

	Copley Square Improvements					Sasaki Associates	
	90% Design Opinion of Probable Construction Cost					October 20, 2022	
	Project Number: 08104.00						
Item No.	Item	90% Take Offs					Comments
		Quantity	Unit	Unit Cost	Subtotal	Total	
	SITE PREP						
1	A. Site Prep/Clearing	94,500	LF	\$ 0.75	\$ 70,875		Recent Bid Tabs
2	B. Winter Condition Allowance	1	LS	\$ 75,000.00	\$ 75,000		Allowance for winter conditions (temp heating, snow removal)
	C. Site Surveying & Layout	1	LS	\$ 50,000.00	\$ 50,000		
	D. Erosion Control						
	Construction Entrance	1	LS	\$ 15,000.00	\$ 15,000		Recent Bid Tabs
	Construction Fence	1,622	LF	\$ 12.50	\$ 20,275		Recent Bid Tabs
	Silt Fence	1,560	LF	\$ 5.00	\$ 7,800		Recent Bid Tabs
	Temporary Stormwater Management	1	LS	\$ 45,000.00	\$ 45,000		
	Inlet Protection (Silt Sack)	56	EA	\$ 250.00	\$ 14,000		
	E. Tree Protection/Removal						
	Tree Protection Fence	1,822	LF	\$ 20.00	\$ 36,440		
	Tree Removed - Diameter under 24"	12	EA	\$ 1,500.00	\$ 18,000		
	Early Tree Care	1	LS	\$ 25,000.00	\$ 25,000		
	F. Temporary Pedestrian & Vehicular Control	1	LS	\$ 75,000.00	\$ 75,000		
	G. Temporary Signage	1	LS	\$ 8,000.00	\$ 8,000		
	H. Existing Kiosk Protection	1	AL	\$ 3,000.00	\$ 3,000		
	I. Existing Art Deinstallation/Transport/Reinstallation						
	Copley Statue	1	EA	\$ 40,000.00	\$ 40,000		From Skylight Studios
	Kahlil Gibran Memorial	1	EA	\$ 25,000.00	\$ 25,000		From Skylight Studios
	Tortoise and Hare	1	EA	\$ 15,000.00	\$ 15,000		From Skylight Studios
	Ahern Memorial Plaque	1	EA	\$ 2,500.00	\$ 2,500		From Skylight Studios
	Boston Marathon Monument	1	EA	\$ 38,000.00	\$ 38,000		From Skylight Studios
	J. Conservation						
	Copley Statue	1	EA	\$ 26,000.00	\$ 26,000		From Skylight Studios
	Kahlil Gibran Memorial	1	EA	\$ 13,000.00	\$ 25,000		From Skylight Studios
	Tortoise and Hare	1	EA	\$ 9,000.00	\$ 9,000		From Skylight Studios
	Ahern Memorial Plaque	1	EA	\$ 3,800.00	\$ 3,800		From Skylight Studios
	Boston Marathon Monument	1	EA	\$ 18,000.00	\$ 18,000		From Skylight Studios
	K. Boston Marathon Monument Restoration	1	EA	\$ 45,000.00	\$ 45,000		From Skylight Studios
						\$710,690	
	DEMO						
	A. Utilities						
	Drainage Structure Removed	33	EA	\$ 850.00	\$ 28,050		Recent Bid Tabs
	Drainage Structure Adjusted	4	EA	\$ 2,000.00	\$ 8,000		
	Stormwater Lines	2,321	LF	\$ 15.00	\$ 34,809		Recent Bid Tabs
	Electric Pullboxes	13	EA	\$ 1,000.00	\$ 13,000		Recent Bid Tabs
	Electric Lines	189	LF	\$ 15.00	\$ 2,840		Recent Bid Tabs
	Irrigation	23,710	SF	\$ 0.50	\$ 11,855		Recent Bid Tabs
	B. Hardscape						
	Existing Pavement & Underlying Slab	55,576	SF	\$ 3.50	\$ 194,516		Recent Bid Tabs
	Concrete Curb	1,448	LF	\$ 13.00	\$ 18,818		Recent Bid Tabs
	Fountain - Boylston Steps	250	LF	\$ 75.00	\$ 18,750		
	C. Fountain						
	Fountain Basin Removals	1,750	SF	\$ 30.00	\$ 52,500		Recent Bid Tabs
