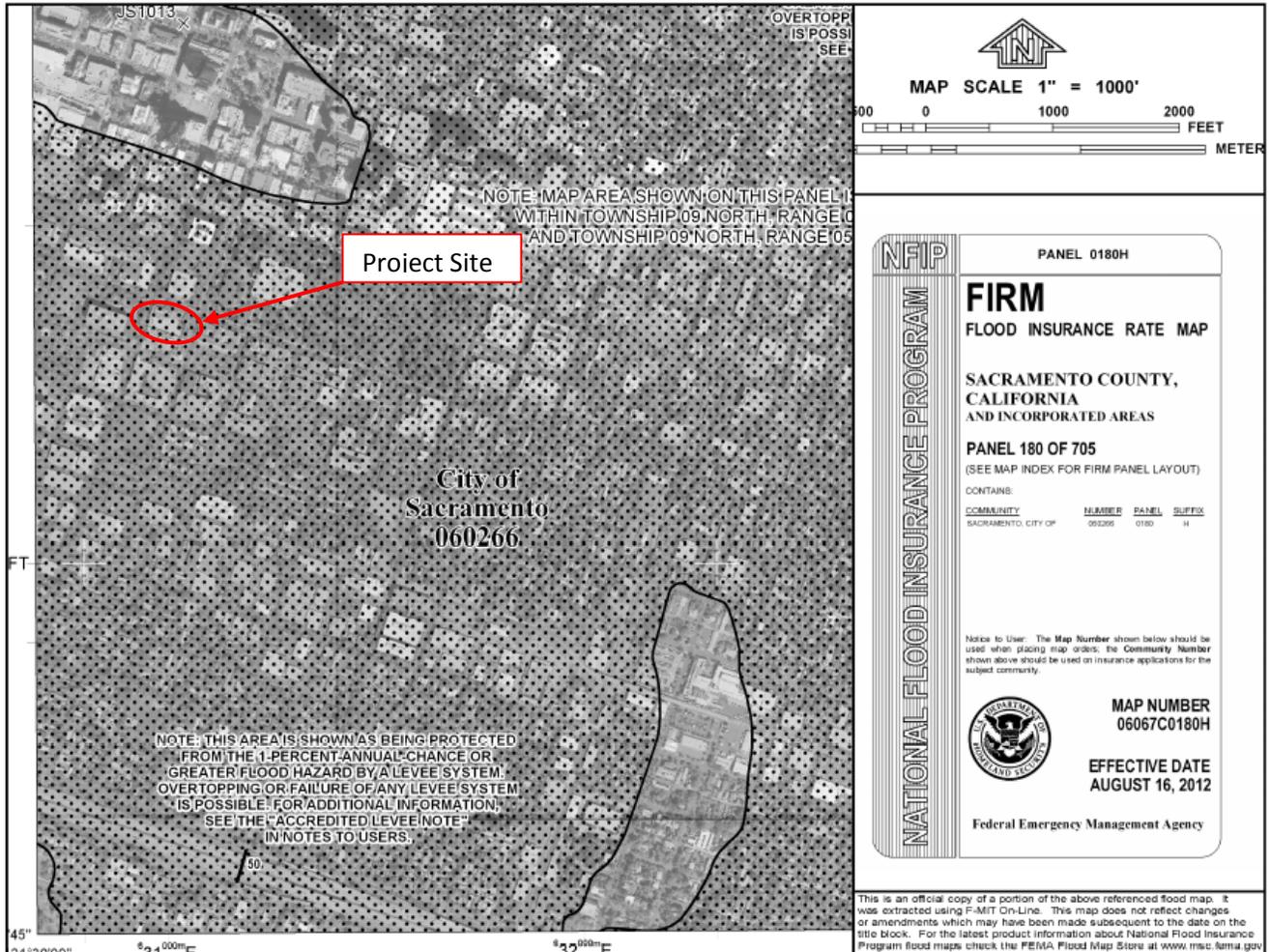
Current Repl.Value \$43,046,325

APPENDIX H: SUPPORTING DOCUMENTATION



	<p>Source:</p> <p>The north arrow indicator is an approximation of 0° North.</p>	<p>Project Number:</p> <p>111326.14R.029.305</p> <p>Project Name:</p> <p>Library and Courts II Building</p>
		<p>On-Site Date:</p> <p>February 06, 2015</p>

Flood Map



	SOURCE: FEMA	Project Number: 111326.14R-029.305
		Project Name: Library and Courts Building II
Not drawn to scale. The north arrow indicator is an approximation of 0° North.		

Estimate of Structures Cost Using Marshall Cost Systems			
Library and Courts II building (038)			
Site Calculation			
Estimate of Unusual Land Improvements Cost (Estimators Data Cost Base):			
Description	Cost	Estimated \$/ SF	Unusual Land Total
			\$0
Total			\$0
Estimate of Unusual Land Improvements Cost (Estimators Cost Data Base):			
Estimate of Structure Cost :			
Building Type	Cost per SF	Number of SF	Building TypeTotal
main building	\$299.45	115,000	\$34,437,060
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	Total	115,000	\$34,437,060
Estimate of Adjustments for Fees:			
Description	% increase		
Soft Costs	25.00%		
	0.00%		
	0.00%		
Total Fees/ Interest included in Marshall System			25.00%
Total Structure Estimate:			
Description	Unit	Fee Adjust	Adjusted Totals
main building	\$34,437,060	25.00%	\$43,046,325
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
Cost Per SF	\$374.32	Total Estimate	\$43,046,325

Expected Useful Life (EUL) Table	
SITE SYSTEM ITEMS	
ROADWAYS/ PARKING/ WALKWAYS	
Asphalt pavement	25
Asphalt seal coat	5
Concrete pavement	50
Curbing, asphalt	25
Curbing, concrete	50
Parking, stall striping	5
Parking, gravel surfaced	15
Security gate- rolling gate	10
Security gate- lift arm	10
Sidewalk, asphalt	25
Sidewalk, brick paver	30
Sidewalk, concrete	50
STORM SEWER, DRAINAGE AND EROSION CONTROL	
Catch basins, inlets, culverts	50
Earthwork, grading and erosion control	50
Storm drain lines	40
LANDSCAPING, TOPOGRAPHY AND FENCING	
Fencing, chain-link (4' height)	40
Fencing, dumpster enclosure (wood)	12
Fencing, Tennis Court (10' height)-Chain link	40
Fencing, wood privacy (6' height)	15
Fencing, wrought iron (4-6' height and decorative)	50
Fencing, concrete masonry unit (CMU)	30
Irrigation System	30
Retaining walls, 80 lb block type	50
Retaining walls, concrete masonry unit (CMU) with brick face	40
Fencing, PVC (6' height)	25
Retaining walls, timber (railroad tie)	25
SITE SYSTEM ITEMS	
GENERAL SITE IMPROVEMENTS	
Lighting (pole mounted)	25
Mail kiosk	10
Pool deck	15
Pool/ spa plaster liner	8
Signage, monument	20
Signage, roadway/ parking	10
Tennis court / basketball court surface (paint markings)	5

