



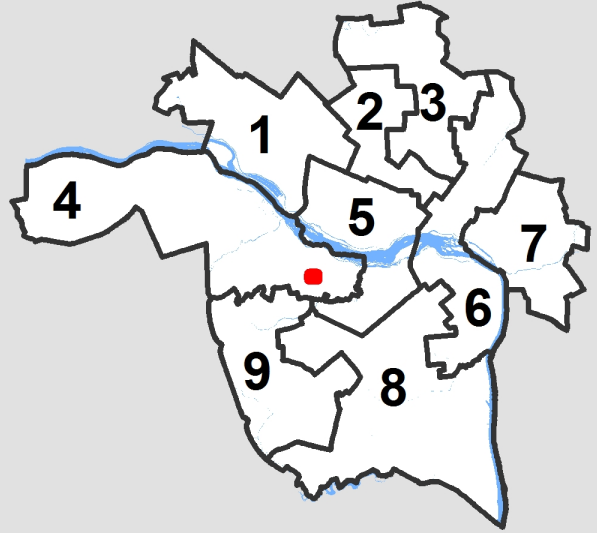
**City of Richmond
Department of Planning
& Development Review**

Location, Character, and Extent

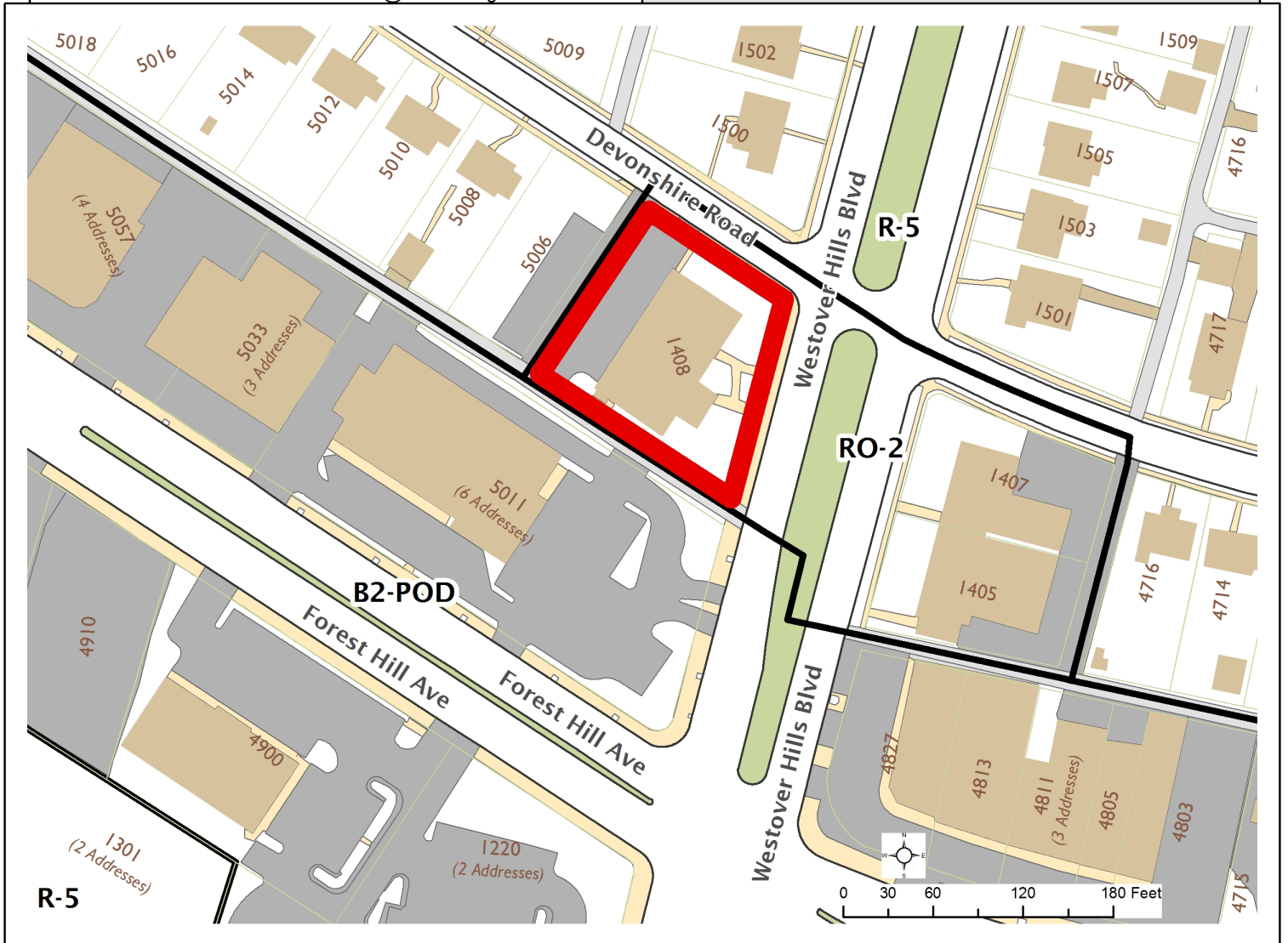
LOCATION: Westover Hills Branch Public Library
Sustainable Campus Initiative

COUNCIL DISTRICT: 4

PROPOSAL: The application for the conceptual review of a master plan for the renovation of the parking lot & exterior landscaping at the branch library, as well as final review of Phase 1 of the project.