	Granite	1,302	SF	\$ 3.50	\$ 4,558		Recent Bid Tabs
	Vault Interior Demo	1	LS	\$ 35,000.00	\$ 35,000		Price from Shawmut
	D. Site Furnishings						
	Light Poles & Foundations	19	EA	\$ 500.00	\$ 9,500		Recent Bid Tabs
	Misc. Furnishings	1	LS	\$ 40,000.00	\$ 40,000		
	Benches	40	EA	\$ 200.00	\$ 8,000		
	E. Landscape						
	Lawn Removal	23,710	SF	\$ 1.00	\$ 23,710		
						\$503,906	
	EARTHWORK						
	A. Cut	7,662	CY	\$ 17.00	\$ 130,254		12" at paving plus volume of planting soils
	B. Fill	600	CY	\$ 64.00	\$ 38,400		
	C. Subgrade Preparation	45,414	SF	\$ 1.50	\$ 68,121		Preparation of proposed hardscape areas
	D. Earthwork (Final Grading)	80,000	SF	\$ 1.00	\$ 80,000		
	E. Lightweight Soil	100	CY	\$ 170.00	\$ 17,000		
	F. Air Spading of Trees	37	EA	\$ 2,500.00	\$ 92,500		
	G. Excavation for top of Vault	158	CY	\$ 50.00	\$ 7,900		
						\$434,175	
	UTILITIES						
	A. Stormwater						
	Water Quality Structure	2	EA	\$ 45,000.00	\$ 90,000		Recent Bid Tabs
	Catch Basin	0	EA	\$ 4,800.00	\$ -		Recent Bid Tabs
	Area Drain	21	EA	\$ 1,700.00	\$ 35,700		Recent Bid Tabs

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	Drainage Manhole	5	EA	\$ 4,500.00	\$ 22,500		Recent Bid Tabs
	Cleanout	10	EA	\$ 1,650.00	\$ 16,500		Recent Bid Tabs
	Slot Drain System	73	LF	\$ 250.00	\$ 18,187		Recent Bid Tabs
	Trench Drain	180	LF	\$ 225.00	\$ 40,500		
	12" HDPE Drainage Line	1,392	LF	\$ 95.00	\$ 132,198		Recent Bid Tabs
	Underdrain Line	1,621	LF	\$ 44.00	\$ 71,340		Recent Bid Tabs
	Infiltration Gallery	1	LS	\$ 81,520.00	\$ 81,520		
	Recharge Chamber	2	EA	\$ 30,000.00	\$ 60,000		From Shawmut
B.	Water						
	Water Line	74	LF	\$ 60.00	\$ 4,442		Recent Bid Tabs
	Ground Hydrant	0	EA	\$ 2,500.00	\$ -		Recent Bid Tabs
	Control Valve	1	EA	\$ 1,500.00	\$ 1,500		Recent Bid Tabs
C.	Irrigation						
	Irrigation Control System	1	LS	\$ 15,000.00	\$ 15,000		From Irrigation Consulting
	Drip Irrigation System	9,674	SF	\$ 6.00	\$ 58,044		From Irrigation Consulting
	Sprinkler Irrigation System	10,271	SF	\$ 4.00	\$ 41,084		From Irrigation Consulting
	Structural Soil Aeration and Irrigation	1	LS	\$ 25,000.00	\$ 25,000		From Irrigation Consulting
	3" DI Pipe Sleeves	841	LF	\$ 30.00	\$ 25,230		
D.	Electrical Service						
	Site Electrical Systems	1	LS	\$400,000.00	\$ 400,000		Pricing from Shawmut
E.	Audio/Visual System	1	LS	\$ 75,000.00	\$ 75,000		
F.	Vault MEP						
	Water System	1	LS	\$ 25,000.00	\$ 25,000		Pricing from Shawmut
	Electric System	1	LS	\$150,000.00	\$ 150,000		Pricing from Shawmut
	Plumbing System	1	LS	\$ 50,000.00	\$ 50,000		Allowance. SDC please provide input
	Vault Backflow prevention	1	LS	\$ 25,000.00	\$ 25,000		Allowance for backflow prevention from street to vault
	Mechanical System	1	LS	\$350,000.00	\$ 350,000		
G.	Existing Utility Rim Adjustments	1	AL	\$ 25,000.00	\$ 25,000		
