ON-SITE INSIGHT
A RECAP REAL ESTATE ADVISORS COMPANY

Condominium
Capital Needs Assessment and Replacement Reserve Analysis

Prepared for:

Boyd Smith Management
221 Massachusetts Avenue
Boston, MA 02115

Carillon Condominium

Boston, MA

April 15, 2016

Final Report

RECAP
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Carillon Condominium: Property Overview

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Total Buildings: 1 ***Number of Residential Buildings:*** 1

Total Units: 31 ***Number of Non-Residential Buildings:*** 0

Building Type	# Bldgs	Residential Units	Commercial Units
Elevator	1	31	1
Walk-up	-	-	-
Townhouse	-	-	-
Totals:	**1**	**31**	**1**

Occupancy: Families
Financing: Condominium

Property/Development Age: 14 years
Year of Construction: 2002

City & State: Boston, MA
Addresses: 183-185 Massachusetts Avenue

OSI Project Number: 16003

Assessment Date: January 6, 2016

Assessment Conditions: Clear. Sunny, Cold. 40 degrees F.

Assessor: Steve Ninos

Property Description:

Carillon Condominiums is a 31-unit mixed-used residential and commercial building located on Massachusetts Avenue near the Symphony Hall neighborhood of Boston Massachusetts. The nine-story F. William Smith designed brick and concrete structure was constructed in 2002 adjacent to the existing Church Park Apartments and contains 31 private residential condominium units on floors 2 through 9, a commercial/retail space located on the ground floor, and an underground garage providing indoor parking for fifteen vehicles.

Executive Summary

Carillon Condominiums

Boston, MA

The Carillon is a 31-unit mixed residential and retail condominium building located on Massachusetts Avenue near the Symphony Hall neighborhood of Boston Massachusetts. The nine-story F. William Smith designed brick, GFRC, and cast stone structure was constructed in 2002 adjacent to the existing Church Park Apartments and contains 31 private residential condominium units on floors 2 through 9, a commercial/retail space located on the ground floor, and an underground garage providing indoor parking for 15 cars.

Overall the property is in good condition. The residential spaces, common areas, and various building systems are adequately appointed and maintained with evidence of timely maintenance and capital expenditures noted during the course of the assessment. That said, the property does have substantive capital needs anticipated in the coming years as a number of systems and components are at or approaching the end of their expected useful service lives. Anticipated near and mid-term needs include boiler and circulator pump replacements; installation of circulator pump variable frequency drives; planned replacement of the rooftop chiller in early 2016 and upcoming replacement of the rooftop make-up air unit; dumpster replacement; overhaul of the building fire pump and replacement of the fire alarm control panel and entry access and security systems; exterior façade maintenance; window caulk and control joint replacement; roof replacement; and interior common hallway and stairwell painting.

Future capital actions are based on useful life expectations and assume continued effective maintenance and physical management. Costs for the twenty-year plan total **$1,612,272**, or **$16,123** per percent of beneficial interest (per % of B.I.) in current dollars ($2,107,517, or $21,075 per % of B.I. in inflated dollars). At current funding levels (referenced as Plan #1), current annual contributions of $22,783 per year ($228 per % of B.I. in Years 1 and 2, and then indexed at 3% per year in Years 3-20) are projected to be inadequate. For the purposes of this study, the interest on reserves is directed by management to be shown at 0.2% in Years 1-5, and increasing to 2.0% in Years 6 through 20. Under these parameters, the replacement reserve (which is reported to have been at $160,200 or $1,602 per % of B.I. on January 1st, 2016) will be depleted by Year 1 (2016). An alternate funding scenario, shown as Plan #2, aims to meet all projected near term capital needs by showing an outside capital infusion of $650,000 ($6,500 per % of B.I.) in Year 1, and by increasing annual contributions by $120 per percent of B.I. per year ($10 per % of B.I. per month) in Year 1 as well. An additional outside capital infusion of $550,000 ($5,500 per % of B.I.) is shown in Year 16 to help meet projected capital needs occurring in the latter half of the plan.

Site

Projected capital needs related to the site are limited, as the building footprint occupies the majority of the site space. The building abuts the city owned sidewalk at the front (east) elevation and the forward portion of the south side-elevation. The rear portion of the south elevation shares a wall with the adjoining Church Park Apartments; and the lower four floors of the north side-elevation share a wall with the neighboring building at 181 Massachusetts Avenue. The rear (west) and south elevations feature a concrete walkway, ramp, breezeway, and steps with painted steel tube railing system, and a concrete garage entry pad along Public Alley's 903 and 904.

1. **Costs for the development's site related elements total $6,994 or $70 per % B.I. in inflated dollars.**

2. All breezeway and rear elevation concrete walls, walkways, ramp, stairs, and garage entry pad remain in good observable condition with no significant cracking or concrete deterioration noted. An allowance of possible future as-needed sectional concrete repairs is shown in Years 6 and 16.
3. The rear elevation painted steel tube ramp and stair handrail system is also in good observable condition with only minor localized paint wear noted in some spots. Current and future as-needed railing painting costs are minimal, and this need is shown being handled as an operating concern.

Mechanical Room

The building's mechanical room is located on the 9th Floor and contains the central heating and domestic hot water (DHW) generation systems for the building. An exterior door leads from the mechanical room to an 8th Floor roof extension that holds a Trane 60-ton chiller and the building's emergency backup-generator. All residences are heated and cooled via a two-pipe service water fan-coil system. The building service water loop (which is used for both hydronic heat and chilled water cooling) is circulated past all of the residence fan coil units (Whalen Units) which extract heat from the loop to provide heating to the residences during the cold weather months; or they use the chilled loop water during the warm weather months to cool the residences.

During heating conditions (winter) a 2,100 MBH HydroTherm modulating natural gas-fired boiler array (~80% AFUE) provides hydronic heat to the Whalen Units via the building service water loop (in heating mode). The Whalen units then transfer the loop water heat to the residence via forced air. A HydroTherm Model S boiler staging control panel and HeatTimer outdoor temperature reset control provide increased boiler efficiency by step-firing only the modules that are required to meet the current heating demand.

Two Baldor 10-horsepower pumps (one primary and one backup, each on individual Sprecher & Schuh on/off controls) circulate the service loop water through the residence Whalen units. This redundant pump setup runs one pump continuously while the backup pump is available to be engaged if the primary pump fails.

During cooling conditions (summer) the 60-ton Trane air-cooled liquid chiller produces chilled water for residence space cooling via the same service loop (now in cooling mode). As the Whalen units reject heat from the residences to the service loop, the chiller refrigerant absorbs the heat, then compresses and condenses the refrigerant which releases the heat and expels it to the atmosphere via the chiller fans. The chilled loop water then circulates back to the Whalen Units to absorb more heat and provide continued cooling to the residences.

Domestic hot water for the residences is created via a single brazed plate heat exchanger which works in concert with the boiler water and two 1.5-horsepower Baldor in-line circulating pumps to create continuous on-demand DHW for the building. The two boiler to DHW pumps are also installed in a redundant setup (one primary, one backup) similar to the service loop pumps, with Sprecher & Schuh on/off controls. A single U.S. Motors 1/12-horsepower pump circulates the DHW to the residences.

4. **Costs related to the development's boilers and boiler room systems total $327,184 or $3,272 per % B.I. in inflated dollars.**
5. No problems were observed or reported regarding the current boiler array, however this system has an annual fuel utilization efficiency (AFUE) rating of ~80%. Costs are shown in Year 6 (based on a twenty-year expected useful service life) to replace the boilers with high-efficiency condensing boilers featuring an AFUE rating of ≥95%. These condensing boilers feature integrated modulating controls with outside air temperature reset, and therefore no replacement of the current boiler control panel is shown in the plan.

6. Although some flange corrosion was noted on one of the 10-hp loop pumps, no active leaking was observed during the assessment. Replacement of both loop pumps and both boiler to DHW pumps is shown in Year 6, concurrent with the boiler replacement.
7. A SENS EnerGenius NRG battery charger mounted on the boiler room outer wall maintains the charge in the generator starter batteries located just outside in the rooftop generator enclosure. Replacement of this unit is shown in Year 11, after twenty-five years of use.
8. Costs for the planned January 2016 replacement of the rooftop Chiller unit are shown in Year 1, less $36,000 which has already been paid from the 2015 reserves. A future replacement is shown in Year 16, based on a fifteen-year expected useful service life. Costs shown from the provided Cullen Mechanical, Inc. proposal include additional compressor warranty, craning and disposal of current unit, and all necessary electrical work and permits.
9. The two Leonard domestic hot water mixing valves were reportedly last rebuilt in 2010. Future rebuild/replacement of both valves is shown in Year 10.

Building Mechanical and Electrical Systems

Major building systems include the fire sprinkler system (equipped with a backflow preventer); distribution piping for domestic hot and cold water, sanitary wastewater, and natural gas services; heating, ventilation, and air conditioning (HVAC) services; waste management; electrical; fire detection; security; and elevators.

10. **Costs related to the development's mechanical and electrical systems total $571,101 or $5,711 per % B.I. in inflated dollars.**

11. Building waste management is facilitated via an International Dynetics 5-horsepower, chute-fed, horizontal hydraulic compactor with 2-cubic yard rolling container. The container (last replaced in 2010) has a reported typical useful life of 10-years due to hard use by the waste removal service, and future container replacements are shown in Years 5 and 15. Future replacement of the compactor and hydraulic pump is shown in Year 11, after twenty-five years of use.
12. The building contains a wet fire-suppression system with backflow prevention device in place (designed to keep stagnant sprinkler water from flowing back into the potable water system), Lincoln 40-horsepower electric fire pump, 1.5-horsepower Baldor jockey pump, and Metron transfer switch and controller; all reportedly tested and serviced on a regular basis. There were no reported operational issues regarding the fire pump or the fire suppression system, and full replacement is not anticipated within the twenty-year timeframe of this plan. An allowance to overhaul the fire pump, jockey pump, transfer switch, and controller are shown in Year 4.
13. No problems related to the building's distribution piping systems were observed or reported; and these systems should continue to be monitored and maintained going forward.
14. A rooftop Reznor, multi-zone, 100% outside air, packaged make-up air unit (300-MBH natural gas-fired heating, 22.5-ton electric DX cooling) with a newly replaced heating unit (2015), provides both heating and cooling to the hallways and lobby. Future complete MAU replacement is shown in Year 6, based on a twenty-year expected useful service life. Costs shown include a premium for craning and removal of the current unit.
15. Gradual as-needed replacements of the rooftop box-type and mushroom-type exhaust and stairwell pressurization fans are shown in Years 6-10, after twenty years of use.