GENERAL SITE IMPROVEMENTS	
Tennis court Surface (acrylic emulsion)	10
Tot-lot (playground equipment)	10
SITE SANITARY AND WATER	
Domestic Hot Water (DHW) - supply / return	30
Lift station	50
Sanitary lines	50
Sanitary treatment	40
Water main	40
Water supply lines	50
Water tower	50
SITE MECHANICAL / ELECTRICAL	
Compactors	15
Dumpsters	10
Electrical distribution center	40
Electric main	40
Emergency Generator	25
Gas lines	40
Gas main	40
Heating supply/ return	40
Power distribution	40
Transformer	30
BUILDING ARCHITECTURAL ITEMS	
Wood Decks	20
Storage Sheds	30
Carports	40
Garages	50
Basement Stairs	50
Building mounted exterior lighting	10
Building mounted High Intensity Discharge (HID) lighting	10
Bulkhead	10
Canopy, concrete	50
Canopy, wood / metal	40
Ceilings, open or exterior	30
Chimney	40
Common area doors, interior (solid wood/ metal clad)	30
Common area floors, ceramic / quarry tile, terrazzo	50+
Common area floors, wood (strip or parquet)	30
Common area floors, resilient tile or sheet	15
Common area floors, carpet	8
Common area floors, concrete	50+

BUILDING ARCHITECTURAL ITEMS	
Common area railing	20
Common area ceiling, concrete	50+
Common area ceiling, acoustic tile (drop ceiling),	15
Common area countertop and sink	20
Common area dishwasher	15
Common area disposal	5
Common area kitchen cabinets, wood	15
Common area wall coverings	15
Caps, copings (aluminum/ terra-cotta) - Parapet	25
Exterior common door, aluminum and glass	30
Exterior common door, solid core wood or metal clad	25
Exterior stairs, wood	15
Exterior stairs, metal pan- concrete filled	30
Exterior stairs, concrete	50
Exterior unit door, solid wood/ metal clad	25
EXTERIOR CLADDING	
Aluminum Siding	40
Brick or block	40
Brownstone or stone veneer	40
Exterior Insulation Finishing Systems (EIFS)	20
Glass block	40
Granite block	40
Metal/ glass curtain wall	30
Precast concrete panel (tilt-up)	40
Vinyl siding	25
Wood shingle/ clapboard/ plywood, stucco, composite wood	20
Cement-board siding (Hardi-plank)/ non integral color	45
Fire Escapes	40
Foundations	50+
Roof hatch	30
Roof skylight	30
Insulation, wall	50+
Interior lighting	15
Interior railings	20
Mail facility, interior	20
Parapet wall,	50+
Penthouse	50
Railing, roof	25

INTERIORS	
Public bathroom accessories	7
Public bathroom fixtures	15
Refrigerator, common area	10
BUILDING ARCHTECTURAL ITEMS	
ROOF COVERINGS	
Built-up roof - Ethylene Propylene Diene Monomer (EPDM) / Thermoplastic Polyolefin (TPO)	20
Asphalt shingle (3-tab)	20
Wood shingles (cedar shake)	25
Slate, clay, concrete tile	40
Metal	40
Roof drainage exterior (gutter/ downspout)	10
Roof drainage interior (drain covers)	30
Roof structure	50+
Slab	50+
Service door	25
Soffits (wood/ stucco)	20
Soffits (aluminum or vinyl)	25
Stair structures	50+
Storm/ screen doors	7
Storm/ screen windows	10
Waterproofing (foundations)	50+
Windows (frames and glazing), vinyl or aluminum	30
Wood floor frame	50+
BOILER ROOM EQUIPMENT	
Blowdown and Water Treatment	25
Boiler Room Pipe Insulation	Included in boiler
Boiler Room Piping	Included in boiler
Boiler Room Valves	15
Boiler Temperature Controls	Included in boiler
Oil-fired, sectional	22
Gas/ dual fuel, sectional	25
Oil/ gas/ dual fired, low MBH	30
BOILERS	
Oil/ gas/ dual fired, high MBH	40
Gas fired atmospheric	25
Electric	20

BUILDING HEATING WATER TEMPERATURE CONTROLS	
Common area	15
Buzzer/Intercom, central panel	20
Central Unit Exhaust, roof mounted	15
Chilled Water Distribution	50+
Chilling Plant	15
Cooling Tower	25
Combustion Air, Duct with fixed louvers	30
Combustion Air, Motor louver and duct	25
CONDENSATE, FEEDWATER, WATER	
Feedwater only (hydronic)	10
Cooling Tower	25
DHW Circulating Pumps	by size
Tank only, dedicated fuel	10
Exchanger in storage tank	15
Exchanger in boiler	15
External tankless	15
Instantaneous (tankless type)	10
Domestic Hot Water Storage Tanks, Small (up to 150 gallons)	15
Domestic Hot Water Storage Tanks, Large (over 150 gallons)	15
Domestic Cold Water Pumps	15
ELECTRICAL & ELEVATOR	
Electrical Switchgear	50+
Electrical Wiring	30
Elevator, Controller, dispatcher	15
Elevator, Cab	15
Elevator, Machinery	30
Elevator, Shaft-way Doors	20
Elevator, Shaft-way Hoist rails, cables, traveling	25
Elevator, Shaft-way Hydraulic piston and leveling	25
EMERGENCY ALARM AND FIRE PROTECTION	
Call station	10
Emergency Generator	25
Emergency Lights	8
Evaporative Cooler	15
Fire Extinguisher	10
Fire Pumps	20
Fire Suppression	50+
Flue Exhaust	w/boiler
Free Standing Chimney	50+
Fuel Oil Storage	25

EMERGENCY ALARM AND FIRE PROTECTION	
Fuel Transfer System	25
Gas Distribution	50+
Heat Sensors	15
Heat Exchanger	35
Heating Risers and Distribution	50+
MECHANICAL – ELECTRIC – PLUMBING ITEMS	
Heating Water Circulating Pumps	by size
Heating Water Controller	15
Hot and Cold Water Distribution	50
HVAC	
Pad/ roof condenser	20
A/C window unit or through wall	10
Fan coil unit, electric	20
Fan coil unit, hydronic	30
Furnace (electric heat with A/C)	20
Furnace (electric heat with A/C)	20
Furnace (gas heat with A/C)	20
Packaged terminal air conditioner (PTAC)	15
Packaged HVAC (roof top units)	20
Heat pump condensing component	20
Heater, electric baseboard	25
Heater, wall mounted electric or gas	20
Hydronic heat/ electric A/C	20
Line Dryers	15
Master TV System	10
Motorized Valves	12
Outdoor Temperature Sensor	10
Pneumatic lines and Controls	30
POWER VENTILATOR	
Purchased Steam Supply Station	50+
Sanitary Waste and Vent System	50+
Sewage Ejectors	50
Smoke and Fire Detection System, central panel	15
Solar Hot Water	20
SUMP PUMP	
Commercial Sump Pump	15
Water Softening and Filtration	15
Water Tower	50+

PLAN TYPE DEFINITION

Within the report text a Plan Type is assigned to the various cost categories. The following is a brief description of the Plan Types that may be used in the report.

