

**Mitchell Park Domes
Future State Planning and Construction Cost
Estimating**

Appendix B

Domes Alternatives 1 – 4 Construction Cost Estimates

Milwaukee County

Mitchel Park Domes

Future State Planning

524 S Layton Blvd.
Milwaukee, WI 53215

Order of Magnitude Estimate

August 29, 2023

DRAFT

Project: 2023B517

Prepared For:

Milwaukee County Dept. of Administrative Services
Facilities Management Division
633 W. Wisconsin Ave.
Suite 1002
Milwaukee, WI 53203

NOTES REGARDING PREPARATION OF ESTIMATE

This estimate was prepared based on the following documents provided by Milwaukee County Parks:

1. Original Dome Drawings provided by Milwaukee County Parks dated June 15, 1962.
2. Alternate #1 Scoping Exhibit prepared by The Concord Group received July 20, 2023.
3. Alternate #2 Scoping Exhibit prepared by Study Team received August 7, 2023.
4. Alternate #3 Scoping Exhibit prepared by Study Team received August 7, 2023.
5. Alternate #4 Scoping Exhibits prepared by Study Team received August 21-28, 2023.
6. Information regarding the project was also obtained via meetings, phone conversations, and email messages that clarified the project scope.

BIDDING PROCESS - MARKET CONDITIONS

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been generated from current material/labor rates, historical production data, and discussions with relevant subcontractors and material suppliers. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated.

Pricing reflects probable construction costs obtainable in the Milwaukee, Wisconsin area on the bid date. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors with a minimum of 3 bidders for all items of subcontracted work and a with a minimum of 3 bidders for a general contractor. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since The Concord Group has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, this statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents The Concord Group's best judgment as professional construction cost consultants familiar with the construction industry. However, The Concord Group cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

CURRENT MARKET CONDITIONS

It should be noted that there is ongoing volatility in the construction materials market due to the effects of the pandemic on both the production and supply of materials. Due to the lack of in stock materials suppliers are struggling to fulfill orders in a timely manner, which in turn leads to much longer than normal lead times. The impact of ongoing global raw material shortages and fuel price increases adds to the overall spike in material pricing coupled with the increased demand for construction that the construction industry is now seeing. These factors should be considered when determining the bidding strategy and schedule for projects.

ASSUMED CONSTRUCTION PARAMETERS

The pricing is based on the following project parameters:

1. A construction notice to proceed date of Q2, 2025 for Alternatives 1-4.
2. A construction duration of 7-8 months for Alternative 1.
3. A construction duration of 12-15 months for Alternatives 2 & 3.
4. A construction duration of 15-18 months for Alternative 4.
5. The contract will be competitively bid to multiple contractors.
6. All contractors will be required to pay prevailing wages.
7. There are no phasing requirements.
8. The contractors will have full access to the site during normal working hours
9. Estimate detail includes pricing as of August 2023.

EXCLUSIONS

The following are excluded from the cost of this estimate:

1. Professional Design Fees
2. Testing Fees
3. Owner Contingencies/Scope Changes
4. Construction Contingency
5. Premium Time / Restrictions on Contractor Working Hours
6. Cost Escalation Beyond a Construction Mid-Point Date of Q3 2024
7. Finance and Legal Charges
8. Environmental Abatement Costs
9. Temporary Owner Facilities
10. Moisture Mitigation
11. Equipment (Owner Furnished/Installed)
12. Loose Furniture
13. Artwork
14. Work to Existing Greenhouses (Existing to Remain)
15. Dome Plant Material Removal
16. Fire Suppression for Alternative 2
17. Third Party Commissioning
18. Non-fixed Audio/Visual Equipment & Wiring
19. Telephone / Data Equipment
20. Contaminated Soil Removal
21. Structurally Unsuitable Soil Removal
22. Stormwater Retention (Surface Runoff Only)
23. Work to Existing Show/Dessert Domes and Associated Space in Alternative 4
24. Unforeseen Future Cost Impacts Based on Supply Chain Impacts

COST SUMMARY

**BUILDING
 TOTAL**

ALTERNATIVE #1: DEMOLISH DOMES FACILITY	\$4,778,881
ALTERNATIVE #2: REPAIR THREE DOMES	\$21,720,595
ALTERNATIVE #3: RESTORE THREE DOMES	\$67,149,432

ALTERNATIVE #4

ALTERNATIVE #4: RESTORE TROPICAL DOME	\$20,629,689
ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING	\$27,504,678
ALTERNATIVE #4: NORTH ENTRY COURTYARD	\$1,611,632

TOTAL ESTIMATED BASE CONSTRUCTION COSTS \$49,746,000

ALTERNATIVE #4: EAST WEDDING GARDEN	ADD	\$2,049,748
ALTERNATIVE #4: EAST CAFE GARDEN	ADD	\$135,417
ALTERNATIVE #4: SOUTH EVENT GARDEN	ADD	\$1,145,972

TOTAL ESTIMATED CONSTRUCTION COSTS \$53,077,137

ALTERNATIVE #1: DEMOLISH DOMES FACILITY		BUILDING TOTAL
01000	GENERAL REQUIREMENTS	\$0
02000	EXISTING CONDITIONS	\$2,022,289
03000	CONCRETE	\$0
04000	MASONRY	\$0
05000	METALS	\$0
06000	WOODS, PLASTICS & COMPOSITES	\$0
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$0
08000	OPENINGS	\$0
09000	FINISHES	\$0
10000	SPECIALTIES	\$0
11000	EQUIPMENT	\$0
12000	FURNISHINGS	\$0
13000	SPECIAL CONSTRUCTION	\$0
14000	CONVEYING EQUIPMENT	\$0
21000	FIRE SUPPRESSION	\$0
22000	PLUMBING	\$18,910
23000	HEATING, VENTILATING & AIR CONDITIONING	\$24,100
26000	ELECTRICAL	\$21,472
27000	COMMUNICATIONS	\$0
28000	ELECTRONIC SAFETY AND SECURITY	\$0
31000	EARTHWORK	\$380,057
32000	EXTERIOR IMPROVEMENTS	\$426,822
33000	UTILITIES	\$95,531
SUBTOTAL		\$2,989,181
	DESIGN CONTINGENCY	20.00% \$597,836
	GENERAL CONDITIONS/BOND/INSURANCE	16.00% \$573,923
	CONTRACTOR'S FEES	6.00% \$249,656
	ESCALATION TO MID-POINT OF CONSTRUCTION	8.35% \$368,285
TOTAL ESTIMATED CONSTRUCTION COSTS		\$4,778,881

ALTERNATIVE #2: REPAIR THREE DOMES		BUILDING TOTAL
01000	GENERAL REQUIREMENTS	\$0
02000	EXISTING CONDITIONS	\$225,462
03000	CONCRETE	\$2,361,775
04000	MASONRY	\$180,530
05000	METALS	\$7,742
06000	WOODS, PLASTICS & COMPOSITES	\$0
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$2,147,331
08000	OPENINGS	\$3,317,541
09000	FINISHES	\$595,169
10000	SPECIALTIES	\$0
11000	EQUIPMENT	\$0
12000	FURNISHINGS	\$0
13000	SPECIAL CONSTRUCTION	\$0
14000	CONVEYING EQUIPMENT	\$0
21000	FIRE SUPPRESSION	\$0
22000	PLUMBING	\$1,679
23000	HEATING, VENTILATING & AIR CONDITIONING	\$2,617,649
26000	ELECTRICAL	\$1,272,586
27000	COMMUNICATIONS	\$445,209
28000	ELECTRONIC SAFETY AND SECURITY	\$738,253
31000	EARTHWORK	\$0
32000	EXTERIOR IMPROVEMENTS	\$0
33000	UTILITIES	\$0
SUBTOTAL		\$13,910,926
	DESIGN CONTINGENCY	20.0% \$2,782,185
	GENERAL CONDITIONS/BOND/INSURANCE	12.0% \$2,003,173
	CONTRACTOR'S FEES	6.0% \$1,121,777
	ESCALATION TO MID-POINT OF CONSTRUCTION	9.60% \$1,902,534
TOTAL ESTIMATED CONSTRUCTION COSTS		\$21,720,595

ALTERNATIVE #3: RESTORE THREE DOMES		BUILDING TOTAL	
01000	GENERAL REQUIREMENTS	\$0	
02000	EXISTING CONDITIONS	\$175,027	
03000	CONCRETE	\$5,116,646	
04000	MASONRY	\$327,700	
05000	METALS	\$27,867	
06000	WOODS, PLASTICS & COMPOSITES	\$0	
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$343,058	
08000	OPENINGS	\$27,860,543	
09000	FINISHES	\$3,202,603	
10000	SPECIALTIES	\$0	
11000	EQUIPMENT	\$0	
12000	FURNISHINGS	\$0	
13000	SPECIAL CONSTRUCTION	\$1,684,585	
14000	CONVEYING EQUIPMENT	\$0	
21000	FIRE SUPPRESSION	\$796,792	
22000	PLUMBING	\$1,741	
23000	HEATING, VENTILATING & AIR CONDITIONING	\$2,617,649	
26000	ELECTRICAL	\$1,272,586	
27000	COMMUNICATIONS	\$445,209	
28000	ELECTRONIC SAFETY AND SECURITY	\$738,253	
31000	EARTHWORK	\$0	
32000	EXTERIOR IMPROVEMENTS	\$0	
33000	UTILITIES	\$0	
SUBTOTAL		\$44,610,259	
	DESIGN CONTINGENCY	20.0%	\$8,922,052
	GENERAL CONDITIONS/BOND/INSURANCE	9.0%	\$4,817,908
	CONTRACTOR'S FEES	5.0%	\$2,917,511
	ESCALATION TO MID-POINT OF CONSTRUCTION	9.60%	\$5,881,702
TOTAL ESTIMATED CONSTRUCTION COSTS		\$67,149,432	

ALTERNATIVE #4: RESTORE TROPICAL DOME		BUILDING TOTAL
01000	GENERAL REQUIREMENTS	\$0
02000	EXISTING CONDITIONS	\$58,342
03000	CONCRETE	\$1,705,879
04000	MASONRY	\$0
05000	METALS	\$0
06000	WOODS, PLASTICS & COMPOSITES	\$0
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$73,844
08000	OPENINGS	\$9,184,932
09000	FINISHES	\$162,731
10000	SPECIALTIES	\$0
11000	EQUIPMENT	\$0
12000	FURNISHINGS	\$0
13000	SPECIAL CONSTRUCTION	\$1,081,859
14000	CONVEYING EQUIPMENT	\$0
21000	FIRE SUPPRESSION	\$158,817
22000	PLUMBING	\$0
23000	HEATING, VENTILATING & AIR CONDITIONING	\$719,416
26000	ELECTRICAL	\$147,182
27000	COMMUNICATIONS	\$135,789
28000	ELECTRONIC SAFETY AND SECURITY	\$214,160
31000	EARTHWORK	\$0
32000	EXTERIOR IMPROVEMENTS	\$0
33000	UTILITIES	\$0
SUBTOTAL		\$13,642,951
	DESIGN CONTINGENCY	20.0% \$2,728,590
	GENERAL CONDITIONS/BOND/INSURANCE	9.0% \$1,473,439
	CONTRACTOR'S FEES	5.0% \$892,249
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10% \$1,892,460
TOTAL ESTIMATED CONSTRUCTION COSTS		\$20,629,689

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING		BUILDING TOTAL
01000	GENERAL REQUIREMENTS	\$0
02000	EXISTING CONDITIONS	\$200,000
03000	CONCRETE	\$1,122,936
04000	MASONRY	\$46,050
05000	METALS	\$2,057,798
06000	WOODS, PLASTICS & COMPOSITES	\$72,789
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$1,368,618
08000	OPENINGS	\$6,758,049
09000	FINISHES	\$639,635
10000	SPECIALTIES	\$26,760
11000	EQUIPMENT	\$125,000
12000	FURNISHINGS	\$3,282
13000	SPECIAL CONSTRUCTION	\$0
14000	CONVEYING EQUIPMENT	\$175,000
21000	FIRE SUPPRESSION	\$419,107
22000	PLUMBING	\$209,660
23000	HEATING, VENTILATING & AIR CONDITIONING	\$1,603,121
26000	ELECTRICAL	\$1,943,677
27000	COMMUNICATIONS	\$304,763
28000	ELECTRONIC SAFETY AND SECURITY	\$188,217
31000	EARTHWORK	\$456,960
32000	EXTERIOR IMPROVEMENTS	\$15,726
33000	UTILITIES	\$452,414
SUBTOTAL		\$18,189,561
	DESIGN CONTINGENCY	20.0% \$3,637,912
	GENERAL CONDITIONS/BOND/INSURANCE	9.0% \$1,964,473
	CONTRACTOR'S FEES	5.0% \$1,189,597
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10% \$2,523,136
TOTAL ESTIMATED CONSTRUCTION COSTS		\$27,504,678

ALTERNATIVE #4: NORTH ENTRY COURTYARD		BUILDING TOTAL
01000	GENERAL REQUIREMENTS	\$0
02000	EXISTING CONDITIONS	\$0
03000	CONCRETE	\$0
04000	MASONRY	\$0
05000	METALS	\$0
06000	WOODS, PLASTICS & COMPOSITES	\$0
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$0
08000	OPENINGS	\$100,000
09000	FINISHES	\$0
10000	SPECIALTIES	\$0
11000	EQUIPMENT	\$0
12000	FURNISHINGS	\$0
13000	SPECIAL CONSTRUCTION	\$0
14000	CONVEYING EQUIPMENT	\$0
21000	FIRE SUPPRESSION	\$0
22000	PLUMBING	\$0
23000	HEATING, VENTILATING & AIR CONDITIONING	\$0
26000	ELECTRICAL	\$80,000
27000	COMMUNICATIONS	\$0
28000	ELECTRONIC SAFETY AND SECURITY	\$0
31000	EARTHWORK	\$200,283
32000	EXTERIOR IMPROVEMENTS	\$685,532
33000	UTILITIES	\$0
SUBTOTAL		\$1,065,814
	DESIGN CONTINGENCY	20.0% \$213,163
	GENERAL CONDITIONS/BOND/INSURANCE	9.0% \$115,108
	CONTRACTOR'S FEES	5.0% \$69,704
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10% \$147,843
TOTAL ESTIMATED CONSTRUCTION COSTS		\$1,611,632

ALTERNATIVE #4: EAST WEDDING GARDEN		BUILDING TOTAL	
01000	GENERAL REQUIREMENTS	\$0	
02000	EXISTING CONDITIONS	\$0	
03000	CONCRETE	\$0	
04000	MASONRY	\$0	
05000	METALS	\$0	
06000	WOODS, PLASTICS & COMPOSITES	\$0	
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$0	
08000	OPENINGS	\$0	
09000	FINISHES	\$0	
10000	SPECIALTIES	\$0	
11000	EQUIPMENT	\$0	
12000	FURNISHINGS	\$0	
13000	SPECIAL CONSTRUCTION	\$0	
14000	CONVEYING EQUIPMENT	\$0	
21000	FIRE SUPPRESSION	\$0	
22000	PLUMBING	\$0	
23000	HEATING, VENTILATING & AIR CONDITIONING	\$0	
26000	ELECTRICAL	\$100,000	
27000	COMMUNICATIONS	\$0	
28000	ELECTRONIC SAFETY AND SECURITY	\$0	
31000	EARTHWORK	\$177,360	
32000	EXTERIOR IMPROVEMENTS	\$1,078,192	
33000	UTILITIES	\$0	
SUBTOTAL		\$1,355,552	
	DESIGN CONTINGENCY	20.0%	\$271,110
	GENERAL CONDITIONS/BOND/INSURANCE	9.0%	\$146,400
	CONTRACTOR'S FEES	5.0%	\$88,653
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10%	\$188,033
TOTAL ESTIMATED CONSTRUCTION COSTS		ADD	\$2,049,748

ALTERNATIVE #4: EAST CAFE GARDEN		BUILDING TOTAL	
01000	GENERAL REQUIREMENTS	\$0	
02000	EXISTING CONDITIONS	\$0	
03000	CONCRETE	\$0	
04000	MASONRY	\$0	
05000	METALS	\$0	
06000	WOODS, PLASTICS & COMPOSITES	\$0	
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$0	
08000	OPENINGS	\$0	
09000	FINISHES	\$0	
10000	SPECIALTIES	\$0	
11000	EQUIPMENT	\$0	
12000	FURNISHINGS	\$0	
13000	SPECIAL CONSTRUCTION	\$0	
14000	CONVEYING EQUIPMENT	\$0	
21000	FIRE SUPPRESSION	\$0	
22000	PLUMBING	\$0	
23000	HEATING, VENTILATING & AIR CONDITIONING	\$0	
26000	ELECTRICAL	\$25,000	
27000	COMMUNICATIONS	\$0	
28000	ELECTRONIC SAFETY AND SECURITY	\$0	
31000	EARTHWORK	\$19,716	
32000	EXTERIOR IMPROVEMENTS	\$44,839	
33000	UTILITIES	\$0	
SUBTOTAL		\$89,555	
	DESIGN CONTINGENCY	20.0%	\$17,911
	GENERAL CONDITIONS/BOND/INSURANCE	9.0%	\$9,672
	CONTRACTOR'S FEES	5.0%	\$5,857
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10%	\$12,422
TOTAL ESTIMATED CONSTRUCTION COSTS		ADD	\$135,417

ALTERNATIVE #4: SOUTH EVENT GARDEN		BUILDING TOTAL	
01000	GENERAL REQUIREMENTS	\$0	
02000	EXISTING CONDITIONS	\$0	
03000	CONCRETE	\$0	
04000	MASONRY	\$0	
05000	METALS	\$0	
06000	WOODS, PLASTICS & COMPOSITES	\$0	
07000	THERMAL & MOISTURE PROTECTION SYSTEM	\$0	
08000	OPENINGS	\$0	
09000	FINISHES	\$0	
10000	SPECIALTIES	\$0	
11000	EQUIPMENT	\$0	
12000	FURNISHINGS	\$0	
13000	SPECIAL CONSTRUCTION	\$0	
14000	CONVEYING EQUIPMENT	\$0	
21000	FIRE SUPPRESSION	\$0	
22000	PLUMBING	\$5,227	
23000	HEATING, VENTILATING & AIR CONDITIONING	\$0	
26000	ELECTRICAL	\$100,000	
27000	COMMUNICATIONS	\$0	
28000	ELECTRONIC SAFETY AND SECURITY	\$0	
31000	EARTHWORK	\$106,765	
32000	EXTERIOR IMPROVEMENTS	\$495,870	
33000	UTILITIES	\$50,000	
SUBTOTAL		\$757,861	
	DESIGN CONTINGENCY	20.0%	\$151,572
	GENERAL CONDITIONS/BOND/INSURANCE	9.0%	\$81,849
	CONTRACTOR'S FEES	5.0%	\$49,564
	ESCALATION TO MID-POINT OF CONSTRUCTION	10.10%	\$105,126
TOTAL ESTIMATED CONSTRUCTION COSTS		ADD	\$1,145,972

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #1: DEMOLISH DOMES FACILITY				
02000 EXISTING CONDITIONS				
02300 Building Demolition				
Remove concrete walls, 12" thk - 15" thk, avg reinforcing, to 4' below grade, foundations	4,000	LNFT	102.76	411,042
Remove concrete walls, 12" thk - 15" thk, avg reinforcing, to 4' below grade, site walls	1,225	LNFT	102.76	125,881
Demolish concrete superstructure	54,850	SQFT	6.27	344,134
Demolish concrete structure & skylight, domes	97,500	SQFT	5.26	512,996
Demolish skylight, transition house	5,675	SQFT	2.63	14,929
Demolish exterior facade	18,000	SQFT	4.38	78,921
Miscellaneous salvage allowance	1	LSUM	100,002.40	100,002
Break up existing slab	85,000	SQFT	0.41	34,944
Gut building interior demolition	106,500	SQFT	2.14	228,315
Backfill with imported clean fill at existing basements	8,350	CUYD	20.49	171,125
SUBTOTAL: Building Demolition				\$2,022,289
TOTAL: EXISTING CONDITIONS				\$2,022,289
22000 PLUMBING				
22100 Selective Demolition				
Cut, cap & make safe - plumbing	1	LSUM	18,910.40	18,910
SUBTOTAL: Selective Demolition				\$18,910
TOTAL: PLUMBING				\$18,910
23000 HEATING VENTILATION & AIR CONDITIONING				
23100 Selective Demolition				
Cut, cap & make safe - HVAC	1	LSUM	24,100.00	24,100
SUBTOTAL: Selective Demolition				\$24,100
TOTAL: HEATING VENTILATION & AIR CONDITIONING				\$24,100
26000 ELECTRICAL				
26100 Selective Demolition				
Cut, cap & make safe - electrical	1	LSUM	21,472.00	21,472
SUBTOTAL: Selective Demolition				\$21,472
TOTAL: ELECTRICAL				\$21,472
31000 EARTHWORK				
31200 Site Grading				
Site grading	180,000	SQFT	0.70	125,118
SUBTOTAL: Site Grading				\$125,118
31800 Site Demolition				
Remove pavement, sidewalk, curbs, & landscaping	92,500	SQFT	2.76	254,939

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
			SUBTOTAL: Site Demolition	\$254,939
TOTAL: EARTHWORK				\$380,057
32000 EXTERIOR IMPROVEMENTS				
32600 Landscaping				
Topsoil, avg 12" deep overall	6,667	CUYD	43.68	291,210
Seeding, fertilizer and fine grading, machine	180,000	SQFT	0.75	135,612
			SUBTOTAL: Landscaping	\$426,822
TOTAL: EXTERIOR IMPROVEMENTS				\$426,822
33000 UTILITIES				
33100 Selective Site Demolition				
Disconnect, cut and cap incoming water service	1	LSUM	12,444.80	12,445
Disconnect, cut and cap sanitary sewer	1	LSUM	28,862.00	28,862
Disconnect, cut and cap storm utilities	1	LSUM	41,779.20	41,779
Disconnect, cut and cap incoming gas service	1	LSUM	12,444.80	12,445
			SUBTOTAL: Selective Site Demolition	\$95,531
TOTAL: UTILITIES				\$95,531
TOTAL: ALTERNATIVE #1: DEMOLISH DOMES FACILITY				\$2,989,181

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #2: REPAIR THREE DOMES				
02000 EXISTING CONDITIONS				
02800 Temporary Construction				
Temporarily remove & reinstall existing wire mesh system as necessary to perform work, per dome	3	EACH	75,154.10	225,462
SUBTOTAL: Temporary Construction				\$225,462
TOTAL: EXISTING CONDITIONS				\$225,462
03000 CONCRETE				
03700 Concrete Restoration				
Prep four sides of concrete skylight frame by removing loose material & corrosion, all domes	21,600	LNFT	29.60	639,403
Repair joints at concrete skylight frame, allow 35%, all domes	7,560	LNFT	213.21	1,611,895
Chip, clean, prime & patch type of typical concrete restoration work, avg 2.5 SF/EA	60	EACH	1,015.70	60,942
Repair concrete spalls in precast concrete around louvers, avg 2 SF/EA	50	EACH	990.70	49,535
SUBTOTAL: Concrete Restoration				\$2,361,775
TOTAL: CONCRETE				\$2,361,775
04000 MASONRY				
04200 Exterior Masonry Restoration				
Remove and rebuild section brick & block wall at corner, approx 12'-0" long	1	EACH	20,499.73	20,500
Remove and rebuild brick facade, one wythe, single unit, North Loading Dock	10	EACH	228.50	2,285
Stabilize all brick areas with helical ties, stabilize 100% of brick, assume 16" x 24" pattern, Transition House	2,300	EACH	25.62	58,932
Repair spalled stone and mortar areas of panels, avg 4 SF per location, Desert Dome	5	EACH	462.71	2,314
Remove pavement below, and in front of, the panels that end below grade to , add weep holes, rework curb/soil for proper drainage, Desert Dome	1	EACH	26,599.68	26,600
Repoint all cracked and deteriorated areas of brick. Assume 10% of brick façade area, Transition House	585	SQFT	20.87	12,209
Repoint all cracked and deteriorated areas of brick. multiple locations, North Loading Dock	50	SQFT	103.58	5,179
Replace all steel lintels with new galvanized steel lintels, North Loading Dock	50	LNFT	509.99	25,500
Remove & replace deteriorated concrete window, door jambs & brick trim with new precast pieces, allow 50% of total, Transition House	200	LNFT	114.51	22,903
Remove and reset cast stone sills at louvers, approx 10LF/EA	6	EACH	684.86	4,109
SUBTOTAL: Exterior Masonry Restoration				\$180,530
TOTAL: MASONRY				\$180,530
05000 METALS				
05100 Structural Steel				
Remove & replace section of metal deck between loading dock and transition house, approx 6'-0" x16'-0"	1	EACH	7,742.04	7,742

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Structural Steel				\$7,742
TOTAL: METALS				\$7,742
07000 THERMAL & MOISTURE PROTECTION				
07100 Dampproofing & Waterproofing				
Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	1,950	LNFT	32.93	64,220
SUBTOTAL: Dampproofing & Waterproofing				\$64,220
07400 Roofing				
Replace membrane over basement/mechanical area with new pedestrian grade membrane	4,100	SQFT	11.79	48,358
Add flashing to the top of the wall, Transition House	260	LNFT	63.82	16,594
SUBTOTAL: Roofing				\$64,952
07800 Caulking & Sealants				
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Tropic Dome	15,800	LNFT	38.27	604,666
Remove & replace all sealant joints within masonry, concrete, windows and doors, Transition House	1,500	LNFT	19.68	29,517
Remove & replace all sealant joints within masonry, concrete, windows and doors, all Dome bases	7,500	LNFT	19.68	147,587
Remove & replace joint sealants lower level Desert Dome precast joints	375	LNFT	19.68	7,379
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Desert Dome	15,800	LNFT	38.27	604,666
Remove & replace all sealant joints within masonry, concrete, windows and doors, North Loading Dock	1,000	LNFT	19.68	19,678
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Show Dome	15,800	LNFT	38.27	604,666
SUBTOTAL: Caulking & Sealants				\$2,018,159
TOTAL: THERMAL & MOISTURE PROTECTION				\$2,147,331
08000 OPENINGS				
08300 Exterior Doors, Frames, & Hardware				
Remove & replace existing HM door, frame & hardware, single	2	EACH	5,874.40	11,749
SUBTOTAL: Exterior Doors, Frames, & Hardware				\$11,749
08700 Special Glazing Systems				
Remove existing damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Desert Dome	218	EACH	4,608.80	1,004,718
Remove existing damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Show Dome	107	EACH	4,608.80	493,142
Remove existing damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Tropic Dome	388	EACH	4,608.80	1,788,214
SUBTOTAL: Special Glazing Systems				\$3,286,074
08800 Louvers & Vents				
Remove & replace damaged existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, all domes	56	EACH	352.10	19,718