For questions, please contact Kathleen Onufer
at 646-5207 or Kathleen.Onufer@richmondgov.com





Application for URBAN DESIGN COMMITTEE Review

Department of Planning and Development Review
Planning & Preservation Division
900 E. Broad Street, Room 510
Richmond, Virginia 23219
(804) 646-6335

<http://www.richmondgov.com/CommitteeUrbanDesign>

Application Type

Addition/Alteration to Existing Structure

New Construction

Streetscape

Site Amenity

Encroachment

Master Plan

Sign

Other

Review Type

Conceptual

Final

Project Name: Westover Hills Public Library Sustainable Campus Initiative

Project Address: 1408 Westover Hills Boulevard, Richmond, 23225

Brief Project Description (this is not a replacement for the required detailed narrative) : _____

Installation of bioretention basins, stepping stone replacement, vehicular protection strip, streetscape, replacement plantings, benches. Conceptual review of master plan to include renovated parking lot and associated plantings.

Applicant Information

(on all applications other than encroachments, a City agency representative must be the applicant)

Name: Nancy Buck Email: Nancy.Buck@richmondgov.com

City Agency: Branch Director, Richmond Public Libraries Phone: 646-8833

Address: 1408 Westover Hills Boulevard, Richmond, 23225

Main Contact (if different from Applicant): Drew Harrigan, LA

Company: Four Winds Design, LC Phone: 920-5878

Email: drew@fourwindsdesign.net

Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. **Late or incomplete submissions will be deferred to the next meeting.**

Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. **It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.**

UDC Background

The UDC is a ten member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06 and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.



telephone: 804-920-5878
2700 Jimmy Winters Road
Richmond, Virginia 23235
www.fourwindsdesign.net

June 16, 2016

WESTOVER HILLS BRANCH OF THE RICHMOND PUBLIC LIBRARY SUSTAINABLE CAMPUS INITIATIVE

Project Purpose

The goals of the project include developing a series of Best Management Practices designed to Virginia Department of Environmental Quality standards to infiltrate storm water discharge from impervious surfaces, increasing site safety, and developing an ecologically responsible landscape that can be used as an educational tool. The project strives to become a model of sustainable site development with the educational component accomplished through the use of interpretive signage, outdoor seating, special library programs, and community involvement and support. Native plants are proposed to replace the dying landscape of non-native varieties that is currently at about a 75% mortality rate. Other functional goals of the project include replacing existing broken stepping stones and addressing the constant damage from delivery trucks driving over the curb and into the site along the alley. The existing irrigation system will also be modified for optimum performance and minimum water output.

Applicants are seeking final approval for Phase One; which includes three bioretention basins, a living streetscape with infiltration value, stepping stone replacement, vehicular protection strip, benches, and plantings throughout.

Applicants are seeking conceptual approval for Phase Two; which includes interpretive signage, replacement of impervious paving with pervious pavers, reordering the current configuration of the parking lot, an urban bioretention basin, rainwater harvesting tank, additional outdoor seating, trash screening, and plantings throughout.

Project Background

The project was envisioned by the Westover Hills Library Advisory Group (WHLAG), a 501(c)(3) association that regularly develops and hosts events at the library for both fundraising and educational enrichment since 1999. The original scope of the project was to develop outdoor seating and replace some dying plantings but upon engagement of a landscape architect the project evolved into a full scale overhaul of the site with the aim of environmental sustainability, education, and enhanced circulation safety. The current layout of the parking lot does not meet city standards, is very unsafe, and does not optimize the number of stalls that could be provided.

The site is located on busy Westover Hills Boulevard, one property north of the intersection with Forest Hill Avenue. There is heavy vehicular and pedestrian traffic on these roads and in the adjacent alley; while the northern boundaries of the site are framed by a private residence and quiet one way Devonshire Road. The project will be part of a network of local storm water management projects that include significant BMP's at

several churches, streamside city property, an apartment complex, and sixty plus private residences. These projects were funded and implemented by joint efforts between The Reedy Creek Coalition and The Alliance for The Chesapeake Bay and enjoyed extensive local community support in terms of volunteer labor and media coverage. Monitoring by RCC in Reedy Creek has suggested that these projects have improved the quality and quantity of water in the creek but much more needs to be done. Predevelopment analysis of the site reveals that the property is 58% impervious; full implementation of the project would take the site to a mere 4% of impervious cover. The property is in a combined sewer district of the city so any storm water diverted from that system would have an immediate and quantifiable impact on storm water discharge into the James River. These are credits the city could apply to their efforts to come into federal compliance with the Chesapeake Bay Act.