16. The building features an Eclipse hermetic natural gas booster system designed to boost the gas pressure from the street in the event of a large simultaneous draw on the gas service by the residences (this ensures adequate gas pressure for the central mechanical room equipment). No problems were observed or reported, and replacement of this system including control panel is shown in Year 16, after thirty years of use.
17. Future replacement of the boiler room and natural gas booster room Modine ceiling-mounted hydronic horizontal unit heaters, and the fire pump room Chromalox electric horizontal unit heater is shown in Year 11.
18. All residences are individually metered for electricity with Cutler-Hammer switchgear, main disconnect, and distribution panels located in the garage-level electrical room. No problems were observed or reported during the assessment, and these elements should continue to be monitored and maintained as a standard operating measure going forward.
19. A rooftop Caterpillar natural gas-fired 150 kW standby generator with ASCO 7000 series transfer switch provides emergency power to key building systems and emergency lighting in the event of a power failure. No operating issues related to the generator or transfer switch were reported during the assessment; and complete system replacement is not anticipated during the twenty-year timeframe of this plan. An allowance to overhaul the generator and transfer switch is shown in Year 3.
20. The building features an Edwards Systems ES2 fully addressable fire alarm control panel with integrated command center, ventilation and pressurization fan control panel, elevator recall panels, digital transmitter, and hard-wired end devices (smoke detectors, heat detectors, flow switches, pull stations, horn/strobes) throughout the building. No problems were reported regarding the system or its components; and complete replacement including peripherals is shown in Year 6, based on an expected useful service life of twenty years.

21. A wall-mounted phone-based entry intercom panel with digital programmable directory and Honeywell Pro-Watch 6000 key-fob modular access control system provide resident-controlled remote and keyless entry into the building. Replacement of both systems is shown in Year 11 after twenty-five years of use.
22. The building is served by two hoist-type elevators traveling in adjacent shafts with Imperial Electric alternating current (AC) overhead traction machines located in the rooftop elevator machine room penthouse. Ongoing maintenance and repair of both elevators is provided under the terms of a full-service contract, and complete machine replacement is not anticipated during the plan's timeframe. Future costs to refurbish and upgrade the cab interior finishes and door operators are shown in Year 16.
23. Both elevators feature 20-horsepower overhead traction machines with solid state controls and Magnetek HPV-900 adjustable frequency AC drives. Future costs to replace the AC drives and overhaul the machines, controllers and dispatcher are shown in Year 16.
24. Future costs for repairs, upgrades, refurbishment, and as-needed replacements of the hoistway and door equipment (gate switch, drive sheave, header, tracks, drive arms, door protection, and related devices) are shown in Year 11.

Building Architectural Systems

The property consists of a single nine-story building that sits on a reinforced poured concrete foundation with below grade parking garage. The building is clad in a mix of face brick and GFRC (glass fiber reinforced concrete) panels with cast stone fascia, pilasters, trim, and detail on the ground floor and GFRC cornices and pilasters on the upper floors. Select units on the sixth, eighth, and ninth floors, as well as the common-use rear elevation ninth floor rooftop terrace, feature painted FRP (fiberglass reinforced plastic) balcony, French balcony, and terrace balustrades and railings.

Windows are a mix of vinyl-framed slider and casement models at the more contemporary GFRC-clad portion of the building, and a mix of double-hung and fixed panels with cast stone lintels and sills at the more traditional brick-clad portion of the building. The terrace, balcony, and French balconies all feature sliding glass doors which are the responsibility of the individual unit owners. All windows and sliding glass doors feature insulating glass units (IGUs).

The residential main entrance is located at the breezeway between the building and the neighboring Church Park Apartments and features an aluminum-framed Craftsman-style multi-panel double-leaf entry door. The retail space front entry, front elevation north stairwell egress, and rooftop common terrace all feature full-lite aluminum and glass storefront-style entry doors. The roof access and rear elevation garage and service entries all feature flush-metal service doors.

The building has a flat roof with an adhered thermoplastic polyolefin (TPO) membrane roof covering. A standing seam metal clad elevator machine room penthouse is accessed via a set of galvanized steel stairs and flush metal service door with storm/screen outer door. Building common spaces include the ground floor vestibule, elevator and mail lobby; residence hallways; two egress stairwells; a ninth floor rooftop terrace with pre-cast concrete tile decking; and the below-grade parking garage, garage elevator lobby, and resident-use storage room.

25. Costs related to the development's architectural systems total $1,298,795 or $12,988 per % B.I. in inflated dollars.

26. Exterior common entry, stairwell egress, and service doors were all in good observable condition with no operating issues noted during the assessment. Future replacements are not anticipated during the twenty-year timeframe of this plan, and all doors should continue to be monitored, maintained, and painted as-needed from operating accounts going forward.

27. Due to the appearance of localized surface spider-webbing, spot chipping, and overall discoloration of the GFRC panels, cornices, and pilasters, an engineering review of the GFRC cladding was recently conducted by Simpson, Gumpertz & Heger (SGH) of Waltham, MA. The conclusion reached was that the GFRC surface was breaking down, with certain further deterioration to continue over time. The proposed solution is to seal the entire GFRC surface as soon as possible, in addition to replacing all joint caulk (as discussed below). Costs per the SGH proposal to seal all GFRC surfaces are shown in Year 1; and a future re-sealing is shown in Year 16, based on a fifteen-year expected useful life for the surface sealant.
28. From available vantage points the face brick and cast stone lintels and sills appeared to be in good observable condition overall, with no visible significant mortar deterioration, cracking, or damaged/cracked bricks, lintels, or sills noted. Future allowances for as-needed localized re-pointing and crack, brick, lintel, and sill repairs are shown in Year 16.
29. The caulking at all GFRC panel joints, window frame joints, control joints, and joints between dissimilar materials is reportedly original to the 2002 construction and has reached its expected useful life of fifteen years. Splintering and cohesion failure is evident at all caulking that is visible from the ground. The above mentioned SGH engineering review also confirmed the need to replace all joint caulk in order to provide additional necessary protection to the GFRC cladding. Costs to remove and replace all joint caulk are shown in Year 1, with a future replacement shown in Year 16.
30. No issues related to the building's window frames were observed or reported during the assessment, and complete frame replacement is not anticipated during the timeframe of this plan (based on a typical expected useful service life of thirty-five years.
31. The painted FRP balustrades and railings all appeared to be in good condition with no failing, chipped, or peeling paint noted. Future painting costs are shown in Year 6.

32. No active roof leakage was reported during the assessment, and no major ponding was observed. Replacement of the TPO membranes over the main structure 9th floor roof, the 8th floor extension roof (holding the generator, chiller, and common terrace), and the elevator machine room penthouse roof is shown in Year 11, after an expected useful service life of twenty-five years.
33. The spring-hinged metal roof hatch providing access to the upper roof was in good operational condition with no corrosion issues noted. Future replacement is shown in Year 16, after thirty years of use.

Interior

34. All residence floor common hallways feature painted drywall walls and acoustic tile ceilings in good observable condition. Future hallway re-painting needs are shown in Years 5 and 15. As-needed spot ceiling tile replacement is handled as an operating concern.
35. The resident floor common hallway carpet was reportedly replaced approximately three years ago and remains in generally good condition. Future hallway carpet replacements are shown in Years 7 and 17 based on a ten-year expected useful service life.
36. The two limited-use egress stairwells feature painted concrete walls, ceilings, stair treads, and landings, with painted metal stringers, risers, and railings; all in good observable condition with only minor age-related tread and landing paint wear noted. Future painting of all stairwell surfaces is shown in Year 11.
37. The ground floor vestibule/lobby, and garage lobby feature a mix of painted drywall and plate glass walls, painted drywall and acoustic tile ceilings, and polished granite floors throughout; all in good observable condition. Future painting needs in these areas is shown in Years 5 and 15.
38. The lobby mail area features two recessed aluminum mailbox cluster panels surrounded by decorative polished granite wall panels in good observable condition. Future replacement of the mailbox cluster panels is shown in Year 16, after thirty years of use.

Parking Garage

39. The reinforced poured concrete walls, floors, and ceiling are in good observable condition with no visible significant cracking or concrete surface deterioration noted. Future allowances for possible as-needed concrete surface repairs and crack-filling are shown in Years 6 and 16.

40. The garage floor surface membrane is reportedly original to the 2002 construction with age and remains in generally good condition throughout. Future costs to apply an elastomeric traffic-bearing membrane and re-stripe the parking stalls are shown in Year 10.

41. The parking garage features a double-basin sand/oil separator system with dual separator pumps and Weil Model 8151 duplex pump control panel; designed to keep sand, oil, and other contaminants from entering the public sewer system. Contaminant removal and pump replacement was reportedly last performed in 2014. Future costs to remove the separated contaminants and replace both pumps and separators are shown in Years 8 and 18, based on a typical ten-year cycle for this work. Future replacement of the pump control panel is shown in Year 6.

42. A Greystone CMD series carbon monoxide detector monitors the CO level in the garage and activates a wall-mounted exhaust fan when an established CO level is detected. Future replacement of the CO detector is shown in Year 6. Future replacement of the exhaust fan is shown in Year 16.

43. Garage heat is provided by a 100,000-BTU Reznor FT100 ceiling-mounted, natural gas-fired, horizontal unit heater. Future replacement of this unit is shown in Year 11, after twenty-five years of use.

44. The polystyrene insulated steel segmented-panel overhead garage door was newly replaced in 2014 and remains in good observable condition with no reported operating issues. A future replacement is shown in Year 13.

45. The LiftMaster wall-mounted power garage door opener was installed in 2012 due to complications with the original ceiling-mounted unit. The wall-mounted unit appears to be working well, and future in-kind replacement is shown in Years 6 and 16, based on a ten-year expected useful service life.

Additional Notes:

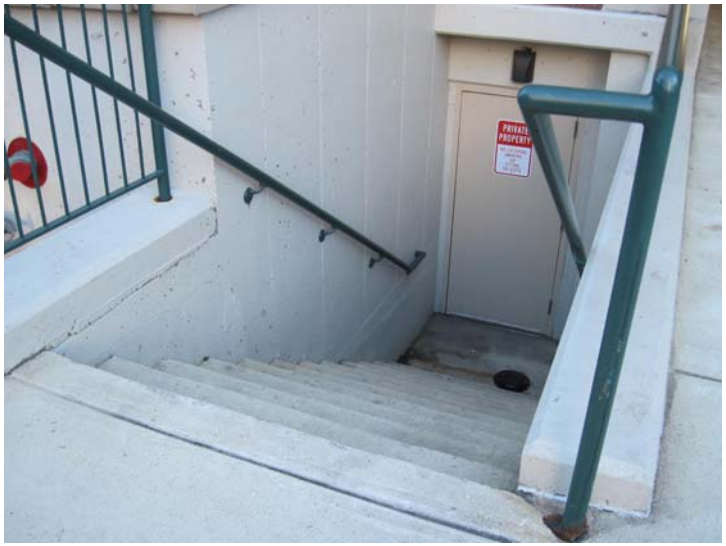
1. The Physical Assessment of the property was conducted on January 6th, 2016. Additional information was provided to ON-SITE INSIGHT by site staff and others. OSI was represented on this assignment by Steve Ninos. We would like to thank site staff for their assistance.

2. Regular updates of this plan are recommended to ensure careful monitoring of major building systems and to adjust the program to accommodate unanticipated circumstances surrounding the buildings, operations, and/or occupants.

3. This report is delivered subject to the conditions on Appendix A, *Statement of Delivery*.

Limited site elements include this concrete walkway leading from the front Massachusetts Ave elevation to the rear elevation and public alley.

View of the rear elevation concrete walkway, steps, ramp, and painted metal railing.



