



# HARVARD DIGGINS PUBLIC LIBRARY

## ANNUAL MAINTENANCE REPORT

### DRAFT



#### PURPOSE

The Harvard Diggins Public Library has identified a need to evaluate its current facilities and assess the current conditions as well as the likely life expectancy for the various components of the facilities. This is in order to identify likely replacement costs for those components reaching the end of their useful performance life within the next 10 to 20 years. The scope of this study is to identify those building systems or components that can be maintained or replaced using budgeted designated funds.

#### NOTES

Evaluation of building conditions focused on the elements likely to be included in the budget for items expected to require replacement or renovation within the next 10 to 20 years. Equipment, materials, or assemblies that are nominal in cost are not included. This is therefore not a comprehensive list but does identify major expenses that are likely to be incurred in the foreseeable future.

Conditions change with time, and this evaluation, along with the funds allocated to cover the associated expenses should be reviewed and revised periodically as the library's needs evolve. Unanticipated expenses can develop for a number of reasons including accelerated use or changes in use patterns, accident, or deferred general maintenance. Such reviews should include updating baseline costs for the components or assemblies identified.

Building SF                      18015

Costs are calculated at 2015 levels and escalated at the following presumed annual rate of inflation:

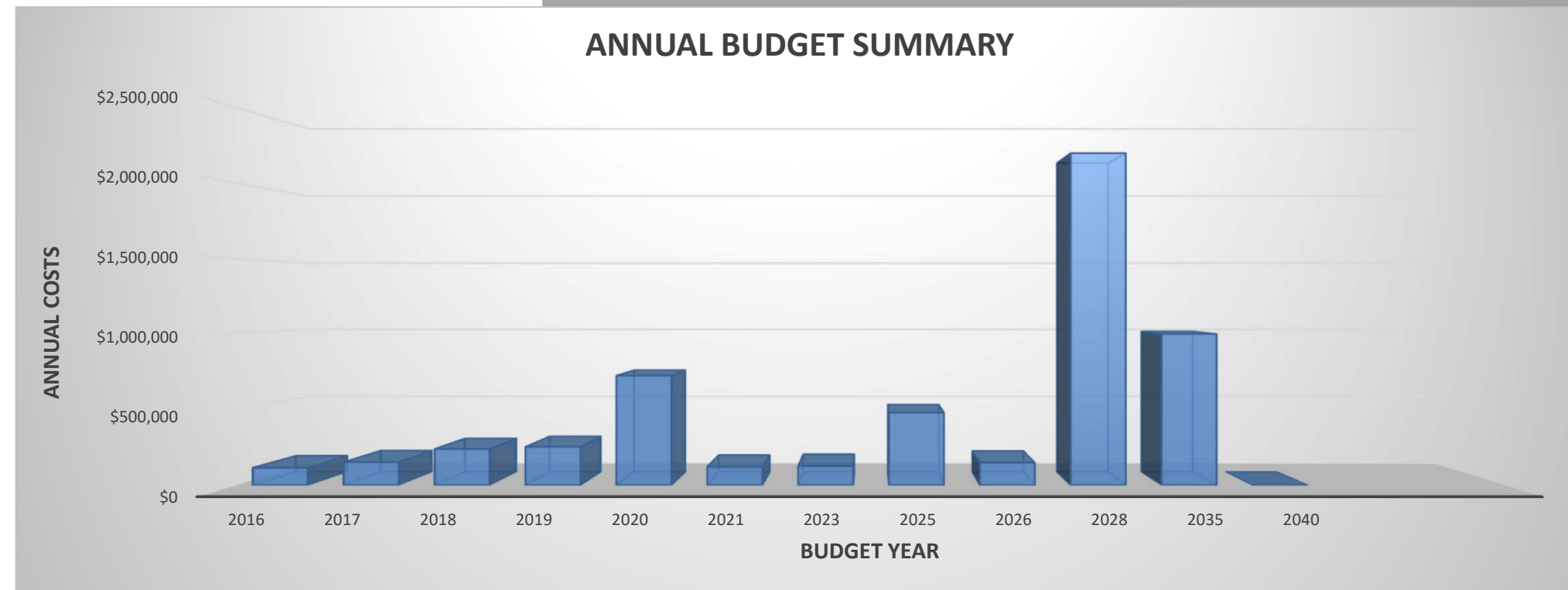
**7.00%** per annum

Four worksheets are provided in the workbook. The first three are organized by category with like expenses grouped together. The worksheets cover Mechanical expenses, Electrical expenses, and Architectural expenses. The fourth is organized by the computed year of expense (Budget Year)

