

PHASING PLAN AND COSTS

Introduction

This proposal creates a plan for implementation of the full scope of work over separate phases. The intent of bifurcating the work is two-fold.





First and foremost, the Islands are owned and controlled by the District. This makes implementation of Phase I readily attainable. The site proposed for the Environmental Center is not. That parcel is controlled by Events DC and will revert to National Park Service stewardship in approximately 20 years. Working with both entities will require a more time intensive planning process. Waiting for an agreement to develop the Anacostia River, Kingman and Heritage Island Environmental Center will needlessly delay the development of the Islands themselves.

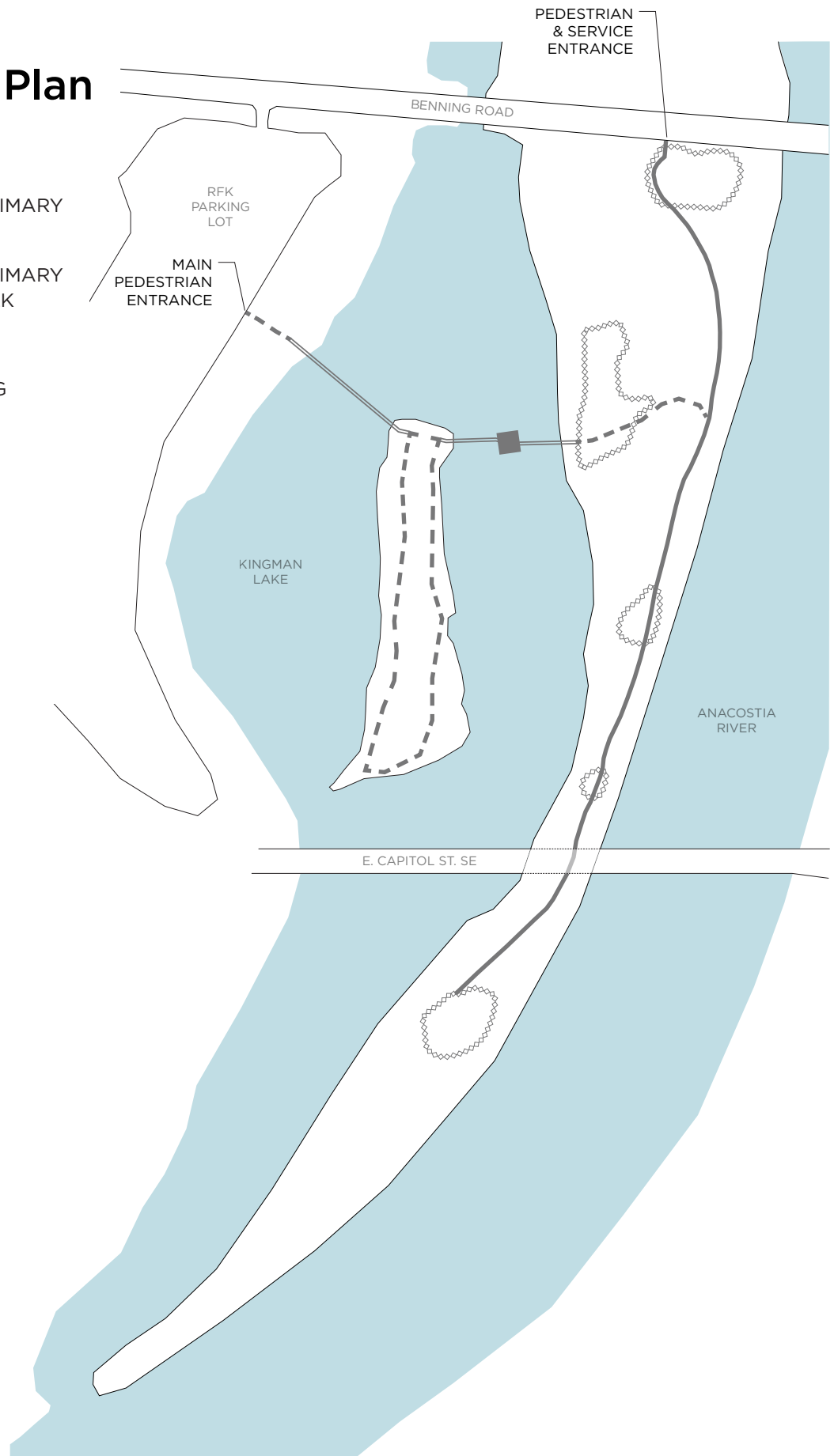
The secondary—but equally important—reason is that the budget for accomplishing Phase I is an affordable and easily achievable goal. The Phase I scope will ensure that the Outdoor Classrooms and Kingman Island Ranger Station are constructed; it also secures the necessary operational funding to successfully run and manage the park, which includes the control and removal of invasive species.

In pragmatic terms, Phase I meets the obligation set forth in the National Children's Island Act of 1995. The Islands Park will be the educational, environmental, and recreational asset it has been waiting to become. With a small amount of funding, this can happen in the coming year.

Existing Site Plan

LEGEND

-  ADA ACCESSIBLE PRIMARY ROUTE - 8' WIDTH
-  ADA ACCESSIBLE PRIMARY ROUTE - BOARDWALK
-  SECONDARY ROUTE
-  OUTDOOR CLEARING



Proposed Site Plan











LEGEND

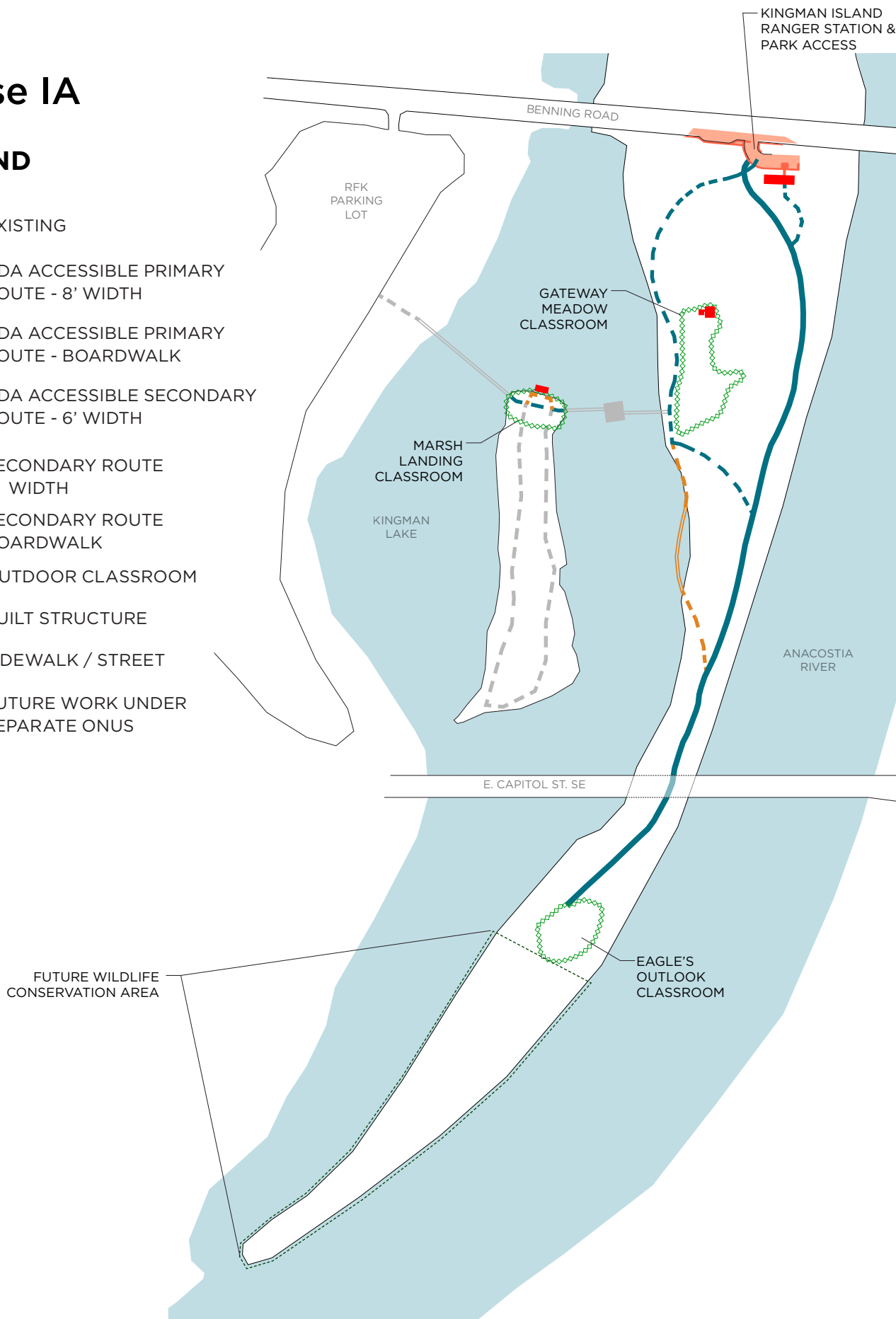
- EXISTING
- ADA ACCESSIBLE PRIMARY ROUTE - 8' WIDTH
- ADA ACCESSIBLE PRIMARY ROUTE - BOARDWALK
- ADA ACCESSIBLE SECONDARY ROUTE - 6' WIDTH
- SECONDARY ROUTE - 6' WIDTH
- SECONDARY ROUTE BOARDWALK
- TERTIARY ROUTE - 4' WIDTH
- TERTIARY ROUTE BOARDWALK
- OUTDOOR CLASSROOM
- BUILT STRUCTURE
- SIDEWALK / STREET
- FUTURE WORK UNDER SEPARATE ONUS



