

SU9201 New Stormwater Pond, Stream Restoration



Address: 12628 Fantasia Drive
Location: Folly Lick stream corridor between Fantasia Drive & Monroe Street
Land Owner: Park/Private
PIN: 0102-02-0001, 0102-02-0001B, 0102-02-0001C, 0102-02-0001D, 0102-02-0002A, 0102-02-0003B, 0102-04-D, 0104-02-0001B
Control Type Quality/Quantity
Drainage Area 1400 acres
Receiving Waters Folly Lick Branch

Description: The community around Fantasia Drive does not have existing stormwater controls and significant stream erosion is occurring downstream. Construct an extended detention dry pond, improve the outfall and repair stream erosion impacts.



Project Area Map

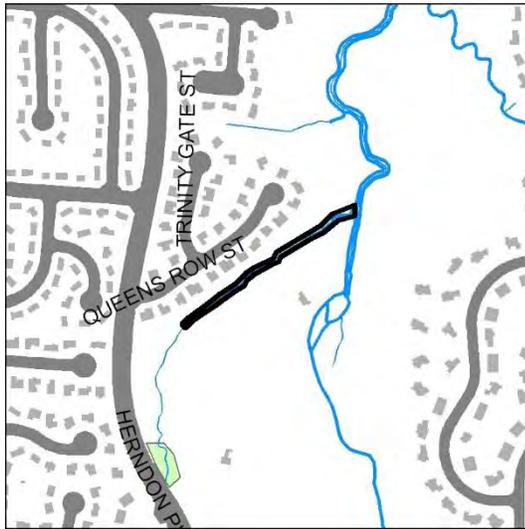
Project Benefits: This project will reduce sediment and nutrient loadings, improve water quality, reduce peak stormwater flows for storms up to a 10-year event, and provide for evapotranspiration and wildlife habitat. The streambank restoration will stabilize the streambanks, reduce sediment and nutrient loadings, and improve water quality.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. Projects in RPAs may require exceptions. The new pond and western stream bank are located on County park land, the eastern stream bank is privately owned by several residential parcels. A storm drainage easement will be necessary. Accessibility may be difficult due to the surrounding woodland and residential properties. Access can be taken from Fantasia Drive and a nearby storm drainage easement. Tree impacts are expected. There are no significant construction issues anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	26	\$40.00	\$1,040.00
Plantings	AC	0.41	\$25,000.00	\$10,250.00
Grading and Excavation	CY	478	\$35.00	\$16,730.00
Access Road	SY	111	\$25.00	\$2,775.00
Access Road Gate	EA	1	\$2,500.00	\$2,500.00
Structural BMP and Incidentals (Low)	LS	1	\$10,000.00	\$10,000.00
New Storm Pipe (Low)	LF	20	\$100.00	\$2,000.00
Embankment	CY	11	\$50.00	\$550.00
RipRap Stabilization	SY	34	\$100.00	\$3,400.00
Construct New Channel	LF	1300	\$200.00	\$260,000.00
Additional Cost (first 500LF)	LF	500	\$200.00	\$100,000.00
Clear and Grub (Stream)	AC	0.25	\$10,000.00	\$2,500.00
			Initial Project Costs	\$411,745.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$20,587.25
<i>Erosion and Sediment Control: 10% of project costs</i>				\$41,174.50
			Base Construction Costs	\$473,506.75
			<i>Mobilization (5%)</i>	\$23,675.34
			Subtotal 1	\$497,182.09
			<i>Contingency (25%)</i>	\$124,295.52
			Subtotal 2	\$621,477.61
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$279,664.92
			Total Costs	\$901,142.53
			Estimated Project Costs	\$910,000.00

SU9203 Stream Restoration



Address: 417 Queens Row Street
Location: Hunters Creek HOA & Runnymede Park
Land Owner: Local/Private
PIN: 0113-02-0004C, 0113-04-C
Control Type: Quality/Quantity
Drainage Area: 224 acres
Receiving Waters: Sugarland Run

Description: Tributary to Sugarland Run is eroding. Remove multiflora rose obstruction below Hunter's Creek Pool parking lot and repair stream banks, including restoration of riparian buffer. Re-grade streambanks just above confluence, stabilize and install cross-vane to direct energy away from banks.



Project Area Map

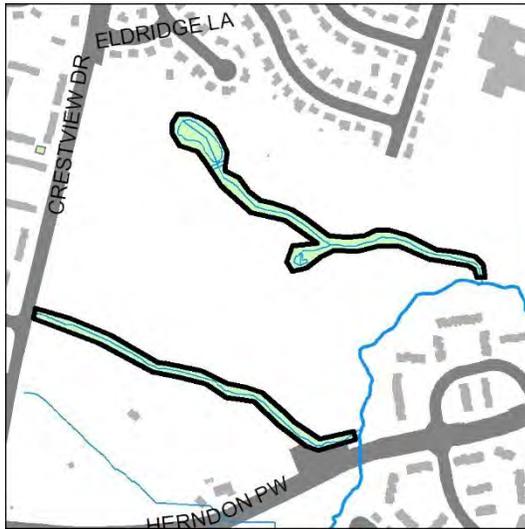
Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, and improve water quality.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. The project is located on private land and Town of Herndon land, access agreements will be necessary. Accessibility is good from the Hunters Creek HOA parking lot and the walking trail. Tree impacts are expected. There are no significant construction issues anticipated. New stormwater pond project SU9136 is directly upstream of this project and should be constructed prior to, and may be coordinated with, stream restoration project SU9203.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Clear and Grub	AC	0.01	\$8,500.00	\$85.00
Grading and Excavation	CY	150	\$35.00	\$5,250.00
Plantings	AC	0.10	\$25,000.00	\$2,500.00
RipRap Stabilization	SY	50	\$100.00	\$5,000.00
Clear and Grub (Stream)	AC	0.50	\$10,000.00	\$5,000.00
Percolation/Infiltration Trench	SY	150	\$75.00	\$11,250.00
Earthen Berm	CY	20	\$35.00	\$700.00
Construct New Channel	LF	250	\$200.00	\$50,000.00
Additional Cost (first 500LF)	LF	250	\$200.00	\$50,000.00
Initial Project Costs				\$129,785.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$6,489.25
<i>Erosion and Sediment Control: 10% of project costs</i>				\$12,978.50
Base Construction Costs				\$149,252.75
<i>Mobilization (5%)</i>				\$7,462.64
Subtotal 1				\$156,715.39
<i>Contingency (25%)</i>				\$39,178.85
Subtotal 2				\$195,894.23
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$88,152.41
Total Costs				\$284,046.64
Estimated Project Costs				\$290,000.00