Code Compliance (CC)

- **Accessibility:** Conditions that are not in conformance with the American Disabilities Act Accessibility Guidelines
- **Building Code:** Conditions that are not in conformance with the Building codes
- **Life Safety:** Conditions that are not in conformance with the NFPA 101 Life Safety Code

Operations (OP)

- **Energy:** Conditions that adversely affect energy use or will decrease water or energy usage
- **Maintenance:** Components or systems that can usually be accomplished by the current maintenance staff
- **Security:** Conditions that compromise the protection of the asset or its occupants

Environmental (EN)

- **Air/ Water Quality:** Conditions that affect air or water quality
- **Asbestos:** Reported or suspected asbestos-containing material(ACM)
- **Lead:** Reported lead based paint
- **PCB:** Reported PCB containing equipment

Functionality (FN)

- **Mission:** Components which do not meet the mission of the organization
- **Modernization:** Conditions that need to be upgraded in appearance or function
- **Plant Adaptation:** Components or systems that must change to fit a new or adapted use
- **Obsolescence:** Components or systems that are or are becoming obsolete
- **Capacity:** Components or system which cannot meet demand load

Integrity (IN)

- **Appearance:** Problems with the material or system appearance that are not functional in nature
- **Reliability:** Components or systems which cannot be depended on to function as designed
- **Beyond Rated Life:** A component or system that has exceeded its rated life

ADA Checklist

Property Name: Library and Courts Building II

Date: 02/06/2015

Project Number: 111326.14R-029.305

EMG Abbreviated Accessibility Checklist					
	Building History	Yes	No	N/A	Comments
1.	Has the management previously completed an ADA review?	✓			
2.	Have any ADA improvements been made to the property?	✓	✓		
3.	Does a Barrier Removal Plan exist for the property?		✓		
4.	Has the Barrier Removal Plan been reviewed/approved by an arms-length third party such as an engineering firm, architectural firm, building department, other agencies, etc.?	✓			
5.	Has building ownership or management received any ADA related complaints that have not been resolved?		✓		
6.	Is any litigation pending related to ADA issues?			✓	
	Parking	Yes	No	N/A	Comments
1.	Are there sufficient parking spaces with respect to the total number of reported spaces?	✓			There are 4 parking stalls at Southwest including one ADA stall
2.	Are there sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)?			✓	
3.	Are accessible spaces marked with the International Symbol of Accessibility? Are there signs reading "Van Accessible" at van spaces?	✓			
4.	Is there at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks?	✓			
5.	Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?	✓			
6.	Does signage exist directing you to accessible parking and an accessible building entrance?	✓			

EMG Abbreviated Accessibility Checklist					
	Ramps	Yes	No	N/A	Comments
1.	If there is a ramp from parking to an accessible building entrance, does it meet slope requirements? (1:12)	✓			
2.	Are ramps longer than 6 ft complete with railings on both sides?	✓			
3.	Is the width between railings at least 36 inches?	✓			
4.	Is there a level landing for every 30 ft horizontal length of ramp, at the top and at the bottom of ramps and switchbacks?			✓	
	Entrances/Exits	Yes	No	N/A	Comments
1.	Is the main accessible entrance doorway at least 32 inches wide?	✓			
2.	If the main entrance is inaccessible, are there alternate accessible entrances?	✓			
3.	Can the alternate accessible entrance be used independently?	✓			
4.	Is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)?	✓			
5.	Are main entry doors other than revolving door available?	✓			
6.	If there are two main doors in series, is the minimum space between the doors 48 inches plus the width of any door swinging into the space?	✓			
	Paths of Travel	Yes	No	N/A	Comments
1.	Is the main path of travel free of obstruction and wide enough for a wheelchair (at least 36 inches wide)?	✓			
2.	Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that protrude more than 4 inches into walkways or corridors?		✓		
3.	Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)?	✓			
4.	Is at least one wheelchair-accessible public telephone available?			✓	
5.	Are wheelchair-accessible facilities (toilet rooms, exits, etc.) identified with signage?	✓			
6.	Is there a path of travel that does not require the use of stairs?	✓			
7.	If audible fire alarms are present, are visual alarms (strobe light alarms) also installed in all common areas?	✓			

EMG Abbreviated Accessibility Checklist					
	Elevators	Yes	No	N/A	Comments
1.	Do the call buttons have visual signals to indicate when a call is registered and answered?	✓			
2.	Are there visual and audible signals inside cars indicating floor change?	✓			
3.	Are there standard raised and Braille marking on both jambs of each host way entrance?	✓			
4.	Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?	✓			
5.	Do elevator lobbies have visual and audible indicators of car arrival?	✓			
6.	Does the elevator interior provide sufficient wheelchair turning area (51" x 68")?	✓			
7.	Are elevator controls low enough to be reached from a wheelchair (48 inches front approach/54 inches side approach)?	✓			
8.	Are elevator control buttons designated by Braille and by raised standard alphabet characters (mounted to the left of the button)?	✓			
9.	If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?	✓			
	Restrooms	Yes	No	N/A	Comments
1.	Are common area public restrooms located on an accessible route?	✓			
2.	Are pull handles push/pull or lever type?	✓			
3.	Are there audible and visual fire alarm devices in the toilet rooms?	✓			
4.	Are corridor access doors wheelchair-accessible (at least 32 inches wide)?	✓			
5.	Are public restrooms large enough to accommodate a wheelchair turnaround (60" turning diameter)?	✓			
6.	In unisex toilet rooms, are there safety alarms with pull cords?		✓		
7.	Are stall doors wheelchair accessible (at least 32" wide)?	✓			
8.	Are grab bars provided in toilet stalls?	✓			
9.	Are sinks provided with clearance for a wheelchair to roll under (29" clearance)?	✓			
10.	Are sink handles operable with one hand without grasping, pinching or twisting?	✓			

EMG Abbreviated Accessibility Checklist					
	Restrooms	Yes	No	N/A	Comments
11.	Are exposed pipes under sink sufficiently insulated against contact?	✓			
12.	Are soap dispensers, towel, etc. reachable (48" from floor for frontal approach, 54" for side approach)?	✓			
13.	Is the base of the mirror no more than 40" from the floor?	✓			

APPENDIX I: PRE-SURVEY QUESTIONNAIRE

Property Condition Assessment: Pre-Survey Questionnaire

This questionnaire should be completed by someone knowledgeable about the subject property. The completed form should be presented to EMG's Field Observer on the day of the site visit. If the form is not completed, EMG's Project Manager will require additional time during the on-site visit with such a knowledgeable person in order to complete the questionnaire. During the site visit, EMG's Field Observer may ask for details associated with selected questions. This questionnaire will be utilized as an exhibit in EMG's final Property Condition Report.