Phase IA

LEGEND

-  EXISTING
-  ADA ACCESSIBLE PRIMARY ROUTE - 8' WIDTH
-  ADA ACCESSIBLE PRIMARY ROUTE - BOARDWALK
-  ADA ACCESSIBLE SECONDARY ROUTE - 6' WIDTH
-  SECONDARY ROUTE 6' WIDTH
-  SECONDARY ROUTE BOARDWALK
-  OUTDOOR CLASSROOM
-  BUILT STRUCTURE
-  SIDEWALK / STREET
-  FUTURE WORK UNDER SEPARATE ONUS



Phase IA

ITEM / DESCRIPTION COST PER ITEM

CONSTRUCTION (HARD) COSTS

PATHWAYS AND BOARDWALKS

ADA Accessible Route - Primary 8' Wide Path	\$183,995
ADA Accessible Route - Secondary 6' Wide Path	\$77,054
Secondary 6' Wide Path	\$20,412
Secondary 6' Wide Boardwalk	\$73,800
Grubbing and Clearing Vegetation, Invasive Species Removal	\$69,818
Pathways and Boardwalks Subtotal	\$355,261

KINGMAN ISLAND RANGER STATION & PARK ACCESS

Benning Road Vehicular Entry Point Site Work	\$271,208
Ranger Station Building	\$1,090,000
Kingman Island Ranger Station & Park Access Subtotal	\$1,361,208

GATEWAY MEADOW CLASSROOM

Gateway Meadow Classroom Site Work	\$74,600
Rainwater Harvesting	\$125,000
Solar Shade Structure Pavillion	\$12,096
Signage, Weather Stations, Artwork, Educational Installations	\$32,125
Gateway Meadow Classroom Subtotal	\$243,821

MARSH LANDING CLASSROOM

Marsh Landing (North Heritage Island Classroom) Site Work	\$69,500
Interpretive Signage, Work Boards, Tide Charts/Scales	\$8,250
Marsh Landing (North Heritage Island Classroom) Subtotal	\$77,750

EAGLE'S OUTLOOK CLASSROOM

Eagle's Outlook (Wooded/Preservation Classroom) Site Work	\$22,800
Cistern for Rainwater Harvesting	\$85,000
Plant Identification Signage, Work Boards, Seating	\$12,650
Eagle's Outlook (Wooded/Preservation Classroom) Subtotal	\$120,450

WAYFINDING SIGNAGE

Vehicular Entry Signage	\$3,010
Primary Wayfinding Signage	\$1,512
Secondary Wayfinding Signage	\$1,848
Wayfinding Signage Subtotal	\$6,370

PHASE IA TOTAL CONSTRUCTION COSTS: \$2,164,860

SOFT COSTS

Design Fees	\$372,000
Permit and Insurance	\$23,000

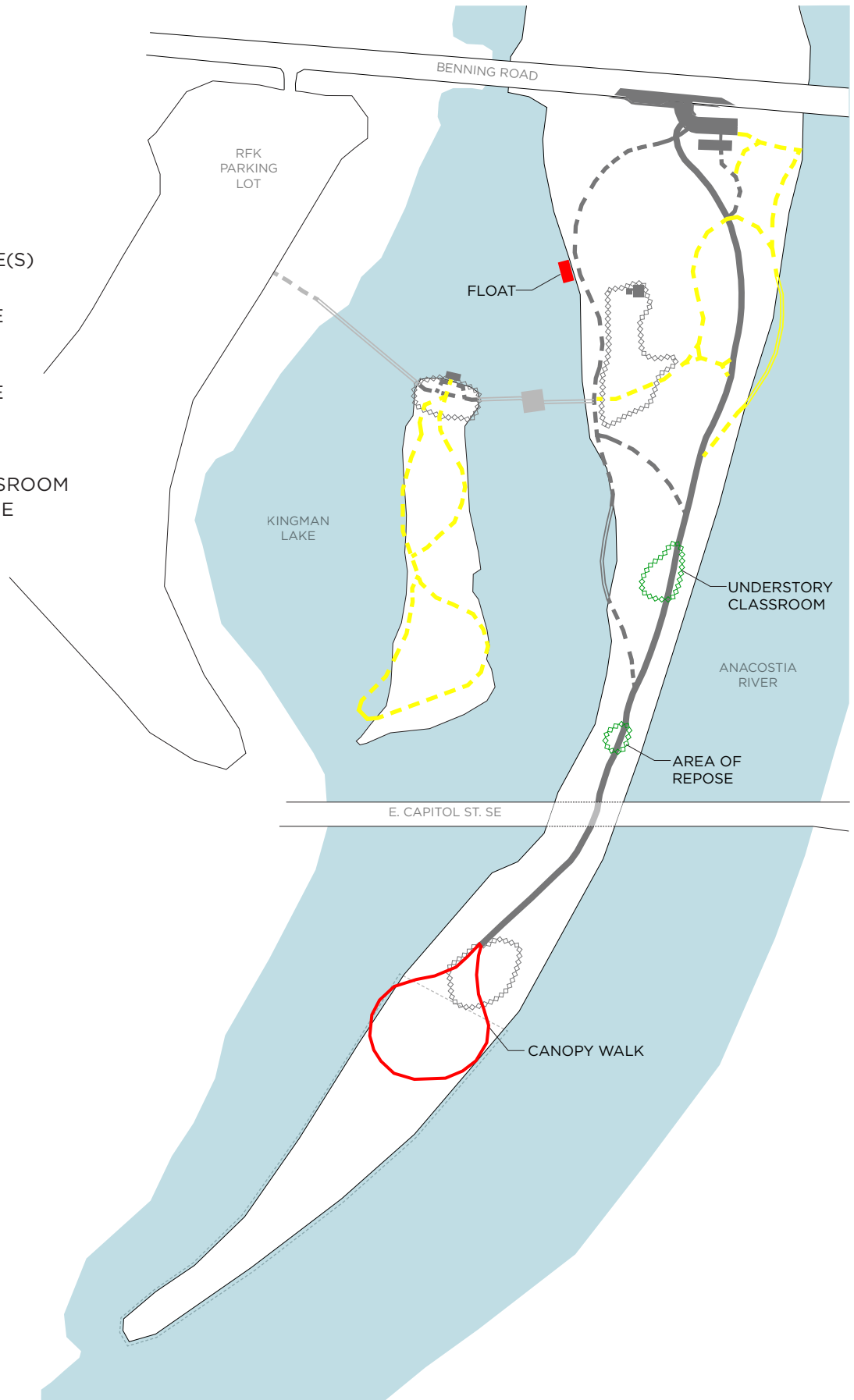
PHASE IA TOTAL SOFT COSTS: \$395,000

TOTAL OVERALL COST FOR PHASE IA \$2,559,860

Phase IB

LEGEND

-  EXISTING
-  PREVIOUS PHASE(S)
-  TERTIARY ROUTE
4' WIDTH
-  TERTIARY ROUTE
-  BOARDWALK
-  OUTDOOR CLASSROOM
BUILT STRUCTURE



Phase IB

ITEM / DESCRIPTION

COST PER ITEM

CONSTRUCTION (HARD) COSTS

PATHWAYS AND BOARDWALKS

Tertiary 4' Wide Path	\$49,666
Tertiary 4' Wide Boardwalk	\$67,803
Existing Heritage Island 4' Wide Path to be Resurfaced	\$25,633
Pathways and Boardwalks Subtotal	\$143,102

CANOPY WALK / VIEWING TOWER

Kingman Island Canopy Walk/Viewing Tower 4' Wide, 700' Long at 5% Slope up to a 35' High Viewing Tower	\$1,428,130
Identification Signage, Storage Benches for Educational Supplies	\$3,305
Canopy Walk/Viewing Tower Subtotal	\$1,431,435

FLOATING LAB ON ANACOSTIA TRIBUTARY (FLOAT)

FLOAT Structure	\$147,651
Weather Station, Plant Signage, Work Board	\$7,868
Floating Lab Subtotal	\$155,519

UNDERSTORY CLASSROOM

Clearing, Invasive Species Removal, and Site Prep Work	\$16,880
Benches and Seating	\$15,630
Understory Classroom Subtotal	\$32,510

AREA OF REPOSE

Clearing, Invasive Species Removal, and Site Prep Work	\$3,647
Benches and Seating	\$5,210
Area of Repose Subtotal	\$8,857

PHASE IB TOTAL CONSTRUCTION COSTS:

\$1,771,423

SOFT COSTS

Design Fees	\$301,142
Permit and Insurance	\$17,714

PHASE IB TOTAL SOFT COSTS:






