Gregory Bateson Building (011)

1600 Ninth Street, Sacramento, CA 95814

Facility Condition Assessment

June 2015

Prepared for the State of California Department of General Services

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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 (RESD) 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 Gregory Bateson Building (011).

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 Gregory Bateson Building (011) 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 Gregory Bateson Building (011) on November 13, 2014. 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	$107,882,601
Immediate Repair Costs (12 months)	$16,907,016
1-5 Year Capital Needs	$11,010,089
6-10 Year Capital Needs	$571,533
Total 10-Year Capital Reserve Needs	$28,488,638

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

Current Year FCI

$$\text{Current FCI} = \frac{\$16,907,016}{\$107,882,601}$$

Ten-Year FCI

$$\text{Ten-Year FCI} = \frac{\$28,488,638}{\$107,882,601}$$

Current Year FCI	Ten-Year FCI
15.67 %= *Poor Condition*	**26.41 %= *Poor Condition***

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

- The exterior windows have been leaking into the glue-laminated beam wall panels, and both the windows and wall panels have deteriorated.
- There are balconies with elastomeric coatings that leak into the office spaces below the balconies. The balcony decks do not slope properly, and the balcony railings have deteriorated.
- The HVAC system is set up for open plan offices. The office areas cannot be converted to enclosed offices without replacing the HVAC system.

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

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INTRODUCTION

BUILDING BACKGROUND

The Gregory Bateson Building (011), constructed in 1981, was designed by State Architect Sim van der Ryn and Peter Calthorpe. An article published in 2013 by the AIACC states:

"In 1978, California passed a set of energy efficiency standards for buildings, which challenged architects to design in a more energy efficient manner. In the early 70s, architects experimented with low energy buildings, generally at the residential scale. Sim van der Ryn was a pioneer in this "green design" movement and when he was appointed California State Architect by newly elected Governor Jerry Brown in 1975, an opportunity to take these ideas to a larger scale presented itself. Both van der Ryn and Brown were admirers of Gregory Bateson's Steps to an Ecology of Mind and E.F. Schumacher's Small is Beautiful, published in the early '70s. The first large scale building that showcased what we now call sustainable architecture was a design by a team led by van der Ryn and Peter Calthorpe."

In 1976, Governor Brown appointed Sim Van der Ryn to the position of State Architect and tasked him with the development of a new Capitol Area Plan. A primary objective of the plan was to reduce the apparent scale of the large office buildings and thereby create a more humane, user-oriented environment. The plan also set out to create positive examples of State office buildings as models of energy efficiency and humane working environments. Four buildings, EDD Annex (Solar – Subterranean Building) (013), Gregory Bateson Building (011), Paul Bonderson Building (016), and Warren-Alquist State Energy Building (008), were completed under the Brown administration Capitol Area Plan.

Since at least 2006, and probably much longer, the building's exterior has exhibited deterioration that appears to have contributed to extensive leaking. The building is nearing the 50-year threshold for consideration for listing in the National Register of Historic Places and it is curently eligible for listing in the California Register of Historic Resources.

The four-story concrete structure has a large central atrium. The primary tenants are the Department of Developmental Services and the Department of State Hospitals. The gross area is 293,516 SF. The net usable area is 214,565 SF. The ratio of net usable to gross building area is 73 percent. The occupant capacity is 1,086. The building does not have on-site parking.

BUILDING DESCRIPTION

The building foundation consists of driven piles with cast-in-place steel reinforced concrete pile caps, and grade beams supporting wall and column loads. The first floor structural system is slab-on-grade, reinforced cast-in-place concrete. Steel reinforced columns and beams support precast, pretensioned concrete double-tees, from which the upper floors and roof are constructed.

The primary roof is flat and covered with a built-up membrane, and the secondary roof is classified as pitched standing seam metal over wood framing. The atrium roof has a saw-tooth profile with clerestory windows on the north-facing incline, and operable vertical louvers facing south.

The building has an exposed concrete frame structure. Aluminum-framed ribbon windows are set in the exterior walls around the perimeter of the building, with stained wood spandrel panels beneath. The structural concrete frame supports cast concrete beams. They are arranged to form pergolas to shade exterior windows on the south elevation, and small areas on the east and west elevations. Additional shading is provided by motorized canvas shades that lower vertically from the horizontal concrete beams.

The building interior is arranged around a large central atrium. The atrium floor is largely brick paver, with portions of exposed sealed concrete in surrounding areas. The walls of the office areas are painted drywall. The floor finishes consist of broadloom carpet (except for carpet tiles on the fourth floor), sheet vinyl in common areas, vinyl composition tiles in service areas, and ceramic tile in restrooms. The ceilings in the interior office areas are exposed concrete structure, and acoustic ceiling tiles in some conference and service areas.

The building has three passenger elevators and a freight elevator, all hydraulic.

Heating and cooling are provided by the DGS Central Utility Plant, which supplies steam and chilled water to the building. Air-handling units throughout the building provide conditioned air to the interior spaces.

Life safety systems include smoke detectors, fire alarms, fire extinguishers, and a sprinkler system in the basement.

The building covers nearly the entire site, and the landscaping consists of planters around the perimeter of the building, and in small plazas. Landscaped areas are irrigated by sprinklers and a drip irrigation system.

The sidewalks throughout the property are constructed of cast-in-place concrete and brick pavers. Cast-in-place concrete steps and ramps with metal handrails are located at grade changes.

Project Statistics

Item	Description
Project Name	Gregory Bateson Building
Building ID	011
Property Type	Administration
Year Built	1981

Item	Description
Number of Stories	4
Occupied	Yes
Land Area (acres)	2.55
Gross Square Feet (GSF)	293,516

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 E2018-08[1] 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 Gregory Bateson Building (011) on November 13, 2014. 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 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.

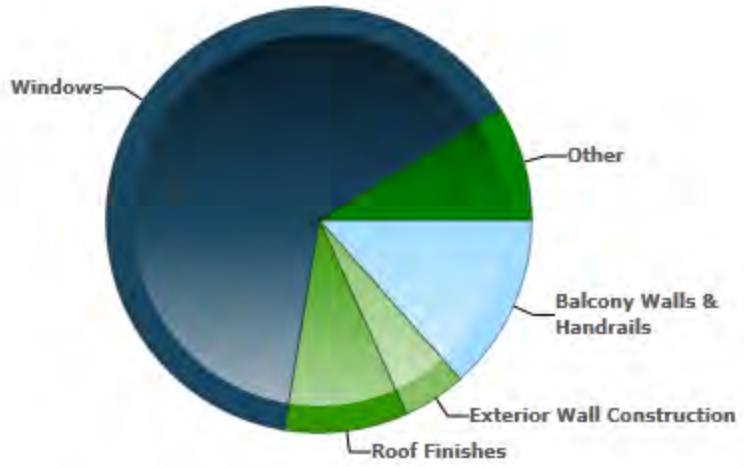
PRIORITY RATIO

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:

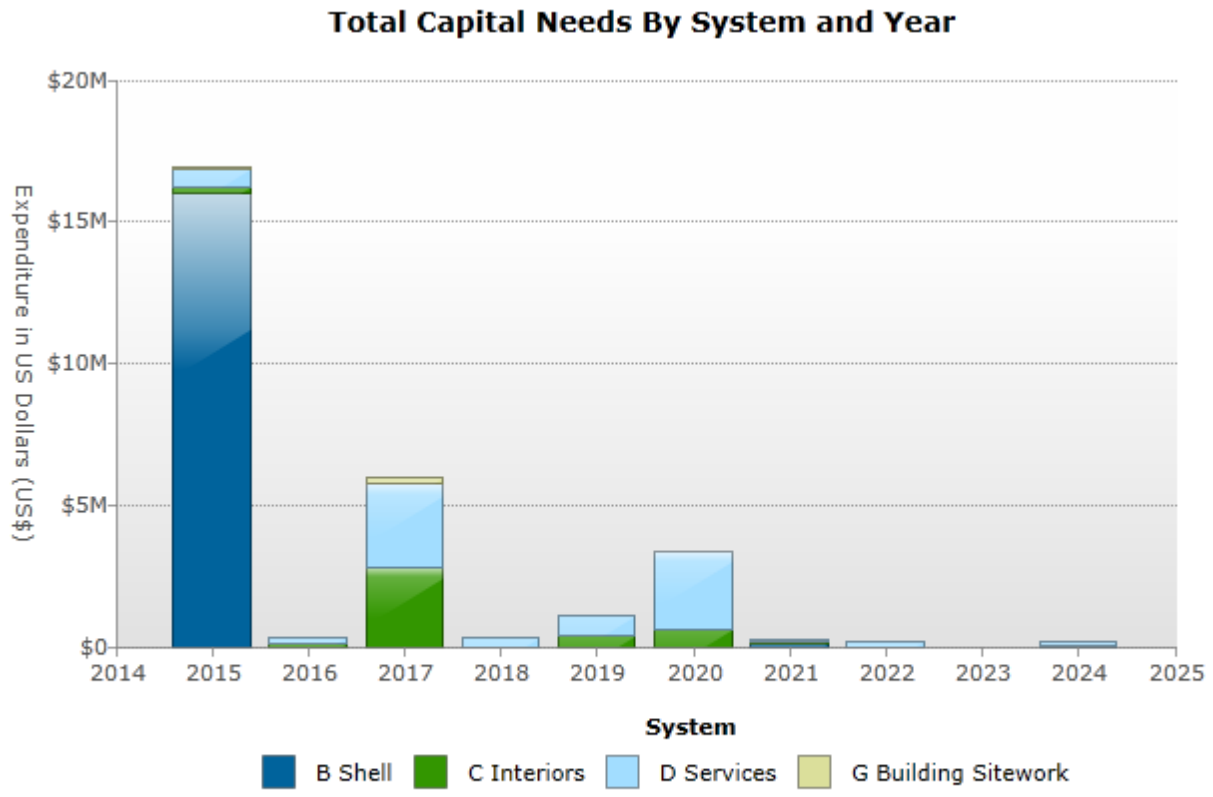
Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable 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
B1010	Floor Construction	$525,338
B1012	Upper Floors Construction	$77,000
B2011	Exterior Wall Construction	$811,190
B2015	Balcony Walls & Handrails	$2,273,560
B2021	Windows	$10,755,720
B3011	Roof Finishes	$1,585,362
C1021	Interior Doors	$190,464
D1011	Passenger Elevators	$57,785
D1012	Freight Elevators	$21,112
D2023	Domestic Water Supply Equipment	$51,836
D3023	Auxiliary Equipment	$17,336
D3041	Air Handling Units	$396,800
D4011	Sprinkler Water Supply	$46,256
D5022	Lighting Equipment	$60,458

Level	Building System	Estimated Cost
D5092	Emergency Light & Power Systems	$18,873
G2055	Planting	$9,221
G2057	Irrigation Systems	$8,705
	Total	**$16,907,016**



	Building System							
Year	A Sub-Structure	B Shell	C Interiors	D Services	E Equip. & Furnishings	F Spec. Const. & Demolition	G Bldg. Site Work	Total
2015	$0	$16,028,170	$190,464	$670,457	$0	$0	$17,925	**$16,907,016**
2016	$0	$0	$119,808	$166,950	$0	$0	$0	**$286,758**
2017	$0	$0	$2,824,340	$2,923,410	$0	$0	$214,573	**$5,962,324**
2018	$0	$0	$0	$304,161	$0	$0	$0	**$304,161**
2019	$0	$0	$423,636	$691,600	$0	$0	$0	**$1,115,236**
2020	$0	$0	$580,856	$2,760,754	$0	$0	$0	**$3,341,610**
2021	$0	$119,040	$88,267	$30,680	$0	$0	$0	**$237,987**
2022	$0	$0	$0	$149,647	$0	$0	$0	**$149,647**
2024	$0	$21,987	$0	$161,911	$0	$0	$0	**$183,898**
Total	**$0**	**$16,169,197**	**$4,227,372**	**$7,859,570**	**$0**	**$0**	**$232,499**	**$28,488,638**

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as $107,882,601 for the Gregory Bateson Building Building (011). 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
293,516 GSF	$368	$107,882,601

FACILITY CONDITION INDEX

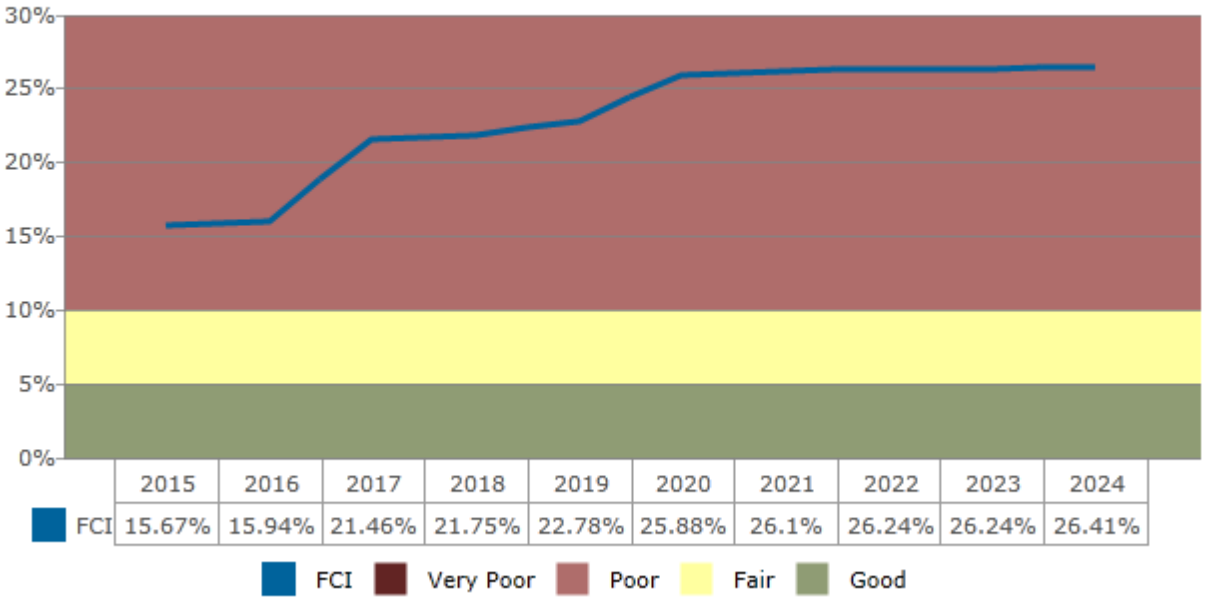
The FCI[1] is an indication of a building's current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the "rule of two-thirds," is the threshold for identifying potential candidates for replacement or divestment.[2] Once the FCI ratio reaches 65 percent, or 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%

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.

[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.

Cumulative Effects of FCI over the Study Period



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FCI	15.67%	15.94%	21.46%	21.75%	22.78%	25.88%	26.1%	26.24%	26.24%	26.41%

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APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

Recommendations:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C1021	C1020 Upgrade doors to ADA automatic openers	16.0 - EA	11904.0	CC - Accessibility	Priority 2	2015	190,464

Cost Summary:

Year	Total Expenditures
2015	$190,464

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A10 FOUNDATIONS

Item	Description
A1011 Wall Foundations	A1011 Wall Foundations
Condition	Good
Qty / UOM	82600 / SF
RUL (years)	44
Location	Foundations

OBSERVATIONS/COMMENTS:

No further action needed.

B Shell Systems

B10 SUPERSTRUCTURE

Item	Description
B1010 Floor Construction	B1010 Floor Construction
Condition	Fair
Qty / UOM	293000 / SF
RUL (years)	38
Location	All Floors

OBSERVATIONS/COMMENTS:

There is spalling concrete and exposed steel at second and third floor exterior columns and beams and basement wall. Reinforcing steel (rebar) is rusting and must be repaired.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B1010	B1010 Repair/replace seismic and expansion joints	648.0 - LF	449.5	OP - Maintenance	Priority 2	2015	291,276

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B1010	B1010 Repair of spalling concrete and exposed reinforcing steel	22.0 - SF	10639.2	OP - Maintenance	Priority 2	2015	234,062

Item	Description
B1012 Upper Floors Construction	B1012 Concrete Floor Construction
Condition	Poor - Fair
Qty / UOM	5500 / SF
RUL (years)	16
Location	First Floor

OBSERVATIONS/COMMENTS:

There are several cracks in the concrete topping slab that are visually evident and may worsen over time.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B1012	B1012 Crack repair with epoxy injection	5,500.0 - LF	14.0	OP - Maintenance	Priority 2	2015	77,000

Item	Description
B1014 Ramps	B1010 Ramps
Condition	Good
Qty / UOM	864 / SF
RUL (years)	23
Location	First Floor & Site
Guardrails	Metal
Concrete Type- All Floors	Cast In Place

OBSERVATIONS/COMMENTS:

There are two ADA exterior ramps and two interior ramps.

Item	Description
B1022 Pitched Roof Construction	B1022 Laminated Beam Construction
Condition	Good
Qty / UOM	12720 / SF
RUL (years)	39
Location	Atrium roof

OBSERVATIONS/COMMENTS:

The atrium roof beams were reportedly replaced and repaired after leaks were discovered above the beams.

Item	Description
B1029 Other Roof Systems	B1029 Metal Guardrail, Low Roof Parapet
Condition	Poor - Fair
Qty / UOM	82600 / SF
RUL (years)	13
Location	Roof Perimeter
Roofing Type	Flat
Parapet Wall Edge Flashing	Metal
Attic	No

Item	Description
Roof Access	Stairwell

OBSERVATIONS/COMMENTS:

There is a parapet that does not meet the required height in the current CBC code. If significant renovations take place at the roof level, installing a protection railing may be required. Because there is no roof-mounted HVAC equipment, the protection railing is not included as a recommended repair cost.

