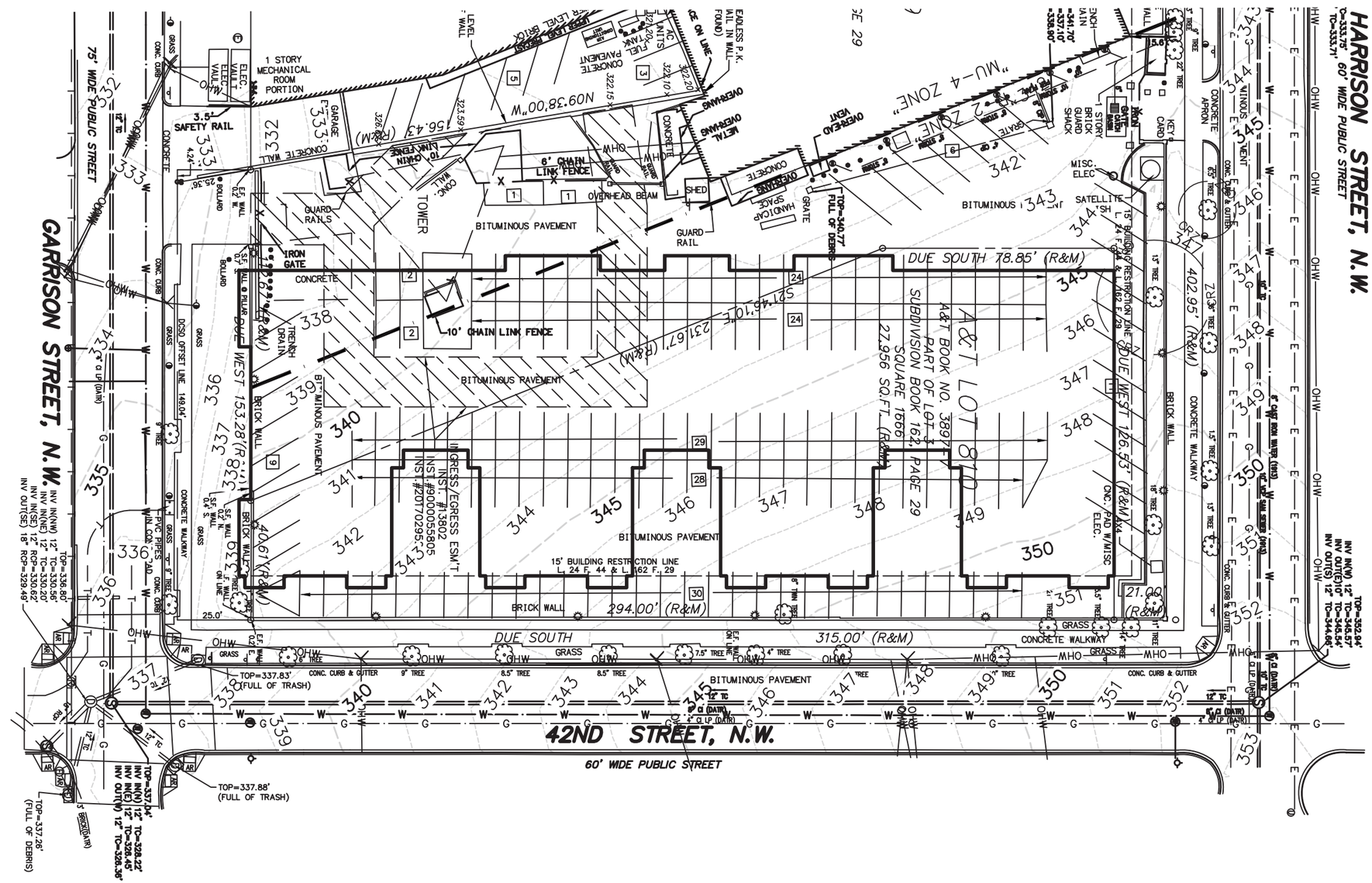
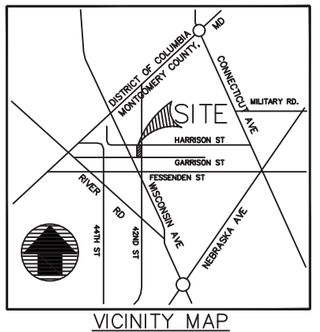
Civil Exhibits