Name of person completing questionnaire: Joan Armstrong

Building name: Library and Courts II Building (038)

What is your association with this property? Building Manager

What is the length of your association with this property? 3 years

Phone number: 916-445-2605

Please provide information about inspections relating to the following items

Inspections	Date Last Inspected	List Name & Contact for Maintenance Contractor, if any.
1. Elevators	2/2014	Thyssen Krupp
2. HVAC, Mechanical, Electric, Plumbing	January 2015	DGS
3. Life-Safety/Fire	January 2015	DGS
4. Roofs	January 2015	DGS

5. List any major capital improvements within the last three years.

none

6. Are there any other major capital expenditures planned in the near term?

none

7. What is the age of the roof(s)?

1985

8. What building systems (HVAC, roof, interior/exterior finishes, paving etc.) are the responsibilities of contractors to repair or replace?

Roofing, windows

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. Note: N/A indicates "Not Applicable", Unk indicates "Unknown"

Question	Y	N	N/A	Unk	Comments
9. Are there any unresolved building, or fire code issues?		x			
10. Are there any "down" or unusable units?		x			
11. Are there any problems with erosion, storm-water drainage or areas of paving that do not drain?		x			

Question	Y	N	N/A	Unk	Comments
12. Is the property served by a private water well?		x			
13. Is the property served by a private septic system or other waste treatment systems?		x			
14. Are there any problems with foundations or structures?		x			
15. Is there any water infiltration in basements or crawl spaces?	x				Basement area under the fragrance garden
16. Are there any wall, or window leaks?	x				Basement area under the fragrance garden. South wall precast panels need elastomeric coating
17. Are there any roof leaks?		x			
18. Is the roofing covered by a warranty or bond?		x			
19. Are there any poorly insulated areas?		x			
20. Is Fire Retardant Treated (FRT) plywood used?				x	
21. Is exterior insulation and finish system (EIFS) or a synthetic stucco finish used?		x			
22. Are there any problems with the utilities, such as inadequate capacities?		x			
23. Are there any problems with the landscape irrigation systems?		x			
24. Has a termite/wood boring insect inspection been performed within the last year?		x			
25. Do any of the HVAC systems use R-11, 12, or 22 refrigerants?		x			
26. Has any part of the property ever contained visible suspect mold growth?		x			
27. Is there a mold Operations and Maintenance Plan?		x			
28. Have there been indoor air quality or mold related complaints from tenants?		x			

Question	Y	N	N/A	Unk	Comments
29. Is polybutylene piping used?		x			
30. Are there any plumbing leaks or water pressure problems?		x			
31. Are there any leaks or pressure problems with natural gas service?		x			
32. Does any part of the electrical system use aluminum wiring?		x			
33. Are there transformers inside the building?	x				
34. Do any Commercial units have less than 200-Amp service?		x			
35. Are there any recalled fire sprinkler heads (Star, GEM, Central, Omega)?				x	
36. Is there any pending litigation concerning the property?		x			
37. Has the State previously completed an ADA or 'Title 24 review?				x	
38. Have any ADA or Title 24 improvements been made to the property?		x			
39. Does a Barrier Removal Plan exist for the property?				x	
40. Has the Barrier Removal Plan been approved by a credentialed third party?				x	
41. Have there been any ADA or Title 24 related complaints?		x			
42. Have there been any complaints about the elevators or wait times?		x			
43. Are there any problems with exterior lighting?		x			
44. Are there any other significant issues/hazards with the property?		x			
45. Are there any unresolved construction defects at the property?		x			

APPENDIX J: ELEVATOR REPORT



Library and Courts II
900 "N" Street
Sacramento, CA

Due Diligence
Elevator Report

June 3, 2015

Prepared for:

Ms. Karla Rodriquez
EMG Corporation
Hunt Valley, MD 21212

Prepared by:

Mr. Bob Nicholson
President
Architectural Elevator Consulting, LLC
1326 5th Ave., Suite 630
Seattle, WA 98101



TABLE OF CONTENTS

<i>Section I - Executive Summary</i>	_____	
A. Introduction	_____	I.1
B. Elevator Layout	_____	I.1
C. Condition/Components	_____	I.1
D. Maintenance and Performance	_____	I.2
E. Code Review: ADA/Retro-active codes	_____	I.2
F. Recommendation	_____	I.2
<i>Section II Component Review</i>	_____	
A. Machine Room	_____	II.1
B. Hoistway	_____	II.2
C. Car top	_____	II.2
D. Signal Fixtures	_____	II.3
E. Cab Interiors	_____	II.4
F. Platform/Dock Lifts	_____	II.5
<i>Section III – Budget Pricing</i>	_____	III
Appendix A - Americans with Disability Act (ADA) and California T24		
Appendix B - A17.3 Retro-active Code Requirements		
Appendix C – Maintenance and Performance		

Section I: Executive Summary

A. Introduction

On February 11, 2015 Russell Holt of Architectural Elevator Consulting, LLC (AEC) surveyed all the vertical transportation systems at the Library and Courts II Building, 900 “N” Street, Sacramento, CA. There are three (3) geared traction elevators, one (1) platform lift and one (1) dock lift. The elevators provide vertical transportation to floors 1-5 and the basement. The purpose of the survey was to review the major components, to identify upgrades needed over the next ten years and check for compliance with various codes. In addition to reviewing the major components of the elevators we checked the performance parameters of the equipment and tested safety devices such as door restrictors, electric edges and emergency phones.

The traction elevators were manufactured and installed by U.S. Elevator Company during the original building construction in 1994. The traction elevators have U.S. MP 1220 controllers. The platform lift was manufactured by National Wheel-o-Vator. The manufacture of the Dock Lift is unknown.

During our survey we noted that the elevators were well maintained by ThyssenKrupp Elevator. Housekeeping in the machine rooms was good and most the car tops and pits were clean. However, full speed of the elevators is below design and door times are slow. The performance can and should be improved. The safety governors did not have any test tags indicating that they have not been tested since installed. Since these were installed under Group II they are exempt from five year tests, but we recommend they be tested.

B. Elevator Layout

Elevators 1-2 are located side by side and work together as a duplex system. Car 3 is a single service elevator. The platform lift provides access from the street to the lobby. The Dock Lift provides service from the Dock to the first floor. The number, speed and size of the elevators appear to be adequate to provide satisfactory service for the building, however it would have been preferable to have center opening doors for the passenger elevators.

Elevator Summary				
Elevator Bank	Elevator Speed	Floors Served	Capacity	Door Type
Passenger Cars 1-2	350 FPM	B, 1-5	2,500 lbs.	Side
Service Car 3	350 FPM	B,1-5	4,000 lbs.	Side
Dock Lift	Unknown	Dock to 1	6,000 lbs.	Manual Gate
Platform Lift	9 FPM	Street to Lobby	750 lbs.	Swing Doors

C. Condition/Components

Most the major components of the elevators were found to be in good condition. However, the controllers were known to be nearly obsolete when installed. U.S was not known for high quality controllers. The elevators utilize inefficient motor generator sets to convert the incoming power from AC to DC. The car and hall signal fixtures meet ADA and California Title 24 and but are known to be of lesser quality. The machines, car equipment and door operators are in good condition. The controllers are of real concern. The mother boards are not replaceable and need to be rebuilt by sending out to a repair shop. In **Section II** of this

report we provide an in-depth review of each of the major components of the elevators with photographs.