Phase One Budget and Funding Sources

The first bioretention basin was completed in March 2015 to take advantage of a matched grant from the Alliance for The Chesapeake Bay that would expire if not used immediately. The first basin was permitted through The Department of Public utilities and there was some confusion between DPU staff and the current applicants about whether any additional city departments needed to be consulted about this project. It is regrettable that proper permitting was not obtained for this basin. Ultimately the grant would have been lost if not implemented immediately as well. This phase was constructed by Outdoor Escapes of Virginia with planting labor provided by the community.

Total Phase One design and construction costs have been formally estimated at \$100,120; currently \$46, 900.00 has been raised thus far. Current funding sources include The Alliance for the Chesapeake Bay (grant), private fundraising by WHLAG, Four Winds Design (services donations), community members (labor donations), and a private donor. The Executive Director of The Richmond Public Library Foundation applied for a grant from Dominion Power in early 2015 and continues to search for funding sources.

Phase One Construction and Maintenance Program

A second bioretention basin and three slabs of reclaimed granite to be used as benches are slated for installation in October of 2016 (currently funded) and will be constructed by Outdoor Escapes of Virginia. The remainder of Phase One will be executed as funds become available. This includes the living streetscape, stepping stone replacement, vehicular protection strip, benches, irrigation modifications and plantings throughout.

The maintenance of this property is administered and funded through Richmond Public Library. A private maintenance company is used for lawn care, mulching, leaf removal, and limited weed control. Primary weed control and maintenance of the irrigation system is administered and funded by WHLAG with additional support from community members and library staff volunteers. The impact of Phase One on the maintenance regime is minimal; two small lawn areas will become planting beds and the bulk of the site that is currently mulched planting bed will remain in this condition with a similar number of plants being installed to replace dead material.

Phase Two Budget and Potential Funding Sources

Total Phase Two design and construction costs have been informally estimated at \$650, 000; currently no money has been raised for this phase. This includes design and engineering, permitting, bid acquisition appropriate to funding sources, and construction. Potential funding sources include The Alliance for the Chesapeake Bay, The Virginia Department of Environmental Quality, The City of Richmond, private fundraising by WHLAG, design services donations, community members (labor donations), community

businesses (materials donations), and other grant sources pursued through The Richmond Public Library Foundation.

Phase Two Construction and Maintenance Program

Phase Two will be executed as funds become available. A formal proposal for engineering services that outlines the issues and opportunities this project will encompass has been obtained from Timmons Group. Site constraints include significant utilities located in the middle of the proposed parking lot reordering, city property ownership conflicts (the site is two parcels owned by different city entities), and the massive amount of storm water that travels the adjacent alleyway and its associated engineering challenges.

The maintenance of this property will continue to be administered and funded as noted above using a private maintenance company and community members and library staff volunteers. City employees are anticipated to be needed for maintenance of portions of Phase Two, however; any maintenance required for the pervious pavers and parking lot should undertaken by the city professionals who currently maintain other similar properties. It is understood that pervious paver maintenance is a current challenge for the city but the applicants are hopeful that in time that scope of work could be included in parking lot maintenance regimes. The urban bioretention basin may also require city maintenance as it will be connected to the combined storm sewer via an overflow and screening device.

In summary this project represents a grassroots initiative between WHLAG and local environmental nonprofits, businesses, and community members to improve the ecological function of Westover Hills. The site is special because it also offers extensive opportunities for environmental education as a high traffic site and as a library. Phase One of the project will remove 10,355 square feet of impervious surface runoff from the city combined sewer system and replace a fading landscape at no cost to the city. Phase two envisions a completed site treatment as a model for sustainable design.

Richmond Public Library Westover Hills Branch

1408 Westover Hills Boulevard
Richmond Virginia

Sustainable Campus Initiative

Master Plan for
Conceptual Review
6-16-16 No Scale

Micro Bioretention Basin

Basin treats 435 square feet of roof runoff. DCR Level One treatment.

Educational Signage

Interpretive signs describe the ecological function of bioretention, buffer plantings, heat island reduction, and use of native plants.

Gutter Replacement

Existing gutters, which do not adequately handle the volume of roof runoff, are replaced with oversized gutters.

Bioretention Basin, Phase One

Basin treats 2600 square feet of roof runoff. DCR Level One treatment.

Sunken Filter Strip

Downspouts outlet into a planted strip that filters runoff before it reaches the Bioretention Basin at the lower end of the system.

Decorative Weir

A water feature transition between the filter strip and the bioretention basin.

Urban Bioretention Basin

Basin treats roof and sidewalk runoff. DCR Level Two treatment.

Outdoor Classroom

This gathering space also functions as a location for the Book Festival Event tent.

Westover Hills Boulevard

Curbing for alley traffic

Living Streetscape

Shrubs and herbaceous perennials capture sidewalk runoff and infiltrate stormwater.

Micro Bioretention Basin, Phase One

Basin treats 921 square feet of roof runoff. DCR Level One treatment.

Public Alley

Pervious Pavement

Concrete is replaced with pavers or pervious concrete, infiltrating stormwater and marking the entrances to the site.

Rainwater Harvesting

A decorative collection tank captures roof runoff for use in irrigation.

Utility Area

Evergreen plantings conceal the utility area and proposed pad for trash and recycling containers.