SU9204 Stream Restoration



Address: 1270 Old Heights Road
Location: Herndon Centennial Park golf course
Land Owner: Local
PIN: 0103-02-0014, 0103-02-0016, 0103-02-0018, 0104-02-0009
Control Type: Quality/Quantity
Drainage Area: 73 acres
Receiving Waters: Folly Lick Branch

Description: The streams in the golf course have been straightened and lack sufficient buffer. Create meander and add structures to channel to slow flow. Install riparian buffer planting as allowed by height restrictions. Stabilize right bank at lower extent of reach.



Project Area Map

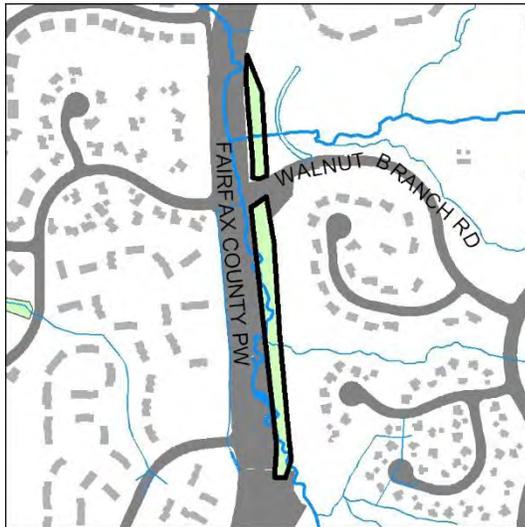
Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, and improve water quality. Riparian buffer restoration will provide for additional evapotranspiration and wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. The project is located on Town of Herndon land, access agreements will be necessary. Accessibility is good from golf course paths, Herndon Parkway, and Crestview Drive. Tree impacts are anticipated. There are no significant construction issues anticipated. Riparian buffer plantings must be designed according to height restrictions.

Costs:

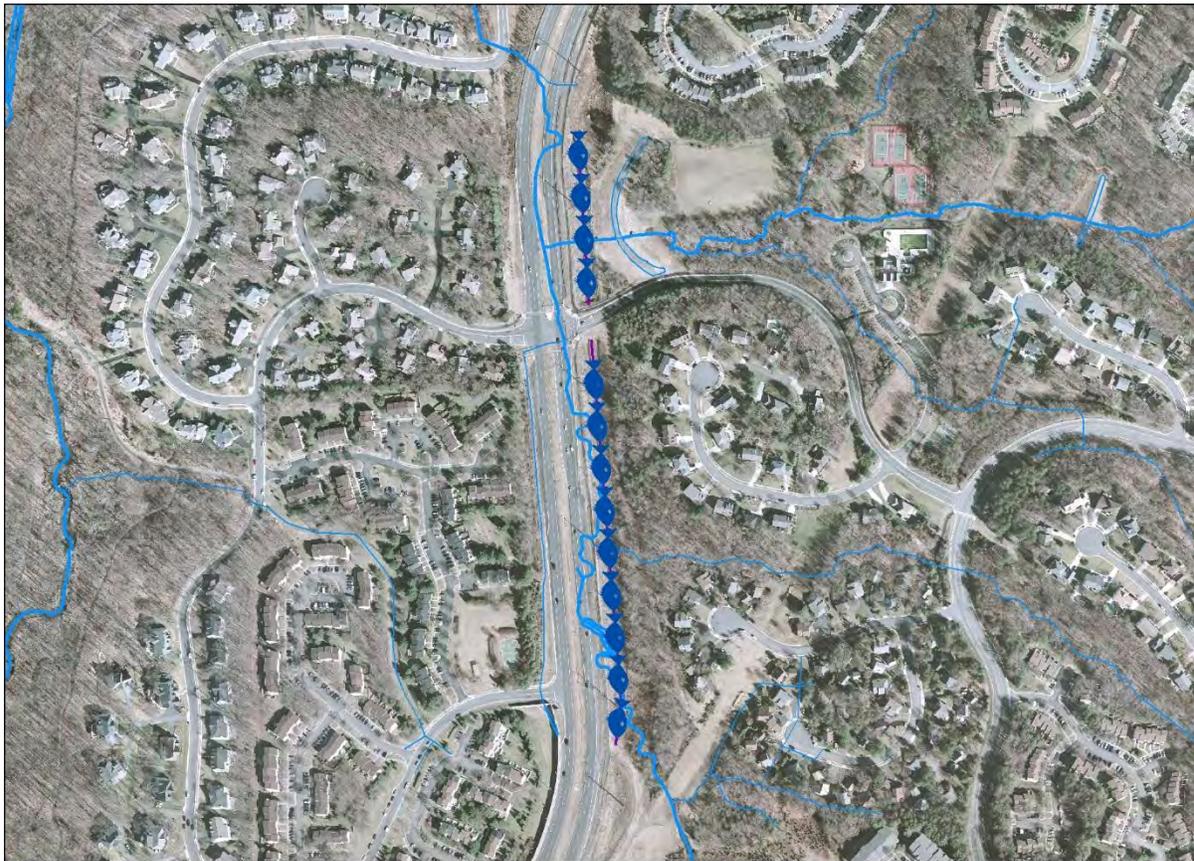
<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	1844	\$40.00	\$73,760.00
Plantings	AC	4.57	\$25,000.00	\$114,250.00
Construct New Channel	LF	3335	\$200.00	\$667,000.00
			Initial Project Costs	\$855,010.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$42,750.50
<i>Erosion and Sediment Control: 10% of project costs</i>				\$85,501.00
			Base Construction Costs	\$983,261.50
			<i>Mobilization (5%)</i>	\$49,163.08
			Subtotal 1	\$1,032,424.58
			<i>Contingency (25%)</i>	\$258,106.14
			Subtotal 2	\$1,290,530.72
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$580,738.82
			Total Costs	\$1,871,269.54
			Estimated Project Costs	\$1,880,000.00

