City of San Diego
FY15 Facility Condition Assessment Report for:
Facility # 000001 Office. City Administration Building. CAB. Downtown

FACILITY EXECUTIVE SUMMARY

Facility Statistics	
Council District	3
Community Group	Downtown
Year Built	1965
Gross Square Feet	182,400
Address	202 C Street
Latitude	32.716842
Longitude	-117.162794
Building Value	$156,535,680
Site Value	$919,296
Plant Replacement Value (PRV)	**$157,454,976**
Facility Condition and Backlog	
Condition Rating	**Poor**
Facility Condition Index (FCI)	**44**
Building	$207,001
Site	$5,768
Total Maintenance Backlog*	**$212,768**
Building	$68,381,332
Site	$1,116,539
Total Capital Backlog*	**$69,497,872**
Building	$68,588,333
Site	$1,122,307
Total Backlog*	**$69,710,640**

* See next page for definitions of terminology. It is not agency Best Management Practice to improve existing facilities to a $0 backlog. Adopting an appropriate Service Level establishes the acceptable FCI, Condition Rating, and Backlog for the facility. Backlog values do not include future needs, capital renewal, improvements, expansion, or upgrades. This static report is based on FY15 data and estimates. The facility's current condition may differ due to subsystem deterioration and work completed at the facility. The data in this report was used to prepare FY16 City Council Item 330 docketed on March 14, 2017.

FY16 Proposed Service Level: **FCI 20 - Good Condition Rating**
FY16 Proposed Reinvestment Amount: **$38,219,645**

Please refer to the following sections within this report for further details:

Glossary	Definitions of terminology
Cost Model Report	Subsystem Lifecycle and Replacement Costs
Forecast Report	Backlog and 20 year capital renewal forecast by Subsystem
Deficiency Report	Prioritized list of current and future maintenance repairs and capital replacements
Equipment Inventory	Details for equipment installed as part of a subsystem, ex. HVAC units
Solar Assessment	Solar system feasibility analysis (energy use, installation issues) and pre-design

Note: This report includes a set of reports for the assets in or on the building marked " **building only"** and a sequential set of reports for the site around the building marked "**site only".** Values shown in report have been extracted from a database and rounded to whole numbers which may introduce minor variances.

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFINITIONS for FACILITY EXECUTIVE SUMMARY

Backlog: The cost to correct maintenance or life cycle subsystem deficiencies. Backlog costs do not include future needs, capital renewal, improvements, expansion, or upgrades.

Total Backlog is the sum of the **Capital Backlog** and **Maintenance Backlog**.

Capital Backlog: The cost to replace subsystems that are in service past the end of their life cycle and will eventually fail if not replaced. (Cost to replace HVAC, roof, doors, windows, etc.)

Maintenance Backlog: The cost to correct deficiencies that are related to maintaining or repairing a facility subsystem (eg. Repairing foundation cracks, sealing concrete, repairing roof leaks, replacing a corroded coil in an HVAC unit).

Capital Renewal: The cost to replace a subsystems that will reach the end of its life cycle in future years according to the anticipated life cycle.

Condition Rating: The state of physical fitness or service readiness of a facility based on the subsystems that make up the facility (subsystems include foundation, walls, roof, mechanical, electrical, etc.). The Condition Rating for the facility is determined by the FCI score for the facility as follows:

FCI Score Range	Corresponding Condition Rating
0 to 20	Good
21 to 29	Fair
30 and greater	Poor

Facility Condition Index (FCI): An industry-standard condition score for a facility that is calculated as follows:

$$\frac{\text{Total Backlog}}{\text{Plant Replacement Value (PRV)}}$$

Gross Square Feet (GSF): The enclosed floor area in a building or under a structure measured to the outside of the structure.

Life Cycle: The period of time that a building, system or element can be expected to adequately serve its intended function. The anticipated Life Cycle for each facility subsystem is included in the Cost Model Report.

Plant Replacement Value (PRV): The cost to rebuild the same facility at the same location. The PRV is the sum of the **Building Value** and the **Site Value**.

> **Building Value:** The cost to rebuild the building including the systems in or on the building not including operational assets that are not inherent to the building (eg. Water pumps in a water treatment plant, computers in an office).
>
> **Site Value:** The cost to rebuild the systems outside the building such as parking lots, fencing, lighting, landscaping, etc.

Proposed Reinvestment Amount: The cost to improve the condition of a facility from its current FCI to the Service Level FCI. If the current FCI is less than the Service Level FCI, the Proposed Reinvestment Amount is $0. The Proposed Reinvestment Amount is calculated as follows:

$$\frac{\text{(FCI – Service Level FCI) * PRV}}{100}$$

Service Level: FCI and Condition Rating goals that are established for existing facilities throughout their life cycle to ensure service readiness.

COST MODEL REPORT: Summary of existing Subsystem values and Life Cycle information. Cost Model data does not include operational or community needs such as upgrades, improvements, expansions or building replacements.

DEFINITIONS for COST MODEL REPORT (in order presented in spreadsheet):

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Priority: The relative importance of correcting the deficiency (ie replacing the subsystem or performing maintenance repairs). The priority levels used in this condition assessment are Critical, Potentially Critical, Necessary, Recommended, and Not Applicable.

Cost per Square Foot: Cost per square foot of building area to replace a subsystem including hard costs (direct construction costs such as labor, materials, and equipment).

Total Cost per Square Foot: Cost per square foot of building area to replace a subsystem including hard costs and soft costs (indirect costs such as professional services, financing, taxes, etc.)

Gross Square Feet (GSF): The enclosed floor area in a building or under a structure measured to the outside of the structure.

Replacement Cost in New Facility: Cost to replace a subsystem as part of replacing the entire facility with a new facility including hard costs and soft costs.

Percent Renewed: An additional replacement cost that applies to stand-alone projects in existing buildings which accounts for disruption and repair of nearby subsystems. Example: when replacing a roof covering, work is also required on hvac units, electrical, plumbing, rainwater drains, etc.

Replacement Cost for Stand-Alone Projects: Cost to replace a subsystem as a stand-alone project in an existing facility.

Last Renovation Year: The year the subsystem was replaced or the original installation year if not renovated.

Life Cycle: The period of time that a building, system or element can be expected to adequately serve its intended function. Life Cycles for each subsystem are adopted from Building Owners and Managers Association (BOMA) International publication “How to Design and Manage Your Preventive Maintenance Program” Copyright 1996.

Override Default Renewal Year: The year that the subsystem will reach the end of its life cycle as overridden by the assessor. This override is used by the assessor in cases where the subsystem is anticipated to operate shorter or longer than its life cycle.

Next Renewal Year: The year that the subsystem will reach the end of its life cycle. Calculated by adding the Life Cycle to the Last Renovation Year.

Backlog: The cost to correct maintenance or life cycle subsystem deficiencies. Backlog costs do not include future needs, capital renewal, improvements, expansion, or upgrades.

Capital Renewal: The cost to replace a subsystem that will reach the end of its life cycle in future years according to the anticipated life cycle.