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Louvers & Vents				\$19,718
TOTAL: OPENINGS				\$3,317,541
09000 FINISHES				
09600 Paints & Coatings				
Coat exposed steel plates at precast joints and hub connections to glazing system, all domes	4,800	EACH	87.23	418,680
Coat interior surface of foundations with a breathable coating	2,550	LNFT	27.26	69,513
Clean, prep & paint concrete outcropping walls, Desert Dome	700	SQFT	8.10	5,672
Clean, prep & paint exposed lintels at overhead doors, 8" wide x approx 12LF/EA, North Loading Dock	2	EACH	227.60	455
Clean, prep & paint embedded vertical steel elements, 4" wide x approx 12LF/EA, Entry	12	EACH	179.45	2,153
SUBTOTAL: Paints & Coatings				\$496,474
09900 Miscellaneous Finishes				
Cut/patch wall at lavatory relocation	1	EACH	2,566.82	2,567
Demolish & replace existing ticket booth in ADA compliant location/design including doors & millwork, approx 10'x10'	1	LSUM	77,252.27	77,252
Enlarge walkway opening to provide 42" wide path of travel including patching	1	EACH	3,975.23	3,975
Modify existing mirror & backsplash to ADA height, approx 12" LF/EA	2	EACH	4,837.84	9,676
Replace existing below counter apron with new code compliant apron	2	EACH	2,612.61	5,225
SUBTOTAL: Miscellaneous Finishes				\$98,695
TOTAL: FINISHES				\$595,169
22000 PLUMBING				
22100 Selective Demolition				
Remove existing wall-mount lavatories including carrier and roughin; salvage fixture and carrier	1	EACH	295.48	295
SUBTOTAL: Selective Demolition				\$295
22200 Plumbing Fixtures				
Relocate, re-rough, and reconnect existing lavatory	1	EACH	1,383.66	1,384
SUBTOTAL: Plumbing Fixtures				\$1,384
TOTAL: PLUMBING				\$1,679
23000 HEATING VENTILATION & AIR CONDITIONING				
23100 Selective Demolition				
Selective demolition - HVAC duct, piping, misc. units	106,500	SQFT	0.45	47,968
Disconnect and remove existing ASU's - 3,300 cfm w/steam coil	30	EACH	723.00	21,690
Remove ASU louvers, dampers, and ductwork	30	EACH	482.00	14,460
Disconnect and remove wall exhaust fan, 48x48 centrifugal, VFD	15	EACH	602.50	9,038
Remove wall exhaust louvers and dampers	15	EACH	482.00	7,230
Remove SAI (summer air intake) w/louvers and dampers	63	EACH	482.00	30,366
Disconnect and remove dome apex exhaust fans	30	EACH	602.50	18,075
Remove dome apex louvers and dampers	30	EACH	602.50	18,075



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Disconnect and remove steam boilers including flue/breeching and piping	4	EACH	9,752.00	39,008
SUBTOTAL: Selective Demolition				\$205,909
23200 Ventilation & Exhaust				
Provide new air supply units, steam heat	30	EACH	6,723.00	201,690
ASU steam coil connections - valves, steam traps, strainers, fittings, and insulation	30	EACH	1,794.20	53,826
Louvers - ASU, fixed blade/stormproof, 4" D x 15" x 15"	30	EACH	441.00	13,230
Var. volume motorized dampers - ASU, 15" x 15"	30	EACH	961.50	28,845
Provide new wall exhaust fan, 48"x48" centrifugal w/VFD	15	EACH	6,464.00	96,960
Provide new louvers and dampers for wall exhaust	15	EACH	1,723.00	25,845
Dome apex exhaust fan, 36"x36 centrifugal, w/supports, VFD	30	EACH	6,946.00	208,380
Provide new louvers and dampers for dome exhaust	30	EACH	2,064.00	61,920
Galvanized steel duct, rectangular at new ASU's - allowance	6,000	LBS	14.54	87,246
Var. volume motorized dampers - SAI, 60" x 24"	30	EACH	1,552.50	46,575
Louvers - SAI, fixed blade/stormproof, 4" D x 60" x 24"	30	EACH	811.50	24,345
Duct insulation	4,500	SQFT	8.23	37,041
SUBTOTAL: Ventilation & Exhaust				\$885,903
23300 Central Hydronic & Steam Equipment & Specialties				
Steam boilers, based on 5000 pph	4	EACH	91,501.54	366,006
CA duct	200	LNFT	38.98	7,796
Boiler flue/breeching	200	LNFT	181.42	36,284
SUBTOTAL: Central Hydronic & Steam Equipment & Specialties				\$410,086
23400 Heating & Ventilating Terminals				
Fintube radiators, HW - allowance	4,800	LNFT	125.95	604,560
SUBTOTAL: Heating & Ventilating Terminals				\$604,560
23500 HVAC Piping				
Provide new steam, condensate, natural gas, and tertiary piping - allowance	106,500	SQFT	1.37	145,990
SUBTOTAL: HVAC Piping				\$145,990
23600 Temperature Controls				
DDC controls - air supply units	30	EACH	3,000.00	90,000
DDC controls - exhaust fans	45	EACH	3,000.00	135,000
DDC controls - steam boilers	4	EACH	3,000.00	12,000
Thermostats/temperature sensors	30	EACH	500.00	15,000
CO sensors	3	EACH	500.00	1,500
Emergency boiler shutoff switch	4	EACH	1,050.00	4,200
Miscellaneous points & devices	1	LSUM	25,000.00	25,000
Engineer's station	1	LSUM	20,000.00	20,000
Programming, testing, and training	1	LSUM	25,000.00	25,000
SUBTOTAL: Temperature Controls				\$327,700
23700 Testing, Balancing, & Commissioning				
Airflow system testing and balancing - allowance	1	LSUM	15,000.00	15,000
Pipe system testing and balancing - allowance	1	LSUM	10,000.00	10,000
HVAC system commissioning assistance - allowance	1	LSUM	12,500.00	12,500

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Testing, Balancing, & Commissioning				\$37,500
TOTAL: HEATING VENTILATION & AIR CONDITIONING				\$2,617,649

26000 ELECTRICAL

26500 Lighting

Disconnect and remove light fixture	250	EACH	234.72	58,680
Disconnect and remove rusted and decayed conduit	1	LSUM	50,000.00	50,000
Light fixture, interior, L.E.D. mounting hardware and connections -	250	EACH	672.08	168,020
Exit lighting, L.E.D. standard, single face, ceiling or wall mount	40	EACH	449.72	17,989
Add new exterior building mounted lights	8	EACH	1,192.08	9,537
Add new exterior pole mounted lights and associated feeder	8	EACH	7,500.00	60,000
Occupancy sensors, passive infrared, ceiling mounted	80	EACH	446.72	35,738
Dimming local station	50	EACH	169.36	8,468
Convenience receptacles	30	EACH	166.58	4,997
Lighting control, devices, cabling, connections and testing	1	LSUM	34,999.90	35,000
Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	1	LSUM	180,000.00	180,000
Replace entire system; lights, and backbone software controlling lights	1	LSUM	22,000.00	22,000
New lighting control system hardware and software	1	LSUM	176,000.00	176,000
LED color changing up-light panels	8	EACH	8,200.00	65,600
LED color changing puck lights	750	EACH	187.00	140,250
Lighting control, devices, cabling, connections and testing	1	LSUM	135,000.00	135,000
Testing and engineering	1	LSUM	50,000.00	50,000

SUBTOTAL: Lighting \$1,217,278

26600 Branch Power Distribution & Devices

Remove and reinstall electrical to allow masonry repairs	1	LSUM	10,000.00	10,000
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SUBTOTAL: Branch Power Distribution & Devices \$10,000

26700 Mechanical Equipment Connections & Feeders

Disconnect HVAC equipment, feeders to remain - Air Handling Units	30	EACH	154.20	4,626
Disconnect HVAC equipment, feeders to remain - Boilers and, pumps	4	EACH	288.40	1,154
Disconnect HVAC equipment, feeders to remain - dome exhaust fans	30	EACH	234.72	7,042
Disconnect HVAC equipment, feeders to remain - Wall exhaust fans	15	EACH	154.20	2,313
Connect new HVAC equipment to existing feeders - Air Handling Units	30	EACH	299.72	8,992
Connect new HVAC equipment to existing feeders - Boilers and, pumps	4	EACH	514.44	2,058
Connect new HVAC equipment to existing feeders - dome exhaust fans	30	EACH	487.60	14,628
Connect new HVAC equipment to existing feeders - Wall exhaust fans	15	EACH	299.72	4,496

SUBTOTAL: Mechanical Equipment Connections & Feeders \$45,307

TOTAL: ELECTRICAL \$1,272,586

27000 COMMUNICATIONS

27200 Tele/Data Systems

Provision for IT room, plywood, cable tray, grounding, sleeves	1	EACH	7,000.00	7,000
MDF rack assembly 2 racks, switching equipment by Owner	1	EACH	12,200.00	12,200
Provide Fiber from roadway into building's main IT/Data closet (assumed length)	350	LNFT	68.60	24,010



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Voice/Data wall outlet, back box and plate, 1 gang, 2-port	32	EACH	163.00	5,216
Wireless Access Point and mounting hardware	24	EACH	1,709.44	41,027
Cable supports provisions	1	LNFT	65,001.35	65,001
Unshielded twisted pair (UTP) cable, solid, PVC jacket, #24, 4 pair, category 6	15,000	LNFT	2.38	35,693
Terminations and testing	1	SQFT	32,177.60	32,178
SUBTOTAL: Tele/Data Systems				\$222,324
27300 Intercom & Public Address Systems				
PA/Sound system, cabinet, amplifier and power supply	1	EACH	19,605.00	19,605
New recessed, surface, and pendant mounted speakers	240	EACH	472.00	113,280
Conduit and PA/Intercommunication wiring	1	LSUM	75,000.00	75,000
Terminations and testing	1	LSUM	15,000.00	15,000
SUBTOTAL: Intercom & Public Address Systems				\$222,885
TOTAL: COMMUNICATIONS				\$445,209
28000 ELECTRONIC SAFETY & SECURITY				
28200 Fire Alarm Systems				
Upgrade/expand existing fire alarm control panel	1	EACH	19,294.40	19,294
Miscellaneous FA devices	250	EACH	412.88	103,220
Fire alarm wiring installation, including 3/4" EMT conduit and FA cable wire	9,800	LNFT	18.87	184,928
Disconnect and remove existing system	1	LSUM	35,000.00	35,000
Testing and engineering	1	LSUM	15,000.00	15,000
SUBTOTAL: Fire Alarm Systems				\$357,442
28300 Intrusion Detection & Access Control Systems				
Detection systems control panels, power supply and software	1	EACH	26,300.00	26,300
Card reader, flush type, standard	16	EACH	934.72	14,956
Electric door strike connection	16	EACH	181.14	2,898
Door rough in	16	EACH	520.00	8,320
Conduit and security wiring	1	LSUM	48,000.00	48,000
Terminations and testing	1	SQFT	10,000.00	10,000
SUBTOTAL: Intrusion Detection & Access Control Systems				\$110,474
28400 CCTV System				
Control panel, switcher and recording device assembly	1	EACH	32,321.68	32,322
Interior dome camera, color,	20	EACH	2,341.14	46,823
Exterior dome camera, color,	8	EACH	4,299.44	34,396
Interior camera back box	20	EACH	44.84	897
Exterior camera back box	8	EACH	112.49	900
Conduit and CCTV wiring	1	LSUM	125,000.00	125,000
Terminations, testing and engineering	1	LSUM	30,000.00	30,000
SUBTOTAL: CCTV System				\$270,337
TOTAL: ELECTRONIC SAFETY & SECURITY				\$738,253
TOTAL: ALTERNATIVE #2: REPAIR THREE DOMES				\$13,910,926

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #3: RESTORE THREE DOMES				
02000 EXISTING CONDITIONS				
02100 Selective Demolition				
Remove exterior door and frame at loading dock, single	3	EACH	397.24	1,192
			SUBTOTAL: Selective Demolition	\$1,192
02800 Temporary Construction				
Remove existing wire mesh system, per dome	3	EACH	42,945.20	128,836
			SUBTOTAL: Temporary Construction	\$128,836
02900 Miscellaneous Existing Conditions				
Access allowance for HVAC scope per dome	3	LSUM	15,000.00	45,000
			SUBTOTAL: Miscellaneous Existing Conditions	\$45,000
TOTAL: EXISTING CONDITIONS				\$175,027
03000 CONCRETE				
03700 Concrete Restoration				
Clean, prep & recoat four sides of concrete skylight frame, all domes	21,600	LNFT	157.14	3,394,274
Repair joints at concrete skylight frame, allow 35%, all domes	7,560	LNFT	213.21	1,611,895
Chip, clean, prime & patch type of typical concrete restoration work, avg 2.5 SF/EA	60	EACH	1,015.70	60,942
Repair concrete spalls in precast concrete around louvers, avg 2 SF/EA	50	EACH	990.70	49,535
			SUBTOTAL: Concrete Restoration	\$5,116,646
TOTAL: CONCRETE				\$5,116,646
04000 MASONRY				
04200 Exterior Masonry Restoration				
Remove and rebuild section brick & block wall at corner, approx 12'-0" long	1	EACH	20,499.73	20,500
Remove and rebuild brick facade, one wythe, single unit, North Loading Dock	10	EACH	228.50	2,285
Stabilize all brick areas with helical ties, stabilize 100% of brick, assume 16" x 24" pattern, Transition House	2,300	EACH	25.62	58,932
Repair spalled stone and mortar areas of panels, avg 4 SF per location, Desert Dome	5	EACH	462.71	2,314
Remove pavement below, and in front of, the panels that end below grade to , add weep holes, rework curb/soil for proper drainage, Desert Dome	1	EACH	26,599.68	26,600
Chemically clean existing brick facade, Transition House	5,850	SQFT	7.93	46,375
Chemically clean existing precast facade at lower level Desert Dome	1,500	SQFT	5.95	8,922
Repoint all cracked and deteriorated areas of brick. Assume 10% of brick façade area, Transition House	585	SQFT	20.87	12,209
Repoint all cracked and deteriorated areas of brick. multiple locations, North Loading Dock	50	SQFT	103.58	5,179
Replace all steel lintels with new galvanized steel lintels, North Loading Dock	50	LNFT	509.99	25,500
Replace deteriorated steel base angles with new galvanized or stainless steel angles, Desert Dome	10	LNFT	437.50	4,375

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Replace deteriorated steel base angles with new galvanized or stainless steel angles, North Loading Dock	50	LNFT	437.50	21,875
Replace deteriorated steel base angles with new galvanized or stainless steel angles, Transition House	150	LNFT	437.50	65,624
Remove & replace deteriorated concrete window, door jambs & brick trim with new precast pieces, allow 50% of total, Transition House	200	LNFT	114.51	22,903
Remove and reset cast stone sills at louvers, approx 10LF/EA	6	EACH	684.86	4,109
SUBTOTAL: Exterior Masonry Restoration				\$327,700
TOTAL: MASONRY				\$327,700

05000 METALS

05100 Structural Steel

Remove & replace section of metal deck between loading dock and transition house, approx 6'-0" x16'-0"	1	EACH	7,742.04	7,742
SUBTOTAL: Structural Steel				\$7,742

05400 Metal Fabrications

Stainless steel handrails, floor mounted, Show Dome	60	LNFT	335.41	20,125
SUBTOTAL: Metal Fabrications				\$20,125

TOTAL: METALS				\$27,867
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07000 THERMAL & MOISTURE PROTECTION

07100 Dampproofing & Waterproofing

Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	1,950	LNFT	32.93	64,220
SUBTOTAL: Dampproofing & Waterproofing				\$64,220

07400 Roofing

Replace membrane over basement/mechanical area with new pedestrian grade membrane	4,100	SQFT	11.79	48,358
Add flashing to the top of the wall, Transition House	260	LNFT	63.82	16,594
Provide sheet metal protection for concrete at drain locations from new glazing system, 12" wide x 36" high	24	EACH	405.20	9,725
SUBTOTAL: Roofing				\$74,677

07800 Caulking & Sealants

Remove & replace all sealant joints within masonry, concrete, windows and doors, all Dome bases	7,500	LNFT	19.68	147,587
Remove & replace all sealant joints within masonry, concrete, windows and doors, North Loading Dock	1,000	LNFT	19.68	19,678
Remove & replace all sealant joints within masonry, concrete, windows and doors, Transition House	1,500	LNFT	19.68	29,517
Remove & replace joint sealants lower level Desert Dome precast joints	375	LNFT	19.68	7,379
SUBTOTAL: Caulking & Sealants				\$204,161

TOTAL: THERMAL & MOISTURE PROTECTION				\$343,058
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08000 OPENINGS

08300 Exterior Doors, Frames, & Hardware

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Remove & replace existing HM door, frame & hardware, single	2	EACH	5,874.40	11,749
Fiberglass door, frame & hardware - double	3	EACH	7,155.80	21,467
Provide emergency egress hardware, per leaf	28	EACH	2,106.82	58,991
SUBTOTAL: Exterior Doors, Frames, & Hardware				\$92,207
08600 Special Doors, Frames, & Hardware				
Horizontal fire door, WonDoor, 19'-0" wide x 12'-0" high, 2 hr rated	6	EACH	53,822.79	322,937
Fire curtain dome/lobby connection, 10'-0" long x 12'-0" high	2	EACH	24,092.79	48,186
Fire curtain dome/lobby connection, 26'-0" long x 12'-0" high	2	EACH	55,556.98	111,114
Fire curtain dome/lobby connection, 60'-0" long x 12'-0" high	2	EACH	116,113.96	232,228
SUBTOTAL: Special Doors, Frames, & Hardware				\$714,464
08700 Special Glazing Systems				
Replace existing dome skylight with new 7/16" laminated glass with low emissivity coating including new aluminum extrusion onto existing aluminum frame	3	EACH	9,000,000.00	27,000,000
SUBTOTAL: Special Glazing Systems				\$27,000,000
08800 Louvers & Vents				
Remove & replace all existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, all domes	153	EACH	352.10	53,872
SUBTOTAL: Louvers & Vents				\$53,872
TOTAL: OPENINGS				\$27,860,543

09000 FINISHES

09600 Paints & Coatings

Coat exposed steel plates at precast joints and hub connections to glazing system, all domes	4,800	EACH	87.23	418,680
Coat interior surface of foundations with a breathable coating	2,550	LNFT	27.26	69,513
Clean, prep & paint concrete outcropping walls, Desert Dome	700	SQFT	8.10	5,672
Clean, prep & paint exposed lintels at overhead doors, 8" wide x approx 12LF/EA, North Loading Dock	2	EACH	227.60	455
Clean, prep & paint embedded vertical steel elements, 4" wide x approx 12LF/EA, Entry	12	EACH	179.45	2,153
SUBTOTAL: Paints & Coatings				\$496,474

09900 Miscellaneous Finishes

Cut/patch wall at lavatory relocation	1	EACH	2,566.82	2,567
Demolish & replace existing ticket booth in ADA compliant location/design including doors & millwork, approx 10'x10'	1	LSUM	77,252.27	77,252
Enlarge walkway opening to provide 42" wide path of travel including patching	1	EACH	3,975.23	3,975
Miscellaneous finish upgrade in non-dome spaces	59,000	SQFT	44.19	2,607,434
Modify existing mirror & backsplash to ADA height, approx 12" LF/EA	2	EACH	4,837.84	9,676
Replace existing below counter apron with new code compliant apron	2	EACH	2,612.61	5,225
SUBTOTAL: Miscellaneous Finishes				\$2,706,129

TOTAL: FINISHES				\$3,202,603
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13000 SPECIAL CONSTRUCTION

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
13300 Fabricated Engineered Structures				
Provide emergency exit stair to the loading dock, assume 18 risers including aluminum gate at top of stair with emergency exit hardware	2	EACH	27,766.04	55,532
Elevated boardwalk, aluminum decking incl galv steel structure & cable railing, varying widths 5' - 14' wide, Desert Dome	350	LNFT	1,916.53	670,787
Elevated boardwalk, aluminum decking incl galv steel structure & cable railing, varying widths 5' - 14' wide, Tropic Dome	500	LNFT	1,916.53	958,267
SUBTOTAL: Fabricated Engineered Structures				\$1,684,585
TOTAL: SPECIAL CONSTRUCTION				\$1,684,585
21000 FIRE SUPPRESSION				
21200 Fire Sprinkler Equipment & Specialties				
Fire sprinkler system - lobby/central building - retrofit to existing	59,000	SQFT	5.44	320,842
Fire sprinkler system - domes	47,500	SQFT	10.02	475,950
SUBTOTAL: Fire Sprinkler Equipment & Specialties				\$796,792
TOTAL: FIRE SUPPRESSION				\$796,792
22000 PLUMBING				
22100 Selective Demolition				
Remove existing wall-mount lavatories including carrier and roughin; salvage fixture and carrier	1	EACH	295.48	295
SUBTOTAL: Selective Demolition				\$295
22200 Plumbing Fixtures				
Relocate, re-rough, and reconnect existing lavatory	1	EACH	1,445.52	1,446
SUBTOTAL: Plumbing Fixtures				\$1,446
TOTAL: PLUMBING				\$1,741
23000 HEATING VENTILATION & AIR CONDITIONING				
23100 Selective Demolition				
Selective demolition - HVAC duct, piping, misc. units	106,500	SQFT	0.45	47,968
Disconnect and remove existing ASU's - 3,300 cfm w/steam coil	30	EACH	723.00	21,690
Remove ASU louvers, dampers, and ductwork	30	EACH	482.00	14,460
Disconnect and remove wall exhaust fan, 48x48 centrifugal, VFD	15	EACH	602.50	9,038
Remove wall exhaust louvers and dampers	15	EACH	482.00	7,230
Remove SAI (summer air intake) w/louvers and dampers	63	EACH	482.00	30,366
Disconnect and remove dome apex exhaust fans	30	EACH	602.50	18,075
Remove dome apex louvers and dampers	30	EACH	602.50	18,075
Disconnect and remove steam boilers including flue/breeching and piping	4	EACH	9,752.00	39,008
SUBTOTAL: Selective Demolition				\$205,909
23200 Ventilation & Exhaust				
Provide new air supply units, steam heat	30	EACH	6,723.00	201,690
ASU steam coil connections - valves, steam traps, strainers, fittings, and insulation	30	EACH	1,794.20	53,826
Louvers - ASU, fixed blade/stormproof, 4" D x 15" x 15"	30	EACH	441.00	13,230



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Var. volume motorized dampers - ASU, 15" x 15"	30	EACH	961.50	28,845
Provide new wall exhaust fan, 48"x48" centrifugal w/VFD	15	EACH	6,464.00	96,960
Provide new louvers and dampers for wall exhaust	15	EACH	1,723.00	25,845
Dome apex exhaust fan, 36"x36 centrifugal, w/supports, VFD	30	EACH	6,946.00	208,380
Provide new louvers and dampers for dome exhaust	30	EACH	2,064.00	61,920
Galvanized steel duct, rectangular at new ASU's - allowance	6,000	LBS	14.54	87,246
Var. volume motorized dampers - SAI, 60" x 24"	30	EACH	1,552.50	46,575
Louvers - SAI, fixed blade/stormproof, 4" D x 60" x 24"	30	EACH	811.50	24,345
Duct insulation	4,500	SQFT	8.23	37,041
SUBTOTAL: Ventilation & Exhaust				\$885,903
23300 Central Hydronic & Steam Equipment & Specialties				
Steam boilers, based on 5000 pph	4	EACH	91,501.54	366,006
CA duct	200	LNFT	38.98	7,796
Boiler flue/breeching	200	LNFT	181.42	36,284
SUBTOTAL: Central Hydronic & Steam Equipment & Specialties				\$410,086
23400 Heating & Ventilating Terminals				
Fintube radiators, HW - allowance	4,800	LNFT	125.95	604,560
SUBTOTAL: Heating & Ventilating Terminals				\$604,560
23500 HVAC Piping				
Provide new steam, condensate, natural gas, and tertiary piping - allowance	106,500	SQFT	1.37	145,990
SUBTOTAL: HVAC Piping				\$145,990
23600 Temperature Controls				
DDC controls - air supply units	30	EACH	3,000.00	90,000
DDC controls - exhaust fans	45	EACH	3,000.00	135,000
DDC controls - steam boilers	4	EACH	3,000.00	12,000
Thermostats/temperature sensors	30	EACH	500.00	15,000
CO sensors	3	EACH	500.00	1,500
Emergency boiler shutoff switch	4	EACH	1,050.00	4,200
Miscellaneous points & devices	1	LSUM	25,000.00	25,000
Engineer's station	1	LSUM	20,000.00	20,000
Programming, testing, and training	1	LSUM	25,000.00	25,000
SUBTOTAL: Temperature Controls				\$327,700
23700 Testing, Balancing, & Commissioning				
Airflow system testing and balancing - allowance	1	LSUM	15,000.00	15,000
Pipe system testing and balancing - allowance	1	LSUM	10,000.00	10,000
HVAC system commissioning assistance - allowance	1	LSUM	12,500.00	12,500
SUBTOTAL: Testing, Balancing, & Commissioning				\$37,500
TOTAL: HEATING VENTILATION & AIR CONDITIONING				\$2,617,649
26000 ELECTRICAL				
26500 Lighting				
Disconnect and remove light fixture	250	EACH	234.72	58,680

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Disconnect and remove rusted and decayed conduit	1	LSUM	50,000.00	50,000
Light fixture, interior, L.E.D. mounting hardware and connections -	250	EACH	672.08	168,020
Exit lighting, L.E.D. standard, single face, ceiling or wall mount	40	EACH	449.72	17,989
Add new exterior building mounted lights	8	EACH	1,192.08	9,537
Add new exterior pole mounted lights and associated feeder	8	EACH	7,500.00	60,000
Occupancy sensors, passive infrared, ceiling mounted	80	EACH	446.72	35,738
Dimming local station	50	EACH	169.36	8,468
Convenience receptacles	30	EACH	166.58	4,997
Lighting control, devices, cabling, connections and testing	1	LSUM	34,999.90	35,000
Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	1	LSUM	180,000.00	180,000
Replace entire system; lights, and backbone software controlling lights	1	LSUM	22,000.00	22,000
New lighting control system hardware and software	1	LSUM	176,000.00	176,000
LED color changing up-light panels	8	EACH	8,200.00	65,600
LED color changing puck lights	750	EACH	187.00	140,250
Lighting control, devices, cabling, connections and testing	1	LSUM	135,000.00	135,000
Testing and engineering	1	LSUM	50,000.00	50,000
			SUBTOTAL: Lighting	\$1,217,278
26600 Branch Power Distribution & Devices				
Remove and reinstall electrical to allow masonry repairs	1	LSUM	10,000.00	10,000
			SUBTOTAL: Branch Power Distribution & Devices	\$10,000
26700 Mechanical Equipment Connections & Feeders				
Disconnect HVAC equipment, feeders to remain - Air Handling Units	30	EACH	154.20	4,626
Disconnect HVAC equipment, feeders to remain - Boilers and, pumps	4	EACH	288.40	1,154
Disconnect HVAC equipment, feeders to remain - dome exhaust fans	30	EACH	234.72	7,042
Disconnect HVAC equipment, feeders to remain - Wall exhaust fans	15	EACH	154.20	2,313
Connect new HVAC equipment to existing feeders - dome exhaust fans	30	EACH	487.60	14,628
Connect new HVAC equipment to existing feeders - Wall exhaust fans	15	EACH	299.72	4,496
Connect new HVAC equipment to existing feeders - Air Handling Units	30	EACH	299.72	8,992
Connect new HVAC equipment to existing feeders - Boilers and, pumps	4	EACH	514.44	2,058
			SUBTOTAL: Mechanical Equipment Connections & Feeders	\$45,307
TOTAL: ELECTRICAL				\$1,272,586
27000 COMMUNICATIONS				
27200 Tele/Data Systems				
Provision for IT room, plywood, cable tray, grounding, sleeves	1	EACH	7,000.00	7,000
MDF rack assembly 2 racks, switching equipment by Owner	1	EACH	12,200.00	12,200
Provide Fiber from roadway into building's main IT/Data closet (assumed lenght)	350	LNFT	68.60	24,010
Voice/Data wall outlet, back box and plate, 1 gang, 2-port	32	EACH	163.00	5,216
Wireless Access Point and mounting hardware	24	EACH	1,709.44	41,027
Cable supports provisions	1	LNFT	65,001.35	65,001
Unshielded twisted pair (UTP) cable, solid, PVC jacket, #24, 4 pair, category 6	15,000	LNFT	2.38	35,693
Terminations and testing	1	SQFT	32,177.60	32,178
			SUBTOTAL: Tele/Data Systems	\$222,324