						\$1,838,744	
	HARDSCAPE						
A.	Paving						
	Cast-In Place Concrete Pavement (On Grade)	3,256	SF	\$ 15.00	\$ 48,840		
	Cast- Place Concrete Pavement - Integrally Colored	10,355	SF	\$ 20.00	\$ 207,100		
	Resin Bound Aggregate Paving	4,822	SF	\$ 35.00	\$ 168,770		Recent Bid Tabs
	Brick Unit Paver Pavement (On Grade)	4,514	SF	\$ 45.00	\$ 203,130		Recent Bid Tabs
	Pervious Brick Unit Paver Pavement	4,809	SF	\$ 48.00	\$ 230,832		Recent Bid Tabs
	Pervious Brick Unit Paver Pavement (On Structure)	164	SF	\$ 48.00	\$ 7,872		Recent Bid Tabs
	Precast Concrete Unit Paver Pavement (On Grade)	16,942	SF	\$ 50.00	\$ 847,100		
	Precast Concrete Unit Paver Pavement (On Structure)	552	SF	\$ 50.00	\$ 27,600		
	Paver Cover	10	EA	\$ 3,000.00	\$ 30,000		Recent Bid Tabs
B.	Edge Conditions						
	Flush Granite Band at Trinity Church (EG-03)	141	LF	\$ 250.00	\$ 35,250		
	Granite Planter Edging at Lawn/Planting Bed (EG-04)	1,421	LF	\$ 175.00	\$ 248,675		
	Planter Rail Granite Planter Edging (EG-05)	1,379	LF	\$ 200.00	\$ 275,800		
	Metal Edging (EG-06)	70	LF	\$ 35.00	\$ 2,450		
	Pavement Transition	869	SF	\$ 16.00	\$ 13,904		
						\$2,347,323	
	ROW IMPROVEMENTS						
A.	Hardscape						
	Bituminous Concrete Pavement	216	SF	\$ 15.00	\$ 3,240		
	Cast-In Place Concrete Pavement (On Grade)	2,054	SF	\$ 15.00	\$ 30,810		
	Cast- Place Concrete Pavement - Integrally Colored	108	SF	\$ 20.00	\$ 2,160		
	Brick Unit Paver Pavement (On Grade)	359	SF	\$ 45.00	\$ 16,155		
	Pervious Brick Unit Paver Pavement	1,215	SF	\$ 48.00	\$ 58,325		
	Precast Concrete Unit Paver Pavement (On Grade)	70	SF	\$ 50.00	\$ 3,500		
	Pavement Transition	828	SF	\$ 16.00	\$ 13,247		
	Granite Curb Standard Street Condition	32	LF	\$ 50.00	\$ 1,600		
	Granite Mountable Curb	44	LF	\$ 150.00	\$ 6,600		
	Granite tight corner curb (at St James)	10	LF	\$ 250.00	\$ 2,500		
	Bus Shelter	1	EA	\$ 40,000.00	\$ 40,000		
	Pedestrian Ramp	3	EA	\$ 15,000.00	\$ 45,000		
B.	Landscape						
	10-12 ft Trees	7	EA	\$ 2,000.00	\$ 14,000		
	Tree Anchors	7	EA	\$ 500.00	\$ 3,500		
	Street Tree Grates	7	EA	\$ 3,000.00	\$ 21,000		

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D.	Streetscape Amenities / Signage Repairs	1	AL	\$ 50,000.00	\$ 50,000	\$311,637	
E.	Boylston Street ROW						
	Survey and Layout	1	LS	\$ 75,000.00	\$ 75,000		
	Temporary Pedestrian and Vehicular Control	1	LS	\$ 50,000.00	\$ 50,000		
	Temporarily Remove and Replace Streetscape Amenities	1	LS	\$ 50,000.00	\$ 50,000		
	Pavement Removal	800	SF	\$ 12.00	\$ 9,600		
	Sawcut	600	LF	\$ 10.00	\$ 6,000		
	Handicap Ramp Construction	3	EA	\$ 15,000.00	\$ 45,000		
	Bituminous Concrete Pavement	1,894	SF	\$ 15.00	\$ 28,410		
	Cast-In Place Concrete Pavement (On Grade)	5,477	SF	\$ 15.00	\$ 82,155		
	Cast- Place Concrete Pavement - Integrally Colored	27	SF	\$ 20.00	\$ 540		