Facility # 000001 Office. City Administration Building. CAB. Downtown

COST MODEL REPORT – Building Only

Subsystem	Priority	Cost Per Square Foot	Total Cost Per Square Foot	Gross Square Feet	Replacement Cost in New Facility (Plant Replacement Value)	Percent Renewed	Replacement Cost for Stand-Alone projects	Last Reno Year	Life Cycle	Override Default Renewal Year	Next Renewal Year	Backlog	Capital Renewal
Totals		$572.14	$858.20	182,400	$156,535,680.00		$227,388,412.80					$68,588,332.99	$107,565,156.21
Standard Foundations	Potentially Critical	$2.47	$3.70	182,400	$674,880.00	145	$978,576.00	1965	100	0	2065	$0.00	$0.00
Special Foundations	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	100	0	2065	$0.00	$0.00
Slab on Grade	Potentially Critical	$1.32	$1.98	182,400	$361,152.00	145	$523,670.40	1965	100	0	2065	$0.00	$0.00
Basement Excavation	Potentially Critical	$0.08	$0.12	182,400	$21,888.00	145	$31,737.60	1965	100	0	2065	$0.00	$0.00
Basement Walls	Potentially Critical	$1.61	$2.42	182,400	$441,408.00	145	$640,041.60	1965	100	0	2065	$0.00	$0.00
Floor Construction	Potentially Critical	$103.62	$155.43	182,400	$28,350,432.00	145	$41,108,126.40	1965	100	0	2065	$0.00	$0.00
Roof Construction	Potentially Critical	$2.06	$3.09	182,400	$563,616.00	145	$817,243.20	1965	100	0	2065	$0.00	$0.00
Exterior Walls	Potentially Critical	$45.56	$68.34	182,400	$12,465,216.00	145	$18,074,563.20	1965	100	0	2065	$752.25	$0.00
Exterior Windows	Necessary	$56.74	$85.11	182,400	$15,524,064.00	150	$23,286,096.00	1965	40	0	2005	$23,286,096.00	$0.00
Exterior Doors	Necessary	$2.72	$4.08	182,400	$744,192.00	150	$1,116,288.00	1965	40	0	2005	$1,116,288.00	$0.00
Roof Coverings	Critical	$1.32	$1.98	182,400	$361,152.00	165	$595,900.80	1990	20	0	2010	$595,900.80	$0.00
Partitions	Recommended	$11.41	$17.12	182,400	$3,122,688.00	155	$4,840,166.40	1965	75	0	2040	$0.00	$0.00
Interior Doors	Recommended	$12.32	$18.48	182,400	$3,370,752.00	150	$5,056,128.00	1965	30	0	1995	$5,056,128.00	$0.00
Fittings	Recommended	$2.59	$3.88	182,400	$707,712.00	150	$1,061,568.00	1965	30	2019	2019	$6,076.80	$1,187,955.35
Stair Construction	Potentially Critical	$9.11	$13.66	182,400	$2,491,584.00	150	$3,737,376.00	1965	75	0	2040	$0.00	$0.00
Stair Finishes	Recommended	$0.91	$1.36	182,400	$248,064.00	145	$359,692.80	1965	20	0	1985	$359,692.80	$0.00

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COST MODEL REPORT – Building Only

Subsystem	Priority	Cost Per Square Foot	Total Cost Per Square Foot	Gross Square Feet	Replacement Cost in New Facility (Plant Replacement Value)	Percent Renewed	Replacement Cost for Stand-Alone projects	Last Reno Year	Life Cycle	Override Default Renewal Year	Next Renewal Year	Backlog	Capital Renewal
Wall Finishes	Recommended	$3.30	$4.95	182,400	$902,880.00	145	$1,309,176.00	1965	10	0	1975	$1,309,176.00	$0.00
Floor Finishes	Recommended	$19.85	$29.78	182,400	$5,431,872.00	145	$7,876,214.40	2004	10	0	2014	$7,876,214.40	$0.00
Ceiling Finishes	Recommended	$28.26	$42.39	182,400	$7,731,936.00	145	$11,211,307.20	1965	25	0	1990	$11,211,307.20	$0.00
Elevators and Lifts	Necessary	$32.71	$49.06	182,400	$8,948,544.00	135	$12,080,534.40	1995	30	0	2025	$0.00	$14,410,425.00
Escalators and Moving Walks	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Other Conveying Systems	Necessary	$0.89	$1.34	182,400	$244,416.00	145	$354,403.20	1990	30	0	2020	$0.00	$410,859.63
Plumbing Fixtures	Necessary	$16.27	$24.40	182,400	$4,450,560.00	135	$6,008,256.00	2000	30	0	2030	$0.00	$9,360,862.85
Domestic Water Distribution	Potentially Critical	$1.28	$1.92	182,400	$350,208.00	145	$507,801.60	1965	30	0	1995	$507,801.60	$0.00
Sanitary Waste	Recommended	$1.76	$2.64	182,400	$481,536.00	150	$722,304.00	1965	30	0	1995	$722,304.00	$0.00
Rain Water Drainage	Necessary	$0.74	$1.11	182,400	$202,464.00	145	$293,572.80	1965	30	0	1995	$293,572.80	$0.00
Other Plumbing Systems	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Energy Supply	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	1990	0	0	1990	$0.00	$0.00
Heat Generating Systems	Potentially Critical	$1.64	$2.46	182,400	$448,704.00	145	$650,620.80	2000	30	0	2030	$0.00	$1,013,667.21
Cooling Generating Systems	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	1965	30	0	1995	$0.00	$0.00
Distribution Systems	Necessary	$36.90	$55.35	182,400	$10,095,840.00	145	$14,638,968.00	1965	30	0	1995	$14,606,715.22	$42,134.39
Terminal and Package Units	Potentially Critical	$69.01	$103.52	182,400	$18,882,048.00	145	$27,378,969.60	1992	30	0	2022	$0.00	$33,677,243.97

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COST MODEL REPORT – Building Only

Subsystem	Priority	Cost Per Square Foot	Total Cost Per Square Foot	Gross Square Feet	Replacement Cost in New Facility (Plant Replacement Value)	Percent Renewed	Replacement Cost for Stand-Alone projects	Last Reno Year	Life Cycle	Override Default Renewal Year	Next Renewal Year	Backlog	Capital Renewal
Controls and Instrumentation	Necessary	$8.96	$13.44	182,400	$2,451,456.00	145	$3,554,611.20	2002	20	0	2022	$0.00	$4,371,816.31
Other HVAC Systems	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Sprinklers	Critical	$12.04	$18.06	182,400	$3,294,144.00	145	$4,776,508.80	2009	30	0	2039	$0.00	$141,313.00
Standpipes	Critical	$2.10	$3.15	182,400	$574,560.00	145	$833,112.00	2009	30	0	2039	$0.00	$0.00
Other Fire Protection Systems	Critical	$0.59	$0.88	182,400	$160,512.00	145	$232,742.40	2003	20	0	2023	$0.00	$294,838.07
Electrical Service Distribution	Potentially Critical	$14.70	$22.05	182,400	$4,021,920.00	150	$6,032,880.00	1986	30	0	2016	$84,651.69	$6,068,329.13
Lighting and Branch Wiring	Necessary	$48.74	$73.11	182,400	$13,335,264.00	145	$19,336,132.80	2000	30	0	2030	$0.00	$30,125,694.90
Communications and Security	Critical	$12.00	$18.00	182,400	$3,283,200.00	145	$4,760,640.00	2007	10	0	2017	$0.00	$5,053,184.56
Other Electrical or Generator	Critical	$2.39	$3.58	182,400	$652,992.00	145	$946,838.40	1986	20	0	2006	$946,838.40	$0.00
Commercial Equipment	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	1965	0	0	1965	$0.00	$0.00
Institutional Equipment	Recommended	$0.59	$0.88	182,400	$160,512.00	145	$232,742.40	1986	20	0	2006	$232,742.40	$0.00
Vehicular Equipment	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Other Equipment	Recommended	$0.89	$1.34	182,400	$244,416.00	145	$354,403.20	0	20	0	1985	$354,403.20	$0.00
Fixed Furnishings	Recommended	$2.69	$4.04	182,400	$736,896.00	145	$1,068,499.20	1995	30	0	2025	$21,671.43	$1,406,831.84
Special Structures	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00

FORECAST REPORT: Summary of Backlog and 20 year capital renewal forecast. Subsystem End-Of-Life Cycle Replacement Costs for Stand-Alone Projects are included in the year that the subsystem reaches the end of its Life Cycle. Inflation is assumed to be 3%. This Forecast does not include operational or community needs such as upgrades, improvements, expansions or building replacements. This Forecast is not a funding plan or capital plan. This forecast can be combined with operational or community input to develop an asset management plan.

DEFINITIONS for FORECAST REPORT:

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Year column 2015: The Backlog of subsystems that have reached the end of their Life Cycle. Subsystems are still in operation and failure becomes more likely as a subsystem passes the end of its Life Cycle.

Year columns 2016 through 2035: The Capital Renewal cost of subsystems that will reach the end of their Life Cycle in the future.