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
27300 Intercom & Public Address Systems				
PA/Sound system, cabinet, amplifier and power supply	1	EACH	19,605.00	19,605
New recessed, surface, and pendant mounted speakers	240	EACH	472.00	113,280
Conduit and PA/Intercommunication wiring	1	LSUM	75,000.00	75,000
Terminations and testing	1	LSUM	15,000.00	15,000
SUBTOTAL: Intercom & Public Address Systems				\$222,885

TOTAL: COMMUNICATIONS \$445,209

28000 ELECTRONIC SAFETY & SECURITY

28200 Fire Alarm Systems				
Upgrade/expand existing fire alarm control panel	1	EACH	19,294.40	19,294
Miscellaneous FA devices	250	EACH	412.88	103,220
Fire alarm wiring installation, including 3/4" EMT conduit and FA cable wire	9,800	LNFT	18.87	184,928
Disconnect and remove existing system	1	LSUM	35,000.00	35,000
Testing and engineering	1	LSUM	15,000.00	15,000
SUBTOTAL: Fire Alarm Systems				\$357,442

28300 Intrusion Detection & Access Control Systems				
Detection systems control panels, power supply and software	1	EACH	26,300.00	26,300
Card reader, flush type, standard	16	EACH	934.72	14,956
Electric door strike connection	16	EACH	181.14	2,898
Door rough in	16	EACH	520.00	8,320
Conduit and security wiring	1	LSUM	48,000.00	48,000
Terminations and testing	1	LSUM	10,000.00	10,000
SUBTOTAL: Intrusion Detection & Access Control Systems				\$110,474

28400 CCTV System				
Control panel, switcher and recording device assembly	1	EACH	32,321.68	32,322
Interior dome camera, color,	20	EACH	2,341.14	46,823
Exterior dome camera, color,	8	EACH	4,299.44	34,396
Interior camera back box	20	EACH	44.84	897
Exterior camera back box	8	EACH	112.49	900
Conduit and CCTV wiring	1	LSUM	125,000.00	125,000
Terminations, testing and engineering	1	LSUM	30,000.00	30,000
SUBTOTAL: CCTV System				\$270,337

TOTAL: ELECTRONIC SAFETY & SECURITY \$738,253

TOTAL: ALTERNATIVE #3: RESTORE THREE DOMES \$44,610,259

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #4: RESTORE TROPICAL DOME				
02000 EXISTING CONDITIONS				
02100 Selective Demolition				
Remove exterior door and frame at loading dock, single	1	EACH	397.24	397
SUBTOTAL: Selective Demolition				\$397
02800 Temporary Construction				
Remove existing wire mesh system, Tropic Dome	1	EACH	42,945.20	42,945
SUBTOTAL: Temporary Construction				\$42,945
02900 Miscellaneous Existing Conditions				
Access allowance for HVAC scope, Tropic Dome	1	LSUM	15,000.00	15,000
SUBTOTAL: Miscellaneous Existing Conditions				\$15,000
TOTAL: EXISTING CONDITIONS				\$58,342
03000 CONCRETE				
03700 Concrete Restoration				
Clean, prep & recoat four sides of concrete skylight frame, Tropic Dome	7,200	LNFT	157.14	1,131,425
Repair joints at concrete skylight frame, allow 35%, Tropic Dome	2,520	LNFT	213.21	537,298
Chip, clean, prime & patch type of typical concrete restoration work, avg 2.5 SF/EA	20	EACH	1,015.70	20,314
Repair concrete spalls in precast concrete around louvers, avg 2 SF/EA	17	EACH	990.70	16,842
SUBTOTAL: Concrete Restoration				\$1,705,879
TOTAL: CONCRETE				\$1,705,879
07000 THERMAL & MOISTURE PROTECTION				
07100 Dampproofing & Waterproofing				
Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	650	LNFT	32.93	21,407
SUBTOTAL: Dampproofing & Waterproofing				\$21,407
07400 Roofing				
Provide sheet metal protection for concrete at drain locations from new glazing system, 12" wide x 36" high	8	EACH	405.20	3,242
SUBTOTAL: Roofing				\$3,242
07800 Caulking & Sealants				
Remove & replace all sealant joints within masonry, concrete, windows and doors, Tropic Dome base	2,500	LNFT	19.68	49,196
SUBTOTAL: Caulking & Sealants				\$49,196
TOTAL: THERMAL & MOISTURE PROTECTION				\$73,844
08000 OPENINGS				
08300 Exterior Doors, Frames, & Hardware				
Fiberglass door, frame & hardware - double	1	EACH	7,155.80	7,156
SUBTOTAL: Exterior Doors, Frames, & Hardware				\$7,156

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
08600 Special Doors, Frames, & Hardware				
Fire curtain dome/lobby connection, 40'-0" long x 12'-0" high	2	EACH	79,909.31	159,819
SUBTOTAL: Special Doors, Frames, & Hardware				\$159,819
08700 Special Glazing Systems				
Replace existing dome skylight with new 7/16" laminated glass with low emissivity coating including new aluminum extrusion onto existing aluminum frame	1	EACH	9,000,000.00	9,000,000
SUBTOTAL: Special Glazing Systems				\$9,000,000
08800 Louvers & Vents				
Remove & replace all existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, Tropic Dome	51	EACH	352.10	17,957
SUBTOTAL: Louvers & Vents				\$17,957
TOTAL: OPENINGS				\$9,184,932
09000 FINISHES				
09600 Paints & Coatings				
Coat exposed steel plates at precast joints and hub connections to glazing system, Tropic Dome	1,600	EACH	87.23	139,560
Coat interior surface of foundations with a breathable coating	850	LNFT	27.26	23,171
SUBTOTAL: Paints & Coatings				\$162,731
TOTAL: FINISHES				\$162,731
13000 SPECIAL CONSTRUCTION				
13300 Fabricated Engineered Structures				
Provide emergency exit stair to the loading dock, assume 18 risers including aluminum gate at top of stair with emergency exit hardware	1	EACH	27,766.04	27,766
Elevated boardwalk, aluminum decking incl galv steel structure & cable railing, varying widths 5' - 14' wide, Tropic Dome	550	LNFT	1,916.53	1,054,093
SUBTOTAL: Fabricated Engineered Structures				\$1,081,859
TOTAL: SPECIAL CONSTRUCTION				\$1,081,859
21000 FIRE SUPPRESSION				
21200 Fire Sprinkler Equipment & Specialties				
Fire sprinkler system - domes	15,850	SQFT	10.02	158,817
SUBTOTAL: Fire Sprinkler Equipment & Specialties				\$158,817
TOTAL: FIRE SUPPRESSION				\$158,817
23000 HEATING VENTILATION & AIR CONDITIONING				
23100 Selective Demolition				
Selective demolition - HVAC duct, piping, misc. units	15,850	SQFT	0.45	7,139
Disconnect and remove existing ASU's - 3,300 cfm w/steam coil	10	EACH	723.00	7,230
Remove ASU louvers, dampers, and ductwork	10	EACH	482.00	4,820
Disconnect and remove wall exhaust fan, 48x48 centrifugal, VFD	5	EACH	602.50	3,013
Remove wall exhaust louvers and dampers	5	EACH	482.00	2,410

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Remove SAI (summer air intake) w/louvers and dampers	21	EACH	482.00	10,122
Disconnect and remove dome apex exhaust fans	10	EACH	602.50	6,025
Remove dome apex louvers and dampers	10	EACH	602.50	6,025
SUBTOTAL: Selective Demolition				\$46,783
23200 Ventilation & Exhaust				
Provide new air supply units, steam heat	10	EACH	6,723.00	67,230
ASU steam coil connections - valves, steam traps, strainers, fittings, and insulation	10	EACH	1,794.20	17,942
Louvers - ASU, fixed blade/stormproof, 4" D x 15" x 15"	10	EACH	441.00	4,410
Var. volume motorized dampers - ASU, 15" x 15"	10	EACH	961.50	9,615
Provide new wall exhaust fan, 48"x48" centrifugal w/VFD	5	EACH	6,464.00	32,320
Provide new louvers and dampers for wall exhaust	5	EACH	1,723.00	8,615
Dome apex exhaust fan, 36"x36 centrifugal, w/supports, VFD	10	EACH	6,946.00	69,460
Provide new louvers and dampers for dome exhaust	10	EACH	2,064.00	20,640
Galvanized steel duct, rectangular at new ASU's - allowance	2,000	LBS	14.54	29,082
Var. volume motorized dampers - SAI, 60" x 24"	10	EACH	1,552.50	15,525
Louvers - SAI, fixed blade/stormproof, 4" D x 60" x 24"	10	EACH	811.50	8,115
Duct insulation	1,500	SQFT	8.23	12,347
Provide fire damper/shutters to isolate Tropical dome from other domes	2	EACH	692.00	1,384
SUBTOTAL: Ventilation & Exhaust				\$296,685
23400 Heating & Ventilating Terminals				
Fintube radiators, HW - allowance	1,600	LNFT	125.95	201,520
SUBTOTAL: Heating & Ventilating Terminals				\$201,520
23500 HVAC Piping				
Provide new steam, condensate, natural gas, and tertiary piping - allowance	15,850	SQFT	1.37	21,727
SUBTOTAL: HVAC Piping				\$21,727
23600 Temperature Controls				
DDC controls - air supply units	10	EACH	3,000.00	30,000
DDC controls - exhaust fans	15	EACH	3,000.00	45,000
Thermostats/temperature sensors	10	EACH	500.00	5,000
CO sensors	1	EACH	500.00	500
Emergency boiler shutoff switch	4	EACH	1,050.00	4,200
Miscellaneous points & devices	1	LSUM	10,000.00	10,000
Engineer's station	1	LSUM	20,000.00	20,000
Programming, testing, and training	1	LSUM	25,000.00	25,000
SUBTOTAL: Temperature Controls				\$139,700
23700 Testing, Balancing, & Commissioning				
Airflow system testing and balancing - allowance	1	LSUM	5,000.00	5,000
Pipe system testing and balancing - allowance	1	LSUM	3,500.00	3,500
HVAC system commissioning assistance - allowance	1	LSUM	4,500.00	4,500
SUBTOTAL: Testing, Balancing, & Commissioning				\$13,000
TOTAL: HEATING VENTILATION & AIR CONDITIONING				\$719,416



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
26000 ELECTRICAL				
26500 Lighting				
LED color changing up-light panels	2	EACH	8,200.00	16,400
LED color changing puck lights	250	EACH	187.00	46,750
Lighting control, devices, cabling, connections and testing	1	LSUM	45,000.00	45,000
Testing and engineering	1	LSUM	20,000.00	20,000
SUBTOTAL: Lighting				\$128,150
26600 Branch Power Distribution & Devices				
Remove and reinstall electrical to allow masonry repairs	1	LSUM	5,000.00	5,000
SUBTOTAL: Branch Power Distribution & Devices				\$5,000
26700 Mechanical Equipment Connections & Feeders				
Disconnect HVAC equipment, feeders to remain - Air Handling Units	10	EACH	154.20	1,542
Disconnect HVAC equipment, feeders to remain - dome exhaust fans	10	EACH	234.72	2,347
Disconnect HVAC equipment, feeders to remain - Wall exhaust fans	5	EACH	154.20	771
Connect new HVAC equipment to existing feeders - Air Handling Units	10	EACH	299.72	2,997
Connect new HVAC equipment to existing feeders - dome exhaust fans	10	EACH	487.60	4,876
Connect new HVAC equipment to existing feeders - Wall exhaust fans	5	EACH	299.72	1,499
SUBTOTAL: Mechanical Equipment Connections & Feeders				\$14,032
TOTAL: ELECTRICAL				\$147,182
27000 COMMUNICATIONS				
27200 Tele/Data Systems				
Voice/Data wall outlet, back box and plate, 1 gang, 2-port	12	EACH	163.00	1,956
Wireless Access Point and mounting hardware	8	EACH	1,709.44	13,676
Cable supports provisions	1	LSUM	22,000.00	22,000
Unshielded twisted pair (UTP) cable, solid, PVC jacket, #24, 4 pair, category 6	5,000	LNFT	2.38	11,898
Terminations and testing	1	SQFT	10,000.00	10,000
SUBTOTAL: Tele/Data Systems				\$59,529
27300 Intercom & Public Address Systems				
PA/Sound system, cabinet, amplifier and power supply	1	EACH	8,500.00	8,500
New recessed, surface, and pendant mounted speakers	80	EACH	472.00	37,760
Conduit and PA/Intercommunication wiring	1	LSUM	25,000.00	25,000
Terminations and testing	1	LSUM	5,000.00	5,000
SUBTOTAL: Intercom & Public Address Systems				\$76,260
TOTAL: COMMUNICATIONS				\$135,789
28000 ELECTRONIC SAFETY & SECURITY				
28200 Fire Alarm Systems				
Miscellaneous FA devices	15	EACH	412.88	6,193
Fire alarm wiring installation, including 3/4" EMT conduit and FA cable wire	700	LNFT	18.87	13,209
Disconnect and remove existing system	1	LSUM	6,000.00	6,000
Testing and engineering	1	LSUM	2,500.00	2,500

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
			SUBTOTAL: Fire Alarm Systems	\$27,902
28300	Intrusion Detection & Access Control Systems			
Detection systems control panels, power supply and software	1	EACH	26,300.00	26,300
Card reader, flush type, standard	5	EACH	934.72	4,674
Electric door strike connection	5	EACH	181.14	906
Door rough in	5	EACH	520.00	2,600
Conduit and security wiring	1	LSUM	16,000.00	16,000
Terminations and testing	1	LSUM	6,500.00	6,500
			SUBTOTAL: Intrusion Detection & Access Control Systems	\$56,979
28400	CCTV System			
Control panel, switcher and recording device assembly	1	EACH	12,000.00	12,000
Interior dome camera, color,	8	EACH	2,341.14	18,729
Exterior dome camera, color,	3	EACH	4,299.44	12,898
Interior camera back box	7	EACH	44.84	314
Exterior camera back box	3	EACH	112.49	337
Conduit and CCTV wiring	1	LSUM	75,000.00	75,000
Terminations, testing and engineering	1	LSUM	10,000.00	10,000
			SUBTOTAL: CCTV System	\$129,279
TOTAL: ELECTRONIC SAFETY & SECURITY				\$214,160
TOTAL: ALTERNATIVE #4: RESTORE TROPICAL DOME				\$13,642,951

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
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ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

02000 EXISTING CONDITIONS

02100 Selective Demolition

Create opening in Tropic Dome Facade for Connection	1	LSUM	200,000.00	200,000
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SUBTOTAL: Selective Demolition \$200,000

TOTAL: EXISTING CONDITIONS

\$200,000

03000 CONCRETE

03100 Concrete Formwork

Formwork for strip footings	2,300	SQFT	10.17	23,397
Formwork for isolated column footings	1,800	SQFT	11.49	20,687
Formwork for piers	1,200	SQFT	13.43	16,113
Formwork for foundation walls	4,100	SQFT	10.98	45,038
Formwork for basement walls	15,850	SQFT	17.18	272,379
Formwork for elevated slabs	1,100	SQFT	12.85	14,136

SUBTOTAL: Concrete Formwork \$391,750

03200 Concrete Reinforcement

Reinforcement in strip footings, avg 65 lbs/cy	9,700	LBS	1.82	17,631
Reinforcement in isolated column footings, avg 85 lbs/cy	9,700	LBS	1.82	17,631
Reinforcement in piers, avg 200 lbs/cy	4,400	LBS	2.09	9,174
Reinforcement in foundation walls, avg 130 lbs/cy	13,200	LBS	1.92	25,365
Reinforcement in basement walls, avg 150 lbs/cy	58,700	LBS	2.07	121,309
Reinforcement in elevated slabs, avg 300 lbs/cy	12,300	LBS	2.07	25,419

SUBTOTAL: Concrete Reinforcement \$216,529

03300 Cast in Place Concrete

Concrete in strip footings	149	CUYD	238.62	35,554
Concrete in isolated column footings	114	CUYD	249.34	28,425
Concrete in piers	22	CUYD	292.24	6,429
Concrete in foundation walls	101	CUYD	246.28	24,874
Concrete in basement walls	391	CUYD	262.94	102,808
Concrete in elevated slabs	41	CUYD	253.45	10,392
Elevator pit	1	EACH	13,847.09	13,847
Concrete slab on grade, 5" thk	21,575	SQFT	7.35	158,555
Aggregate base at slab on grade	400	CUYD	50.53	20,212
Vapor barrier at slab	21,575	SQFT	1.31	28,231

SUBTOTAL: Cast in Place Concrete \$429,327

03400 Cementitious Decks

Concrete on metal deck	10,375	SQFT	8.22	85,330
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SUBTOTAL: Cementitious Decks \$85,330

TOTAL: CONCRETE

\$1,122,936

04000 MASONRY

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
04300 Interior Masonry				
Elevator shaft partition, 12" CMU, 1-hr rated	1,020	SQFT	45.15	46,050
SUBTOTAL: Interior Masonry				\$46,050
TOTAL: MASONRY				\$46,050
05000 METALS				
05100 Structural Steel				
Structural steel beams, joists & columns, floor structure, assumes 15 lbs/sf	78	TONS	7,060.51	550,720
Structural steel beams, joists & columns, roof structure, assumes 10 lbs/sf	119	TONS	7,060.51	840,201
Composite metal floor deck	10,375	SQFT	8.62	89,482
Metal roof deck	23,800	SQFT	7.53	179,283
SUBTOTAL: Structural Steel				\$1,659,686
05200 Structural Metal Stud Framing				
Structural metal studs, 6" thk	4,780	SQFT	26.80	128,123
SUBTOTAL: Structural Metal Stud Framing				\$128,123
05300 Stairs				
Monumental/grand open stair	1	EACH	110,702.00	110,702
SUBTOTAL: Stairs				\$110,702
05400 Metal Fabrications				
Glazed metal guardrail at open to below	130	LNFT	581.25	75,562
SUBTOTAL: Metal Fabrications				\$75,562
05900 Miscellaneous Metals				
Miscellaneous angles, channels, lintels, etc.	42,130	SQFT	1.99	83,725
SUBTOTAL: Miscellaneous Metals				\$83,725
TOTAL: METALS				\$2,057,798
06000 WOODS, PLASTICS & COMPOSITES				
06200 Rough Carpentry				
Miscellaneous wood blocking & rough carpentry	42,130	SQFT	1.20	50,430
Exterior gypsum sheathing	4,780	SQFT	4.68	22,359
SUBTOTAL: Rough Carpentry				\$72,789
TOTAL: WOODS, PLASTICS & COMPOSITES				\$72,789
07000 THERMAL & MOISTURE PROTECTION				
07100 Dampproofing & Waterproofing				
Vapor/air barrier	4,780	SQFT	5.35	25,566
Waterproofing at pits	210	SQFT	16.58	3,482
Waterproofing at tunnel wall/lid	3,050	SQFT	13.20	40,251
SUBTOTAL: Dampproofing & Waterproofing				\$69,298
07200 Thermal Insulation				
Rigid insulation	4,780	SQFT	3.99	19,067
Foundation insulation	5,100	SQFT	3.99	20,333

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Thermal Insulation				\$39,400
07400 Roofing				
TPO roofing including insulation	23,100	SQFT	30.03	693,679
Flashing & counterflashing	900	LNFT	47.79	43,009
Metal coping	600	LNFT	68.49	41,091
SUBTOTAL: Roofing				\$777,780
07500 Roofing Specialties				
Roof hatch & ships ladder, 3'-0" x 6'-0"	2	EACH	6,440.96	12,882
SUBTOTAL: Roofing Specialties				\$12,882
07600 Metal Panel Systems				
Metal panel system - 80% of total	1,480	SQFT	83.49	123,558
Metal panel soffit system at roof	3,300	SQFT	86.65	285,946
SUBTOTAL: Metal Panel Systems				\$409,504
07700 Fireproofing & Firestopping				
Fireproof steel structure	10,375	SQFT	4.59	47,642
SUBTOTAL: Fireproofing & Firestopping				\$47,642
07800 Caulking & Sealants				
Miscellaneous caulking & sealants	42,130	SQFT	0.29	12,112
SUBTOTAL: Caulking & Sealants				\$12,112
TOTAL: THERMAL & MOISTURE PROTECTION				\$1,368,618
08000 OPENINGS				
08200 Curtainwall & Storefront				
Exterior storefront / windows - 20% of total	370	SQFT	104.71	38,743
High performance curtainwall system	13,250	SQFT	163.39	2,164,855
High performance curtainwall system, operable	5,000	SQFT	362.61	1,813,072
SUBTOTAL: Curtainwall & Storefront				\$4,016,670
08300 Exterior Doors, Frames, & Hardware				
AL/GL door, frame & hardware - double	8	EACH	8,874.40	70,995
SUBTOTAL: Exterior Doors, Frames, & Hardware				\$70,995
08400 Interior Doors, Frames, & Hardware				
Door, frame & hardware, double	5	EACH	4,504.35	22,522
Door, frame & hardware, single	10	EACH	2,845.75	28,458
SUBTOTAL: Interior Doors, Frames, & Hardware				\$50,979
08700 Special Glazing Systems				
Greenhouse glazed skylight system	11,200	SQFT	231.97	2,598,068
SUBTOTAL: Special Glazing Systems				\$2,598,068
08800 Louvers & Vents				
Aluminum louvers - quantity allowance	200	SQFT	106.68	21,336
SUBTOTAL: Louvers & Vents				\$21,336

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
TOTAL: OPENINGS				\$6,758,049
09000 FINISHES				
09100 Plaster & Gypsum Board				
Gypboard soffit/cloud - quantity allowance	1,500	SQFT	46.24	69,360
Drywall partition	12,800	SQFT	17.93	229,464
Gyp board back up	1,480	SQFT	6.47	9,570
SUBTOTAL: Plaster & Gypsum Board				\$308,394
09200 Floor Finishes				
Ceramic tile base at toilet rooms	285	LNFT	24.28	6,921
Rubber base	1,500	LNFT	3.46	5,186
Polished concrete sealer	31,950	SQFT	4.50	143,877
SUBTOTAL: Floor Finishes				\$155,985
09300 Wall Finishes				
Ceramic wall tile at toilet rooms	2,600	SQFT	19.21	49,936
SUBTOTAL: Wall Finishes				\$49,936
09400 Ceiling Finishes				
ACT system, 2'-0" x 2'-0"	3,950	SQFT	9.17	36,229
SUBTOTAL: Ceiling Finishes				\$36,229
09600 Paints & Coatings				
Paint walls	24,000	SQFT	1.58	37,862
Paint ceiling/soffit	1,500	SQFT	2.11	3,163
Paint exposed structure	17,650	SQFT	2.72	48,064
SUBTOTAL: Paints & Coatings				\$89,090
TOTAL: FINISHES				\$639,635
10000 SPECIALTIES				
10400 Toilet Accessories				
Toilet partition, accessible	4	EACH	1,134.30	4,537
Toilet partition, standard	6	EACH	887.44	5,325
Urinal screen	2	EACH	467.77	936
Toilet paper dispenser, double roll	12	EACH	114.05	1,369
Paper towel dispenser, surface mounted	6	EACH	103.58	621
Napkin disposal, stainless steel, surface mounted	8	EACH	128.58	1,029
Baby diaper changing station	2	EACH	786.26	1,573
Soap dispenser	10	EACH	93.58	936
Electric hand dryer	10	EACH	567.15	5,672
Utility mop holder & shelf, stainless steel	1	EACH	194.05	194
Grab bar set, three piece	6	EACH	290.73	1,744
Mirror at sink, 18"x24"	10	EACH	161.15	1,612
SUBTOTAL: Toilet Accessories				\$25,546
10500 Fire Protection Specialties				



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Fire extinguisher & cabinet, wall mounted	4	EACH	303.51	1,214
SUBTOTAL: Fire Protection Specialties				\$1,214
TOTAL: SPECIALTIES				\$26,760
11000 EQUIPMENT				
11300 Food Service Equipment				
Food service equipment allowance	1	LSUM	125,000.00	125,000
SUBTOTAL: Food Service Equipment				\$125,000
TOTAL: EQUIPMENT				\$125,000
12000 FURNISHINGS				
12100 Window Treatment				
Window treatment	370	SQFT	8.87	3,282
SUBTOTAL: Window Treatment				\$3,282
TOTAL: FURNISHINGS				\$3,282
14000 CONVEYING EQUIPMENT				
14200 Electric Traction Elevators				
Passenger elevator, 2 stop	1	EACH	175,000.00	175,000
SUBTOTAL: Electric Traction Elevators				\$175,000
TOTAL: CONVEYING EQUIPMENT				\$175,000
21000 FIRE SUPPRESSION				
21200 Fire Sprinkler Equipment & Specialties				
Fire sprinkler system - convservatory addition	41,827	SQFT	10.02	419,107
SUBTOTAL: Fire Sprinkler Equipment & Specialties				\$419,107
TOTAL: FIRE SUPPRESSION				\$419,107
22000 PLUMBING				
22200 Plumbing Fixtures				
Water closet, wall hung, manual flush valve	6	EACH	1,781.97	10,692
Lavatory, wall hung, manual faucet	7	EACH	1,807.66	12,654
Urinal, wall hung, manual flush valve	1	EACH	1,818.16	1,818
Drinking fountain, ADA bi-level w/ bottle filler	2	EACH	2,985.87	5,972
Hose bibbs	4	EACH	499.10	1,996
Wall hydrant, nonfreeze	4	EACH	1,418.19	5,673
In-ground hydrant at conservatory, nonfreeze	4	EACH	1,418.19	5,673
Rough-ins and connections for cafeteria and kitchen equipment	1	LSUM	14,455.20	14,455
SUBTOTAL: Plumbing Fixtures				\$58,932
22300 Plumbing Equipment & Specialties				
Domestic water heater, gas-fired	1	EACH	10,945.52	10,946
DHW recirculating pump	1	EACH	2,178.21	2,178
Expansion tank	1	EACH	1,411.24	1,411

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Thermostatic mixing valve - central	1	EACH	4,472.76	4,473
Thermostatic mixing valve - 3/4", point of use (qty assumed)	7	EACH	344.98	2,415
Circuit setter balancing valve, 3/4"	3	EACH	162.28	487
Elevator sump pump	1	EACH	1,822.76	1,823
Hub drains	1	EACH	497.74	498
Floor drains	4	EACH	707.59	2,830
Cleanouts - wall	4	EACH	404.55	1,618
Roof drains - qty assumed	5	EACH	952.40	4,762
Vent thru roof - qty assumed	2	EACH	372.40	745
SUBTOTAL: Plumbing Equipment & Specialties				\$34,185
22400 Domestic Water, Waste & Vent, & Storm Drainage Piping				
Domestic water pipe, fittings, and supports, type L copper - qty assumed	1,000	LNFT	39.54	39,544
Pipe insulation, domestic water piping	1,000	LNFT	10.17	10,170
Sanitary/waste pipe, fittings, and supports, sched. 40 PVC, AG - qty assumed	300	LNFT	59.36	17,809
Vent pipe, fittings, and supports, sched. 40 PVC, AG - qty assumed	450	LNFT	41.28	18,575
Storm drainage pipe, fittings, and supports, sched. 40 PVC, AG - qty assumed	170	LNFT	88.32	15,014
Elevator sump pump discharge, 2" PVC - qty assumed	50	LNFT	50.29	2,514
Pipe insulation, AG horizontal storm drainage - qty assumed	80	LNFT	19.75	1,580
Incoming service, w/meter & backflow preventers	1	EACH	7,012.71	7,013
Pipe and valve tagging - domestic water	1,000	LNFT	1.37	1,369
System pressure testing, water pipe chlorination, and pipe flushing - domestic plumbing	1	LSUM	2,955.15	2,955
SUBTOTAL: Domestic Water, Waste & Vent, & Storm Drainage Piping				\$116,542
TOTAL: PLUMBING				\$209,660