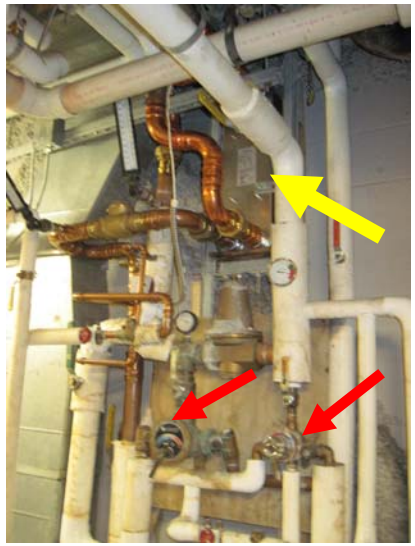
View of the rear elevation concrete steps and service door leading to the garage lobby, fire pump, electrical switchgear, and storage rooms.

View of the rear elevation concrete walkway and parking garage entrance apron adjacent to Public Alley #904.

This HydroTherm Inferno Modular AG gas-fired hydronic boiler array (2,100 MBH input) serves the building resident unit heating needs via a 2-pipe system and unit-level vertical fan coil units (Whalen Units).

View of the HydroTherm boiler staging control panel (left) and HeatTimer outdoor temperature reset control (right).

The main loop water is circulated by these Baldor 10-horsepower pumps. The primary pump runs continuously, and the backup pump is used only in the event that the primary pump fails.



Building domestic hot water is produced by passing the boiler water through this Alfa Laval brazed plate heat exchanger (yellow). The two thermostatic mixing valves (red) temper the DHW to a safe-use temperature.

The domestic hot water is circulated by these Baldor 1.5-horsepower pumps. The primary pump runs continuously, and the backup pump is used only in the event that the primary pump fails.

During the cooling months, the Trane 60-ton air-cooled liquid chiller removes heat extracted from the residences into the building loop via the fan coil units. The cooled building loop then cycles back through the fan coil units to extract more heat.

View of the original International Dynetics 5-hp shoot-fed horizontal hydraulic trash compactor with two cubic yard container (replaced 2010).

The compactor is operated by this Baldor 5-horsepower hydraulic pump.

View of the building fire suppression system with 40-hp Lincoln electric AC motor, 1.5-hp jockey pump, and backflow preventer (arrow).

View of the Metron fire pump automatic transfer switch (left) and controller (right)

A Reznor makeup air unit (MAU) with 300-MBH gas heating unit and 22.5-ton electric packaged DX cooling unit provides fresh heated and conditioned air to the hallways and lobby.

Several mushroom type rooftop powered fans serve the exhaust needs of the entry vestibule, trash room, and residence bathrooms, kitchens, and dryers.

Three box-type stairwell and vestibule pressurization fans are activated by the fire alarm control panel during a smoke event to pressurize the stairwells and prevent smoke from entering the egress routes.

The building features an Eclipse centrifugal hermetic natural gas pressure booster system located at the 9th floor common terrace storage room.

View of the Cutler Hammer building main disconnect panel

All residential units are individually metered for electricity usage

The rooftop Caterpillar 150 kW standby generator powers key building systems (elevator, fire alarm, lighting, exhaust fans) during a power outage.

An EnerGenius generator engine-start battery charger located in the rooftop boiler room maintains the charge in the batteries that start the generator. An integrated battery fault alarm system detects battery problems.

The ASCO 7000 series generator transfer switch is located in the adjacent rooftop boiler room.

View of the Edwards EST2 fire alarm control panel with integrated command center, located in the entrance vestibule closet.

The alarm system also includes this smoke control panel which operates the stairwell pressurization and exhaust fans

The wall-mounted phone-based entry intercom system provides remote controlled access into the building.

This Honeywell Pro-Watch 6000 secure entry access control system provides magnetic key-fob resident-only access to the building.

The building features a security system with statically placed interior and exterior mounted surveillance cameras.

View of the two 20-horsepower elevator overhead traction machines located in the rooftop elevator machine room penthouse.

View of the elevator finishes.

High-gloss laminated particleboard panels with stainless steel trim and carpeted floors.

Both elevators feature solid state controls with Magnetek HPV-900 AC drives (arrow).

View of the front (east) elevation showing the glass fiber reinforced concrete (GFRC) cladding (left) and face brick cladding (right).

The north elevation is limited to the top four floors due to a shared wall at floors 1 through 5.

View of the rear (west) elevation.

Close-up of localized spider-webbing and general overall surface deterioration of the GFRC cladding.

(Viewed from front Mass Ave sidewalk looking at lower left corner of front building elevation)

The main building entrance is located in the side-elevation breezeway and features a Craftsman style double-leaf set of aluminum-framed glass panel doors.

The aging window, door, GFRC panel, and control joint caulk is showing signs of splintering and cohesion failure; in need of replacement. (Two views of front elevation ground floor commercial unit window frame caulk)

View of the 9th Floor rooftop common-use terrace with pre-cast concrete tile decking.

All terraces and balconies feature durable weather-resistant painted fiberglass reinforced plastic (FRP) railings and balustrades.

All roof surfaces feature mechanically fastened thermoplastic polyolefin (TPO) roofing systems.

View of the lower roof TPO membrane located at the generator/chiller area outside of the 9th Floor mechanical room.

The elevator machine room penthouse features a durable standing seam metal cladding with galvanized steel access stairs.

The roof is accessed via a metal spring-hinged roof access hatch located in the south stairwell.

View of typical hallway finishes at floors 2 through 8; painted drywall walls, acoustic tile ceiling, and carpeted floors.

The 9th floor features plate glass windows looking out to the common use rooftop terrace.

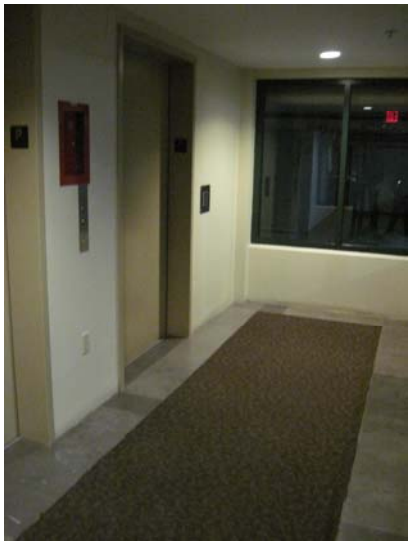
Each hallway feature a trash chute located in a closet at the north end of the hallway.

Both stairwells feature poured concrete treads with metal stringers, risers, and railings, and (???)

View of the entrance/elevator lobby finishes.

Painted drywall walls and cove ceiling with granite tile floors.

The mail lobby features an acoustic tile ceiling and recessed aluminum mailbox panels.



View of the garage elevator lobby finishes.
Painted wall and ceiling surfaces, granite tile floor.

View of the sub-grade parking garage with ageing elastomeric traffic-bearing membrane

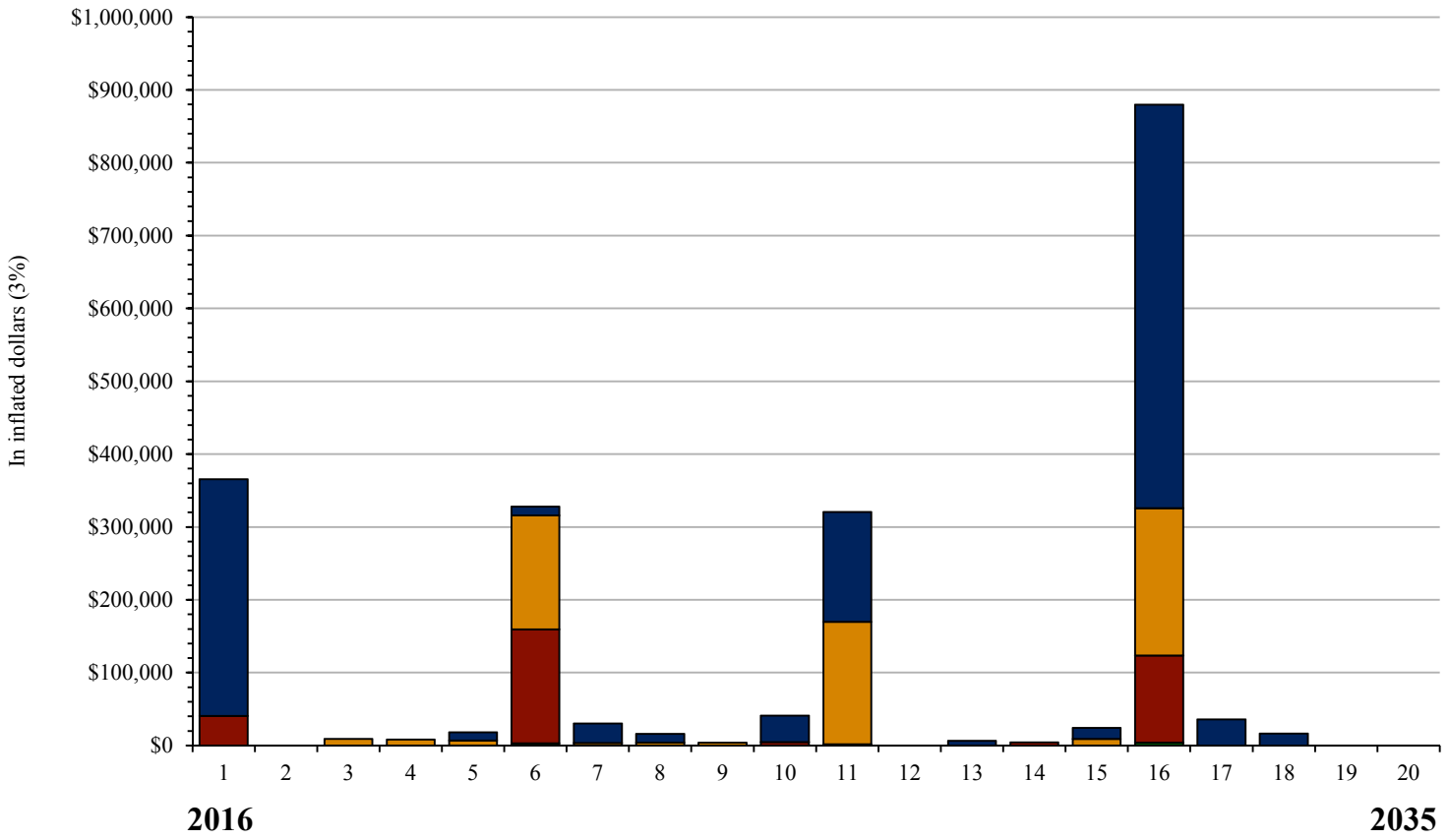
The garage features a double basin sand/oil separator system with dual 5-hp pumps and Weill 8151 duplex pump control panel designed to keep oil, sand, and other contaminants from entering the public sewer system.

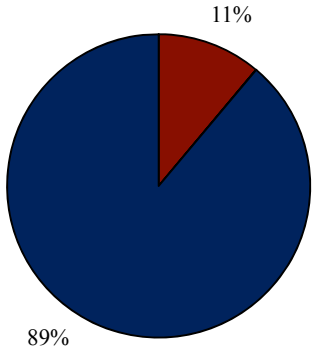
A wall-mounted Greystone carbon monoxide monitor activates the exhaust fan if a set level of CO emissions are detected.