FORECAST REPORT – Building Only

Subsystem	2015($)	2016($)	2017($)	2018($)	2019($)	2020($)	2021($)	2022($)	2023($)	2024($)	2025($)	2026($)	2027($)	2028($)	2029($)	2030($)	2031($)	2032($)	2033($)	2034($)	2035($)
Totals	**$68,588,333**	**$6,068,329**	**$5,034,106**	**$0**	**$1,195,878**	**$410,860**	**$0**	**$38,054,382**	**$307,802**	**$43,494**	**$15,817,257**	**$0**	**$0**	**$110,210**	**$0**	**$40,514,085**	**$0**	**$0**	**$0**	**$8,755**	**$0**
FOUNDATIONS	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BASEMENT CONSTRUCTION	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUPERSTRUCTURE	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXTERIOR ENCLOSURE	**$24,403,136**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Exterior Doors	$1,116,288	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Exterior Walls	$752	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Exterior Windows	$23,286,096	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROOFING	**$595,901**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Roof Coverings	$595,901	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERIOR CONSTRUCTION	**$5,062,205**	**$0**	**$0**	**$0**	**$1,187,955**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Fittings	$6,077	$0	$0	$0	$1,187,955	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Interior Doors	$5,056,128	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STAIRS	**$359,693**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stair Finishes	$359,693	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERIOR FINISHES	**$20,396,698**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Ceiling Finishes	$11,211,307	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Floor Finishes	$7,876,214	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wall Finishes	$1,309,176	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONVEYING	**$0**	**$0**	**$0**	**$0**	**$0**	**$410,860**	**$0**	**$0**	**$0**	**$0**	**$14,410,425**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,410,425	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Escalators and Moving Walks	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Conveying Systems	$0	$0	$0	$0	$0	$410,860	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
PLUMBING	**$1,523,678**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$9,360,863**	**$0**	**$0**	**$0**	**$0**	**$0**
Domestic Water Distribution	$507,802	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Facility # 000001 Office. City Administration Building. CAB. Downtown

FORECAST REPORT – Building Only

Subsystem	2015($)	2016($)	2017($)	2018($)	2019($)	2020($)	2021($)	2022($)	2023($)	2024($)	2025($)	2026($)	2027($)	2028($)	2029($)	2030($)	2031($)	2032($)	2033($)	2034($)	2035($)
Other Plumbing Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,360,863	$0	$0	$0	$0	$0
Rain Water Drainage	$293,573	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Waste	$722,304	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HVAC	**$14,606,715**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$38,035,303**	**$12,964**	**$16,210**	**$0**	**$0**	**$0**	**$12,858**	**$0**	**$1,027,527**	**$0**	**$0**	**$0**	**$0**	**$0**
Controls and Instrumentation	$0	$0	$0	$0	$0	$0	$0	$4,371,816	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Distribution Systems	$14,606,715	$0	$0	$0	$0	$0	$0	$16,313	$12,964	$0	$0	$0	$0	$12,858	$0	$0	$0	$0	$0	$0	$0
Energy Supply	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,013,667	$0	$0	$0	$0	$0
Other HVAC Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Terminal and Package Units	$0	$0	$0	$0	$0	$0	$0	$33,647,174	$0	$16,210	$0	$0	$0	$0	$0	$13,860	$0	$0	$0	$0	$0
FIRE PROTECTION	**$0**	**$0**	**$0**	**$0**	**$7,922**	**$0**	**$0**	**$0**	**$294,838**	**$27,284**	**$0**	**$0**	**$0**	**$97,352**	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,755**	**$0**
Other Fire Protection Systems	$0	$0	$0	$0	$0	$0	$0	$0	$294,838	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sprinklers	$0	$0	$0	$0	$7,922	$0	$0	$0	$0	$27,284	$0	$0	$0	$97,352	$0	$0	$0	$0	$0	$8,755	$0
Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ELECTRICAL	**$1,031,490**	**$6,068,329**	**$5,034,106**	**$0**	**$0**	**$0**	**$0**	**$19,079**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$30,125,695**	**$0**	**$0**	**$0**	**$0**	**$0**
Communications and Security	$0	$0	$5,034,106	$0	$0	$0	$0	$19,079	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Electrical Service Distribution	$84,652	$6,068,329	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30,125,695	$0	$0	$0	$0	$0
Other Electrical or Generator	$946,838	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT	**$587,146**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Commercial Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Institutional Equipment	$232,742	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Equipment	$354,403	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Vehicular Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FURNISHINGS	**$21,671**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,406,832**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Fixed Furnishings	$21,671	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,406,832	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SPECIAL CONSTRUCTION	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Special Structures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

DEFICIENCY REPORT: Summary of individual deficiencies that are included in the Cost Model Backlog and Capital Renewal costs. This deficiency report does not include operational or community needs such as upgrades, improvements, expansions or building replacements.

DEFINITIONS for DEFICIENCY REPORT (in order presented in spreadsheet):

Year: The year that the subsystem will reach the end of its Life Cycle or the year that the maintenance repairs are assessed. The year for a particular deficiency corresponds with the year in the Forecast Report and the Next Renewal Year in the Cost Model Report.

Priority: The relative urgency of completing the work as compared to other work within the inventory based on the impact of failure of the Subsystem. The categories included from highest priority to lowest priority are Critical, Potentially Critical, Necessary, and Recommended. Critical and Potentially Critical work could affect the health and safety of the building if not corrected. Necessary and Recommended work could result in minor impact to the building if not corrected. The Not Applicable category includes work that is not priority ranked because it is not based on failure and operations impact (eg. accessibility improvements – new toilets, wider access hallways).

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Correction: A description of the work needed to fix the deficiency. Examples of corrections include Replace, Repair, Clean, Patch, etc.

Photo: Photograph of subsystem. Some photographs are stock photos of typical subsystems.

Location: Location includes Floor location, Room location, ID if available, and Type which indicates component of subsystem with deficiency.

Funding Type: Funding required to correct deficiency. Capital funding is indicated if entire subsystem is to be replaced. Maintenance funding is indicated for partial replacements, repairs, cleaning, patching, etc.

Cost: The cost to correct the deficiency. Costs are included in the Cost Model based on subsystem and the Forecast based on subsystem and year. Current year deficiencies are included in the Capital or Maintenance Backlog.

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Necessary	Exterior Windows	Replace		1965 System	Capital	$23,283,175

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Necessary	Distribution Systems	Replace		1965 System	Capital	$13,580,847
2015	Recommended	Ceiling Finishes	Replace		1965 System	Capital	$11,210,249
2015	Recommended	Floor Finishes	Replace		1965 System	Capital	$7,852,755

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Interior Doors	Replace		1965 System	Capital	$5,054,665
2015	Recommended	Wall Finishes	Replace		1965 System	Capital	$1,177,304
2015	Necessary	Exterior Doors	Replace		1965 System	Capital	$1,116,288

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Critical	Other Electrical or Generator	Replace		1965 System	Capital	$946,838
2015	Necessary	Distribution Systems	Replace		Floor: 10 Room: HVAC Room ID: Type: Air Handling Units	Capital	$860,564
2015	Recommended	Sanitary Waste	Replace		1965 System	Capital	$722,304

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Potentially Critical	Domestic Water Distribution	Replace		1965 System	Capital	$475,333
2015	Critical	Roof Coverings	Replace		1965 System	Capital	$444,488
2015	Recommended	Stair Finishes	Replace		1965 System	Capital	$359,252

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Other Equipment	Replace		1965 System	Capital	$337,118
2015	Necessary	Rain Water Drainage	Replace		1965 System	Capital	$293,573
2015	Recommended	Institutional Equipment	Replace		1965 System	Capital	$232,742

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Critical	Roof Coverings	Replace		Floor: Roof 1 Room: Roof 1 ID: Type: Built up Roof	Capital	$151,413
2015	Recommended	Wall Finishes	Remove and Replace		Floor: 9 Room: Office	Maintenance	$126,360
2015	Potentially Critical	Electrical Service Distribution	Replace		Floor: B1 Room: Electrical Switch Gear ID: 7376736 Type: Electrical Panel	Capital	$75,897

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Necessary	Distribution Systems	Replace		Floor: B1 Room: Main IT Room ID: Type: Air Handling Units	Capital	$48,803
2015	Necessary	Distribution Systems	Replace		Floor: B1 Room: Main IT Room ID: Type: Air Handling Units	Capital	$48,803
2015	Necessary	Distribution Systems	Replace		Floor: Roof 1 Room: HVAC Room ID: 369795 Type: Exhaust Fans	Capital	$33,392

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Fixed Furnishings	Renew Finishes		Floor: 10 Room: Council Chambers	Maintenance	$21,671
2015	Potentially Critical	Domestic Water Distribution	Replace		Floor: B1 Room: Fire Pump Room ID: Type: Domestic Water Pumps	Capital	$16,234
2015	Potentially Critical	Domestic Water Distribution	Replace		Floor: B1 Room: Fire Pump Room ID: Type: Domestic Water Pumps	Capital	$16,234

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Floor Finishes	Remove and Replace		Floor: B1 Room: Mail Room and Storage	Maintenance	$16,065
2015	Necessary	Distribution Systems	Replace		Floor: Roof 1 Room: Penthouse ID: 369796 Type: Exhaust Fans	Capital	$15,302
2015	Recommended	Other Equipment	Remove and Replace		Floor: 9 Room: Office Kitchenette	Maintenance	$14,026