\$318,856

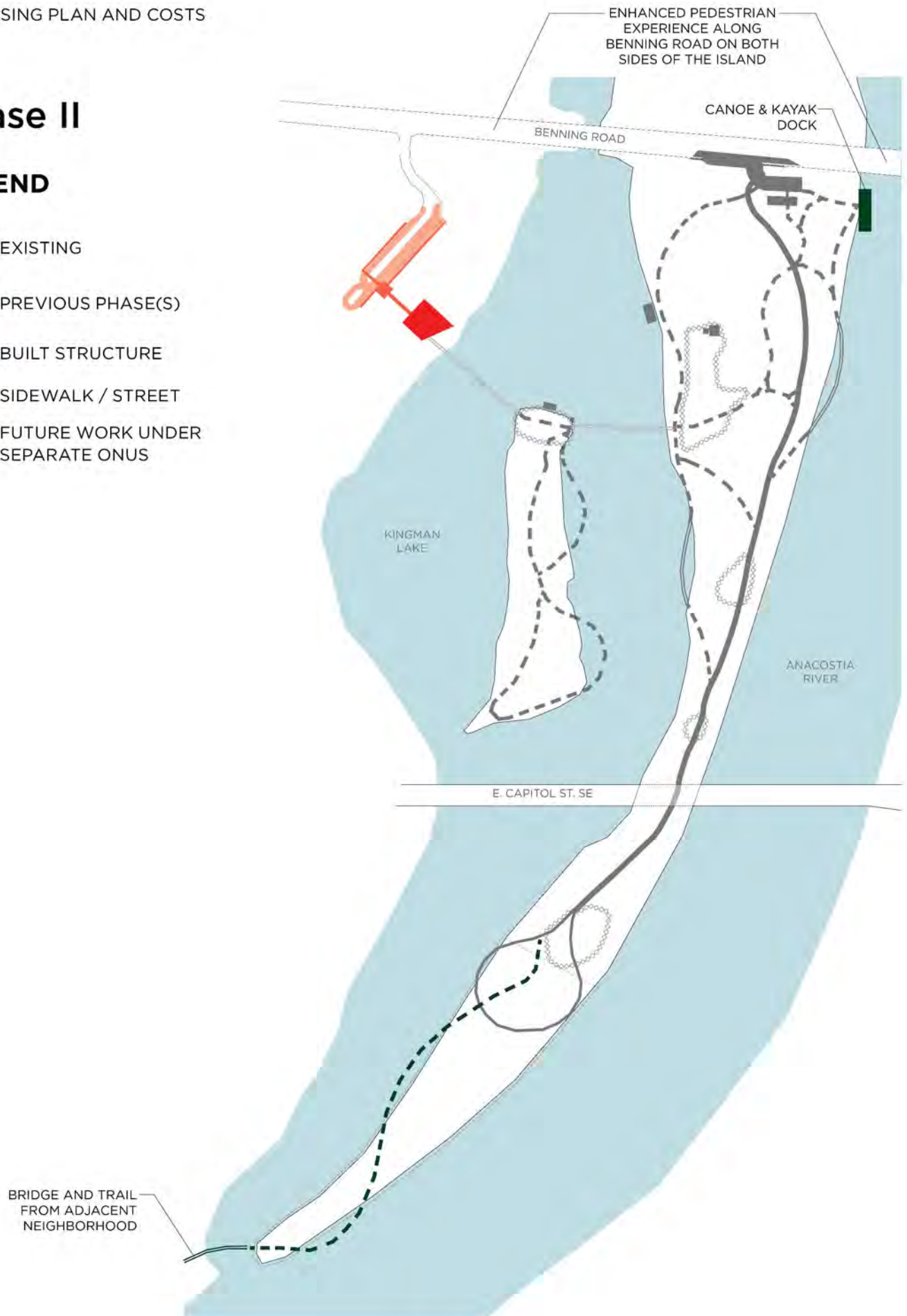
TOTAL OVERALL COST FOR PHASE IB

\$2,090,279

Phase II

LEGEND

-  EXISTING
-  PREVIOUS PHASE(S)
-  BUILT STRUCTURE
-  SIDEWALK / STREET
-  FUTURE WORK UNDER SEPARATE ONUS



Phase II

ITEM / DESCRIPTION	COST PER ITEM
CONSTRUCTION (HARD) COSTS	
Environmental Center and Site Work	
Permeable Pavers: Bus Turnaround & Parking Area	\$482,144
Plantings, Trees, Shrubs, and Site Prep	\$106,927
Environmental Center	\$4,758,252
Environmental Center and Site Work	\$5,347,323

PHASE II TOTAL CONSTRUCTION COSTS: **\$5,347,323**

SOFT COSTS

Design Fees	\$909,045
Permit and Insurance	\$53,473

PHASE II TOTAL SOFT COSTS: **\$962,518**

TOTAL OVERALL COST FOR PHASE II **\$6,309,841**

Total

Estimated Construction Costs			
Phase	Hard Cost	Soft Cost	Subtotal per Phase
Phase IA	\$2,164,860	\$395,000	\$2,559,860
Phase IB	\$1,771,423	\$318,856	\$2,090,279
Phase II	\$5,347,323	\$962,518	\$6,309,841
Estimated Total Construction Costs			\$10,959,980

See Appendix H for a detailed breakout of the estimated construction cost per phase.

OPERATIONS AND MAINTENANCE

POTENTIAL MANAGEMENT OPTIONS

Goal

The proposed Environmental Center at the Islands will be used for recreational, environmental, and educational purposes.

The goal is to maintain accessibility for recreational use, preserve the ‘wildness’ and environmental value, and add enough infrastructure to make the site more usable for education. Additional infrastructure brings additional responsibility for maintaining and managing the facility. The ultimate goal is to develop a logical and sustainable long-term management strategy for both the facility and the programming.

Potential Management Structure

We have outlined three options for management of the facility and programming. These options include private partners, DC Government, or both as primarily responsible.

Each option has its merits, but a key consideration will be what DOEE envisions as its role. To assist DOEE to make that determination, here are the options with a quick take away on the pros and cons of each.

Three alternative options for management of the Environmental Center include:

1. Partner responsible for Facility and O+M, partner responsible for programming.
2. DC Government responsible for Facility and O+M, partner responsible for coordinating programming.
3. DC Government responsible for Facility and O+M, DC responsible for programming.

Description of Options

Option one is similar to the current arrangement. A partner/licensee is responsible for both infrastructure and programming.

Option two would entail the DC Government being responsible for the facility and infrastructure and a partner being responsible for the programming. Coordinating programs should not include on-the-water programs, where due to safety concerns, only the primary partner should have the responsibility for those programs. On-the-water programs require very specific staff training and protocols.

Option three would be the DC Government taking responsibility for both the facility and the programming.

While it is possible to have more than one entity providing programs, we do not recommend “joint” programs, due to the difficulty of coordinating staff, instruction, and resources. We therefore expect that the primary partner responsible for coordination would decide how many groups the island can accommodate, and develop a plan for other organizations to schedule instructional areas.

POTENTIAL MANAGEMENT STRUCTURE				
OP. #	FACILITY & O+M	PROGRAMMING	PRO	CON
Option 1	Partner	Partner	Lower cost to DC	Partners will focus on their institutional priorities that may be consistent with DOEE, but some gaps may exist, e.g. to serve the public at large
Option 2	DC Government	Partner	Good synergy between public/private investments and expertise	Multiple partners are interested, but one needs to have a leadership role, which may be of concern to others
Option 3	DC Government	DC Government	DC more able to define ROI	Does not have the benefit of private investment

Potential Partners

Potential partners for the use and operation of the Environmental Center and associated infrastructure include both public and private entities. Users could pay a small usage fee to supplement ongoing operations and maintenance costs.

Possible public partners include DOEE, DPR, DGS, DMPED, DDOT, NPS, DC Public Schools, and DC charter schools.

Possible non-profit partners include Living Classrooms, Anacostia Watershed Society, Real School Gardens, Anacostia Watershed Trust, and District of Columbia Environmental Education Consortium.

OPERATING EXPENSE ESTIMATES

Facility Operations + Maintenance Assumptions

To analyze each management strategy, we separated the cost estimates into facility expenses and program expenses. This will allow DOEE to better understand the extent of possible investment, and specifically, the ongoing budget implications of constructing a physical facility. In addition, it simplifies the analysis of the potential management options by clearly defining the different roles of the user and the owner.

This distinction is not rigid; it is a convenient simplification for analysis. It can be revised as circumstances require. For example, the security cost could be included in either category. The insurance is also currently separated for the analysis, but could be combined if the same entity is responsible for both facility and programming.

Facility Assumptions and Expectations

The facility expenses are based on a design meeting current stormwater regulations and green building codes and for successful construction of a building achieving Living Building Full Petal Certification.

The facility should be designed so that maintenance can be easily accomplished. For example, efficient lighting should include long lasting LED bulbs that do not have to be replaced often. Native or adapted landscaping will require no irrigation or chemical treatments. Minimal, if any, turf will require little mowing.

Materials used in the project should be very durable to minimize maintenance, for example waxing and painting.

Green cleaning and thoughtful procurement will minimize generation of trash and facilitate a high rate of recycling.

Efficient water fixtures, composting toilets, and captured rainwater will minimize water use.

Program Assumptions and Expectations

The recreational activities such as hiking, paddling, birdwatching, and picnicking have typically been open to the public with no associated fee or cost. There will be no additional direct cost but increased use of expanded facilities by the public may account for a percentage of the facility use costs.

The environmental activities such as planting and restoration efforts have typically been accomplished in accordance with educational use or with volunteer hours. If these activities continue to be accomplished with volunteer labor they will not have a budget impact.

The educational activities such as school field trips and teacher training will continue to take

place outdoors. The anticipated infrastructure will include restrooms and storage, but the main emphasis is on outdoor education. The outdoor classroom spaces will be constructed of low maintenance natural materials. They will be open air and will not have associated utility costs. They will be designed to function with natural daylighting and will not need electric lighting. The current plan includes day use only, due to security issues.

Programming for the site and center currently proposed includes two staff for an average of 30 students per day. The program can certainly be expanded in the future, as many more students can be accommodated on the property. But the base assumption of 30 students is for one generic class size. Additional partners may be also able to use the site but may bring their own staff so that cost is not included in the base assumptions.

Cost Estimate Derivations

Cost estimates were derived by a combination of methods. Where estimated by hourly assumptions, the spreadsheet shows an estimate of hours required and a prediction of hourly rate, calibrated from minimum wage plus some overage for benefits and management. Some costs were estimated by referencing Living Classrooms current budget. Other costs were derived from estimates by local service providers.

Utility costs for the facility are based on the design achieving Living Building Challenge Certification.

The project should be net zero energy, using no more energy than is generated at the site; costs assume net metering to include a fee for connection to the grid but no actual charge for kilowatt hours over the course of a year.