View of the CO detector and FACP controlled wall-mounted garage exhaust fan.

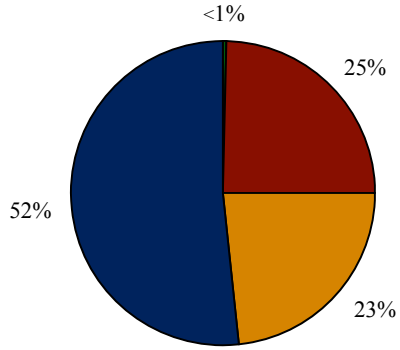
The parking garage is heated by two 100,000 BTU ceiling mounted Reznor FT100 natural gas fired horizontal unit heaters.

View of the newly replaced parking garage overhead door with wall-mounted LiftMaster power door opener (arrow).





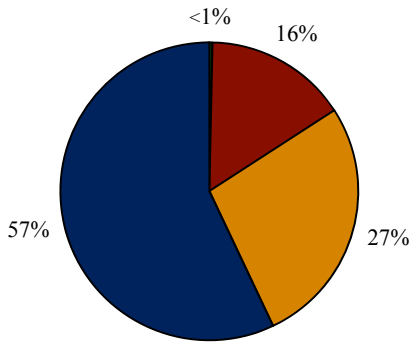
Year One Distribution



Ten Year Distribution

Total Costs by Building System (inflated dollars)

	In Year 1	In Years 1-10	In Years 1-20
Site Systems		$2,984 or $30/%B.I.	$6,994 or $70/%B.I.
Mechanical Room	$40,635 or $406/%B.I.	$201,704 or $2,017/%B.I.	$327,184 or $3,272/%B.I.
Building Mech. & Elec.		$191,500 or $1,915/%B.I.	$571,101 or $5,711/%B.I.
Building Architectural	$325,000 or $3,250/%B.I.	$423,441 or $4,234/%B.I.	$1,202,238 or $12,022/%B.I.
In inflated dollars:	$365,635 or $3,656/%B.I.	$819,628 or $8,196/%B.I.	$2,107,517 or $21,075/%B.I.
In current dollars:	$365,635 or $3,656/%B.I.	$753,113 or $7,531/%B.I.	**$1,612,272 or $16,123/%B.I.**



Twenty Year Distribution

Capital Needs Summary

Carillon Condominium

Boston, MA

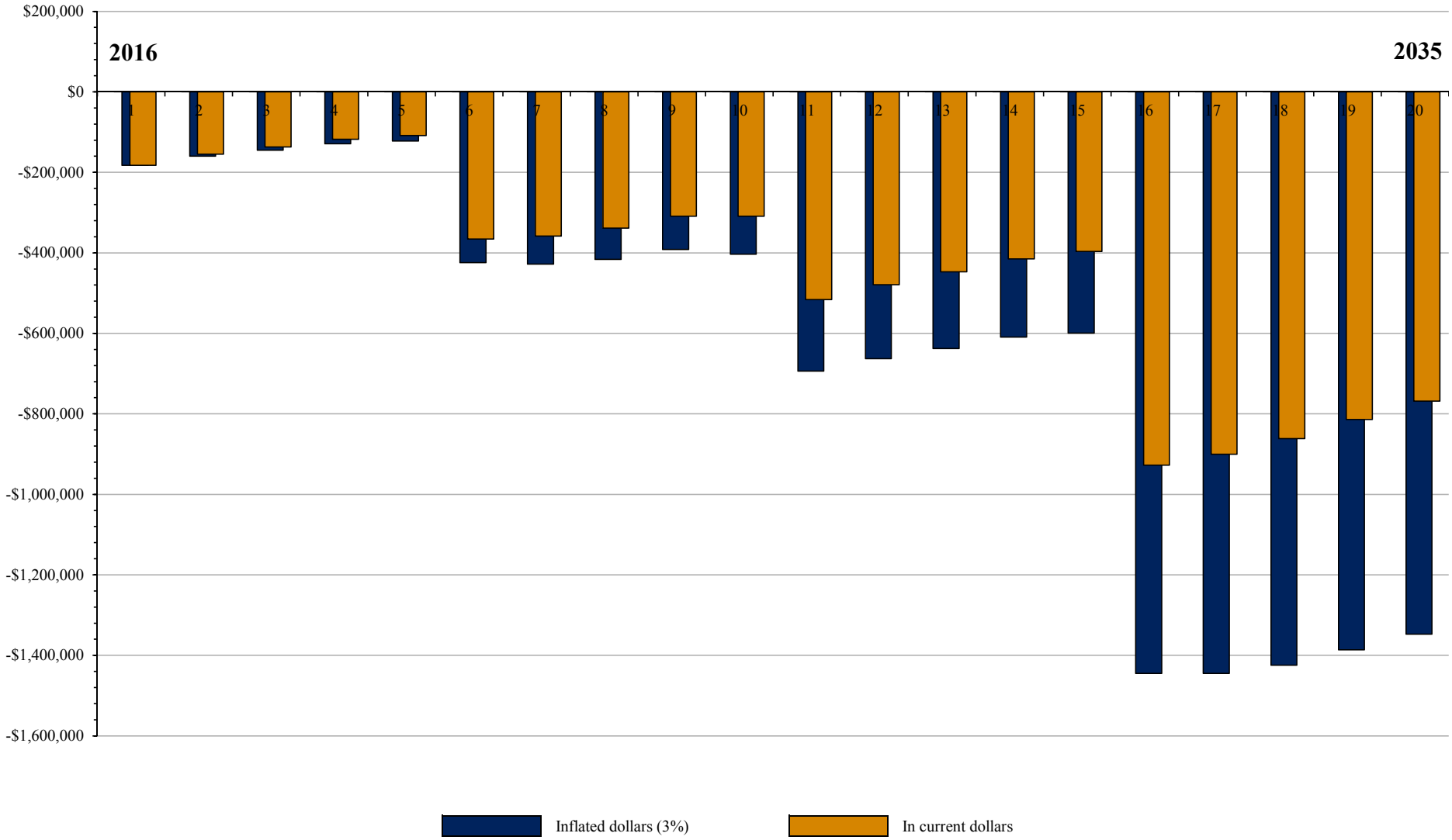
OSI Ref: **16003**
Property Age: **14 Years**
Financing: **Condominium**

Number of Buildings: **1**
Total Number of Units: **31**

	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	2025 Year 10
Site Systems										
Surface	$0	$0	$0	$0	$0	$2,984	$0	$0	$0	$0
Site Distribution Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Site Sub-Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,984**	**$0**	**$0**	**$0**	**$0**
Mechanical Room										
Boilers	$0	$0	$0	$0	$0	$156,502	$0	$0	$0	$0
Boiler Room Systems	$40,635	$0	$0	$0	$0	$0	$0	$0	$0	$4,567
Mechanical Sub-Total	**$40,635**	**$0**	**$0**	**$0**	**$0**	**$156,502**	**$0**	**$0**	**$0**	**$4,567**
Building Mech. & Electrical										
Mechanical	$0	$0	$0	$8,195	$6,753	$44,052	$3,582	$3,690	$3,800	$0
Electrical	$0	$0	$9,018	$0	$0	$112,409	$0	$0	$0	$0
Elevators	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mechanical & Electrical Sub-Total	**$0**	**$0**	**$9,018**	**$8,195**	**$6,753**	**$156,461**	**$3,582**	**$3,690**	**$3,800**	**$0**
Building Architectural										
Structural and Exterior	$325,000	$0	$0	$0	$0	$4,396	$0	$0	$0	$0
Roof Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halls, Stairs, Lobbies	$0	$0	$0	$0	$11,355	$0	$26,723	$0	$0	$0
Parking Garage	$0	$0	$0	$0	$0	$7,382	$0	$12,299	$0	$36,286
Building Architectural Sub-Total	**$325,000**	**$0**	**$0**	**$0**	**$11,355**	**$11,778**	**$26,723**	**$12,299**	**$0**	**$36,286**
Total Capital Costs	**$365,635**	**$0**	**$9,018**	**$8,195**	**$18,108**	**$327,726**	**$30,305**	**$15,988**	**$3,800**	**$40,852**

Costs on these two pages are aggregated by category from the Capital Needs worksheets which follow. Total capital costs on these two pages are carried forward to line F of the Replacement Reserve Analysis(es) that follow.

2026 Year 11	2027 Year 12	2028 Year 13	2029 Year 14	2030 Year 15	2031 Year 16	2032 Year 17	2033 Year 18	2034 Year 19	2035 Year 20	
										Site Systems
$0	$0	$0	$0	$0	$4,010	$0	$0	$0	$0	Surface
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	Site Distribution Systems
$0	**$0**	**$0**	**$0**	**$0**	**$4,010**	**$0**	**$0**	**$0**	**$0**	Site Sub-Total
										Mechanical Room
$1,680	$0	$0	$0	$0	$0	$0	$0	$0	$0	Boilers
$0	$0	$0	$4,406	$0	$119,395	$0	$0	$0	$0	Boiler Room Systems
$1,680	**$0**	**$0**	**$4,406**	**$0**	**$119,395**	**$0**	**$0**	**$0**	**$0**	Mechanical Sub-Total
										Building Mech. & Electrical
$23,519	$0	$0	$0	$9,076	$23,370	$0	$0	$0	$0	Mechanical
$10,079	$0	$0	$0	$0	$0	$0	$0	$0	$0	Electrical
$134,392	$0	$0	$0	$0	$179,166	$0	$0	$0	$0	Elevators
$167,990	**$0**	**$0**	**$0**	**$9,076**	**$202,536**	**$0**	**$0**	**$0**	**$0**	Mechanical & Electrical Sub-Total
										Building Architectural
$0	$0	$0	$0	$0	$541,777	$0	$0	$0	$0	Structural and Exterior
$128,646	$0	$0	$0	$0	$1,558	$0	$0	$0	$0	Roof Systems
$18,199	$0	$0	$0	$15,261	$2,804	$35,913	$0	$0	$0	Halls, Stairs, Lobbies
$4,032	$0	$6,416	$0	$0	$7,662	$0	$16,528	$0	$0	Parking Garage
$150,877	**$0**	**$6,416**	**$0**	**$15,261**	**$553,801**	**$35,913**	**$16,528**	**$0**	**$0**	Building Architectural Sub-Total
$320,547	**$0**	**$6,416**	**$4,406**	**$24,336**	**$879,742**	**$35,913**	**$16,528**	**$0**	**$0**	**Total Capital Costs**



Reported Reserve Balance as of 01/14/2016 :	**$160,200**	At the end of Year One, Reserve Balances are projected to be:	**($182,309)**
Estimated Reserve Balance as of 01/01/2016 :	**$160,200**	At the end of Year 20, Reserve Balances are projected to be:	**($1,347,089)**
Current annual contributions to reserves :	**$22,783**	***Unmet needs projected in all years of the plan***	

1. Current replacement reserve balance of $160,200 as of January 1, 2016.
2. Current annual contributions of $22,783 ($228 per % of B.I) indexed at 3% per year starting in Year 3.
3. Unmet needs seen in all years of the plan.

Starting replacement reserve balance: **$160,200** or $1,602/%B.I.