D. Maintenance/Performance

The elevators are currently being maintained by ThyssenKrupp Elevator. The level of maintenance was noted to be good. However, the performance was observed to be well below design. The car speeds were 311 FPM to 330 FPM, all well below the design of 350 FPM. All the pits and car tops were found to be clean with a few having some minor dust. In *Appendix C* of this report we provide a summary of the performance times for each elevator that should be corrected by the service provider.

E. Code Review:

During our survey we reviewed the elevators for compliance to the following codes; Americans with Disabilities Act (ADA)/California T24, and compliance with the National Elevator Code for Existing Elevators, A17.3.

1. **Americans with Disability Act (ADA)/California T24:** In 1990 the federal government enacted ADA to make public spaces more accessible to disabled persons. California has a few specific accessibility requirements in addition to ADA. All of the elevators meet ADA and California Title 24 requirements. The sizes of the passenger elevators meet ADA for new and existing elevators. All the cars had proper hall lanterns and gongs. *Appendix A* provides a complete listing of the ADA/T24 requirements. All the elevators meet ADA and T24.
2. **Retro Active Codes for Existing Elevators:** We reviewed the elevators for compliance to A17.3 Code, the national safety code for existing elevators. This code requires all elevators, no matter age or installation date, to meet a minimum level of safety. A17.3 is not adopted in California, thus not required by the State, but highly recommended. A complete check list for this retro-active code is included in *Appendix B* of this report. The elevators were installed in compliance with most A17.3 items. The following is a list of items that do not comply:
 - a. **Fire Service:** Phase II fire service does not have a “hold” feature. We recommend this be added when the elevators are modernized.
3. **Seismic:** The elevators were installed in 1994 under California Group II seismic code. They have do not have seismic fishplates, but the counterweight rails have extra rail backing which reduces the space between brackets. They all have ring and string derailment devices and the sheaves have rope retainers. No work is needed for seismic at this time.

F. Recommendation:

We recommend all the elevators have a five year full load test performed as soon as possible. The traction elevators were installed under Group II and are thus exempt from five year full load tests, but we recommend they be tested. The U.S. 1220 controllers are of significant concern as service support for these is very limited. We recommend the passenger elevators be modernized in the next couple of years and the service elevator be upgraded shortly thereafter. If budget allows it would be best to modernize all three elevators at the same time.

Section II : Component Review

A. MACHINE ROOM:

Controllers:

The controllers were manufactured and installed by U.S. Elevator. The traction cars use MP 1220 controllers. Parts support and reliability of these controllers is of concern.



Machines:

All the geared traction elevators have high-quality Hollister Whitney machines. The machines were found to be well maintained. These machines are generally in good condition and can be retained during the modernization.



Motor Generator Sets:

All the traction elevators have motor generator sets. They were all found to be in fairly good condition but antiquated technology. We recommend these be removed when the elevators are modernized.



B. HOISTWAY:

Hoistway Construction:

The hoistway (elevator shaft) is the main area where the elevators go up and down. The hoistways were mostly built of dry wall and in good condition. A few minor holes were noted but nothing of substance.

Hoist ropes:

The hoist ropes were noted to be in good condition and had normal wear.



Car Guide Rails:

The car rails are in good condition but do not have seismic fish plates. Upgrading the guide rails to current seismic standards is voluntary.

Pits:

All the pits were found to be dry and in good condition.

C. CAR TOP:

Door Operator:

The door operators are GAL which are known to be reliable, however, they are starting to show their age. We recommend new closed loop door operators when the elevators are modernized.



Car Roller/Slide Guides:

On both sides of the elevators and on the top and bottom roller guides keep the elevators riding up and down the steel guide rails. All the cars and counterweights have high quality ELSCO roller guides that were in good condition.



D. SIGNAL FIXTURES:

Car Operating Panels:

All the Car Operating Panels (COP's) are in fair condition and meet all ADA and T24. However, this style of U.S. button is known to be problematic and not very durable.



Hall Lanterns:

Hall lanterns inform persons waiting in the hall of which direction the elevator is about to travel in next. ADA requires that the hall lanterns illuminate and sound for the waiting passengers. The existing passenger elevators have hall lanterns for each car and are in good condition.



Hall Call Pushbuttons:

At each floor hall call push buttons are located so that users can call the elevators. The hall call stations meet ADA and California Title 24. They also have the code required fire exit signs engraved in each fixture. However, the buttons themselves are not very durable and known to break easily.

E. CAB INTERIOR:

Wall Finish:

The existing cab interiors for the passenger cars are in good condition but dated. When the elevators are modernized consideration should be given to upgrade the cabs. The service car had pads and appeared to be in good condition.



Ceilings:

The passenger elevators have down light ceilings with incandescent light fixtures. Most of the lighting in the passenger cabs was noted to be dim. We recommend new lights that are brighter and have energy savings LED's.



F. PLATFORM/DOCK LIFTS:

Platform Lift:

There is one platform lift that provides service from the street level to the lobby. It appears to be in good condition.



Dock Lift:

The building has a 6,000 lbs dock lift for moving freight. Access should be limited to authorized personnel that have been trained on the lift operation.



Dock Lift:

Dock lift with lift at upper landing.



Vertical Transportation

Library & Courts II - 900 N Street

Item No.	Recommendation	Rating	Quantity	Unit	Unit Cost	Immediate Code Items	Immediate - Repair	Years 1-3	Years 4-6	Years 7-10	Totals
1	Adjust cars for optimal performance	2	3	EA	\$1,500.00		\$4,500				\$4,500
2	Perform five year full load tests on all 3 traction cars. Elevators are not required to have tests and it appears they have not since 1994 when installed.	1	3	EA	\$3,000.00	\$9,000					\$9,000
3	Modernize Passenger Cars 1-2	3	2	EA	\$225,000.00			\$450,000			\$450,000
4	Modernize Service traction Car 3	3	1	EA	\$235,000.00				\$235,000		\$235,000
5	Upgrade dock material lift with some added safety circuits.	1	1	EA	\$4,000.00	\$4,000					\$4,000
6											\$0
7											\$0
8											\$0
9											\$0
10											\$0
11											
12											
	Subtotal					\$13,000	\$4,500	\$450,000	\$235,000	\$0	\$702,500
		1	\$13,000	Code and Safety							
		2	\$4,500	Deferred Maintenance & Repair							
		3		Capital Expenditure							
		4	\$685,000	Modernization / Improvements							
		5	\$702,500	Total							

Rating:
 1 - Code and Safety
 2 - Repair and Maintenance
 3 - Capital Expenditure
 4 - Modernization / Improvements
 5 - Total