COST SUMMARY:

Type	Year	Total Expenditures
B10 Superstructure	2015	$602,338

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2010 Glue-lam beam at walls and railings
Condition	Poor - Fair
Qty / UOM	9996 / SF
RUL (years)	15
Location	Exterior Walls
Parapets	Yes
Balcony Walls and Handrails	Metal
Exterior Soffits	Exposed
Lintels and Sills	Concrete

OBSERVATIONS/COMMENTS:

There are exposed wood spandrel panels under the aluminum framed window system. There are damaged wood areas and signs of water intrusion caused by irrigation and rainfall. The windows reportedly weep into the wood panels. A report by Interactive Resources that included destructive testing was used as a reference for this report. For the purposes of this report, EMG has used the Medium Cost and Moderate Risk design solution contained in the report.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2011	B2010 Paint/stain glue-laminated wall panels	9,996.0 - SF	40.9	IN - Appearance	Priority 1	2015	409,036

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2011	B2010 Exterior walls in poor condition	1,176.0 - SF	342.0	IN - Beyond Rated Life	Priority 1	2015	402,153

Item	Description
B2013 Exterior Louvers, Screens, and Fencing	B2013 Exterior Sun Shade System
Condition	Good
Qty / UOM	32 / EA
RUL (years)	6
Location	Exterior walls at west and south

OBSERVATIONS/COMMENTS:

The exterior sunshades are mechanically operated and controlled by light sensors that lower the shades when needed. The system is operational but requires additional maintenance work every year.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2013	Replace B2013 Exterior Sun Shade System	32.0 - EA	3720.0	IN - Beyond Rated Life	Priority 3	2021	119,040

Item	Description
B2015 Balcony Walls & Handrails	B2010 Metal deck railings
Condition	Good
Qty / UOM	4525 / LF
RUL (years)	0
Location	Decks on all levels

OBSERVATIONS/COMMENTS:

The metal balcony railings do not meet the current building codes, and when the glue-laminated beam portions of these are repaired, the extent of the work will require revising the metal railings on top of the wood walls to meet the current building code.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2015	Replace B2010 Metal deck railings	4,525.0 - LF	261.5	CC - Building Code	Priority 1	2015	1,183,360
B2015	B2010 Replace glue-laminated beam railings	3,188.0 - LF	342.0	IN - Beyond Rated Life	Priority 1	2015	1,090,200

Item	Description
B2021 Windows	B2020 Exterior aluminum windows
Condition	Poor - Fair
Qty / UOM	32450 / SF
RUL (years)	0
Location	All Floors
Window Type	Fixed
Windows Material	Aluminum
Windows Glazing	Single Glazed
Window Operation	Fixed

OBSERVATIONS/COMMENTS:

The exterior windows are aluminum set within the concrete frame, resting on glue-laminated wood beams. The windows are leaking into the wood beams, and in some cases, the interior areas. The seals are deteriorating and metal joints have gaps due to age, expansion and contraction. A report by Interactive Resources that included destructive testing was used as a reference for this report. For the purposes of this report, EMG has used the Medium Cost and Moderate Risk design solution contained in the report.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2021	Replace B2020 Exterior aluminum windows	32,450.0 - SF	221.0	IN - Beyond Rated Life	Priority 1	2015	7,171,216
B2021	B2020 Windows at decks	16,220.0 - SF	221.0	IN - Beyond Rated Life	Priority 1	2015	3,584,503

Item	Description
B2031 Glazed Doors & Entrances	B2030 Exterior Doors
Condition	Good
Qty / UOM	8 / EA
RUL (years)	9
Location	All Floors
Door Hardware	Knob
Door Operation	Both
Glass Type	Security Wire
Door Frame	Metal Framed
Door Use	Entrance

OBSERVATIONS/COMMENTS:

All exterior doors open to the public streets. Additional storefront doors are located in the atrium, but are discussed as interior doors in this report. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2031	Replace B2030 Exterior Doors	8.0 - EA	2748.4	IN - Beyond Rated Life	Priority 4	2024	21,987

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2015	$13,840,470
B20 Exterior Enclosure	2021	$119,040
B20 Exterior Enclosure	2024	$21,987

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 Balcony Coatings
Condition	Poor - Fair
Qty / UOM	16900 / SF
RUL (years)	0
Location	Balconies

OBSERVATIONS/COMMENTS:

Areas of ponding and staining were observed at the balconies. Flashing repairs will likely be needed when the coatings are replaced. Replacement of the coating is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B3011	Replace B3011 Balcony Coatings	16,900.0 - SF	42.4	IN - Beyond Rated Life	Priority 1	2015	716,695

Item	Description
B3011 Roof Finishes	B3010 Metal Roof Flashing
Condition	Poor - Fair
Qty / UOM	127 / SQ
RUL (years)	0
Location	Atrium roof

OBSERVATIONS/COMMENTS:

Metal flashing reportedly leaks at times of heavy rain and wind, due to wind-blown rain over the flashings. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B3011	Replace B3010 Metal Roof Flashing	127.0 - SQ	2128.3	IN - Beyond Rated Life	Priority 5	2015	270,292
B3011	B3010 Replace sealants	12,700.0 - SF	5.0	OP - Maintenance	Priority 2	2015	62,992

Item	Description
B3011 Roof Finishes	B3010 Built-Up Roofing, Total Roof
Condition	Fair
Qty / UOM	826 / SQ
RUL (years)	10
Location	Entire roof

OBSERVATIONS/COMMENTS:

The parapet height does not meet the current CBC code. If significant renovations take place at the roof level, raising the parapet or installing a protection railing is required. Installation of a roof coating and flashing repairs to extend the RUL of roofing is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B3011	B3010 Install new cool roof coating	480.0 - SQ	510.9	OP - Maintenance	Priority 2	2015	245,222
B3011	B3010 Flashing and coping repairs	1,500.0 - SF	193.4	OP - Maintenance	Priority 2	2015	290,160

COST SUMMARY:

Type	Year	Total Expenditures
B30 Roofing	2015	$1,585,362

C Interiors Systems

C10 Interior Construction

Item	Description
C1021 Interior Doors	C1020 Fire Door, metal with wire glass
Condition	Fair - Good
Qty / UOM	16 / EA
RUL (years)	4
Location	Fourth Floor-North

OBSERVATIONS/COMMENTS:

Additional door openers will be required as ADA upgrades are completed.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C1021	C1020 Upgrade doors to ADA automatic openers	16.0 - EA	11904.0	CC - Accessibility	Priority 2	2015	190,464
C1021	Replace C1020 Fire Door, metal with wire glass	16.0 - EA	4337.4	IN - Beyond Rated Life	Priority 3	2019	69,398

Item	Description
C1021 Interior Doors	C1020 Door
Condition	Good
Qty / UOM	103 / EA
RUL (years)	11
Location	All Floors

OBSERVATIONS/COMMENTS:

Interior doors are wood with metal frame.

COST SUMMARY:

Type	Year	Total Expenditures
C10 Interior Construction	2015	$190,464
C10 Interior Construction	2019	$69,398

C20 STAIRS

Item	Description
C2011 Regular Stairs	C2010 Concrete Stairs
Condition	Good
Qty / UOM	6336 / SF
RUL (years)	20
Location	All Floors
Stairs Frame	Steel
Stair Riser	Closed
Stair Treads	Concrete
Stair Railings	Metal

OBSERVATIONS/COMMENTS:

There are two interior stairs open to the atrium and four enclosed fire exit stairs.

C30 INTERIOR FINISHES

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Painted Drywall
Condition	Good
Qty / UOM	185504 / SF
RUL (years)	4
Location	All Floors

OBSERVATIONS/COMMENTS:

All interior walls are gypsum wallboard. The office areas are divided by moveable cubicle walls. Painting is anticipated within the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3012	Paint C3012 Drywall	185,504.0 - SF	1.9	IN - Appearance	Priority 3	2019	354,238

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 4X4 Ceramic Tile
Condition	Good
Qty / UOM	226 / CSF
RUL (years)	24
Location	First Floor-South

OBSERVATIONS/COMMENTS:

The tile was installed in 2008 when the restrooms were renovated for ADA compliance.

Item	Description
C3012 Wall Finishes to Interior Walls	C3010 Wood Paneling
Condition	Fair
Qty / UOM	34021 / SF
RUL (years)	15
Location	All Floors

OBSERVATIONS/COMMENTS:

There are interior and exterior horizontal exposed wood spandrel panels filling the grid under an aluminum framed window system that needs to be sealed and stained.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3012	C3010 Paint/stain interior wall panels	34,021.0 - SF	3.5	OP - Maintenance	Priority 3	2016	119,808

Item	Description
C3023 Hardeners and Sealers	C3020 Brick flooring at atrium
Condition	Fair
Qty / UOM	18345 / SF
RUL (years)	20
Location	First Floor
Floor Toppings	Light Weight Concrete
Traffic Membranes	Painted Textured Finish
Hardeners and Seals	Epoxy Sealer

OBSERVATIONS/COMMENTS:

There is brick paving at first floor and concrete walkways at the atrium on the upper floors.

Item	Description
C3024 Flooring	C3020 2X2 Ceramic Tile
Condition	Good
Qty / UOM	41 / CSF
RUL (years)	24
Location	First Floor-North
Hardeners and Seals	Polymer Sealant

OBSERVATIONS/COMMENTS:

The tile was installed in 2008 when the restrooms were renovated for ADA compliance.

Item	Description
C3024 Flooring	C3020 Sheet Vinyl
Condition	Fair
Qty / UOM	515 / SY
RUL (years)	6
Location	First Floor-North

OBSERVATIONS/COMMENTS:

There is VCT at the first floor corridor next to loading area and second floor dining area. Replacement at second floor dining area is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3024	Replace C3020 Sheet Vinyl	515.0 - SY	171.4	IN - Appearance	Priority 4	2021	88,267

Item	Description
C3025 Carpeting	C3020 Floor Finishes
Condition	Fair
Qty / UOM	22395 / SY
RUL (years)	2
Location	Office areas and corridors

OBSERVATIONS/COMMENTS:

Carpet replacement includes all areas of the building except the fourth floor which was replaced with carpet tiles and is slightly newer.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3025	Replace C3020 Floor Finishes	22,395.0 - SY	96.6	IN - Appearance	Priority 3	2017	2,163,482
C3025	C3020 Carpet fourth floor	6,013.0 - SY	96.6	IN - Appearance	Priority 4	2020	580,856

Item	Description
C3032 Suspended Ceilings	C3030 Acoustical Tile With Exposed Grid System
Condition	Fair
Qty / UOM	550 / CSF
RUL (years)	2
Location	All Floors

OBSERVATIONS/COMMENTS:

Replace suspended ceilings in various offices and corridors throughout the building in conjunction with the recommended installation of a fire sprinkler system for the entire building.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3032	Replace C3030 Acoustical Tile With Exposed Grid System	550.0 - CSF	1201.6	IN - Appearance	Priority 3	2017	660,858

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2016	$119,808
C30 Interior Finishes	2017	$2,824,340
C30 Interior Finishes	2019	$354,238
C30 Interior Finishes	2020	$580,856
C30 Interior Finishes	2021	$88,267

D Services Systems

D10 Conveying Systems

Item	Description
D1011 Passenger Elevators	D1010 Elevator Hydraulic System, 3,500 Lb Capacity
Condition	Fair
Qty / UOM	3 / EA
RUL (years)	4
Location	Throughout Facility
Elevator Style	Passenger
Elevator Type	Hydraulic
Machinery Location	Room Adjacent To The Shaft

OBSERVATIONS/COMMENTS:

See elevator consultant report. Full modernization is recommended. Immediate repairs are also required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1011	D1010 Adjust accel and decel for smooth operations	3.0 - EA	910.0	OP - Maintenance	Priority 2	2015	2,730
D1011	D1010 Replace in-car stop switches with keyed switches	3.0 - EA	2184.0	CC - Life Safety	Priority 1	2015	6,552
D1011	D1010 Install car identification numbers on car tops	3.0 - EA	455.0	FN - Modernization	Priority 2	2015	1,365
D1011	D1010 Install door restrictors	3.0 - EA	4550.0	CC - Life Safety	Priority 1	2015	13,650
D1011	D1010 Replace car aprons with 21" long new units	3.0 - EA	2730.0	CC - Life Safety	Priority 1	2015	8,190
D1011	D1010 Reseal jack heads to eliminate leaking	3.0 - EA	1456.0	OP - Maintenance	Priority 2	2015	4,368
D1011	D1010 Install material to bevel flat sufaces in hoistway	3.0 - EA	2730.0	FN - Modernization	Priority 2	2015	8,190

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1011	D1010 Complete overdue five year tests for car 1	1.0 - EA	7280.0	OP - Maintenance	Priority 2	2015	7,280
D1011	D1010 Repair hydraulic leaks on poweer unit piping	3.0 - EA	1820.0	OP - Maintenance	Priority 2	2015	5,460
D1011	D1010 New cab interiors during modernization	3.0 - EA	41860.0	FN - Modernization	Priority 3	2018	125,580
D1011	Replace D1010 Elevator Hydraulic System, 3,500 Lb Capacity	3.0 - EA	172900.0	FN - Modernization	Priority 3	2019	518,700

Item	Description
D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	4
Location	Throughout Facility
Elevator Style	Passenger
Elevator Type	Hydraulic
Machinery Location	Room Adjacent To The Shaft

OBSERVATIONS/COMMENTS:

See elevator consultant report. Full modernization will be required in the next five years. The security card reader is only temporarily attached to the elevator control panel.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1012	D1010 Reseal jack heads to eliminate leaking	1.0 - EA	1456.0	OP - Maintenance	Priority 2	2015	1,456

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1012	D1010 Replace in-car stop switches with keyed switches	1.0 - EA	546.0	CC - Life Safety	Priority 1	2015	546
D1012	D1010 Adjust accel and decel for smooth operations	1.0 - EA	910.0	OP - Maintenance	Priority 2	2015	910
D1012	D1010 Replace chipped pick up rollers on car 5	1.0 - EA	455.0	OP - Maintenance	Priority 2	2015	455
D1012	D1010 Install material to bevel flat surfaces in hoistway	1.0 - EA	10920.0	FN - Modernization	Priority 2	2015	10,920
D1012	D1010 Install door restrictors for all elevators	1.0 - EA	4550.0	CC - Life Safety	Priority 1	2015	4,550
D1012	D1010 Repair hydraulic leaks on power unit piping	1.0 - EA	1820.0	OP - Maintenance	Priority 2	2015	1,820
D1012	D1010 Install car identification numbers on car tops	1.0 - EA	455.0	FN - Modernization	Priority 2	2015	455
D1012	D1010 New cab interiors during modernization	1.0 - EA	41860.0	FN - Modernization	Priority 3	2018	41,860
D1012	Replace D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	1.0 - EA	172900.0	FN - Modernization	Priority 3	2019	172,900

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2015	$78,897
D10 Conveying Systems	2018	$167,440
D10 Conveying Systems	2019	$691,600

D20 PLUMBING

Item	Description
D2011 Water Closets	D2010 Commercial Grade Water Closet With 1.6 Gpf Unit
Condition	Fair - Good
Qty / UOM	48 / EA
RUL (years)	15
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The toilets have been fit with automatic flush valves.

Item	Description
D2012 Urinals	D2010 Urinal
Condition	Fair - Good
Qty / UOM	16 / EA
RUL (years)	15
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The urinals have been fit with automatic flush valves.

Item	Description
D2013 Lavatories	D2010 Enamel Steel Wall Hung Lavatory and Faucet
Condition	Fair - Good
Qty / UOM	48 / EA
RUL (years)	15
Location	Throughout Facility

Item	Description
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The wall-hung lavatories have automatic faucets with hand motion sensors. Long-term lifecycle replacements are budgeted.

Item	Description
D2023 Domestic Water Supply Equipment	D2020 Water Storage Tank 2000 Gallon
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The 2,000-gallon storage tank is original to the 1981 construction and was used to store the thermal/solar heated domestic water. The solar system has been abandoned and the rooftop panels have since been removed. EMG recommends demolition and removal of the tank to create additional space and to keep the main boiler room free of unneeded clutter.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2023	D2020 Demolish and remove solar storage tank	1.0 - LS	18150.0	FN - Obsolescence	Priority 1	2016	18,150

Item	Description
D2023 Domestic Water Supply Equipment	D2020 Water Storage Tank 500 Gallon
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	9
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The insulated 500-gallon storage tank is original to the 1981 construction and is used to store domestic hot water. A long-term lifecycle replacement is recommended during the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2023	Replace D2020 Water Storage Tank 500 Gallon	1.0 - EA	16176.7	IN - Beyond Rated Life	Priority 4	2024	16,177

Item	Description
D2023 Domestic Water Supply Equipment	D2020 Domestic Water Booster Pump Station
Condition	Poor - Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The boiler room has a domestic water booster pump station original to the 1981 construction. The station consists of three pumps; two 5-HP and one 2-HP. One of the 5-HP pump motors recently failed and was replaced, but the remaining components appear original and have reportedly become quite unreliable. Replacement of the entire station is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2023	Replace D2020 Domestic Water Booster Pump Station	1.0 - EA	51836.4	IN - Reliability	Priority 1	2015	51,836

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2015	$51,836
D20 Plumbing	2016	$18,150
D20 Plumbing	2024	$16,177

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	On switchgear in main electrical room
Water Meter Location	Vaulted

Item	Description
D3022.1 Circulating Pumps	D3020 Chilled Water Pumps 25 HP
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	3
Location	Boiler Room
Piping Type	Galvanized Steel
Piping Diameter	12
Piping Insulation	Fiberglass
Pump Manufacturer	Taco

Item	Description
Pump HP	25

OBSERVATIONS/COMMENTS:

There are several water stains adjacent to the pumps, indicative of leakage issues. Lifecycle replacements are recommended early in the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3022	Replace D3020 Chilled Water Pumps 25 HP	2.0 - EA	26054.9	IN - Beyond Rated Life	Priority 2	2018	52,110

Item	Description
D3022.1 Circulating Pumps	D3020 Heating Water Pumps 5 HP
Condition	Good
Qty / UOM	2 / EA
RUL (years)	19
Location	Boiler Room
Piping Type	Galvanized Steel
Piping Diameter	6
Piping Insulation	Fiberglass
Pump Manufacturer	Paco
Pump HP	5

OBSERVATIONS/COMMENTS:

The 5-HP heating water distribution pumps and associated motors pumps appear to be recent replacements.