Contributions to Reserves: **$22,783** or $228/%B.I.

Reserve Funding In Year 1

Replacement Reserve (RR) analysis starts here with the starting RR balance reported, or imputed, to have been on hand at the start of Year 1, and current annual RR contributions. The projections below reflect Starting RR Balance (Line A), plus the Total Annual RR Contributions (Line D) and Interest Earnings on RR (Line E), minus Total Annual Capital Costs (Line F), taken from the CNS above. This is expressed arithmetically as (A+D+E)-F=G, Year-End Balances, then carries forward to Line A of the following Year.

		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	2025 Year 10
(A)	**Reserve Balances**										
	Starting Replacement Reserves	$160,200	($182,309)	($159,503)	($145,031)	($129,032)	($122,219)	($424,046)	($427,675)	($416,188)	($391,687)
(B)	**Annual Funding**										
	Contributions Indexed at 3% Per Year Starting in Year 3	$228	$228	$235	$242	$249	$256	$264	$272	$280	$289
(C)	Additional Contributions										
		228	228	235	242	249	256	264	272	280	289
(D)	Total Annual Reserve Funding	$22,783	$22,783	$23,466	$24,170	$24,896	$25,642	$26,412	$27,204	$28,020	$28,861
(E)	Interest on Reserves at 0.2% Years 1-5, 2% Years 6-20	$343	$23	$23	$24	$25	$256	$264	$272	$280	$289
	Total Funds Available	**$183,326**	**($159,503)**	**($136,013)**	**($120,836)**	**($104,111)**	**($96,320)**	**($397,370)**	**($400,199)**	**($387,887)**	**($362,538)**
(F)	Total Capital Cost	$365,635	$0	$9,018	$8,195	$18,108	$327,726	$30,305	$15,988	$3,800	$40,852
(G)	**Reserve Balances**	**($182,309)**	**($159,503)**	**($145,031)**	**($129,032)**	**($122,219)**	**($424,046)**	**($427,675)**	**($416,188)**	**($391,687)**	**($403,391)**
	Outside Capital:										
	Adjusted Reserve Balances	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Notes:

1. **Current replacement reserve balance of $160,200 as of January 1, 2016.**
2. **Current annual contributions of $22,783 ($228 per % of B.I) indexed at 3% per year starting in Year 3.**
3. **Unmet needs seen in all years of the plan.**

*ANNUAL RR CONTRIBUTIONS are shown being indexed for inflation at the % specified above except when Additional Contributions are called for.

Line C, Additional Contributions allows for material adjustments in annual RR funding that would enable the property to meet all projected needs out of reserves through Year 20.

**INTEREST EARNINGS ON RESERVES are calculated on 100% of starting balances and on 50% of the total annual contribution for the year at the rate shown

Reserve Funding In Year 20

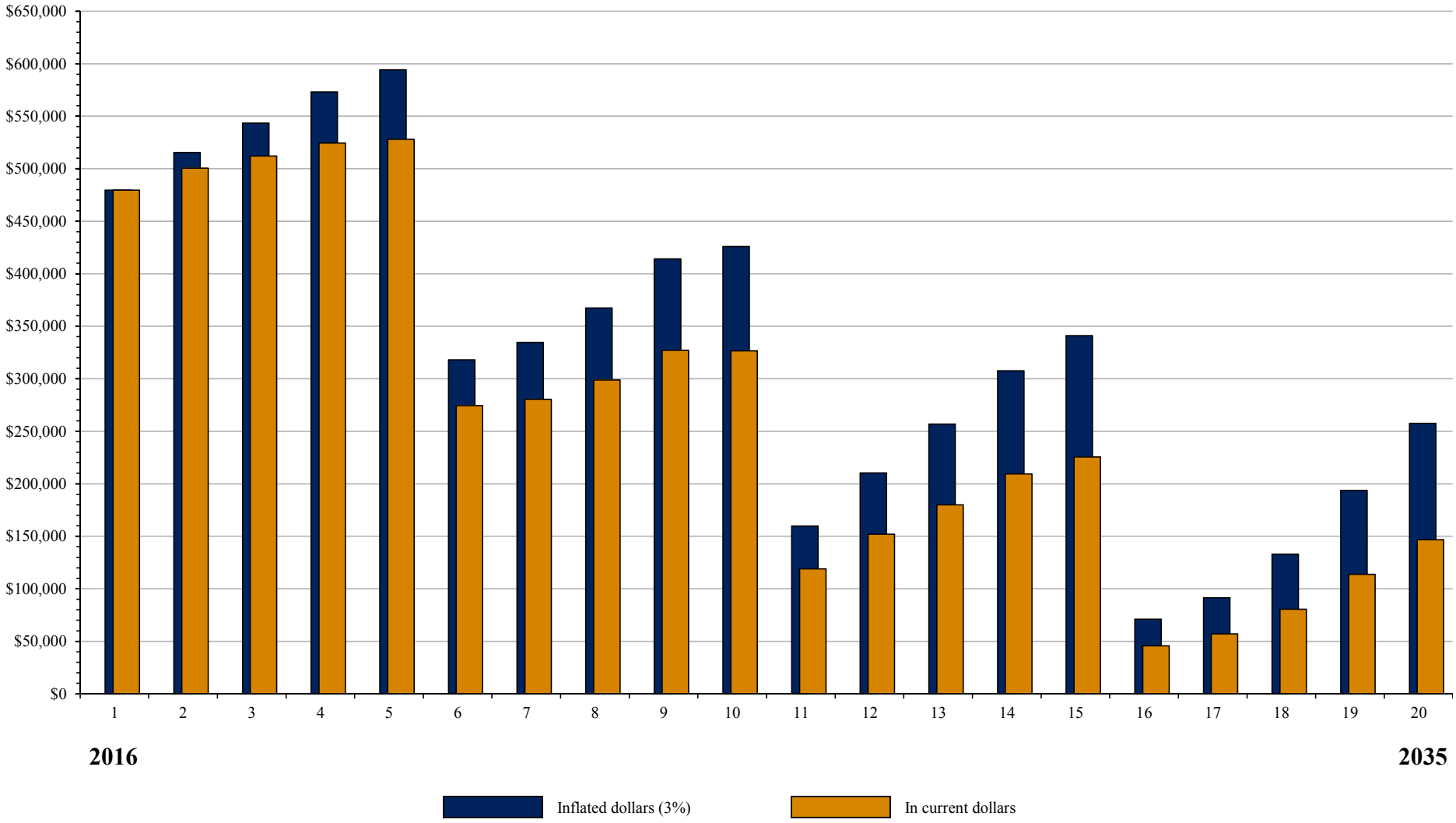
Projected replacement reserve balance is **($1,347,089)**

This is($13,471)per % B.I. in inflated dollars or #VALUE!

Projected annual funding to reserves is **$38,787**

This is $388 per % B.I. in inflated dollars or #VALUE!

2026 Year 11	**2027** Year 12	**2028** Year 13	**2029** Year 14	**2030** Year 15	**2031** Year 16	**2032** Year 17	**2033** Year 18	**2034** Year 19	**2035** Year 20	
										Reserve Balances **(A)**
($403,391)	($693,913)	($662,989)	($637,552)	($609,150)	($599,694)	($1,444,630)	($1,444,694)	($1,424,296)	($1,386,263)	Starting Replacement Reserves
										Annual Funding **(B)**
$297	$306	$315	$325	$335	$345	$355	$366	$377	$388	Contributions Indexed at 3% Per Year Starting in Year 3
										Additional Contributions **(C)**
297	306	315	325	335	345	355	366	377	388	
$29,727	$30,618	$31,537	$32,483	$33,458	$34,461	$35,495	$36,560	$37,657	$38,787	Total Annual Reserve Funding **(D)**
$297	$306	$315	$325	$335	$345	$355	$366	$377	$388	Interest on Reserves at 0.2% Years 1-5, 2% Years 6-20 **(E)**
($373,367)	**($662,989)**	**($631,136)**	**($604,744)**	**($575,358)**	**($564,888)**	**($1,408,780)**	**($1,407,768)**	**($1,386,263)**	**($1,347,089)**	**Total Funds Available**
$320,547	$0	$6,416	$4,406	$24,336	$879,742	$35,913	$16,528	$0	$0	Total Capital Cost **(F)**
($693,913)	**($662,989)**	**($637,552)**	**($609,150)**	**($599,694)**	**($1,444,630)**	**($1,444,694)**	**($1,424,296)**	**($1,386,263)**	**($1,347,089)**	**Reserve Balances** **(G)**
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	



Reported Reserve Balance as of 01/14/2016 :	**$160,200**	At the end of Year One, Reserve Balances are projected to be:	**$479,703**
Estimated Reserve Balance as of 01/01/2016 :	**$160,200**	At the end of Year 20, Reserve Balances are projected to be:	**$257,504**
Current annual contributions to reserves :	**$22,783**	***All projected capital needs are met throughout the plan***	

1. Current replacement reserve balance of $160,200 as of January 1, 2016.
2. Current annual contributions of $22,783 ($228 per % of B.I) indexed at 3% per year starting in Year 3.
3. Outside capital infusion of $650,000 ($6,500 per % of B.I.) in Year 1. Increase annual contributions by $120 per % of B.I. ($10 per % of B.I. per month) in Year 1.
4. Outside capital infusion of $550,000 ($5,500 per % of B.I.) in Year 16 to meet long term needs.

Reserve Funding In Year 1

Start replacement reserve balance: **$160,200** or $1,602/%B.I.

Contributions to Reserves: **$22,783** or $228/%B.I.

Replacement Reserve (RR) analysis starts here with the starting RR balance reported, or imputed, to have been on hand at the start of Year 1, and current annual RR contributions. The projections below reflect Starting RR Balance (Line A), plus the Total Annual RR Contributions (Line D) and Interest Earnings on RR (Line E), minus Total Annual Capital Costs (Line F), taken from the CNS above. This is expressed arithmetically as (A+D+E)-F=G, Year-End Balances, then carries forward to Line A of the following Year.

		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	2025 Year 10
(A)	**Reserve Balances**										
	Starting Replacement Reserves	$160,200	$479,703	$515,480	$543,356	$573,185	$594,270	$317,970	$334,750	$367,405	$414,159
(B)	**Annual Funding**										
	Contributions Indexed at 3% Per Year Starting in Year 3	$228	$348	$358	$369	$380	$391	$403	$415	$428	$441
(C)	Additional Contributions	**$120**									
		348	348	358	369	380	391	403	415	428	441
(D)	Total Annual Reserve Funding	$34,783	$34,783	$35,826	$36,901	$38,008	$39,149	$40,323	$41,533	$42,779	$44,062
(E)	Interest on Reserves at 0.2% Years 1-5, 2% Years 6-20	$355	$994	$1,067	$1,124	$1,184	$12,277	$6,763	$7,110	$7,776	$8,724
	Total Funds Available	**$195,338**	**$515,480**	**$552,374**	**$581,381**	**$612,378**	**$645,695**	**$365,055**	**$383,393**	**$417,959**	**$466,945**
(F)	Total Capital Cost	$365,635	$0	$9,018	$8,195	$18,108	$327,726	$30,305	$15,988	$3,800	$40,852
(G)	**Reserve Balances**	**($170,297)**	**$515,480**	**$543,356**	**$573,185**	**$594,270**	**$317,970**	**$334,750**	**$367,405**	**$414,159**	**$426,093**
	Outside Capital:	**$650,000**									
	Adjusted Reserve Balances	$479,703	$0	$0	$0	$0	$0	$0	$0	$0	$0

Notes:

1. **Current replacement reserve balance of $160,200 as of January 1, 2016.**
2. **Current annual contributions of $22,783 ($228 per % of B.I) indexed at 3% per year starting in Year 3.**
3. **Outside capital infusion of $650,000 ($6,500 per % of B.I.) in Year 1. Increase annual contributions by $120 per % of B.I. ($10 per % of B.I. per month) in Year 1.**
4. **Outside capital infusion of $550,000 ($5,500 per % of B.I.) in Year 16 to meet long term needs.**

*ANNUAL RR CONTRIBUTIONS are shown being indexed for inflation at the % specified above except when Additional Contributions are called for.