SU9205 Stream Restoration



Address: 11950 Walnut Branch Road
Location: Fairfax County Parkway & Walnut Branch Road
Land Owner: State/Private
PIN: 0113-08-0007
Control Type: Quality/Quantity
Drainage Area: 520 acres
Receiving Waters: Sugarland Run

Description: A straightened stream channel increases the velocity of stormwater flows. Install step pools to account for increased slope of straightened stream, improve habitat with native riparian vegetation and add in-stream structures such as cross vanes.



Project Area Map

Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, and improve water quality. Riparian buffer restoration will provide for additional evapotranspiration and wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. Projects in RPAs may require exceptions. The project is located within a Dominion electric easement and adjacent to a storm drainage easement, which may need to be enlarged. Accessibility is excellent from Fairfax County Parkway and Walnut Branch Road. No tree impacts are expected. There are no significant construction issues anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	556	\$40.00	\$22,240.00
Plantings	AC	2.76	\$25,000.00	\$69,000.00
Construct New Channel	LF	890	\$200.00	\$178,000.00
Additional Cost (first 500LF)	LF	500	\$200.00	\$100,000.00
			Initial Project Costs	\$369,240.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$18,462.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$36,924.00
			Base Construction Costs	\$424,626.00
			<i>Mobilization (5%)</i>	\$21,231.30
			Subtotal 1	\$445,857.30
			<i>Contingency (25%)</i>	\$111,464.33
			Subtotal 2	\$557,321.63
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$250,794.73
			Total Costs	\$808,116.36
			Estimated Project Costs	\$810,000.00

SU9208 Stream Restoration



Address: 12300 Glade Drive
Location: Near Sanibel Drive & Tigers Eye Court culs-de-sac
Land Owner: Private
PIN: 0173-04070010, 0173-04070097, 0173-04080030, 0173-04080099, 0173-04130006A, 0173-04130007A, 0173-04130008, 0173-04130009, 0173-04130044A, 0261-10-0011, 0261-10120099
Control Type Quality
Drainage Area 80 acres
Receiving Waters Sugarland Run

Description: The stream channel is a steep concrete channel with no energy dissipation. Restore naturalized stream channel with step pool features, restore/repair two foot bridges, install energy dissipation to incoming storm drain and install educational signage.



Project Area Map

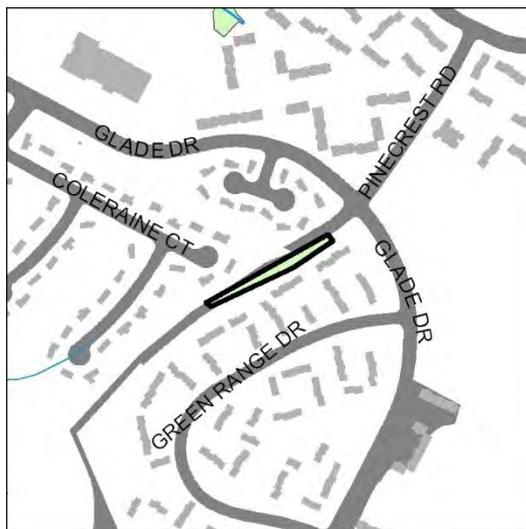
Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, improve water quality, reduce stormwater peak flows, promote infiltration, and provide for evapotranspiration and wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. The project is located on private land and access agreements will be necessary. Accessibility may be difficult due to woodland cover and residential dwellings. Access can be taken from Glade Drive, Sanibel Drive, Nutmeg Lane, and the adjacent walking path. Tree impacts are expected. There are no significant construction issues anticipated. New stormwater pond project SU9150 is directly upstream of this project and should be constructed prior to, and may be coordinated with, stream restoration project SU9208.