23000 HEATING VENTILATION & AIR CONDITIONING

23200 Ventilation & Exhaust

Rooftop unit, 80 tons (32,000 cfm), DX coil, gas heat, fans, filters, condenser section	2	EACH	202,712.00	405,424
Makeup air unit, packaged, DX coil, HW heat, fans, filters, condenser section	1	EACH	30,784.00	30,784
HW coil connections, RTU - valves, fittings, specialties, and pipe insulation	3	EACH	6,286.36	18,859
Exhaust fan, rooftop, w/curb, backdraft damper	2	EACH	4,601.21	9,202
Variable air volume terminals w/ HW reheat coil - non-conservatory spaces - assumed qty's	20	EACH	1,217.00	24,340
Reheat coil connections, VAV - valves, fittings, and insulation	20	EACH	1,082.00	21,640
Galvanized steel duct & insulation - addition	42,130	SQFT	12.28	517,521
Kitchen grease duct, welded black iron w/2-layer firewrap	50	LNFT	400.00	20,000
Registers, grilles and diffusers - assumed quantities	100	EACH	111.20	11,120

SUBTOTAL: Ventilation & Exhaust **\$1,058,890**

23300 Central Hydronic & Steam Equipment & Specialties

HW boilers, condensing, based on 2,000 mbh	2	EACH	57,876.00	115,752
CA duct, HW boilers	60	LNFT	30.46	1,827
CA duct, domestic water heater	50	LNFT	15.49	775
Boiler flue/breeching, 10" dia.	60	LNFT	156.15	9,369



**Milwaukee County
Mitchel Park Domes
Future State Planning**

Order of Magnitude Estimate
08/29/2023
DRAFT

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Water heater flue/vent	50	LNFT	116.95	5,848
HW pumps, secondary, base-mount	2	EACH	5,668.23	11,336
HW boiler primary pumps, inline	2	EACH	1,696.90	3,394
Variable frequency drive, HW secondary pumps, (MC supply, EC install)	2	EACH	2,900.36	5,801
Vibration isolation, pumps	2	EACH	1,818.80	3,638
Isolation valves, pumps, butterfly, 6"	2	EACH	1,190.15	2,380
Flexible pump connections, 6"	4	EACH	411.80	1,647
Suction diffuser, 6"	2	EACH	2,184.50	4,369
Triple duty valve, 6"	2	EACH	3,759.50	7,519
Pump strainer, Y-type, 6"	2	EACH	1,215.35	2,431
Expansion tank	1	EACH	6,225.20	6,225
Air separator, 6"	1	EACH	4,198.23	4,198
Chemical pot feeder	1	EACH	2,275.20	2,275
Sidestream filters - new	1	EACH	2,975.20	2,975
Pressure fill/makeup water system	1	EACH	7,627.60	7,628
SUBTOTAL: Central Hydronic & Steam Equipment & Specialties				\$199,387
23500 HVAC Piping				
HHWS/R mains, std. wgt. blk. steel pipe, fittings, and supports, welded/flanged,	500	LNFT	114.92	57,462
HHWS/R runouts, type L copper pipe, fittings, and supports	700	LNFT	28.08	19,654
Natural gas piping, std. wgt. blk. steel pipe, fittings, and supports, threaded, 1-1/2"	150	LNFT	38.38	5,757
Pipe insulation, HHWS/R mains	500	LNFT	17.16	8,581
Pipe insulation, HHWS/R runouts	700	LNFT	10.07	7,052
Pipe and valve tagging - interior bldg HVAC piping	1,350	LNFT	1.32	1,787
SUBTOTAL: HVAC Piping				\$100,293
23600 Temperature Controls				
DDC controls - rooftop units	2	EACH	15,000.00	30,000
DDC controls - makeup air units	1	EACH	5,000.00	5,000
DDC controls - exhaust fan, general, toilet	2	EACH	3,000.00	6,000
DDC controls - VAV terminals w/reheat coil	20	EACH	2,000.00	40,000
DDC controls - HW boilers	2	EACH	3,000.00	6,000
DDC controls - hydronic pumps, constant speed	2	EACH	3,000.00	6,000
DDC controls - hydronic pumps, variable speed	2	EACH	7,500.00	15,000
Thermostats/temperature sensors	20	EACH	500.00	10,000
CO sensors	1	EACH	500.00	500
Emergency boiler shutoff switch	1	EACH	1,050.00	1,050
Miscellaneous points & devices	1	LSUM	15,000.00	15,000
Engineer's station	1	LSUM	20,000.00	20,000
Programming, testing, and training	1	LSUM	15,000.00	15,000
SUBTOTAL: Temperature Controls				\$169,550
23700 Testing, Balancing, & Commissioning				
Airflow system testing and balancing	1	LSUM	45,000.00	45,000
Pipe system testing and balancing	1	LSUM	10,000.00	10,000
HVAC system commissioning assistance	1	LSUM	20,000.00	20,000

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Testing, Balancing, & Commissioning				\$75,000
TOTAL: HEATING VENTILATION & AIR CONDITIONING				\$1,603,121

26000 ELECTRICAL

26200 Main Power Distribution

New service assembly Switchboard 208/120V 3ph 4w 2000A and feeder	1	EACH	150,000.00	150,000
Branch panelboards and associated feeders	41,827	SQFT	2.25	94,086
New generator assembly, docking station, ATS, panel and feeder	1	EACH	125,023.46	125,023
Grounding system per code	1	LSUM	20,000.20	20,000

SUBTOTAL: Main Power Distribution \$389,109

26500 Lighting

Miscellaneous LED fixtures	41,827	EACH	17.50	731,973
Decorative and specialty light fixtures - allowance	1	LSUM	100,119.96	100,120
Lighting control, devices, cabling, connections and testing	41,827	SQFT	2.50	104,584
Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	41,827	SQFT	5.50	230,023

SUBTOTAL: Lighting \$1,166,700

26600 Branch Power Distribution & Devices

Dedicated NEMA 6-20R duplex receptacle	12	EACH	150.54	1,806
Duplex receptacle, Ground Fault Interrupting, 20 amp	10	EACH	145.36	1,454
Duplex receptacle, backbox, grounded, 120 volt, 20 amp (assumed quantities)	170	EACH	122.13	20,762
Duplex receptacle, Ground Fault Interrupting, 20 amp with Waterproof Cover	22	EACH	150.56	3,312
Duplex receptacle, grounded, 120 volt, 20 amp - floor mounted	4	EACH	298.64	1,195
Quadruplex receptacle, backbox, grounded, 120 volt, 20 amp	10	EACH	130.02	1,300
Junction Box and hardwired connection	36	EACH	96.24	3,465
Branch Power - Branch wiring installation 600 V, including 3/4" EMT conduit and THWN wire, 20A	41,827	SQFT	6.85	286,523

SUBTOTAL: Branch Power Distribution & Devices \$319,817

26700 Mechanical Equipment Connections & Feeders

Motors connection, disconnect switches and associated feeders - Elevator sump pump	1	EACH	1,100.00	1,100
Motors connection, disconnect switches and associated feeders - elevator	1	EACH	8,000.00	8,000
Motors connection, disconnect switches and associated feeders - DHW recirculating pump	1	EACH	850.00	850
Motors connection, disconnect switches and associated feeders - Exhaust fan, rooftop	2	EACH	4,000.00	8,000
Motors connection, disconnect switches and associated feeders - HW pumps, secondary	2	EACH	4,800.00	9,600
Motors connection, disconnect switches and associated feeders - HW boilers, 2,000 mbh	2	EACH	3,500.00	7,000
Motors connection, disconnect switches and associated feeders - HW boiler primary pump	2	EACH	4,800.00	9,600
Motors connection, disconnect switches and associated feeders - Makeup air unit	1	EACH	5,500.00	5,500
Motors connection, disconnect switches and associated feeders - Rooftop unit, 80 tons	2	EACH	9,200.00	18,400

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
SUBTOTAL: Mechanical Equipment Connections & Feeders				\$68,050
TOTAL: ELECTRICAL				\$1,943,677
27000 COMMUNICATIONS				
27200 Tele/Data Systems				
Provision for IT room, plywood, cable tray, grounding, sleeves	1	EACH	10,200.00	10,200
MDF rack assembly 3 racks, switching equipment by Owner	1	EACH	16,300.00	16,300
Back bone cables distribution to MDF room (fiber optic, multipair cable)	1	LNFT	20,000.00	20,000
Voice/Data wall outlet, back box and plate, 1 gang, 2-port (assumed quantities)	110	EACH	147.00	16,170
Voice/Data outlet, back box and plate, 1 gang, 2-port - floor mounted (assumed quantities)	4	EACH	376.72	1,507
Wireless access points	20	EACH	870.00	17,400
J-Hooks and cable tray above ceilings to provide cabling supports.	1	LNFT	85,699.91	85,700
Unshielded twisted pair (UTP) cable, solid, PVC jacket, #24, 4 pair, category 6a	35,000	LNFT	2.50	87,486
Terminations and testing	1	SQFT	50,000.31	50,000
SUBTOTAL: Tele/Data Systems				\$304,763
TOTAL: COMMUNICATIONS				\$304,763
28000 ELECTRONIC SAFETY & SECURITY				
28200 Fire Alarm Systems				
Fire alarm System, complete	41,827	SQFT	3.25	135,934
SUBTOTAL: Fire Alarm Systems				\$135,934
28300 Intrusion Detection & Access Control Systems				
Provide rough ins for card readers, key pads, cameras and intercoms.	41,827	EACH	1.25	52,284
SUBTOTAL: Intrusion Detection & Access Control Systems				\$52,284
TOTAL: ELECTRONIC SAFETY & SECURITY				\$188,217
31000 EARTHWORK				
31100 Site Preparation & Excavation				
Site prep & demo allowance	35,000	SQFT	4.42	154,819
SUBTOTAL: Site Preparation & Excavation				\$154,819
31200 Site Grading				
Site grading including rough & final	35,000	SQFT	0.91	31,724
SUBTOTAL: Site Grading				\$31,724
31300 Foundation Excavation & Fill				
Excavate for foundations & slab	3,662	CUYD	11.94	43,707
Backfill with imported granular fill	2,045	CUYD	43.55	89,054
Haul off excavated material as CCDD	3,662	CUYD	35.56	130,211
SUBTOTAL: Foundation Excavation & Fill				\$262,972
31600 Erosion & Sedimentation Control				
Erosion & sedimentation control allowance	35,000	SQFT	0.21	7,445
SUBTOTAL: Erosion & Sedimentation Control				\$7,445

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
TOTAL: EARTHWORK				\$456,960
32000 EXTERIOR IMPROVEMENTS				
32600 Landscaping				
Landscaping grass area - quantity allowance	3,500	SQFT	2.77	9,699
Topsoil, 6" thk at sod	65	CUYD	52.65	3,422
Irrigation system at grass areas - Allowance	3,500	SQFT	0.74	2,605
SUBTOTAL: Landscaping				\$15,726
TOTAL: EXTERIOR IMPROVEMENTS				\$15,726
33000 UTILITIES				
33100 Selective Site Demolition				
Disconnect, cut and cap incoming water service	1	LSUM	12,444.80	12,445
Disconnect, cut and cap sanitary sewer	1	LSUM	28,862.00	28,862
Disconnect, cut and cap storm utilities	1	LSUM	41,779.20	41,779
Excavate and remove existing drainage structures	1	LSUM	38,601.28	38,601
Disconnect, cut and cap incoming gas service	1	LSUM	12,444.80	12,445
SUBTOTAL: Selective Site Demolition				\$134,132
33200 Site Water Service				
Domestic water service pipe and fittings, DIP, 8" w/2-layer PE wrap	105	LNFT	94.46	9,918
Fire hydrant	2	EACH	30,028.23	60,056
Gate valve, 8"	1	EACH	2,050.00	2,050
Valve vault	1	EACH	13,073.19	13,073
Thrust blocks	1	LSUM	2,121.39	2,121
Trench excavation, pipe bedding, and backfill	105	LNFT	67.84	7,123
Line flushing, cleaning, and testing	1	LSUM	2,407.52	2,408
SUBTOTAL: Site Water Service				\$96,750
33300 Site Sanitary & Storm Sewer				
PVC storm sewer pipe, SDR 35, 12"	1,000	LNFT	45.96	45,959
PVC sanitary sewer pipe, SDR 35, 6"	100	LNFT	22.98	2,298
Catch basins	10	EACH	4,828.80	48,288
Grease basin, 3-compartment precast concrete, w/ frame & covers	1	EACH	26,924.53	26,925
Connect new sewer to existing	1	EACH	1,988.68	1,989
Trench excavation, pipe bedding, and backfill	1,100	LNFT	68.55	75,402
Line flushing, cleaning, and testing	1	LSUM	11,917.20	11,917
SUBTOTAL: Site Sanitary & Storm Sewer				\$212,777
33400 Natural Gas Service				
Coordinate gas service provision with local utility	1	LSUM	2,407.52	2,408
SUBTOTAL: Natural Gas Service				\$2,408
33800 Site Electrical				
Utility company provisions and coordination - Transformer service	1	LSUM	6,347.20	6,347
SUBTOTAL: Site Electrical				\$6,347



**Milwaukee County
Mitchel Park Domes
Future State Planning**

Order of Magnitude Estimate
08/29/2023
DRAFT

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
TOTAL: UTILITIES				\$452,414
TOTAL: ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING				\$18,189,561

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #4: NORTH ENTRY COURTYARD				
08000 OPENINGS				
08700 Special Glazing Systems				
Drivable skylight allowance	1	LSUM	100,000.00	100,000
SUBTOTAL: Special Glazing Systems				\$100,000
TOTAL: OPENINGS				\$100,000
26000 ELECTRICAL				
26500 Lighting				
Lighting and power provisions - allowance	1	LSUM	80,000.00	80,000
SUBTOTAL: Lighting				\$80,000
TOTAL: ELECTRICAL				\$80,000
31000 EARTHWORK				
31100 Site Preparation & Excavation				
Site prep & demo allowance	34,000	SQFT	4.42	150,396
SUBTOTAL: Site Preparation & Excavation				\$150,396
31200 Site Grading				
Site grading including rough & final	34,000	SQFT	0.91	30,818
SUBTOTAL: Site Grading				\$30,818
31600 Erosion & Sedimentation Control				
Erosion & sedimentation control allowance	34,000	SQFT	0.21	7,232
SUBTOTAL: Erosion & Sedimentation Control				\$7,232
31700 Pavement Bases				
Aggregate base, 6" thk at concrete paving	213	CUYD	55.58	11,838
SUBTOTAL: Pavement Bases				\$11,838
TOTAL: EARTHWORK				\$200,283
32000 EXTERIOR IMPROVEMENTS				
32100 Pavement				
Concrete pavement, 8" thk	11,500	SQFT	10.79	124,030
SUBTOTAL: Pavement				\$124,030
32600 Landscaping				
Landscaping planting bed area - quantity allowance	22,500	SQFT	17.80	400,424
Planting soil, 24" thk at beds	1,667	CUYD	62.99	104,986
Irrigation system at planting beds - Allowance	22,500	SQFT	1.60	36,092
SUBTOTAL: Landscaping				\$541,502
32700 Site Furnishings				
Site Amenities - Allowance	1	LSUM	20,000.00	20,000
SUBTOTAL: Site Furnishings				\$20,000



DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
TOTAL: EXTERIOR IMPROVEMENTS				\$685,532
TOTAL: ALTERNATIVE #4: NORTH ENTRY COURTYARD				\$1,065,814

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #4: EAST WEDDING GARDEN				
26000 ELECTRICAL				
26500 Lighting				
Lighting and power provisions - allowance	1	LSUM	100,000.00	100,000
			SUBTOTAL: Lighting	\$100,000
TOTAL: ELECTRICAL				\$100,000
31000 EARTHWORK				
31100 Site Preparation & Excavation				
Site prep & demo allowance	32,000	SQFT	4.42	141,549
			SUBTOTAL: Site Preparation & Excavation	\$141,549
31200 Site Grading				
Site grading including rough & final	32,000	SQFT	0.91	29,005
			SUBTOTAL: Site Grading	\$29,005
31600 Erosion & Sedimentation Control				
Erosion & sedimentation control allowance	32,000	SQFT	0.21	6,806
			SUBTOTAL: Erosion & Sedimentation Control	\$6,806
TOTAL: EARTHWORK				\$177,360
32000 EXTERIOR IMPROVEMENTS				
32900 Miscellaneous Exterior Improvements				
Wedding Garden - allowance	32,000	SQFT	33.69	1,078,192
			SUBTOTAL: Miscellaneous Exterior Improvements	\$1,078,192
TOTAL: EXTERIOR IMPROVEMENTS				\$1,078,192
TOTAL: ALTERNATIVE #4: EAST WEDDING GARDEN				\$1,355,552

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #4: EAST CAFE GARDEN				
26000 ELECTRICAL				
26500 Lighting				
Lighting and power provisions - allowance	1	LSUM	25,000.00	25,000
			SUBTOTAL: Lighting	\$25,000
TOTAL: ELECTRICAL				\$25,000
31000 EARTHWORK				
31100 Site Preparation & Excavation				
Site prep & demo allowance	3,000	SQFT	4.42	13,270
			SUBTOTAL: Site Preparation & Excavation	\$13,270
31200 Site Grading				
Site grading including rough & final	3,000	SQFT	0.91	2,719
			SUBTOTAL: Site Grading	\$2,719
31600 Erosion & Sedimentation Control				
Erosion & sedimentation control allowance	3,000	SQFT	0.21	638
			SUBTOTAL: Erosion & Sedimentation Control	\$638
31700 Pavement Bases				
Aggregate base, 6" thk at concrete paving	56	CUYD	55.58	3,088
			SUBTOTAL: Pavement Bases	\$3,088
TOTAL: EARTHWORK				\$19,716
32000 EXTERIOR IMPROVEMENTS				
32100 Pavement				
Concrete walk, 5" thk - quantity allowance	3,000	SQFT	7.49	22,482
Premium for colored concrete - quantity allowance	3,000	SQFT	7.45	22,358
			SUBTOTAL: Pavement	\$44,839
TOTAL: EXTERIOR IMPROVEMENTS				\$44,839
TOTAL: ALTERNATIVE #4: EAST CAFE GARDEN				\$89,555

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
ALTERNATIVE #4: SOUTH EVENT GARDEN				
22000 PLUMBING				
22300 Plumbing Equipment & Specialties				
RPZ backflow preventer, 3/4", lead free	1	EACH	1,385.76	1,386
Air gap for backflow preventer testing	1	EACH	409.10	409
SUBTOTAL: Plumbing Equipment & Specialties				\$1,795
22400 Domestic Water, Waste & Vent, & Storm Drainage Piping				
UG water service pipe and fittings to water feature, type K copper, 3/4"	300	LNFT	10.96	3,288
Shutoff/isolation valve, ball, 3/4"	1	EACH	143.43	143
SUBTOTAL: Domestic Water, Waste & Vent, & Storm Drainage Piping				\$3,432
TOTAL: PLUMBING				\$5,227
26000 ELECTRICAL				
26500 Lighting				
Lighting and power provisions - allowance	1	LSUM	100,000.00	100,000
SUBTOTAL: Lighting				\$100,000
TOTAL: ELECTRICAL				\$100,000
31000 EARTHWORK				
31100 Site Preparation & Excavation				
Site prep & demo allowance	18,000	SQFT	4.42	79,621
SUBTOTAL: Site Preparation & Excavation				\$79,621
31200 Site Grading				
Site grading including rough & final	18,000	SQFT	0.91	16,315
SUBTOTAL: Site Grading				\$16,315
31600 Erosion & Sedimentation Control				
Erosion & sedimentation control allowance	18,000	SQFT	0.21	3,829
SUBTOTAL: Erosion & Sedimentation Control				\$3,829
31700 Pavement Bases				
Aggregate base, 6" thk at concrete paving	67	CUYD	55.58	3,706
Aggregate base, 6" thk at concrete paver base	59	CUYD	55.58	3,294
SUBTOTAL: Pavement Bases				\$7,000
TOTAL: EARTHWORK				\$106,765
32000 EXTERIOR IMPROVEMENTS				
32100 Pavement				
Concrete paver base, 4" thk	3,200	SQFT	6.27	20,062
Concrete walk, 5" thk - quantity allowance	3,600	SQFT	7.49	26,978
Precast concrete pavers	3,200	SQFT	19.98	63,936
SUBTOTAL: Pavement				\$110,976
32600 Landscaping				

DESCRIPTION	QTY	UM	UNIT COST	TOTAL COST
Landscaping planting bed area - quantity allowance	11,200	SQFT	17.80	199,322
Trees - quantity allowance	10	EACH	1,534.70	15,347
Planting soil, 24" thk at beds	830	CUYD	62.99	52,259
Irrigation system at planting beds - Allowance	11,200	SQFT	1.60	17,966
SUBTOTAL: Landscaping				\$284,894
32900 Miscellaneous Exterior Improvements				
Water feature - allowance	1	LSUM	100,000.00	100,000
SUBTOTAL: Miscellaneous Exterior Improvements				\$100,000
TOTAL: EXTERIOR IMPROVEMENTS				\$495,870
33000 UTILITIES				
33300 Site Sanitary & Storm Sewer				
Allowance for storm drainage provisions	1	LSUM	50,000.00	50,000
SUBTOTAL: Site Sanitary & Storm Sewer				\$50,000
TOTAL: UTILITIES				\$50,000
TOTAL: ALTERNATIVE #4: SOUTH EVENT GARDEN				\$757,861

**Mitchell Park Domes
Future State Planning and Construction Cost
Estimating**

Appendix C

Domes Alternatives 1 – 4 Project Feasibility Budget (PFB)

Milwaukee County Domes
Alternate #1 - DEMOLITION
Project Feasibility Budget



ITEMS	NOTE#	ASSUMPTION	%	Estimate
1.0 CONTRACTOR CONSTRUCTION				\$ 5,017,825
Preconstruction				
Construction	4			\$ 4,778,881
General Conditions/Bond/Insurance (16%)				\$ 573,923
Contractors Fees (6%)				\$ 249,656
Escalation to Mid-Point of Construction (8.35%)				\$ 368,285
Construction Contingency			5%	\$ 238,944
SUBTOTAL CONTRACTOR CONSTRUCTION				\$ 5,017,825
2.0 OWNER CONSTRUCTION				\$ 550,891
Building Permit		Included in 01.02 Construction		\$ -
Temporary / Relocation	1	Excluded		\$ -
Hazardous Material Removal	2	Allowance		\$ 250,000
Permanent Interior & Exterior Signage		Excluded		\$ -
Temporary Utilities / Utility Connection Fee	3	Allowance		\$ 50,000
Other		Excluded		\$ -
Change Order Allowance		% of Construction (#01.01- #01.10)	5%	\$ 250,891
SUBTOTAL OWNER CONSTRUCTION				\$ 550,891
TOTAL CONTRACTOR & OWNER CONSTRUCTION				\$ 5,568,716
3.0 EQUIPMENT				\$ -
Artwork		Excluded		\$ -
Existing Movable Equipment		Excluded		\$ -
Furnishings		Excluded		\$ -
New Major Equipment		Excluded		\$ -
New Minor Equipment		Excluded		\$ -
Security Systems		Excluded		\$ -
Telecommunications		Excluded		\$ -
Other (Contingency)		Excluded		\$ -
TOTAL EQUIPMENT				\$ -
4.0 DESIGN				\$ 208,768
BASE SERVICES				
Architectural Design		% of Construction (#01.01- #01.10)	3%	\$ 167,061
Architectural Test Fit / Mock Up		Excluded		\$ -
Mech / Electrical / Plumbing / Fire Protection Design		Included in Arch.Design (#03.02)		\$ -
Structural Design		Included in Arch.Design (#03.02)		\$ -
Civil Design		Included in Arch.Design (#03.02)		\$ -
Landscape Design		Excluded		\$ -
Programming / Program Validation		Excluded		\$ -
Architectural Add Services		Excluded		\$ -
Architectural Reimbursable Expenses		% Total Cost	10%	\$ 16,706
SUBTOTAL BASE SERVICES				\$ 183,768
Design Supplemental Services				
Multiple Preliminary Designs		Excluded		\$ -
Measured Drawings		Excluded		\$ -
Existing Facilities Survey		Excluded		\$ -
Site Evaluation and Planning		Excluded		\$ -
Building Information Model Management Responsibilities		Excluded		\$ -
Development of Building Information Models for Post Construction Use		Excluded		\$ -
On-Site Project Representation		Excluded		\$ -
Conformed Documents for Construction		Excluded		\$ -
As-Designed Record Drawings		Excluded		\$ -
As-Constructed Record Drawings		Excluded		\$ -

Post-Occupancy Evaluation	Excluded	\$	-
Facility Support Services	Excluded	\$	-
Tenant-Related Services	Excluded	\$	-
Architect's Coordination of the Owner's Consultants	Excluded	\$	-
Architectural Renderings	Excluded	\$	-
Master Planning	Excluded	\$	-
Other Misc Services	Excluded	\$	-

SUBTOTAL DESIGN SPECIALITY SERVICES \$ -

Other Independent Services

Abatement/Hazardous Material Consultant	Allowance	\$	25,000
Activation	Excluded	\$	-
Commissioning	Excluded	\$	-
Environmental Study (Phase 1 with a potential for Phase 2)	Excluded	\$	-
Physicist	Excluded	\$	-
Process Improvement	Excluded	\$	-
Structural/Material Testing	Excluded	\$	-
Geotechnical Engineering	Excluded	\$	-
Surveys	Included in Arch.Design (#03.02)	\$	-
Value Analysis (4.1.1.12)	Excluded	\$	-
Cost Estimating (4.1.1.13)	Included in 05.09	\$	-
Telecommunications/Data Design (4.1.1.22)	Excluded	\$	-
Information Systems Consultant/Security Eval and Planning	Excluded	\$	-
Sustainability Services (ESG)	Excluded	\$	-
Furniture, Furnishings, and Equipment Design (4.1.1.27)	Excluded	\$	-
Equipment planning and procurement consultant	Excluded	\$	-
Other Independent Services	Excluded	\$	-

SUBTOTAL INDEPENDENT SERVICES \$ 25,000

TOTAL DESIGN \$ 208,768

5.0 ADMINISTRATIVE COSTS \$ 275,592

LEGAL & PROFESSIONAL

Deposits	Excluded	\$	-
Developer Fee	Excluded	\$	-
Lease Fees/Costs	Excluded	\$	-
Legal & Accounting	Excluded	\$	-
Operating Costs	Excluded	\$	-
Personnel Impact	Excluded	\$	-
Plan Exam Fees	Included in Arch.Design (#03.02)	\$	-
Planning	Excluded	\$	-
Project Management	% of Construction (#01.01- #01.10) 4.5%	\$	250,592
Zoning Process	Excluded	\$	-
Moving	Excluded	\$	-
Participation Consultant (DBE/TBE/SBE)	Allowance	\$	25,000
Expeditor	Excluded	\$	-
Other Legal & Professional	Excluded	\$	-