Item	Description
D3023 Auxiliary Equipment	D3020 Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)
Condition	Poor - Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The primary steam station was rebuilt in 2009 and various valves, PRVs, and steam traps were replaced and added. However, the adjacent low-pressure condensate return station is original to the 1981 construction. The float controls have reportedly failed and the tank is rusting and deteriorating. Short-term replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3023	Replace D3020 Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	1.0 - EA	17336.2	IN - Reliability	Priority 1	2015	17,336

Item	Description
D3041 Air Distribution Systems	D3040 Balance Air Flow at Diffusers
Condition	Fair
Qty / UOM	205461 / SF
RUL (years)	5
Location	Office areas

OBSERVATIONS/COMMENTS:

In recent years, the ductwork was partially cleaned and balanced, but some components and ductwork runs were omitted from the scope. As such, additional cleaning and balancing work is recommended. If VAV boxes are slated for replacement in the near future, it makes most sense to perform this work in conjunction with the replacement of VAV boxes and re-commissioning of the system.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	Replace D3040 Balance Air Flow at Diffusers	205,461.0 - SF	0.7	IN - Beyond Rated Life	Priority 3	2020	137,577

Item	Description
D3041.1 Air Handling Units	D3040 Air Handler 18,000-20,000 CFM
Condition	Fair
Qty / UOM	8 / EA
RUL (years)	15
Location	Utility Areas/Closets
Air Handling Unit Sub Type	Variable Volume Multi-Zone
Air Handling Unit Heat Type	Hot Water
Air Handling Unit Duct Heat Type	Hot Water
Air Handling Unit Cooling Type	Chilled Water Coil
Air Handling Unit Outdoor Air	Damper Controlled
Number of Return Air Fans	8
Duct Supply Diffusers and Registers	In Conditioned Spaces On Walls And Ceilings
Duct Return Grilles	Conditioned Space

OBSERVATIONS/COMMENTS:

The facility's offices are located around the perimeter of the building and are heated and cooled by air supplied by eight air handling units (two per floor) which feed VAV boxes located in each space. AHUs are provided with chilled water from the central system and range from 17,000 CFM to 21,000 CFM nominal capacity. Fan motors are 7.5 HP on the return/exhaust side and 20 HP on the supply side. AHUs are original to the late 1970's construction. Motors, fan belts, and other components are typically replaced upon failure. AHUs were retro-fitted with energy-saving variable frequency drives (VFDs) and new actuators during the conversion over to DDC controls. These particular fans are older European models that utilize pitched/retracting blades that do not perform well in conjunction with VFDs. It becomes difficult to build up and maintain the static pressure, and the general consequence is "insufficient air." A short-term project to fix and revise the fan blades is highly recommended. Based on the age of the fan motors, motor replacement is recommended at the same time.

In addition to the "lack of air" issues, there are problems associated with the condensate pans. The maintenance staff reported excess water and associated overflow/leaking into adjacent areas of the units and the pans to not appear to be deep enough or properly configured with the floor sinks. As such, new and deeper stainless steel condensate pans are also recommended as a short-term repair project.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	D3040 Revise AHU fan blades & replace motors	8.0 - EA	49600.0	IN - Reliability	Priority 1	2015	396,800

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	D3040 Replace/revise AHU condesnate pans	8.0 - EA	18600.0	IN - Reliability	Priority 1	2016	148,800

Item	Description
D3041.2 Terminal Units VAV	D3040 VAV Boxes
Condition	Fair
Qty / UOM	508 / EA
RUL (years)	5
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The facility's offices are located around the outside of the building and are heated and conditioned by variable air volume terminals (VAVs) supplied with chilled air by the central system air handlers. The perimeter VAVs have hot water coils supplied by the central system. The interior VAVs are limited to cooling and ventilation capability only. The mix of perimeter and interior units is approximately 50%/50%. While some VAVs have reportedly been added over the years, the maintenance staff reports that the vast majority of VAVs are most likely original to the late 1970's construction. Based on the age of the units, lifecycle replacements are recommended during the term. At the time of replacement, a full duct cleaning and rebalancing project is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	Replace D3040 VAV Boxes	508.0 - EA	2496.7	IN - Beyond Rated Life	Priority 3	2020	1,268,331

Item	Description
D3042 Exhaust Ventilation Systems	D3040 Make Up Air Unit 5000 CFM
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	3
Location	Rooftop

OBSERVATIONS/COMMENTS:

The air handling unit serving the cafeteria kitchen is a combination make-up air and exhaust unit with heating and chilled water coil. The unit is located on the roof and exposed to the environment, original to the 1981 construction. The maintenance staff would prefer to use the unit as MUA unit only and to separate or "split off" the exhaust capabilities. Service and refurbishment is recommended within the next few years. Based on the age of the unit, full replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3042	Replace D3040 Make Up Air Unit 5000 CFM	1.0 - EA	40650.7	IN - Beyond Rated Life	Priority 2	2018	40,651

Item	Description
D3042 Exhaust Ventilation Systems	D3040 Exhaust Fan, Sidewall 17,100 CFM
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	9
Location	Rooftop
Ventilation System	Central Exhaust Duct Network

OBSERVATIONS/COMMENTS:

The facility was originally designed and constructed with some revolutionary "green" concepts during the late 1970's. The original intent of the large series of atrium fans was to bring in a large volume of outside air for pre-cooling via a rock-bed heat sink located below the ground floor slab. The outside air was also "cleaned" via a sheet flow of water in the rooftop penthouses. Due to issues and concerns with air quality, mold growth, efficiency, and maintenance costs and time, the pre-cooling concept has been abandoned and the rock-bed is no longer in active use. The atrium fans tend to only be used for ventilation during the hottest days of the year. The vast majority of the time, the atrium is not directly conditioned, and the stack effect is likely responsible for natural air movement within the large open central space. Consideration should be given to a full re-design for cooling (and heating) the atrium, with two large penthouse air handlers likely being the most feasible solution. The interactive effects with the current "perimeter" AHU system would require a comprehensive investigation, and the benefits may not be worth the costs. The scope of this investigation and possible design are beyond this particular study; for the purposes of this report, only lifecycle replacements of the atrium fans are included.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3042	Replace D3040 Exhaust Fan, Sidewall 17,100 CFM	6.0 - EA	24289.1	IN - Beyond Rated Life	Priority 4	2024	145,734

Item	Description
D3042 Exhaust Ventilation Systems	D3040 Exhaust Fan 8500 CFM
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	7
Location	Rooftop
Ventilation System	Central Exhaust Duct Network

OBSERVATIONS/COMMENTS:

The restroom exhaust fans are original to the 1981 construction. Medium-term lifecycle replacements are budgeted.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3042	Replace D3040 Exhaust Fan 8500 CFM	2.0 - EA	7679.9	IN - Beyond Rated Life	Priority 4	2022	15,360

Item	Description
D3042 Exhaust Ventilation Systems	D3040 Exhaust Fan 2000 CFM
Condition	Fair
Qty / UOM	3 / EA
RUL (years)	7
Location	Rooftop
Ventilation System	Central Exhaust Duct Network

OBSERVATIONS/COMMENTS:

The miscellaneous rooftop exhaust fans are original to the 1981construction.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3042	Replace D3040 Exhaust Fan 2000 CFM	3.0 - EA	3450.4	IN - Beyond Rated Life	Priority 4	2022	10,351

Item	Description
D3043 Steam Distribution Systems	D3040 Domestic Hot Water Heat Exchanger
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	20
Location	Boiler Room
Heat Exchangers Purpose	Domestic Hot Water Production
Heat Exchanger Process	Steam To Liquid
Heat Exchangers Manufacturer	Patterson Kelley

OBSERVATIONS/COMMENTS:

The heat exchanger used for domestic hot water was replaced within the past five to ten years.

Item	Description
D3043 Steam Distribution Systems	D3040 HVAC Heating Water Heat Exchanger
Condition	Good
Qty / UOM	1 / EA
RUL (years)	28
Location	Boiler Room
Heat Exchangers Purpose	Space Heating
Heat Exchanger Process	Steam To Liquid

OBSERVATIONS/COMMENTS:

The heat exchanger used for HVAC heating water was replaced within the past few years.

Item	Description
D3052 Package Units	D3050 Split System Unit, 4-Ton, Condenser and Fan Coil
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	3

Item	Description
Location	Exterior Balcony

OBSERVATIONS/COMMENTS:

The rooftop heat pump on the Suite 300 balcony is dated 2001. Replacement is anticipated during the next few years.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3052	Replace D3050 Split System Unit, 4-Ton, Condenser and Fan Coil	1.0 - EA	24663.6	IN - Beyond Rated Life	Priority 2	2018	24,664

Item	Description
D3052 Package Units	D3050 Computer Room A/C Units, Air Cooled 10-Ton
Condition	Fair - Good
Qty / UOM	2 / EA
RUL (years)	14
Location	Rooftop
Package Unit Location	Rooftop
Package Unit Controls	Building System
Package Unit Manufacturer	Liebert
Package Unit Model	DCDF308-A

OBSERVATIONS/COMMENTS:

Two split-system air conditioning units were added to the tenant's large server room in 2008. The system uses chilled water from the central plant as the primary coolant and rooftop drycoolers as back-up.

Item	Description
D3068 Building Automation Systems	D3060 Direct Digital Controls (DDC) Extensive
Condition	Good
Qty / UOM	1 / SF
RUL (years)	18
Location	Throughout Facility

Item	Description
Pneumatic Controls Equipment	Compressor
HVAC Controls Manufacturer	Alerton
HVAC Controls Model	BACtalk 2.6

OBSERVATIONS/COMMENTS:

In 2012, the original pneumatic controls were converted over to a full DDC Alerton BACtalk 2.6 system. The maintenance staff stated that the system works properly and to their satisfaction. Periodic software upgrades are recommended as part of property maintenance.

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2015	$414,136
D30 HVAC	2016	$148,800
D30 HVAC	2018	$117,424
D30 HVAC	2020	$1,405,908
D30 HVAC	2022	$25,711
D30 HVAC	2024	$145,734

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	Hardwired Electric
Carbon Monoxide Detectors	No
Heat Detector	Yes
Central Fire Alarm Panel Location	Electrical Room
Annunciator Panel Location	Lobby
Fire Extinguishers	Yes

Fire and Life Safety System	
Item	**Description**
Fire Extinguisher Inspection Date	February 1, 2014
Distance to Nearest Fire Hydrant (ft)	20
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	Yes
Halon Gas Systems	No
Smoke Evacuation Systems	No
Fire-rated Stairwells	Yes
Fire-rated Stairwell Finish	N/A
Stairwell Discharge	Exterior of the building at Grade
Stairwell Pressurized	No
Fire-Rated Doors Observed	Yes
Location of Fire-Rated Doors	Office entrances
Fire Alarm Service Company	N/A
Date of Last Fire Alarm Service	N/A
Are the individual office unit fire alarm systems monitored?	Yes
Are the common area fire alarm systems monitored?	Yes
Types of Common Areas Monitored	All
Fire Alarm Monitoring Company	Not disclosed

Item	Description
D4011 Sprinkler Water Supply	D4010 Fire Sprinkler installation
Condition	Fair
Qty / UOM	293516 / SF
RUL (years)	2
Location	Basement Boiler Room
Fire Sprinkler Type	Wet Sprinkler
Fire Sprinkler Pipe Material	Steel
Recalled Sprinkler Heads (Omega or Central brands)	No
Sprinkler Standpipes	Yes
Location of Sprinkler Standpipes	Stairwells
Backflow Preventer	Yes

Item	Description
Date of Last Sprinkler Inspection	March 2014

OBSERVATIONS/COMMENTS:

The vast majority of the building is not protected by fire suppression; wet-pipe sprinkler heads are currently limited to the basement boiler room. The original fire hose cabinets have been taken off-line, although the dry standpipes in each tower have been retrofit for emergency use. Installation of fire sprinklers is required when major renovations are performed.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D4011	D4010 Repair water lines to fire hose cabinets	8.0 - EA	5782.0	CC - Life Safety	Priority 1	2015	46,256
D4011	Install facility-wide sprinkler system	293,516.0 - SF	9.3	CC - Life Safety	Priority 1	2017	2,729,229

COST SUMMARY:

Type	Year	Total Expenditures
D40 Fire Protection Systems	2015	$46,256
D40 Fire Protection Systems	2017	$2,729,229

D50 ELECTRICAL SYSTEMS

Item	Description
D5012 Low Tension Service & Dist.	D5010 Breaker Panel 225 Amps, 30 Circuits
Condition	Fair
Qty / UOM	32 / EA
RUL (years)	5
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

Most of the electrical panels are original 1981 Federal Pacific panels. A very isolated number of panels are newer. The electrical service is reportedly adequate for the facility's needs. Due to the age of the panels and increasing difficulty of obtaining replacement parts over time, lifecycle replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5010 Breaker Panel 225 Amps, 30 Circuits	32.0 - EA	7864.3	IN - Beyond Rated Life	Priority 3	2020	251,658

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 2500 Amps
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	5
Location	Main Electrical Room
Service Size (Amperage)	2500
Service Voltage	277/480
Service Voltage Type	Three-Phase Four-Wire Alternating Current (Ac)
Step Down Transformers	Yes
Electrical Distribution Panel Type	Circuit Breakers
Main Electrical Distribution Lines	Underground
Site Electrical Transformer Location	Pad-Mounted
Electrical Wiring Material	Solid Copper
Electrical Wiring in Metal Conduit	Yes
Electrical Wiring in Non-Metal (NM) Conduit	No
Electrical Wiring in Non- Metal Sheathing (Romex)	No
Electrical Wiring in Metal Sheathing (BX)	No

OBSERVATIONS/COMMENTS:

The main switchgear is original 1981 Federal Pacific equipment. The electrical service is reportedly adequate for the facility's needs. A full infrared scan, cleaning, and tightening effort was performed on 11/16/2013. Due to the age of the components and increasing difficulty of obtaining replacement parts over time, lifecycle replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5010 Switchgear, Mainframe, 2500 Amps	2.0 - EA	17847.0	IN - Beyond Rated Life	Priority 3	2020	35,694

Item	Description
D5012 Low Tension Service & Dist.	D5010 Secondary Dry Transformer 45 kVA
Condition	Fair
Qty / UOM	32 / EA
RUL (years)	5
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The stepdown transformers are original 1981 Federal Pacific panels. The electrical service is reportedly adequate for the facility's needs. Due to the age of the transformers, lifecycle replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5010 Secondary Dry Transformer 45 kVA	32.0 - EA	14159.8	IN - Beyond Rated Life	Priority 3	2020	453,112

Item	Description
D5012 Low Tension Service & Dist.	D5010 Secondary Dry Transformer 75 kVA
Condition	Fair
Qty / UOM	32 / EA
RUL (years)	5
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The stepdown transformers are original 1981 Federal Pacific panels. The electrical service is reportedly adequate for the facility's needs. Due to the age of the transformers, lifecycle replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5010 Secondary Dry Transformer 75 kVA	32.0 - EA	19199.4	IN - Beyond Rated Life	Priority 3	2020	614,382

Item	Description
D5022 Lighting Equipment	D5022 Lighting Fixtures
Condition	Fair
Qty / UOM	484 / EA
RUL (years)	2
Location	Offices and corridors

OBSERVATIONS/COMMENTS:

Replace interior light fixtures in conjunction with the recommended replacement of suspended acoustical ceilings in various offices and corridors throughout building.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5022	Replace D5022 Lighting Fixtures	484.0 - EA	401.2	FN - Modernization	Priority 2	2017	194,181

Item	Description
D5022 Lighting Equipment	D5020 Atrium Lighting
Condition	Fair
Qty / UOM	16 / EA
RUL (years)	3
Location	Atrium

OBSERVATIONS/COMMENTS:

Most of the illumination in the atrium area is provided naturally by the skylights. Lighting is limited to five ceiling hung fixtures and some footlights adjacent to ramps and stairs. As such, lighting is fairly limited during the nighttime, despite reports that events are held within the atrium throughout the year, and commonly after working hours. Some additional lighting is recommended, whether it be provided via wall-packs installed around the perimeter, by additional ceiling-hung fixtures, or through a "gas-lamp" courtyard-type concept. The specific design is beyond the scope of this assessment, but a placeholder budgetary cost is included as a short-term project.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5022	Add lighting to atrium	16.0 - EA	1206.0	FN - Mission	Priority 3	2018	19,296

Item	Description
D5022 Lighting Equipment	D5020 Exterior Wall Mt Light, 100 Watt
Condition	Poor
Qty / UOM	56 / EA
RUL (years)	0
Location	Building Exterior

OBSERVATIONS/COMMENTS:

There are integral footlights installed along the bases of the planters outside the northeast and southwest corners of the building. Similar lights are installed along the building perimeter, commonly adjacent to the concrete "benches." Many of these lights have been vandalized, and others were observed to be illuminated during the daytime, due to faulty sensors or photocells. In addition, the maintenance staff reported that much of the associated underground conduit for the wiring has completely deteriorated. Full replacement of these fixtures, conduit, and wiring is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5022	Replace D5020 Exterior Wall Mt Light, 100 Watt	56.0 - EA	1079.6	IN - Beyond Rated Life	Priority 1	2015	60,458

Item	Description
D5037 Fire Alarm Systems	D5030 Fire Alarm Panel
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	6
Location	Main Electrical Room

OBSERVATIONS/COMMENTS:

The fire alarm panel replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5037	Replace D5030 Fire Alarm Panel	1.0 - EA	30680.0	CC - Life Safety	Priority 3	2021	30,680

Item	Description
D5092 Emergency Light & Power Systems	D5090 Diesel Generator 150 kW
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	7
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The emergency generator is original to the building construction. A lifecycle replacement is recommended during the term. EMG did not observe any secondary containment around the diesel fuel day tank. A budget for short-term repair/modification is included.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5092	D5090 Add secondary containment for day tank	1.0 - 1	8260.0	EN - Air/ Water Quality	Priority 1	2015	8,260
D5092	Replace D5090 Diesel Generator 150 kW	1.0 - EA	123936.4	CC - Life Safety	Priority 4	2022	123,936

Item	Description
D5092 Emergency Light & Power Systems	D5090 Transfer Switch
Condition	Poor - Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The transfer switch associated with the emergency generator has become problematic, with the unit reportedly not automatically switching back to grid power during a recent use. The transfer switch is original 1981 equipment and a short-term replacement is recommended. The adjacent original electrical panel is recommended for replacement at the same time.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5092	Replace D5090 Transfer Switch	1.0 - EA	10613.1	CC - Life Safety	Priority 1	2015	10,613

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2015	$79,331
D50 Electrical Systems	2017	$194,181
D50 Electrical Systems	2018	$19,296
D50 Electrical Systems	2020	$1,354,846
D50 Electrical Systems	2021	$30,680
D50 Electrical Systems	2022	$123,936

G Building Sitework Systems

G20 Site Improvements

Site Information	
Item	**Description**
Main Ingress and Egress	Ninth Street
Access from	E
Additional Entrances	N/A
Access from	N/A
Parking Count: Open lot	0
Parking Count: Sheltered by carports	0
Parking Count: Private garages	0
Parking Count: Subterranean garage	0
Parking Count: Freestanding parking structure	0
Number of ADA Compliant Spaces	0
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	No
Building Identification Sign	Yes
Illuminated Sign	No
Location of Property ID Sign	Front elevation of building
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	No
Flower beds Present	Yes
Decorative Rocks Present	No
Lava Rocks Present	No
Ponds Present	No
Fountains Present	No
Topography	Flat

Item	Description
G2033 Exterior Steps	G2030 Concrete Steps
Condition	Fair
Qty / UOM	975 / SF
RUL (years)	2
Location	First Floor & Site
Stair Material	Concrete
Stair Handrail	Metal

OBSERVATIONS/COMMENTS:

There are two main entrances to the building; a public entrance at east side (9th street) and an employees' entrance at west side (8th street).