Line C, Additional Contributions allows for material adjustments in annual RR funding that would enable the property to meet all projected needs out of reserves through Year 20.

**INTEREST EARNINGS ON RESERVES are calculated on 100% of starting balances and on 50% of the total annual contribution for the year at the rate shown

Reserve Funding In Year 20

Projected replacement reserve balance is **$257,504** This is $2,575 per % B.I. in inflated dollars or #VALUE!

Projected annual funding to reserves is **$59,216** This is $592 per % B.I. in inflated dollars or #VALUE!

2026 Year 11	2027 Year 12	2028 Year 13	2029 Year 14	2030 Year 15	2031 Year 16	2032 Year 17	2033 Year 18	2034 Year 19	2035 Year 20	
										Reserve Balances **(A)**
$426,093	$159,905	$210,316	$256,736	$307,553	$340,959	$71,174	$91,417	$133,092	$193,820	Starting Replacement Reserves
										Annual Funding **(B)**
$454	$467	$481	$496	$511	$526	$542	$558	$575	$592	Contributions Indexed at 3% Per Year Starting in Year 3
										Additional Contributions **(C)**
454	467	481	496	511	526	542	558	575	592	
$45,384	$46,745	$48,148	$49,592	$51,080	$52,612	$54,191	$55,817	$57,491	$59,216	Total Annual Reserve Funding **(D)**
$8,976	$3,666	$4,688	$5,631	$6,662	$7,345	$1,965	$2,387	$3,237	$4,469	Interest on Reserves at 0.2% Years 1-5, 2% Years 6-30 **(E)**
$480,452	**$210,316**	**$263,152**	**$311,959**	**$365,295**	**$400,917**	**$127,331**	**$149,620**	**$193,820**	**$257,504**	**Total Funds Available**
$320,547	$0	$6,416	$4,406	$24,336	$879,742	$35,913	$16,528	$0	$0	Total Capital Cost **(F)**
$159,905	**$210,316**	**$256,736**	**$307,553**	**$340,959**	**($478,826)**	**$91,417**	**$133,092**	**$193,820**	**$257,504**	**Reserve Balances** **(G)**
					$550,000					Outside Capital
$0	$0	$0	$0	$0	$71,174	$0	$0	$0	$0	Additional Capital

Carillon Condominium

SITE SYSTEMS

Replacement Items	Quantity		Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years) (Expected Useful life)	Replacement Schedule Year of action AND duration of project	Notes
SURFACE								
Roadways		sf						
Parking		sf						
Crack-Fill and Sealcoat		sf						
Sidewalks and Ramps	2,145 429	total sf sf	6.00	$2,574	14	50	6 /16 in 1 Year	Concrete walkway at south end-elevation breezeway and rear elevation sidewalk ramp, steps, garage entry pad. Good cond. Future as-needed repairs allowance.
Retaining Walls	190	sf		$0	14	40		Limited concrete retaining wall at rear elevation exterior stairs to below grade garage egress door. No observed problems. Future repairs incl. with Sidewalks.
Stairs	70	sf		$0	14	15		Concrete stairs to below-grade garage egress door. Good observable condition. Future as-needed repairs included with Sidewalks and Ramps (above).
Stair and Ramp Railing	204	lf		$0	14	50		Painted steel tube rear elevation exterior stair and ramp railing. Generally good conditions. Some spot worn paint, scratches. Maintain, paint from Operating.
Dumpsters & Enclosures		lf						
Play Equipment		ea						
Site Lighting		ea						
Site Lighting		ea						
Landscaping		ls						
Miscellaneous		ea						
SITE DISTRIBUTION SYSTEMS								
Gas Lines	1	ls		$0	14	60		Utility provided service No observed or reported problems. Monitor
Sanitary Lines	1	ls		$0	14	60		Municipally provided service. No observed or reported problems. Monitor
Cold Water Lines	1	ls		$0	14	60		Municipally provided service. No observed or reported problems. Monitor
Electric Distribution	1	ls		$0	14	60		Utility provided service No observed or reported problems. Monitor
Sanitary Leach fields		lf						

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
SURFACE																				
Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Parking	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Crack-Fill and Sealcoat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sidewalks and Ramps	$0	$0	$0	$0	$0	$2,984	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,010	$0	$0	$0	$0
Retaining Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stair and Ramp Railing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Dumpsters & Enclosures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Play Equipment	$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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Landscaping	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SITE DISTRIBUTION SYSTEMS																				
Gas Lines	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Lines	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cold Water Lines	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Electric Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Leach fields	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Carillon Condominium

MECHANICAL ROOM

(Expected Useful life)

Replacement Items	Quantity		Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years)	Replacement Schedule Year of action AND duration of project	Notes
BOILERS								
Boilers	1	ls	117600.00	$117,600	14	20	6 in 1 Year	Hydrotherm modulating nat. gas-fired hydronic boiler array (2100 MBH input 80% AFUE). Costs to replace with high-eff condensing boilers (≥95% AFUE).
Boiler Controls	1	ea		$0	14	20		Hydrotherm Model S boiler staging control panel. Recommended high-efficiency replacement boilers will have integrated controls. No replacement shown.
Controls		ea						
Building Loop Pumps	2	ea	5850.00	$11,700	14	20	6 in 1 Year	Baldor Super E 10-horsepower in-line building loop pumps. Some flange corrosion noted. No active leaking. Future replacement based on 20-year EUL.
Building Loop Pump Controls	2	ea		$0	14	20		Sprecher & Schuh On/Off control for each pump. No reported problems. Monitor. Future as-needed replacement fron Operating.
Boiler to DHW Pumps	2	ea	2850.00	$5,700	14	20	6 in 1 Year	Baldor Super E 1.5-horsepower in-line boiler to DHW heat exchanger pumps. No observed or reported problems. Future replacement based on 20-year EUL.
Boiler to DHW Pump Controls	2	ea		$0	14	20		Sprecher & Schuh On/Off control for each pump. No reported problems. Monitor. Future as-needed replacement fron Operating.
Generator Battery Charger	1	ea	1250.00	$1,250	14	25	11 in 1 Year	SENS EnerGenius NRG generator engine start battery charger, mounted in boiler room. No reported operating issues. Future replacement based on 20-year EUL.
Boiler Water Pumps		ea						
Chilled Water Pumps		ea						
Flue Exhaust	1	ea		$0	14	25		Galvanized sheet metal flues at both boilers. Good observable condition. No disconnected sections. Monitor. Future replacement incl with boiler replacemer
BOILER ROOM SYSTEMS								
Boiler Room Piping/Valves	1	ls		$0	14	25		No observed or reported leaks, corrosion, or other issues. Monitor and maintain from Operating.
			Costs per Cullen Mechanical, Inc. proposal					
Loop Water Chiller - 2016	1	ea	40635.00	$40,635	14	15	1 in 1 Year	Rooftop Trane 60-ton air-cooled liquid chiller. Costs for 2016 replacement, less $36,000 already paid from 2015 reserves.
Loop Water Chiller - Future	1	ea	76635.00	$76,635	14	20	16 in 1 Year	Rooftop Trane 60-ton air-cooled liquid chiller. Costs for future replacement based on 15-year EUL.
Domestic Hot Water Generation	1	ea	3000.00	$3,000	1	15	14 in 1 Year	Alfa Laval CB110 brazed plate refrigerant heat exchanger creates continuous DHW for the units. Newly replaced in 2015. Future replacement costs.
Boiler to DHW Control	1	ea		$0	14	20		Tac 239W boiler to DHW plate heat exchanger mixing valve control. No reported problems. Replace as-needed from Operating.
DHW Thermostatic Mixing Valves	2	ea	1750.00	$3,500	5	15	10 in 1 Year	Leonard DHW Thermostatic mixing valves. Last rebuilt ~2010. No observed or reported problems. Future costs to rebuild/replace.
Domestic Hot Water Pump	1	ea		$0	14	15		US Motors 1/12-horsepower domestic hot water circulator pump. No observed or reported problems. Replace as-needed from Operating.
Boiler Room Piping Insulation	1	ls		$0	14	25		Good level of insulation. No missing or frayed sections noted. Monitor and maintain from Operating.
Sump Pumps		ea						

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
BOILERS																				
Boilers	$0	$0	$0	$0	$0	$136,331	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Boiler Controls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Controls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building Loop Pumps	$0	$0	$0	$0	$0	$13,564	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building Loop Pump Controls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Boiler to DHW Pumps	$0	$0	$0	$0	$0	$6,608	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Boiler to DHW Pump Controls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Generator Battery Charger	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,680	$0	$0	$0	$0	$0	$0	$0	$0	$0
Boiler Water Pumps	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Chilled Water Pumps	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Flue Exhaust	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BOILER ROOM SYSTEMS																				
Boiler Room Piping/Valves	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loop Water Chiller - 2016	$40,635	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loop Water Chiller - Future	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,395	$0	$0	$0	$0
Domestic Hot Water Generation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,406	$0	$0	$0	$0	$0	$0
Boiler to DHW Control	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DHW Thermostatic Mixing Valves	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,567	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Domestic Hot Water Pump	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Boiler Room Piping Insulation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sump Pumps	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Carillon Condominium

BUILDING MECHANICAL AND ELECTRICAL

(Expected Useful life)