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Necessary	Distribution Systems	Replace		Floor: Roof 1 Room: Penthouse ID: Type: Exhaust Fans	Capital	$10,234
2015	Potentially Critical	Electrical Service Distribution	Replace		Floor: B1 Room: Fire Pump Room ID: Type: Motor Control Centers	Capital	$8,755
2015	Recommended	Fittings	Remove and Replace		Floor: 10 Room: Council Chamber Restrooms	Maintenance	$6,077

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Necessary	Distribution Systems	Replace		Floor: Roof 2 Room: Roof 2 ID: Type: Exhaust Fans	Capital	$4,385
2015	Necessary	Distribution Systems	Replace		Floor: Roof 2 Room: Roof 2 ID: Type: Exhaust Fans	Capital	$4,385
2015	Recommended	Other Equipment	Remove and Replace		Floor: 3 Room: Office Kitchenette	Maintenance	$3,259

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Wall Finishes	Renew Finishes		Floor: 10 Room: Council Chambers	Maintenance	$2,700
2015	Recommended	Exterior Windows	Remove and Replace		Floor: 10 Room: Office	Maintenance	$2,186
2015	Recommended	Floor Finishes	Clean		Floor: 10 Room: Council Chamber Restrooms	Maintenance	$2,079

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Wall Finishes	Patch		Floor: 9 Room: Office Restroom	Maintenance	$1,619
2015	Recommended	Floor Finishes	Clean		Floor: 1 Room: Balcony	Maintenance	$1,512
2015	Recommended	Floor Finishes	Remove and Replace		Floor: 7 Room: Office	Maintenance	$1,334

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Floor Finishes	Clean		Floor: B1 Room: Corridors	Maintenance	$1,170
2015	Recommended	Ceiling Finishes	Repair		Floor: B1 Room: Data Room	Maintenance	$1,058
2015	Recommended	Interior Doors	Remove and Replace		Floor: B1 Room: Corridors	Maintenance	$999

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Floor Finishes	Remove and Replace		Floor: 9 Room: Office	Maintenance	$931
2015	Recommended	Exterior Walls	Repair		Floor: Roof 1 Room: Mechanical Penthouse	Maintenance	$752
2015	Recommended	Exterior Windows	Clean		Floor: 2 Room: Office	Maintenance	$735

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Wall Finishes	Patch		Floor: 10 Room: Restroom	Maintenance	$709
2015	Recommended	Wall Finishes	Patch		Floor: B1 Room: Corridors	Maintenance	$484
2015	Recommended	Interior Doors	Renew Finishes		Floor: 2 Room: Womens Restroom	Maintenance	$464

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Stair Finishes	Remove and Replace		Floor: 1 Room: Lobby	Maintenance	$441
2015	Recommended	Floor Finishes	Repair		Floor: B1 Room: Data Room	Maintenance	$370
2016	Potentially Critical	Electrical Service Distribution	Replace		1965 System	Capital	$6,058,983

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2016	Potentially Critical	Electrical Service Distribution	Replace		Floor: 10 Room: HVAC Room ID: K30867 Type: Electrical Panel	Capital	$9,346
2017	Critical	Communications and Security	Replace		1965 System	Capital	$5,034,106
2019	Recommended	Fittings	Replace		1965 System	Capital	$1,187,955

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2019	Critical	Sprinklers	Replace		Floor: B1 Room: Fire Pump Room ID: Type: Fire Suppression Valve	Capital	$7,922
2020	Necessary	Other Conveying Systems	Replace		1965 System	Capital	$410,860
2022	Potentially Critical	Terminal and Package Units	Replace		1965 System	Capital	$33,647,174

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2022	Necessary	Controls and Instrumentation	Replace		1965 System	Capital	$4,371,816
2022	Critical	Communications and Security	Replace		Floor: 1 Room: Fac Room ID: Type: Fire Alarm System	Capital	$19,079
2022	Necessary	Distribution Systems	Replace		Floor: 10 Room: Data Room ID: 0000871 Type: Fan Coil Units	Capital	$8,156

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2022	Necessary	Distribution Systems	Replace		Floor: 10 Room: Data Room ID: 0104863 Type: Fan Coil Units	Capital	$8,156
2023	Critical	Other Fire Protection Systems	Replace		1965 System	Capital	$294,838
2023	Necessary	Distribution Systems	Replace		Floor: B1 Room: IT Room ID: Type: Exhaust Fans	Capital	$12,964

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2024	Critical	Sprinklers	Replace		Floor: B1 Room: Fire Pump Room ID: 99-F483DF6 Type: Fire Suppression Pumps	Capital	$27,284
2024	Potentially Critical	Terminal and Package Units	Replace		Floor: Roof 1 Room: Roof 1 ID: 0009271 Type: Air Cooled Condensing Units	Capital	$8,105
2024	Potentially Critical	Terminal and Package Units	Replace		Floor: Roof 1 Room: Roof 1 ID: 0113164 Type: Air Cooled Condensing Units	Capital	$8,105

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2025	Necessary	Elevators and Lifts	Replace		1965 System	Capital	$14,410,425
2025	Recommended	Fixed Furnishings	Replace		1965 System	Capital	$1,406,832
2028	Critical	Sprinklers	Replace		Floor: B1 Room: Main IT Room ID: Type: Fire Suppression Pumps	Capital	$59,216

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2028	Critical	Sprinklers	Replace		Floor: B1 Room: IT Room ID: Type: Fire Suppression Pumps	Capital	$38,136
2028	Necessary	Distribution Systems	Replace		Floor: 6 Room: Data Room ID: Type: Fan Coil Units	Capital	$7,405
2028	Necessary	Distribution Systems	Replace		Floor: 9 Room: Data.Phone Room ID: Type: Fan Coil Units	Capital	$5,453

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2030	Necessary	Lighting and Branch Wiring	Replace		1965 System	Capital	$30,125,695
2030	Necessary	Plumbing Fixtures	Replace		1965 System	Capital	$9,360,863
2030	Potentially Critical	Heat Generating Systems	Replace		1965 System	Capital	$1,013,667

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Building Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2030	Potentially Critical	Terminal and Package Units	Replace		Floor: 9 Room: Plenum Chase ID: Type: Air Cooled Condensing Units	Capital	$6,930
2030	Potentially Critical	Terminal and Package Units	Replace		Floor: 6 Room: Plenum Chase ID: Type: Air Cooled Condensing Units	Capital	$6,930
2034	Critical	Sprinklers	Replace		Floor: B1 Room: Electrical Switch Gear ID: Type: Fire Suppression Pumps	Capital	$8,755

EQUIPMENT INVENTORY REPORT: List Of equipment that is installed as part of the existing subsystems. Estimated Replacement Costs are for the equipment only and are included in the subsystem replacement costs in the Cost Model.

DEFINITIONS for EQUIPMENT INVENTORY (in order presented in spreadsheet):

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Space: Location of equipment.

Equipment Number: City-issued number on some equipment such as HVAC units on some buildings.

Equipment Type: The type of equipment such as Air Handling Unit, Exhaust Fan, Domestic Water Pump, etc.

Manufacturer, Model Number, Serial Number: Information from the tag if there was a readable tag during the assessment. Some equipment such as Roof Coverings do not have tag information.

Capacity: Size or output of equipment if known. UNK stands for unknown and indicates that the size was not visible in the field.

UOM: Unit of Measure that describes the data in Capacity column such as HP for Horse Power of pump, TON for air condition tonnage, AMP for electrical breaker amperage, etc.

Year Installed: Estimated year equipment was installed based on year building was installed or year equipment was estimated to be replaced based on records available during assessment and staff interviews.

Next Renewal Year: The year that the subsystem will reach the end of its life cycle. Calculated by adding the Life Cycle to the Last Renovation Year.

Estimated Replacement Cost: Cost to replace the equipment only not the entire subsystem. The equipment costs are included in the Cost Model's Subsystem Replacement Costs and in the Forecast Needs Costs

Funding Type: Funding required to correct deficiency. Capital funding is indicated if entire subsystem is to be replaced. Maintenance funding is indicated for partial replacements, repairs, cleaning, patching, etc.

Photo: Photograph of equipment. Some photographs are stock photos of typical equipment.

Assessor Notes: Additional notes by assessor which may indicate more details about location, tag, or condition.