	Cast-In Place Concrete Pavement (On Structure)	120	SF	\$ 20.00	\$ 2,400		
	Brick Unit Paver Pavement (On Grade)	1,457	SF	\$ 45.00	\$ 65,565		
	Pervious Brick Unit Paver Pavement (On Structure)	64	SF	\$ 45.00	\$ 2,880		
	Pervious Brick Unit Paver Pavement	755	SF	\$ 48.00	\$ 36,221		
	Precast Concrete Unit Paver Pavement (On Grade)	6	SF	\$ 50.00	\$ 275		
	Granite Radial Curb	64	LF	\$ 75.00	\$ 4,808		
	Granite Curb Standard Street Condition	565	LF	\$ 50.00	\$ 28,260		
						\$487,114	
	Furniture/Amenities						
	Fixed Cafe Tables with Chairs	12	EA	\$ 2,500.00	\$ 30,000		
	Park Benches	8	EA	\$ 3,500.00	\$ 28,000		
	Litter Receptacles	12	EA	\$ 2,000.00	\$ 24,000		Recent bid tabs
	Drinking Fountain	1	EA	\$ 8,000.00	\$ 8,000		Recent bid tabs
	Tree Grates Type 1	35	EA	\$ 3,000.00	\$ 105,000		
	Tree Grates Type 2	15	EA	\$ 2,500.00	\$ 37,500		
	Skate Deterrents (not including raised grove)	27	EA	\$ 500.00	\$ 13,500		Recent bid tabs. Will likely need more at 100% CDs.
B.	Seat Walls						
	Seat Wall (Type B2 Sim.)	132	LF	\$ 1,347.85	\$ 177,916		
	Seat Wall with Wood Top (Type B1 Sim.)	138	LF	\$ 1,476.96	\$ 203,821		Wood top and arm rest
	Seat Wall with Wood Top 3' Wide at Boylston Fountain	24	LF	\$ 2,200.00	\$ 52,800		New Item. Wood top and arm rest
	Seat Wall with Back and Armrest (Type B1 Sim.)	90	LF	\$ 1,476.96	\$ 132,927		
C.	Art Placement Foundations	12	CY	\$ 1,500.00	\$ 18,000		
						\$831,464	
	LIGHTING						
	Site Lighting	1	AL	\$ 450,000	\$ 450,000		Pricing from Shawmut
						\$450,000	
	PLANTING AND SOILS						
A.	Trees						
	Existing Tree to Remain	33	EA	\$ 1,500.00	\$ 49,500		33 on general site, 4 in RG structure
	Proposed Canopy Tree (Raised Grove not included)	19	EA	\$ 2,000.00	\$ 38,000		
	Proposed Understory Tree (Raised Grove not included)	14	EA	\$ 2,000.00	\$ 28,000		
	Tree Anchors	33	EA	\$ 500.00	\$ 16,500		
B.	Shrubs and Ground Cover						
	Shrub and Groundcover Planting	8,141	SF	\$ 12.00	\$ 97,692		
	Annual Planter	1,595	SF	\$ 8.00	\$ 12,760		
C.	Lawn						
	Sod	10,271	SF	\$ 4.00	\$ 41,084		
D.	Soils						
	Structural Soil On Grade	1,976	CY	\$ 80.00	\$ 158,098		
	Structural Soil On Grade At Trees	255	CY	\$ 75.00	\$ 19,150		
	Planting Soils On Grade	1,248	CY	\$ 55.00	\$ 68,664		
	High Use Lawn Soil	761	CY	\$ 55.00	\$ 41,841		
	Planting Soils For Annual Bed On Grade	81	CY	\$ 55.00	\$ 4,473		
						\$575,762	
	RAISED GROVE						
A.	Raised Grove Edge						
	Handrails	41	LF	\$ 400.00	\$ 16,400		
	Lean Rails	104	LF	\$ 600.00	\$ 62,400		
	Skate Deterrrrents	86	EA	\$ 1,000.00	\$ 86,000		
	Stairs	136	LF	\$ 200.00	\$ 27,200		
	Type A 1	78	LF	\$ 638.07	\$ 49,769		Manufacturer pricing and bid tabs
	Type A 2	243	LF	\$ 533.07	\$ 129,535		Manufacturer pricing and bid tabs
	Type B1	45	LF	\$ 1,476.96	\$ 66,463		Manufacturer pricing and bid tabs
	Type B1A	9	LF	\$ 1,519.96	\$ 13,680		Manufacturer pricing and bid tabs