The project should harvest its own water from rainfall, if permits allow. Costs assume no direct charge for water. There will be increased electrical energy used for pumping and treating the water, but that extra energy will also be produced on site. If the project is successful in permitting a rainwater system, there will be costs associated with treating and testing the water. We do not have a project this size to compare but costs in a larger building can run to \$6,000 for filters and \$9,000 for testing. The maintenance fee included in this estimate was derived from Living Classrooms budget, but the proposed \$38,000 should be ample to include the water costs.

Costs may vary depending on whether the responsibility for each item is undertaken by the DC government or by a non-profit partner, due to efficiencies of scale. For example, opening and closing of the park and building might either be a natural part of an employee's day or might require a special trip to the property.

Estimated Operational Expenses						
	Task	Recurrence	Notes	Responsibility	Hours Required	Cost/Year
Facility O&M	Utilities	Water	Harvested by Building			\$0
		Power (including lighting)	Minimal Grid Usage			\$240
		HVAC Maintenance Contract	Facility Only			\$500
	Cleaning	Bathrooms	Facility Only		365	\$9,125
		Building	Facility Only		156	\$3,900
		Facility Management	Facility Only			\$5,000
		Waste Management	Trash & Recycling			\$4,000
		Building Maintenance	from LC budget			\$38,000
		Trail Maintenance & Mowing	Site Only		140	\$3,500
		Regular Site Maintenance	Site Only		210	\$5,250
		Invasive control and removal	Site Only; Is in addition to volunteer effort		960	\$14,400
	Insurance	Grounds and Facilities	Not incl. Program Insurance			\$6,000
	Security	Opening & Closing the Islands	Include Together		365	\$10,950
		Opening & Closing the Building				
		Security	Dawn to Dusk		1,248	\$31,200
					Estimated Facility Expenses	\$132,065
Program	Insurance	Insurance: Program Liability	from LC budget			\$5,845
	Employee	Personnel (incl 20% fringe benefits)	2 Staff per 30 Students			\$144,000
		Training	During Winter Months			\$5,000
		Administration (incl scheduling)	from LC budget			\$48,000
	Administrative	Internet	from LC budget			\$240
		Supplies/Gear replacement	Include Allowance			\$3,000
					Estimated Program Expenses	\$206,085
Volunteers	Cleaning	Invasive removal and trail clearing			960	\$14,400
		Creating picnic areas (invasive removal)			342	\$5,130
		Creating new trail (invasive removal)			90	\$1,350
		Trail clearing			216	\$3,240
	Clean Up	Trash clean up and categorization			672	\$10,080
		Canoe clean up			34	\$510
		Install pet waste stations			72	\$1,800
	Construction	Picnic table construction			404	\$10,100
		Boardwalk construction			258	\$6,450
	Restoration	Wetland restoration			325	\$4,875
		Meadow Restoration			190	\$2,850
	Events	Bluegrass Festival			1,960	\$29,400
					Estimated Value of Donated Time in 2016	\$90,185

CONCLUSIONS

Summary of Vision

For the future of Kingman and Heritage Islands Park, this is a propitious time.

Around the world—as witnessed by the Paris Agreement of December 2015—there is a groundswell of commitment to address climate change through pursuing sustainability targets and the conservation and regeneration of natural ecosystems. The dedication to this endeavor is nowhere clearer or more explicit than in the District of Columbia. The Sustainable DC Plan sets forth a clear and multi-faceted approach to reaching the goal of making the District, “the healthiest, greenest, and most livable city in the United States”. This document has followed the guidelines set by the Sustainable DC Plan and the District Department of Energy and Environment’s Climate Ready DC Plan.

The manifestation of the District’s commitment to creating a resilient and sustainable city comes in many forms. One is particularly and directly aligned with this project: the current plan to designate the southern end of Kingman Island as a Wildlife Conservation Area, what will be the first and only District government designated conservation area to protect indigenous habitats and species representing the District. That area—home to large birds of prey and Virginia Mallow, which is listed as endangered in Maryland,—testifies to the power of nature to recover from man-made ecological threats if given some protection and care.

Just as important for the Islands is the unfulfilled obligation to use these Islands as the “National Children’s Island” as defined by the National Children’s Island Act of 1995. The land was given to the District on the condition that it be developed and operated as a “cultural, educational, and family-oriented recreation park, together with a children’s playground”. The original development concept was updated in 2003 with the Anacostia River Framework. That study described the Islands as “a citywide resource for environmental education, habitat exploration, and reflection.” The most powerful interpretation of the Act’s mandate is to use the Islands’ natural assets for educational, environmental and recreational use.

Future outreach and coordination will be required to take place between DOEE and DMPED, DPR, DDOT, NPS, nonprofit organizations focused on the Anacostia River restoration efforts, nonprofit organizations that provide environmental and educational programs and activities, and nearby residents.

Now is the time to make this park an inspiring place for District children to learn and prosper.

Now is the time to implement a design concept that is engaging, beautiful, and attainable.

Now is the time for all District residents to be delighted by their natural environment.

Now is the time to fund the park’s development.



BIBLIOGRAPHY

Summary of References

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- Geosyntec Consultants. *Results of Stock Pile Investigation - Kingman Island*. 12 December 2007.
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- National Children's Island Act of 1995*. Public Law 104-163. 19 July 1996.
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- Tetra Tech. *Soil Pile Investigation Report - Kingman Island*. Department of Energy and the Environment, Government of the District of Columbia. 29 March 2016.
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- US Army Corps of Engineers, Baltimore District. *Kingman and Heritage Islands Habitat and Passive Recreation Study*. Washington, DC Department of Health. January 2002.
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- US Army Corps of Engineers, Baltimore District. *Kingman Island Recreational Facilities Development Environmental Assessment*. Washington, DC Department of Health. December 2002.