**Work items do not include A/E Design Fees in the cost.**

#### Summary

2016	\$116,101
2017	\$152,594
2018	\$239,171
2019	\$253,447
2020	\$723,041
2021	\$121,773
2023	\$127,165
2025	\$479,277
2026	\$149,602
2028	\$2,195,971
2035	\$998,386
2040	\$0





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ARCHITECTURAL COMPONENTS - SORTED BY LOCATION/CATEGORY															
Description/Life Expectancy							Evaluated Condition		Estimated Cost Data					2016	Comments
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Beyond Evaluation (years remaining)	Budget Year	Qty	Units	Prorate	Unit Cost	Estimate of Replacement Cost	Escalated Budget	
			(year)	(years)	(year)	(year)	(0 is lowest)					(As of Evaluation date)	as of budget year		
SITE ELEMENTS		OUTSIDE													
SITE ELEMENTS															
Site	Asphalt Paving	Striping and Sealcoating	Parking Lot	2015	2	2017	2015	2	2017	8,838 sf	100%	\$2.00	\$17,676	\$20,237	
Site	Asphalt Paving	Paving	Parking Lot	2000	15	2020	2015	4	2019	8,838 sf	100%	\$8.00	\$70,704	\$92,679	
Site	Concrete Paving	Replacement	All	2000	20	2020	2015	5	2020	10,100 sf	100%	\$9.00	\$90,900	\$127,492	
Site	Landscaping	Replace damaged trees and shrubs	Main Level	2000	20	2020	2015	5	2020	1 ls	100%	\$15,000.00	\$15,000	\$21,038	
EXTERIOR ENCLOSURE															
Roof															
Roof	EPDM Membrane	Full Replacement	Building	2000	14	2014	2015	5	2020	9,900 sf	100%	\$18.00	\$178,200	\$249,935	Removal and replacement fully adhered membranes. Existing roof membrane may very well last longer than this projection.
Roof	Shingle Roof	Full Replacement	Building	2000	20	2023	2015	8	2023	15,048 sf	100%	\$3.00	\$45,144	\$77,566	
Walls & Soffits															
Walls	Tuckpoint Building	New Masonry	Bldg as Needed	2000	20	2020	2015	5	2020	3,500 sf	100%	\$12.00	\$42,000	\$58,907	
Walls	Gutter	Replace Gutters	All Façades	2000	25	2023	2015	8	2023	300 lf	100%	\$25.00	\$7,500	\$12,886	
Walls	Canopy Fascias	Replacement	All	2000	25	2023	2015	8	2023	600 lf	100%	\$20.00	\$12,000	\$20,618	Should be done in conjunction with gutter
Walls	Wood Refinishing and Sealing	Maintenance	All Façades	2015	5	2020	2015	5	2020	1 ls	100%	\$15,000.00	\$15,000	\$21,038	
Windows & Doors															
Walls	Windows	Full Replacement		2000	25	2025	2015	13	2028	12,150 sf	100%	\$75.00	\$911,250	\$2,195,971	
Walls	Exterior Doors	Full Replacement		2000	20	2019	2015	4	2019	7 each	100%	\$5,000.00	\$35,000	\$45,878	
Walls	Loading Dock Section Door	Full Replacement		2000	20	2021	2015	6	2021	1 each	100%	\$12,000.00	\$12,000	\$18,009	
INTERIOR COMPONENTS															
Interior components and finishes are original to the building. Most of these have a projected functional service life of 20 years although the aesthetic															
Millwork															
Interior	Millwork	Sand, stain touch-up, refinish	First Floor	2000	15	2015	2015	5	2020	3,500 sf	100%	\$4.00	\$14,000	\$19,636	
Interior Partitions															
Interior	Repaint	Throughout	First Floor	2000	10	2010	2015	1	2016	14,945 sf	100%	\$1.00	\$14,945	\$15,991	
Doors															
Interior	Doors	Replace	First Floor	2000	20	2021	2015	6	2021	28 each	100%	\$1,500.00	\$42,000	\$63,031	
Ceiling/Lighting Systems															
Interior	Acoustic Ceiling Tile	Replace	First Floor	2000	20	2021	2015	6	2021	13,129 sf	100%	\$2.50	\$32,823	\$49,258	
Interior	Drywall Ceilings	Replace	First Floor	2000	20	2020	2015	5	2020	956 sf	100%	\$2.50	\$2,390	\$3,352	
Flooring Systems															
Interior	Carpet	Replace	Stack Area	2000	12	2012	2015	2	2017	911 sy	100%	\$50.00	\$45,556	\$52,157	
Interior	Sheet Vinyl	Replace	Lobby	2000	10	2010	2015	3	2018	2,200 sf	100%	\$20.00	\$44,000	\$53,902	
Interior	Carpet	Replace	Other Spaces	2000	13	2013	2015	2	2017	467 sy	100%	\$70.00	\$32,667	\$37,400	
Interior	Vinyl Composition Tile	Replace	Toilet Rooms	2000	10	2010	2015	3	2018	1,330 sf	100%	\$50.00	\$66,500	\$81,465	
Interior	Recessed Floor Mat	Replace	Vestibule	2000	10	2010	2015	3	2018	170 sf	100%	\$50.00	\$8,500	\$10,413	
Accessories															
Interior	Signage		Entire Building	2000	25	2025	2015	10	2025	1 ls	100%	\$6,000.00	\$6,000	\$11,803	Additional Required New Signage
Furniture	Shelving	Replace Shelving	Stack Locations	2000	25	2025	2015	10	2025	470 each	100%	\$120.00	\$56,400	\$110,947	
Furniture	Carrel	Replace Carrel	Circulation/Technical	2000	25	2025	2015	10	2025	32 each	100%	\$90.00	\$2,880	\$5,665	
Furniture	Tables	Replace	Meeting Rooms	2000	25	2025	2015	10	2025	4 each	100%	\$90.00	\$360	\$708	
Furniture	Tables	Replace	Circulation/Technical	2000	25	2025	2015	10	2025	15 each	100%	\$90.00	\$1,350	\$2,656	
Furniture	Chairs	Replace	Entire Building	2000	25	2025	2015	10	2025	185 each	100%	\$90.00	\$16,650	\$32,753	
TOTAL ARCHITECTURAL													\$1,839,394	\$3,477,274	