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2033	Replace G2030 Concrete Steps	975.0 - SF	220.1	IN - Beyond Rated Life	Priority 3	2017	214,573

Item	Description
G2055 Planting	G2050 Landscaping Allowance
Condition	Fair
Qty / UOM	1300 / SF
RUL (years)	0
Location	Exterior

OBSERVATIONS/COMMENTS:

There are raised exterior planters around the building that require additional planting and irrigation

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2055	Replace G2050 Landscaping Allowance	1,300.0 - SF	7.1	IN - Beyond Rated Life	Priority 1	2015	9,221

Item	Description
G2057 Irrigation Systems	G2050 Irrigation System, Install New
Condition	Poor
Qty / UOM	18 / EA
RUL (years)	0
Location	Inside atrium

OBSERVATIONS/COMMENTS:

There are 18 planters (3'-3" x 3'-3") inside the atrium that need a new irrigation system due to damage caused by moving the planters. Currently the planters are watered by hand.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2057	Replace G2050 Irrigation System, Install New	18.0 - EA	483.6	IN - Beyond Rated Life	Priority 1	2015	8,705

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2015	$17,925
G20 Site Improvements	2017	$214,573

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	65
Weather Conditions	Cloudy
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	No
Document Year Built Information Obtained From	Building 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

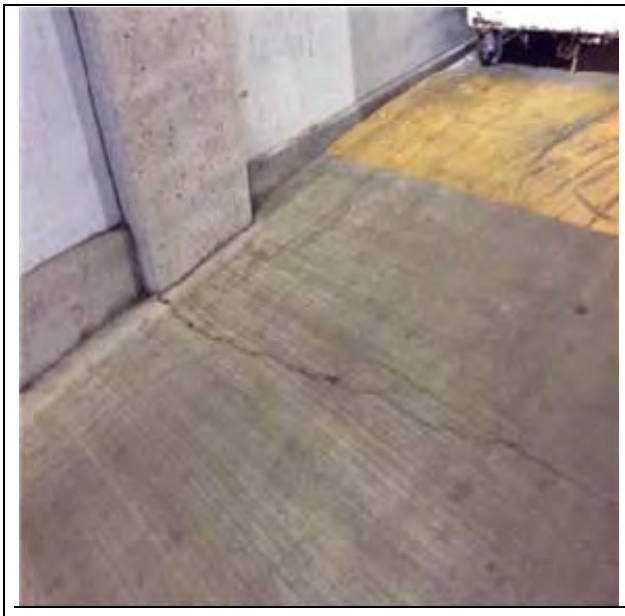
APPENDIX D: PHOTOS

B1010 Floor Construction

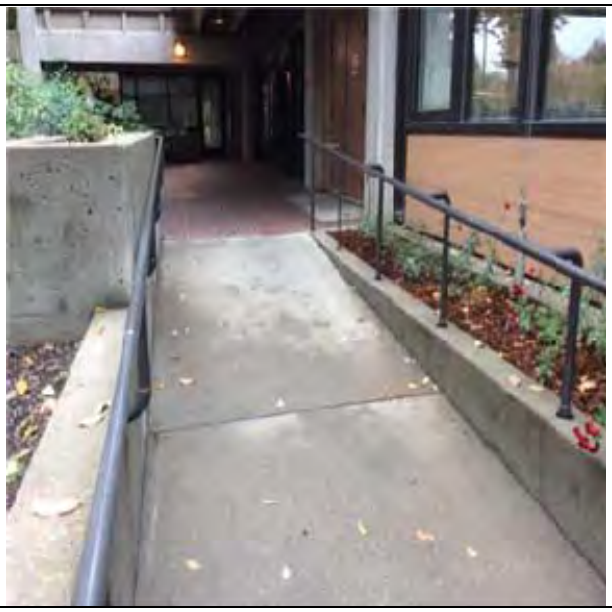
B1010 Floor Construction

B1012 Concrete Floor Construction

B1012 Concrete Floor Construction



B1012 Concrete Floor Construction



B1010 Ramps:- 9th street Ramp

B1029 Metal Guardrail, Low Roof Parapet

B2010 Glue-lam beam at walls and railings

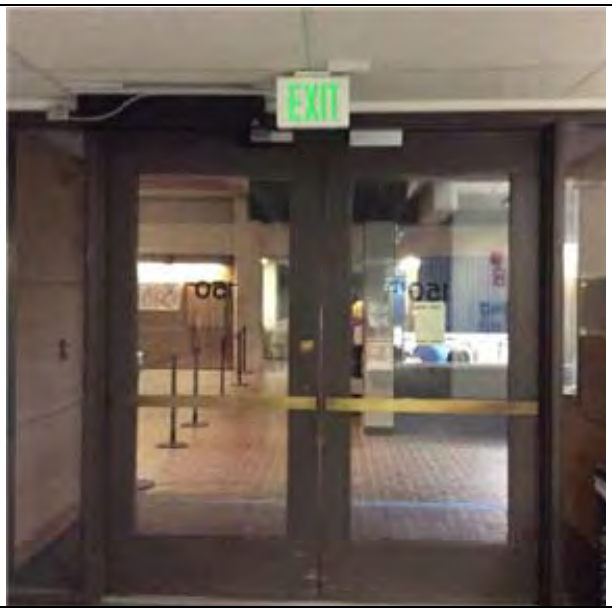
B2010 Glue-lam beam at walls and railings

B2010 Glue-lam beam at walls and railings

B2010 Glue-lam beam at walls and railings

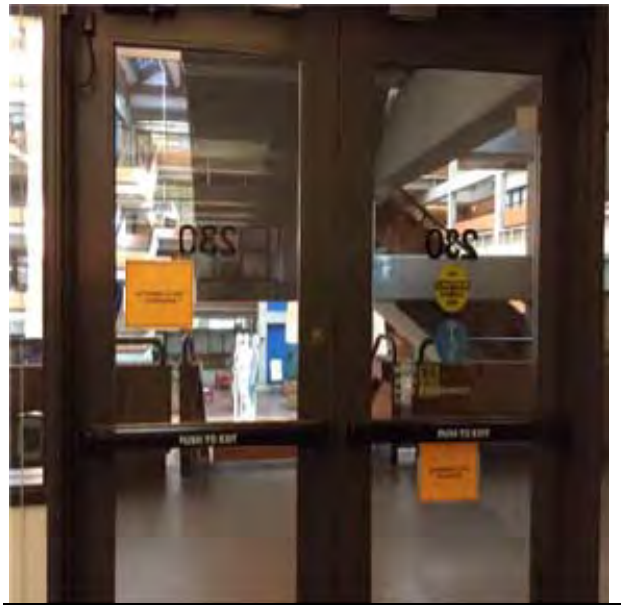
B2010 Metal deck railings:- View of outside edge of deck/rail

B2020 Exterior aluminum windows



B2030 Exterior Doors

B2030 Exterior Doors

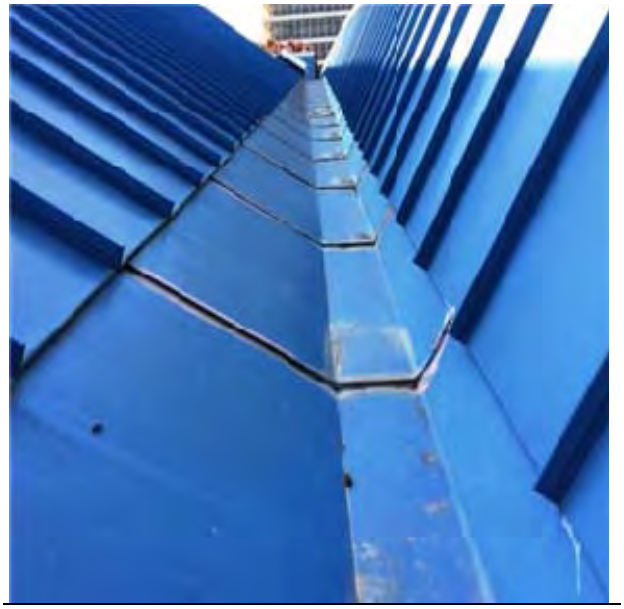


B2030 Exterior Doors:- Room 230

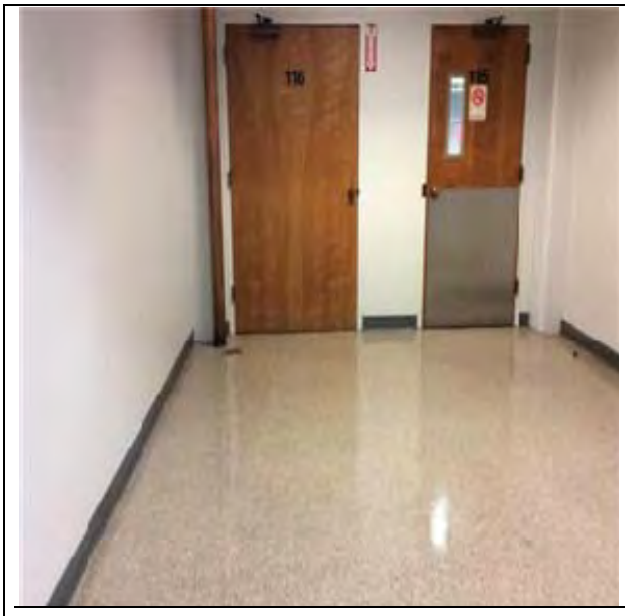
B3010 Built-Up Roofing, Total Roof :- Support brackets from original solar system

B3010 Built-Up Roofing, Total Roof

B3011 Balcony Coatings



B3010 Metal Roof Flashing



C1020 Door :- next to loading duck

C1020 Fire Door, metal with wire glass:- door to roof

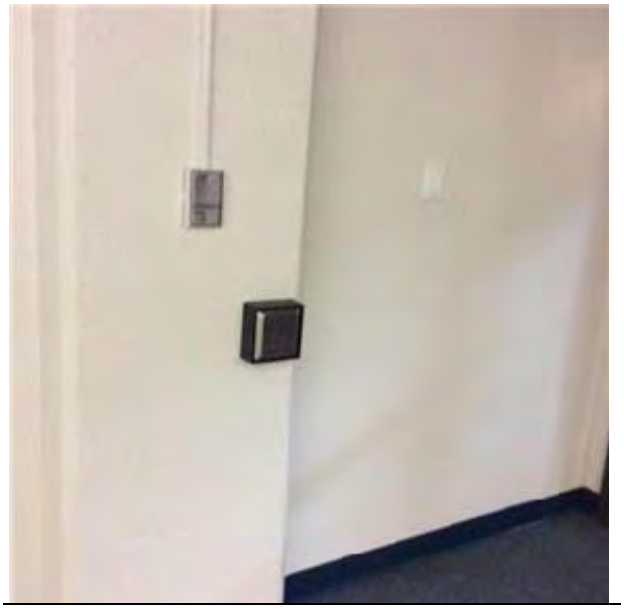
C2010 Concrete Stairs :- Fire Exit Stair

C2010 Concrete Stairs:- interior Stair

C3010 Wood Paneling

C3010 Wood Paneling

C3010 Wood Paneling

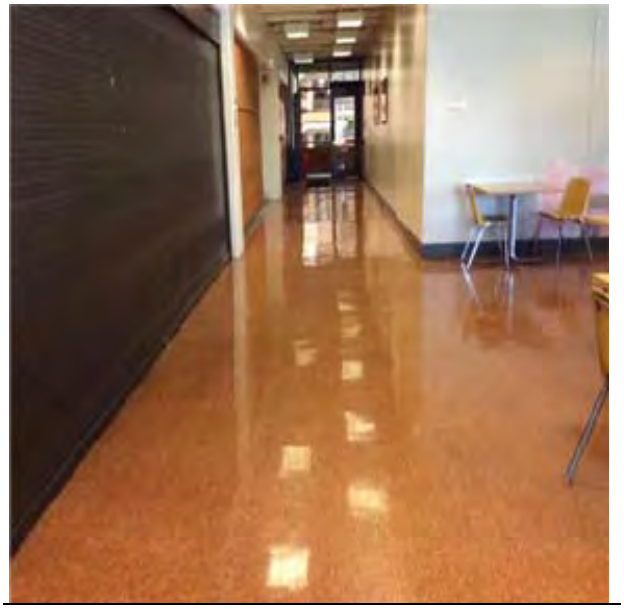


C3012 Painted Drywall

C3012 4X4 Ceramic Tile

C3020 Brick flooring at atrium

C3020 Sheet Vinyl

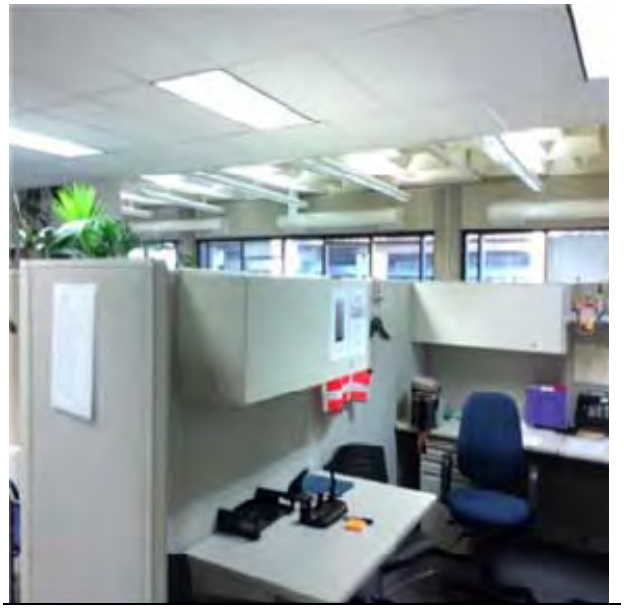


C3020 Sheet Vinyl:- Hallway to kitchen

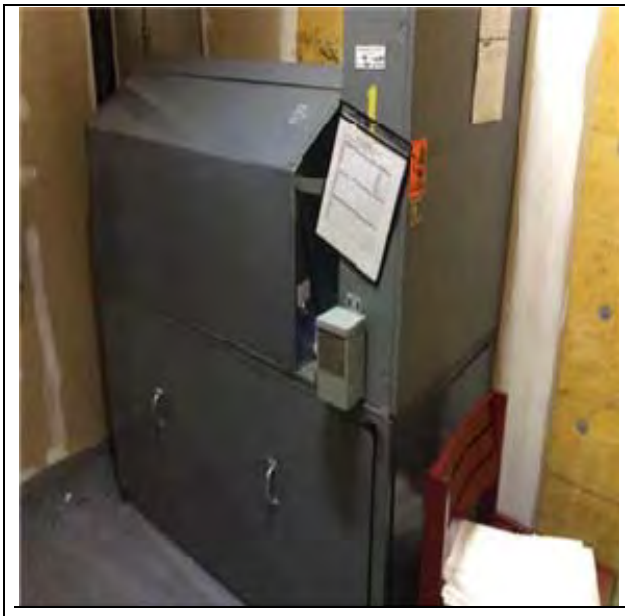
C3020 Sheet Vinyl

C3020 2X2 Ceramic Tile:- Floor of men Restroom

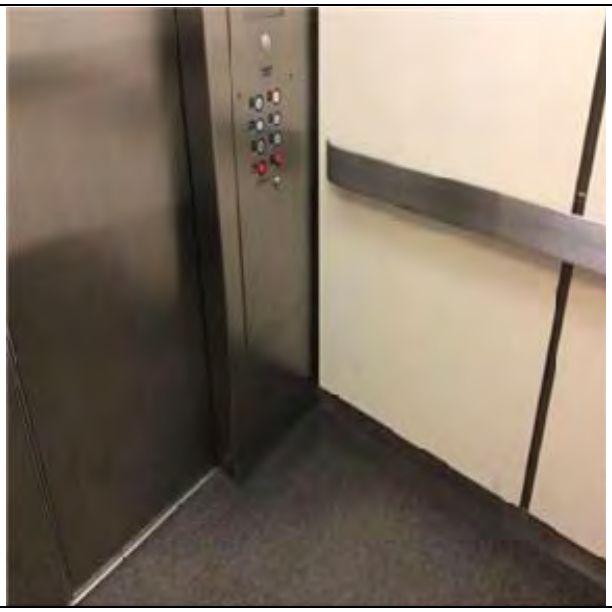
C3030 Acoustical Tile With Exposed Grid System