APPENDICES

Appendix A

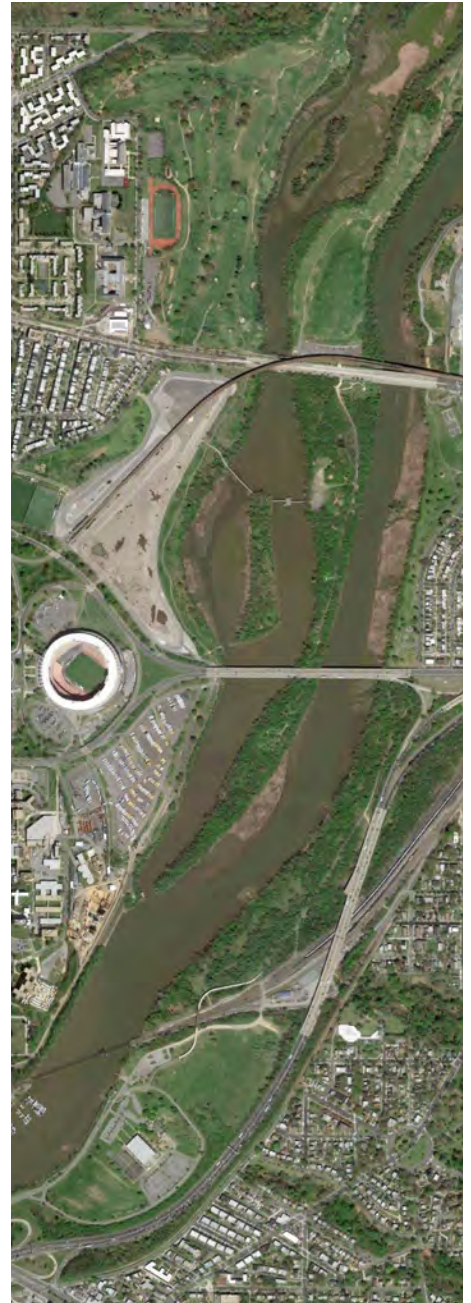
Graphic Timeline of Site



1949



1999



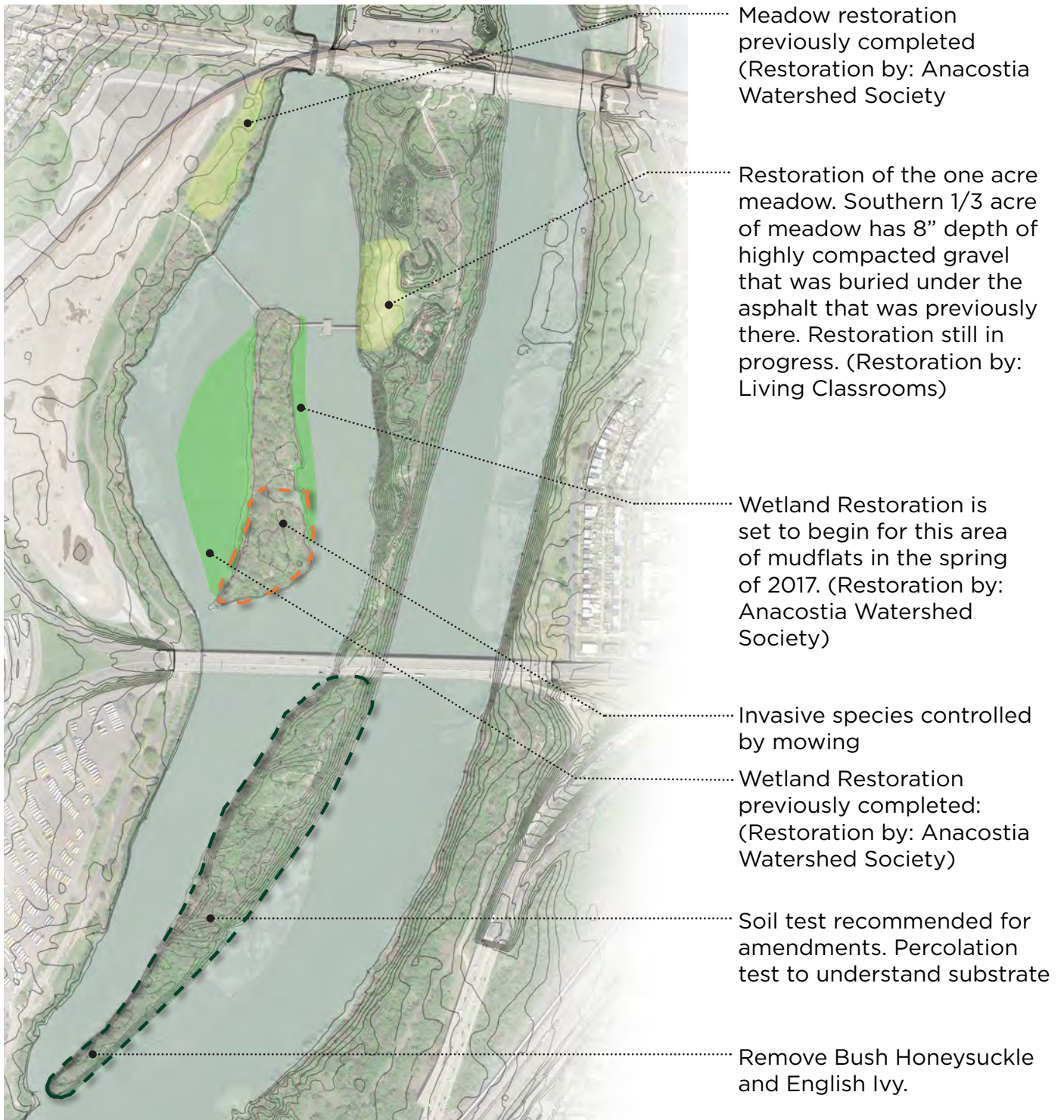
2016

Appendix B

Restoration Efforts

LEGEND

- Meadow Restoration
- Wetland Restoration
- Location for soil & percolation testing as well as invasive species removal
- Controlled mowing to reduce invasive species



Appendix C

Anacostia Watershed Society: Tidal Wetland Restoration Areas



Legend

- StreetCenterlineLn
- AWARE_II_Planning_phase
- Marsh Recovery AWARE I

Coordinate System: NAD83 UTM zone 18N
Projection: Transverse Mercator
Datum: North American 1983
false easting: 500,000.0000
false northing: 0.0000
central meridian: -75.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter

The maps and map data are provided "as-is" and are not legal surveys or legal descriptions. AWS shall assume no liability for any decisions made or actions taken or not taken by the user of the maps and the data.

Appendix D

Anacostia Watershed Society: Meadow Restoration Areas



Legend

- Roads
- DC Parks
- NPS Land
- Kingman Island Meadows (4.2 acres)

Ortho2013.sid

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3



ANACOSTIA
WATERSHED
SOCIETY

0 0.05 0.1 0.2 0.3 0.4 Miles

Coordinate System: NAD 1983 StatePlane Maryland FIPS 1900 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
false easting: 1,312,333.3333
false northing: 0.0000
central meridian: -77.0000
standard parallel 1: 38.3000
standard parallel 2: 39.4500
latitude of origin: 37.6667
Units: Foot US

Appendix E

Previous Master Plan developed by Lee and Associates



Appendix F

Precedents: An architecture for education



PLAYFUL



QUIET



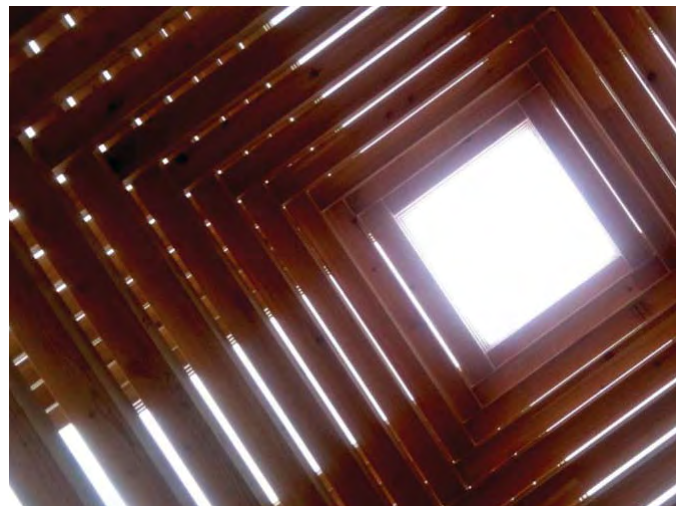
NATURAL



TACTILE



INTERACTIVE



MEDITATIVE

Precedents: An Infrastructure for Pleasure



IMMERSIVE



NATURAL



TRANSPARENT

Appendix G

Stormwater Management on the Islands

Reasons & Benefits for managing SWM on the Islands

- The existing roads, paths, and compacted areas the Islands are currently generating significant amounts of untreated stormwater.
- There are opportunities to educate the community on DOEE's programs and the importance of treating stormwater in a natural setting that is in the middle of the Anacostia River.
- There is a reasonable chance that programming / funding will allow for enough land disturbance require stormwater management
- Having a comprehensive stormwater management plan for the Islands opens up possibilities for innovation and better coordination between agencies
- Using stormwater management strategies like wetlands, natural cover, planting / protecting trees, and putting these areas in permanent easement has the added benefit of protecting areas of the Islands from unwanted development
- There are opportunities for stormwater management education which can involve nonprofits, professional organizations, District schools, and local universities



Appendix H

Detailed Construction Cost per Phase

PHASE IA CONSTRUCTION (HARD) COSTS

	ITEM/DESCRIPTION	UNIT	QTY	COST PER UNIT - 2018	COST PER ITEM
PATHWAYS AND BOARDWALKS	ADA Accessible Route - Primary 8' Wide Path				
	Relocation of Current CR-6 Gravel to be stored and used as a 4" Sub Base of ADA Path and Benning Rd Parking Lot (250 CY)	SY	2,252	\$25	\$56,300
	Rough Grading to Meet ADA Requirements (includes ramps leading from Benning Rd to Northwest Dock and Floating Lab) (15,200 SF)	SY	1,690	\$2.50	\$4,225
	Porous Asphalt (1" thickness over a 4" aggregate sub base) - by Porous Pave OR (20,960 SF)	SY	2,330	\$35	\$81,550
	Finely Crushed ADA Compliant Gravel 6" thickness with geotextile underneath	SF	20,960	\$2	\$41,920
	ADA Accessible Route - Secondary 6' Wide Path				
	Grubbing and Clearing Vegetation (selective)	SF	7,200	\$2.88	\$20,736
	Rough Grading to Meet ADA Requirements (33,400 SF)	SY	3,711	\$2.50	\$9,278
	Porous Asphalt (1" thickness over a 4" aggregate sub base) for path surface OR (7,980 SF)	SY	888	\$35	\$31,080
	Finely Crushed ADA Compliant Gravel 6" thickness with geotextile underneath for path surface	SF	7,980	\$2	\$15,960
	Secondary 6' Wide Path				
	Grubbing and Clearing Vegetation (Selective)	SF	2,400	\$2.88	\$6,912
	Triple Shredded Mulch at 3" Thickness for path surface with geotextile underneath OR	SF	2,700	\$3	\$8,100
	Crushed Gravel at 4" Thickness for path surface with geotextile underneath	SF	2,700	\$2	\$5,400
	Secondary 6' Wide Boardwalk				
	Pressure Treated Wood Walking Surface (2" x 6" x 72" Boards) OR	SF	1,920	\$15	\$28,800
	Composite Decking Walking Surface (2" x 6" x 72" Boards)	SF	1,920	\$20	\$38,400
	Pressure Treated Structural Framing Wood (4 Boards per every 6' at 2" x 6" X 72" per board)	LF	280	\$10	\$2,800
	10" Diameter Sonotubes, or sim. (depth required to be below freeze line) 2 every 6' of boardwalk	EACH	92	\$20	\$1,840
	Stainless Steel Fasteners	LF	280	\$7	\$1,960
	Overall Path/Boardwalk Subtotal				\$355,261
KINGMAN ISLAND RANGER STATION	Kingman Island Ranger Station & Park Access				
	Reforestation using National Forestry stand of 10 x 10 Grid of Native Tree Saplings - 50' buffer of Benning Rd	SF	10,200	\$15	\$153,000
	Custom 20' Wide Painted Steel Entry Gate (12' height)	LF	20	\$100	\$2,000
	4' x 4' Stone Veneer Columns that Custom Gate will attach to (12' height)	EACH	2	\$8,750	\$17,500
	Bed Prep (Add Amendments, Compost, Fine Grade, Mulch)	SF	2,000	\$2	\$4,000
	Native Seeded Meadow	SF	2,000	\$0.20	\$400
	Small Trees (2"-3" caliper) for Parking Area	EACH	8	\$600	\$4,800
	Perennials	SF	700	\$7	\$4,900
	Small Parking Lot Materials permeable pavers - BY ARCHITECT	SF	4,164	\$12	\$49,968
	Bus Layby or Turnaround DDOT Standard Asphalt - BY ARCHITECT	SF	1,632	\$20	\$32,640
	Ranger Station Building	SF	2,725	\$400	\$1,090,000
	Educational Features				
	Bio-Retention and/or Permeable Paving Signage (24x36 High Pressure Laminate or Fused Polycarbonate) Powder-coated frame and Post	EACH	2	\$750	\$1,500
	Plant Signage (Anodized Aluminum or Similar) 3"x5" Along Meadow Paths w/ Mounting Stakes	EACH	20	\$25	\$500
	Kingman Island Ranger Station & Park Access Subtotal				\$1,361,208