VICINITY MAP
NOT TO SCALE

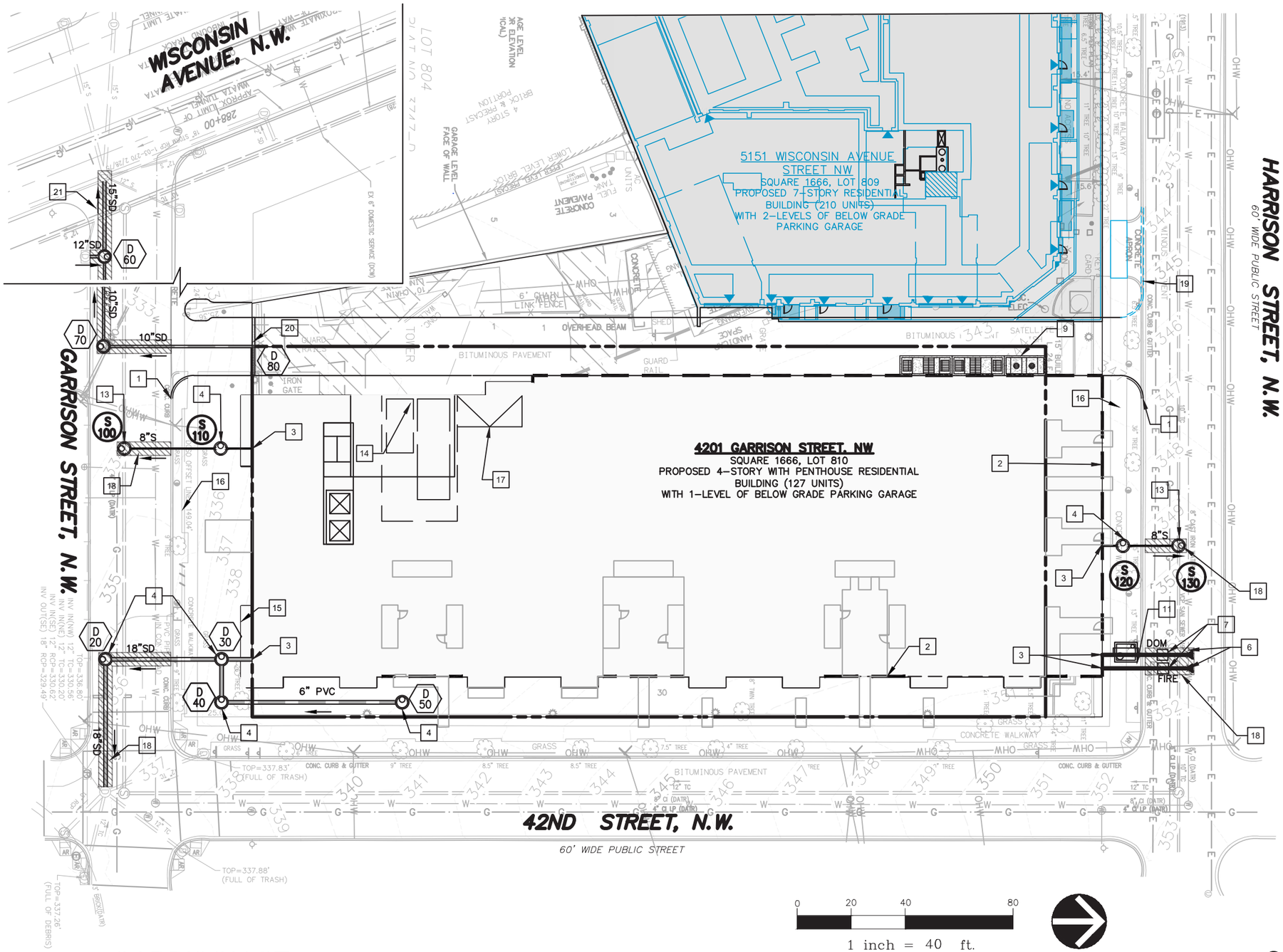
4201 GARRISON ST

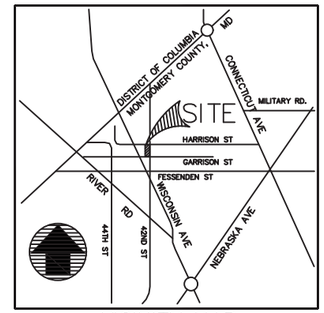
4201 Garrison Street, NW, Washington, DC 20016

EXISTING CONDITIONS PLAN | CIV0100

08/16/2024

VIKA CAPITOL





VICINITY MAP
NOT TO SCALE

SITE KEYNOTES

1. NEW CONCRETE CURB AND GUTTER. CONTRACTOR SHALL MEET THE EXISTING CURB AND GUTTER IN-LINE AND ON GRADE (609.01) (TYP)
2. LIMITS OF PROPOSED GARAGE. REFER TO ARCHITECTURAL PLANS FOR DETAILS AND SPECIFICATIONS (TYP.)
3. REFER TO MEP PLANS FOR COORDINATION (TYP.)
4. PROP. S-20.01 48" DIAMETER MANHOLE (TYP.)
6. PROP. 8"x6" TEE, AND CONC. THRUST BLOCK (W-40.01) (TYP.)
7. PROP. 6" VALVE (W-20.01)
9. PROP. ELECTRIC VAULTS. REFER TO PLANS FOR FINAL DESIGNS AND SPECIFICATIONS (TYP.).
10. PROP. BUILDING OVERHANG (TYP.). REFER TO ARCHITECT'S PLANS FOR DETAILS AND SPECIFICATIONS.
11. PROP. DOMESTIC WATER METER VAULT (DG-23.01) W/ 4" METER
12. PROP. 6"x4" REDUCER
13. PROP. S-20.11 48" DIAMETER MANHOLE (TYP.)
14. PROP. LOADING ENTRANCE (TYP)