	Type B1B	55	LF	\$ 1,630.96	\$ 89,703		Manufacturer pricing and bid tabs
	Tvpe B2	91	LF	\$ 1,347.85	\$ 121,981		Manufacturer pricing and bid tabs

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		Quantity	Unit	Unit Cost	Subtotal	Total	
	Type B2A	9	LF	\$ 1,684.33	\$ 15,159		Manufacturer pricing and bid tabs
	Type C	63	LF	\$ 2,733.26	\$ 172,195		Manufacturer pricing and bid tabs
	Type D	18	LF	\$ 907.96	\$ 16,343		Manufacturer pricing and bid tabs
B.	Raised Grove						
	B1 Beam	182	LF	\$ 150.00	\$ 27,300		12"x24" Concrete Beam
	B2 Beam	494	LF	\$ 200.00	\$ 98,800		12"x30" Concrete Beam
	FRP Beam	229	LF	\$ 125.00	\$ 28,625		8" x 8" x 1/2" FRP WIDE-FLANGE BEAMS
	Pile Mobilization and Test Pile	1	LS	\$ 40,000.00	\$ 40,000		Pricing from Shawmut
	Piles	74	EA	\$ 3,200.00	\$ 236,800		12" Dia. Helical Pile, 20' deep, includes termination device
	Precast Concrete Unit Pavers on Structural Soil	3,858	SF	\$ 50.00	\$ 192,900		
	Precast Concrete Unit Pavers on FRP Grate	2,386	SF	\$ 125.00	\$ 298,250		
	Precast Concrete Unit Pavers on Subbase	1,181	SF	\$ 50.00	\$ 59,050		
	Below Platform Surface Treatment	6,244	SF	\$ 3.00	\$ 18,732		
	Existing Tree to Remain	4	EA	\$ 3,000.00	\$ 12,000		
	Proposed Canopy Tree (Raised Grove only)	8	EA	\$ 2,000.00	\$ 16,000		
	Raised Grove Tree Grates	12	EA	\$ 2,500.00	\$ 30,000		
	Raised Grove Furniture (Moveable 4-tops tables)	12	EA	\$ 5,500.00	\$ 66,000		
						\$1,991,286	
	VAULT ARCHITECTURAL IMPROVEMENTS						
	Interior improvements per architectural drawings	1	AL	\$100,000.00	\$ 100,000		Pricing from Shawmut
	Vault top waterproofing	1	AL	\$ 35,000.00	\$ 35,000		Pricing from Shawmut
						\$135,000	
	FOUNTAIN						
A.	Hardscape						
	Water Feature Bench at Boylston	51	LF	\$ 2,150.00	\$ 109,650		
	Water Feature Curb at Park Side	122	LF	\$ 150.00	\$ 18,300		
	Water Feature Tiled Basin	1,876	SF	\$ 175.00	\$ 328,300		
	Water Feature Upper Pools	450	SF	\$ 125.00	\$ 56,250		
	Water Feature Textured Slope	908	SF	\$ 200.00	\$ 181,600		
	Water Feature Stone Reset and Cleaning	2,000	SF	\$ 50.00	\$ 100,000		
B.	Utilities						
	Electrical and plumbing systems	1	AL	\$675,531.00	\$ 675,531		Pricing from Fluidity
						\$1,469,631	
	SUB TOTAL					\$12,086,731	
	Markups						
	General Conditions/Gen Req's	8%			\$966,939		
	Insurance + Bond	2%			\$241,735		
	Design + Pricing Contingency	2%			\$241,735		
	Escalation Contingency	1%			\$120,867		
	Alt Bid Process Contingency	0%			\$0		
		13%				\$1,571,275	
	TOTAL					\$13,658,006	
	Project Area	94500	SF				
	Cost/SF					\$145	
	Target				\$12,276,452	-\$1,381,554	
	Construction Contingency	8%				\$1,092,641	
	Overall Budget					\$15,500,000	
	Construction Contingency	8%				\$1,240,000	
	Programming					\$200,000	
	Supplemental					\$100,000	
	Design Fees					\$1,683,548	
	Construction Budget					\$12,276,452	