GATEWAY MEADOW CLASSROOM	Gateway Meadow Classroom				
	2" x 6" X 72" Pressure Treated Wooden Boards for ADA Platform	SF	800	\$15	\$12,000
	Bed Prep (Add Amendments, Compost, Fine Grade, Mulch)	SF	24,000	\$2	\$48,000
	Native Seeded Meadow	SF	24,000	\$0.20	\$4,800
	Perennials along Path	SF	1,400	\$7	\$9,800
	Rainwater Harvesting				
	15HP Solar Agriculture Water Pump System - Bluesun inc. (or similar)	EACH	1	\$15,000	\$15,000
	3400 Gallon Corrugated Metal Cistern (8'-11" dia. 10' height) - Rain Harvest Systems. (or similar) (Assume no filtration or extensive piping of long distances)	EACH	1	\$35,000	\$35,000
	3525 Gallon Polyethylene Underground Cistern (211"L x 102"W x 51"H) - Ace Roto-Mold (or similar)	EACH	1	\$75,000	\$75,000
	Pavilion				
	Solar Shade Structure Pavillion	SF	672	\$18	\$12,096
	Educational Features				
	Plant Signage (Anodized Aluminum or Similar) 3"x5" Along Meadow Paths	EACH	25	\$25	\$625
	Solar Powered Weatherstation (RAINWISE MKIII OR SIMILAR W/ DISPLAY) OR	ALL.	1	\$2,000	\$2,000
	Analog Weatherstation mounted on Cedar Post or Powdercoated Metal Post (Wind Gauge, Rain Gauge, Thermometer, Barometer)	ALL.	1	\$750	\$750
	Bench or Stump Seating at Gathering Area (Moveable is a plus). Seating for 25 people.	EACH	25	\$50	\$1,250
	Cedar Whiteboard Frame with Metal (Exterior) Whiteboard. Cork Board on Back/side of Whiteboard. Lockable Glass Doors on Whiteboard	EACH	1	\$250	\$250
	Animal Habitat: Bird Houses/Nesting Boxes OR	EACH	5	\$50	\$250
	Peek-A-Boo Birdhouses or Similar (Camera installed in birdhouses)	EACH	5	\$2,000	\$10,000
	Soil Profile Education Area (if able to excavate due to soil contamination)	EACH	1	\$1,000	\$1,000
	Meadow Interperative Signage (24x36 High Pressure Laminate or Fused Polycarbonate)	EACH	2	\$500	\$1,000
	Powder-coated frame and Post (6" sonotube for post)				
	Artwork, Sculptures, Birdhouse Art Installations, etc	ALL.	1	\$15,000	\$15,000
	Gateway Meadow Classroom Subtotal				\$243,821

MARSH LANDING (HERITAGE ISLAND CLASSROOM)	Marsh Landing (North Heritage Island Classroom)				
	2" x 8" X 72" Pressure Treated Wood for Wooden Tiered Seating Element	SF	240	\$15	\$3,600
	Pressure Treated Wood for Integrated Storage Beneath the Tiered seating (Waiters Storage for 15 Students)	SF	240	\$15	\$3,600
	Pressure Treated Wood Walking Surface (2" x 6" x 72" Boards) for Raised Boardwalk Connecting Bridges OR	SF	480	\$15	\$7,200
	Composite Decking Walking Surface (2" x 6" x 72" Boards)	SF	480	\$20	\$9,600
	Handwashing Station - Self Contained Stainless Steel Sink with External Water Hose Attachment	EACH	1	\$1,500	\$1,500
	PVC Piping to Pipe Potable from RFK Side Under the Bridge and to the Handwashing Station	LF	550	\$50	\$27,500
	2" x 6" x 48" Pressure Treated Wooden Boards for Walking Surface of Floating Platform	SF	300	\$15	\$4,500
	Polyflanged foam filled floats	SF	300	\$5	\$1,500
	2" x 6" x 12' Pressure Treated Wooden Boards for Supporting Dock Frame (Cross Stringers 2' On Center)	SF	300	\$15	\$4,500
	Stainless Steel Fasteners for Wooden Tiered Seating Element, Ramp and Floating Dock	SF	300	\$20	\$6,000
	Educational Features				
	Message Board with Cork Board and Locking Glass Enclosure OR	ALL.	1	\$2,500	\$2,500
	Cedar Whiteboard Frame with Metal (Exterior) Whiteboard. Cork Board on Back/side of Whiteboard. Lockable Glass Doors on Whiteboard	ALL.	1	\$3,000	\$3,000
	Experiment/Plant Layout Tables (Ground Mount Metal Tables with Thermoplastic coating, or Similar) From Global Industrial or Similar	EACH	3	\$800	\$2,400
	Tide Chart (See Interperative Sign Specs) and Tide Scale Installed In Wetland	EACH	1	\$100	\$100
	Interactive, Large Scale Water Thermometer; Digital	EACH	1	\$250	\$250
	Marsh Landing (North Heritage Island Classroom) Subtotal				\$77,750

EAGLE'S OUTLOOK (FOREST CLASSROOM)	Eagle's Outlook (Forest Classroom)				
	Clearing and Grubbing - Removal of Invasive Species	SF	6,000	\$0.50	\$3,000
	Bed Prep (Add Amendments, Compost, Fine Grade, Mulch)	SF	9,000	\$2	\$18,000
	Native Seeded Meadow	SF	9,000	\$0.20	\$1,800
	5HP Solar Agriculture Water Pump System - Bluesun inc. (or similar)	EACH	1	\$15,000	\$15,000
	1500 Gallon Corrugated Metal Cistern (5'-11" dia. 9'-3" height) - Rain Harvest Systems. (or similar) OR (Assume no filtration or extensive piping of long distances)	EACH	1	\$20,000	\$20,000
	1500 Gallon Polyethylene Underground Cistern (111"L x 98"W x 48"H) - Ace Roto-Mold (or similar)	EACH	1	\$50,000	\$50,000
	Educational Features				
	Cedar Whiteboard Frame with Metal (Exterior) Whiteboard. Cork Board on Back/side of Whiteboard. Lockable Glass Doors on Whiteboard	ALL.	1	\$3,000	\$3,000
	Bench or Stump Seating at Gathering Area (Moveable is a plus). Seating for 25 people.	EACH	25	\$50	\$1,250
	Invasive Plant Identification Signage: 24x36" High Pressure Laminate or Fused Polycarbonate Sign w/ Powder Coated Frame and Mount	EACH	1	\$250	\$250
	Bird Identification Signage: 24x36" High Pressure Laminate or Fused Polycarbonate Sign w/ Powder Coated Frame and Mount	EACH	1	\$250	\$250
	Small Storage Shed (for educational tools, materials, bird watching materials, etc)	ALL.	1	\$4,000	\$4,000
	ARCHITECT TO WEIGH-IN ON DESIGN	ALL.	1	\$4,000	\$4,000
	Native Meadow Experiment/Working Area: Experiment Tables (Metal Tables with Thermoplastic coating, or Similar) From Global Industrial or Sim.	EACH	3	\$800	\$2,400
	Forest Understory/Succession Area (Cleared Area for Educational Opportunities)	EACH	1	\$1,000	\$1,000
	Plant Signage (Anodized Aluminum or Similar) 3"x5" signs w/ mounting Stake	EACH	20	\$25	\$500
Eagle's Outlook (Forest Classroom) Subtotal					\$120,450

WAYFINDING SIGNAGE	Vehicular Entry Signage				
	Vehicular Entry Signage - 84" H x 60" W 100% Recycled Core Panels - Pulse Design, Inc. (or similar)	EACH	2	\$525	\$1,050
	Vehicular Entry Signage - 121" H x 72" W Powder Coated Aluminum Posts and Frames - Pulse Design, Inc. (or similar)	EACH	2	\$900	\$1,800
	10" Diameter Sonotubes, (or similar) depth required to be below freeze line. Footings for Vehicular/Primary Signage	EACH	8	\$20	\$160
	Primary Wayfinding Signage				
	Primary Wayfinding Signage - 56" H x 30" W 100% Recycled Core Panels - Pulse Design, Inc. (or similar)	EACH	2	\$187.50	\$375
	Primary Wayfinding Signage - Powder Coated Aluminum Posts and Frames - 80" H x 42" W - Pulse Design, Inc. (or similar)	EACH	2	\$568.75	\$1,138
	Secondary Wayfinding Signage				
	Secondary Wayfinding Signage - 30" H x 21" W 100% Recycled Core Panels - Pulse Design, Inc. (or similar)	EACH	8	\$75	\$600
	Secondary Wayfinding Signage - Powder Coated Aluminum Posts and Frames - 43" H x 25" W - Pulse Design, Inc. (or similar)	EACH	8	\$120	\$960
	6" Diameter Sonotubes, (or similar) depth required to be below freeze line. Footings for Secondary Signage	EACH	16	\$18	\$288
	Wayfinding Signage Subtotal				
	\$6,371				