SUBTOTAL LEGAL & PROFESSIONAL \$ 275,592

ACQUISITION

Land Acquisition	Excluded	\$	-
Building Acquisition	Excluded	\$	-
Extension Fee	Excluded	\$	-
Realtors/Agents Commissions	Excluded	\$	-

SUBTOTAL ACQUISITION \$ -

FINANCING

Capitalized Interest	Excluded	\$	-
Loan Interest	Excluded	\$	-
Loan Fee	Excluded	\$	-
Underwriting Fee	Excluded	\$	-
Origination Fee	Excluded	\$	-
Other Financing	Excluded	\$	-

SUBTOTAL FINANCING \$ -

TAXES & INSURANCE

Builders Risk Insurance
Draw Requests
Liability Insurance
Real Estate Taxes
Title Insurance
Other Insurance Costs

Excluded
Excluded
Excluded
Excluded
Excluded
Excluded

SUBTOTAL TAXES & INSURANCE \$ -

MARKETING

Marketing Excluded \$ -
Public Outreach Allowance \$ 50,000

SUBTOTAL MARKETING \$ 50,000

TOTAL ADMINISTRATION \$ 325,592

SUBTOTAL BEFORE CONTINGENCY \$ 6,103,076

Owner Contingency \$ 305,153.81

GRAND TOTAL \$ 6,408,230

Milwaukee County Domes
Alternate #2 - REPAIR THREE DOMES
Project Feasibility Budget



ITEMS	NOTE#	ASSUMPTION	%	Estimate
1.0 CONTRACTOR CONSTRUCTION				\$ 22,806,625
Preconstruction				
Construction	1			\$ 21,720,595
General Conditions/Bond/Insurance (12%)				\$ 2,003,173
Contractors Fees (6%)				\$ 1,121,777
Escalation to Mid-Point of Construction (9.6%)				\$ 1,902,534
Construction Contingency			5%	\$ 1,086,030
SUBTOTAL CONTRACTOR CONSTRUCTION				\$ 22,806,625
2.0 OWNER CONSTRUCTION				\$ 1,190,331
Building Permit		Included in 01.02 Construction		\$ -
Temporary / Relocation	2	Excluded		\$ -
Hazardous Material Removal	3	Allowance		\$ 50,000
Permanent Interior & Exterior Signage		Excluded		\$ -
Temporary Utilities / Utility Connection Fee		Excluded		\$ -
Other		Excluded		\$ -
Change Order Allowance		% of Construction (#01.01- #01.10)	5%	\$ 1,140,331
SUBTOTAL OWNER CONSTRUCTION				\$ 1,190,331
TOTAL CONTRACTOR & OWNER CONSTRUCTION				\$ 23,996,956
3.0 EQUIPMENT				\$ -
Artwork		Excluded		\$ -
Existing Movable Equipment		Excluded		\$ -
Furnishings		Excluded		\$ -
New Major Equipment		Excluded		\$ -
New Minor Equipment		Excluded		\$ -
Security Systems		Excluded		\$ -
Telecommunications		Excluded		\$ -
Other (Contingency)		Excluded		\$ -
TOTAL EQUIPMENT				\$ -
4.0 DESIGN				\$ 2,829,665
BASE SERVICES				
Architectural Design		% of Construction (#01.01- #01.10)	10%	\$ 2,399,696
Architectural Test Fit / Mock Up		Excluded		\$ -
Mech / Electrical / Plumbing / Fire Protection Design		Included in Arch.Design (#03.02)		\$ -
Structural Design		Included in Arch.Design (#03.02)		\$ -
Civil Design		Included in Arch.Design (#03.02)		\$ -
Landscape Design		Excluded		\$ -
Programming / Program Validation		Excluded		\$ -
Architectural Add Services		Excluded		\$ -
Architectural Reimbursable Expenses		% Total Cost	10%	\$ 239,970
SUBTOTAL BASE SERVICES				\$ 2,639,665
Design Supplemental Services				
Multiple Preliminary Designs		Excluded		\$ -
Measured Drawings		Excluded		\$ -
Existing Facilities Survey		Excluded		\$ -
Site Evaluation and Planning		Excluded		\$ -
Building Information Model Management Responsibilities		Excluded		\$ -
Development of Building Information Models for Post Construction Use (4.1.1.8)		Excluded		\$ -
On-Site Project Representation		Excluded		\$ -
Conformed Documents for Construction		Excluded		\$ -
As-Designed Record Drawings		Excluded		\$ -
As-Constructed Record Drawings		Excluded		\$ -
Post-Occupancy Evaluation		Excluded		\$ -
Facility Support Services		Excluded		\$ -
Tenant-Related Services		Excluded		\$ -
Architect's Coordination of the Owner's Consultants		Excluded		\$ -

Architectural Renderings	Excluded	\$	-
Master Planning	Excluded	\$	-
Other Misc Services	Excluded	\$	-

SUBTOTAL DESIGN SPECIALITY SERVICES \$ -

Other Independent Services

Abatement/Hazardous Material Consultant	Allowance	\$	15,000
Activation	Excluded	\$	-
Commissioning	4 Allowance	\$	100,000
Environmental Study (Phase 1 with a potential for Phase 2)	Excluded	\$	-
Physicist	Excluded	\$	-
Process Improvement	Excluded	\$	-
Structural/Material Testing	Allowance	\$	75,000
Geotechnical Engineering	Excluded	\$	-
Surveys	Included in Arch.Design (#03.02)	\$	-
Value Analysis (4.1.1.12)	Excluded	\$	-
Cost Estimating (4.1.1.13)	Included in 05.09	\$	-
Telecommunications/Data Design (4.1.1.22)	Included in Arch.Design (#03.02)	\$	-
Information Systems Consultant/Security Eval and Planning	Excluded	\$	-
Sustainability Services (ESG)	Excluded	\$	-
Furniture, Furnishings, and Equipment Design (4.1.1.27)	Excluded	\$	-
Equipment planning and procurement consultant	Excluded	\$	-
Other Independent Services	Excluded	\$	-

SUBTOTAL INDEPENDENT SERVICES \$ 190,000

TOTAL DESIGN \$ 2,829,665

5.0 ADMINISTRATIVE COSTS

\$ 773,921

LEGAL & PROFESSIONAL

Deposits	Excluded	\$	-
Developer Fee	Excluded	\$	-
Lease Fees/Costs	Excluded	\$	-
Legal & Accounting	Excluded	\$	-
Operating Costs	Excluded	\$	-
Personnel Impact	Excluded	\$	-
Plan Exam Fees	Included in Arch.Design (#03.02)	\$	-
Planning	Excluded	\$	-
Project Management	% of Construction (#01.01- #01.10) 2.6%	\$	623,921
Zoning Process	Excluded	\$	-
Moving	Excluded	\$	-
Participation Consultant (DBE/TBE/SBE)	Allowance	\$	150,000
Expeditor	Excluded	\$	-
Other Legal & Professional	Excluded	\$	-

SUBTOTAL LEGAL & PROFESSIONAL \$ 773,921

ACQUISITION

Land Acquisition	Excluded	\$	-
Building Acquisition	Excluded	\$	-
Extension Fee	Excluded	\$	-
Realtors/Agents Commissions	Excluded	\$	-

SUBTOTAL ACQUISITION \$ -

FINANCING

Capitalized Interest	Excluded	\$	-
Loan Interest	Excluded	\$	-
Loan Fee	Excluded	\$	-
Underwriting Fee	Excluded	\$	-
Origination Fee	Excluded	\$	-
Other Financing	Excluded	\$	-

SUBTOTAL FINANCING \$ -

TAXES & INSURANCE

Builders Risk Insurance	Excluded		
Draw Requests	Excluded		
Liability Insurance	Excluded		
Real Estate Taxes	Excluded		
Title Insurance	Excluded		
Other Insurance Costs	Excluded		

SUBTOTAL TAXES & INSURANCE \$ -

MARKETING

Marketing
Public Outreach

Excluded Allowance \$ -
\$ 100,000

SUBTOTAL MARKETING \$ 100,000

TOTAL ADMINISTRATION \$ 873,921

SUBTOTAL BEFORE CONTINGENCY \$ 27,700,542

Owner Contingency \$ 1,385,027.10

GRAND TOTAL \$ 29,085,569

Milwaukee County Domes
Alternate #3 - RESTORE THREE DOMES
Project Feasibility Budget



ITEMS	NOTE#	ASSUMPTION	%	Estimate
1.0 CONTRACTOR CONSTRUCTION				\$ 73,864,375
Preconstruction				
Construction	1			\$ 67,149,432
General Conditions/Bond/Insurance (9%)				\$ 4,817,908
Contractors Fees (5%)				\$ 2,917,511
Escalation to Mid-Point of Construction (9.6%)				\$ 5,881,702
Construction Contingency			10%	\$ 6,714,943
SUBTOTAL CONTRACTOR CONSTRUCTION				\$ 73,864,375
2.0 OWNER CONSTRUCTION				\$ 3,793,219
Building Permit		Included in 01.02 Construction		\$ -
Temporary / Relocation	2	Excluded		\$ -
Hazardous Material Removal	3	Allowance		\$ 100,000
Permanent Interior & Exterior Signage		Excluded		\$ -
Temporary Utilities / Utility Connection Fee		Excluded		\$ -
Other		Excluded		\$ -
Change Order Allowance		% of Construction (#01.01- #01.10)	5%	\$ 3,693,219
SUBTOTAL OWNER CONSTRUCTION				\$ 3,793,219
TOTAL CONTRACTOR & OWNER CONSTRUCTION				\$ 77,657,594
3.0 EQUIPMENT				\$ -
Artwork		Excluded		\$ -
Existing Movable Equipment		Excluded		\$ -
Furnishings		Excluded		\$ -
New Major Equipment		Excluded		\$ -
New Minor Equipment		Excluded		\$ -
Security Systems		Excluded		\$ -
Telecommunications		Excluded		\$ -
Other (Contingency)		Excluded		\$ -
TOTAL EQUIPMENT				\$ -
4.0 DESIGN				\$ 7,098,868
BASE SERVICES				
Architectural Design		% of Construction (#01.01- #01.10)	8%	\$ 6,212,608
Architectural Test Fit / Mock Up		Excluded		\$ -
Mech / Electrical / Plumbing / Fire Protection Design		Included in Arch.Design (#03.02)		\$ -
Structural Design		Included in Arch.Design (#03.02)		\$ -
Civil Design		Included in Arch.Design (#03.02)		\$ -
Landscape Design		Excluded		\$ -
Programming / Program Validation		Excluded		\$ -
Architectural Add Services		Excluded		\$ -
Architectural Reimbursable Expenses		% Total Cost	10%	\$ 621,261
SUBTOTAL BASE SERVICES				\$ 6,833,868
Design Supplemental Services				
Multiple Preliminary Designs		Excluded		\$ -
Measured Drawings		Excluded		\$ -
Existing Facilities Survey		Excluded		\$ -
Site Evaluation and Planning		Excluded		\$ -
Building Information Model Management Responsibilities		Excluded		\$ -
Development of Building Information Models for Post Construction Use		Excluded		\$ -
On-Site Project Representation		Excluded		\$ -
Conformed Documents for Construction		Excluded		\$ -
As-Designed Record Drawings		Excluded		\$ -
As-Constructed Record Drawings		Excluded		\$ -

Post-Occupancy Evaluation	Excluded	\$	-
Facility Support Services	Excluded	\$	-
Tenant-Related Services	Excluded	\$	-
Architect's Coordination of the Owner's Consultants	Excluded	\$	-
Architectural Renderings	Excluded	\$	-
Master Planning	Excluded	\$	-
Other Misc Services	Excluded	\$	-

SUBTOTAL DESIGN SPECIALITY SERVICES \$ -

Other Independent Services

Abatement/Hazardous Material Consultant	Allowance	\$	15,000
Activation	Excluded	\$	-
Commissioning	4 Allowance	\$	100,000
Environmental Study (Phase 1 with a potential for Phase 2)	Excluded	\$	-
Physicist	Excluded	\$	-
Process Improvement	Excluded	\$	-
Structural/Material Testing	Excluded	\$	150,000
Geotechnical Engineering	Excluded	\$	-
Surveys	Included in Arch.Design (#03.02)	\$	-
Value Analysis (4.1.1.12)	Excluded	\$	-
Cost Estimating (4.1.1.13)	Included in 05.09	\$	-
Telecommunications/Data Design (4.1.1.22)	Included in Arch.Design (#03.02)	\$	-
Information Systems Consultant/Security Eval and Planning	Excluded	\$	-
Sustainability Services (ESG)	Excluded	\$	-
Furniture, Furnishings, and Equipment Design (4.1.1.27)	Excluded	\$	-
Equipment planning and procurement consultant	Excluded	\$	-
Other Independent Services	Excluded	\$	-

SUBTOTAL INDEPENDENT SERVICES \$ 265,000

TOTAL DESIGN \$ 7,098,868

5.0 ADMINISTRATIVE COSTS \$ 1,953,152

LEGAL & PROFESSIONAL

Deposits	Excluded	\$	-
Developer Fee	Excluded	\$	-
Lease Fees/Costs	Excluded	\$	-
Legal & Accounting	Excluded	\$	-
Operating Costs	Excluded	\$	-
Personnel Impact	Excluded	\$	-
Plan Exam Fees	Included in Arch.Design (#03.02)	\$	-
Planning	Excluded	\$	-
Project Management	% of Construction (#01.01- #01.10) 2.0%	\$	1,553,152
Zoning Process	Excluded	\$	-
Moving	Excluded	\$	-
Participation Consultant (DBE/TBE/SBE)	Allowance	\$	400,000
Expeditor	Excluded	\$	-
Other Legal & Professional	Excluded	\$	-

SUBTOTAL LEGAL & PROFESSIONAL \$ 1,953,152

ACQUISITION

Land Acquisition	Excluded	\$	-
Building Acquisition	Excluded	\$	-
Extension Fee	Excluded	\$	-
Realtors/Agents Commissions	Excluded	\$	-

SUBTOTAL ACQUISITION \$ -

FINANCING

Capitalized Interest	Excluded	\$	-
Loan Interest	Excluded	\$	-
Loan Fee	Excluded	\$	-
Underwriting Fee	Excluded	\$	-
Origination Fee	Excluded	\$	-
Other Financing	Excluded	\$	-

SUBTOTAL FINANCING \$ -

TAXES & INSURANCE

Builders Risk Insurance	Excluded
Draw Requests	Excluded
Liability Insurance	Excluded
Real Estate Taxes	Excluded
Title Insurance	Excluded
Other Insurance Costs	Excluded

SUBTOTAL TAXES & INSURANCE \$ -

MARKETING

Marketing	Excluded	\$	-
Public Outreach	Allowance	\$	100,000

SUBTOTAL MARKETING \$ 100,000

TOTAL ADMINISTRATION \$ 2,053,152

SUBTOTAL BEFORE CONTINGENCY \$ 86,809,614

Owner Contingency \$ 4,340,480.71

GRAND TOTAL \$ 91,150,095

Milwaukee County Domes
Alternate #4 - RESTORE TROPICAL DOME/CONSERVANCY ADDITION
Project Feasibility Budget



ITEMS	NOTE#	ASSUMPTION	%	Estimate
1.0 CONTRACTOR CONSTRUCTION				\$ 50,506,141
Preconstruction				
Construction - Restore Tropical Dome				\$ 19,947,542
General Conditions/Bond/Insurance (9%)				\$ 1,473,439
Contractors Fees (5%)				\$ 892,249
Escalation to Mid-Point of Construction (10.1%)				\$ 1,892,460
Construction - Conservancy & Event Building				\$ 26,595,202
General Conditions/Bond/Insurance (9%)				\$ 1,964,473
Contractors Fees (5%)				\$ 1,189,597
Escalation to Mid-Point of Construction (10.1%)				\$ 2,523,136
Construction - North Entry Courtyard				\$ 1,558,342
General Conditions/Bond/Insurance (9%)				\$ 115,108
Contractors Fees (5%)				\$ 69,704
Escalation to Mid-Point of Construction (10.1%)				\$ 147,843
Construction Contingency			5%	\$ 2,405,054
SUBTOTAL CONTRACTOR CONSTRUCTION				\$ 50,506,141
2.0 OWNER CONSTRUCTION				\$ 2,525,307
Building Permit		Excluded		\$ -
Temporary / Relocation		Excluded		\$ -
Hazardous Material Removal		Excluded		\$ -
Permanent Interior & Exterior Signage		Excluded		\$ -
Temporary Utilities / Utility Connection Fee		Excluded		\$ -
Other		Excluded		\$ -
Change Order Allowance		% of Construction (#01.01- #01.10)	5%	\$ 2,525,307
SUBTOTAL OWNER CONSTRUCTION				\$ 2,525,307
TOTAL CONTRACTOR & OWNER CONSTRUCTION				\$ 53,031,448
3.0 EQUIPMENT				\$ 400,000
Artwork		Allowance		\$ 150,000
Existing Movable Equipment		Excluded		\$ -
Furnishings		Allowance		\$ 250,000
New Major Equipment		Excluded		\$ -
New Minor Equipment		Excluded		\$ -
Security Systems		Included in 01.02 Construction		\$ -
Telecommunications		Included in 01.02 Construction		\$ -
Other (Contingency)		Excluded		\$ -
TOTAL EQUIPMENT				\$ 400,000
4.0 DESIGN				\$ 4,928,767
BASE SERVICES				
Architectural Design		% of Construction (#01.01- #01.10)	8%	\$ 4,242,516
Architectural Test Fit / Mock Up		Excluded		\$ -
Mech / Electrical / Plumbing / Fire Protection Design		Included in Arch.Design (#04.01)		\$ -
Structural Design		Included in Arch.Design (#04.01)		\$ -
Civil Design		Included in Arch.Design (#04.01)		\$ -
Landscape Design		Included in Arch.Design (#04.01)		\$ -
Programming / Program Validation		Included in Arch.Design (#04.01)		\$ -
Architectural Add Services		Excluded		\$ -
Architectural Reimbursable Expenses		% Total Cost	10%	\$ 424,252
SUBTOTAL BASE SERVICES				\$ 4,666,767
Design Supplemental Services				
Multiple Preliminary Designs		Excluded		\$ -
Measured Drawings		Included in Arch.Design (#04.01)		\$ -

Existing Facilities Survey	Excluded	\$	-
Site Evaluation and Planning	Excluded	\$	-
Building Information Model Management Responsibilities	Excluded	\$	-
Development of Building Information Models for Post Construction Use (4	Excluded	\$	-
On-Site Project Representation	Excluded	\$	-
Conformed Documents for Construction	Excluded	\$	-
As-Designed Record Drawings	Excluded	\$	-
As-Constructed Record Drawings	Excluded	\$	-
Post-Occupancy Evaluation	Excluded	\$	-
Facility Support Services	Excluded	\$	-
Tenant-Related Services	Excluded	\$	-
Architect's Coordination of the Owner's Consultants	Excluded	\$	-
Architectural Renderings	Included in Arch.Design (#04.01)	\$	-
Master Planning	Excluded	\$	-
Other Misc Services	Excluded	\$	-

SUBTOTAL DESIGN SPECIALITY SERVICES \$ -

Other Independent Services

Abatement/Hazardous Material Consultant	Excluded	\$	-
Activation	Excluded	\$	-
Commissioning	Allowance	\$	200,000
Environmental Study (Phase 1 with a potential for Phase 2)	Excluded	\$	-
Physicist	Excluded	\$	-
Process Improvement	Excluded	\$	-
Structural/Material Testing	Allowance	\$	50,000
Geotechnical Engineering	Allowance	\$	12,000
Surveys	Excluded	\$	-
Value Analysis (4.1.1.12)	Excluded	\$	-
Cost Estimating (4.1.1.13)	Excluded	\$	-
Telecommunications/Data Design (4.1.1.22)	Included in Arch.Design (#04.01)	\$	-
Information Systems Consultant/Security Eval and Planning	Excluded	\$	-
Sustainability Services (ESG)	Excluded	\$	-
Furniture, Furnishings, and Equipment Design (4.1.1.27)	Excluded	\$	-
Equipment planning and procurement consultant	Excluded	\$	-
Other Independent Services	Excluded	\$	-

SUBTOTAL INDEPENDENT SERVICES \$ 262,000

TOTAL DESIGN \$ 4,928,767

5.0 ADMINISTRATIVE COSTS \$ 1,154,566

LEGAL & PROFESSIONAL

Deposits	Excluded	\$	-
Developer Fee	Excluded	\$	-
Lease Fees/Costs	Excluded	\$	-
Legal & Accounting	Excluded	\$	-
Operating Costs	Excluded	\$	-
Personnel Impact	Excluded	\$	-
Plan Exam Fees	Excluded	\$	-
Planning	Excluded	\$	-
Project Management	% of Construction (#01.01- #01.10) 1.8%	\$	954,566
Zoning Process	Excluded	\$	-
Moving	Excluded	\$	-
Participation Consultant (DBE/TBE/SBE)	Allowance	\$	200,000
Expeditior	Excluded	\$	-
Other Legal & Professional	Excluded	\$	-

SUBTOTAL LEGAL & PROFESSIONAL \$ 1,154,566

ACQUISITION

Land Acquisition	Excluded	\$	-
Building Acquisition	Excluded	\$	-
Extension Fee	Excluded	\$	-
Realtors/Agents Commissions	Excluded	\$	-

SUBTOTAL ACQUISITION \$ -

FINANCING

Capitalized Interest	Excluded	\$	-
Loan Interest	Excluded	\$	-

Loan Fee	Excluded	\$	-
Underwriting Fee	Excluded	\$	-
Origination Fee	Excluded	\$	-
Other Financing	Excluded	\$	-
		\$	-
SUBTOTAL FINANCING		\$	-

TAXES & INSURANCE			
Builders Risk Insurance	Excluded		
Draw Requests	Excluded		
Liability Insurance	Excluded		
Real Estate Taxes	Excluded		
Title Insurance	Excluded		
Other Insurance Costs	Excluded		
SUBTOTAL TAXES & INSURANCE		\$	-

MARKETING			
Marketing	Excluded	\$	-
Public Outreach	Allowance	\$	100,000
SUBTOTAL MARKETING		\$	100,000

TOTAL ADMINISTRATION		\$	1,254,566
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SUBTOTAL BEFORE CONTINGENCY		\$	59,614,781
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Owner Contingency		\$	2,980,739.05
GRAND TOTAL		\$	62,595,520

Milwaukee County Domes
Alternate #4 - POTENTIAL ADD AREAS OF GARDEN SITE IMPROVEMENTS
Project Feasibility Budget



ITEMS	NOTE#	ASSUMPTION	%	Estimate
1.0 CONTRACTOR CONSTRUCTION				\$ 3,543,089
Preconstruction				
Construction - East Wedding Garden				\$ 1,981,971
General Conditions/Bond/Insurance (9%)				\$ 146,400
Contractors Fees (5%)				\$ 88,653
Escalation to Mid-Point of Construction (10.1%)				\$ 188,033
Construction - East Café Garden				\$ 130,939
General Conditions/Bond/Insurance (9%)				\$ 9,672
Contractors Fees (5%)				\$ 5,857
Escalation to Mid-Point of Construction (10.1%)				\$ 12,422
Construction - South Event Garden				\$ 1,108,080
General Conditions/Bond/Insurance (9%)				\$ 81,849
Contractors Fees (5%)				\$ 49,564
Escalation to Mid-Point of Construction (10.1%)				\$ 105,126
Construction Contingency			10%	\$ 322,099
SUBTOTAL CONTRACTOR CONSTRUCTION				\$ 3,543,089
2.0 OWNER CONSTRUCTION				\$ 182,154
Building Permit		Allowance		\$ 5,000
Temporary / Relocation		Excluded		\$ -
Hazardous Material Removal		Excluded		\$ -
Permanent Interior & Exterior Signage		Excluded		\$ -
Temporary Utilities / Utility Connection Fee		Excluded		\$ -
Other		Excluded		\$ -
Change Order Allowance		% of Construction (#01.01- #01.10)	5%	\$ 177,154
SUBTOTAL OWNER CONSTRUCTION				\$ 182,154
TOTAL CONTRACTOR & OWNER CONSTRUCTION				\$ 3,725,244
3.0 EQUIPMENT				\$ 50,000
Artwork		Excluded		\$ -
Existing Movable Equipment		Excluded		\$ -
Furnishings		Allowance		\$ 50,000
New Major Equipment		Excluded		\$ -
New Minor Equipment		Excluded		\$ -
Security Systems		Excluded		\$ -
Telecommunications		Excluded		\$ -
Other (Contingency)		Excluded		\$ -
TOTAL EQUIPMENT				\$ 50,000
4.0 DESIGN				\$ 429,777
BASE SERVICES				
Architectural Design		% of Construction (#01.01- #01.10)	10%	\$ 372,524
Architectural Test Fit / Mock Up		Excluded		\$ -
Mech / Electrical / Plumbing / Fire Protection Design		Included in Arch.Design (#04.01)		\$ -
Structural Design		Included in Arch.Design (#04.01)		\$ -
Civil Design		Included in Arch.Design (#04.01)		\$ -
Landscape Design		Included in Arch.Design (#04.01)		\$ -
Programming / Program Validation		Included in Arch.Design (#04.01)		\$ -
Architectural Add Services		Included in Arch.Design (#04.01)		\$ -
Architectural Reimbursable Expenses		% Total Cost	10%	\$ 37,252
SUBTOTAL BASE SERVICES				\$ 409,777
Design Supplemental Services				
Multiple Preliminary Designs		Excluded		\$ -
Measured Drawings		Excluded		\$ -

Existing Facilities Survey	Excluded	\$	-
Site Evaluation and Planning	Excluded	\$	-
Building Information Model Management Responsibilities	Excluded	\$	-
Development of Building Information Models for Post Construction Use (4	Excluded	\$	-
On-Site Project Representation	Excluded	\$	-
Conformed Documents for Construction	Excluded	\$	-
As-Designed Record Drawings	Excluded	\$	-
As-Constructed Record Drawings	Excluded	\$	-
Post-Occupancy Evaluation	Excluded	\$	-
Facility Support Services	Excluded	\$	-
Tenant-Related Services	Excluded	\$	-
Architect's Coordination of the Owner's Consultants	Excluded	\$	-
Architectural Renderings	Included in Arch.Design (#04.01)	\$	-
Master Planning	Excluded	\$	-
Other Misc Services	Excluded	\$	-

SUBTOTAL DESIGN SPECIALITY SERVICES \$ -

Other Independent Services

Abatement/Hazardous Material Consultant	Excluded	\$	-
Activation	Excluded	\$	-
Commissioning	Excluded	\$	-
Environmental Study (Phase 1 with a potential for Phase 2)	Excluded	\$	-
Physicist	Excluded	\$	-
Process Improvement	Excluded	\$	-
Structural/Material Testing	Allowance	\$	15,000
Geotechnical Engineering	Allowance	\$	5,000
Surveys	Excluded	\$	-
Value Analysis (4.1.1.12)	Excluded	\$	-
Cost Estimating (4.1.1.13)	Excluded	\$	-
Telecommunications/Data Design (4.1.1.22)	Excluded	\$	-
Information Systems Consultant/Security Eval and Planning	Excluded	\$	-
Sustainability Services (ESG)	Excluded	\$	-
Furniture, Furnishings, and Equipment Design (4.1.1.27)	Excluded	\$	-
Equipment planning and procurement consultant	Excluded	\$	-
Other Independent Services	Excluded	\$	-

SUBTOTAL INDEPENDENT SERVICES \$ 20,000

TOTAL DESIGN \$ 429,777

5.0 ADMINISTRATIVE COSTS

\$ 149,010

LEGAL & PROFESSIONAL

Deposits	Excluded	\$	-
Developer Fee	Excluded	\$	-
Lease Fees/Costs	Excluded	\$	-
Legal & Accounting	Excluded	\$	-
Operating Costs	Excluded	\$	-
Personnel Impact	Excluded	\$	-
Plan Exam Fees	Excluded	\$	-
Planning	Excluded	\$	-
Project Management	% of Construction (#01.01- #01.10)	4.0%	\$ 149,010
Zoning Process	Excluded	\$	-
Moving	Excluded	\$	-
Participation Consultant (DBE/TBE/SBE)	Excluded	\$	-
Expeditior	Excluded	\$	-
Other Legal & Professional	Excluded	\$	-

SUBTOTAL LEGAL & PROFESSIONAL \$ 149,010

ACQUISITION

Land Acquisition	Excluded	\$	-
Building Acquisition	Excluded	\$	-
Extension Fee	Excluded	\$	-
Realtors/Agents Commissions	Excluded	\$	-

SUBTOTAL ACQUISITION \$ -

FINANCING

Capitalized Interest	Excluded	\$	-
Loan Interest	Excluded	\$	-

Loan Fee	Excluded	\$	-
Underwriting Fee	Excluded	\$	-
Origination Fee	Excluded	\$	-
Other Financing	Excluded	\$	-
		\$	-
		SUBTOTAL FINANCING	\$ -

TAXES & INSURANCE			
Builders Risk Insurance	Excluded		
Draw Requests	Excluded		
Liability Insurance	Excluded		
Real Estate Taxes	Excluded		
Title Insurance	Excluded		
Other Insurance Costs	Excluded		
		SUBTOTAL TAXES & INSURANCE	\$ -

MARKETING			
Marketing	Excluded	\$	-
Public Outreach	Allowance	\$	15,000
		SUBTOTAL MARKETING	\$ 15,000

TOTAL ADMINISTRATION \$ 164,010

SUBTOTAL BEFORE CONTINGENCY \$ 4,369,030

	Owner Contingency	\$	218,451.52
		GRAND TOTAL	\$ 4,587,482

**Mitchell Park Domes
Future State Planning and Construction Cost
Estimating**

Appendix D

Domes Alternatives 2 – 4 Life Cycle Cost Analysis

Milwaukee County

Mitchell Park Domes Future State Planning

524 S Layton Blvd.
Milwaukee, WI 53215

Life Cycle Cost Analysis

September 01, 2023

DRAFT

Project: 2023B517

Prepared For:

Milwaukee County Dept. of Administrative Services
Facilities Management Division
633 W. Wisconsin Ave.
Suite 1002
Milwaukee, WI 53203

EXECUTIVE SUMMARY

The life cycle cost analysis was developed based on the elements of ownership for an operating facility based on the first 20 years of occupancy. The cost of ownership includes maintenance, repairs, and replacement only. It was assumed the facility has standard use and no extraneous factors impact the intended use of the facility.