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ELECTRICAL COMPONENTS - SORTED BY LOCATION/CATEGORY																
Description/Life Expectancy						Evaluated Condition			Estimated Cost Data - 2015							
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Modifier	Life Expectancy Beyond Evaluation (years remaining)	Budget Year	Qty	Units	Pro Ration	Unit Cost	Estimate of Replacement Cost	Escalated Budget	Comments
			(year)	(years)	(year)	(year)		(0 is minimum)						(as of 2015)		
<b>Lighting &amp; Lighting Control Systems:</b>																
Elec	Interior Lighting	Replace Fixtures - LED	Overall Interior	2015	20	2035	2015	20	2035	250	ls	100%	\$750.00	\$187,500	\$725,566	
Elec	Exterior Lighting - HID	Replace Exterior fixtures	Exterior	2014	20	2034	2015	20	2035	20	ls	100%	\$2,500.00	\$50,000	\$193,484	
<b>Power &amp; Power Distribution Systems:</b>																
Elec	Original Main Distribution Panel	Replace Square D Due to panel being full and Age of Breakers	Main Level	2000	26	2026	2015	11	2026	1	ea	100%	\$15,000.00	\$15,000	\$31,573	
Elec	Replace Existing Emergency Generator 15KW	New Emergency Generator - 25KW		2000	20	2020	2015	5	2020	1	LS	100%	\$55,000.00	\$55,000	\$77,140	
Elec	Power Quality	Perform power quality study, and rebalance loads	Interior	2000	18	2018	2015	3	2018	1	ls	100%	\$10,000.00	\$10,000	\$12,250	
<b>Fire Alarm, &amp; Communications Systems:</b>																
Elec	Building Fire Alarm System	Fire Alarm Control Panel	Interior	2000	15	2015	2015	1	2016	19,000	sf	100%	\$1.50	\$28,500	\$30,495	
<b>TOTAL ELECTRICAL</b>													<b>\$346,000</b>	<b>\$1,070,509</b>		