15. PROP. PROJECTION. REFER TO ARCHITECT'S PLANS FOR DETAILS AND SPECIFICATIONS (TYP.)
16. PROP. CONCRETE SIDEWALK (605.01) (TYP). CONTRACTOR SHALL REPLACE AS NECESSARY FOR THE SITE OR UTILITY IMPROVEMENTS
17. PROP. PARKING GARAGE ENTRANCE.
18. PROPOSED PAVEMENT PATCH (TYP)
19. PROPOSED IMPROVEMENTS UNDER A SEPARATE CONTRACT (TYP)
20. PROPOSED TRENCH DRAIN (TYP)
21. CONTRACTOR SHALL REMOVE THE EXISTING STORM PIPE AND RECONSTRUCT AS SHOWN PER DCW STANDARD CRITERIA (TYP)

LEGEND:

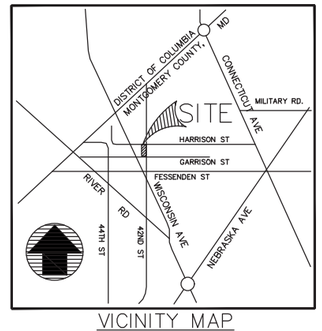
- D 20 — 18"SD — PROPOSED STORM DRAIN & MANHOLE
- S 100 — 8"S — PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED LARGE WATER SERVICE CONNECTION (DG-23.01)
- TP — TEST PIT
- PAVEMENT RESTORATION
- WORK PROPOSED UNDER SEPERATE CONTRACT

NOTE: STORMWATER MANAGEMENT (SWM) FACILITIES AND COMPUTATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. DURING THE PRODUCTION OF FINAL ENGINEERING CONSTRUCTION DOCUMENTS, THESE FACILITY TYPES AND COMPUTATIONS MAY BE ADJUSTED OR CHANGED BASED ON SITE CONDITIONS. FINAL SWM DESIGN SHALL MEET DOEE REQUIREMENTS

GARRISON STREET, N.W.