Costs:

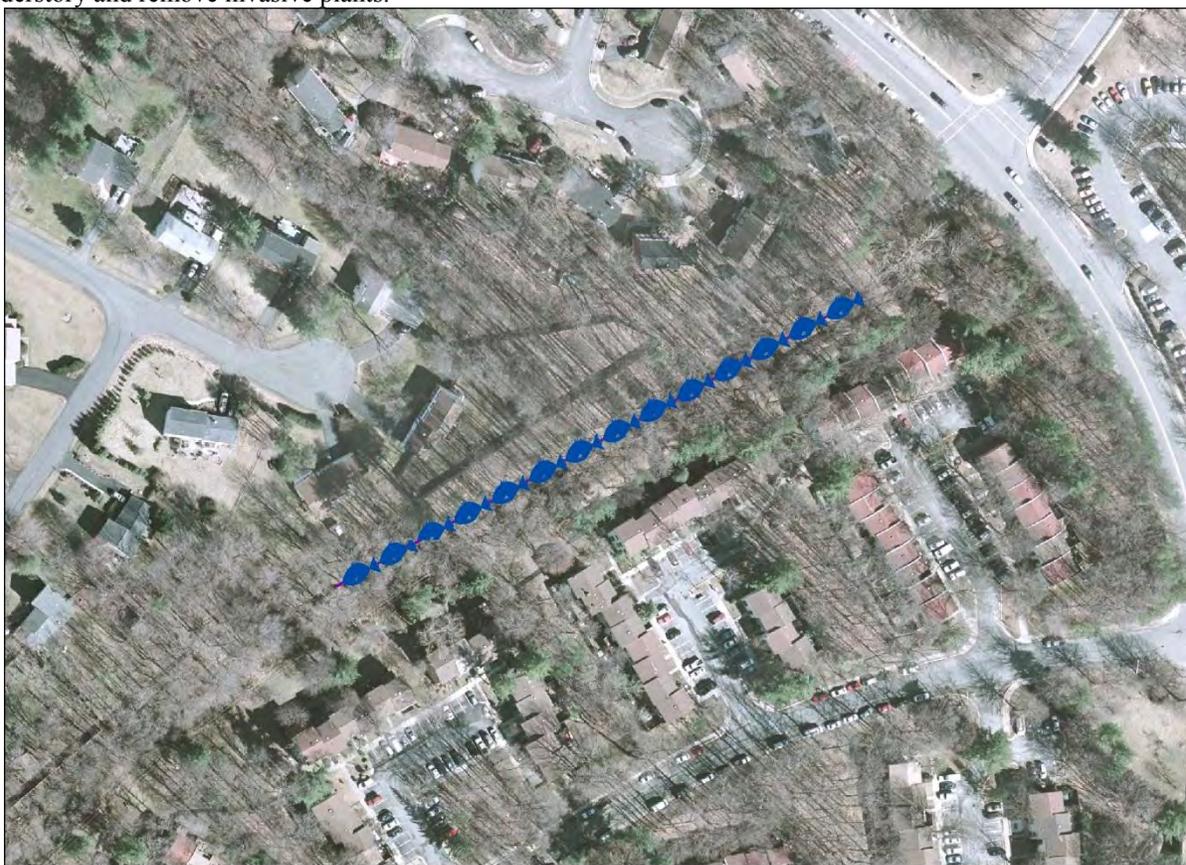
<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Plantings	AC	0.2	\$25,000.00	\$5,000.00
Clear and Grub	AC	0.41	\$8,500.00	\$3,485.00
Grading and Excavation	CY	1500	\$35.00	\$52,500.00
RipRap Stabilization	SY	111	\$100.00	\$11,100.00
Construct New Channel	LF	1800	\$200.00	\$360,000.00
Additional Cost (first 500LF)	LF	500	\$200.00	\$100,000.00
Initial Project Costs				\$532,085.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$26,604.25
<i>Erosion and Sediment Control: 10% of project costs</i>				\$53,208.50
Base Construction Costs				\$611,897.75
<i>Mobilization (5%)</i>				\$30,594.89
Subtotal 1				\$642,492.64
<i>Contingency (25%)</i>				\$160,623.16
Subtotal 2				\$803,115.80
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$361,402.11
Total Costs				\$1,164,517.91
Estimated Project Costs				\$1,170,000.00

SU9209 Stream Restoration



Address:	2287 Dosinia Court
Location:	Pinecrest Road & Glade Drive
Land Owner:	State/Private
PIN:	0261-114B-B
Control Type	Quality
Drainage Area	7 acres
Receiving Waters	Sugarland Run

Description: This stream is eroding below the outfall and also creating overland drainage channels due to lack of energy dissipating structures and vegetation. Repair head cuts, install check dams/energy dissipation, vegetate understory and remove invasive plants.



 Stream Restoration

Project Area Map

Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, and improve overall water quality.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. This project is located on private land and partially within a right-of-way, access agreements will be necessary. Accessibility may be difficult due to woodland cover and residential dwellings. Access can be taken from Glade Drive and Lofty Heights Place. Tree impacts are expected. There are no significant construction issues anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Plantings	AC	0.09	\$25,000.00	\$2,250.00
Clear and Grub	AC	0.09	\$8,500.00	\$765.00
Grading and Excavation	CY	28	\$35.00	\$980.00
RipRap Stabilization	SY	56	\$100.00	\$5,600.00
Construct New Channel	LF	300	\$200.00	\$60,000.00
Additional Cost (first 500LF)	LF	300	\$200.00	\$60,000.00
Initial Project Costs				\$129,595.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$6,479.75
<i>Erosion and Sediment Control: 10% of project costs</i>				\$12,959.50
Base Construction Costs				\$149,034.25
<i>Mobilization (5%)</i>				\$7,451.71
Subtotal 1				\$156,485.96
<i>Contingency (25%)</i>				\$39,121.49
Subtotal 2				\$195,607.45
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$88,023.35
Total Costs				\$283,630.81
Estimated Project Costs				\$290,000.00

SU9210 Stream Restoration



Address: 2410 Ivywood Road
Location: Fox Mill Road & Keele Drive
Land Owner: Private
PIN: 0252-04-0078, 0252-04-0079,
 0252-04-0080, 0252-04-0081,
 0252-04-0082, 0252-04-0083,
 0252-04-0084, 0252-04-0086,
 0252-04-0087, 0252-04-B
Control Type Quality
Drainage Area 45 acres
Receiving Waters Sugarland Run

Description: The streambanks in this stream are eroding and the concrete channel provides no energy dissipation. Break up concrete channel and add rock for energy dissipation, re-plant riparian understory and educate homeowners about proper yard waste disposal.