1 ANTICIPATED REPLACEMENT DATES HAVE BEEN ESTABLISHED FROM ASHRAE, AND GSA DATA WHERE CATEGORIES ARE GIVEN.  
 2 MEANS-2014 HAS BEEN UTILIZED TO ESTABLISH REPLACEMENT COSTS.





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Description/Life Expectancy							Evaluated Condition		Estimated Cost Data - 2014						
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Beyond Evaluation (years)	Budget Year	Qty	Units	Pro Ration	Unit Cost	Estimate of Replacement Cost	Escalated Budget	
			(year)	(years)	(year)	(year)	(0 is minimum)								
<b>2016</b>															
Interior	Repaint	Throughout	First Floor	2000	10	2010	2015	1	2016	14,945	sf	100%	\$ 1	\$14,945	\$15,991
Elec	Building Fire Alarm System	Fire Alarm Control Panel	Interior	2000	15	2015	2015	1	2016	19,000	sf	100%	\$ 2	\$28,500	\$30,495
HVAC	Exhaust Fan		Throughout Building	2000	15	2015	2015	1	2016	5	ea	100%	\$ 2,500	\$2,500	\$13,375
Plumb	Electric Water Coolers		Lobby	2000	15	2015	2015	1	2016	2	ea	100%	\$ 3,500	\$3,500	\$7,490
Plumb	Water closet, urinal flush valve		Various Locations	2000	15	2015	2015	0	2016	7	ea	100%	\$ 750	\$750	\$5,250
Plumb	Sinks		Various Locations	2000	15	2015	2015	0	2016	9	ea	100%	\$ 2,500	\$2,500	\$22,500
Plumb	Faucets		Various Locations	2000	10	2015	2015	0	2016	9	ea	100%	\$ 1,000	\$1,000	\$9,000
Plumb	Water heater		Mechanical Room	2000	10	2010	2015	0	2016	1	ea	100%	\$ 12,000	\$12,000	\$12,000
													<b>Annual Cost:</b>	<b>\$116,101</b>	
<b>2017 ANNUAL COSTS</b>															
Site	Asphalt Paving	Striping and Sealcoating	Parking Lot	2015	2	2017	2015	2	2017	8,838	sf	100%	\$ 2	\$17,676	\$20,237
Interior	Carpet	Replace	Other Spaces	2000	13	2013	2015	2	2017	467	sy	100%	\$ 70	\$32,667	\$37,400
Interior	Carpet	Replace	Stack Area	2000	12	2012	2015	2	2017	911	sy	100%	\$ 50	\$45,556	\$52,157
HVAC	Temperature Controls		Throughout Building	2000	15	2015	2015	1	2017	1	ls	100%	\$ 40,000	\$40,000	\$42,800
													<b>Annual Cost:</b>	<b>\$152,594</b>	
<b>2018 ANNUAL COSTS</b>															
Interior	Sheet Vinyl	Replace	Lobby	2000	10	2010	2015	3	2018	2,200	sf	100%	\$ 20	\$44,000	\$53,902
Interior	Vinyl Composition Tile	Replace	Toilet Rooms	2000	10	2010	2015	3	2018	1,330	sf	100%	\$ 50	\$66,500	\$81,465
Interior	Recessed Floor Mat	Replace	Vestibule	2000	10	2010	2015	3	2018	170	sf	100%	\$ 50	\$8,500	\$10,413
Elec	Power Quality	Perform power quality study, and	Interior	2000	18	2018	2015	3	2018	1	ls	100%	\$ 10,000	\$10,000	\$12,250
HVAC	Small Pad Mounted Condensing Unit		Roof	2000	20	2018	2015	3	2018	1	ea	100%	\$ 55,000	\$55,000	\$67,377
Plumb	Replace backflow preventer		Mechanical Room	2000	38	2038	2015	3	2018	1	ea	100%	\$ 10,000	\$10,000	\$10,700
Plumb	Hose Bibs		Building Exterior	2000	38	2038	2015	3	2018	1	ea	100%	\$ 2,500	\$2,500	\$3,063
													<b>Annual Cost:</b>	<b>\$239,171</b>	
<b>2019 ANNUAL COSTS</b>															
Site	Asphalt Paving	Paving	Parking Lot	2000	15	2019	2015	4	2019	8,838	sf	100%	\$ 8	\$70,704	\$99,166
Walls	Exterior Doors	Full Replacement		2000	20	2019	2015	4	2019	7	each	100%	\$ 5,000	\$35,000	\$49,089
HVAC	Pad Mounted Condensing Unit		Roof	2000	20	2019	2015	4	2019	3	ea	100%	\$ 25,000	\$25,000	\$105,191
													<b>Annual Cost:</b>	<b>\$253,447</b>	