Replacement Items	Quantity	Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years)	Replacement Schedule Year of action AND duration of project	Notes
BUILDING MECHANICAL							
Compactors	1 ea	15000.00	$15,000	14	25	11 in 1 Year	Chute-fed hydraulic forward feed compacter with 5-horsepower Baldor hydraulic pump. No observed or reported problems. Future replacement.
Waste Container	1 ea	6000.00	$6,000	5	10	5 /15 in 1 Year	2-cubic yard rolling containter. Replaced in 2010. Reported hard use by waste removal service and typical 10-year EUL. Costs to replace every 10 years.
Building Fire Suppression	1 ls		$0	14	50		Wet fire suppression system with backflow prevention device and 40-hp fire pump, 1.5-hp jockey pump, and controller. No obsd/reported problems. Monitor.
Fire Pump & Controller	1 ls	7500.00	$7,500	14	50	4 in 1 Year	Lincoln 40-hp electric fire pump with Metron fire pump controller and transfer switch. No reported problems. Future costs to overhaul pump/switch/controller.
Building Heating Distribution	1 ls		$0	14	50		Two-pipe hydronic fan coil system with unit level fan coil units. No observed or reported problems. Monitor.
Dom. Water & Sanitary Waste Dist.	1 ls		$0	14	40		No systemic problems reported or observed. Monitor and maintain from Operating.
Building Gas Distribution	1 ls		$0	14	75		No systemic problems reported or observed. Monitor and maintain from Operating.
Lobby and Hallway HVAC	1 ea	35000.00	$35,000	14	20	6 in 1 Year	Reznor 300-MBH gas heating, 22.5-ton electric packaged DX cooling rooftop makeup-air unit. Heating unit replaced 2015. Future replacement.
Ventilation & Exhaust	16 ea	*Average costs* 750.00	$12,000	14	20	6 over 4 Years	Mushroom and box-type exhaust fans serving residential unit kitchen, bath, and laundry exhaust vents and stairwell pressurization. Future costs for gradual repl.
Natural Gas Booster System	1 ea	15000.00	$15,000	14	30	16 in 1 Year	Eclipse hermetic natural gas booster system. Limited use. No observed or reported issues. Future replacement including control panel based on 30-yr EUL.
Boiler Room/Gas Booster Room Heat	2 ea	750.00	$1,500	14	25	11 in 1 Year	Modine 10,000 BTU horizontal hydronic unit heaters at 9th floor boiler room and gas booster room. No observed or reported problems. Future replacement.
Fire Pump Room Heat	1 ea	1000.00	$1,000	14	25	11 in 1 Year	Chromalox 13,700 BTU electric horizontal blower heater at fire pump room. No observed or reported problems. Future replacement.
BUILDING ELECTRICAL							
Building Power Wiring	1 ls		$0	14	99		Cutler-Hammer switchboard, main disconnect, and distribution panels. All units individually metered for electricity consumption. Monitor.
Emergency Generator	1 ea	8500.00	$8,500	14	35	3 in 1 Year	Caterpillar nat. gas-fired 150 kW standby generator with ASCO 7000 power. manager and transfer switch. Future allow. to overhaul engine & transfer switch.
Emergency Lights	1 ls		$0	14	10		Illuminated exit signs, hallway and stairwell lighting powered by generator. No observed or reported problems. Monitor and maintain from Operating.
Smoke / Fire Detection	1 ls	96965.00	$96,965	14	20	6 in 1 Year	Edwards Systems EST2 control panel with command center, vent/exhaust control panel, elevator recall, and transmitter. Future replacement including peripherals.
Surveillance System	1 ls		$0	14	20		Security surveillance system with interior and exterior mounted cameras. No reported issues. Monitor, maintain, replace components as-needed frm Oper.
Entry Intercom System	1 ls	2500.00	$2,500	14	25	11 in 1 Year	Wall-mounted phone-based digital programmable entry intercom panel . No observed or reported issues. Future replacement costs
Entry Access Control System	1 ls	5000.00	$5,000	14	25	11 in 1 Year	Honeywell Pro-Watch 6000 key fob modular access entry control system. No reported issues. Future replacement costs.
BUILDING ELEVATORS							
Shafts, Cables, Rollers, Governors, etc.	2 ea		$0	14	35		Overhead traction, hoist-type elevators traveling in adjacent shafts. Maintained under terms of a full service contract. Monitor.
Cab Interior Finishes	2 ea	7500.00	$15,000	14	30	16 in 1 Year	High gloss laminate panels, stainless steel trim, aging carpeted flooring. Allowance to refurbish cab interiors & door operators.
Controller/AC Drives/Dispatcher	2 ea	40000.00	$80,000	14	30	16 in 1 Year	Solid state controls with Magnetek HPV-900 AC elevator drives. Future costs to replace AC drives and overhaul controllers and dispatcher.
Machine Room Equipment	2 ea	10000.00	$20,000	14	30	16 in 1 Year	Imperial 20-hp overhead traction machines located in machine room penthouse. No observed or reported problems. Future allowance to overhaul both machines.
Hoistway Door & Car Equipment	2 ea	50000.00	$100,000	14	25	11 in 1 Year	Costs for as-needed hoistway door and car equipment repairs/replacements: gate switch, drive, header, tracks, drive arms, door protection, and related devices.

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
BUILDING MECHANICAL																				
Compactors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,159	$0	$0	$0	$0	$0	$0	$0	$0	$0
Waste Container	$0	$0	$0	$0	$6,753	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,076	$0	$0	$0	$0	$0
Building Fire Suppression	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fire Pump & Controller	$0	$0	$0	$8,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building Heating Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Dom. Water & Sanitary Waste Dist.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building Gas Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Lobby and Hallway HVAC	$0	$0	$0	$0	$0	$40,575	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Ventilation & Exhaust	$0	$0	$0	$0	$0	$3,478	$3,582	$3,690	$3,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Natural Gas Booster System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23,370	$0	$0	$0	$0
Boiler Room/Gas Booster Room Heat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,016	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fire Pump Room Heat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,344	$0	$0	$0	$0	$0	$0	$0	$0	$0
BUILDING ELECTRICAL																				
Building Power Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Emergency Generator	$0	$0	$9,018	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Emergency Lights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Smoke / Fire Detection	$0	$0	$0	$0	$0	$112,409	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Surveillance System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Entry Intercom System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,360	$0	$0	$0	$0	$0	$0	$0	$0	$0
Entry Access Control System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,720	$0	$0	$0	$0	$0	$0	$0	$0	$0
BUILDING ELEVATORS																				
Shafts, Cables, Rollers, Governors, etc.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cab Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23,370	$0	$0	$0	$0
Controller/AC Drives/Dispatcher	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$124,637	$0	$0	$0	$0
Machine Room Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$31,159	$0	$0	$0	$0
Hoistway Door & Car Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$134,392	$0	$0	$0	$0	$0	$0	$0	$0	$0

Carillon Condominium

BUILDING ARCHITECTURE

(Expected Useful life)

Replacement Items	Quantity		Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years)	Replacement Schedule Year of action AND duration of project	Notes
STRUCTURE								
Foundation	348	lf		$0	14	50		Reinforced poured concrete foundation. No observed or reported problems. Monitor.
Framing	1	ls		$0	14	70		Steel framing. No observed or reported problems. Monitor.
Slab		sf						
BUILDING EXTERIOR								
Main Common Doors	1	ea		$0	14	35		Aluminum frame and glass, Craftsman-style double leaf main entry door. Good conditions. Monitor and maintain from Operating.
Terrace and Stairwell Egress Doors	2	ea		$0	14	35		Aluminum-framed full-lite storefront-type north stairwell egress door and rooftop a common terrace door. Good condition. Monitor and maintain from Operating.
Flush Metal Service Doors	9	ea		$0	14	35		Flush metal service doors at rear elevation garage egresses, 9th floor mechanical room and terrace storage rooms, elevator machine room penthouse. Operating.
Storm/Screen Door	1	ea		$0	14	35		Storm/screen door at elevator machine room penthouse. Good conditions. Monitor, maintain, replace as-needed from Operating.
Glass Sliding Doors	9	ea		$0	14	35		Glass sliding doors at all balconies, French balconies, and terraces. Unit owner responsibility. No costs shown.
			Costs per engineering review					
Exterior Walls - GFRC	6,529	sf	44.00	$287,253	14	15	1 /16 in 1 Year	GFRC (Glass fiber reinforced concrete) panels and cornices. Engineering review revealed material deterioration. Costs for recommended complete surface sealing.
	7,582	total sf						
Exterior Walls - Face Brick	758	sf	30.00	$22,746	14	30	16 in 1 Year	Face brick cladding. Good observable condition. Future allowances for as needed localized re-pointing, and brick, crack, lintel, and sill repairs (10%).
Window/Wall Caulk, Control Joints	5,033	lf	7.50	$37,748	14	15	1 /16 in 1 Year	Caulk at window frames, control joints, and between dissimilar materials. Aging, splintering, cohesion failure noted. Costs to remove and replace all.
Exterior Trim - Cast Stone	1,097	sf		$0	14	50		Cast stone fascia, trim, lintels, sills, arches, pilasters, and bases. Good observable conditions. Monitor.
Exterior Metal Trim	1	ls		$0	14	20		Limited painted metal trim, and stairwell exhaust vent grate at front elevation. Some wearing paint at grate. Monitor, maintain, paint as-needed from Operating.
Exterior Ceilings	573	sf		$0	14	20		GFRC (Glass fiber reinforced concrete) ceiling at breezeway. Good observable conditions. Monitor, maintain from Operating.
Window Frames	131	ea		$0	14	35		Aluminum-framed windows with insulating glass units. Mix of double hung, fixed, slider and casement. No observed or reported problems. Monitor.
Storm / Screen Windows	1	ls		$0	14	15		Integrated window screens at double hung units. No missing or broken screens noted. Unit owner responsibility. No costs shown.
Common Terrace	900	sf		$0	14	40		9th floor rooftop common terrace with pre-cast concrete tile decking. Good conditions. Monitor, maintain, replace tiles as-needed from Operating.
Balcony Railings	1,264	sf	3.00	$3,792	14	20	6 in 1 Year	Painted FRP (fiber reinforced plastic) balcony and terrace railings. Generally good conditions noted overall. Future re-painting costs.
Fire Escapes		ea						
Building Mounted Lighting	1	ls		$0	14	15		Smaller wall-mounted, ceiling mounted, and recessed fluorescent and LED fixtures. Monitor, maintain, replace as-needed from Operating.

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
STRUCTURE																				
Foundation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Framing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Slab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BUILDING EXTERIOR																				
Main Common Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Terrace and Stairwell Egress Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Flush Metal Service Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm/Screen Door	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Glass Sliding Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Exterior Walls - GFRC	$287,253	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$447,530	$0	$0	$0	$0
Exterior Walls - Face Brick	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$35,438	$0	$0	$0	$0
Window/Wall Caulk, Control Joints	$37,748	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$58,809	$0	$0	$0	$0
Exterior Trim - Cast Stone	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Exterior Metal Trim	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Exterior Ceilings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Window Frames	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm / Screen Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Common Terrace	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Balcony Railings	$0	$0	$0	$0	$0	$4,396	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fire Escapes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building Mounted Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Carillon Condominium