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-3
	GENERAL	
4.10.1	Elevator must comply with ASME A17.1-1990. Freight elevators are not acceptable unless only elevator provided, and is permitted to carry passengers, both public and employees.	Yes
	AUTOMATIC OPERATION	
4.10.2	Elevators must be Automatic.	Yes
4.10.2	Self-leveling to within 1/2 in.	Yes
	HALL CALL BUTTONS	
4.10.3	Buttons centered at 42 in. above the floor.	Yes
4.10.3	Buttons to illuminate when call is entered and extinguish when answered.	Yes
4.10.3	Buttons to be at least 3/4 in. in the smallest dimension.	Yes
4.10.3	Up button located above down button.	Yes
4.10.3	Buttons raised or flushed. (T24 must be raised)	Yes
4.10.3	Objects mounted beneath hall buttons not to project into the lobby more than 4 in.	Yes
	HALL or CAR LANTERNS	
4.10.4	Visible and audible signals at each hoistway entrance to indicate which car is responding to the call.	Yes – Hall
4.10.4	Audible signals to sound once for up and twice for “down” or may verbal announcement stating “up” “down.”	Yes
4.10.4	Hall directional lantern centered 72 in. above floor.	Yes
4.10.4	Directional lantern visible elements minimum of 2-½ in. in the smallest dimension.	Yes
4.10.4	Directional lanterns must be visible from the vicinity of the hall call button.	Yes
4.10.4	In car lanterns, meeting the requirements above are acceptable in lieu of hall directional lanterns.	N/A
	HOISTWAY ENTRANCES	
4.10.5	Raised and Braille floor designations are required on both door jambs. Permanently applied plates are acceptable. (T24 must be to the left)	Yes
4.10.5	Centerline of floor designation characters 60 in. above floor.	Yes
4.30.4	Characters must be 2 in. high, raised 1/32 in. upper sans serif (block letters) or simple serif type.	Yes
4.30.4	Grade II Braille to accompany raised characters.	Yes
	DOOR PROTECTIVE & REOPENING DEVICES	
4.10.6	Doors must open and close automatically.	Yes
4.10.6	Non-contact door reopening device at 5 in. and 29 in. above the floor.	Yes
4.1.6(3)(c)	If safety edges are provided on existing elevators, the non-contact door reopening devices may be omitted.	Yes
4.10.6	Reopening device to remain operational for at least 20 seconds.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-3
	DOOR AND SIGNAL TIMING	
4.10.7	Minimum acceptable door open time from notification car is answering a hall call until the car doors begin to close: $T=D/(1.5ft/s)$, where T is the total time in and D is the distance from a point in the lobby or corridor 60 in. directly in front of the farthest button controlling that car to centerline of its hoistway door.	Yes
4.10.7	Minimum acceptable notification time 5.0 seconds.	Yes
	DOOR DELAY FOR CAR CALLS	
4.10.8	Doors to remain open for a minimum of 3.0 seconds in response to car calls.	Yes
	FLOOR PLAN NEW ELEVATOR	
4.10.9	At least 36" wide door. Side Open Door: Cab must be 5'-8" wide x 4'-3" deep Center Open Door: Cab must be 6'-8" wide by 4'-3" deep	Yes
	FLOOR PLAN EXISTING ELEVATOR	
4.1.6	Minimum of 48" x 48"	Yes
4.10.9	Clearance between car platform sill and edge of hoistway landing sill no greater than 1-1/4 in.	Yes
	Handrails Circular Square Dia. ____ Top of Handrail ____ Height Side Back (T24 must be 32")	Yes
	FLOOR SURFACES	
4.10.10	Surfaces to be stable, firm and slip resistant.	Yes
4.5.3	Carpeting if installed must have firm cushion, pad or backing, or no cushion or pad. Carpeting must have level loop, textured loop, level pile texture. Carpeting pile thickness not to exceed 1/2 in. Carpeting must have exposed edges fastened to the floor surface. Exposed edges of carpets must be trimmed.	Yes
	ILLUMINATION LEVELS	
4.10.11	Five foot-candles of illumination to be provided at car controls, platform and at sill.	Yes
	CAR CONTROLS	
4.10.12	Buttons to be at least 3/4 in. in their smallest dimension.	Yes
4.10.12	Buttons must be flush or raised. (T24 must be raised)	Yes
4.10.12	Buttons must be designated by raised characters and Braille or symbols complying with ASME A17.1 Rule 210.13.	Yes
4.10.12	Characters must be a minimum of 5/8 in. high, upper case sans (block letters) or simple serif type.	Yes
4.10.12	Grade II Braille to accompany raised character of symbol.	Yes
4.10.12	Raised designations must be to the immediate left of the button to which they apply.	Yes
4.10.12	Call button illuminates when call is entered and extinguish when answered.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-3
4.10.12	Floor buttons must be no higher than 48 in. when located in front return. Buttons must be no higher than 54 in. when a side approach provided.	Yes
4.10.12	Emergency controls, including emergency alarm and emergency stop (if provided) must be grouped at the bottom of the panel and have centerlines no less than 35 in. above the finished floor.	Yes
4.10.12	Controls must be on the front return wall with center-opening doors. They may be on the front return or strike jamb sidewall with side doors.	Yes
	CAR POSITION INDICATORS	
4.10.13	Visual car position indicator must be provided above control panel or over door.	Yes
4.10.13	Car position indicator numerals must be a minimum of 1/2 in. high.	Yes
4.10.13	Audible signal to sound as the car passes or stops at a floor and a corresponding floor designation must illuminate. Audible signal must be at least 20 dB with a frequency no higher than 1,500 Hz.	Yes
4.10.13	A button to activate audible signal only for desired trip may be provided.	N/A
4.10.13	An automatic verbal announcement the floor at which a car stops may be substituted for the audible signal.	N/A
	EMERGENCY COMMUNICATIONS	
4.10.14	If provided, emergency two-way communication systems between the elevator and a point outside the hoistway must comply with ASME A17.1-1990, Rule 211.1.	Yes
4.10.14	The highest operable part must be a maximum of 48 in. from the car floor.	Yes
4.10.14	Emergency communication identification must be provided and located adjacent to the device. Characters must be a minimum of 5/8 in. high raised 1/32 in., upper case serif (block letters) or simple serif type, and accompanied by Grade II Braille.	Yes
4.10.13	If a handset is provided the cord must be at least 29 in. long.	N/A
4.27.4	If located in a closed compartment, the door must be operable with one hand. It must not require tight grasping, pinching or twisting of the wrist. The force required to open the door must not exceed 5 lb/f.	N/A
4.10.13	The system must not require voice communication.	Yes