Urban Bioretention Basin

Basin treats roof and sidewalk runoff. DCR Level Two treatment.

Parking Lot

The lot layout provides additional spaces and meets city parking and sidewalk dimensional standards. Safety is increased with walks and clear circulation routes. Pervious pavement is designed to capture all lot runoff. Reflected heat is reduced with shade trees and through the use of light toned pavers.

Green Corridor and Gathering Spaces

With the existing trees preserved a series of low berms are created with excavated soil from site work, thereby minimizing construction waste. These berms frame two spaces featuring reclaimed granite slabs used as benches. With the bulk of the lawn removed small native understory trees add interest and color. Nooks behind the berms provide places for composting landscape debris. Additional pole lights provide illumination under the tree canopy.

Neighboring Property

The renovation of the campus at Westover Hills Public Library incorporates several stormwater management practices to create a sustainable landscape. Rain gardens and a sunken filter strip capture runoff from the roof by infiltrating water with varying levels of engineering. The downspouts will be disconnected from the combined sewer system with roof runoff conveyed to basins by above ground troughs. Pervious pavement infiltrates water from impervious surfaces while a rainwater collection tank harvests roof runoff for irrigation. Collectively these practices would transform the site from a fifty-eight percent impervious site to a four percent impervious site.

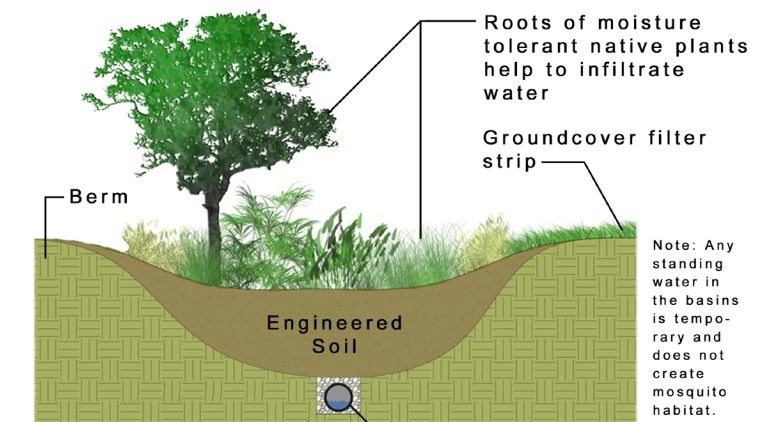
Native plants have also been used to create beautiful garden spaces and colorful buffer plantings. The existing oak trees will be protected during construction and contribute to the biodiversity and wildlife habitat of the site.

The parking lot has been re-designed to meet city standard dimensions with sidewalks and curbing added for pedestrian safety. Additional bike storage has also been added.

Excavated soil from basins is used to sculpt mounds that define gathering spaces for outdoor classrooms or tented events. Interpretive signs explain the function of the site as a living system. Additional site features such the decorative weir and steel bridge also underline the identity of this unique model site.

The infiltration of stormwater on site lessens the volume of water and pollutants that enter the James River. This project is part of a neighborhood initiative to protect the Reedy Creek Watershed and is funded by The Alliance for The Chesapeake Bay, Westover Hills Library Advisory Group, and private donors.