HARRISON STREET, N.W.
60' WIDE PUBLIC STREET

42ND STREET, N.W.
60' WIDE PUBLIC STREET



VICINITY MAP
NOT TO SCALE

STORMWATER MANAGEMENT NARRATIVE:

AS PART OF THE PROPOSED IMPROVEMENTS, STORMWATER MANAGEMENT CONTROLS TO MEET DOEE'S STANDARD WATER QUANTITY AND WATER QUALITY CONTROLS WILL BE PROVIDED BY WAY OF GREEN ROOF, TREE PLANTINGS, AND BIORETENTION FACILITIES. THESE FACILITIES WILL BE DESIGNED TO TREAT THE 1.20–INCH STORM EVENT AND THE RESULTING DISCHARGE WILL BE CONVEYED TO THE PUBLIC UTILITY MAIN IN GARRISON STREET NW.

SWRv

Total Area =	40358	40358		0		
Post-project Land Cover		SDA 1	SDA 2	PROW	CN	
Major Substantial Improvement =	0	0	0	0		
Natural Cover =	0	0	0	0	70	
Compacted Cover =	2,022	2,022	0	0	74	
Impervious Cover =	18,843	18,843	0	0	98	
BMP Cover =	19,493	19,493	0	0	98	
Total Disturbed Area =	40,358	40,358	0	0		
SWRv =	**3,692 CF**					
	27,620 Gallons					
On-site Retention Achieved =	**3,779 CF**	102.34				
	28,267 Gallons					
SRC Eligibility =	**647 Gallons**					
Storage Volume of BMP's =	**9716.6 CF**					

Weighted CN	**S**	**Target Rainfall Event** 2-yr storm	15-yr storm	100-yr storm
96.80	**0.33**	3.2	5.2	8.37
Runoff Volume (in) with no BMP's =		2.83	4.82	7.99
Runoff Volume w/ BMP's =		-0.05	1.93	5.10
Adjusted CN =		**40.0**	**67**	**73**

Site Outfall		
CSS or MS4	MS4	
Non-Tidal or Tidal	Non-Tidal	
2-Yr Detention	Required	PASS
On-site Retention	50% Required	PASS

0 20 40 80

1 inch = 40 ft.

STORMWATER MANAGEMENT LEGEND:

LIMITS OF DISTURBANCE

PROPOSED STORM DRAIN OUTFALL

PROPOSED 8" GREEN ROOF (11,219 SF)

PROPOSED 4" GREEN ROOF (6,950 SF)

PROPOSED BIORETENTION (1,324 SF)