The cost of ownership for year 2 was adjusted based on an escalation factor of 6% compounded annually. Furthermore, the cost of ownership for years 3 through 20 was adjusted based on an escalation factor of 4% compounded annually. It should be fully understood that the life cycle cost analysis only accounted for assets and systems included within the specific scope of work and does not include existing assets not specifically called out in the project scope of work and described in the Scope Documents.

Rehabilitating the Domes, as defined in Alternative 2, leaves many of the issues with the facility still unresolved. Additionally, as previously noted, the life cycle cost does not account for areas that were not evaluated and included in the Scope Documents. However, Alternative 2 was calculated to have a total estimated life cycle cost of over \$30 million, where many of the various assets and systems in the building will be repaired, but not fixed. Of these necessary repairs, the Domes' glass roof systems present the largest issues and overhead costs made of continual maintenance and rehabilitation. This alternative life cycle cost analysis shows the effect of bolstering the current facility with millions of dollars of funding while not improving the facility.

The Alternative 3 option provides a steady path forward for routine maintenance and repairs to the Domes. Over the next 20 years, the life cycle cost following the restoration of the Domes is estimated to be about \$11.5 million. The initial capital investment as outlined in the Alternative 3 project scope provides significantly less recurring life cycle costs than presented in Alternative 2. Similar to Alternate 2, the Alternative 3 life cycle cost analysis only accounts for the assets and systems identified in the project scope of work as outlined in the Scope Documents.

Alternative 4 provides a similar path to Alternative 3 for only the Tropical Dome. The required capital investment will provide the necessary path forward for more reliability and less recurring life cycle cost for the Tropical Dome than presented in Alternative 2. In addition to the tropical dome rehabilitation, the new building, garden areas, and courtyard should expect to see steady maintenance costs and typical replacement life cycles for encompassing assets.

The total life cycle cost for Alternative 4 was evaluated in two parts to align with the overall Project Feasibility Budget (PFB) and Construction Cost Estimate. The first was the Base Scope, that included the Tropical Domes Restore, the new Conservancy and Event buildings, and the North Entry Courtyard entrance improvements. The life cycle cost over a 20-year period with inflation was calculated at approximately \$10 million. The second was the various Add-on Garden spaces that included the South Event Garden, Wedding Garden, and the East Cafe Garden. The Add-on Garden areas will generate a life cycle cost of approximately \$1 million, and if implemented with the Base Scope of work the total will be just under \$11 million.

NOTES REGARDING COSTS INCLUDED IN LIFE CYCLE COST ANALYSIS

This cost estimates were prepared based on the following documents provided by Milwaukee County:

1. Original Dome Drawings provided by Milwaukee County Parks dated June 15, 1962.
2. Alternative #1 Scoping Exhibit prepared by The Concord Group received July 20, 2023.
3. Alternative #2 Scoping Exhibit prepared by Study Team received August 7, 2023.
4. Alternative #3 Scoping Exhibit prepared by Study Team received August 7, 2023.
5. Alternative #4 Scoping Exhibit prepared by Study Team received August 21-28, 2023.
6. Information regarding the project was also obtained via meetings, phone conversations, and email messages that clarified the project scope.

BIDDING PROCESS - MARKET CONDITIONS

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this

document. Unit rates have been generated from current material/labor rates, historical production data, and discussions with relevant subcontractors and material suppliers. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated.

Pricing reflects probable construction costs obtainable in the Milwaukee, Wisconsin area on the bid date. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors with a minimum of 3 bidders for all items of subcontracted work and a with a minimum of 3 bidders for a general contractor. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since The Concord Group has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, this statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents The Concord Group's best judgment as professional construction cost consultants familiar with the construction industry. However, The Concord Group cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

CURRENT MARKET CONDITIONS

It should be noted that there is ongoing volatility in the construction materials market due to the effects of the pandemic on both the production and supply of materials. Due to the lack of in stock materials suppliers are struggling to fulfill orders in a timely manner, which in turn leads to much longer than normal lead times. The impact of ongoing global raw material shortages and fuel price increases adds to the overall spike in material pricing coupled with the increased demand for construction that the construction industry is now seeing. These factors should be considered when determining the bidding strategy and schedule for projects.

APPENDICES

- Exhibit A – Life Cycle Cost Analysis of Alternative #2: Repair Three Domes
- Exhibit B – Life Cycle Cost Analysis of Alternative #3: Restore Three Domes
- Exhibit C – Life Cycle Cost Analysis of Alternative #4: Summary – Base Scope
- Exhibit D – Life Cycle Cost Analysis of Alternative #4: Restore Tropical Dome
- Exhibit E – Life Cycle Cost Analysis of Alternative #4: Conservancy & Event Building
- Exhibit F – Life Cycle Cost Analysis of Alternative #4: North Entry Courtyard
- Exhibit G – Life Cycle Cost Analysis of Alternative #4: East Wedding Garden
- Exhibit H – Life Cycle Cost Analysis of Alternative #4: East Café Garden
- Exhibit I – Life Cycle Cost Analysis of Alternative #4: South Event Graden

Exhibit A – Life Cycle Cost Analysis of Alternative #2: Repair Three Domes

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
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LIFE CYCLE COST ANALYSIS

ALTERNATIVE #2: REPAIR THREE DOMES

03000 CONCRETE

Year 5 Recurring Cost

Concrete repair allowance - clean, prime, patch, recoat	1	LSUM	\$339,427.40	\$339,427
Concrete repair allowance - joint repair at concrete skylight frame	1	LSUM	\$46,054.14	\$46,054
Subtotal: Year 5 Recurring Cost				\$385,482

04000 MASONRY

Year 5 Recurring Cost

Repair spalled stone and mortar areas of panels, avg 4 SF per location, Desert Dome	5	EACH	\$462.71	\$2,314
Subtotal: Year 5 Recurring Cost				\$2,314

Year 10 Recurring Cost

Repoint all cracked and deteriorated areas of brick, Assume 5% of brick façade area, Transition House	292	SQFT	\$20.87	\$6,094
Repoint all cracked and deteriorated areas of brick, North Loading Dock	10	SQFT	\$103.58	\$1,036
Subtotal: Year 10 Recurring Cost				\$6,094

07000 THERMAL & MOISTURE PROTECTION

Year 1 Recurring Cost

Clean and maintain gutters, hubs and drainage piping	1	LSUM	\$7,500.00	\$7,500
Subtotal: Year 1 Recurring Cost				\$7,500

Year 2 Recurring Cost

Gasket replacement allowance	1	LSUM	\$15,000.00	\$15,000
Subtotal: Year 2 Recurring Cost				\$15,000

Year 5 Recurring Cost

Remove, clean & reseal all sealant joints within dome glass panels, Tropic Dome	15,800	LNFT	\$38.27	\$604,666
Remove, clean & reseal all sealant joints within dome glass panels, Show Dome	15,800	LNFT	\$38.27	\$604,666
Remove, clean & reseal all sealant joints within dome glass panels, Desert Dome	15,800	LNFT	\$38.27	\$604,666
Subtotal: Year 5 Recurring Cost				\$1,813,998

Year 10 Recurring Cost

Deduction of cost for "Remove, Clean, & Reseal Joints" for new laminated glass panes not needed as cost already included in new pane, Tropic Dome	744	LNFT	(\$38.27)	(\$28,473)
Deduction of cost for "Remove, Clean, & Reseal Joints" for new laminated glass panes not needed as cost already included in new pane, Show Dome	744	LNFT	(\$38.27)	(\$28,473)
Deduction of cost for "Remove, Clean, & Reseal Joints" for new laminated glass panes not needed as cost already included in new pane, Desert Dome	744	LNFT	(\$38.27)	(\$28,473)

Year 15

Remove & replace joint sealants lower level Desert Dome precast joints	375	LNFT	\$19.68	\$7,380
Remove & replace joints within masonry, concrete windows and doors, all Dome bases	7500	LNFT	\$19.68	\$147,600
Remove & replace joints within masonry, concrete windows and doors, Transition House	1500	LNFT	\$19.68	\$29,520
Remove & replace joints within masonry, concrete windows and doors, North Loading Dock	1000	LNFT	\$19.68	\$19,680

Subtotal: Year 15 Recurring Cost \$204,180

Year 20 Recurring Cost

Replace membrane over basement/mechanical area with new pedestrian grade membrane	4,100	SQFT	\$11.79	\$48,339
Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	1,950	LNFT	\$32.93	\$64,214
Replace roof flashing	260	LNFT	\$12.76	\$3,318

Subtotal: Year 20 Recurring Cost \$115,870

08000 OPENINGS

Year 10 Recurring Cost

Remove anticipated damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Desert Dome	150	EACH	\$4,608.80	\$691,320
Remove anticipated damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Show Dome	150	EACH	\$4,608.80	\$691,320
Remove anticipated damaged 1/4" wired glass panes & replace with 7/16" laminated glass panes including aluminum trim piece & hub covers, Tropic Dome	150	EACH	\$4,608.80	\$691,320

Subtotal: Year 10 Recurring Cost \$1,382,640

Year 15 Recurring Cost

Remove & replace damaged existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, all domes	56	EACH	\$352.10	\$19,718
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Subtotal: Year 15 Recurring Cost \$19,718

Year 20 Recurring Cost

Remove & replace existing HM door, frame & hardware, single	2	EACH	\$5,874.40	\$11,749
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Subtotal: Year 20 Recurring Cost

\$11,749

09000 FINISHES

Year 10 Recurring Cost

Repaint exposed concrete outcropping walls, Desert Dome	700	SQFT	\$8.10	\$5,670
Repaint embedded vertical steel elements, 4" wide x approx 12LF/EA, Entry	12	EACH	\$179.45	\$2,153
Repaint exposed lintels at overhead doors, 8" wide x approx 12LF/EA, North Loading Dock	2	EACH	\$227.60	\$455

Subtotal: Year 10 Recurring Cost

\$8,279

23000 HEATING VENTILATION & AIR CONDITIONING

Year 1 Recurring Cost

HVAC Service and Annual Inspection	1	LSUM	\$5,000.00	\$5,000
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Subtotal: Year 1 Recurring Cost

\$5,000

Year 2 Recurring Cost

Replace steam traps - assume 20% replacement	6	EACH	\$1,200.00	\$7,200
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Subtotal: Year 2 Recurring Cost

\$7,200

Year 5 Recurring Cost

Replace CO sensors	3	EACH	\$500.00	\$1,500
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Subtotal: Year 5 Recurring Cost

\$1,500

Year 15 Recurring Cost

Replace wall exhaust fan, 48"x48" centrifugal w/VFD	15	EACH	\$6,464.00	\$96,960
Replace louvers and dampers for wall exhausts	15	EACH	\$1,723.00	\$25,845
Replace louvers and dampers for dome exhausts	30	EACH	\$2,064.00	\$61,920
Replace dome apex exhaust fan, 36"x36" centrifugal, w/supports, VFD	30	EACH	\$6,946.00	\$208,380
Retrofit DDC controls - exhaust fans	45	EACH	\$3,000.00	\$135,000
Replace thermostats & temperature sensors	30	EACH	\$500.00	\$15,000
Replace Engineer's Station	1	LSUM	\$20,000.20	\$20,000
DDC Points & Devices	1	LSUM	\$6,250.06	\$6,250
Programming, testing, and training	1	LSUM	\$6,250.06	\$6,250

Subtotal: Year 15 Recurring Cost

\$575,605

Year 20 Recurring Cost

Replace air supply units, steam heat	30	EACH	\$6,723.00	\$201,690
Replace ASU steam coils connections - valves steam traps, strainers, fittings, and insulation	30	EACH	\$1,794.20	\$53,826

Replace variable volume motorized dampers - ASU, 15" x 15"	30	EACH	\$961.50	\$28,845
Replace variable volume motorized dampers - SAI, 60"x24"	30	EACH	\$1,552.50	\$46,575
Replace galvanized steel duct, rectangular	6,000	LBS	\$14.54	\$87,240
Replace Louvers SAI, fixed blade/stormproof, 4"D x 60" x 24"	30	EACH	\$811.50	\$24,345
Replace Louvers ASU, fixed blade/stormproof, 4"D x 15" x 15"	30	EACH	\$441.00	\$13,230
Replace duct insulation	4,500	SQFT	\$8.23	\$37,035
Replace Steam Boilers	4	EACH	\$91,501.54	\$366,006
Replace Steam Boilers CA Duct	200	LNFT	\$38.98	\$7,796
Replace Steam Boilers Boiler Flue/Breeching	200	LNFT	\$181.42	\$36,284
Retrofit DDC Controls - Steam Boilers	4	EACH	\$3,000.00	\$12,000
Retrofit DDC controls - air supply units	30	EACH	\$3,000.00	\$90,000
DDC Points & Devices	1	LSUM	\$18,750.19	\$18,750
Programming, testing, and training	1	LSUM	\$18,750.19	\$18,750
Airflow system testing and balancing	1	LSUM	\$15,000.00	\$15,000
Pipe system testing and balancing	1	LSUM	\$10,000.00	\$10,000
HVAC Commissioning	1	LSUM	\$12,500.00	\$10,000
Replace emergency boiler shutoff switch	4	LSUM	\$1,050.00	\$4,200

Subtotal: Year 20 Recurring Cost

\$1,081,573

26000 ELECTRICAL

Year 10 Recurring Cost

Replace LED lamps - interior	250	EACH	\$25.00	\$6,250
Replace LED lamps - exterior building mounted	8	EACH	\$25.00	\$200
Replace LED lamps - exterior pole mounted	8	EACH	\$25.00	\$200
Replace LED lamps - color changing up-light panels	8	EACH	\$40.00	\$320
Replace LED lamps - color changing puck lights	750	EACH	\$40.00	\$30,000
Replace exit lighting, LED standard, single face	40	EACH	\$449.72	\$17,989

Subtotal: Year 10 Recurring Cost

\$54,959

Year 20 Recurring Cost

Replace interior light fixture	250	EACH	\$672.08	\$168,020
Replace exterior building mounted lights	8	EACH	\$1,192.08	\$9,537
Replace exterior pole mounted lights	8	EACH	\$7,500.00	\$60,000
Replace dimming local station	50	EACH	\$169.36	\$8,468
Replace color changing puck lights	750	EACH	\$187.00	\$140,250
Replace color changing up-light panels	8	EACH	\$8,200.00	\$65,600
Replace lighting backbone software	1	LSUM	\$22,000.00	\$22,000
Replace lighting control system hardware and software	1	LSUM	\$176,000.00	\$176,000
Lighting control, devices, cabling, connections, and testing	1	LSUM	\$135,000.00	\$135,000
Testing and Engineering	1	LSUM	\$50,000.00	\$50,000

Subtotal: Year 20 Recurring Cost

\$834,875

27000 COMMUNICATIONS

Year 1 Recurring Cost

Telecommunications Maintenance	1	LSUM	\$1,000.00	\$1,000
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Subtotal: Year 1 Recurring Cost **\$1,000**

Year 5 Recurring Cost

Replace wireless access point	24	EACH	\$1,709.44	\$41,027
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Subtotal: Year 5 Recurring Cost **\$41,027**

Year 10 Recurring Cost

Replace MDF rack assembly 2 racks, switching equipment by Owner	1	EACH	\$12,200.00	\$12,200
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Terminations and testing	1	LSUM	\$32,177.60	\$32,178
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Subtotal: Year 10 Recurring Cost **\$44,378**

Year 15 Recurring Cost

Replace PA/Sound system, cabinet, and amplifier	1	EACH	\$19,605.00	\$19,605
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Replace speakers	240	EACH	\$472.00	\$113,280
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Terminations and testing	1	LSUM	\$15,000.00	\$15,000
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Subtotal: Year 15 Recurring Cost **\$147,885**

Year 20 Recurring Cost

Replace voice/data wall outlet, back box and plate, 1 gang, 2-port	32	EACH	\$163.00	\$5,216
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Subtotal: Year 20 Recurring Cost **\$5,216**

28000 ELECTRONIC SAFETY & SECURITY

Year 10 Recurring Cost

Replace control panel, switcher and recording device assembly	1	EACH	\$32,321.68	\$32,322
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Replace interior dome camera, color	20	EACH	\$2,341.14	\$46,823
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Replace exterior dome camera, color	8	EACH	\$4,299.44	\$34,396
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Replace interior camera back box	20	EACH	\$44.84	\$897
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Replace exterior camera back box	8	EACH	\$112.49	\$900
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Subtotal: Year 10 Recurring Cost **\$115,337**

Year 15 Recurring Cost

Replace fire alarm control panel	1	EACH	\$19,294.40	\$19,294
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Replace miscellaneous FA devices	250	EACH	\$412.88	\$103,220
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Testing and engineering	1	LSUM	\$15,000.00	\$15,000
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Replace Detection System control panels, power supply and software	1	EACH	\$26,300.00	\$26,300
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Replace Detection System card reader, flush type, standard	16	EACH	\$934.72	\$14,956
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Replace electric door strike connection	16	EACH	\$181.14	\$2,898
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Subtotal: Year 15 Recurring Cost

\$181,668

ALTERNATIVE #2: REPAIR THREE DOMES

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$385,481.54
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$2,313.55
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$7,500.00	\$22,500.00	\$7,500.00	\$22,500.00	\$1,821,498.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,000.00	\$12,200.00	\$5,000.00	\$12,200.00	\$6,500.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$42,026.56
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$13,500.00	\$35,700.00	\$13,500.00	\$35,700.00	\$2,257,819.65
Annual Total Cost with Inflation	\$13,500.00	\$37,842.00	\$14,601.60	\$40,157.64	\$2,641,329.65

ALTERNATIVE #2: REPAIR THREE DOMES

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$385,481.54
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$8,407.59
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$22,500.00	\$7,500.00	\$22,500.00	\$7,500.00	\$1,751,079.36
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$1,382,640.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$8,278.60
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$12,200.00	\$5,000.00	\$12,200.00	\$5,000.00	\$13,700.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$54,958.80
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$86,404.16
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$115,336.72
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$35,700.00	\$13,500.00	\$35,700.00	\$13,500.00	\$3,806,286.77
Annual Total Cost with Inflation	\$43,434.51	\$16,424.81	\$45,171.89	\$17,765.08	\$5,209,166.27

ALTERNATIVE #2: REPAIR THREE DOMES

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$385,481.54
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$2,313.55
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$7,500.00	\$22,500.00	\$7,500.00	\$22,500.00	\$2,040,678.00
08000 OPENINGS	\$0.00	\$3,456,600.00	\$0.00	\$0.00	\$19,717.60
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,000.00	\$12,200.00	\$5,000.00	\$12,200.00	\$589,305.33
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$189,911.56
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$181,668.16
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$13,500.00	\$3,492,300.00	\$13,500.00	\$35,700.00	\$3,409,075.74
Annual Total Cost with Inflation	\$19,214.71	\$5,376,235.40	\$19,983.30	\$54,958.51	\$5,458,040.09

ALTERNATIVE #2: REPAIR THREE DOMES

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$385,481.54
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$8,407.59
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$22,500.00	\$7,500.00	\$22,500.00	\$7,500.00	\$1,866,949.46
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$1,394,388.80
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$8,278.60
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$12,200.00	\$5,000.00	\$12,200.00	\$5,000.00	\$1,095,272.54
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$889,833.44
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$91,620.16
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$115,336.72
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$35,700.00	\$13,500.00	\$35,700.00	\$13,500.00	\$5,855,568.85
Annual Total Cost with Inflation	\$59,443.12	\$23,377.63	\$69,540.05	\$24,312.74	\$10,967,370.64

ALTERNATIVE #2: REPAIR THREE DOMES

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$1,541,926.17
04000 MASONRY	\$21,442.28
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$7,720,204.82
08000 OPENINGS	\$6,253,346.40
09000 FINISHES	\$16,557.20
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,842,377.86
26000 ELECTRICAL	\$944,792.24
27000 COMMUNICATIONS	\$425,962.44
28000 ELECTRONIC SAFETY AND SECURITY	\$412,341.60
31000 EARTHWORK	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$19,178,951.01
Annual Total Cost with Inflation	\$30,151,869.64

Exhibit B – Life Cycle Cost Analysis of Alternative #3: Restore Three Domes

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
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LIFE CYCLE COST ANALYSIS

ALTERNATIVE #3: RESTORE THREE DOMES

03000 CONCRETE

Year 5 Recurring Cost

Concrete repair allowance - clean, prime, patch, recoat	1	LSUM	\$67,885.48	\$67,885
Concrete repair allowance - joint repair at concrete skylight frame	1	LSUM	\$46,054.14	\$46,054
Subtotal: Year 5 Recurring Cost				\$113,940

04000 MASONRY

Year 5 Recurring Cost

Repair spalled stone and mortar areas of panels, avg 4 SF per location, Desert Dome	5	EACH	\$462.71	\$2,314
Subtotal: Year 5 Recurring Cost				\$2,314

Year 10 Recurring Cost

Repoint all cracked and deteriorated areas of brick, Assume 5% of brick façade area, Transition House	292	SQFT	\$20.87	\$6,094
Repoint all cracked and deteriorated areas of brick, North Loading Dock	10	SQFT	\$103.58	\$1,036
Subtotal: Year 10 Recurring Cost				\$7,130

07000 THERMAL & MOISTURE PROTECTION

Year 1 Recurring Cost

Clean and maintain gutters, hubs and drainage piping	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 1 Recurring Cost				\$5,000

Year 5 Recurring Cost

Joint sealant repair within masonry, concrete, windows and doors, all Domes	375	LNFT	\$19.68	\$7,380
Joint sealant repair within masonry, concrete, windows and doors, North Loading Dock	50	LNFT	\$19.68	\$984
Joint sealant repair within masonry, concrete, windows and doors, Transition House	75	LNFT	\$19.68	\$1,476
Visual inspection of sealant joints	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 5 Recurring Cost				\$9,840

Year 15 Recurring Cost

Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Tropic Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
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Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Show Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Desert Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Deduction of cost for "Clean and maintain gutters, hubs and drainage piping" not needed as cost is already included in "Remove, clean & reseal"	1	LSUM	\$ (2,500.00)	\$ (2,500.00)
Subtotal: Year 15 Recurring Cost				\$904,499

Year 20 Recurring Cost

Replace membrane over basement/mechanical area with new pedestrian grade membrane	4,100	SQFT	\$23.09	\$94,669
Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	1,950	LNFT	\$32.93	\$64,214
Replace roof flashing	260	LNFT	\$12.76	\$3,318
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Tropic Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Show Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Desert Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Deduction of cost for "Clean and maintain gutters, hubs and drainage piping" not needed as cost is already included in "Remove, clean & reseal"	1	LSUM	\$ (2,500.00)	\$ (2,500.00)
Subtotal: Year 20 Recurring Cost				\$1,066,699

08000 OPENINGS

Year 1 Recurring Cost

Laminated glass maintenance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 1 Recurring Cost				\$5,000

Year 10 Recurring Cost

Remove & replace damaged existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, all domes	153	EACH	\$352.10	\$53,871
Subtotal: Year 10 Recurring Cost				\$53,871

Year 12 Recurring Cost

Replace emergency egress hardware	28	EACH	\$2,106.82	\$58,991
Subtotal: Year 12 Recurring Cost				\$166,734

Year 20 Recurring Cost

Remove & replace existing HM door, frame & hardware, single	2	EACH	\$5,874.40	\$11,749
Subtotal: Year 20 Recurring Cost				\$11,749

09000 FINISHES

Year 10 Recurring Cost

Repaint exposed concrete outcropping walls, Desert Dome	700	SQFT	\$8.10	\$5,670
Repaint embedded vertical steel elements, 4" wide x approx 12LF/EA, Entry	12	EACH	\$179.45	\$2,153
Repaint exposed lintels at overhead doors, 8" wide x approx 12LF/EA, North Loading Dock	2	EACH	\$227.60	\$455
Subtotal: Year 10 Recurring Cost				\$8,279

Year 15 Recurring Cost

Repair miscellaneous finishes	2950	SQFT	\$44.19	\$130,361
Subtotal: Year 15 Recurring Cost				\$130,361

23000 HEATING VENTILATION & AIR CONDITIONING

Year 1 Recurring Cost

HVAC Service and Annual Inspection	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 1 Recurring Cost				\$5,000