EQUIPMENT INVENTORY REPORT – Building Only

Subsystem	Space	Equipment Number	Equipment Type	Manufacturer	Model Number	Serial Number	Capacity	UOM	Year Installed	Next Renewal Year	Estimated Replacement Cost	Funding Type	Photo	Assessor Notes
Distribution Systems	HVAC Room	RE 1 SYSTEM	Exhaust Fans	TRANE	41	369795	UNK		1965	1985	$33,392	Capital		P 26
Distribution Systems	HVAC Room	S 2 SYSTEM	Air Handling Units				UNK		1965	1990	$860,564	Capital		13TH FLOOR BUILT-UP AHU 2 SUPPLY FANS 100 HP EA P 55
Distribution Systems	Main IT Room	Not Labeled	Air Handling Units	DATA AIRE	DQ DAP II		UNK		1965	1990	$48,803	Capital		P 147, CHILLED WATER
Distribution Systems	Main IT Room	Not Labeled	Air Handling Units	DATA AIRE	DQ DAP II		UNK		1965	1990	$48,803	Capital		P 148, CHILLED WATER
Domestic Water Distribution	Fire Pump Room	2	Domestic Water Pumps	WEINMAN			20	HP	1965	1990	$16,234	Capital		CORROSION/RUST, P134

Facility # 000001 Office. City Administration Building. CAB. Downtown

EQUIPMENT INVENTORY REPORT – Building Only

Subsystem	Space	Equipment Number	Equipment Type	Manufacturer	Model Number	Serial Number	Capacity	UOM	Year Installed	Next Renewal Year	Estimated Replacement Cost	Funding Type	Photo	Assessor Notes
Domestic Water Distribution	Fire Pump Room	1	Domestic Water Pumps	WEINMAN			20	HP	1965	1990	$16,234	Capital		P 133, CORROSION/RUST
Electrical Service Distribution	Fire Pump Room	H2O Dup Bstr Pmp Ctl Pnl	Motor Control Centers				40	HP	1965	1990	$8,755	Capital		P135
Electrical Service Distribution	Electrical Switch Gear	Not Labeled	Electrical Panel	WESTINGHOUSE	LCB	7376736	2406	AMP	1965	1995	$75,897	Capital		SUBSTATION, 12000V PRIMARY, 600A, 2000KVA XFMR, 277/480V SECONDARY, 2406A, P 122
Distribution Systems	Penthouse	2734	Exhaust Fans	TRANE			UNK		1990	2010	$10,234	Capital		E-2 SUSPENDED
Distribution Systems	Penthouse	2733	Exhaust Fans	TRANE	41	369796	UNK		1990	2010	$15,302	Capital		E-1-EXH P 33
Distribution Systems	Roof 2	Not Labeled	Exhaust Fans				UNK		1990	2010	$4,385	Capital		P 17
Distribution Systems	Roof 2	Not Labeled	Exhaust Fans				UNK		1990	2010	$4,385	Capital		P 18
Roof Coverings	Roof 1	Not Labeled	Built up Roof				12750	SF	1990	2015	$151,413	Capital		P 6
Electrical Service Distribution	HVAC Room	ATS 3	Electrical Panel	KOHLER	K-166341-0150	K30867	150	AMP	1986	2016	$9,074	Capital		13TH FLR P 57
Sprinklers	Fire Pump Room	Main Pump Control Valve	Fire Suppression Valve	NIBCO	FM 175W		UNK		1999	2019	$7,039	Capital		8 IN DIAM PIPE, P 132

Facility # 000001 Office. City Administration Building. CAB. Downtown

EQUIPMENT INVENTORY REPORT – Building Only

Subsystem	Space	Equipment Number	Equipment Type	Manufacturer	Model Number	Serial Number	Capacity	UOM	Year Installed	Next Renewal Year	Estimated Replacement Cost	Funding Type	Photo	Assessor Notes
Communications and Security	Fac Room	Not Labeled	Fire Alarm System	GAMEWELL	E3 SERIES		UNK		2007	2022	$15,512	Capital		ADDRESSABLE, FIRE COMMAND P 102
Distribution Systems	Data Room	1	Fan Coil Units	SANYO	KHS3672R	0000871	UNK		2004	2022	$6,632	Capital		13TH FLR P 77
Distribution Systems	Data Room	2	Fan Coil Units	SANYO	KH3672R	0104863	UNK		2004	2022	$6,632	Capital		13TH P 75
Distribution Systems	IT Room	Not Labeled	Exhaust Fans	COOK			1	HP	2003	2023	$10,234	Capital		INLINE SUPPLY FAN, P153
Sprinklers	Fire Pump Room	Not Labeled	Fire Suppression Pumps	REDDY BUFFALOES PUMP INC	6X6DF	99-F483DF6	100	HP	1999	2024	$20,910	Capital		750 GPM P 130, FIRE ALARM CP: CONTROLLER, JOSLYN CLARK CAT. 03B204-4T, SER. 0186028-1, 100 HP, 480V, P 131
Terminal and Package Units	Roof 1	Not Labeled	Air Cooled Condensing Units	SANYO	C3672R	0009271	UNK		2004	2024	$6,212	Capital		
Terminal and Package Units	Roof 1	Not Labeled	Air Cooled Condensing Units	SANYO	C3672R	0113164	UNK		2004	2024	$6,212	Capital		P 29
Distribution Systems	Data Room	Not Labeled	Fan Coil Units	QUIETSIDE	QSCE181		1.5	TON	2010	2028	$5,043	Capital		P 112
Distribution Systems	Data.Phone Room	Not Labeled	Fan Coil Units	QUIETSIDE	QSCE121		1	TON	2010	2028	$3,713	Capital		P 104
Sprinklers	IT Room	Not Labeled	Fire Suppression Pumps	SAPPHIRE	570640		UNK		2003	2028	$25,969	Capital		DEDICATED CLEAN-AGENT ANSUL SYSTEM, 300 LBS, P151

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EQUIPMENT INVENTORY REPORT – Building Only

Subsystem	Space	Equipment Number	Equipment Type	Manufacturer	Model Number	Serial Number	Capacity	UOM	Year Installed	Next Renewal Year	Estimated Replacement Cost	Funding Type	Photo	Assessor Notes
Sprinklers	Main IT Room	Not Labeled	Fire Suppression Pumps	SAPPHIRE	570686		UNK		2003	2028	$40,324	Capital		DEDICATED CLEAN-AGENT SYSTEM, 500 LBS
Terminal and Package Units	Plenum Chase	Not Labeled	Air Cooled Condensing Units	QUIETSIDE	QSCC121		1	TON	2010	2030	$4,448	Capital		CU LOCATED IN PLENUM CHASE P 106
Terminal and Package Units	Plenum Chase	Not Labeled	Air Cooled Condensing Units	QUIETSIDE	QSCC181		1.5	TON	2010	2030	$4,448	Capital		P 114
Sprinklers	Electrical Switch Gear	Not Labeled	Fire Suppression Pumps	SAPPHIRE	570339		100	LB	2009	2034	$4,993	Capital		DEDICATED CLEAN-AGENT FIRE SUPPRESSION FOR ELEC SWITCHGEAR RM P 129
Electrical Service Distribution	Electrical Switch Gear	ATS 4	Automatic Transfer Switch	ASCO	7000	998099 RE	400	AMP	2013	2038	$16,946	Capital		P 127
Electrical Service Distribution	Electrical Switch Gear	ATS 2	Automatic Transfer Switch	RUSSELECTRIC	RTS03-ATB800BMW1	37231-1	800	AMP	2013	2038	$28,223	Capital		P 126
Electrical Service Distribution	Electrical Switch Gear	ATS 1	Automatic Transfer Switch	KOHLER			200	AMP	2013	2038	$11,478	Capital		P 123
Elevators and Lifts	Penthouse	E 2	Elevators	GENERAL DYNAMICS	810-4	63000001A2	32.2	HP	1995	2045	$339,424	Capital		P 11
Elevators and Lifts	Penthouse	E 4	Elevators	GENERAL DYNAMICS	810-4	63000002A1	32.2	HP	1995	2045	$339,424	Capital		P 15
Elevators and Lifts	Penthouse	E 3	Elevators	GENERAL DYNAMICS	810-4	63000001A3	32.2	HP	1995	2045	$339,424	Capital		P 14

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EQUIPMENT INVENTORY REPORT – Building Only

Subsystem	Space	Equipment Number	Equipment Type	Manufacturer	Model Number	Serial Number	Capacity	UOM	Year Installed	Next Renewal Year	Estimated Replacement Cost	Funding Type	Photo	Assessor Notes
Elevators and Lifts	Penthouse	E 1	Elevators	GENERAL DYNAMICS	810-4	63000001A1	32.2	HP	1995	2045	$339,424	Capital		P 12

COST MODEL REPORT: Summary of existing Subsystem values and Life Cycle information. Cost Model data does not include operational or community needs such as upgrades, improvements, expansions or building replacements.