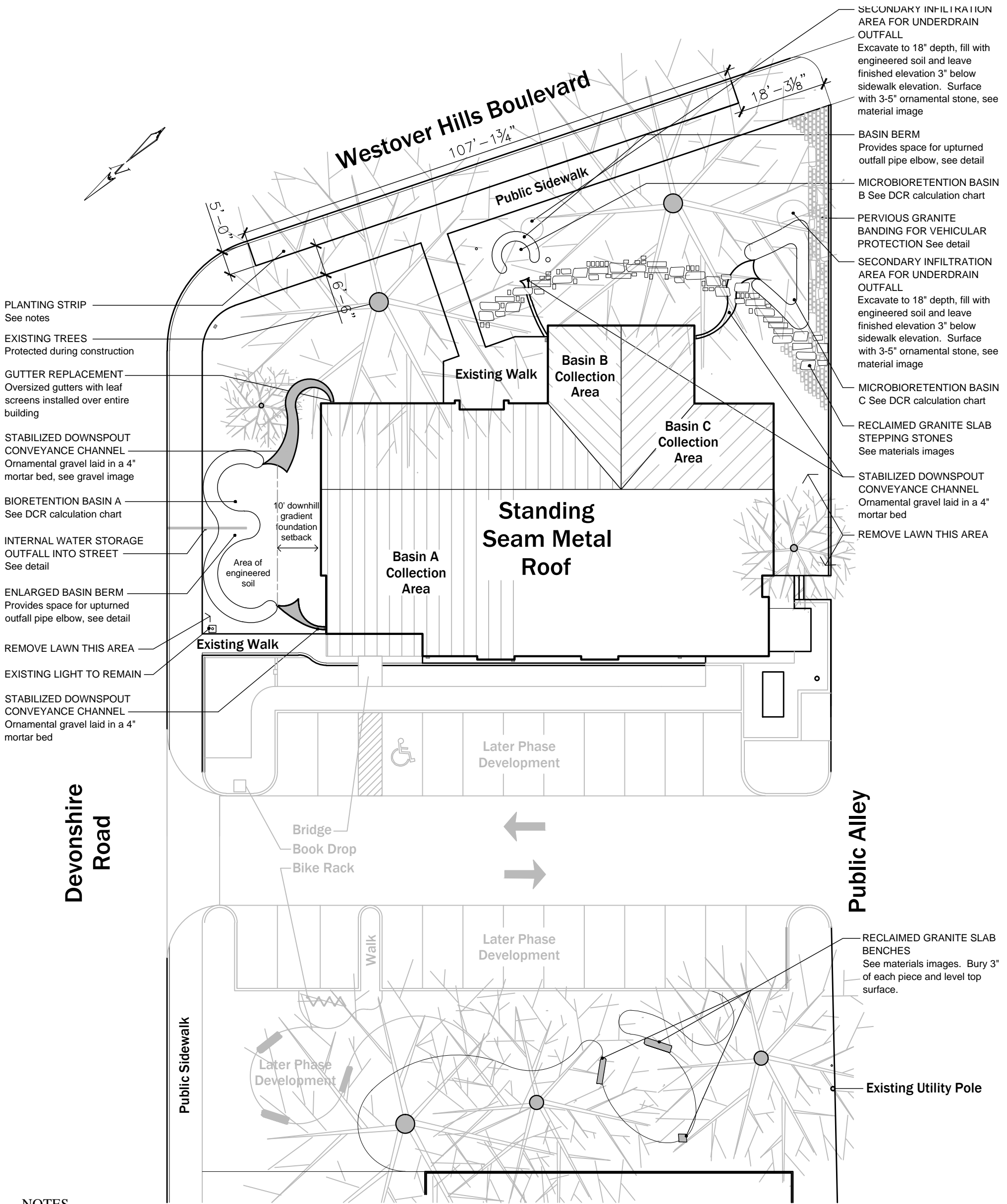
Rain Garden Cross Section



Prepared by:

FOUR WINDS
DESIGN, LC

www.fourwindsdesign.net



NOTES

- Contractor to make a site visit to determine demolition.
- The existence and location of all utilities is not shown on this plan. Contractor to contact Miss Utility.
- Contractor to confirm the integrity of all construction details shown and field verify all dimensions. Issues and concerns shall be discussed with Four Winds prior to bid or construction. Contractor to assume all responsibility for all construction methods employed.
- All ornamental stone shall be 3-5" Chalet stone as sold by Pete Rose.
- No material or equipment shall be stored in the public right-of-ways or in the drip line of the existing trees.
- Contractor to fence off open holes whenever the site is unattended and hang caution signs on each side of the fencing.

- The engineered soil shall consist of 50% sand, 25% topsoil, and 25% leaf or mushroom compost. Soil sample shall be submitted to FW prior to construction.
- The reclaimed granite slabs shown in the material images are on hold at Caravati's Architectural Salvage. Contractor to furnish and install.
- All basins and benches shall be field located by FW. Contractor to contact FW to arrange a pre-construction meeting at least one week in advance of the project start date.
- The planting strip within the public sidewalk shall have all concrete saw cut and removed. All gravel, soil, and debris shall be removed to a depth of 18" and replaced with engineered soil. Leave final grade at the elevation of the bottom of the concrete to remain, then mulch as noted on page two.

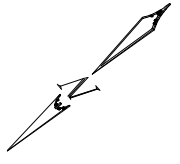
**PHASE ONE
LAYOUT PLAN
FOR CONSTRUCTION**

**FOUR WINDS
DESIGN, LC**
804-920-5878
www.fourwindsdesign.net

COMMONWEALTH OF VIRGINIA
ANDREW HARRIGAN
Lic. No. 0406001627
LANDSCAPE ARCHITECT

Richmond Public Library
1408 WESTOVER HILLS BOULEVARD
RICHMOND, VA

DATE: 6-16-16	SHEET: 1 OF 3
SCALE: 1" = 20'	



Westover Hills Boulevard

- 4 Tradescantia x 'Mrs. Loewer'
- 22 Dryopteris intermedia
- 2 Cornus sericea 'Arctic Fire'
- 7 Dryopteris intermedia
- 5 Tradescantia x 'Mrs. Loewer'
- 35 Dryopteris intermedia
- 28 Osmunda regalis
- 8 Ilex vomitoria 'Bordeaux'
- 4 Callicarpa americana
- 5 Amsonia sp 'Blue Ice'
- 5 Hydrangea quercifolia 'Alice'
- 4 Hydrangea quercifolia 'Alice'
- 2 Hydrangea arborescens
- 4 Ilex vomitoria 'Bordeaux'
- 33 Juncus effusus 'Goldstrike'
- 3 Clethra alnifolia 'Hummingbird'
- 2 Panicum virgatum 'Ruby Ribbons'
- 10 Amsonia sp 'Blue Ice'
- 3 Cornus sericea 'Arctic Fire'
- 40 Juncus effusus 'Goldstrike'
- 6 Panicum virgatum 'Ruby Ribbons'
- 1 Magnolia virginiana
- 4 Hydrangea arborescens
- 3 Ilex vomitoria 'Bordeaux'
- 8 Schizachyrium scoparium 'The Blues'