BUILDING ARCHITECTURE--*continued*

Replacement Items	Quantity	Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years) (Expected Useful life)	Replacement Schedule Year of action AND duration of project	Notes
ROOF SYSTEMS							
Structure	5,470 sf		$0	14	99		Steel and reinforced poured concreted structure. No observed or reported problems. Monitor.
					Timing per management		Thermoplastic polyolefin (TPO) membrane roof. No reported leaks.
Roof Covering - TPO	5,470 sf	17.50	$95,725	14	25	11 in 1 Year	No observed ponding or other issues. Future replacement costs.
Roof Covering - Metal	725 sf		$0	14	50		Standing seam metal roof over rear elevation garage extension. Good observable conditions. Monitor and maintain from Operating.
Roof Drainage	1 ls		$0	14	20		Internal drains. No observed or reported problems. Monitor.
Skylights	ea						
Penthouses	1 ea		$0	14	20		Standing seam metal siding at elevator machine room penthouse with TPO membrane roof. No observed problems. Future roof repl. included w/above.
Access Doors & Hatches	1 ea	1000.00	$1,000	14	30	16 in 1 Year	Spring-hinged metal roof access hatch. Good operable condition. Future replacement costs.
Roof Railings	lf						
HALLS							
Hallway Walls	8,856 sf	1.00	$8,856	3	10	5 /15 in 1 Year	Painted drywall walls. Good conditions. Future painting cycles and costs.
Hallway Ceilings	2,238 sf		$0	14	20		Acoustic tile ceilings. Good observable conditions. As-needed spot ceiling tile replacements from Operating.
Hallway Floors	2,238 sf	10.00	$22,380	3	10	7 /17 in 1 Year	Carpeted floors. Replaced approximately 3 years ago. Generally good conditions. Future replacement cycles and costs.
Hallway Doors	21 ea		$0	14	35		Fire-rated metal doors to trash chute closets, mechanical and service rooms. Good conditions. Monitor and maintain from Operating.
Hallway Railings	lf						
Hallway Interior Lighting	1 ls		$0	14	30		Recessed ceiling-mounted fluorescent fixtures. Monitor, maintain, replace as needed from Operating.
Hallway Heating	1 ea		$0	14	20		Rooftop Reznor make-up air unit. See Building Mechanical section above.
STAIRS							
					Timing per management		Painted wall and ceiling surfaces. Limited use stairwells.
Stair Walls and Ceilings	8,800 sf	1.00	$8,800	14	25	11 in 1 Year	Good conditions. Future repainting costs.
					Timing per management		Painted poured concrete treads and landings on painted metal stringers and risers
Stair Floors	2,371 sf	2.00	$4,742	14	25	11 in 1 Year	Generally good condition. Some use-related paint wear. Future painting costs.
Stair Doors	28 ea		$0	14	35		Fire rated metal stair doors. Good conditions. Monitor and maintain from Operating.
Stair Railings	1 ls		$0	14	20		Painted metal handrails. Good conditions. Limited paint wear. Future painting costs included with Stair Walls and Floors (above).

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
ROOF SYSTEMS																				
Structure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Roof Covering - TPO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$128,646	$0	$0	$0	$0	$0	$0	$0	$0	$0
Roof Covering - Metal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Roof Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Skylights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Penthouses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Access Doors & Hatches	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,558	$0	$0	$0	$0
Roof Railings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HALLS																				
Hallway Walls	$0	$0	$0	$0	$9,968	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,395	$0	$0	$0	$0	$0
Hallway Ceilings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hallway Floors	$0	$0	$0	$0	$0	$0	$26,723	$0	$0	$0	$0	$0	$0	$0	$0	$0	$35,913	$0	$0	$0
Hallway Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hallway Railings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hallway Interior Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hallway Heating	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STAIRS																				
Stair Walls and Ceilings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,826	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stair Floors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,373	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stair Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stair Railings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Replacement Items	Quantity		Cost per unit in 2016 $$	Total Cost in 2016 $$	AGE (Years)	EUL (Years) (Expected Useful life)	Replacement Schedule Year of action AND duration of project	Notes
LOBBIES / MAIL FACILITIES								
Lobby Walls	968	sf	1.00	$968	~5	10	5 /15 in 1 Year	Mix of painted drywall walls with polished granite panels at mailbox area. Good conditions. Future painting costs.
	408	total sf						
Lobby Ceilings	265	sf	1.00	$265	14	10	5 /15 in 1 Year	Vaulted painted drywall ceiling at elevator lobby. Acoustic tile ceiling at mail lobby/hallway. Good conditions. Future painting costs. Ceiling tiles from Oper.
Lobby Floors	408	sf		$0	14	50		Polished granite tile floors. Good conditions. Monitor and maintain from Operating.
Mail Facilities	1	ls	1800.00	$1,800	14	30	16 in 1 Year	Smaller recessed aluminum mailbox cluster panels for ingoing and outgoing mail. Good observable conditions. Future replacement costs.
PARKING GARAGE								
Garage Lobby	1	ls		$0	14	30		Painted wall and ceiling surfaces. Plate glass window wall. Granite tile floor with inlaid carpet. Good conditions. Maintain, paint, repl. carpet as-needed frm Oper.
	6,440	total sf						
Garage Walls	322	sf	6.00	$1,932	14	50	6 /16 in 1 Year	Reinforced poured concrete foundation walls. Good observable conditions. Future allowances for as-needed concrete surface repairs, crack filling (5%)
	4,787	total sf						
Garage Ceilings	239	sf	6.00	$1,436	14	50	6 /16 in 1 Year	Reinforced poured concrete ceilings. Good observable conditions. Future allowances for as-needed concrete surface repairs, crack filling (5%)
Garage Floor	4,635	sf	6.00	$27,810	14	25	***Timing per management*** 10 in 1 Year	Epoxy paint surface membrane over reinforced poured concrete floor. Generally good conditions noted throughout. Future costs to apply elastomeric membrane.
Sand/Oil Separator	1	ls	10000.00	$10,000	2	10	8 /18 in 1 Year	Double basin sand/oil separator system. No reported operating issues. Periodic costs to remove separated contaminants and replace pumps and separators.
Sand/Oil Separator Pump Control	1	ea	1000.00	$1,000	14	20	6 in 1 Year	Weil Pumps Model 8151 duplex pump control panel. No reported operating issues. Future replacement costs.
Garage Exhaust	1	ea	550.00	$550	14	30	16 in 1 Year	Wall-mounted exhaust fan activated by carbon monoxide monitor and fire alarm control panel. No observed or reported problems. Future replacement.
Carbon Monoxide Monitor	1	ea	1000.00	$1,000	14	20	6 in 1 Year	Greystone CMD Series carbon monoxide monitor. Activates exhaust fan when established CO level is detected. No reported problems. Future replacement.
Garage Heat	1	ea	3000.00	$3,000	14	25	11 in 1 Year	100,000 BTU Reznor FT100 ceiling-mounted natural gas fired horizontal unit heater. No observed or reported problems. Future replacement costs.
Garage Door	1	ea	4500.00	$4,500	2	15	13 in 1 Year	Overhead garage door with polystyrene insulated steel segmented panels. Newly replaced in 2014. No reported problems. Future replacement costs.
Garage Door Opener	1	ea	1000.00	$1,000	4	10	6 /16 in 1 Year	LiftMaster MJ5011U wall-mounted power garage door opener. Installed in 2012. No observed or reported problems. Future replacement.
OFFICE								
Office Walls/Ceilings		sf						No management office at this property.
Office Floor Covering		sf						
Office Equipment		ea						

Costs inflated at 3%

Replacement Items	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035
LOBBIES / MAIL FACILITIES																				
Lobby Walls	$0	$0	$0	$0	$1,089	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,464	$0	$0	$0	$0	$0
Lobby Ceilings	$0	$0	$0	$0	$298	$0	$0	$0	$0	$0	$0	$0	$0	$0	$401	$0	$0	$0	$0	$0
Lobby Floors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mail Facilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,804	$0	$0	$0	$0
PARKING GARAGE																				
Garage Lobby	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Garage Walls	$0	$0	$0	$0	$0	$2,240	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,010	$0	$0	$0	$0
Garage Ceilings	$0	$0	$0	$0	$0	$1,665	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,237	$0	$0	$0	$0
Garage Floor	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,286	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sand/Oil Separator	$0	$0	$0	$0	$0	$0	$0	$12,299	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,528	$0	$0
Sand/Oil Separator Pump Control	$0	$0	$0	$0	$0	$1,159	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Garage Exhaust	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$857	$0	$0	$0	$0
Carbon Monoxide Monitor	$0	$0	$0	$0	$0	$1,159	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Garage Heat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,032	$0	$0	$0	$0	$0	$0	$0	$0	$0
Garage Door	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,416	$0	$0	$0	$0	$0	$0	$0
Garage Door Opener	$0	$0	$0	$0	$0	$1,159	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,558	$0	$0	$0	$0
OFFICE																				
Office Walls/Ceilings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Office Floor Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Office Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Appendix A: Statement of Delivery

Our Capital Needs Assessment (the "CNA" or the "Report") on the subject property is delivered subject to the following terms and conditions:

1. The report and analysis may be relied upon by you as a description of the observed current conditions of the building and site improvements, only as of the date of this report, and with the knowledge that certain limitations and exceptions within the report that are the reflective of the scope of services as defined in our contract. Although care has been taken in the performance of this assessment, ON-SITE INSIGHT, Inc. (and/or its representatives) makes no representations regarding latent or concealed defects that may exist and no warranty or guarantee is expressed or implied. This report is made only in the best exercise of our ability and judgment. Conclusions reached in this report assume current and continuing responsible ownership and competent property management.

2. We have undertaken no formal evaluation of environmental concerns, including but not limited to asbestos containing materials (ACMs), lead-based paint, chlorofluorocarbons (CFCs), polychlorinated biphenyls (PCBs), and mildew/mold.

3. Conclusions in this report are based on estimates of the age and normal working life of various items of equipment and/or statistical comparisons. Actual conditions can alter the useful life of any item. When an item needs immediate replacement depends on many factors, including previous use/misuse, irregularity of servicing, faulty manufacture, unfavorable conditions, Acts of God and unforeseen circumstances. Certain components that may be working when we made our inspection might deteriorate or break in the future without notice.

4. To prepare this report, we used historic data on capital activities and costs, blueprints (when available), and current prices for capital actions. We have not independently verified this information, have assumed that it is reliable, but assume no responsibility for its accuracy.

5. Unless otherwise noted in the report, we assume that all building components meet code requirements in force when the property was built.

6. If accessibility issues are referenced in the report, the site elements, common areas, and dwelling units at the development were examined for compliance with the requirements of the Uniform Federal Accessibility Standards (UFAS), and for Massachusetts properties, the Massachusetts Architectural Accessibility Board (AAB). The methodology employed in undertaking this examination is adapted from a Technical Assistance Guide (TAG-88-11) titled "Supplemental Information About the Section 504 Transition Plan Requirements" published by the Coordination and Review section of the U.S. Department of Justice Civil Rights Division, and the AAB Rules and Regulations, 521 CMR effective July 10, 1987. The Guide also incorporates the requirements of UFAS, published April 1, 1988 by the General Services Administration, the Department of Defense, the Department of Housing and Urban Development, and the U.S. Postal Service. Changes in legislation and/or regulations may make some observations moot.

7. Response Actions and estimated costs of responses were developed by ON-SITE INSIGHT, Inc. If additional structural work is necessary, costs for some Response Actions may exceed estimates. Whenever the Response Action is to remove, reposition, or modify walls, a competent structural engineer should be retained before any work is done, because such investigation may disclose that a Response Action is either more costly than estimated, or is not possible.

8. Conclusions reached in this report assume current and continuing responsible ownership and competent property management. Any unauthorized reliance on or use of the report, including any of its information or conclusions, will be at the third party's sole risk. For the same reasons, no warranties or representation, express or implied in this report, are made to any such third party. Reliance on the report by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the contract Terms and Conditions. The limitation of liability defined in the Terms and Conditions is the aggregate limit of ON-SITE INSIGHT's liability to the client and all relying parties.

9. Regular updates of this plan are recommended to ensure careful monitoring of major building systems and to adjust the program to accommodate unanticipated circumstances surrounding the buildings, operations, and/or occupants.