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Description/Life Expectancy							Evaluated Condition		Estimated Cost Data - 2014						
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Beyond Evaluation (years)	Budget Year	Qty	Units	Pro Ration	Unit Cost	Estimate of Replacement Cost	Escalated Budget	
			(year)	(years)	(year)	(year)	(0 is minimum)								
<b>2020 ANNUAL COSTS</b>															
Site	Concrete Paving	Replacement	All	2000	20	2020	2015	5	2020	8,838	sf	100%	\$ 6	\$53,028	\$74,375
Site	Landscaping	Replace damaged landscape	Main Level	2000	20	2020	2015	5	2020	1	ls	100%	\$ 15,000	\$15,000	\$21,038
Roof	EPDM Membrane	Full Replacement	Building	2000	14	2014	2015	5	2020	9,900	sf	100%	\$ 18	\$178,200	\$249,935
Walls	Tuckpoint Building	New Masonry	Bldg as Needed	2000	20	2020	2015	5	2020	3,500	sf	100%	\$ 12	\$42,000	\$58,907
Walls	Seal Exterior Woodwork	Maintenance	All Façades	2015	5	2020	2015	5	2020	1	ls	100%	\$ 15,000	\$15,000	\$21,038
Interior	Millwork	Sand, stain touch-up, refinish	First Floor	2000	15	2015	2015	5	2020	3,500	sf	100%	\$ 4	\$14,000	\$19,636
Interior	Drywall Ceilings	Replace	First Floor	2000	20	2020	2015	5	2020	956	sf	100%	\$ 3	\$2,390	\$3,352
HVAC	Fan Coil Unit			2000	20	2020	2015	5	2020	1	ea	100%	\$ 8,500	\$8,500	\$11,922
HVAC	Base Board System		Various Locations	2000	20	2020	2015	5	2020	15	ea	100%	\$ 600	\$600	\$12,623
HVAC	Radiant Panel System		Various Locations	2000	20	2020	2015	5	2020	242	ea	100%	\$ 200	\$200	\$67,884
Elec	New Emergency Generator - 25KW			2000	20	2020	2015	5	2020	1	LS	100%	\$ 55,000	\$55,000	\$77,140
Plumb	Hot Water Boiler		Mechanical Room	2000	20	2020	2015	5	2020	1	ea	100%	\$ 75,000	\$75,000	\$105,191
													<b>Annual Cost:</b>	<b>\$723,041</b>	