 Stream Restoration

Project Area Map

Project Benefits: This project will stabilize streambanks, reduce sediment and nutrient loadings, and improve water quality. Riparian buffer restoration will provide for additional evapotranspiration and wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. The project is located on private land, access agreements will be necessary. Accessibility may be difficult due to woodland cover and residential dwellings. Access can be taken from Fox Mill Road, Ivywood Road, and Rosedown Drive. Tree impacts are expected. There are no significant construction issues anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	50	\$40.00	\$2,000.00
Plantings	AC	0.25	\$25,000.00	\$6,250.00
Grading and Excavation	CY	730	\$35.00	\$25,550.00
RipRap Stabilization	SY	11	\$100.00	\$1,100.00
Clear and Grub (Stream)	AC	0.1	\$10,000.00	\$1,000.00
			Initial Project Costs	\$35,900.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$1,795.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$3,590.00
			Base Construction Costs	\$41,285.00
			<i>Mobilization (5%)</i>	\$2,064.25
			Subtotal 1	\$43,349.25
			<i>Contingency (25%)</i>	\$10,837.31
			Subtotal 2	\$54,186.56
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$24,383.95
			Total Costs	\$78,570.52
			Estimated Project Costs	\$80,000.00

SU9500 BMP/LID



Address: 700 Bennett Street
Location: Herndon High School
Land Owner: County
PIN: 0102-01-0006A
Control Type: Quality
Drainage Area: 2 acres
Receiving Waters: Sugarland Run

Description: Herndon High School does not have existing stormwater controls. Install green roof on portion of roof if possible, install rain gardens in interior courtyards and direct roof leaders to them, and implement education programs.



Project Area Map

Project Benefits: An estimated 10 tons/yr of total suspended solids, 40 lbs/yr of nitrogen, and 11 lbs/yr of phosphorus will be removed. The green roof will reduce stormwater peak flows, insulate the building, increase the life of the roof, and provide for evapotranspiration and wildlife habitat. The rain gardens will reduce stormwater peak flows for small storm events, reduce stormwater runoff volumes by promoting infiltration and evapotranspiration, and provide for wildlife habitat. This project will also provide additional educational opportunities for the community.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Accessibility is excellent from Bennett Street and adjacent parking lots. No significant tree impacts or construction issues are anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Bioretention Filters & Basin	SY	578	\$150.00	\$86,700.00
Organic Compost Soil Amendment	CY	48	\$40.00	\$1,920.00
Plantings	AC	0.12	\$25,000.00	\$3,000.00
Vegetated Roof (No Struct. Mod.)	SY	1300	\$225.00	\$292,500.00
			Initial Project Costs	\$384,120.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$19,206.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$38,412.00
			Base Construction Costs	\$441,738.00
			<i>Mobilization (5%)</i>	\$22,086.90
			Subtotal 1	\$463,824.90
			<i>Contingency (25%)</i>	\$115,956.23
			Subtotal 2	\$579,781.13
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$260,901.51
			Total Costs	\$840,682.63
			Estimated Project Costs	\$850,000.00

SU9502 BMP/LID



Address: 630 Dranesville Road
Location: Herndon Elementary School
Land Owner: County
PIN: 0104-02-0066A
Control Type: Quality/Quantity
Drainage Area: 2 acres
Receiving Waters: Sugarland Run

Description: Herndon Elementary School does not have existing stormwater controls. Install green roof and initiate educational program.



 Green Roof

Project Area Map

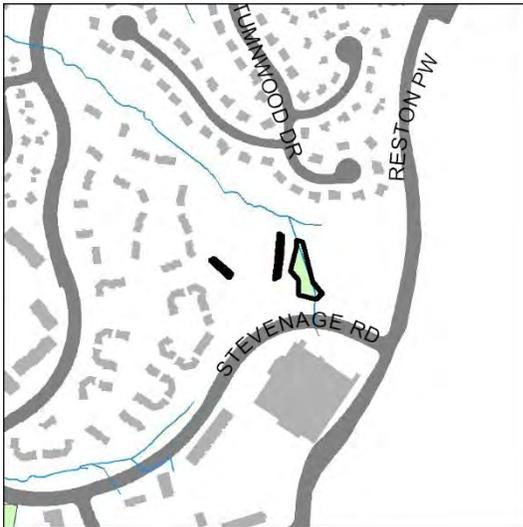
Project Benefits: This project will reduce stormwater peak flows, insulate the building, increase the life of the roof, and provide for evapotranspiration and wildlife habitat. This project will also provide additional educational opportunities for the community.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Accessibility is excellent from Dranesville Road and adjacent parking lots. No significant tree impacts or construction issues are anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Vegetated Roof (Struct Mod. Req)	SY	560	\$450.00	\$252,000.00
Initial Project Costs				\$252,000.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$12,600.00
<i>Ancillary Items: 5% of project cost</i>				\$12,600.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$25,200.00
Base Construction Costs				\$302,400.00
<i>Mobilization (5%)</i>				\$15,120.00
Subtotal 1				\$317,520.00
<i>Contingency (25%)</i>				\$79,380.00
Subtotal 2				\$396,900.00
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$178,605.00
Total Costs				\$575,505.00
Estimated Project Costs				\$580,000.00

SU9504 New Stormwater Pond, BMP/LID



Address: 1635 Reston Parkway
Location: Reston North Park
Land Owner: Park
PIN: 0171-09-0002
Control Type: Quality/Quantity
Drainage Area: 9 acres
Receiving Waters: Sugarland Run

Description: The Reston North Park does not have existing stormwater controls. Install new infiltration basin in upper baseball field, daylight storm sewers to basin, vegetate and naturalize existing swales, and install educational signage.