Year 2 Recurring Cost

Replace steam traps - assume 20% replacement	6	EACH	\$1,200.00	\$7,200
Subtotal: Year 2 Recurring Cost				\$7,200

Year 5 Recurring Cost

Replace CO sensors	3	EACH	\$500.00	\$1,500
Subtotal: Year 5 Recurring Cost				\$1,500

Year 15 Recurring Cost

Replace wall exhaust fan, 48"x48" centrifugal w/VFD	15	EACH	\$6,464.00	\$96,960
Replace louvers and dampers for wall exhausts	15	EACH	\$1,723.00	\$25,845
Replace louvers and dampers for dome exhausts	30	EACH	\$2,064.00	\$61,920
Replace dome apex exhaust fan, 36"x36" centrifugal, w/supports, VFD	30	EACH	\$6,946.00	\$208,380
Retrofit DDC controls - exhaust fans	45	EACH	\$3,000.00	\$135,000
Replace thermostats & temperature sensors	30	EACH	\$500.00	\$15,000
Replace Engineer's Station	1	LSUM	\$20,000.20	\$20,000
DDC Points & Devices	1	LSUM	\$6,250.06	\$6,250
Programming, testing, and training	1	LSUM	\$6,250.06	\$6,250
Subtotal: Year 15 Recurring Cost				\$575,605

Year 20 Recurring Cost

Replace air supply units, steam heat	30	EACH	\$6,723.00	\$201,690
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Replace ASU steam coils connections - valves steam traps, strainers, fittings, and insulation	30	EACH	\$1,794.20	\$53,826
Replace variable volume motorized dampers - ASU, 15" x 15"	30	EACH	\$961.50	\$28,845
Replace variable volume motorized dampers - SAI, 60"x24"	30	EACH	\$1,552.50	\$46,575
Replace galvanized steel duct, rectangular	6,000	LBS	\$14.54	\$87,240
Replace Louvers SAI, fixed blade/stormproof, 4"D x 60" x 24"	30	EACH	\$811.50	\$24,345
Replace Louvers ASU, fixed blade/stormproof, 4"D x 15" x 15"	30	EACH	\$441.00	\$13,230
Replace duct insulation	4,500	SQFT	\$8.23	\$37,035
Replace Steam Boilers	4	EACH	\$91,501.54	\$366,006
Replace Steam Boilers CA Duct	200	LNFT	\$38.98	\$7,796
Replace Steam Boilers Boiler Flue/Breeching	200	LNFT	\$181.42	\$36,284
Retrofit DDC Controls - Steam Boilers	4	EACH	\$3,000.00	\$12,000
Retrofit DDC controls - air supply units	30	EACH	\$3,000.00	\$90,000
DDC Points & Devices	1	LSUM	\$18,750.19	\$18,750
Programming, testing, and training	1	LSUM	\$18,750.19	\$18,750
Airflow system testing and balancing	1	LSUM	\$15,000.00	\$15,000
Pipe system testing and balancing	1	LSUM	\$10,000.00	\$10,000
HVAC Commissioning	1	LSUM	\$12,500.00	\$10,000
Replace emergency boiler shutoff switch	4	LSUM	\$1,050.00	\$4,200

Subtotal: Year 20 Recurring Cost

\$1,081,573

26000 ELECTRICAL

Year 10 Recurring Cost

Replace LED lamps - interior	250	EACH	\$25.00	\$6,250
Replace LED lamps - exterior building mounted	8	EACH	\$25.00	\$200
Replace LED lamps - exterior pole mounted	8	EACH	\$25.00	\$200
Replace LED lamps - color changing up-light panels	8	EACH	\$40.00	\$320
Replace LED lamps - color changing puck lights	750	EACH	\$40.00	\$30,000
Replace exit lighting, LED standard, single face	40	EACH	\$449.72	\$17,989

Subtotal: Year 10 Recurring Cost

\$54,959

Year 20 Recurring Cost

Replace interior light fixture	250	EACH	\$672.08	\$168,020
Replace exterior building mounted lights	8	EACH	\$1,192.08	\$9,537
Replace exterior pole mounted lights	8	EACH	\$7,500.00	\$60,000
Replace dimming local station	50	EACH	\$169.36	\$8,468
Replace color changing puck lights	750	EACH	\$187.00	\$140,250
Replace color changing up-light panels	8	EACH	\$8,200.00	\$65,600
Replace lighting backbone software	1	LSUM	\$22,000.00	\$22,000
Replace lighting control system hardware and software	1	LSUM	\$176,000.00	\$176,000
Lighting control, devices, cabling, connections, and testing	1	LSUM	\$135,000.00	\$135,000
Testing and Engineering	1	LSUM	\$50,000.00	\$50,000

Subtotal: Year 20 Recurring Cost

\$834,875

27000 COMMUNICATIONS

Year 1 Recurring Cost

Telecommunications Maintenance	1	LSUM	\$1,000.00	\$1,000
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Subtotal: Year 1 Recurring Cost

\$1,000

Year 5 Recurring Cost

Replace wireless access point	24	EACH	\$1,709.44	\$41,027
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Subtotal: Year 5 Recurring Cost

\$41,027

Year 10

Replace MDF rack assembly 2 racks, switching equipment by Owner	1	EACH	\$12,200.00	\$12,200
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Terminations and testing	1	LSUM	\$32,177.60	\$32,178
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Subtotal: Year 10 Recurring Cost

\$44,378

Year 15

Replace PA/Sound system, cabinet, and amplifier	1	EACH	\$19,605.00	\$19,605
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Replace speakers	240	EACH	\$472.00	\$113,280
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Terminations and testing	1	LSUM	\$15,000.00	\$15,000
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Subtotal: Year 15 Recurring Cost

\$147,885

Year 20

Replace voice/data wall outlet, back box and plate, 1 gang, 2-port	32	EACH	\$163.00	\$5,216
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Subtotal: Year 20 Recurring Cost

\$5,216

28000 ELECTRONIC SAFETY & SECURITY

Year 10 Recurring Cost

Replace control panel, switcher and recording device assembly	1	EACH	\$32,321.68	\$32,322
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Replace interior dome camera, color	20	EACH	\$2,341.14	\$46,823
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Replace exterior dome camera, color	8	EACH	\$4,299.44	\$34,396
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Replace interior camera back box	20	EACH	\$44.84	\$897
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Replace exterior camera back box	8	EACH	\$112.49	\$900
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Subtotal: Year 10 Recurring Cost

\$115,337

Year 15 Recurring Cost

Replace fire alarm control panel	1	EACH	\$19,294.40	\$19,294
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Replace miscellaneous FA devices	250	EACH	\$412.88	\$103,220
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Testing and engineering	1	LSUM	\$15,000.00	\$15,000
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Replace Detection System control panels, power supply and software	1	EACH	\$26,300.00	\$26,300
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Replace Detection System card reader, flush type, standard	16	EACH	\$934.72	\$14,956
Replace electric door strike connection	16	EACH	\$181.14	\$2,898
Subtotal: Year 15 Recurring Cost				\$181,668

ALTERNATIVE #3: RESTORE THREE DOMES

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$113,939.62
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$2,313.55
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$14,840.00
08000 OPENINGS	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,000.00	\$12,200.00	\$5,000.00	\$12,200.00	\$6,500.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$42,026.56
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$23,200.00	\$16,000.00	\$23,200.00	\$184,619.73
Annual Total Cost with Inflation	\$16,000.00	\$24,592.00	\$17,305.60	\$26,096.84	\$215,978.97

ALTERNATIVE #3: RESTORE THREE DOMES

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$113,939.62
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$9,443.39
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$14,840.00
08000 OPENINGS	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$58,871.30
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$8,278.60
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$12,200.00	\$5,000.00	\$12,200.00	\$5,000.00	\$13,700.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$54,958.80
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$86,404.16
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$115,336.72
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$23,200.00	\$16,000.00	\$23,200.00	\$16,000.00	\$475,772.59
Annual Total Cost with Inflation	\$28,226.35	\$19,466.45	\$29,355.40	\$21,054.91	\$651,127.65

ALTERNATIVE #3: RESTORE THREE DOMES

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$113,939.62
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$2,313.55
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$919,339.00
08000 OPENINGS	\$5,000.00	\$171,733.56	\$5,000.00	\$5,000.00	\$5,000.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$130,360.50
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,000.00	\$12,200.00	\$5,000.00	\$12,200.00	\$589,305.33
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$189,911.56
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$181,668.16
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$189,933.56	\$16,000.00	\$23,200.00	\$2,131,837.72
Annual Total Cost with Inflation	\$22,772.99	\$292,393.99	\$23,683.91	\$35,715.33	\$3,413,140.87

ALTERNATIVE #3: RESTORE THREE DOMES

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$113,939.62
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$9,443.39
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$1,081,539.10
08000 OPENINGS	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$70,620.10
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$8,278.60
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$12,200.00	\$5,000.00	\$12,200.00	\$5,000.00	\$1,095,272.54
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$889,833.44
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$91,620.16
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$115,336.72
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$23,200.00	\$16,000.00	\$23,200.00	\$16,000.00	\$3,475,883.67
Annual Total Cost with Inflation	\$38,629.71	\$27,706.82	\$45,191.29	\$28,815.10	\$6,510,264.92

ALTERNATIVE #3: RESTORE THREE DOMES	
Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$455,758.49
04000 MASONRY	\$23,513.88
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,110,558.10
08000 OPENINGS	\$386,224.96
09000 FINISHES	\$146,917.70
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,842,377.86
26000 ELECTRICAL	\$944,792.24
27000 COMMUNICATIONS	\$425,962.44
28000 ELECTRONIC SAFETY AND SECURITY	\$412,341.60
31000 EARTHWORK	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$6,748,447.27
Annual Total Cost with Inflation	\$11,487,519.10

Exhibit C – Life Cycle Cost Analysis of Alternative #4: Summary – Base Scope

ALTERNATIVE #4: SUMMARY

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$41,150.97
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$5,681.77
08000 OPENINGS	\$4,200.00	\$4,200.00	\$4,200.00	\$4,200.00	\$7,200.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$1,871.34
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$3,200.00	\$5,600.00	\$3,200.00	\$5,600.00	\$7,175.20
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
27000 COMMUNICATIONS	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$49,864.32
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$7,572.25	\$7,572.25	\$7,572.25	\$7,572.25	\$8,147.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$22,657.79	\$25,057.79	\$22,657.79	\$25,057.79	\$125,440.85
Annual Total Cost with Inflation	\$22,657.79	\$26,561.26	\$24,506.67	\$28,186.61	\$146,748.05

ALTERNATIVE #4: SUMMARY

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$41,150.97
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$5,681.77
08000 OPENINGS	\$4,200.00	\$4,200.00	\$4,200.00	\$4,200.00	\$25,157.10
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$89,093.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$1,871.34
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$3,281.90
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$7,512.71
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,600.00	\$3,200.00	\$5,600.00	\$3,200.00	\$9,575.20
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$25,830.00
27000 COMMUNICATIONS	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$126,164.32
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$44,278.79
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$7,572.25	\$7,572.25	\$7,572.25	\$7,572.25	\$8,147.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$25,057.79	\$22,657.79	\$25,057.79	\$22,657.79	\$390,844.35
Annual Total Cost with Inflation	\$30,486.63	\$27,566.67	\$31,706.10	\$29,816.11	\$534,897.48

ALTERNATIVE #4: SUMMARY

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$41,150.97
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$309,014.77
08000 OPENINGS	\$4,200.00	\$99,105.16	\$4,200.00	\$4,200.00	\$7,200.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$179,996.50
10000 SPECIALTIES	\$935.54	\$2,149.58	\$935.54	\$935.54	\$6,462.58
11000 EQUIPMENT	\$0.00	\$125,000.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$121,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$23,745.35
23000 HEATING, VENTILATING & AIR CONDITIONING	\$3,200.00	\$5,600.00	\$3,200.00	\$5,600.00	\$1,037,041.30
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
27000 COMMUNICATIONS	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$101,124.32
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$176,510.25
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$7,572.25	\$7,572.25	\$7,572.25	\$7,572.25	\$8,147.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$22,657.79	\$246,176.99	\$22,657.79	\$25,057.79	\$2,014,243.29
Annual Total Cost with Inflation	\$32,249.10	\$378,978.17	\$33,539.06	\$38,575.32	\$3,224,868.40

ALTERNATIVE #4: SUMMARY

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$41,150.97
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$330,419.27
08000 OPENINGS	\$4,200.00	\$4,200.00	\$4,200.00	\$4,200.00	\$34,581.26
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$89,093.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$15,283.11
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$3,281.90
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$72,833.57
23000 HEATING, VENTILATING & AIR CONDITIONING	\$5,600.00	\$3,200.00	\$5,600.00	\$3,200.00	\$939,399.91
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$1,105,640.00
27000 COMMUNICATIONS	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$145,797.20
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$44,278.79
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$7,572.25	\$7,572.25	\$7,572.25	\$7,572.25	\$44,147.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$25,057.79	\$22,657.79	\$25,057.79	\$22,657.79	\$2,869,006.23
Annual Total Cost with Inflation	\$41,723.06	\$39,235.96	\$48,810.08	\$40,805.40	\$5,373,594.87

ALTERNATIVE #4: SUMMARY

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$164,603.89
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$682,797.58
08000 OPENINGS	\$236,243.52
09000 FINISHES	\$358,182.50
10000 SPECIALTIES	\$41,671.05
11000 EQUIPMENT	\$125,000.00
12000 FURNISHINGS	\$6,563.80
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$150,000.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$112,591.63
23000 HEATING, VENTILATING & AIR CONDITIONING	\$2,063,591.61
26000 ELECTRICAL	\$1,144,970.00
27000 COMMUNICATIONS	\$454,950.16
28000 ELECTRONIC SAFETY AND SECURITY	\$265,067.83
31000 EARTHWORK	\$6,400.00
32000 EXTERIOR IMPROVEMENTS	\$189,745.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$6,002,378.57
Annual Total Cost with Inflation	\$10,155,512.78

Exhibit D – Life Cycle Cost Analysis of Alternative #4: Restore the Tropical Dome

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
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LIFE CYCLE COST ANALYSIS

ALTERNATIVE #4: RESTORE TROPICAL DOME

03000 CONCRETE

Year 5 Recurring Cost

Concrete repair allowance - clean, prime, patch, recoat	1	LSUM	\$22,628.50	\$22,629
Concrete repair allowance - joint repair at concrete skylight frame	1	LSUM	\$15,351.37	\$15,351
Subtotal: Year 5 Recurring Cost				\$37,980

07000 THERMAL & MOISTURE PROTECTION

Year 1 Recurring Cost

Clean and maintain gutters, hubs and drainage piping	1	LSUM	\$2,000.00	\$2,000
Subtotal: Year 1 Recurring Cost				\$2,000

Year 5 Recurring Cost

Joint sealant repair within masonry, concrete, windows and doors, Tropic Dome	125	LNFT	\$19.68	\$2,460
Visual inspection of sealant joints	1	LSUM	\$1,000.00	\$1,000
Subtotal: Year 5 Recurring Cost				\$2,460

Year 15 Recurring Cost

Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Tropic Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Deduction of cost for "Clean and maintain gutters, hubs and drainage piping" not needed as cost is already included in "Remove, clean & reseal"	1	LSUM	\$ 1,000.00	\$ 1,000.00
Subtotal: Year 15 Recurring Cost				\$303,333

Year 20 Recurring Cost

Replace waterproofing membrane in drain gutters, approx 12" high x 18" wide	650	LNFT	\$32.93	\$21,405
Remove, clean & reseal all sealant joints within dome glass panels including cleaning drain system, Tropic Dome (Assume 50%)	7900	LNFT	\$38.27	\$302,333
Deduction of cost for "Clean and maintain gutters, hubs and drainage piping" not needed as cost is already included in "Remove, clean & reseal"	1	LSUM	\$ 1,000.00	\$ 1,000.00
Subtotal: Year 20 Recurring Cost				\$324,738

08000 OPENINGS

Year 1 Recurring Cost

Laminated glass maintenance	1	LSUM	\$1,700.00	\$1,700
Subtotal: Year 1 Recurring Cost				\$1,700

Year 10 Recurring Cost

Remove & replace damaged existing storm proof screen at louvers, approx 4'-6"x4'-6" triangular, all domes	51	EACH	\$352.10	\$17,957
Subtotal: Year 10 Recurring Cost				\$17,957

Year 20 Recurring Cost

Remove & replace existing HM door, frame & hardware, single	1	EACH	\$5,874.40	\$5,874
Subtotal: Year 20 Recurring Cost				\$5,874

23000 HEATING VENTILATION & AIR CONDITIONING

Year 1 Recurring Cost

HVAC Service and Annual Inspection	1	LSUM	\$1,700.00	\$1,700
Subtotal: Year 1 Recurring Cost				\$1,700

Year 2 Recurring Cost

Replace steam traps - assume 20% replacement	2	EACH	\$1,200.00	\$2,400
Subtotal: Year 2 Recurring Cost				\$2,400

Year 5 Recurring Cost

Replace CO sensors	1	EACH	\$500.00	\$500
Subtotal: Year 5 Recurring Cost				\$500

Year 15 Recurring Cost

Replace wall exhaust fan, 48"x48" centrifugal w/VFD	5	EACH	\$6,464.00	\$32,320
Replace louvers and dampers for wall exhausts	5	EACH	\$1,723.00	\$8,615
Replace louvers and dampers for dome exhausts	10	EACH	\$2,064.00	\$20,640
Replace dome apex exhaust fan, 36"x36" centrifugal, w/supports, VFD	10	EACH	\$6,946.00	\$69,460
Retrofit DDC controls - exhaust fans	15	EACH	\$3,000.00	\$45,000
Replace thermostats & temperature sensors	10	EACH	\$500.00	\$5,000
Replace Engineer's Station	1	LSUM	\$20,000.00	\$20,000
DDC Points & Devices	1	LSUM	\$2,500.00	\$2,500
Programming, testing, and training	1	LSUM	\$6,250.00	\$6,250
Subtotal: Year 15 Recurring Cost				\$209,785

Year 20 Recurring Cost

Replace air supply units, steam heat	10	EACH	\$6,723.00	\$67,230
Replace ASU steam coils connections - valves steam traps, strainers, fittings, and insulation	10	EACH	\$1,794.20	\$17,942

Replace variable volume motorized dampers - ASU, 15" x 15"	10	EACH	\$961.50	\$9,615
Replace variable volume motorized dampers - SAI, 60"x24"	10	EACH	\$1,552.50	\$15,525
Replace galvanized steel duct, rectangular	2,000	LBS	\$14.54	\$29,080
Replace Louvers SAI, fixed blade/stormproof, 4"D x 60" x 24"	10	EACH	\$811.50	\$8,115
Replace Louvers ASU, fixed blade/stormproof, 4"D x 15" x 15"	10	EACH	\$441.00	\$4,410
Replace duct insulation	1,500	SQFT	\$8.23	\$12,345
Retrofit DDC controls - air supply units	10	EACH	\$3,000.00	\$30,000
DDC Points & Devices	1	LSUM	\$7,500.00	\$7,500
Programming, testing, and training	1	LSUM	\$18,750.00	\$18,750
Airflow system testing and balancing	1	LSUM	\$5,000.00	\$5,000
Pipe system testing and balancing	1	LSUM	\$3,500.00	\$3,500
HVAC Commissioning	1	LSUM	\$4,500.00	\$10,000

Subtotal: Year 20 Recurring Cost **\$239,012**

26000 ELECTRICAL

Year 10 Recurring Cost

Replace LED lamps - color changing up-light panels	2	EACH	\$40.00	\$80
Replace LED lamps - color changing puck lights	250	EACH	\$40.00	\$10,000

Subtotal: Year 10 Recurring Cost **\$10,080**

Year 20 Recurring Cost

Replace color changing puck lights	250	EACH	\$187.00	\$46,750
Replace color changing up-light panels	2	EACH	\$8,200.00	\$16,400
Lighting control, devices, cabling, connections, and testing	1	LSUM	\$45,000.00	\$45,000
Testing and Engineering	1	LSUM	\$20,000.00	\$20,000

Subtotal: Year 20 Recurring Cost **\$128,150**

27000 COMMUNICATIONS

Year 1 Recurring Cost

Telecommunications Maintenance	1	LSUM	\$1,000.00	\$1,000
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Subtotal: Year 1 Recurring Cost **\$1,000**

Year 5 Recurring Cost

Replace wireless access point	8	EACH	\$1,709.44	\$13,676
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Subtotal: Year 5 Recurring Cost **\$13,676**

Year 10

Terminations and testing	1	LSUM	\$10,000.00	\$10,000
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Subtotal: Year 10 Recurring Cost **\$10,000**

Year 15

Replace PA/Sound system, cabinet, and amplifier	1	EACH	\$8,500.00	\$8,500
Replace speakers	80	EACH	\$472.00	\$37,760
Terminations and testing	1	LSUM	\$5,000.00	\$5,000

Subtotal: Year 15 Recurring Cost **\$51,260**

Year 20

Replace voice/data wall outlet, back box and plate, 1 gang, 2-port	12	EACH	\$163.00	\$1,956
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Subtotal: Year 20 Recurring Cost **\$1,956**

28000 ELECTRONIC SAFETY & SECURITY

Year 10 Recurring Cost

Replace control panel, switcher and recording device assembly	1	EACH	\$12,000.00	\$12,000
Replace interior dome camera, color	8	EACH	\$2,341.14	\$18,729
Replace exterior dome camera, color	3	EACH	\$4,299.44	\$12,898
Replace interior camera back box	7	EACH	\$44.84	\$314
Replace exterior camera back box	3	EACH	\$112.49	\$337

Subtotal: Year 10 Recurring Cost **\$44,279**

Year 15 Recurring Cost

Replace miscellaneous FA devices	15	EACH	\$412.88	\$6,193
Testing and engineering	1	LSUM	\$2,500.00	\$2,500
Replace Detection System control panels, power supply and software	1	EACH	\$26,300.00	\$26,300
Replace Detection System card reader, flush type, standard	5	EACH	\$934.72	\$4,674
Replace electric door strike connection	5	EACH	\$181.14	\$906

Subtotal: Year 15 Recurring Cost **\$40,573**

ALTERNATIVE #4: RESTORE TROPICAL DOME

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$37,979.87
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$4,460.00
08000 OPENINGS	\$1,700.00	\$1,700.00	\$1,700.00	\$1,700.00	\$1,700.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,700.00	\$4,100.00	\$1,700.00	\$4,100.00	\$2,200.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$14,675.52
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$6,400.00	\$8,800.00	\$6,400.00	\$8,800.00	\$61,015.39
Annual Total Cost with Inflation	\$6,400.00	\$9,328.00	\$6,922.24	\$9,898.80	\$71,379.38

ALTERNATIVE #4: RESTORE TROPICAL DOME

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$37,979.87
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$4,460.00
08000 OPENINGS	\$1,700.00	\$1,700.00	\$1,700.00	\$1,700.00	\$19,657.10
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$4,100.00	\$1,700.00	\$4,100.00	\$1,700.00	\$4,600.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$10,080.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$24,675.52
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$44,278.79
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$8,800.00	\$6,400.00	\$8,800.00	\$6,400.00	\$145,731.28
Annual Total Cost with Inflation	\$10,706.55	\$7,786.58	\$11,134.81	\$8,421.96	\$199,443.32

ALTERNATIVE #4: RESTORE TROPICAL DOME

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$37,979.87
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$307,793.00
08000 OPENINGS	\$1,700.00	\$96,605.16	\$1,700.00	\$1,700.00	\$1,700.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,700.00	\$4,100.00	\$1,700.00	\$4,100.00	\$214,385.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$65,935.52
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$40,572.50
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$6,400.00	\$103,705.16	\$6,400.00	\$8,800.00	\$668,365.89
Annual Total Cost with Inflation	\$9,109.20	\$159,649.33	\$9,473.56	\$13,547.20	\$1,070,075.33

ALTERNATIVE #4: RESTORE TROPICAL DOME

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$37,979.87
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$329,197.50
08000 OPENINGS	\$1,700.00	\$1,700.00	\$1,700.00	\$1,700.00	\$25,531.50
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$4,100.00	\$1,700.00	\$4,100.00	\$1,700.00	\$243,612.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$138,230.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$26,631.52
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$44,278.79
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$8,800.00	\$6,400.00	\$8,800.00	\$6,400.00	\$845,461.18
Annual Total Cost with Inflation	\$14,652.65	\$11,082.73	\$17,141.52	\$11,526.04	\$1,583,532.94

ALTERNATIVE #4: RESTORE TROPICAL DOME	
Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$151,919.49
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$677,910.50
08000 OPENINGS	\$170,693.76
09000 FINISHES	\$0.00
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$511,197.00
26000 ELECTRICAL	\$148,310.00
27000 COMMUNICATIONS	\$147,918.08
28000 ELECTRONIC SAFETY AND SECURITY	\$129,130.08
31000 EARTHWORK	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$0.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$1,937,078.91
Annual Total Cost with Inflation	\$3,241,212.12

Exhibit E – Life Cycle Cost Analysis of Alternative #4: Conservancy & Event Building

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
LIFE CYCLE COST ANALYSIS				
ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING				
03000 CONCRETE				
Year 5 Recurring Cost				
Concrete repair allowance - clean, prime, patch, recoat	1	LSUM	\$3,171.10	\$3,171
Subtotal: Year 5 Recurring Cost				\$3,171
07000 THERMAL & MOISTURE PROTECTION				
Year 5 Recurring Cost				
Caulk and sealant repair - 10%	42,130	SQFT	\$0.03	\$1,222
Subtotal: Year 5 Recurring Cost				\$1,222
08000 OPENINGS				
Year 1 Recurring Cost				
Storefront/window cleaning and maintenance	1	LSUM	\$2,500.00	\$2,500
Subtotal: Year 1 Recurring Cost				\$2,500
Year 5 Recurring Cost				
Door hardware maintenance	1	LSUM	\$500.00	\$500
Subtotal: Year 5 Recurring Cost				\$500
Year 20 Recurring Cost				
Repair AL/GL door, frame & hardware - double	8	EACH	\$443.72	\$3,550
Subtotal: Year 20 Recurring Cost				\$3,550
09000 FINISHES				
Year 10 Recurring Cost				
Interior Paint - Walls	24,000	SQFT	\$1.58	\$37,920
Interior Paint - Ceiling	1,500	SQFT	\$2.11	\$3,165
Exterior Paint	17,650	SQFT	\$2.72	\$48,008
Subtotal: Year 10 Recurring Cost				\$89,093
Year 15 Recurring Cost				
Replace ACT system, 2'-0"x2'-0"	3,950	SQFT	\$9.17	\$36,222
Reseal polished concrete	31,950	SQFT	\$4.50	\$143,775
Subtotal: Year 15 Recurring Cost				\$179,997

10000 SPECIALTIES

Year 1 Recurring Cost

Replace urinal screens	2	EACH	\$467.77	\$936
Subtotal: Year 1 Recurring Cost				\$936

Year 5 Recurring Cost

Replace soap dispenser	10	EACH	\$93.58	\$936
Replace electric hand dryer	10	EACH	\$567.15	
Subtotal: Year 5 Recurring Cost				\$936

Year 12 Recurring Cost

Replace fire extinguisher & cabinet, wall mounted	4	EACH	\$303.51	\$1,214
Subtotal: Year 12 Recurring Cost				\$1,214