PHASE IA (YR 1) TOTAL HARD COSTS **\$2,164,860**

PHASE IA CONSTRUCTION SOFT COSTS

Design Fees \$372,000
Permit and Insurance \$23,000

PHASE IA (YR 1) TOTAL SOFT COSTS **\$395,000**

PHASE IA SUBTOTAL \$2,559,860

PHASE IB CONSTRUCTION (HARD) COSTS

	ITEM/DESCRIPTION	UNIT	QTY	COST PER UNIT - 2019	COST PER ITEM
PATHWAYS AND BOARDWALKS	Tertiary 4' Wide Path				
	Grubbing and Clearing Vegetation (Selective)	SF	4,800	\$3	\$14,405
	Triple Shreaded Mulch at 3" Thickness for path surface with geotextile underneath	SF	11,280	\$3.13	\$35,261
	Tertiary 4' Wide Boardwalk				
	Pressure Treated Wood Walking Surface (2" x 6" x 48" Boards)	SF	3,240	\$15.63	\$50,641
	Pressure Treated Structural Framing Wood (3 Boards per every 6' at 2" x 6" X 72" per board)	LF	810	\$10.42	\$8,440
	8" Diameter Sonotubes, or sim. (depth required to be below freeze line) 2 every 6' of boardwalk	EACH	135	\$20.84	\$2,813
	Stainless Steel Fasteners	LF	810	\$7.29	\$5,908
	Existing Heritage Island 4' Wide Path to be Resurfaced				
	Application of Triple Shreaded Mulch at 3" Thickness on Current Path Surface	SF	8,200	\$3.13	\$25,633
	Overall Path/Boardwalk Subtotal				\$143,102
CANOPY WALK / VIEWING TOWER	Kingman Island Canopy Walk/Viewing Tower - 4' Wide: 700' Long at 5% Slope up to a 35' High Viewing Tower				
	Pressure Treated Wood Walking Surface for Walk and 20' x 20' Viewing Tower (2" x 6" x 48" Boards) OR	SF	2,800	\$15.63	\$43,764
	1" Thick Porous Asphalt Surface applied to Metal Bracing (See Atlanta Botanical Gardens Bridge as Precedent)	SF	2,800	\$36.47	\$102,116
	Structural Steel Support System with Steel Cross Bracing (See Atlanta Botanical Gardens Bridge as Precedent)	SF	2,800	\$41.68	\$116,704
	Vertical Steel Beams to Connect Walk to Footings: Lengths up to 35' (See Atlanta Botanical Gardens Bridge as Precedent) (700LF)	TN	123	\$4,793.20	\$587,167
	12" x 12" Concrete Footing (depth required to be below freeze line) 4 every 50'	CY	491	\$1,042	\$511,275
	42" High Fence Mesh with Top and Bottom Steel Painted Safety Rails on Both Sides of Canopy Walk	LF	1,400	\$47.93	\$67,105
	Educational Features				
	Leaf/Tree Identification Signage (24x36 High Pressure Laminate or Fused Polycarbonate) Powder-coated frame mounted to Canopy Walk	EACH	3	\$267.79	\$803
	Storage Benches on Walkway (for educational supplies - tape measures, magnifying glasses, etc)	EACH	2	\$1,250.40	\$2,501
	Kingman Island Canopy Walk/Viewing Tower Subtotal				\$1,431,435
FLOAT	Floating Lab On Anacostia Tributary (FLOAT)				
	2" x 8" X 72" Pressure Treated Wood for Wooden Tiered Seating Element	SF	800	\$15.63	\$12,504
	Pressure Treated Wood for Integrated Storage Beneath the Tiered seating (Waiters Storage for 20 Students)	SF	300	\$15.63	\$4,689
	4" x 4" Posts for Support (1 Post Per 16 SF)	SF	50	\$8.34	\$417
	4' x 20' ADA Stainless Steel Ramp Leading from the Tiered Seating to the Floating Lab (Adjusts with Tides) OR	EACH	1	\$2,605	\$2,605
	4' x 20' ADA Pressure Treated Wood Ramp Leading from the Tiered Seating to the Floating Lab (Adjusts with Tides)	EACH	1	\$1,302.50	\$1,303
	42" Tall Stainless Steel Guardrail for Ramp and Floating Lab OR	LF	140	\$187.56	\$26,258
	42" Tall Pressure Treated Wood Guardrail for Ramp and Floating Lab	LF	140	\$41.68	\$5,835
	2" x 6" x 48" Pressure Treated Wooden Boards for Walking Surface of Floating Lab	SF	840	\$15.63	\$13,129
	Polyflanged foam filled floats	SF	840	\$5.21	\$4,376
	2" x 6" x 12' Pressure Treated Wooden Boards for Supporting Dock Frame (Cross Stringers 2' On Center)	SF	840	\$15.63	\$13,129
	Stainless Steel Fasteners for Wooden Tiered Seating Element, Ramp and Floating Dock	SF	1,780	\$20.84	\$37,095
	Handwashing Station - Self Contained Stainless Steel Sink with External Water Hose Attachment	EACH	1	\$1,563	\$1,563
	PVC Piping to Pipe Potable from the Benning Road Water Connection to the Handwashing Station	LF	475	\$52.10	\$24,748

FLOAT	Educational Features				
	Cedar Whiteboard Frame with Metal (Exterior) Whiteboard. Cork Board on Back/side of Whiteboard. Lockable Glass Doors on Whiteboard	ALL.	1	\$2,605	\$2,605
	Solar Powered Weatherstation (RAINWISE MKIII OR SIMILAR W/ DISPLAY) OR	ALL.	1	\$3,126	\$3,126
	Analog Weatherstation mounted on Cedar Post or Powdercoated Metal Post (Wind Gauge, Rain Gauge, Thermometer, Berometer)	ALL.	1	\$781.50	\$782
	Water Monitoring Station (Potential for Using Solar Power)	EACH	1	\$989.90	\$990
	Tide Chart (See Interpretative Sign Specs) and Tide Scale on Side of Lab	EACH	1	\$104.20	\$104
	Plant Signage (Anodized Aluminum or Similar) 3"x5" In Wetland Plant Demo Area (or any planting areas on barge)	EACH	10	\$26.05	\$261
Floating Lab Subtotal					\$155,519

UNDERSTORY	Understory Classroom				
	Clearing and Grubbing - Removal of Invasive Species	SF	6,000	\$0.52	\$3,126
	Bed Prep (Add Amendments, Compost, Fine Grade, Mulch)	SF	6,000	\$2.08	\$12,504
	Native Seeded Meadow	SF	6,000	\$0.21	\$1,250
	6' Wide FSC Certified Cedar Bench	EACH	6	\$2,605	\$15,630
Understory Classroom Subtotal					\$32,510

REPOSE	Area of Repose				
	Clearing and Grubbing - Removal of Invasive Species	SF	7,000	\$0.52	\$3,647
	6' Wide FSC Certified Cedar Bench	EACH	2	\$2,605	\$5,210
Area of Repose Subtotal					\$8,857

PHASE IB (YR 2) TOTAL HARD COSTS	\$1,771,423
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PHASE IB CONSTRUCTION SOFT COSTS

Design Fees	\$301,142
Permit and Insurance	\$17,714

PHASE IB (YR 2) TOTAL SOFT COSTS	\$318,856
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PHASE IB SUBTOTAL	\$2,090,279
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PHASE II CONSTRUCTION (HARD) COSTS

ITEM/DESCRIPTION		UNIT	QTY	COST PER UNIT - 2020	COST PER ITEM
ENVIRONMENTAL CENTER & SITE	Site Work				
	Medium Evergreen (8'-10' height) - Part of Visual/Acoustic Threshold from RFK Development	EACH	\$22	\$868.61	\$19,109
	Medium Deciduous Trees (4" - 6" caliper) - Part of Visual/Acoustic Threshold from RFK Development and Site Enhancement	EACH	\$24	\$1,302.92	\$31,270
	Ornamental Trees (8'-10' height) - Part of Visual/Acoustic Threshold from RFK Development and Site Enhancement	EACH	\$14	\$868.61	\$12,161
	Medium Shrubs (5' - 8' height and spread) - Part of Visual/Acoustic Threshold from RFK Development	EACH	\$32	\$814.32	\$26,058
	Perennials	SF	\$1,200	\$7.60	\$9,120
	Bed Prep (Add Amendments, Compost, Fine Grade, Mulch)	SF	\$4,000	\$2.17	\$8,686
	Native Seeded Meadow	SF	\$2,400	\$0.22	\$521
	Bus Parking And Turnaround Materials (permeable pavers)	SF	\$29,604	\$16.29	\$482,144
	Environmental Center				
	Materials and Construction	SF	\$10,956	\$434.31	\$4,758,252
	Environmental Center and Site Subtotal				\$5,347,323

PHASE II (YR 3) TOTAL HARD COSTS

\$5,347,323

PHASE II CONSTRUCTION SOFT COSTS

Design Fees
Permit and Insurance

\$909,045
\$53,473

PHASE II (YR 3) TOTAL SOFT COSTS

\$962,518

PHASE II SUBTOTAL

\$6,309,841

PROJECT GRAND TOTAL

\$10,959,980

Appendix J

Written Feedback from Residents and Organization Representatives

From: Peter Courtney <pwcourtney@gmail.com>
Sent: Friday, September 15, 2017 3:57 PM
To: Hyera, Asteria (DOEE)
Subject: Kingman Island & Heritage Island Planning & Feasibility Study

Ms. Hyera,

As a resident of Kingman Park, I am writing to express my full support for Kingman and Heritage Islands. I encourage the council to fully fund the plan for proposed park features described in the Kingman Island & Heritage Island Planning & Feasibility Study as well as provide the funding necessary to provide staffing of the ranger station and resources to complete habitat restoration on the island.

Sincerely,

-Peter Courtney
429 21st St NE
Washington, DC 20002

From: Matt Renaud <merenaud@yahoo.com>
Sent: Wednesday, September 13, 2017 9:21 PM
To: Hyera, Asteria (DOEE)
Subject: Kingman and Heritage Islands Plan

Dear Ms. Hyera,

As a resident of Kingman Park Neighborhood in DC, I am writing to express my full support for Kingman and Heritage Islands. I visit these frequently on walks with my children. They love seeing the turtles and touching the water. I encourage the council to fully fund the plan for proposed park features described in the Kingman Island & Heritage Island Planning & Feasibility Study as well as provide the funding necessary to provide staffing of the ranger station and resources to complete habitat restoration on the island. This plan will maintain the current purpose of the park and make it an even better place to visit for local residents.