Project Area Map

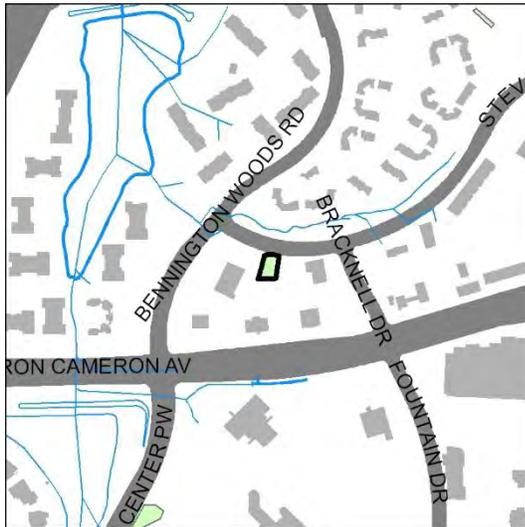
Project Benefits: An estimated nine lbs/yr of nitrogen will be removed. This project will also generally reduce sediment and nutrient loadings, improve water quality, reduce peak stormwater flows for storms up to a 10-year event, promote infiltration, and provide for evapotranspiration and wildlife habitat. This project will also provide educational opportunities for the community.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Additional permitting may be required for a project within a stream or wetland. Accessibility is excellent from Stevenage Road and nearby parking lots. No tree impacts are expected. The basin must be deep enough to intercept piped storm sewers.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	87	\$40.00	\$3,480.00
Plantings	AC	0.21	\$25,000.00	\$5,250.00
Grading and Excavation	CY	585	\$35.00	\$20,475.00
Structural BMP and Incidentals (Low)	LS	1	\$10,000.00	\$10,000.00
Outflow Pipe	LF	125	\$125.00	\$15,625.00
RipRap Stabilization	SY	8	\$100.00	\$800.00
Initial Project Costs				\$55,630.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$2,781.50
<i>Erosion and Sediment Control: 10% of project costs</i>				\$5,563.00
Base Construction Costs				\$63,974.50
<i>Mobilization (5%)</i>				\$3,198.73
Subtotal 1				\$67,173.23
<i>Contingency (25%)</i>				\$16,793.31
Subtotal 2				\$83,966.53
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$37,784.94
Total Costs				\$121,751.47
Estimated Project Costs				\$130,000.00

SU9509 BMP/LID



Address:	11958 Killingsworth Avenue
Location:	Trader Joe's
Land Owner:	County/Private
PIN:	0171-07-0004C5
Control Type	Quality
Drainage Area	4 acres
Receiving Waters	Sugarland Run

Description: Install a new rain garden in the central island of the Trader Joe's parking lot and investigate headcuts in the adjacent stream.



Project Area Map

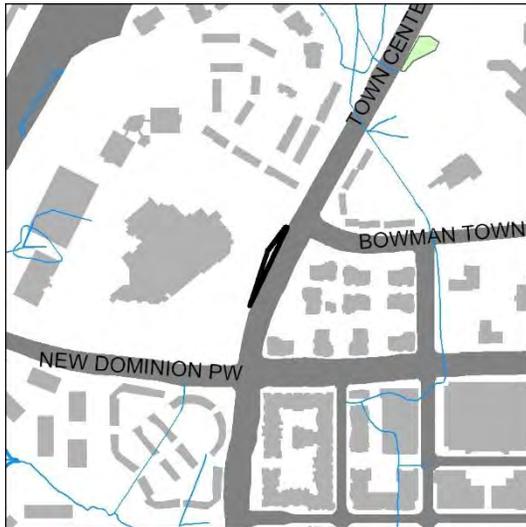
Project Benefits: this project will reduce stormwater peak flows for small storm events, reduce stormwater runoff volumes by promoting infiltration and evapotranspiration, and provide for wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. The project is located on private land, partially within a storm drainage easement, which may need to be enlarged. Accessibility is excellent from Stevenage Road and adjacent parking lots. Tree impacts are expected. The rain garden must be deep enough to intercept piped storm sewers.

Costs:

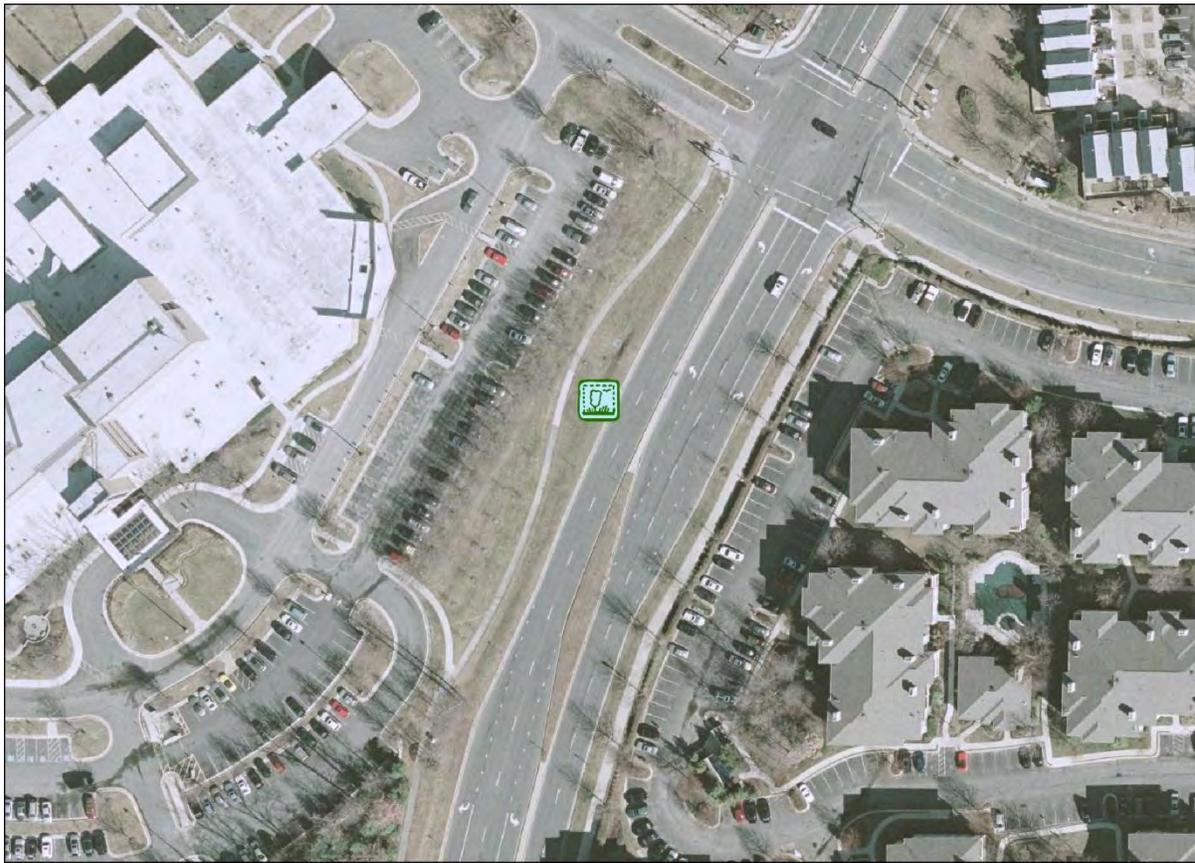
<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Bioretention Filters & Basin	SY	806	\$150.00	\$120,900.00
Organic Compost Soil Amendment	CY	67	\$40.00	\$2,680.00
Plantings	AC	0.17	\$25,000.00	\$4,250.00
Clear and Grub	AC	0.02	\$8,500.00	\$170.00
Construct New Channel	LF	50	\$200.00	\$10,000.00
Additional Cost (first 500LF)	LF	50	\$200.00	\$10,000.00
Initial Project Costs				\$148,000.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$7,400.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$14,800.00
Base Construction Costs				\$170,200.00
<i>Mobilization (5%)</i>				\$8,510.00
Subtotal 1				\$178,710.00
<i>Contingency (25%)</i>				\$44,677.50
Subtotal 2				\$223,387.50
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$100,524.38
Total Costs				\$323,911.88
Estimated Project Costs				\$330,000.00

SU9512 BMP/LID



Address: 1850 Town Center Drive
Location: Reston Hospital
Land Owner: Private
PIN: 0171-01-0015B
Control Type: Quality
Drainage Area: 4 acres
Receiving Waters: Sugarland Run

Description: The majority of Reston Hospital does not have existing stormwater controls. Install bioretention area along walking path with vegetated swales to direct parking lot drainage into bioretention. Install educational signage.



 Rain Garden

Project Area Map

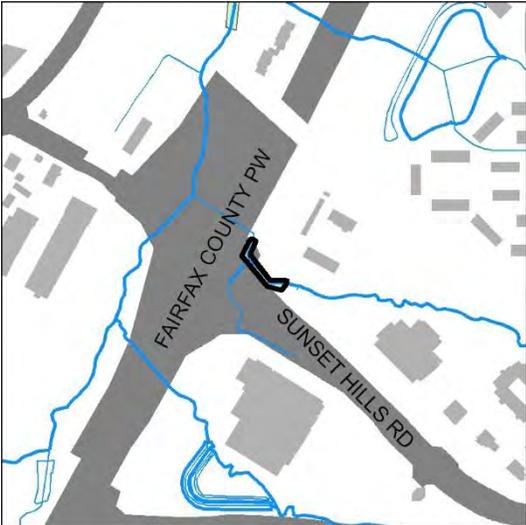
Project Benefits: An estimated 23 tons/yr of total suspended solids, 480 lbs/yr of nitrogen, and 106 lbs/yr of phosphorus will be removed. This project will also reduce stormwater peak flows for small storm events, generally reduce sediment and nutrient loadings, improve water quality, reduce stormwater runoff volumes by promoting infiltration and evapotranspiration, and provide for wildlife habitat. This project will also provide educational opportunities for the community.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. This project is located on private land, partially within a Dominion electric easement. A storm drainage easement will be necessary. Accessibility is excellent from Town Center Parkway and nearby parking lots. No significant tree impacts or construction issues are anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Vegetated Swale	SY	375	\$50.00	\$18,750.00
Bioretention Filters & Basin	SY	436	\$150.00	\$65,400.00
Organic Compost Soil Amendment	CY	68	\$40.00	\$2,720.00
Plantings	AC	0.17	\$25,000.00	\$4,250.00
Initial Project Costs				\$91,120.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$4,556.00
<i>Erosion and Sediment Control: 10% of project costs</i>				\$9,112.00
Base Construction Costs				\$104,788.00
<i>Mobilization (5%)</i>				\$5,239.40
Subtotal 1				\$110,027.40
<i>Contingency (25%)</i>				\$27,506.85
Subtotal 2				\$137,534.25
<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>				\$61,890.41
Total Costs				\$199,424.66
Estimated Project Costs				\$200,000.00