Year 15 Recurring Cost

Replace toilet paper dispenser, double roll	12	EACH	\$114.05	\$1,369
Replace paper towel dispenser, surface mounted	6	EACH	\$103.58	\$621
Replace napkin disposal, stainless steel, surface mounted	8	EACH	\$128.58	\$1,029
Replace baby diaper changing station	2	EACH	\$786.26	\$1,573
Subtotal: Year 15 Recurring Cost				\$4,591

Year 20 Recurring Cost

Replace toilet partition, accessible	4	EACH	\$1,134.30	\$4,537
Replace toilet partition, standard	6	EACH	\$887.44	\$5,325
Replace grab bar set, three piece	6	EACH	\$290.73	\$1,744
Replace mirror at sink, 18"x24"	10	EACH	\$161.15	\$1,612
Replace utility mop holder & shelf	1	EACH	\$194.05	\$194
Subtotal: Year 20 Recurring Cost				\$13,412

11000 EQUIPMENT

Year 12 Recurring Cost

Food service equipment - replacement allowance	1	LSUM	\$125,000.00	\$125,000
Subtotal: Year 12 Recurring Cost				\$125,000

12000 FURNISHINGS

Year 10 Recurring Cost

Replace window treatment	370	SQFT	\$8.87	\$3,282
Subtotal: Year 10 Recurring Cost				\$3,282

14000 CONVEYING EQUIPMENT

Year 1 Recurring Cost

Elevator Service and Annual Inspection	1	LSUM	\$1,500.00	\$1,500
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Subtotal: Year 1 Recurring Cost \$1,500

Year 15 Recurring Cost

Refurbish/Modernize Elevator Cab Interior and Replace Call Station and Controller	1	EACH	\$120,000.00	\$120,000
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Subtotal: Year 15 Recurring Cost \$120,000

22000 PLUMBING

Year 1 Recurring Cost

Plumbing Service and Annual Inspection	1	LSUM	\$500.00	\$500
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Subtotal: Year 1 Recurring Cost \$500

Year 10 Recurring Cost

Replace backflow preventer	1	EACH	\$7,012.71	\$7,013
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Subtotal: Year 10 Recurring Cost \$7,013

Year 15 Recurring Cost

Replace domestic water heater, gas-fired	1	EACH	\$10,945.52	\$10,946
Replace DHW recirculating pump	1	EACH	\$2,178.21	\$2,178
Replace expansion tank	1	EACH	\$1,411.24	\$1,411
Replace thermostatic mixing valve - central	1	EACH	\$4,472.76	\$4,473
Replace thermostatic mixing valve - 3/4", point of use	7	EACH	\$344.98	\$2,415
Replace elevator sump pump	1	EACH	\$1,822.76	\$1,823

Subtotal: Year 15 Recurring Cost \$23,245

Year 20 Recurring Cost

Replace water closet, wall hung, manual flush valve	6	EACH	\$1,781.94	\$10,692
Replace lavatory, wall hung, manual faucet	7	EACH	\$1,807.66	\$12,654
Replace urinal, wall hung, manual flush valve	1	EACH	\$1,818.16	\$1,818
Replace drinking fountain, ADA bi-level w/bottle filler	2	EACH	\$2,985.84	\$5,972
Replace hose bibbs	4	EACH	\$499.10	\$1,996
Replace wall hydrant, nonfreeze	4	EACH	\$1,418.19	\$5,673
Replace in-ground hydrant at conservatory, nonfreeze	4	EACH	\$1,418.19	\$5,673
Repair/Renovate Domestic water pipe, fittings, and supports - 10% assumed	100	LNFT	\$39.54	\$3,954
Replace pipe insulation, domestic water piping	1000	LNFT	\$10.17	\$10,170
Repair/Renovate sanitary/waste pipe, fittings, and supports - 10% assumed	30	LNFT	\$59.36	\$1,781
Repair/Renovate vent pipe, fittings, and supports - 10% assumed	45	LNFT	\$41.28	\$1,858
Repair/Renovate storm drainage pipe, fittings, and supports - 10% assumed	17	LNFT	\$88.32	\$1,501

Replace storm drainage insulation	80	LNFT	\$19.75	\$1,580
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Subtotal: Year 20 Recurring Cost				\$65,321
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23000 HEATING VENTILATION & AIR CONDITIONING

Year 1 Recurring Cost

HVAC Service and Annual Inspection	1	LSUM	\$1,500.00	\$1,500
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Subtotal: Year 1 Recurring Cost				\$1,500
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Year 5 Recurring Cost

Replace sidestream filters	1	EACH	\$2,975.20	\$2,975
Replace CO sensors	1	EACH	\$500.00	\$500

Subtotal: Year 5 Recurring Cost				\$3,475
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Year 15 Recurring Cost

Replace HW boilers, condensing 2,000 mbh	2	EACH	\$57,876.00	\$115,752
Replace CA duct, HW boilers	60	LNFT	\$30.46	\$1,828
Replace CA duct ,domestic water heater	50	LNFT	\$15.49	\$775
Replace boiler flue/breeching, 10" dia.	60	LNFT	\$156.15	\$9,369
Replace water heater flue/vent	50	LNFT	\$116.95	\$5,848
Replace HW pumps, secondary, base-mount	2	EACH	\$5,668.23	\$11,336
Replace HW boiler primary pumps, inline	2	EACH	\$1,696.90	\$3,394
Replace variable frequency drive, HW secondary pumps	2	EACH	\$2,900.36	\$5,801
Replace vibration isolation, pumps	2	EACH	\$1,818.80	\$3,638
Replace exhaust fan, rooftop, w/curb, backdraft damper	2	EACH	\$4,601.21	\$9,202
Replace glvanized steel duct & insulation	42,130	SQFT	\$12.28	\$517,356
Replace kitchen grease duct, welded black iron w/ 2-layer fire wrap	50	LNFT	\$400.00	\$20,000
Replace expansion tank	1	EACH	\$6,225.20	\$6,225
Replace chemical pot feeder	1	EACH	\$2,275.20	\$2,275
Replace isolation valves, pumps, butterfly, 6"	2	EACH	\$1,190.15	\$2,380
Replace flexible pump connections, 6"	4	EACH	\$411.80	\$1,647
Replace suction diffuser, 6"	2	EACH	\$2,184.50	\$4,369
Replace triple duty valve, 6"	2	EACH	\$3,759.50	\$7,519
Replace pump strainer, Y-type, 6"	2	EACH	\$1,215.35	\$2,431
Replace pressure fill/makeup water system	1	EACH	\$7,627.60	\$7,628
Replace air separator, 6"	1	EACH	\$4,192.23	\$4,192
Replace DDC controls - HW boilers	2	EACH	\$3,000.00	\$6,000
Replace DDC controls - hydronic pumps, constant speed	2	EACH	\$3,000.00	\$6,000
Replace DDC controls - hydronic pumps, variable speed	2	EACH	\$7,500.00	\$15,000
Replace boiler shutoff switch	1	EACH	\$1,050.00	\$1,050
Replace Engineer's station	1	LSUM	\$20,000.00	\$20,000
Miscellaneous points & devices	1	LSUM	\$5,000.00	\$5,000
Programming, testing, and training	1	LSUM	\$5,000.00	\$5,000

Pipe system testing and balancing	1	LSUM	\$10,000.00	\$10,000
HVAC system commissioning assistance	1	LSUM	\$6,666.67	\$6,667

Subtotal: Year 15 Recurring Cost **\$817,681**

Year 20 Recurring Cost

Replace variable air volume terminals HW reheat coils, valves, fittings, and insulation	20	EACH	\$1,568.80	\$31,376
Replace registers, grilles, and diffusers	100	EACH	\$111.20	\$11,120
Replace rooftop unit, 80 tons (32,000 cfm), DX coil, gas heat, fans, filters, condenser section	2	EACH	\$202,712.00	\$405,424
Replace make-up air unit, packaged, DX coil, HW heat, fans, filters, condenser section	1	EACH	\$30,784.00	\$30,784
Replace HW coil connections, RTU - valves, fittings, specialties, and pipe insulation	3	EACH	\$6,286.36	\$18,859
Repair HHWS/R mains, std. wgt. blk. steel pipe, fittings, and supports - 10% assumed	50	LNFT	\$114.92	\$5,746
Repair HHWS/R runouts, type L copper pipe, fittings, and supports - 10% assumed	70	LNFT	\$28.08	\$1,966
Repair natural gas piping, std. blk. steel pipe, fittings, and supports, threaded, 1-1/2" - 10% assumed	15	LNFT	\$38.38	\$576
Replace pipe insulation, HHWS/R mains	500	LNFT	\$17.16	\$8,580
Replace pipe insulation, HHWS/R runouts	700	LNFT	\$10.07	\$7,049
Replace DDC controls - rooftop units	2	EACH	\$15,000.00	\$30,000
Replace DDC controls - makeup air units	1	EACH	\$5,000.00	\$5,000
Replace DDC controls - exhaust fan, general, toilet	2	EACH	\$3,000.00	\$6,000
Replace DDC controls - VAV terminals w/reheat coil	20	EACH	\$2,000.00	\$40,000
Replace thermostats/temperature sensors	20	EACH	\$500.00	\$10,000
Miscellaneous points & devices	1	LSUM	\$10,000.00	\$10,000
Programming, testing, and training	1	LSUM	\$10,000.00	\$10,000
Air system testing and balancing	1	LSUM	\$45,000.00	\$45,000
HVAC system commissioning assistance	1	LSUM	\$13,333.33	\$13,333

Subtotal: Year 20 Recurring Cost **\$690,813**

26000 ELECTRICAL

Year 1 Recurring Cost

Generator Service and Annual Inspection	1	LSUM	\$750.00	\$750
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Subtotal: Year 1 Recurring Cost **\$750**

Year 10 Recurring Cost

Replace LED lamps - LED Fixtures Allowance	1	LSUM	\$5,000.00	\$5,000
Replace lamps - decorative and specialty light fixtures allowance	1	LSUM	\$5,000.00	\$5,000

Subtotal: Year 10 Recurring Cost **\$10,000**

Year 20 Recurring Cost

Replace miscellaneous LED fixtures	41,827	SQFT	\$17.50	\$731,973
Replace decorative and specialty light fixtures - allowance	1	LSUM	\$100,120.00	\$100,120

Replace lighting control, devices, connections, and testing	41,827	SQFT	\$2.50	\$104,568
Subtotal: Year 20 Recurring Cost				\$936,660

27000 COMMUNICATIONS

Year 1 Recurring Cost

Telecommunications Maintenance	1	LSUM	\$1,000.00	\$1,000
Subtotal: Year 1 Recurring Cost				\$1,000

Year 5 Recurring Cost

Replace wireless access point	20	EACH	\$1,709.44	\$34,189 \$0
Subtotal: Year 5 Recurring Cost				\$34,189

Year 10 Recurring Cost

Replace MDF rack assembly 3 racks, switching equipment by Owner	1	EACH	\$16,300.00	\$16,300
Terminations and testing	1	LSUM	\$50,000.00	\$50,000
Subtotal: Year 10 Recurring Cost				\$66,300

Year 20 Recurring Cost

Replace voice/data wall outlet, back box and plate, 1 gang, 2-port	110	EACH	\$147.00	\$16,170
Replace voice/data outlet, back box and plate, 1 gang, 2-port - floor mounted	4	EACH	\$376.72	\$1,507
Subtotal: Year 20 Recurring Cost				\$17,677

28000 ELECTRONIC SAFETY & SECURITY

Year 15 Recurring Cost

Replace fire alarm system	41,827	SQFT	\$3.25	\$135,938
Subtotal: Year 15 Recurring Cost				\$135,938

32000 EXTERIOR IMPROVEMENTS

Year 1 Recurring Cost

Irrigation system maintenance allowance	3,500	SQFT	\$0.19	\$648
Landscape maintenance	1	LSUM	\$2,424.75	\$2,425
Subtotal: Year 1 Recurring Cost				\$3,072

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$3,171.10
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$0.00	\$0.00	\$0.00	\$0.00	\$1,221.77
08000 OPENINGS	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$3,000.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$1,871.34
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$4,975.20
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$35,188.80
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$11,757.79	\$11,757.79	\$11,757.79	\$11,757.79	\$55,250.46
Annual Total Cost with Inflation	\$11,757.79	\$12,463.26	\$12,717.23	\$13,225.91	\$64,635.22

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$3,171.10
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$1,221.77
08000 OPENINGS	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$3,000.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$89,093.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$1,871.34
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$3,281.90
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$7,512.71
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$4,975.20
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$10,750.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$101,488.80
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$11,757.79	\$11,757.79	\$11,757.79	\$11,757.79	\$230,938.07
Annual Total Cost with Inflation	\$14,305.15	\$14,305.15	\$14,877.36	\$15,472.45	\$316,054.70

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$3,171.10
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$1,221.77
08000 OPENINGS	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$3,000.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$179,996.50
10000 SPECIALTIES	\$935.54	\$2,149.58	\$935.54	\$935.54	\$6,462.58
11000 EQUIPMENT	\$0.00	\$125,000.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$121,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$23,745.35
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$822,656.30
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$35,188.80
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$135,937.75
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$11,757.79	\$137,971.83	\$11,757.79	\$11,757.79	\$1,336,702.40
Annual Total Cost with Inflation	\$16,735.00	\$212,401.29	\$17,404.40	\$18,100.58	\$2,140,103.60

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$3,171.10
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$1,221.77
08000 OPENINGS	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$6,549.76
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$89,093.00
10000 SPECIALTIES	\$935.54	\$935.54	\$935.54	\$935.54	\$15,283.11
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$3,281.90
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$500.00	\$500.00	\$500.00	\$500.00	\$72,833.57
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$695,787.91
26000 ELECTRICAL	\$750.00	\$750.00	\$750.00	\$750.00	\$947,410.00
27000 COMMUNICATIONS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$119,165.68
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25	\$3,072.25
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$11,757.79	\$11,757.79	\$11,757.79	\$11,757.79	\$1,958,370.05
Annual Total Cost with Inflation	\$19,577.58	\$20,360.69	\$22,903.00	\$21,175.12	\$3,667,990.38

ALTERNATIVE #4: CONSERVANCY & EVENT BUILDING

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$12,684.40
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$4,887.08
08000 OPENINGS	\$55,549.76
09000 FINISHES	\$358,182.50
10000 SPECIALTIES	\$41,671.05
11000 EQUIPMENT	\$125,000.00
12000 FURNISHINGS	\$6,563.80
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$150,000.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$112,591.63
23000 HEATING, VENTILATING & AIR CONDITIONING	\$1,552,394.61
26000 ELECTRICAL	\$971,660.00
27000 COMMUNICATIONS	\$307,032.08
28000 ELECTRONIC SAFETY AND SECURITY	\$135,937.75
31000 EARTHWORK	\$0.00
32000 EXTERIOR IMPROVEMENTS	\$61,445.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$3,895,599.66
Annual Total Cost with Inflation	\$6,646,565.86

Exhibit F – Life Cycle Cost Analysis of Alternative #4: North Entry Courtyard

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
LIFE CYCLE COST ANALYSIS				
ALTERNATIVE #4: NORTH ENTRY COURTYARD				
08000 OPENINGS				
Year 5 Recurring Cost				
Clean skylight panes and replace sealant allowance	1	LSUM	\$2,500.00	\$2,500
Subtotal: Year 5 Recurring Cost				\$2,500
26000 ELECTRICAL				
Year 10 Recurring Cost				
Lighting lamp replacement - allowance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 10 Recurring Cost				\$5,000
Year 20 Recurring Cost				
Light fixture replacement - allowance	1	LSUM	\$15,000.00	\$15,000
Subtotal: Year 20 Recurring Cost				\$15,000
31000 EARTHWORK				
Year 5 Recurring Cost				
Erosion & sedimentation maintenance allowance	32,000	SQFT	\$0.05	\$1,600
Subtotal: Year 5 Recurring Cost				\$1,600
32000 EXTERIOR IMPROVEMENTS				
Year 1 Recurring Cost				
Landscape maintenance	1	LSUM	\$4,500.00	\$4,500
Subtotal: Year 1 Recurring Cost				\$4,500
Year 5 Recurring Cost				
Concrete crack repair and patching	1	LSUM	\$575.00	\$575
Subtotal: Year 5 Recurring Cost				\$575
Year 20 Recurring Cost				
Irrigation system at planting beds - Allowance	22,500	SQFT	\$1.60	\$36,000
Subtotal: Year 20 Recurring Cost				\$36,000

ALTERNATIVE #4: NORTH ENTRY COURTYARD

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$2,500.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$5,075.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$9,175.00
Annual Total Cost with Inflation	\$4,500.00	\$4,770.00	\$4,867.20	\$5,061.89	\$10,733.45

ALTERNATIVE #4: NORTH ENTRY COURTYARD

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$2,500.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$5,075.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$14,175.00
Annual Total Cost with Inflation	\$5,474.94	\$5,474.94	\$5,693.94	\$5,921.69	\$19,399.47

ALTERNATIVE #4: NORTH ENTRY COURTYARD

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$2,500.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$5,075.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$9,175.00
Annual Total Cost with Inflation	\$6,404.90	\$6,927.54	\$6,661.10	\$6,927.54	\$14,689.47

ALTERNATIVE #4: NORTH ENTRY COURTYARD

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$2,500.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$41,075.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$65,175.00
Annual Total Cost with Inflation	\$7,492.83	\$7,792.54	\$8,765.55	\$8,104.25	\$122,071.55

ALTERNATIVE #4: NORTH ENTRY COURTYARD

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$0.00
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00
08000 OPENINGS	\$10,000.00
09000 FINISHES	\$0.00
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00
26000 ELECTRICAL	\$25,000.00
27000 COMMUNICATIONS	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00
31000 EARTHWORK	\$6,400.00
32000 EXTERIOR IMPROVEMENTS	\$128,300.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$169,700.00
Annual Total Cost with Inflation	\$267,734.80

Exhibit G – Life Cycle Cost Analysis of Alternative #4: East Wedding Garden

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
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LIFE CYCLE COST ANALYSIS

ALTERNATIVE #4: EAST WEDDING GARDEN

26000 ELECTRICAL

Year 10 Recurring Cost

Lighting lamp replacement - allowance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 10 Recurring Cost				\$5,000

Year 20 Recurring Cost

Light fixture replacement - allowance	1	LSUM	\$15,000.00	\$15,000
Subtotal: Year 20 Recurring Cost				\$15,000

31000 EARTHWORK

Year 5 Recurring Cost

Erosion & sedimentation maintenance allowance	32,000	SQFT	\$0.05	\$1,600
Subtotal: Year 5 Recurring Cost				\$1,600

32000 EXTERIOR IMPROVEMENTS

Year 1 Recurring Cost

Wedding garden maintenance - allowance	1	LSUM	\$16,000.00	\$16,000
Subtotal: Year 1 Recurring Cost				\$16,000

ALTERNATIVE #4: EAST WEDDING GARDEN

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$17,600.00
Annual Total Cost with Inflation	\$16,000.00	\$16,960.00	\$17,305.60	\$17,997.82	\$20,589.51

ALTERNATIVE #4: EAST WEDDING GARDEN

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$22,600.00
Annual Total Cost with Inflation	\$19,466.45	\$19,466.45	\$20,245.10	\$21,054.91	\$30,929.66

ALTERNATIVE #4: EAST WEDDING GARDEN

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$17,600.00
Annual Total Cost with Inflation	\$22,772.99	\$24,631.26	\$23,683.91	\$24,631.26	\$28,178.17

ALTERNATIVE #4: EAST WEDDING GARDEN

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$1,600.00
32000 EXTERIOR IMPROVEMENTS	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$37,600.00
Annual Total Cost with Inflation	\$26,641.18	\$27,706.82	\$31,166.41	\$28,815.10	\$70,424.09

ALTERNATIVE #4: EAST WEDDING GARDEN

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$0.00
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00
08000 OPENINGS	\$0.00
09000 FINISHES	\$0.00
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00
26000 ELECTRICAL	\$25,000.00
27000 COMMUNICATIONS	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00
31000 EARTHWORK	\$6,400.00
32000 EXTERIOR IMPROVEMENTS	\$320,000.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$351,400.00
Annual Total Cost with Inflation	\$508,666.69

Exhibit H – Life Cycle Cost Analysis of Alternative #4: East Café Garden

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
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LIFE CYCLE COST ANALYSIS

ALTERNATIVE #4: EAST CAFÉ GARDEN

26000 ELECTRICAL

Year 10 Recurring Cost

Lighting lamp replacement - allowance	1	LSUM	\$1,500.00	\$1,500
Subtotal: Year 10 Recurring Cost				\$1,500

Year 20 Recurring Cost

Light fixture replacement - allowance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 20 Recurring Cost				\$5,000

31000 EARTHWORK

Year 5 Recurring Cost

Erosion & sedimentation maintenance allowance	3,000	SQFT	\$0.05	\$150
Subtotal: Year 5 Recurring Cost				\$150

32000 EXTERIOR IMPROVEMENTS

Year 5 Recurring Cost

Concrete crack repair and patching	1	LSUM	\$450.00	\$450
Subtotal: Year 5 Recurring Cost				\$450

ALTERNATIVE #4: EAST CAFÉ GARDEN

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$150.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$450.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$600.00
Annual Total Cost with Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$701.92

ALTERNATIVE #4: EAST CAFÉ GARDEN

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$150.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$450.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$2,100.00
Annual Total Cost with Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$2,874.00

ALTERNATIVE #4: EAST CAFÉ GARDEN

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$150.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$450.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$600.00
Annual Total Cost with Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$960.62

ALTERNATIVE #4: EAST CAFÉ GARDEN

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$6,500.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$150.00
32000 EXTERIOR IMPROVEMENTS	\$0.00	\$0.00	\$0.00	\$0.00	\$450.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$7,100.00
Annual Total Cost with Inflation	\$0.00	\$0.00	\$0.00	\$0.00	\$13,298.17

ALTERNATIVE #4: EAST CAFÉ GARDEI

Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$0.00
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00
08000 OPENINGS	\$0.00
09000 FINISHES	\$0.00
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00
26000 ELECTRICAL	\$8,000.00
27000 COMMUNICATIONS	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00
31000 EARTHWORK	\$600.00
32000 EXTERIOR IMPROVEMENTS	\$1,800.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$10,400.00
Annual Total Cost with Inflation	\$25,024.14

Exhibit I – Life Cycle Cost Analysis of Alternative #4: South Event Garden

DESCRIPTION	QTY	SUM	UNIT COST	TOTAL COST
LIFE CYCLE COST ANALYSIS				
ALTERNATIVE #4: SOUTH EVENT GARDEN				
22000 PLUMBING				
Year 10 Recurring Cost				
Replace backflow preventer, 3/4", lead free	1	EACH	\$1,385.76	\$1,386
Subtotal: Year 10 Recurring Cost				\$1,386
Year 15 Recurring Cost				
Replace shutoff/isolation valve, ball, 3/4"	1	EACH	\$143.43	\$143
Subtotal: Year 15 Recurring Cost				\$143
26000 ELECTRICAL				
Year 10 Recurring Cost				
Lighting lamp replacement - allowance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 10 Recurring Cost				\$5,000
Year 20 Recurring Cost				
Light fixture replacement - allowance	1	LSUM	\$15,000.00	\$15,000
Subtotal: Year 20 Recurring Cost				\$15,000
31000 EARTHWORK				
Year 5 Recurring Cost				
Erosion & sedimentation maintenance allowance	18,000	SQFT	\$0.05	\$900
Subtotal: Year 5 Recurring Cost				\$900
32000 EXTERIOR IMPROVEMENTS				
Year 1 Recurring Cost				
Landscape maintenance	1	LSUM	\$5,600.00	\$5,600
Subtotal: Year 1 Recurring Cost				\$5,600
Year 5 Recurring Cost				
Concrete crack repair	1	LSUM	\$1,176.00	\$1,176
Water feature - repair and maintenance allowance	1	LSUM	\$5,000.00	\$5,000
Subtotal: Year 5 Recurring Cost				\$6,176
Year 20 Recurring Cost				
Irrigation system at planting beds - Allowance	11,200	SQFT	\$1.60	\$17,920
Subtotal: Year 20 Recurring Cost				\$17,920

ALTERNATIVE #4: SOUTH EVENT GARDEN

Division	Year 1	Year 2	Year 3	Year 4	Year 5
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY & SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$900.00
32000 EXTERIOR IMPROVEMENTS	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$11,776.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$12,676.00
Annual Total Cost with Inflation	\$5,600.00	\$5,936.00	\$6,056.96	\$6,299.24	\$14,829.13

ALTERNATIVE #4: SOUTH EVENT GARDEN

Division	Year 6	Year 7	Year 8	Year 9	Year 10
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$1,385.76
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$900.00
32000 EXTERIOR IMPROVEMENTS	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$11,776.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$19,061.76
Annual Total Cost with Inflation	\$6,813.26	\$6,813.26	\$7,085.79	\$7,369.22	\$26,087.33

ALTERNATIVE #4: SOUTH EVENT GARDEN

Division	Year 11	Year 12	Year 13	Year 14	Year 15
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$143.43
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$900.00
32000 EXTERIOR IMPROVEMENTS	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$11,776.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$12,819.43
Annual Total Cost with Inflation	\$7,970.55	\$8,620.94	\$8,289.37	\$8,620.94	\$20,524.32

ALTERNATIVE #4: SOUTH EVENT GARDEN

Division	Year 16	Year 17	Year 18	Year 19	Year 20
02000 EXISTING CONDITIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
03000 CONCRETE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
04000 MASONRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
05000 METALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
08000 OPENINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
09000 FINISHES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10000 SPECIALTIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11000 EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12000 FURNISHINGS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21000 FIRE SUPPRESSION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22000 PLUMBING	\$0.00	\$0.00	\$0.00	\$0.00	\$1,385.76
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26000 ELECTRICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00
27000 COMMUNICATIONS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31000 EARTHWORK	\$0.00	\$0.00	\$0.00	\$0.00	\$900.00
32000 EXTERIOR IMPROVEMENTS	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$29,696.00
33000 UTILITIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Total Cost w/o Inflation	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$51,981.76
Annual Total Cost with Inflation	\$9,324.41	\$9,697.39	\$10,908.24	\$10,085.28	\$97,360.86

ALTERNATIVE #4: SOUTH EVENT GARDEN	
Division	Totals
02000 EXISTING CONDITIONS	\$0.00
03000 CONCRETE	\$0.00
04000 MASONRY	\$0.00
05000 METALS	\$0.00
06000 WOODS, PLASTICS & COMPOSITES	\$0.00
07000 THERMAL & MOISTURE PROTECTION SYSTEM	\$0.00
08000 OPENINGS	\$0.00
09000 FINISHES	\$0.00
10000 SPECIALTIES	\$0.00
11000 EQUIPMENT	\$0.00
12000 FURNISHINGS	\$0.00
13000 SPECIAL CONSTRUCTION	\$0.00
14000 CONVEYING EQUIPMENT	\$0.00
21000 FIRE SUPPRESSION	\$0.00
22000 PLUMBING	\$2,914.95
23000 HEATING, VENTILATING & AIR CONDITIONING	\$0.00
26000 ELECTRICAL	\$25,000.00
27000 COMMUNICATIONS	\$0.00
28000 ELECTRONIC SAFETY AND SECURITY	\$0.00
31000 EARTHWORK	\$3,600.00
32000 EXTERIOR IMPROVEMENTS	\$154,624.00
33000 UTILITIES	\$0.00
Annual Total Cost w/o Inflation	\$186,138.95
Annual Total Cost with Inflation	\$465,206.07