- 4 Iris sp 'Black Gamecock'
- 5 Tradescantia x 'Mrs. Loewer'
- 24 Itea virginica 'Little Henry'
- 8 Dryopteris intermedia
- 1 Amelanchier arborea
- 5 Ilex vomitoria 'Bordeaux'
- 5 Cornus sericea 'Silver & Gold'
- 41 Osmunda regalis
- 3 Cornus sericea 'Arctic Fire'
- 125 Sedum ternatum (between steeping stones)
- 16 Osmunda regalis
- 25 Iris sp 'Black Gamecock'
- 1 Magnolia virginiana
- 13 Ilex vomitoria 'Bordeaux'
- 35 Polystichum acrostichoides
- 4 Matteucia struthiopteris
- 4 Ilex vomitoria 'Bordeaux'
- 4 Cornus sericea 'Silver & Gold'
- 1 Viburnum dentatum
- 5 Vaccinium ashei 'Tifblue'
- 1 Viburnum dentatum
- 5 Vaccinium ashei 'Woodward'

Devonshire Road

Public Alley

Plant Schedule

Botanical Name	Common Name	Size	Quan
Amelanchier arborea	Serviceberry	2" Cal	1
Amsonia sp 'Blue Ice'	Blue Star	3 Qrt	15
Callicarpa americana	Beautyberry	3 Gal	4
Clethra alnifolia 'Hummingbird'	Dwarf Clethra	3 Gal	3
Cercis canadensis 'The Rising Sun'	Redbud	2" Cal	6
Cornus sericea 'Arctic Fire'	Dwarf Bloodtwig Dogwood	3 Gal	8
Cornus sericea 'Silver & Gold'	Variegated Bloodtwig Dogwood	5 Gal	9
Dryopteris intermedia	Dixie wood Fern	3 Qrt	70
Hydrangea arborescens 'Incrediball'	Wild Hydrangea	3 Gal	6
Hydrangea quercifolia 'Alice'	Oakleaf Hydrangea	5 Gal	18
Hydrangea quercifolia 'Ruby Slippers'	Oakleaf Hydrangea	5 Gal	1
Ilex vomitoria 'Bordeaux'	Dwarf Yaupon Holly	5 Gal	37
Iris louisiana 'Black Gamecock'	Louisiana Iris	3 Qrt	29
Itea virginica 'Little Henry'	Dwarf Sweetspire	3 Gal	24
Itea virginica 'Shirleys Compact'	Dwarf Sweetspire	3 Gal	26
Juncus effusus 'Spiralis'	Bog Rush	3 Qrt	70
Magnolia virginiana	Sweetbay Magnolia	6-8'	2
Matteucia struthiopteris	Ostrich Fern	3 Qrt	4
Osmunda regalis	Royal Fern	3 Qrt	85
Panicum virgatum 'Ruby Ribbons'	Switch Grass	3 Qrt	8
Polystichum acrostichoides	Christmas Fern	1 Gal	35
Schizachyrium scoparium 'The Blues'	Little Bluestem	3 Qrt	8
Sedum ternatum	Stonecrop	3.5" pots	125
Tradescantia sp 'Mrs. Loewer'	Spiderwort	1 Gal	14
Vaccinium sp 'Bluecrop'	Blueberry	3 Gal	5
Vaccinium sp 'Blueberry'	Blueberry	3 Gal	5
Viburnum dentatum 'Blue Muffin'	Arrowwood Viburnum	10 Gal	2

Standing Seam Metal Roof

Basin A Collection Area

Basin B Collection Area

Basin C Collection Area

Later Phase Development

Later Phase Development

Lawn

Mulch

PLANTING NOTES

THE IRRIGATION SYSTEM IS TO BE MODIFIED TO ACCOMMODATE THE PROPOSED PLANTINGS. CONTRACTOR TO SUBMIT AN IRRIGATION SCHEMATIC TO FOUR WINDS FOR APPROVAL.

ALL TREES AND SHRUBS SHALL CONFORM TO THE MOST RECENT EDITION OF THE AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. LOCALLY GROWN NURSERY STOCK SHALL BE USED FOR THE B&B VARIETIES.

THE QUALITY OF THE PLANT MATERIAL MUST BE OF A HIGH STANDARD. NO PLANTS ARE TO BE STORED ON SITE FOR LONGER THAN 48 HRS. AND ALL STORED PLANTS MUST BE KEPT IN FULL SHADE AND WATERED DAILY. CONTRACTOR SHALL PROVIDE A GUARANTEE AGAINST PLANT MORTALITY FOR A PERIOD OF ONE YEAR.

ALL PLANTING BEDS SHALL BE TREATED WITH THREE TO FOUR INCHES OF HARDWOOD DOUBLE SHREDDED MULCH.