C3030 Acoustical Tile With Exposed Grid System



D1010 Elevator Hydraulic System, 3,500 Lb Capacity



D1010 Elevator Hydraulic System, 3,500 Lb Capacity:- Elevator cab

D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb

D2010 Commercial Grade Water Closet With 1.6 Gpf Unit

D2010 Urinal

D2010 Enamel Steel Wall Hung Lavatory and Faucet

D2020 Water Storage Tank 500 Gallon

D2020 Water Storage Tank 2000 Gallon

D2020 Domestic Water Booster Pump Station

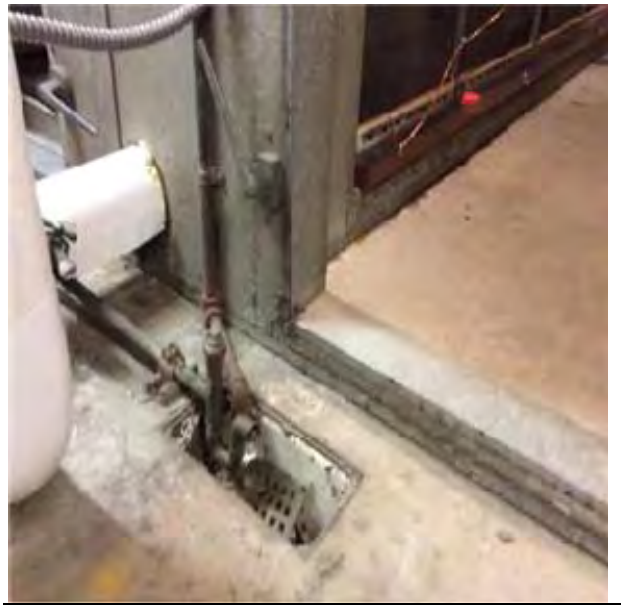
D3020 Chilled Water Pumps 25 HP

D3020 Heating Water Pumps 5 HP

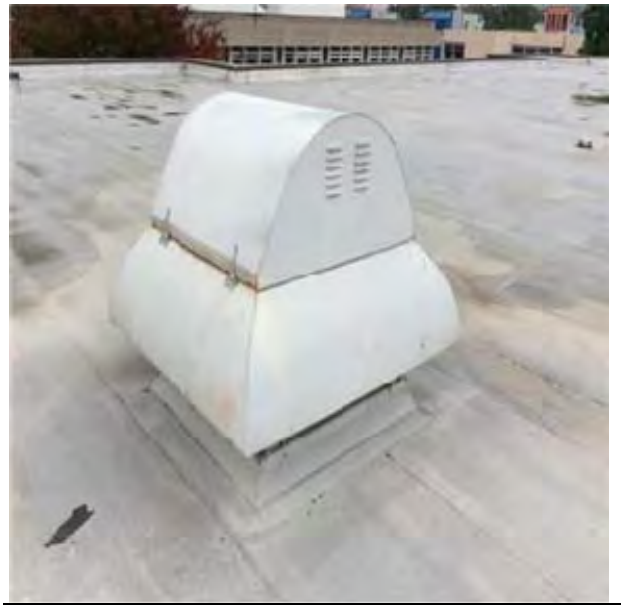
D3040 Air Handler 18,000-20,000 CFM

D3040 Air Handler 18,000-20,000 CFM :- Fan motor

D3040 Air Handler 18,000-20,000 CFM:- Condensate pan

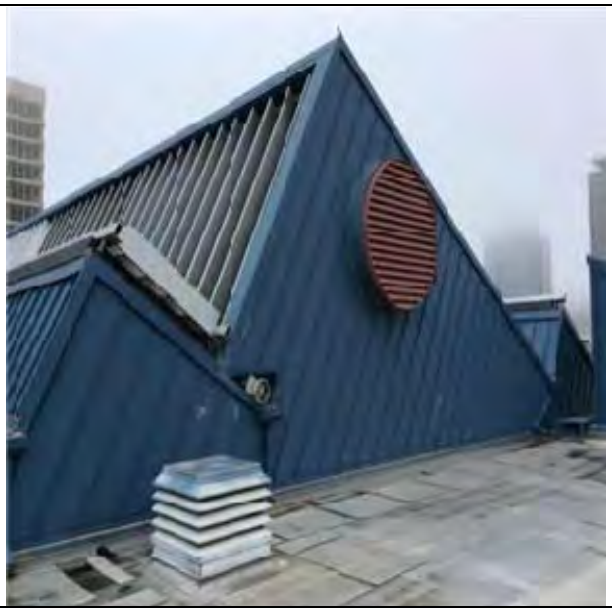


D3040 Air Handler 18,000-20,000 CFM :- Condensate pans and floor sinks



D3040 Exhaust Fan 2000 CFM

D3040 Make Up Air Unit 5000 CFM



D3040 Exhaust Fan, Sidewall 17,100 CFM

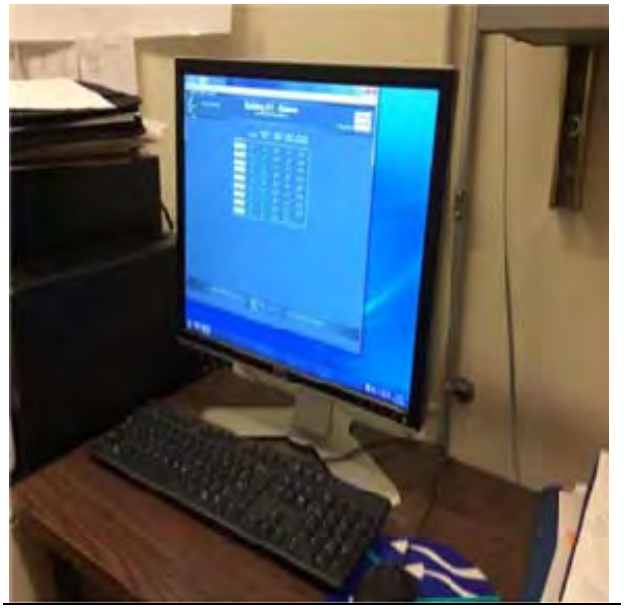
D3040 HVAC Heating Water Heat Exchanger :- HVAC heating water HEX

D3040 Domestic Hot Water Heat Exchanger:- Domestic hot water HEX

D3050 Split System Unit, 4-Ton, Condenser and Fan Coil

D3050 Computer Room A/C Units, Air Cooled 10-Ton

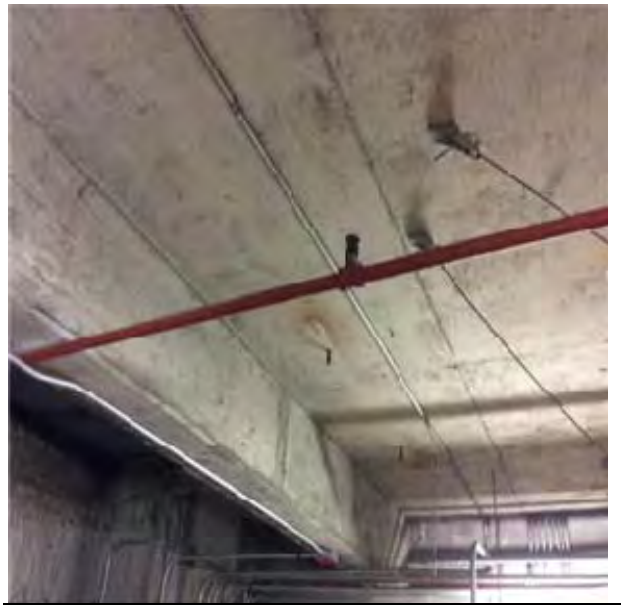
D3050 Computer Room A/C Units, Air Cooled 10-Ton



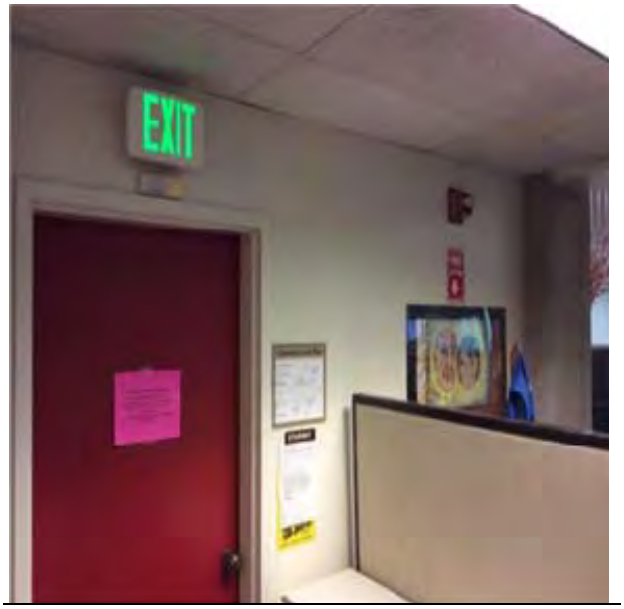
D3060 Direct Digital Controls (DDC) Extensive

D3060 Direct Digital Controls (DDC) Extensive

D4010 Fire Sprinkler installation



D4010 Fire Sprinkler installation



D4010 Fire Sprinkler installation:- Most areas lack sprinkler protection

D5010 Breaker Panel 225 Amps, 30 Circuits

D5010 Switchgear, Mainframe, 2500 Amps

D5010 Secondary Dry Transformer 45 kVA

D5020 Atrium Lighting:- Lights from perimeter walks

D5020 Exterior Wall Mt Light, 100 Watt

D5020 Exterior Wall Mt Light, 100 Watt

D5030 Fire Alarm Panel

D5090 Transfer Switch

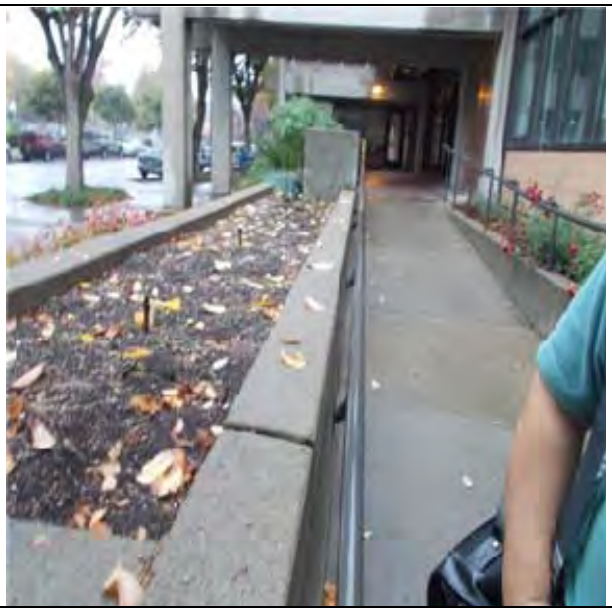
D5090 Diesel Generator 150 kW

D5090 Diesel Generator 150 kW:- Day tank lacking secondary containment

G2030 Concrete Steps :- 9th street steps

G2030 Concrete Steps

G2030 Concrete Steps :- Main Entrance



G2050 Landscaping Allowance

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	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. 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. 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.
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)	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. 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.
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 *Means* and *Dodge*, 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 employee 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

GREGORY BATESON BUILDING FACT SHEET

1600 Ninth Street
Sacramento
Sacramento County
Category 2 - Medium Priority - Further Study Required

BUILDING INFORMATION

- Age: 33 years (completed in 1981)
- Size:* 4-story, with central atrium
  293,516 GSF 214,565 NUSF 214,565 Assigned SF
  2.55 Acre Parcel
  No parking available
  Capacity -1,086 occupants
- Financial: No Encumbrances
  BRA Rate - $1.64/month per SF, FY 2013-14 (DGS Price Book)
  $1.69/month per SF, FY 2014-15 (Proposed DGS Price Book)
  Central Plant rate is an additional $.060/month per SF

SPI Structure #: 2440
Real Property #: 655
BPM #: 011

- LEED Status: Registered for LEED-EB Certification
- Tenants: 4 tenant agencies, including Department of Developmental Services (87,088 SF), Health and Human Services Agency (16,720 SF), Department of State Hospitals (101,205 SF) and Department of Rehabilitation (6,523 SF). The balance of space is assigned to DGS for conference rooms and storage.

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

A. 2008 Infrastructure Study

The study identified water intrusion in the building as a significant problem over the years, and recommended three levels of modifications (urgent, life cycle, and opportunities to increase value). Urgent modifications include fire and life safety (fire sprinklers), ADA accessibility, hazardous materials removal, and water intrusion repairs to prevent further damage, which were estimated at $7.5 million.

B. 2010 American Disability Act Accessibility Compliance Survey

The survey indicated various types of inaccessibility including door-related issues (push/pull forces, hardware), signage, interior ramp slopes/stair ramp rails, counter height, visual fire alarm devices, patio seating, and elevator issues.

C. 2012 Access Compliance Conceptual Budget/Evaluation

In follow up to the 2010 American Disability Act Accessibility Compliance Survey this report provides the Conceptual Cost and Path of Travel Plans. ADA upgrades have been proposed for this building as part of DGS's ten year ADA Compliance Upgrades and Deferred Special Repairs Program.

ADDITIONAL BUILDING ISSUES

The energy innovations implemented in the design at the time of construction have created maintenance difficulties, and many of them have been disabled or removed. The exterior perimeter is in need of repairs to correct buckling pavers, sidewalks, and curbs due to emerging tree roots. Water intrusion at the windows and exterior walls/decking, and deteriorating wood on the sides of the building are being addressed via a support BCP.

CURRENT UTILIZATION PROJECTS

No current utilization projects.