SU9514 New Stormwater Pond



Address: 12250 Sunset Hills Road
Location: Sunset Hills Road & Fairfax County Parkway
Land Owner: State/Private
PIN: 0173-01-0002A
Control Type: Quality
Drainage Area: 94 acres
Receiving Waters: Sugarland Run

Description: The existing concrete channel along Sunset Hills Road provides no stream habitat or stormwater treatment. Remove trapezoidal ditch and replace with natural stream channel with cross-vanes to dissipate energy. Construct new pocket wetland at upstream end of channel.



Project Area Map

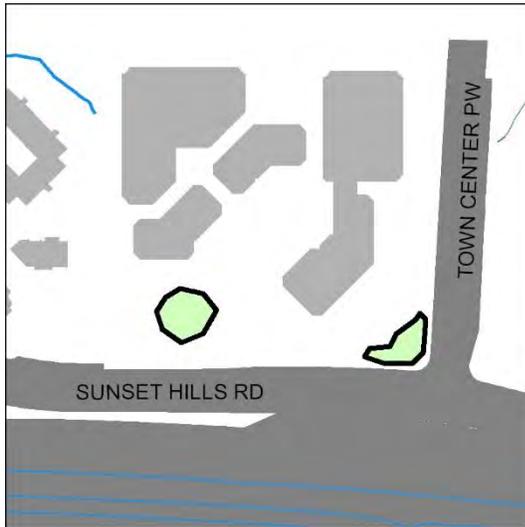
Project Benefits: An estimated seven tons/yr of total suspended solids, 111 lbs/yr of nitrogen, and 22 lbs/yr of phosphorus will be removed. This project will also reduce stormwater peak flows, reduce sediment and nutrient loadings, improve water quality, and provide for evaporation, evapotranspiration and wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. Part of this project is located within a right-of-way, Fairfax water easement, and Colonial gas easement. A storm drainage easement will be necessary. Accessibility is excellent from Sunset Hills Road, an access easement, and adjacent parking lots. No significant tree impacts or construction issues are anticipated.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	23	\$40.00	\$920.00
Plantings	AC	0.17	\$25,000.00	\$4,250.00
Clear and Grub	AC	0.14	\$8,500.00	\$1,190.00
Grading and Excavation	CY	111	\$35.00	\$3,885.00
Construct New Channel	LF	300	\$200.00	\$60,000.00
Additional Cost (first 500LF)	LF	300	\$200.00	\$60,000.00
			<i>Initial Project Costs</i>	\$130,245.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$6,512.25
<i>Erosion and Sediment Control: 10% of project costs</i>				\$13,024.50
			<i>Base Construction Costs</i>	\$149,781.75
			<i>Mobilization (5%)</i>	\$7,489.09
			<i>Subtotal 1</i>	\$157,270.84
			<i>Contingency (25%)</i>	\$39,317.71
			<i>Subtotal 2</i>	\$196,588.55
			<i>Engineering Design, Surveys, Land Acquisition, Utility Relocation and Permits (45%)</i>	\$88,464.85
			<i>Total Costs</i>	\$285,053.39
			<i>Estimated Project Costs</i>	\$290,000.00

SU9515 BMP/LID



Address: 12100 Sunset Hills Road
Location: Sunset Hills Road & Town Center Parkway
Land Owner: Private
PIN: 0173-01-0028C, 0173-01-0028A
Control Type: Quality
Drainage Area: 8.3
Receiving Waters: Sugarland Run

Description: Install two rain gardens near the intersection of Sunset Hills Road and Town Center PW to capture storm sewer pipe outfalls.



Project Area Map

Project Benefits: An estimated one ton/yr of total suspended solids, 23 lbs/yr of nitrogen, and four lbs/yr of phosphorus will be removed. This project will reduce stormwater peak flows for small storm events, reduce stormwater runoff volumes by promoting infiltration and evapotranspiration, and provide for wildlife habitat.

Project Design Considerations: Minimal environmental permitting requirements are anticipated. This project is located on private land, storm drainage easements will be necessary. Accessibility is excellent from Sunset Hills Road, Town Center Parkway, and adjacent parking lots. Tree impacts are not expected.

Costs:

<i>Item</i>	<i>Units</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total</i>
Organic Compost Soil Amendment	CY	47	\$40.00	\$1,880.00
Plantings	AC	0.04	\$25,000.00	\$1,000.00
Bioretention Filters and Basin	SY	556	\$150.00	\$83,400.00
Vegetated Swale	SY	89	\$50.00	\$4,450.00
Initial Project Costs				\$90,730.00
<i>Plantings: 5% of project costs (unless incl. as line item)</i>				\$0.00
<i>Ancillary Items: 5% of project cost</i>				\$4,536.50
<i>Erosion and Sediment Control: 10% of project costs</i>				\$9,073.00
Base Construction Costs				\$104,339.50
<i>Mobilization (5%)</i>				\$5,216.98
Subtotal 1				\$109,556.48
<i>Contingency (25%)</i>				\$27,389.12
Subtotal 2				\$136,945.59
<i>Engineering Design, Surveys, Land Acquisition, Utility</i>				
<i>Relocation and Permits (45%)</i>				\$61,625.52
Total Costs				\$198,571.11
Estimated Project Costs				\$200,000.00