COMPOST OR A BEDDING MIX SHALL BE TILLED INTO THE SOIL A DEPTH OF 6" IN ALL PLANTING AREAS EXCEPT UNDER EXISTING TREES. FINISHED GRADE OF ALL TOPSOIL SHALL BE 3" BELOW HARDSCAPE ELEVATIONS.

ALL DEBRIS SHALL BE REMOVED FROM THE SOIL IN ALL PLANTING AREAS.

UPON COMPLETION OF THE LANDSCAPING AND SITE WORK THE CONTRACTOR SHALL CONTACT FOUR WINDS TO SCHEDULE A WALK THROUGH WITH THE PROJECT LANDSCAPE ARCHITECT.

LAWN AREAS SHALL BE SEEDDED WITH TALL TYPE COATED FESCUE SEED AT A RATE OF 15 POUNDS PER ACRE IN DISTURBED AREAS ONLY. DO NOT APPLY STRAW. APPLY STARTER FERTILIZER.

**PHASE ONE
PLANTING PLAN
NOT FOR CONSTRUCTION**

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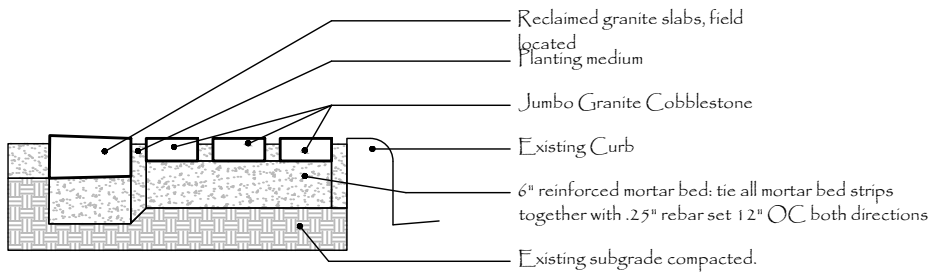
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Richmond Public Library
Inspire • Enrich • Empower
WESTOVER HILLS BRANCH
1408 WESTOVER HILLS BOULEVARD
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**DATE:
6-16-16**

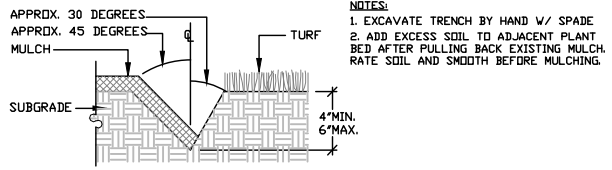
**SHEET:
2 OF 3**

**SCALE:
1" = 20'**



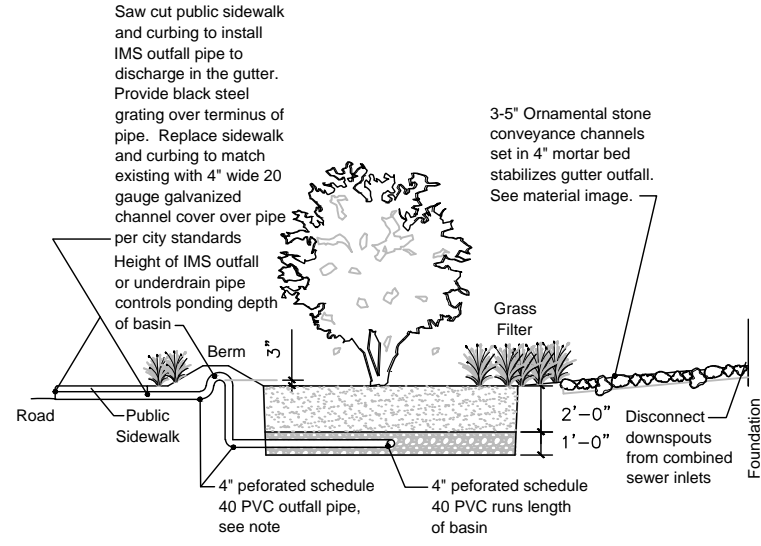
Vehicular Protection Strip
Scale: none

Upon sourcing of the reclaimed stones the breaks between the mortar will change at each section



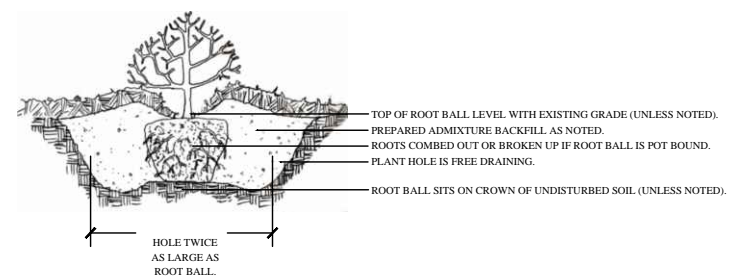
Planting Bed Edge
Scale: none

NOTES:
1. EXCAVATE TRENCH BY HAND W/ SPADE
2. ADD EXCESS SOIL TO ADJACENT PLANT BED AFTER PULLING BACK EXISTING MULCH. RATE SOIL AND SMOOTH BEFORE MULCHING.