RECENTLY COMPLETED PROJECTS — Cost

TBD

ACTIVE PROJECTS — Cost

TBD

PLANNED SPECIAL REPAIRS BY FISCAL YEAR — Estimated Cost

TBD

* Source: Statewide Property Inventory

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

APPENDIX G: COST TABLES

10 YEAR EXPENDITURE FORECAST

Gregory Bateson Building
1600 Ninth Street
Sacramento

Useful Life[1]: Estimated Useful Life / Remaining Useful Life

Plan Type[2]: **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[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
A. SUBSTRUCTURE																							
Substructure Subtotal												$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. SHELL																							
B10	**SUPERSTRUCTURE**																						
B1010	B1010 Floor Construction	B1010 Floor Construction	All Floors	B1010 Repair of spalling concrete and exposed reinforcing steel	30	0	22.00	SF	$10,639.20	OP - Maintenance	Priority 2	$234,062	$0	$0	$0	$0	$0	$0	$0	$0	$0	$234,062	$0
	B1010 Floor Construction	B1010 Floor Construction	All Floors	B1010 Repair/replace seismic and expansion joints	30	0	648.00	LF	$449.50	OP - Maintenance	Priority 2	$291,276	$0	$0	$0	$0	$0	$0	$0	$0	$0	$291,276	$0
B1012	B1012 Upper Floors Construction	B1012 Concrete Floor Construction	First Floor	B1012 Crack repair with epoxy injection	0	0	5,500.00	LF	$14.00	OP - Maintenance	Priority 2	$77,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$0
B20	**EXTERIOR ENCLOSURE**																						
B2011	B2011 Exterior Wall Construction	B2010 Glue-lam beam at walls and railings	Exterior Walls	B2010 Exterior walls in poor condition	25	0	1,176.00	SF	$341.97	IN - Beyond Rated Life	Priority 1	$402,153	$0	$0	$0	$0	$0	$0	$0	$0	$0	$402,153	$0
	B2011 Exterior Wall Construction	B2010 Glue-lam beam at walls and railings	Exterior Walls	B2010 Paint/stain glue-laminated wall panels	10	0	9,996.00	SF	$40.92	IN - Appearance	Priority 1	$409,036	$0	$0	$0	$0	$0	$0	$0	$0	$0	$409,036	$0
B2013	B2013 Exterior Louvers, Screens, and Fencing	B2013 Exterior Sun Shade System	Exterior walls at west and south	Replace B2013 Exterior Sun Shade System	15	6	32.00	EA	$3,720.00	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$0	$119,040	$0	$0	$0	$0	$119,040
B2015	B2015 Balcony Walls & Handrails	B2010 Metal deck railings	Decks on all levels	B2010 Replace glue-laminated beam railings	25	0	3,188.00	LF	$341.97	IN - Beyond Rated Life	Priority 1	$1,090,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,090,200	$0
	B2015 Balcony Walls & Handrails	B2010 Metal deck railings	Decks on all levels	Replace B2010 Metal deck railings	40	0	4,525.00	LF	$261.52	CC - Building Code	Priority 1	$1,183,360	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,183,360	$0
B2021	B2021 Windows	B2020 Exterior aluminum windows	All Floors	B2020 Windows at decks	25	0	16,220.00	SF	$220.99	IN - Beyond Rated Life	Priority 1	$3,584,503	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,584,503	$0
	B2021 Windows	B2020 Exterior aluminum windows	All Floors	Replace B2020 Exterior aluminum windows	35	0	32,450.00	SF	$220.99	IN - Beyond Rated Life	Priority 1	$7,171,216	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,171,216	$0
B2031	3'-0" X 7'-0" Steel, w/ Wire Glass, Ptd. Door	B2030 Exterior Doors	All Floors	Replace B2030 Exterior Doors	45	9	8.00	EA	$2,748.41	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$21,987	$0	$21,987
B30	**ROOFING**																						
B3011	Metal Steep Roofing, Total Metal Panel	B3010 Metal Roof Flashing	Atrium roof	B3010 Replace sealants	10	0	12,700.00	SF	$4.96	OP - Maintenance	Priority 2	$62,992	$0	$0	$0	$0	$0	$0	$0	$0	$0	$62,992	$0
	Metal Steep Roofing, Total Metal Panel	B3010 Metal Roof Flashing	Atrium roof	Replace B3010 Metal Roof Flashing	30	0	127.00	SQ	$2,128.29	IN - Beyond Rated Life	Priority 5	$270,292	$0	$0	$0	$0	$0	$0	$0	$0	$0	$270,292	$0
B3011	Built-Up Roofing, Total Roof	B3010 Built-Up Roofing, Total Roof	Entire roof	B3010 Flashing and coping repairs	20	0	1,500.00	SF	$193.44	OP - Maintenance	Priority 2	$290,160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$290,160	$0
	Built-Up Roofing, Total Roof	B3010 Built-Up Roofing, Total Roof	Entire roof	B3010 Install new cool roof coating	20	0	480.00	SQ	$510.88	OP - Maintenance	Priority 2	$245,222	$0	$0	$0	$0	$0	$0	$0	$0	$0	$245,222	$0
B3011	B3011 Roof Finishes	B3011 Balcony Coatings	Balconies	Replace B3011 Balcony Coatings	10	0	16,900.00	SF	$42.41	IN - Beyond Rated Life	Priority 1	$716,695	$0	$0	$0	$0	$0	$0	$0	$0	$0	$716,695	$0
Shell Subtotal												**$16,028,170**	**$0**	**$0**	**$0**	**$0**	**$0**	**$119,040**	**$0**	**$0**	**$21,987**	**$16,028,170**	**$141,027**
C. INTERIORS																							
C10	**INTERIOR CONSTRUCTION**																						
C1021	C1021 Interior Doors	C1020 Fire Door, metal with wire glass	Fourth Floor-North	C1020 Upgrade doors to ADA automatic openers	25	0	16.00	EA	$11,904.00	CC - Accessibility	Priority 2	$190,464	$0	$0	$0	$0	$0	$0	$0	$0	$0	$190,464	$0
	C1021 Interior Doors	C1020 Fire Door, metal with wire glass	Fourth Floor-North	Replace C1020 Fire Door, metal with wire glass	35	4	16.00	EA	$4,337.37	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$69,398	$0	$0	$0	$0	$0	$0	$69,398
C30	**INTERIOR FINISHES**																						
C3012	Wood Paneling	C3010 Wood Paneling	All Floors	C3010 Paint/stain interior wall panels	15	1	34,021.00	SF	$3.52	OP - Maintenance	Priority 3	$0	$119,808	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,808
C3012	Drywall - Painted Finished Walls	C3012 Painted Drywall	All Floors	Paint C3012 Drywall	10	4	185,504.00	SF	$1.91	IN - Appearance	Priority 3	$0	$0	$0	$0	$354,238	$0	$0	$0	$0	$0	$0	$354,238
C3024	Sheet Vinyl	C3020 Sheet Vinyl	First Floor-North	Replace C3020 Sheet Vinyl	20	6	515.00	SY	$171.39	IN - Appearance	Priority 4	$0	$0	$0	$0	$0	$0	$88,267	$0	$0	$0	$0	$88,267
C3025	C3025 Carpeting	C3020 Floor Finishes	Office areas and corridors	C3020 Carpet fourth floor	10	5	6,013.00	SY	$96.60	IN - Appearance	Priority 4	$0	$0	$0	$0	$0	$580,856	$0	$0	$0	$0	$0	$580,856
	C3025 Carpeting	C3020 Floor Finishes	Office areas and corridors	Replace C3020 Floor Finishes	10	2	22,395.00	SY	$96.61	IN - Appearance	Priority 3	$0	$0	$2,163,482	$0	$0	$0	$0	$0	$0	$0	$0	$2,163,482
C3032	Acoustical Tile With Exposed Grid System	C3030 Acoustical Tile With Exposed Grid System	All Floors	Replace C3030 Acoustical Tile With Exposed Grid System	20	2	550.00	CSF	$1,201.56	IN - Appearance	Priority 3	$0	$0	$660,858	$0	$0	$0	$0	$0	$0	$0	$0	$660,858
Interiors Subtotal												**$190,464**	**$119,808**	**$2,824,340**	**$0**	**$423,636**	**$580,856**	**$88,267**	**$0**	**$0**	**$0**	**$190,464**	**$4,036,908**
D. SERVICES																							
D10	**CONVEYING SYSTEMS**																						
D1011	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Adjust accel and decel for smooth operations	20	0	3.00	EA	$910.00	OP - Maintenance	Priority 2	$2,730	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,730	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Complete overdue five year tests for car 1	20	0	1.00	EA	$7,280.00	OP - Maintenance	Priority 2	$7,280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,280	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Install car identification numbers on car tops	20	0	3.00	EA	$455.00	FN - Modernization	Priority 2	$1,365	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,365	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Install door restrictors	20	0	3.00	EA	$4,550.00	CC - Life Safety	Priority 1	$13,650	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,650	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Install material to bevel flat sufaces in hoistway	20	0	3.00	EA	$2,730.00	FN - Modernization	Priority 2	$8,190	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,190	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 New cab interiors during modernization	20	3	3.00	EA	$41,860.00	FN - Modernization	Priority 3	$0	$0	$0	$125,580	$0	$0	$0	$0	$0	$0	$0	$125,580
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Repair hydraulic leaks on poweer unit piping	20	0	3.00	EA	$1,820.00	OP - Maintenance	Priority 2	$5,460	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,460	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Replace car aprons with 21" long new units	20	0	3.00	EA	$2,730.00	CC - Life Safety	Priority 1	$8,190	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,190	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Replace in-car stop switches with keyed switches	20	0	3.00	EA	$2,184.00	CC - Life Safety	Priority 1	$6,552	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,552	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	D1010 Reseal jack heads to eliminate leaking	20	0	3.00	EA	$1,456.00	OP - Maintenance	Priority 2	$4,368	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,368	$0
	Elevator Hydraulic System, 3,500 Lb Capacity	D1010 Elevator Hydraulic System, 3,500 Lb Capacity	Throughout Facility	Replace D1010 Elevator Hydraulic System, 3,500 Lb Capacity	30	4	3.00	EA	$172,900.00	FN - Modernization	Priority 3	$0	$0	$0	$0	$518,700	$0	$0	$0	$0	$0	$0	$518,700
D1012	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Adjust accel and decel for smooth operations	20	0	1.00	EA	$910.00	OP - Maintenance	Priority 2	$910	$0	$0	$0	$0	$0	$0	$0	$0	$0	$910	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Install car identification numbers on car tops	20	0	1.00	EA	$455.00	FN - Modernization	Priority 2	$455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$455	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Install door restrictors for all elevators	20	0	1.00	EA	$4,550.00	CC - Life Safety	Priority 1	$4,550	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,550	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Install material to bevel flat surfaces in hoistway	20	0	1.00	EA	$10,920.00	FN - Modernization	Priority 2	$10,920	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,920	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 New cab interiors during modernization	20	3	1.00	EA	$41,860.00	FN - Modernization	Priority 3	$0	$0	$0	$41,860	$0	$0	$0	$0	$0	$0	$0	$41,860
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Repair hydraulic leaks on power unit piping	20	0	1.00	EA	$1,820.00	OP - Maintenance	Priority 2	$1,820	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,820	$0

10 YEAR EXPENDITURE FORECAST

Gregory Bateson Building
1600 Ninth Street
Sacramento

Useful Life[1]: Estimated Useful Life | Remaining Useful Life

Plan Type[1]: **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[2]	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		
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Replace chipped pick up rollers on car 5	20	0	1.00	EA	$455.00	OP - Maintenance	Priority 2	$455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$455	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Replace in-car stop switches with keyed switches	20	0	1.00	EA	$546.00	CC - Life Safety	Priority 1	$546	$0	$0	$0	$0	$0	$0	$0	$0	$0	$546	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	D1010 Reseal jack heads to eliminate leaking	20	0	1.00	EA	$1,456.00	OP - Maintenance	Priority 2	$1,456	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,456	$0
	D1012 Freight Elevators	D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	Throughout Facility	Replace D1010 Freight Elevator, Hydraulic Equipment, 7,500 Lb	30	4	1.00	EA	$172,900.00	FN - Modernization	Priority 3	$0	$0	$0	$0	$172,900	$0	$0	$0	$0	$0	$0	$172,900
D20	**PLUMBING**																						
D2023	Water Storage Tank 500 Gallon	D2020 Water Storage Tank 500 Gallon	Boiler Room	Replace D2020 Water Storage Tank 500 Gallon	30	9	1.00	EA	$16,176.66	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,177	$0	$16,177
D2023	Water Storage Tank 500 Gallon	D2020 Water Storage Tank 2000 Gallon	Boiler Room	D2020 Demolish and remove solar storage tank	25	1	1.00	LS	$18,150.00	FN - Obsolescence	Priority 1	$0	$18,150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,150
D2023	Hydronic Circulating Pump, 5 HP	D2020 Domestic Water Booster Pump Station	Boiler Room	Replace D2020 Domestic Water Booster Pump Station	20	0	1.00	EA	$51,836.40	IN - Reliability	Priority 1	$51,836	$0	$0	$0	$0	$0	$0	$0	$0	$0	$51,836	$0
D30	**HVAC**																						
D3022.1	Circulation Pump 30 HP	D3020 Chilled Water Pumps 25 HP	Boiler Room	Replace D3020 Chilled Water Pumps 25 HP	20	3	2.00	EA	$26,054.88	IN - Beyond Rated Life	Priority 2	$0	$0	$0	$52,110	$0	$0	$0	$0	$0	$0	$0	$52,110
D3023	Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	D3020 Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	Utility Areas/Closets	Replace D3020 Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	20	0	1.00	EA	$17,336.19	IN - Reliability	Priority 1	$17,336	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,336	$0
D3041	Grills and Diffusers	D3040 Balance Air Flow at Diffusers	Office areas	Replace D3040 Balance Air Flow at Diffusers	25	5	205,461.00	SF	$0.67	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$137,577	$0	$0	$0	$0	$0	$137,577
D3041.1	Air Handler 18,000-20,000 CFM	D3040 Air Handler 18,000-20,000 CFM	Utility Areas/Closets	D3040 Replace/revise AHU condesnate pans	20	1	8.00	EA	$18,600.00	IN - Reliability	Priority 1	$0	$148,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$148,800
	Air Handler 18,000-20,000 CFM	D3040 Air Handler 18,000-20,000 CFM	Utility Areas/Closets	D3040 Revise AHU fan blades & replace motors	20	0	8.00	EA	$49,600.00	IN - Reliability	Priority 1	$396,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$396,800	$0
D3041.2	Vav Box , 270 to 600 CFM	D3040 VAV Boxes	Throughout Facility	Replace D3040 VAV Boxes	30	5	508.00	EA	$2,496.72	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$1,268,331	$0	$0	$0	$0	$0	$1,268,331
D3042	Exhaust Fan, Sidewall 11,250 CFM	D3040 Exhaust Fan, Sidewall 17,100 CFM	Rooftop	Replace D3040 Exhaust Fan, Sidewall 17,100 CFM	20	9	6.00	EA	$24,289.06	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$145,734	$0	$145,734
D3042	Make Up Air Unit 5000 CFM	D3040 Make Up Air Unit 5000 CFM	Rooftop	Replace D3040 Make Up Air Unit 5000 CFM	20	3	1.00	EA	$40,650.67	IN - Beyond Rated Life	Priority 2	$0	$0	$0	$40,651	$0	$0	$0	$0	$0	$0	$0	$40,651
D3042	Exhaust Fan 2000 CFM	D3040 Exhaust Fan 2000 CFM	Rooftop	Replace D3040 Exhaust Fan 2000 CFM	15	7	3.00	EA	$3,450.37	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$10,351	$0	$0	$0	$10,351
D3042	Exhaust Fan 8500 CFM	D3040 Exhaust Fan 8500 CFM	Rooftop	Replace D3040 Exhaust Fan 8500 CFM	15	7	2.00	EA	$7,679.87	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$15,360	$0	$0	$0	$15,360
D3052	Split System Unit, 4-Ton, Condenser and Fan Coil	D3050 Split System Unit, 4-Ton, Condenser and Fan Coil	Exterior Balcony	Replace D3050 Split System Unit, 4-Ton, Condenser and Fan Coil	15	3	1.00	EA	$24,663.60	IN - Beyond Rated Life	Priority 2	$0	$0	$0	$24,664	$0	$0	$0	$0	$0	$0	$0	$24,664
D40	**FIRE PROTECTION SYSTEMS**																						
D4011	Sprinkler Head	D4010 Fire Sprinkler installation	Basement Boiler Room	D4010 Repair water lines to fire hose cabinets	20	0	8.00	EA	$5,782.00	CC - Life Safety	Priority 1	$46,256	$0	$0	$0	$0	$0	$0	$0	$0	$0	$46,256	$0
	Sprinkler Head	D4010 Fire Sprinkler installation	Basement Boiler Room	Install facility-wide sprinkler system	25	2	293,516.00	SF	$9.30	CC - Life Safety	Priority 1	$0	$0	$2,729,229	$0	$0	$0	$0	$0	$0	$0	$0	$2,729,229
D50	**ELECTRICAL SYSTEMS**																						
D5012	Switchgear, Mainframe, 1600 Amps	D5010 Switchgear, Mainframe, 2500 Amps	Main Electrical Room	Replace D5010 Switchgear, Mainframe, 2500 Amps	40	5	2.00	EA	$17,846.98	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$35,694	$0	$0	$0	$0	$0	$35,694
D5012	Secondary Dry Transformer 75 kVA	D5010 Secondary Dry Transformer 75 kVA	Utility Areas/Closets	Replace D5010 Secondary Dry Transformer 75 kVA	40	5	32.00	EA	$19,199.43	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$614,382	$0	$0	$0	$0	$0	$614,382
D5012	Breaker Panel 225 Amps, 30 Circuits	D5010 Breaker Panel 225 Amps, 30 Circuits	Utility Areas/Closets	Replace D5010 Breaker Panel 225 Amps, 30 Circuits	40	5	32.00	EA	$7,864.32	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$251,658	$0	$0	$0	$0	$0	$251,658
D5012	Secondary Dry Transformer 45 kVA	D5010 Secondary Dry Transformer 45 kVA	Utility Areas/Closets	Replace D5010 Secondary Dry Transformer 45 kVA	40	5	32.00	EA	$14,159.76	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$453,112	$0	$0	$0	$0	$0	$453,112
D5022	D5022 Lighting Equipment	D5022 Lighting Fixtures	Offices and corridors	Replace D5022 Lighting Fixtures	20	2	484.00	EA	$401.20	FN - Modernization	Priority 2	$0	$0	$194,181	$0	$0	$0	$0	$0	$0	$0	$0	$194,181
D5022	Exterior Wall Mt Light, 100 Watt	D5020 Exterior Wall Mt Light, 100 Watt	Building Exterior	Replace D5020 Exterior Wall Mt Light, 100 Watt	15	0	56.00	EA	$1,079.61	IN - Beyond Rated Life	Priority 1	$60,458	$0	$0	$0	$0	$0	$0	$0	$0	$0	$60,458	$0
D5022	Wall Pack 70 Watt High Pressure Sodium	D5020 Atrium Lighting	Atrium	Add lighting to atrium	10	3	16.00	EA	$1,206.03	FN - Mission	Priority 3	$0	$0	$0	$19,296	$0	$0	$0	$0	$0	$0	$0	$19,296
D5037	Fire Alarm Panel	D5030 Fire Alarm Panel	Main Electrical Room	Replace D5030 Fire Alarm Panel	15	6	1.00	EA	$30,680.00	CC - Life Safety	Priority 3	$0	$0	$0	$0	$0	$0	$30,680	$0	$0	$0	$0	$30,680
D5092	Transfer Switch	D5090 Transfer Switch	Utility Areas/Closets	Replace D5090 Transfer Switch	25	0	1.00	EA	$10,613.06	CC - Life Safety	Priority 1	$10,613	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,613	$0
D5092	Diesel Generator 150 kW	D5090 Diesel Generator 150 kW	Utility Areas/Closets	D5090 Add secondary containment for day tank	25	0	1.00	1	$8,260.00	EN - Air/ Water Quality	Priority 1	$8,260	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,260	$0
	Diesel Generator 150 kW	D5090 Diesel Generator 150 kW	Utility Areas/Closets	Replace D5090 Diesel Generator 150 kW	25	7	1.00	EA	$123,936.37	CC - Life Safety	Priority 4	$0	$0	$0	$0	$0	$0	$0	$123,936	$0	$0	$0	$123,936
Services Subtotal												**$670,457**	**$166,950**	**$2,923,410**	**$304,161**	**$691,600**	**$2,760,754**	**$30,680**	**$149,647**	**$0**	**$161,911**	**$670,457**	**$7,189,113**
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 SITEWORK																							
G20	**SITE IMPROVEMENTS**																						
G2033	Concrete Steps	G2030 Concrete Steps	First Floor & Site	Replace G2030 Concrete Steps	75	2	975.00	SF	$220.08	IN - Beyond Rated Life	Priority 3	$0	$0	$214,573	$0	$0	$0	$0	$0	$0	$0	$0	$214,573
G2055	G2055 Planting	G2050 Landscaping Allowance	Exterior	Replace G2050 Landscaping Allowance	40	0	1,300.00	SF	$7.09	IN - Beyond Rated Life	Priority 1	$9,221	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,221	$0
G2057	Irrigation System, Install New, Large Areas	G2050 Irrigation System, Install New	Inside atrium	Replace G2050 Irrigation System, Install New	15	0	18.00	EA	$483.60	IN - Beyond Rated Life	Priority 1	$8,705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,705	$0
Building Sitework Subtotal												**$17,925**	**$0**	**$214,573**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$17,925**	**$214,573**
Z. GENERAL																							
General Subtotal												**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Expenditure Totals per Year												**$16,907,016**	**$286,758**	**$5,962,324**	**$304,161**	**$1,115,236**	**$3,341,610**	**$237,987**	**$149,647**	**$0**	**$183,898**	**$16,907,016**	**$11,581,622**
Total Cost (Inflated @ 5% per Yr.)												**$16,907,016**	**$301,096**	**$6,573,462**	**$352,104**	**$1,355,577**	**$4,264,835**	**$318,926**	**$210,569**	**$0**	**$285,287**	**Total ***	**$28,488,638**