Appendix “B”
A17.3 Code for Existing Traction Elevators

A17.3	Code Item	Cars: 1-3
2.1	HOISTWAYS	
2.1.1	Hoistway Construction (Enclosed & Fire rated per local code or ANSI/NFPA No. 101)	Yes
2.1.2	Windows in Hoistway Enclosures: (If provided are they guarded properly.)	Yes
2.1.3	Projections in Hoistway (Must be flush and level; Leveling zone +3”./ 60 to 75 deg bevel.)	Yes
2.1.4	Pipes Conveying Gases, Vapors, or Liquids. (If provided must be properly covered & securely fastened.)	Yes
2.1.5	Counterweight Guards (Start at 12” go to 84” above pit floor; not needed with comp rope/chain)	N/A
2.2	MACHINE ROOMS AND MACHINERY SPACES	
2.2.1	Enclosures – Designated Machine Room (No-non elevator equipment- existing can stay)	Yes
2.2.2	Access to Machine Rooms and Machinery Spaces (A permanent means to the machine room- locked door)	Yes
2.2.3	Lighting(Permanent lighting in all machine rooms)	Yes
2.2.4	Ventilation (Natural or mechanical to avoid overheating)	Yes
2.2.5	Pipes Conveying Gases, Vapors, or liquids (Existing pipes allowed if guarded to prevent discharge)	Yes
2.2.6	Protection From Weather	Yes
2.3	PITS	
2.3.1	Access to Pits (Means of access to all pits. If access door provide closer & keys onsite.)	Yes
2.3.2	Drains (Drains connected directly to the sewer are not permitted.)	Yes
2.3.3	Stop Switch (A stop switch shall be provided for every pit. Locate near access, color, etc.)	Yes
2.4	CLEARANCES AND RUNBYS	
2.4.1	Horizontal Car Clearances (Not more then 5” for horizontal doors; 7.5” for vertical doors)	Yes
2.4.2	Bottom Car Clearances (Car shall not strike any equipment when resting on fully compressed buffer.)	Yes
2.4.3	Bottom Car and Counterweight Runby (Shall not exceed 24” for cars; or 36” for cwt.)	Yes
2.4.4	Top Car Clearance (Car does not strike any overhead structure)	Yes
2.4.5	Landing Sill Clearance (At least ½” for side guides; at least ¾” for corner guides. Max cannot exceed 1 ½”.)	Yes
2.5	PROTECTION OF SPACES BELOW HOISTWAYS	
2.5	Counterweight safeties required	N/A
2.6	HOISTWAY ENTRANCES	
2.6.1	Doors or Gates Required (Passenger Elevators – full width/height – no hand latches.) (Freight Elevators – at least 6-0” gate)	Yes
2.6.2	Closing of Hoistway Doors (Door closers required on cars except swinging portion of horizontal door)	Yes
2.6.3	Hoistway Door Vision Panels (Required on manually operated or self closing doors, location, Size, and type of glass)	N/A
2.6.4	Door Hangers (Prevent jumping, and stops, 4 times load)	Yes
2.6.5	Non-Shearing Astragals (For vertical bi-parting doors only)	N/A
2.6.6	Pull Straps (Must not be more than 6’-6” from floor when open)	N/A
2.7	HOISTWAY DOOR LOCKING DEVICES, PARKING, DEVICES, AND ACCESS	
2.7.1	Hoistway Door or Gate Locking Devices (Mechanical and electrical interlocks required)	Yes
2.7.2	Elevator Parking Device (For cars operated from within car only)	N/A
2.7.3	Access to Hoistway (Hoistway door unlocking devices and access switches)	Yes

Appendix “B”
A17.3 Code for Existing Traction Elevators

A17.3	Code Item	Cars: 1-3
2.7.4	Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators (Cannot open more than 4” outside unlocking zone +-18” max.)	Yes
2.7.5	Hoistway Emergency Door Contacts (Positively opened)	Yes
2.8	POWER OPERATION OF DOORS AND GATES	
2.8.1	Kinetic Energy and Force Limitations for Power-operated Horizontal Sliding Doors. (Shall not exceed 7ft/lbs. with re-opening device, without 2.5ft/lbs.; cannot exceed 30 ft/lbs)	Yes
2.8.2	Reopening Device for Power-Operated Car Doors or Gates (Can be rendered inoperative if less than 2.5ft/lb)	Yes
	Part III	
3.1	Buffers And Bumpers (Car and counterweight buffers are required)	Yes
3.2	Counterweights (The weights shall be protected so that they cannot be dislodged. The rod nuts shall be protected)	Yes
3.3	CAR FRAMES AND PLATFORMS	
3.3.1	Car Platforms(Cover entire area)	Yes
3.3.2	Platform Guards (Aprons) (Vertical face at least 21”, 60-75deg, withstand 150#)	Yes
3.3.3	Hinged Platform Sills(Must have contacts & prevent operation unless within 2”)	N/A
3.3.4	Floating (Movable) Platforms(Prohibited if car can move when door is not closed)	N/A
3.3.5	Protection of Platforms Against Fire (Must be covered with sheet metal or fire resistant material)	Yes
3.4	CAR ENCLOSURES	
3.4.1	Car Enclosures (Passenger – total enclosed; Frt maybe perforated, but not by the cwt.; Car top must withstand 300lbs on any 2sqft.)	Yes
3.4.2	Car Doors and Gates (Must have gate or door and electric contract)	Yes
3.4.3	Location of Car Doors and Gates (Hor, distance not more than 5 ½”, Swing door 4” max., space and site guard requirements.)	Yes
3.4.4	Emergency Exits (Cover hinged, single car blind shaft-every 36’, side allowed)	Yes
3.4.5	Car Illumination (At least two lights, 5ftc; frt=2.5ftc; emerg. .2ftc for 4 hrs.)	Yes
3.4.6	Protection of Light Bulbs and Tubes (Guarded or coated to prevent breaks)	Yes
3.5	SAFTIES	
3.5.1	Car Safeties (Every car must have a safety)	Yes
3.5.2	Counterweight Safeties (If occupied space below)	Yes
3.5.3	Safeties to Stop Ascending Cars or Counterweights Prohibited (Cannot be provided)	Yes
3.5.4	Application and Release of Safeties (Must be mechanical can only release if car goes up)	Yes
3.5.5	Max. Permissible Movement of Gov. Rope to Oper. Safety (For type “B” Safties-200ft or less 42in.; 201 to 375fpm – 36in.; Over 375 FPM 30in. Cwt. = 42in all speeds.)	Yes
3.5.6	Rail Lubricants and Lubrication Plate (Plate on cross head stating type of lubricant or none at all.)	Yes
3.5.7	Overall Length of Guide Rails (Extended to prevent disengaging)	Yes
3.6	SPEED GOVERNORS	
3.6.1	Speed Governor Overspeed and Car Safety Mechanism Switches. (A switch shall be provided when speed is over 150FPM. For static control switch shall be for all speeds & both direct.)	Yes
3.6.2	Governor Ropes (Shall be of iron, steel, monel metal, phosphor bronze, or ss. At least 3/8” in diameter Tiller rope not allowed.)	Yes
3.7	CAPACITY AND LOADING	
3.7.1	Minimum Rated Load for Passenger Elevators (per table 3.7.1)	Yes
3.7.2	Use of Partitions for Reducing Inside Net Platform Area (Partitions must be permanent and symmetrical)	N/A
3.7.3	Min. Rated Load for Freight Elevators (Class A = Not more than ¼ of total cap.; Class B = Motor Veh.; Class C = loading with industrial truck, etc.)	N/A
3.7.4	Capacity Plates (Every car must have one with rated load; Frt : one piece loads, loading and unloading; ¼” high for pass, 1”	Yes