DEFINITIONS for COST MODEL REPORT (in order presented in spreadsheet):

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Priority: The relative importance of correcting the deficiency (ie replacing the subsystem or performing maintenance repairs). The priority levels used in this condition assessment are Critical, Potentially Critical, Necessary, Recommended, and Not Applicable.

Cost per Square Foot: Cost per square foot of building area to replace a subsystem including hard costs (direct construction costs such as labor, materials, and equipment).

Total Cost per Square Foot: Cost per square foot of building area to replace a subsystem including hard costs and soft costs (indirect costs such as professional services, financing, taxes, etc.)

Gross Square Feet (GSF): The enclosed floor area in a building or under a structure measured to the outside of the structure.

Replacement Cost in New Facility: Cost to replace a subsystem as part of replacing the entire facility with a new facility including hard costs and soft costs.

Percent Renewed: An additional replacement cost that applies to stand-alone projects in existing buildings which accounts for disruption and repair of nearby subsystems. Example: when replacing a roof covering, work is also required on hvac units, electrical, plumbing, rainwater drains, etc.

Replacement Cost for Stand-Alone Projects: Cost to replace a subsystem as a stand-alone project in an existing facility.

Last Renovation Year: The year the subsystem was replaced or the original installation year if not renovated.

Life Cycle: The period of time that a building, system or element can be expected to adequately serve its intended function. Life Cycles for each subsystem are adopted from Building Owners and Managers Association (BOMA) International publication “How to Design and Manage Your Preventive Maintenance Program” Copyright 1996.

Override Default Renewal Year: The year that the subsystem will reach the end of its life cycle as overridden by the assessor. This override is used by the assessor in cases where the subsystem is anticipated to operate shorter or longer than its life cycle.

Next Renewal Year: The year that the subsystem will reach the end of its life cycle. Calculated by adding the Life Cycle to the Last Renovation Year.

Backlog: The cost to correct maintenance or life cycle subsystem deficiencies. Backlog costs do not include future needs, capital renewal, improvements, expansion, or upgrades.

Capital Renewal: The cost to replace a subsystem that will reach the end of its life cycle in future years according to the anticipated life cycle.

Facility # 000001 Office. City Administration Building. CAB. Downtown

COST MODEL REPORT – Site Only

Subsystem	Priority	Cost Per Square Foot	Total Cost Per Square Foot	Gross Square Feet	Replacement Cost in New Facility (Plant Replacement Value)	Percent Renewed	Replacement Cost for Stand-Alone projects	Last Reno Year	Life Cycle	Override Default Renewal Year	Next Renewal Year	Backlog	Capital Renewal
Totals		$3.35	$5.04	182,400	$919,296.00		$1,349,760.00					$1,122,307.20	$113,739.10
Site Earthwork	Recommended	$0.36	$0.54	182,400	$98,496.00	145	$142,819.20	1965	100	0	2065	$0.00	$0.00
Roadways	Not Applicable	$0.00	$0.00	182,400	$0.00	155	$0.00	0	50	0	2015	$0.00	$0.00
Parking Lots	Not Applicable	$0.00	$0.00	182,400	$0.00	155	$0.00	0	50	0	2015	$0.00	$0.00
Pedestrian Paving	Recommended	$0.89	$1.34	182,400	$244,416.00	155	$378,844.80	1965	50	0	2015	$378,844.80	$0.00
Site Development	Recommended	$0.61	$0.92	182,400	$167,808.00	145	$243,321.60	1965	30	0	1995	$243,321.60	$0.00
Landscaping	Recommended	$0.28	$0.42	182,400	$76,608.00	135	$103,420.80	1965	10	2014	2014	$103,420.80	$0.00
Water Supply	Recommended	$0.30	$0.45	182,400	$82,080.00	145	$119,016.00	1965	50	0	2015	$119,016.00	$0.00
Sanitary Sewer	Recommended	$0.70	$1.05	182,400	$191,520.00	145	$277,704.00	1965	50	0	2015	$277,704.00	$0.00
Storm Sewer	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Heating Distribution	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	50	0	2015	$0.00	$0.00
Cooling Distribution	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	50	0	2015	$0.00	$0.00
Fuel Distribution	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	50	0	2015	$0.00	$0.00
Electrical Distribution	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	30	0	1995	$0.00	$0.00
Site Lighting	Recommended	$0.21	$0.32	182,400	$58,368.00	145	$84,633.60	1995	30	0	2025	$0.00	$113,739.10
Site Communications and Security	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	10	0	1975	$0.00	$0.00

Facility # 000001 Office. City Administration Building. CAB. Downtown

COST MODEL REPORT – Site Only

Subsystem	Priority	Cost Per Square Foot	Total Cost Per Square Foot	Gross Square Feet	Replacement Cost in New Facility (Plant Replacement Value)	Percent Renewed	Replacement Cost for Stand-Alone projects	Last Reno Year	Life Cycle	Override Default Renewal Year	Next Renewal Year	Backlog	Capital Renewal
Service and Pedestrian Tunnels	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00
Other Site Construction	Not Applicable	$0.00	$0.00	182,400	$0.00	145	$0.00	0	0	0	1965	$0.00	$0.00

FORECAST REPORT: Summary of Backlog and 20 year capital renewal forecast. Subsystem End-Of-Life Cycle Replacement Costs for Stand-Alone Projects are included in the year that the subsystem reaches the end of its Life Cycle. Inflation is assumed to be 3%. This Forecast does not include operational or community needs such as upgrades, improvements, expansions or building replacements. This Forecast is not a funding plan or capital plan. This forecast can be combined with operational or community input to develop an asset management plan.

DEFINITIONS for FORECAST REPORT:

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Year column 2015: The Backlog of subsystems that have reached the end of their Life Cycle. Subsystems are still in operation and failure becomes more likely as a subsystem passes the end of its Life Cycle.

Year columns 2016 through 2035: The Capital Renewal cost of subsystems that will reach the end of their Life Cycle in the future.

FORECAST REPORT – Site Only

Subsystem	2015($)	2016($)	2017($)	2018($)	2019($)	2020($)	2021($)	2022($)	2023($)	2024($)	2025($)	2026($)	2027($)	2028($)	2029($)	2030($)	2031($)	2032($)	2033($)	2034($)	2035($)
Totals	**$1,122,307**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$113,739**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
SITE PREPARATIONS	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Site Earthwork	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SITE IMPROVEMENTS	**$725,587**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Landscaping	$103,421	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pedestrian Paving	$378,845	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Site Development	$243,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SITE CIVIL OR MECHANICAL UTILITIES	**$396,720**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Cooling Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Heating Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Sewer	$277,704	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm Sewer	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Supply	$119,016	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SITE ELECTRICAL UTILITIES	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$113,739**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Electrical Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Site Communications and Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$113,739	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTHER SITE CONSTRUCTION	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Other Site Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Service and Pedestrian Tunnels	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

DEFICIENCY REPORT: Summary of individual deficiencies that are included in the Cost Model Backlog and Capital Renewal costs. This deficiency report does not include operational or community needs such as upgrades, improvements, expansions or building replacements.

DEFINITIONS for DEFICIENCY REPORT (in order presented in spreadsheet):

Year: The year that the subsystem will reach the end of its Life Cycle or the year that the maintenance repairs are assessed. The year for a particular deficiency corresponds with the year in the Forecast Report and the Next Renewal Year in the Cost Model Report.

Priority: The relative urgency of completing the work as compared to other work within the inventory based on the impact of failure of the Subsystem. The categories included from highest priority to lowest priority are Critical, Potentially Critical, Necessary, and Recommended. Critical and Potentially Critical work could affect the health and safety of the building if not corrected. Necessary and Recommended work could result in minor impact to the building if not corrected. The Not Applicable category includes work that is not priority ranked because it is not based on failure and operations impact (eg. accessibility improvements – new toilets, wider access hallways).

Subsystem: Building and Site assets that are inherent to the building operation such as HVAC provides heating, ventilating, and air conditioning and electrical systems provide power to the building.

Correction: A description of the work needed to fix the deficiency. Examples of corrections include Replace, Repair, Clean, Patch, etc.

Photo: Photograph of subsystem. Some photographs are stock photos of typical subsystems.

Location: Location includes Floor location, Room location, ID if available, and Type which indicates component of subsystem with deficiency.

Funding Type: Funding required to correct deficiency. Capital funding is indicated if entire subsystem is to be replaced. Maintenance funding is indicated for partial replacements, repairs, cleaning, patching, etc.