Regards,
Matt Renaud
Ward 7

From: Elissa Feldman <elissa.feldman1@gmail.com>
Sent: Tuesday, September 26, 2017 2:44 PM
To: Hyera, Asteria (DOEE)
Subject: Kingman & Heritage Island Nature Center

Hello Asteria:

I'm writing to you both as a 40+ year resident of Capitol Hill (Ward 6) and as the Board Chair of the Anacostia Watershed Society.

I want to express my strong support for the park features described in the Kingman Island & Heritage Island Planning & Feasibility Study. I urge the DC City Council to provide the funding necessary to staff the ranger station, complete the islands' habitat restoration, and appropriate the funds to construct and maintain the beautiful, sustainable teaching and learning structures that will make this a terrific place for kids and adults to experience the natural world.

Thank you,
Elissa Feldman

613 S. Carolina Ave SE
DC 20003

From: Vincent Verweij <v.w.verweij@gmail.com>
Sent: Monday, September 18, 2017 10:04 PM
To: Hyera, Asteria (DOEE)
Cc: Dana Woodthrush
Subject: Comments for Kingman Island study

Hi Asteria,

I got your contact information through Audubon, but am not affiliated with them. I help out with invasive plant control on Heritage Island, and love the value we get from these islands. I work in Natural Resources Management, and hope we can make these islands have the greatest ecological benefit to our city!

Please consider the following comments on the proposed plan. I do support the overall framework, and it looks like significant thought went into the design. There are just some minor concerns.

1. I am concerned about the environmental and wildlife impact of the boardwalk. Much of the wildlife on the islands need silence and shelter from intrusion, and while opportunities to view wildlife are critical, this boardwalk appears to be going through some existing natural areas.
2. The island is in sore need of invasive plant control and restoration, as well as soil remediation, wherever there are toxic spoils. This would greatly improve the ecological health of the island.
3. After invasive plant removal, restoration needs to be critical component, as the invasive plants ironically form somewhat of a barrier to trampling, right now. We experienced that invasive plant control opened up the forest in the park system I work in, causing different degradation to reduce the value of the ecosystem, sometimes.

Thanks, and please let me know if you have questions about my comments.

Vincent Verweij
138 Thomas St NW
Washington, DC 20001

From: Michelle Adams Bowman <awesomeshell@gmail.com>
Sent: Wednesday, September 13, 2017 8:32 AM
To: Hyera, Asteria (DOEE)
Subject: Support of Kingman and Heritage Islands

Hello,

As a resident of Kingman Park, I am writing to express my full support for Kingman and Heritage Islands. I encourage the council to fully fund the plan for proposed park features described in the Kingman Island & Heritage Island Planning & Feasibility Study as well as provide the funding necessary to provide staffing of the ranger station and resources to complete habitat restoration on the island.

This will be a significant asset, not only to our neighborhood, but to the city and greater DC area as a whole.

Thank you,

Michelle Bowman

2512 E St NE

From: Ben Bowman <j.ben.bowman@gmail.com>
Sent: Wednesday, September 13, 2017 12:59 PM
To: Hyera, Asteria (DOEE)
Subject: Support of Kingman and Heritage Islands

Hello,

As a resident of Kingman Park, I am writing to express my full support for the [Kingman and Heritage Islands Feasibility Study](#). These islands and the marshland around them are a refuge for wildlife and humans alike, offering a respite from the busy city. I visit these islands several times a week. My visits to these islands are certainly one of my favorite parts about living in the Kingman Park neighborhood, and so I am thrilled at the prospect of the Study's proposal becoming reality.

I strongly encourage the council fully fund the plan for the proposed park features described in the Kingman Island & Heritage Island Planning & Feasibility Study as well as provide the funding necessary for staffing of the ranger station and resources to complete habitat restoration on the island. The canopy walk and the additional boardwalks overlooking the water will offer an opportunity for both children and adults to experience DC's wildlife in a special and intimate way. This will result in citizen's increased awareness and commitment to the Anacostia Watershed. Fully funding this project would provide proof of DC's seriousness about their commitment to sustainability.

The proposed project will be a significant asset, not only to our neighborhood, but to the city and greater DC area as a whole. The money spent on this project will be dwarfed many times over by the many benefits it will bring.

Thank you for your consideration of the important project.

Ben Bowman
2512 E St NE



Ms. Asteria Hyera
Watershed Protection Division
Department of Energy & Environment
Government of the District of Columbia
1200 First Street NE, 5th Floor
Washington, DC 20002

September 29, 2017

Re: Kingman Island and Heritage Island Planning and Feasibility Study Act of 2016

Dear Ms. Hyera:

Thank you for the opportunity to comment on this exciting project.

City Wildlife is a non-profit organization in the District of Columbia that administers the city's Wildlife Rehabilitation Center and two Citizen Science projects: *Lights Out DC*, which documents migratory bird/glass collisions at downtown buildings and advocates for reduced lighting and other solutions to reduce these tragic fatalities; and *Duck Watch*, which monitors Mallard nests in DC, advises the public on how to protect these nests, and helps Mallards that are trapped or injured. We also provide educational programs on wildlife to adults and children and assist the public and government agencies with wildlife issues in the District.

As a strong advocate for wildlife and the preservation of wildlife habitat in the District, City Wildlife is in full support of the general goals and proposals for this project and would like to offer the following observations:

1. We support the project's "Light Touch" approach, but suggest even less fragmentation of habitat.

Some scientists report that any human development, even a pedestrian trail, will disrupt wildlife habitat for a distance of about 25 meters, or 82 feet, from the human disturbance. Many species (such as forest interior dwelling bird species) require large areas of uninterrupted habitat in order to maintain their populations. Thus we believe the extent to which this project minimizes all human disturbance will be key to its success in providing wildlife habitat – and in making sure there are animals on the islands for the children to see.

The current proposal seems to provide more trails and structures than might be needed. We suggest a more minimal approach that would preserve larger undisturbed areas of meadow and

woodlands. Specifically, this would mean fewer trails and possibly fewer educational facilities, concentrated in locations that preserve greater areas of undisturbed habitat. We would refer you to the excellent comments from the DC Audubon Society on this point.

2. We support full preservation of the natural shorelines.

One of the many benefits of these islands is that their shorelines have not been channelized with sea walls, as has most of the Anacostia River. Channelized riverbeds dramatically decrease the value of these riparian edges as wildlife habitat. Natural tidal edges provide essential habitat for plants, reptiles, amphibians, and invertebrates and are key to a productive and resilient riparian ecosystem.

Because of its natural shorelines, Kingman and Heritage Islands are a valuable natural resource and an excellent release sight for the Mallards and other injured or orphaned native wildlife we rehabilitate. We are grateful that this project maintains the natural river edge on the islands and we encourage reduced channelization in general along the Anacostia River, wherever there are opportunities.

3. Man-made features should not harm wildlife.

As the project develops, biologists and wildlife experts might be asked to review all man-made features for potential wildlife hazards. For example, each year, City Wildlife receives many calls for help with Mallard and Wood Duck ducklings stranded in the District's water features with high sides that prevent the ducklings from getting out. Since these young ducklings are not yet waterproof, they commonly drown in these situations and the mother hen can lose her entire brood, causing distress not only to the animals but to people who observe them. Simple ramps accessible to the ducklings could completely eliminate these hazards.

Other hazards can be posed by open drainage grates, hot surfaces, guy wires, upright open pipes, trash cans, fans, and many other common features of the urban environment. It is important not to design features that inadvertently trap wildlife. We recommend a review "with the animal as client" of all man-made features proposed for the island before construction begins.

4. We support bird-friendly glass architecture and reduced lighting.

Our *Lights Out DC* project has documented more than 2,000 bird strikes at DC's glass buildings. With the strong support of DOEE, we have made every effort to bring this serious issue to public attention. In reviewing this proposal, we noted several examples of glass enclosures that illustrate either transparent or highly reflective glass façades, suggesting that similar features might be incorporated in the Ranger Station and the Environmental Center. These facades, especially if they are located in the vicinity of Kenilworth Park and Aquatic Gardens and the Arboretum, are highly likely to experience bird strikes, especially from the neo-tropical migrants

that visit this area during the spring and fall migration seasons. We strongly suggest, therefore, that any structures with glass be designed to comply with the LEED Pilot Credit 55 for Bird Collision Deterrence and the guidelines provided in the American Bird Conservancy's publication *Bird-Friendly Building Design*, and that the architects consult with experts in this field to determine the most effective solutions for treating all glass in the project, since science and available products are evolving rapidly on this subject.

Lighting should also be minimized throughout the project, with Dark Skies lighting used throughout, dimmers timed to reduce lighting to match the natural light levels (which preserves the animals' circadian rhythms), and no LED lights used unless the color temperature is 2,700K or below. Zoo lighting experts could assist with this analysis.

5. Humane treatment of all living things.

Science sometimes collides with humane values, especially when children are studying wildlife. City Wildlife has a policy not to kill anything in the wild, even as part of an educational function. Thus during our "Moth Night," we capture moths on a lighted white sheet for observation, but we release them unharmed after identifying them, even though many other moth projects involve killing the moths for display. This issue may arise as educational programs are developed for these children. We would encourage you to consider a policy of non-lethal education. We believe a message of non-violence to all living things will have a beneficial long-term impact on these children, even those who might pursue a scientific career in later life.

We are grateful for the opportunity to share our observations about this project and look forward greatly to its realization. We would be pleased to work with you as these plans proceed and are happy to provide more information about any of the issues we have highlighted.

Respectfully submitted,

A handwritten signature in cursive script that reads "Anne Lewis".

Anne Lewis, President