*** - Present Value Currency**

Current Repl.Value **$107,882,601**

Footnotes

1 Detailed descriptions for Useful Life and Plan Type can be found in the Appendices of the Facility Condition

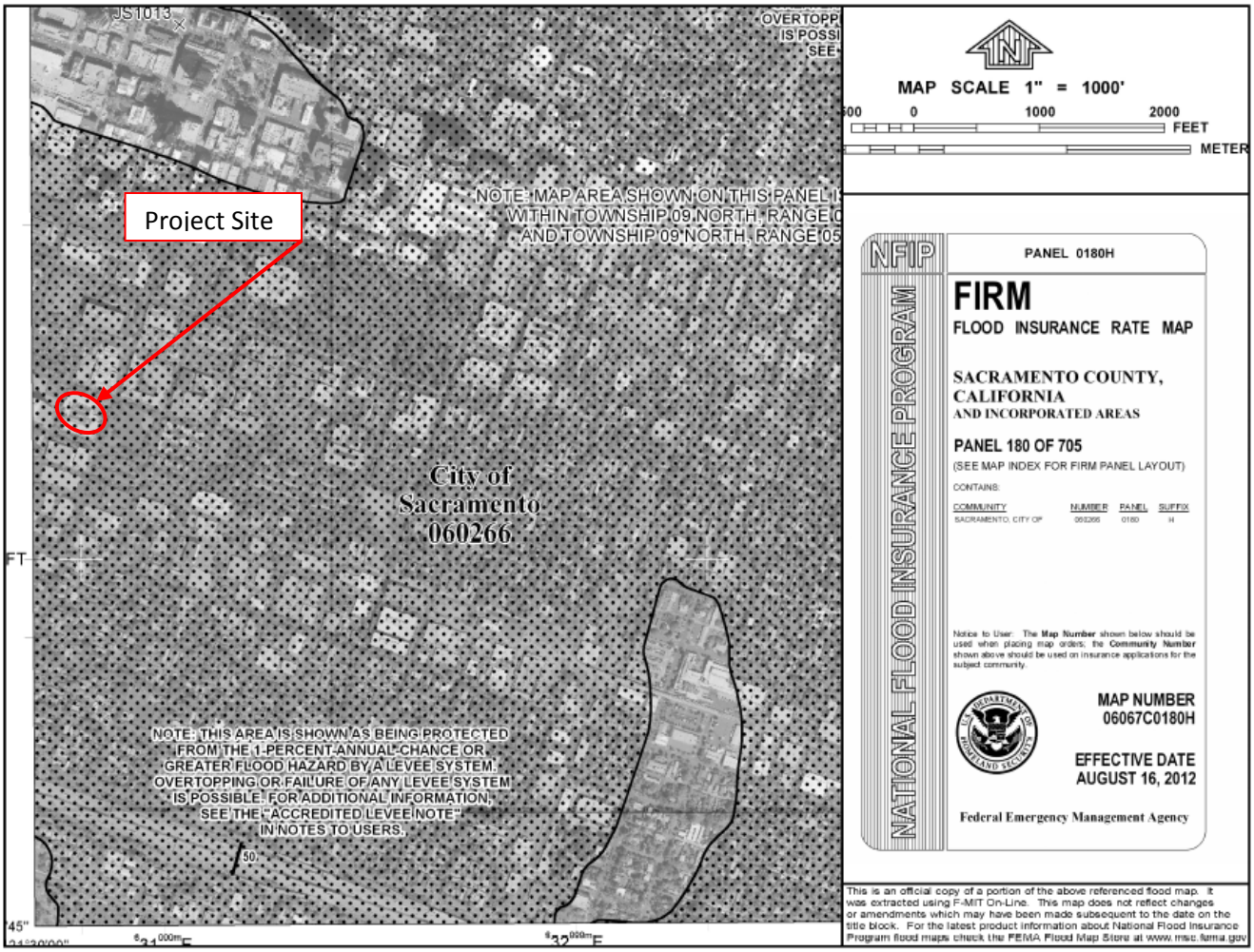
2 Detailed Descriptions of the Priorities can be found in the Appendices of the Facility Condition Assessment

APPENDIX H: SUPPORTING DOCUMENTATION

Site Plan

EMG	**Source:** **The north arrow indicator is an approximation of 0° North.**	**Project Number:** 111326.14R.001.305 **Project Name:** Gregory Bateson Building
N		**On-Site Date:** November 13, 2014

Flood Map



EMG	**SOURCE:** **FEMA**	**Project Number:** **111326.14R-001.305**
N		**Project Name:** **Gregory Bateson Building**
	Not drawn to scale. The north arrow indicator is an approximation of 0° North.	**On-Site Date:** **November 13, 2014**

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

Estimate of Structures Cost Using Marshall Cost Systems

Gregory Bateson Building (011)

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	$294.04	293,516	$86,306,081
	$0.00	0	$0
	$0.00	0	$0
	$0.00	0	$0
	$0.00	0	$0
	Total	293,516	$86,306,081

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	$86,306,081	25.00%	$107,882,601
	$0	25.00%	$0
	$0	25.00%	$0
	$0	25.00%	$0
	$0	25.00%	$0
Cost Per SF	**$367.55**	**Total Estimate**	**$107,882,601**

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:	**Linda Tanner-Hill, Ken Kruschke & Bob Huggett**
Association with property:	**Building & Property Management Branch Management & Engineering Staff**
Length of association with property:	**Two to Twenty Years**
Date Completed:	**October 7, 2014**
Phone Number:	**916-651-5233**
Building Name:	**Gregory Bateson Building**

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any *Yes* responses.

INSPECTIONS	DATE LAST INSPECTED	LIST NAME AND CONTACT FOR MAINTENANCE CONTRACTOR, IF ANY.
1 Elevators	**8/28/2014**	**State Department of Industrial Relations Contract -ThyssenKrupp Elevator**
2 HVAC, Mechanical, Electric, Plumbing	**Daily**	**Inspections completed by onsite staff**
3 Life-Safety/Fire	**5/31/2014**	**Annual inspection and testing by Sentinel Fire Equipment Company (Contractor)**
4 Roofs	**9/2014**	**Periodic inspections are performed by BPM Central Shop maintenance mechanic**

	Question	Response
5	List any major capital improvement within the last three Years.	**Upgraded of HVAC controls to total DDC 2012 New heating hot water pumps 2013 New Steam heating heat-exchanger 2013 Main Switchgear 5-year testing and inspection 2013 New VFDs were installed for all major HVAC fans 2013**
6	List any major capital expenditures planned for the next year.	**See attached FY 14/15 & 15/16 of 5-year plan**
7	What is the age of the roof(s)?	**Roof Replacement 11/5/01 By Allied Enterprises, Inc.**

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

QUESTION		RESPONSE				COMMENTS
		Y	N	NA	Unk	
9	Are there any unresolved buildings, or fire code issues?	**X**				**All fire hose cabinets have been taken out of service due to broken water service line. See Bateson Plumbing Water Leak Project Report dated October 2014.**
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**				**See Bateson Plumbing Water Leak Project Report dated October 2014.**
12	Is the property served by an 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**				**Leaks and spalling of concrete. See Exterior Water Leak Project Report dated July 2014**
15	Is there any water infiltration in basements or crawl spaces?	**X**				**See Bateson Plumbing Water Leak Project Report dated October 2014**
16	Are there any wall, or window leaks?	**X**				**See Exterior Water Leak Project Report dated July 2014**
17	Are there any roof leaks?	**X**				**See Exterior Water Leak Project Report dated July 2014**
18	Is the roofing covered by a warranty or bond?		**X**			
19	Are there any poorly insulated Areas?	**X**				**See Exterior Water Leak Project Report dated July 2014**
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**				**Some areas are short of electrical circuit capacity.**
23	Are there any problems with the landscape irrigation systems?				**X**	
24	Has a termite/wood boring				**X**	

	insect inspection been performed within the last year?					
25	Do any of the HVAC systems use R-11, 12, or 22 refrigerants?	**X**				**(DDS)-computer room (Liebert units) Conference /Training room-supplemental cooling unit**
26	Has any part of the property ever contained visible suspect mold growth?	**X**				**See Exterior Water Leak Project Report dated July 2014**
27	Is there a mold Operations and Maintenance Plan?		**X**			
28	Have there been indoor air quality or mold related complaints from tenants?	**X**				**See Exterior Water Leak Project Report dated July 2014**
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**				**Some components of the main switchgear use aluminum wiring.**
33	Are there transformers inside the building?	**X**				**Multiple electrical closets. Many are unbalanced and noisy**
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 the State previously completed an ADA or 'Title 24 review?	**X**				**June 2010-ADA Accessibility Compliance Survey Report**
38	Have any ADA or Title 24 improvements been made to the property?	**X**				**All doors off the atrium and bathrooms have automatic ADA doors. Sliding doors on 8th & 9th Street. Ste 230 ADA hardware installed Submitted in 5-year plan FY 15/16**
39	Does a Barrier Removal Plan exist for the property?				**X**	
40	Has the Barrier Removal Plan been approved by an arms-length third party?				**X**	
41	Have there been any ADA or				**X**	

	Title 24 related complaints?					
42	Have there been any complaints about the elevators or wait times?	**X**				**Original Elevators; Modernization of all cabs submitted in FY 14/15**
43	Are there any problems with exterior lighting?	**X**				**Planter box lighting, deteriorated and conduit rusted.**
44	Are there any other significant issues/hazards with the property?	**X**				• **See Exterior Water Leak Project Report dated July 2014** • **See Bateson Plumbing Water Leak Project Report dated October 2014** • **Electrical upgrade per Emerson Testing Report dated 10/23/13 (EDP) - Submitted FY 15/16. Report is attached.** • **HVAC Condensate Pan Leaks** • **The main HVAC fans are near the end of their life expectancy. It is a European design which makes replacement parts difficult to obtain** • **The steam condensate return tank and pumps have failed and need to be replaced.** • **The generator main and day tanks are not up to current codes and could cause a fuel leak event.** • **The security system has failed.** • **The sunshade system has reached expected life cycle. New shades, guide cables and software are needed.** • **The roof is in need of a perimeter fall prevention system. Low parapet walls create a fall risk.** • **The lighting in the atrium is not adequate.** • **The HVAC unit for the café area is failing.**
45	Are there any unresolved Construction defects at the property?		**X**			

APPENDIX J: ELEVATOR REPORT

Gregory Bateson Building
1600 9th Street
Sacramento, CA

Due Diligence
Elevator Report

December 4, 2014

Prepared for:

Ms. Karla Rodriquez
EMG Corporation
Hunt Valley, MD 21212

Prepared by:

Mr. James Young
Project Manager
Architectural Elevator Consulting, LLC
1326 5th Ave., Suite 630
Seattle, WA 98101

ARCHITECTURAL ELEVATOR CONSULTING, LLC

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Section I: Executive Summary

A. Introduction

On November 20th, 2014 James Young of Architectural Elevator Consulting, LLC (AEC) surveyed all the vertical transportation systems at 1600 9th Street, Sacramento, CA. There are four (4) hydraulic elevators. Cars 1, 3, & 4 are passenger elevators and Car 5 is a service elevator. Car 2 is a future shaft that does not contain an elevator. 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 elevators were manufactured by ESCO and installed by a local elevator contractor during the original building construction in 1981. The elevators have ESCO power units, jacks, controllers, GAL door operators, and GAL door equipment. The power units are equipped with IMO pumps and Maxton valves which are known to be good quality. The signal fixtures in the cars were manufactured by Adams and appear to have been installed during the original installation.

During our survey we noted that the elevators were being well maintained by ThyssenKrupp Elevator (TKE) with a few areas that need work. Oil is leaking from all of the hydraulic power units and housekeeping in the machine rooms and pits should be improved.

B. Elevator Layout

The office building has three sets of elevators. Car 1 is a simplex passenger car. Cars 3 and 4 operate in duplex with a common machine room. Car 5 is a dual pump service car operating as a single car. All of the elevators serve all floors, levels 1-4. All of the cars are rated at 150 Feet per Minute (FPM) and are designed with fast and efficient center opening doors. The passenger elevators have 2,500 lbs. capacities and the service car has a 7,500lbs. The number, speed and size of elevators appear to be adequate for the building. The office building has no underground parking.

Elevator Summary				
Elevator Bank	**Elevator Speed**	**Floors Served**	**Capacity**	**Door Type**
Passenger (Cars 1,3, & 4)	150 FPM	1-4	2,500 lbs.	Center
Service (Car 5)	150 FPM	1-4	7,500 lbs	2 speed Center

C. Condition

Most the major components of the office elevators, Cars 1, 2-5 were found to be in fair condition. All the cab interiors are dated but in fair condition. A full modernization is recommended with new cab interiors. 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 TKE. The level of maintenance was good in most areas, but needed some attention in other areas. Oil is leaking from all of the power units and the housekeeping for the machine rooms and pits needs to be improved. In ***Appendix C*** of this report we provide a summary of the performance times for each elevator followed by a maintenance deficiency list. We recommend this list be provided to the elevator service provider so they can correct these items.

E. Code Review:

There are several codes affecting existing elevators in the State of California. 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 and they are referred to as California Title 24. All of the elevators meet most ADA and California Title 24 requirements. The sizes of the passenger elevators just misses the requirements for new elevators but meets ADA size requirements for existing elevators, thus no changes in the size are needed. All the cars had proper hall/car lanterns and gongs. Cars 1-4 had floor passing chimes, but Car 5 did not. ***Appendix A*** provides a complete listing of the ADA/T24 requirements. The following is a summary of which items need to be corrected to meet ADA/Title 24:

    a. Replace hall and car button with raised compliant buttons.
    b. Repair or replace inoperative directional gongs.
    c. Relocated in-car handrails to 34" height.
    d. Replace jamb braille with braille that meets California Title 24.

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 by AEC. A complete check list for this retro-active code is included in ***Appendix B*** of this report. The elevators have been retro-actively upgraded for most of these codes. The following is a list of items missing:

    a. Car 1, 3, and 4 aprons are 9" long and code requires 21" minimum
    b. All car need keyed in-car stop switches
    c. Install door restrictors.

3. **Seismic:** The elevators were installed under a less stringent seismic code from the 1980's. Seismic rupture valve, pit shut off valve, and Car retain brackets have been installed on the passenger cars, but not on service Car 5. There a few upgrades that are recommended. Seismic fish plates could be installed on the car guide rails but are usually not cost effective but should be considered.

F. Recommendation:

We recommend the passenger elevators be fully modernized in the next 3-5 years. Their performance is below standard. The service car 5 should be modernized after the passenger cars have been completed. In the meantime some immediate maintenance repairs should commence such as fixing all the oil leaks, cleaning the controllers, car tops, and pits. If budget constraints do not allow modernization in the near future, we recommend adding all the A17.3 safety items we have identified. Installing longer car aprons on Cars 1, 3, and 4 and door restrictor on all cars should be a priority.

Section II : Component Review

A. MACHINE ROOM:

Controllers:

The controllers for were manufactured ESCO and installed by Otis Elevator company as part of a modernization in 1981. The controllers utilize old relay logic that is known to be reliable but have reached the end of their useful lives. If properly maintained the controllers should last another 3 to 5 years with no major updates.

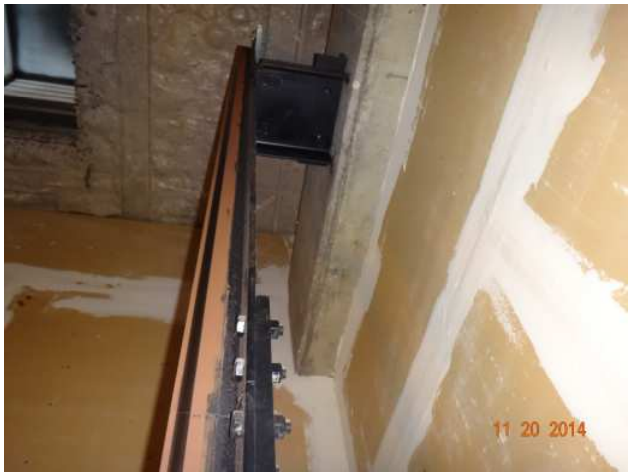
Hydraulic Power Units:

All the elevators have ECSO power units equipped with Maxton valves and IMO pumps. The machines were installed by Otis Elevator in 1981 when the building was erected. The machines are in relatively good condition considering their age. Full modernization is recommended in 3 to 5 years

Pump and valve:

The ESCO power units are equipped with Maxton control vavles, IMO pumps, and Baldor electric motors. All of the units have shut off valves in the machine rooms except unit 2.

B. HOISTWAY:



Hoistway Construction:

The hoistway (elevator shaft) is the main area where the elevators go up and down. The hoistways are mostly built of drywall and some concrete beams. These vents at the top of the shafts are fixed open. These could be replaced with motorized vents that are normally closed to reduce energy loss.

Car Guide Rails:

The car rails are in good condition. There is light rust on the machined surfaces. During the proposed modernization this should be remedied.

Pits:

The pits for are poured concrete with sump areas and metal grating. The pits were found to be dirty and the jack seals need to be fixed. The pits are equipped with seismic rupture valves and manual shut off valves.

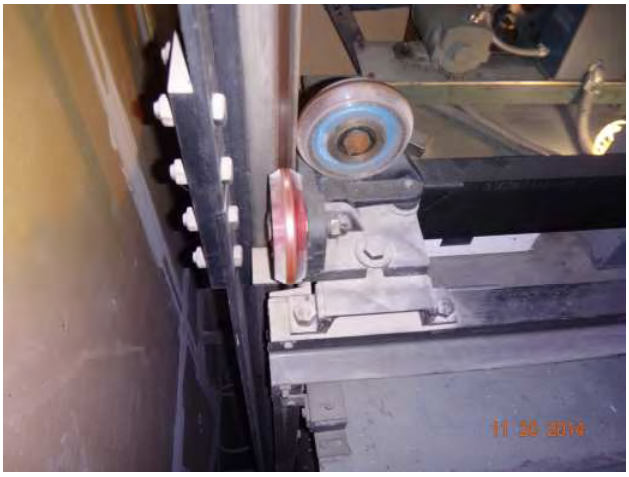
C. CAR TOP:

Door Operator:

The door operators are GAL MOML. The door operation was noted to be good with room for improvement. None of the cars are equipped with door restrictors. Immediate installation is highly recommended, at a minimum during the proposed modernization.

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. The existing ride quality was good. These are likely the original equipment but are equipped with seismic retainer plates. The guide rollers or entire assemblies could be replaced during modernization.