Cost: The cost to correct the deficiency. Costs are included in the Cost Model based on subsystem and the Forecast based on subsystem and year. Current year deficiencies are included in the Capital or Maintenance Backlog.

DEFICIENCY REPORT – Site Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Pedestrian Paving	Replace		1965 System	Capital	$375,283

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Site Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Sanitary Sewer	Replace		1965 System	Capital	$277,704
2015	Recommended	Site Development	Replace		1965 System	Capital	$242,717
2015	Recommended	Water Supply	Replace		1965 System	Capital	$119,016

Facility # 000001 Office. City Administration Building. CAB. Downtown

DEFICIENCY REPORT – Site Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Landscaping	Replace		1965 System	Capital	$101,819
2015	Recommended	Pedestrian Paving	Remove and Replace		Floor: 1 Room: Exterior	Maintenance	$3,561
2015	Recommended	Landscaping	Remove and Replace		Floor: 1 Room: Exterior	Maintenance	$1,602

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DEFICIENCY REPORT – Site Only

Year	Priority	Subsystem	Correction	Photo	Location	Funding Type	Cost
2015	Recommended	Site Development	Clean		Floor: 1 Room: Exterior	Maintenance	$604
2025	Recommended	Site Lighting	Replace		1965 System	Capital	$113,739

2.0 Solar Assessment Reports

Site Name: San Diego City Administration Building

Criteria 1: Meter Inventory & Usage Data

We located meter #1752086. City staff personnel supplied usage data for this meter for the past 12 months. Total annual usage was 7,704,006kWh.

Criteria 2: Orientation of site / building for solar potential

Site sits in the middle of Downtown San Diego with surrounding tall buildings. The roof has some potential for a roof mounted solar array but it does not have enough physical space to support a system size that could offset a majority of the building's electrical usage. There are nearby buildings connected to the same electrical system of the City Administration Building with roofs that can support larger arrays but this may be impractical because of the multiple shading impacts coming from the surrounding buildings.

Criteria 3: Impact of existing shading

The City Administration Building is not subjected to too much shading because of the height of the roof. However, the roof can only support a small array due to the limitations of physical space. The other buildings connected to the same electrical service can offer more roof space which holds more potential for larger arrays, but because their roof heights are lower than the roof heights of surrounding buildings, they are subjected to multiple shade impacts. It is strongly

advised not to install solar arrays on these buildings without a careful analysis done to further investigate the financial impact shading will have on the system. Please refer to the shading analysis diagram which shows the affected areas by season.

Criteria 4: Condition of Roof, ability to support solar PV system, recommended areas for installation, production capacity

Roof was assessed and deemed suitable for supporting a solar array pending a full structural analysis. However, the roof can only support a small array due to the limitations of physical space.

Criteria 5: Existing electrical system

The existing Main Switch Board located is in the electrical room in a vault at the lower level of the building. The switchboard is rated at 12kV. The exact amperage rating could not be determined at the time of the site visit. Further review of the existing electrical configuration must be conducted to determine the best point of connection. The existing electrical room was built around 1965, but each piece of equipment within the room was in good working condition based on site observation.

Criteria 6: Ease of installation of PV System

No major hurdles were identified that would prohibit the location of the solar array on the roof of the City Administration Building. The recommended SMA Tripower string inverters are relatively small (27" x 26" x 10") and can be installed within the solar arrays. In the case of the roof arrays the inverters would either be installed on the roof itself, or, more likely, on a load bearing wall at a precise location to be determined after a structural engineering analysis. The site presents ample possible locations for the inverters (and the required AC aggregation panel) to be located. Correspondingly, the string inverters for any carport canopy array would be installed near the top of the support columns (about 10 feet above grade) to reduce tampering (they would also be equipped with locks). The required AC aggregation panel would likely be installed on a support column at the end of the parking aisle to avoid interference issues due to a parked vehicle. Exact conduit routing paths from modules to inverters to AC panels to point of connection would be determined during a detailed design phase. The NEC required the AC service disconnect would be installed inside the electrical equipment room. Further review must be done to best determine a suitable lay down area for equipment and material.

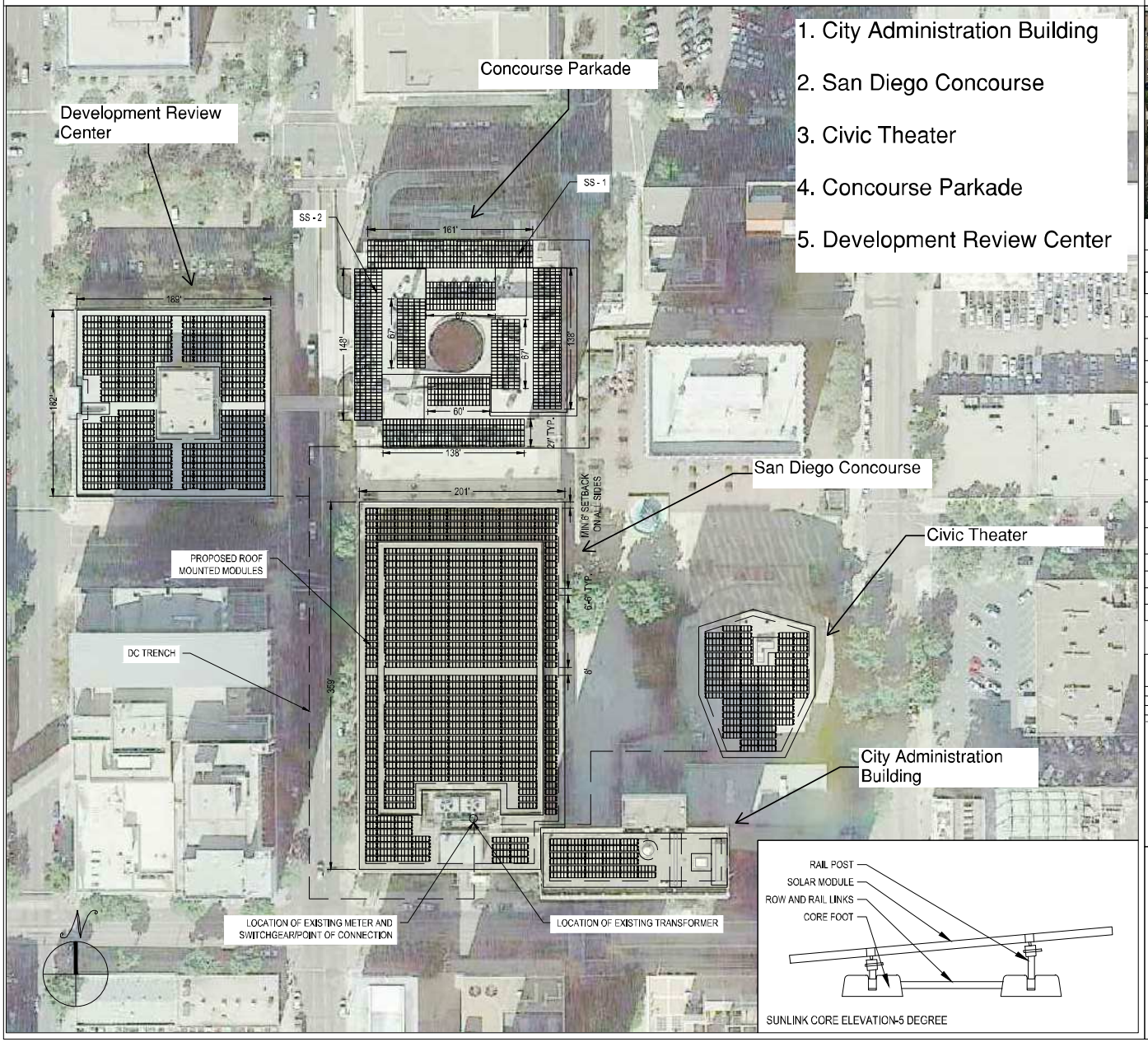
Criteria 7: Size, shading, and condition of associated parking lots / open space

The designated parking lot for this building is the Concourse Parkade. This parking structure is separate from the City Administration Building and has no roof. It is structurally sound to support carport canopy arrays.