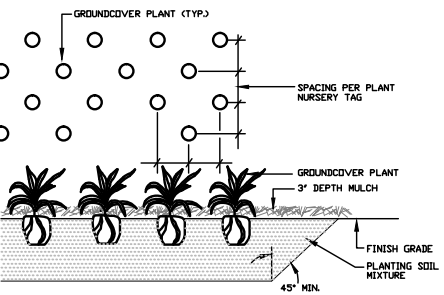


Bioretention Basins
Scale: none

Note: For basins B & C, the outfall pipe shall outlet in the gravel locations noted on the layout plan. Provide black pipe grate.

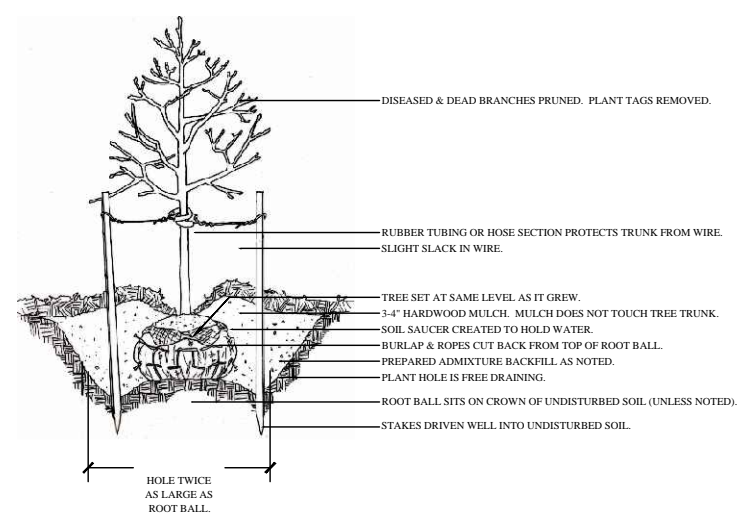


Shrub Planting
Scale: none



GENERAL NOTES:
1. THOROUGHLY TILL IN PLANTING SOIL MIXTURE AMENDMENTS TO DEPTH OF 8" IN ENTIRE GROUNDCOVER BED AREA.
2. WORK SOIL TO LOOSE, UNIFORM, FINE TEXTURE.
3. HAND-TAMP BACKFILL TO REMOVE VOIDS AND AIR POCKETS.
4. WATER IMMEDIATELY AFTER PLANTING UNTIL NO MORE WATER IS ABSORBED.

Perennial Planting
Scale: none



Tree Planting
Scale: none

DCR Bioretention Design Standards Compliance

	DCR Design Standard	Sizing	Ponding Depth	Media Depth	Gravel Sump Depth	Infiltration Rate	Underdrain	Geometry	Pre-treatment	Conveyance	Planting
Bioretention Basin A	Table 9.3, Level One	CDA= 3100 sq ft*, 2693 sq ft impervious 253.2 sq ft required, 270 sq ft provided*	3"	24"	12"	1.25"/hr	schedule 40 PVC	one cell design	Flow spreader & grass filter	on-line, stabilized outfall, see detail	>75% coverage in 2 yrs
MicroBioretention Basin B	Table 9.2, Level One	CDA = 403 sq ft. At 3%, 12 sq ft required 28 sq ft provided	3"	24"	n/a	5/8" hr	corrugated HDPE	n/a	leaf screens	n/a	herbaceous & shrubs
MicroBioretention Basin C	Table 9.2, Level One	CDA = 862 sq ft. At 3%, 25.8 sq ft required 76 sq ft provided	3"	24"	n/a	5/8" hr	corrugated HDPE	n/a	leaf screens	n/a	herbaceous & tree

*Calculated Storage Depth is 1.15 ft.
SA = (TV x 1.15 ft)
TV = (Rv x 3100 sq ft CDA) / 12 = 232.95
Runoff coefficients are .95 for impervious roof and .05 for planting bed

Stormwater Management Facility Structure Letter	Location	Acres Treated By Facility	Runoff captured, acre-feet	HUC (6th order) Of Location of Facility	Impaired Water Segment To Which Facility Discharges	Ownership Of Facility
	Latitude Longitude	Impervious Acres Pervious Acres Total Acres				
A	N 37d 31' 19.7126" W 77d 29' 18.1586"	0.061 0.009 0.07	0.006	20802	Reedy Creek	Public
B	N 37d 31' 18.9027" W 77d 29' 17.7675"	0.0092 0 0.009	0.001	20802	Reedy Creek	Public
C	N 37d 31' 18.3972" W 77d 29' 18.4"	0.019 0 0.019	0.001	20802	Reedy Creek	Public

THIS PLAN HAS BEEN REVIEWED AND APPROVED BY JONET PREVOST-WHITE, RICHMOND DPU & SCOTT FIRESTONE, DIRECTOR OF THE RPL.



Reclaimed granite cubes as bench option. Firm installation cost: \$1500.00.

Ornamental gravel for conveyance channels and stabilized outfall: 3-5" Chalet Stone

PHASE ONE DETAILS FOR CONSTRUCTION

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