Appendix “B”
A17.3 Code for Existing Traction Elevators

A17.3	Code Item	Cars: 1-3
	for frt.)	
3.7.5	Signs on Freight Elevators (NOT A PASS ELEV...etc. ½” high letters)	N/A
3.8	DRIVING MACHINES AND SHEAVES	
3.8.1	General Requirements (Must be cast iron or steel, fin. Grooves no set screws)	Yes
3.8.2	Winding Drum Machines (Must have slack rope switch; Chain, belt, or rope-driven mechanisms shall not be used.)	N/A
3.8.3	Indirect-Drive Machines (Must be at least 3 belts, safety factor of 10)	Yes
3.8.4	Brakes (Must be released electrically and have spring or gravity and friction)	Yes
3.9	TERMINAL STOPPING DEVICES	
3.9.1	Normal and Terminal Stopping Devices (Locate at upper and lower terminals. If in machine room provide broken rope, tape or chain switch)	Yes
3.9.2	Final Terminal Stopping Devices (Winding drum machines- on machines and in hoistway; Traction – in the hoistway operated by the car.)	Yes
3.10	OPERATING DEVICES AND CONTROL EQUIPMENT	
3.10.1	Types of Operating Devices (Rope or rod devices shall not be used.)	Yes
3.10.2	Car-Switch Operation Elevators (If provided must return to stop position if released by hand)	Yes
3.10.3	Top-of-Car Operating Devices (Continuous pressure <150FPM; between crosshead & door)	Yes
3.10.4	Electrical Provisions	
	(a) Slack Rope Switch	N/A
	(b) Motor-Generator Running Switch	N/A
	(c) Compensating Rope Sheave Switch	N/A
	(d) Broken rope, tape or chain	Yes
	(e) Stop Switch – Top of Car- marked “stop” & “run”	Yes
	(f) Car-Safety Mechanism Switch	Yes
	(g) Speed Gov. Overspeed Switch	Yes
	(h) Final Terminal Stopping Devices	Yes
	(i) Emergency Terminal Stopping Devices (reduced stroke)	Yes
	(j) Motor Generator Overspeed Protection	N/A
	(k) Motor Field Sensing Means (not required w/ static drive)	Yes
	(m) Buffer Switches for Oil Buffers (type c safety)	N/A
	(n) Hoistway Door Interlocks or Hoistway Door Contacts	Yes
	(p) Car Door or Gate Electric Contacts	Yes
	(q) Normal Terminal Stopping Devices	Yes
	(r) Car Side Emergency Exit Electric Contact	N/A
	(s) Electric Contacts for Hinged Car Platform Sills	N/A
	(t) In-Car Stop Switch (Must be keyed, if provided)	Yes
	(u) Emergency Stop Switch (Must be provided for freight cars)	Yes
	(v) Stop Switch in Pit	Yes
	(w) Buffer Switches for Gas Spring Return Oil Buffers	N/A
3.10.5	Power Supply Line Disconnecting Means (Provided w/ overcurrent protection, within site, and numbered)	Yes
3.10.6	Phase Reversal and Failure Protection (Means to prevent starting if out of phase)	Yes
3.10.7	Devices for Making Hoistway Door Interlocks or Electric Contacts, or Car Door or Gate Electric Contacts Inoperative (These devices are prohibited)	Yes
3.10.8	Release and Application of Driving Machine Brakes (If ungrounded or if stop switch is pulled shall release brake)	Yes
3.10.9	Control and Operating Circuit Requirements (The failure of any single magnetically operated switch)	Yes
3.10.10	Absorption of Regenerated Power (Provide means to absorb energy during overhauling)	Yes

Appendix “B”
A17.3 Code for Existing Traction Elevators

A17.3	Code Item	Cars: 1-3
3.11	EMERGENCY OPERATION AND SIGNALING DEVICES	
3.11.1	Car Emergency Signaling Devices (Audible signal, two-way communication, on emerg. power)	Yes
3.11.2	Operations of Elevators Under Standby (Emergency) Power (If provided must be able to absorb regenerative power)	Yes
3.11.3	Firefighters’ Service (A17.1-1987 Rules 211.3 through 211.8- appendix C; phase I and II switches shall be the same in each bldg)	No – Does not have hold feature.
3.12	SUSPENSION MEANS AND THEIR CONNECTIONS	
3.12.1	Suspension Means (Must be wire rope made of iron or steel- Elevator ropes only)	Yes
3.12.2	Rope Data Tag	Yes
3.12.3	Factor of Safety ($f = S \times N / W$ or table 3.12.3)	Yes
3.12.4	Minimum Number and Diameter of Suspension Ropes (3 for traction; 2 for drum; minimum diameter = 3/8”)	Yes
3.12.5	Suspension Rope Equalizers (When provided shall be of the individual-compression spring type)	Yes
3.12.6	Securing of Suspension Wire Ropes to Winding Drums (rope must be secured by clamps or tapered babbitted sockets.)	N/A
3.12.7	Spare Turns on Winding Drums (Not less than one turn of the rope when car is on buffer)	N/A
3.12.8	Suspension Rope Fastenings (Spliced eyes by return loop may continue in service)	Yes
3.12.9	Auxiliary Rope Fastening Devices	N/A

Appendix “C”

Performance Review and Maintenance Deficiency List

Performance Review:

In this section we provide the results of randomly reviewing 50% or more of the performance of all elevators.

Part A: Definitions

A stopwatch, tachometer, and spring gauge are utilized to measure the performance of each elevator. Original equipment design, national and local codes and other factors govern these times. The following is an explanation of each item that was reviewed.

- Car Door Dwell Time: When an elevator is responding to a car call, the code requires the elevator doors to stay open a minimum of 3.0 seconds. This is to allow ample time for the passengers to exit.
- Hall Call Dwell Time: When an elevator is responding to a hall call, the code requires the elevator doors to stay open a minimum of 5.0 seconds. This is to allow ample time for the passengers to enter the elevator.
- Floor-To-Floor Time: This measures the time that it takes an elevator to go from one floor to the next floor. Door open and close times are calculated into this time to provide a meaningful measurement. The stopwatch is started when the doors start to close and is stopped when the elevator is level at the next floor with the doors $\frac{3}{4}$ open for center opening doors, and $\frac{1}{2}$ open for side opening doors.
- Door Open Time: The door open time is measured when the doors start to open until they are fully open.
- Door Close Time: The door close time is measured when the doors start to close until they are fully closed.
- Full Speed: Full speed of an elevator is measured in the machine room utilizing a tachometer or in the car using an accelerometer.
- Door Closing Pressure: The force required to prevent the doors from closing. This pressure is measured with a spring gauge.
- Ride Quality: Acceleration, deceleration, side-to-side sway and noise level are evaluated in this section.

On the following page the results of the elevators checked are provided.



Prepared by

EMG
222 Schilling Circle, Suite 275
Hunt Valley, Maryland 21031
800.733.0660
410.785.6220 (fax)
www.emgcorp.com

EMG Contact

Matthew Anderson
Program Manager
800.799.0660

EMG Project No.

111326.14R.029.305



Your partner in real estate lifecycle planning and management.
800.733.0660 | emgcorp.com