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Description/Life Expectancy						Evaluated Condition		Estimated Cost Data - 2014							
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Beyond Evaluation (years)	Budget Year	Qty	Units	Pro Ration	Unit Cost	Estimate of Replacement Cost	Escalated Budget	
			(year)	(years)	(year)	(year)	(0 is minimum)								
<b>2021 ANNUAL COSTS</b>															
Interior	Doors	Replace	First Floor	2000	20	2020	2015	5	2020	28	each	100%	\$ 1,500	\$42,000	\$58,907
Walls	Loading Dock Section Door	Full Replacement		2000	20	2020	2015	5	2020	1	each	100%	\$ 12,000	\$12,000	\$16,831
Interior	Acoustic Ceiling Tile	Replace	First Floor	2000	20	2020	2015	5	2020	13,129	sf	100%	\$ 3	\$32,823	\$46,035
													<b>Annual Cost:</b>	<b>\$121,773</b>	
<b>2023 ANNUAL COSTS</b>															
Walls	Canopy Fascias	Replacement		2000	25	2025	2015	10	2023	600	lf	100%	\$ 20	\$12,000	\$23,606
Roof	Shingle Roof	Full Replacement	Building	2000	20	2020	2015	10	2023	15,048	sf	100%	\$ 3	\$45,144	\$88,805
Walls	Gutter	Replace Gutters	All Façades	2000	25	2025	2015	10	2023	300	lf	100%	\$ 25	\$7,500	\$14,754
													<b>Annual Cost:</b>	<b>\$127,165</b>	
<b>2025 ANNUAL COSTS</b>															
Interior	Signage		Entire Building	2000	25	2025	2015	10	2025	1	ls	100%	\$ 6,000	\$6,000	\$11,803
Furniture	Shelving	Replace Shelving	Stack Locations	2000	25	2025	2015	10	2025	470	each	100%	\$ 120	\$56,400	\$110,947
Furniture	Carrel	Replace Carrel	Circulation/Technica	2000	25	2025	2015	10	2025	32	each	100%	\$ 90	\$2,880	\$5,665
Furniture	Tables	Replace	Meeting Rooms	2000	25	2025	2015	10	2025	4	each	100%	\$ 90	\$360	\$708
Furniture	Tables	Replace	Circulation/Technica	2000	25	2025	2015	10	2025	15	each	100%	\$ 90	\$1,350	\$2,656
Furniture	Chairs	Replace	Entire Building	2000	25	2025	2015	10	2025	185	each	100%	\$ 90	\$16,650	\$32,753
HVAC	Air Handling Units	Throughout Building	Titus	2000	25	2025	2015	10	2025	4	each	100%	\$ 10,000	\$40,000	\$314,744
													<b>Annual Cost:</b>	<b>\$479,277</b>	
<b>2026 ANNUAL COSTS</b>															
HVAC	Pump (Blended cost)		Mechanical Room	2000	25	2025	2015	10	2025	5	ea	100%	\$ 12,000	\$12,000	\$118,029
Elec	Original Main Distribution Panel	Replace Breakers	Main Level	2000	26	2026	2015	11	2026	1	ea	100%	\$ 15,000	\$15,000	\$31,573
													<b>Annual Cost:</b>	<b>\$149,602</b>	
<b>2028 ANNUAL COSTS</b>															
Walls	Windows	Full Replacement		2000	25	2025	2015	3	2028	12,150	sf	100%	\$ 75	\$911,250	\$2,195,971
													<b>Annual Cost:</b>	<b>\$2,195,971</b>	



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Description/Life Expectancy						Evaluated Condition		Estimated Cost Data - 2014							
Component	Task	Location	Installed Date	Service Life	Anticipated Replacement Date	Evaluation Date	Life Expectancy Beyond Evaluation (years) <i>(0 is minimum)</i>	Budget Year	Qty	Units	Pro Ration	Unit Cost	Estimate of Replacement Cost	Escalated Budget	
			(year)	(years)	(year)	(year)									
<b>2035 ANNUAL COSTS</b>															
Elec	Interior Lighting	Replace Fixtures - LED	Overall Interior	2015	20	2035	2015	20	2035	250	ls	100%	\$ 750	\$187,500	\$725,566
Elec	Exterior Lighting - HID	Replace Exterior fixtures	Exterior	2014	20	2034	2015	20	2035	20	ls	100%	\$ 2,500	\$50,000	\$193,484
Plumb	Replace Copper Piling		Building area	2000	40	2040	2015	2	2017	1	ea	100%	\$ 60,000	\$60,000	\$68,694
Fire	Sprinkler heads		Various Locations	2000	20	2020	2015	20	2035	55	ea	100%	\$ 50	\$2,750	\$10,642
<b>Annual Cost:</b>													<b>\$998,386</b>		
<b>2040 ANNUAL COSTS</b>															
<b>Annual Cost:</b>													<b>\$0</b>		