D. SIGNAL FIXTURES:

Car Operating Panels:

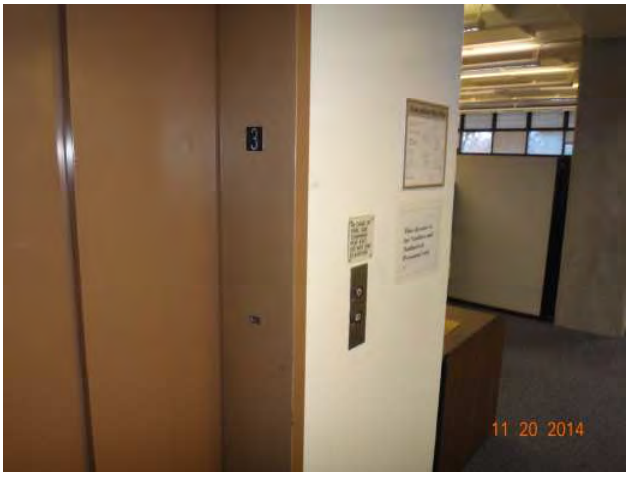
All the elevators have the original equipment Car Operating Panels (COP's). These would be replaced during the proposed modernization. The panels are in good condition; the buttons had proper braille and are at the proper height for ADA. The aesthetic is poor and the stop switch is not keyed as required by code.

Hall Lanterns:

Car 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 elevators have car lanterns on each car. The lanterns have the proper gong for up and down. Some of the gongs and lantern were inoperative during out survey. The cars were all equipped with in-car position indicators mounted above the door.

Hall Call Pushbuttons:

At each floor hall call push buttons are located so that users can call the elevator. The hall call stations have flush operation buttons which are not ADA compliant. During a modernization the fixture and fire exit sign will be replaced.



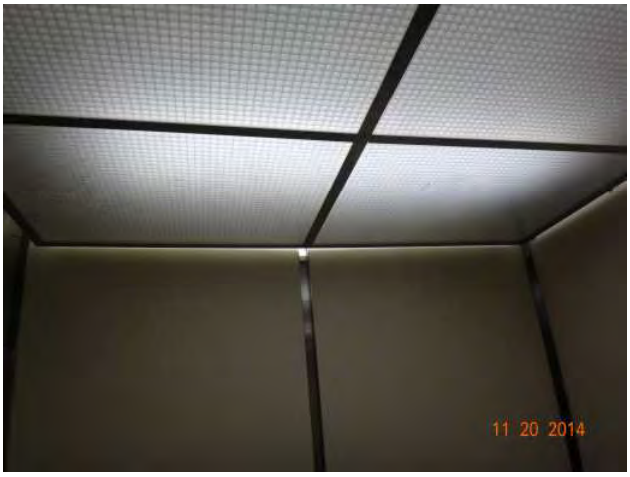
E. CAB INTERIOR:

Wall Finish:

The existing cab interiors are possibly original and looked to be in fair condition. All sides have the code required handrails. No code required work in needed.

Ceilings:

The cabs interiors are dated. The drop ceiling and diffused fluorescent lighting is not aesthetically pleasing but is in fair condition. A complete cab upgrade is recommended during the proposed modernization.



Vertical Transporation

Item No.	Recommendation	Rating	Quantity	Unit	Unit Cost	Immediate Code Items	Immediate - Repair	Yers 1-3	Years 4-6	Years 7-10	Totals
1	Install material to bevel flat surfaces in hoistway	1	4	EA	$1,500.00	$6,000					$6,000
2	Install door restrictors for all elevators	1	4	EA	$2,500.00	$10,000					$10,000
3	Replace in-car stop switches with keyed switches	1	4	EA	$300.00	$1,200					$1,200
4	Replace car aprons with 21" long new units	1	3	EA	$1,500	$4,500					$4,500
5	Repair hydraulic leaks on power unit piping	2	4	EA	$1,000		$4,000				$4,000
6	Reseal jack heads to eliminated leaking	2	4	EA	$800		$3,200				$3,200
7	Install car identication numbers on car tops	1	4	EA	$250	$1,000					$1,000
8	Adjust accel and decel for smooth operations	1	4	EA	$500.00	$2,000					$2,000
9	Replaced chipped pick up rollers on car 5	2	4	EA	$250.00		$1,000				$1,000
10	Complete over due five year tests for car 1	2	1	EA	$4,000.00		$4,000				$4,000
11	New Cab interiors during modernization	4	4	EA	$23,000.00				$92,000		$92,000
12	Complete Modernization(excluding jack replacement)	4	4	EA	$95,000				$380,000		$380,000
	Subtotal					$24,700	$12,200	$0	$472,000	$0	$508,900

1	$24,700	Code and Safety
2	$12,200	Deffered Maintenance & Repair
3	$0	Capital Expenditure
4	$472,000	Modernization / Improvements
5	$508,900	Total

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

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A		
		Cars 1	**Car 3 & 4**	**Car 5**
	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	Yes	Yes
	AUTOMATIC OPERATION			
4.10.2	Elevators must be Automatic.	Yes	Yes	Yes
4.10.2	Self-leveling to within 1/2 in.	Yes	Yes	Yes
	HALL CALL BUTTONS			
4.10.3	Buttons centered at 42 in. above the floor.	Yes	Yes	Yes
4.10.3	Buttons to illuminate when call is entered and extinguish when answered.	Yes	Yes	Yes
4.10.3	Buttons to be at least 3/4 in. in the smallest dimension.	Yes	Yes	Yes
4.10.3	Up button located above down button.	Yes	Yes	Yes
4.10.3	Buttons raised or flushed. **(T24 must be raised)**	**No-Flush**	**No- Flush**	**No- Flush**
4.10.3	Objects mounted beneath hall buttons not to project into the lobby more than 4 in.	Yes	Yes	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 – Car	Yes – Car	Yes – Car
4.10.4	Audible signals to sound once for up and twice for “down” or may verbal announcement stating “up” “down.”	Yes-inop floor 1	Yes-inop floor 4	Yes
4.10.4	Hall directional lantern centered 72 in. above floor.	Yes	Yes	Yes
4.10.4	Directional lantern visible elements minimum of 2-½ in. in the smallest dimension.	Yes	Yes	Yes
4.10.4	Directional lanterns must be visible from the vicinity of the hall call button.	Yes	Yes	Yes
4.10.4	In car lanterns, meeting the requirements above are acceptable in lieu of hall directional lanterns.	Yes	Yes	Yes
	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	Yes	Yes
4.10.5	Centerline of floor designation characters 60 in. above floor.	Yes	Yes	Yes
4.30.4	Characters must be 2 in. high, raised 1/32 in. upper sans serif (block letters) or simple serif type.	Yes	Yes	Yes
4.30.4	Grade II Braille to accompany raised characters.	Yes	Yes	Yes
	DOOR PROTECTIVE & REOPENING DEVICES			
4.10.6	Doors must open and close automatically.	Yes	Yes	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A		
		Cars 1	**Car 3 & 4**	**Car 5**
4.10.6	Non-contact door reopening device at 5 in. and 29 in. above the floor.	Yes	Yes	Yes
4.1.6(3)(c)	If safety edges are provided on existing elevators, the non-contact door reopening devices may be omitted.	Yes	Yes	Yes
4.10.6	Reopening device to remain operational for at least 20 seconds.	Yes	Yes	Yes
	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	Yes	Yes
4.10.7	Minimum acceptable notification time 5.0 seconds.	Yes	Yes	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	Yes	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	Yes	Yes
	FLOOR PLAN EXISTING ELEVATOR			
4.1.6	Minimum of 48" x 48"	Yes	Yes	Yes
4.10.9	Clearance between car platform sill and edge of hoistway landing sill no greater than 1-¼ in.	Yes	Yes	Yes
	Handrails Circular Square Dia.____Top of Handrail _____ Height Side Back **(T24 must be 34")**	**No- 36"**	**No- 36"**	**No- 36"**
	FLOOR SURFACES			
4.10.10	Surfaces to be stable, firm and slip resistant.	Yes	Yes	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	Yes	Yes
	ILLUMINATION LEVELS			
4.10.11	Five foot-candles of illumination to be provided at car controls, platform and at sill.	Yes	Yes	Yes
	CAR CONTROLS			
4.10.12	Buttons to be at least 3/4 in. in their smallest dimension.	Yes	Yes	Yes
4.10.12	Buttons must be flush or raised. **(T24 Must be Raised)**	**No**	**No**	**No**

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A		
		Cars 1	**Car 3 & 4**	**Car 5**
4.10.12	Buttons must be designated by raised characters and Braille or symbols complying with ASME A17.1 Rule 210.13.	Yes	Yes	Yes
4.10.12	Characters must be a minimum of 5/8 in. high, upper case sans (block letters) or simple serif type.	Yes	Yes	Yes
4.10.12	Grade II Braille to accompany raised character of symbol.	Yes	Yes	Yes
4.10.12	Raised designations must be to the immediate left of the button to which they apply.	Yes	Yes	Yes
4.10.12	Call button illuminates when call is entered and extinguish when answered.	Yes	Yes	Yes
4.10.12	Floor buttons must be no higher then 48 in. when located in front return. Buttons must be no higher than 54 in. when a side approach provided.	Yes	Yes	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	Yes	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	Yes	Yes
	CAR POSITION INDICATORS			
4.10.13	Visual car position indicator must be provided above control panel or over door.	Yes	Yes	Yes
4.10.13	Car position indicator numerals must be a minimum of 1/2 in. high.	Yes	Yes	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	Yes	Yes
4.10.13	A button to activate audible signal only for desired trip may be provided.	N/A	N/A	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	N/A	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	Yes	Yes
4.10.14	The highest operable part must be a maximum of 48 in. from the car floor.	Yes	Yes	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	Yes	Yes
4.10.13	If a handset is provided the cord must be at least 29 in. long.	Yes	N/A	N/A

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A		
		Cars 1	**Car 3 & 4**	**Car 5**
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.	Yes	Yes	Yes
4.10.13	The system must not require voice communication.	Yes	Yes	Yes

Appendix "B"

A17.3

Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
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
2.2	**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
	Single Bottom Jack: (If single bottom oil must be monitored and tracked)	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	If space below pit is accessible it must meet certain rules.	Yes
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
2.6.7	Bottom Guides (gibs must be provided.)	Yes
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	Closed position of Hoistway Doors	Yes
2.7.3	Elevator Parking Device (For cars operated from within car only)	N/A
2.7.4	Access to Hoistway (Hoistway door unlocking devices and access switches)	Yes
2.7.5	Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators (Cannot open more then 4" outside unlocking zone +-18" max.)	**No**
2.7.6	Hoistway Emergency Door Contacts (Positively opened)	Yes
2.8	**POWER OPERATION OF DOORS AND GATES**	

Appendix "B"

A17.3

Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
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 then 2.5ft/lb)	Yes
	Mechanical Equipment	
3.1	Buffers And Bumpers (Car and counterweight buffers are required)	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" A17.3, 60-75deg, withstand 150#)	**No 1,3,4** Yes 5
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 metal or fire resistant mat)	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
	Cab Lining Materials (Must have class 1 rating, flame spread of 25 or less.	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 then 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
3.7	**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)	Yes
3.7.3	Min. Rated Load for Freight Elevators (Class A = Not more then ¼ of total cap.; Class B = Motor Veh.; Class C = loading with industrial truck, etc.)	Yes
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" for frt.)	Yes
3.7.5	Signs on Freight Elevators (NOT A PASS ELEV…etc. ½" high letters)	Yes
3.8 (4.3)	**DRIVING MACHINES AND SHEAVES**	
4.3.1	Connection to Driving Machine (capable of withstanding, without damage, plunger stop)	Yes
4.3.2	Plunger Stop (If greater then 100FPM provide ETS)	Yes
4.3.3	Hydraulic Elevators (In-ground jacks- single vs. double bottom)	Yes
4.4	**Valves, Supply Piping, and Fittings**	
4.4.1	Pump Relief Valve (Between pump & check valve, preset to open at 125% of working pressure, sized to allow proper capacity, must be sealed)	Yes
4.4.2	Check Valve (Will hold the elevator with rated load when pump stops.)	Yes
4.4.3	Mechanically Controlled Operating Valves (These types of valves are prohibited.)	Yes
4.4.4	Supply Piping and Fittings (Must be in sound condition and secured in place.)	Yes
		Yes
	Tanks	
4.5.1	Tanks General Requirements (Must be of adequate size and have an indicator.)	Yes
4.5.2	Pressure Tanks (Tanks subject to collapsing shall be provided with vacuum relief valves., pressure gage, inspectors gage, liquid level detector, hand holes, and manholes.)	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
3.10	**OPERATING DEVICES AND CONTROL EQUIP.**	
3.10.1	Types of Operating Devices (Rope or rod devices shall not be used.)	Yes
3.10.2	Car-Switch Operation Elevators	Yes

Appendix "B"

A17.3

Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
	(If provided must return to stop position if released by hand)	
3.10.3	Top-of-Car Operating Devices (Continuous pressure <150FPM; bet. Crosshead and door.) (not needed on hydro's if less than 15' of travel)	Yes
3.10.4	Electrical Provisions	
	(e) Stop Switch – Top of Car- marked "stop" & "run"	Yes
	(h) Final Terminal Stopping Devices	Yes
	(i) Emergency Terminal Stopping Devices (reduced stroke)	N/A
	(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)(WAC does not require it to be keyed)	**No-not keyed**
	(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
3.10.9	Control and Operating Circuit Requirements (The failure of any single magnetically operated switch)	Yes
	Grounding and Overcurrent: Must comply with 620-61	Yes
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)	Yes
4.7.3	Anticreep leveling devices	Yes
4.8	Additional Requirements for Counterweighted Hydraulics (Do not require buffers)	N/A
4.9	Additional Requirements for Roped Hydraulic Elevators.	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 ¾ open for center opening doors, and ½ 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.

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Performance Review and Maintenance Deficiency List

	PERFORMANCE TIMES	**Design**	**Car1**	**Car 3**	**Car 4**	**Design**	**Car 5**
7.1	Door Open Time	**1.7**	**2.5**	**2.3**	1.8	**1.9**	**3.2**
7.2	Door Close Time	**2.7**	3.0	2.8	2.8	**2.9**	3.5
7.3	Floor to Floor Up (18 to 19)	**13.0**	**15.5**	**15.7**	13.7	**14.0**	**15.2**
9.6	Floor to Floor Down (19 to 18)	**13.0**	**16.0**	**18.2**	**20.0**	**14.0**	**16.1**
7.5	Full Speed Up	**150 FPM**	**144**	**134**	**126**	**150 FPM**	150
7.6	Full Speed Down	**150 FPM**	**141**	**107**	**89**	**150 FPM**	**122**
7.7	Jerk Rate Up	**< 7.0**	**8.5**	6.2	6.3	**< 7.0**	2.6
7.8	Jerk Rate Down	**< 7.0**	**7.9**	6.7	6.5	**< 7.0**	**19.4**
7.9	Power Closing of Door (Pressure Gauge)	**<30lbs**	25lbs	18lbs	24lbs	**<30lbs**	21lbs
7.10	Interrupted Ray	**.5sec**	**11.6**	5.9	5.6	**.5sec**	10.0
7.11	Car Dwell Time	**3.0**	**11.8**	5.5	4.9	**3.0**	10.1
7.12	Hall Call Dwell Time	**5.0**	**11.8**	5.8	5.2	**5.0**	10.1
7.13	Hall/Car Lantern Time	**8.0**	-	-	5.2	**8.0**	15.4
7.14	Nudging	**20.0**	>30 sec	>30 sec	>30 sec	**20.0**	>30 sec
7.15	Test Emergency Phone	**Yes**	Yes	Yes	Yes	**Yes**	Yes

	Car 1
1.1	Machine room door in not labeled "elevator equipment"
1.2	Clean up parts and supplies in machine room
1.3	Pit is dirty
1.4	Oil on jack seal – leaking
1.5	Possible pump cavitation at 3rd and 4th floor
1.6	Adjust car speed to within 3% of design.
1.7	Floor to floor times are slow and need to be adjusted to meet design times
1.8	Door open time is slow –adjust to meet design time
1.9	Adjust car so it has smooth starts and stops.

Appendix "C"

Performance Review and Maintenance Deficiency List

1.10	Excessively long hall and car dwell times
1.11	Excessively long interrupted ray times
1.12	Lantern and directional gong are inoperative on the 1st floor
1.13	Damage inside car- service door does not work smoothly
1.14	Remove parts and drawings from inside the controller cabinet
1.15	Car top is very dirty
1.16	Five year testing is overdue
	Car 3
3.1	Machine room door in not labeled "elevator equipment"
3.2	Clean up parts and supplies in machine room-remove items stored inside controller cabinet
3.3	Pit is dirty
3.4	Floor to floor times are slow and need to be adjusted to meet design times
3.5	Door open time is slow –adjust to meet design time
3.6	Adjust car speed to within 3% of design.
3.7	Emergency phone operator states car 1 not 3- set recording to give proper information
3.8	Oil has accumulated in the power unit drip pan- piping is leaking below valve
3.9	Excessive oil on jack head- possible issue with seal or oil recovery system
3.10	Lantern and directional gong are inoperative on the 4th floor
	Car 4
4.1	Machine room door in not labeled "elevator equipment"
4.2	Clean up parts and supplies in machine room-remove items stored inside controller cabinet
4.3	Pit is dirty
4.4	Floor to floor times are slow and need to be adjusted to meet design times
4.5	Adjust car speed to within 3% of design.
4.6	Emergency phone worked but TKE was too busy to answer
4.7	Fix leaks at power unit- piping is leaking below valve
4.8	Excessive oil on jack head- possible issue with seal or oil recovery system
4.9	Lantern and directional gong are inoperative on the 4th floor
4.10	Controller enclosure is dirty- remove tools and parts from inside cabinet
	Car 5
5.1	Machine room door in not labeled "elevator equipment"
5.2	Clean up parts and supplies in machine room-remove items stored inside controller cabinet
5.3	Pit is dirty

Appendix "C"

Performance Review and Maintenance Deficiency List

5.4	Floor to floor times are slow and need to be adjusted to meet design times
5.5	Adjust car speed down to within 3% of design.
5.6	Emergency phone worked but operator says car 1 not car 5
5.7	Top floor hoistway pick up rollers are chipped- replace rollers as needed
5.8	Door open time is slow – adjust to meet design time
5.9	Car top is very dirty
5.10	Controller enclosure is dirty- remove tools and parts from inside cabinet
5.11	Adjust to achieve smooth operation –eliminate excessive jerk rate down

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.001.305

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