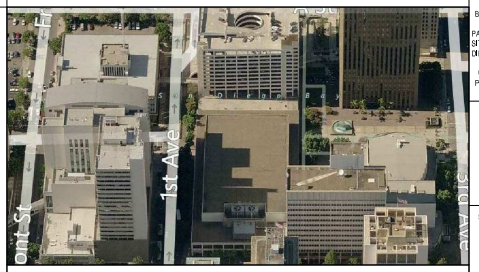
Criteria 8: Energy use analysis & Optimal System Size

Based on usage analysis for the past 12 months, a system size of 4.1MW would be required to offset 80% of the current electricity utility. As is shown on the City Administration Building layout, there is insufficient space on the roof nor on the roofs of the associated buildings to reach the required system size. Please refer to attached layout.

CITY OF SAN DIEGO SOLAR ASSESSMENT - PV PROJECT



PROJECT INFORMATION

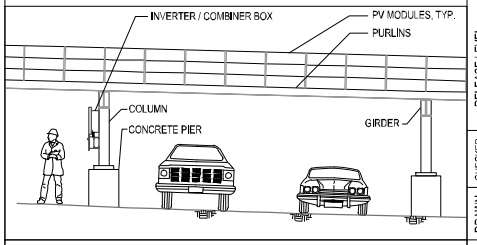


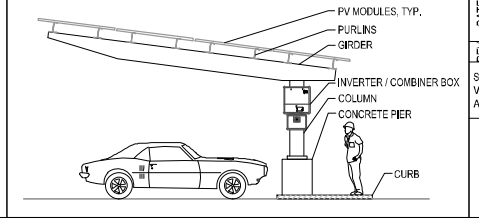
PROPOSAL SPECIFICATIONS

SYSTEM SIZE DC (kW)	1,367.300		
SYSTEM SIZE AC (kW)	1100		
DC TO AC RATIO	1.24		
MODULE INFORMATION	(4,972) LG 275		
STRING INFORMATION	(226) PARALLELED STRINGS OF (22)		
INVERTER INFORMATION	(2) SMA SC500CP-US		
INTERCONNECTION VOLTAGE	TBD		
TRANSFORMER	NONE		
RACKING DETAILS	ROOF MOUNTED SUNLINK CORE & SOLAR SUPPORT STRUCTURES		
ARRAY PITCH (METER)	1.98	SITE LATITUDE	32.71 N
ASCE7-05 WIND SPEED (MPH)	85	GROUND SNOW LOAD (PSF)	0

ARRAY INFORMATION

ARRAY NO.	AZIMUTH	TILT ANGLE	NO. OF MODULES	NO. OF STRINGS	KW DC	INVERTER CONNECTED
ROOF-1	180°	5°	3718	169	1022.450	(2) 500CP
SS-1	180°	7.5°	638	29	175.450	
SS-2	270°	7.5°	616	28	169.400	
TOTAL	-	-	4,972	226	1367.300	-





BORREGO SOLAR
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FAX: (888) 843-6778
WWW.BORREGOSOLAR.COM

CITY OF SAN DIEGO SOLAR ASSESSMENT
202 C ST,
SAN DIEGO, CA 92101

PROJECT NUMBER:
P-SD-005641

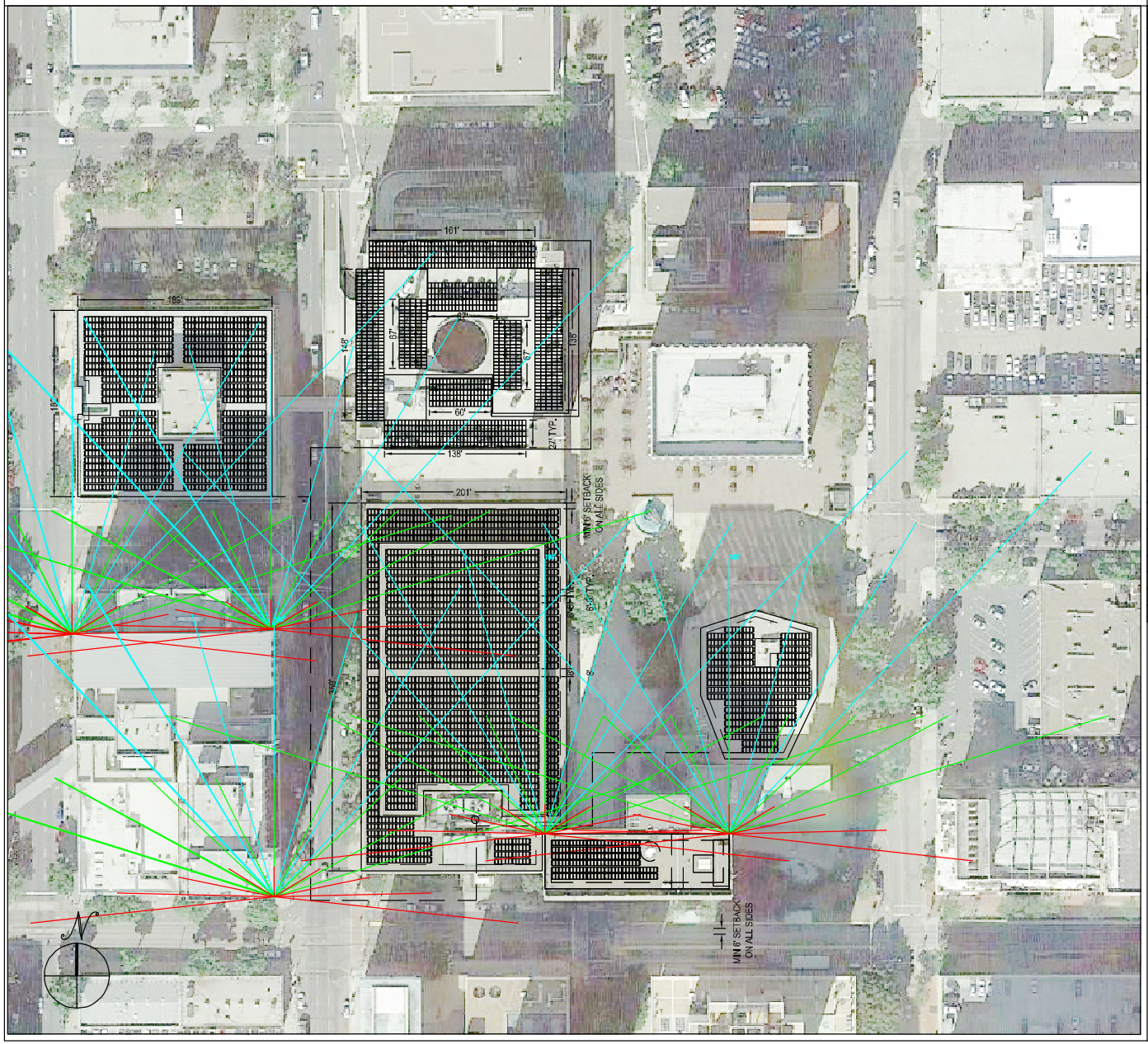
REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
1	08/11/14	RX	JZ	PROPOSAL LAYOUT

SCALE: 1"=100'
VALID ONLY WHEN PLOTTED ON ANSI FULL BLEED B 11" X 17"

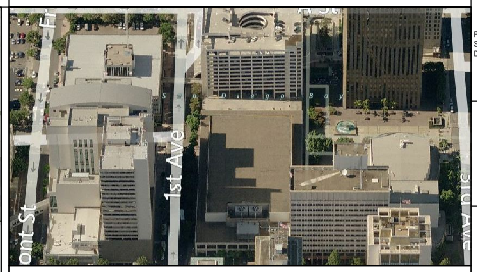
ATTACHMENT C:
CAB 2015 Condition Assessment

PV-1
L1 PROPOSAL LAYOUT

CITY OF SAN DIEGO SOLAR ASSESSMENT - PV PROJECT



PROJECT INFORMATION



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TOTAL	-	-	4,972	226	1367.300	-

LINES IN LIGHT BLUE REFLECT THE AREA AND EXTENT OF SHADING IN THE WINTER (DEC-FEB)

LINES IN GREEN REFLECT THE AREA AND EXTENT OF SHADING DURING THE SPRING (MAR-MAY) AND FALL (SEP-NOV)

LINES IN RED REFLECT THE AREA AND EXTENT OF SHADING DURING THE SUMMER (JUN-AUG)

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CITY OF SAN DIEGO SOLAR ASSESSMENT
202 C ST,
SAN DIEGO, CA 92101

PROJECT NUMBER:
P-SD-005641

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
1	06/13/14	TD	TD	SHADE IMPACT

SCALE: 1"=100'
VALID ONLY WHEN PLOTTED ON ANSI FULL BLEED B 11" X 17"

ATTACHMENT O:
CAB 2015 Condition Assessment

PV-1
SHADE IMPACT