4201 GARRISON ST 4201 Garrison Street, NW, Washington, DC 20016

STORMWATER MANAGEMENT PLAN | CIV0600

08/16/2024

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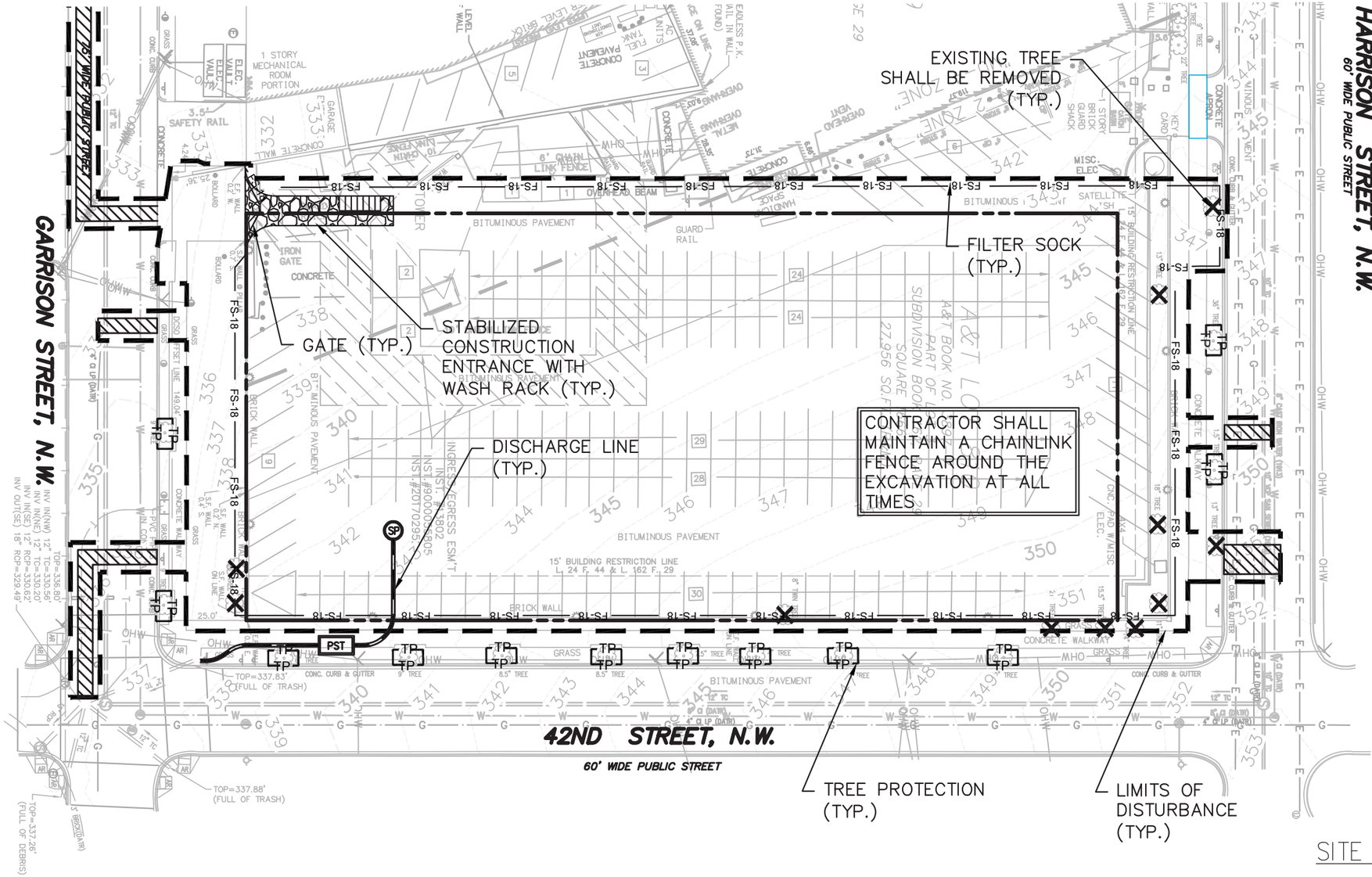

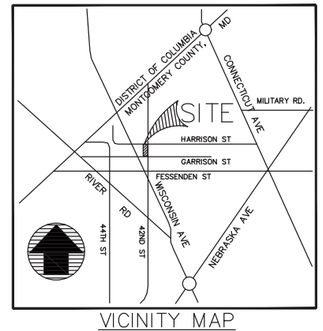

VICINITY MAP
NOT TO SCALE

LEGEND:

- LIMITS OF DISTURBANCE
- TP TP — TREE PROTECTION (CIV0850)
- FS-18 — FILTER SOCK
- EX TREE SHALL BE REMOVED
- LIMITS OF UTILITY TRENCHING
- STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK
- DISCHARGE LINE / PST / SP — SUMP PIT, PORTABLE SEDIMENT PUMP AND DISCHARGE PIPE

SITE AND EROSION CONTROL NARRATIVE

SEDIMENT AND EROSION CONTROLS TO MEET DOEE STANDARD CRITERIA SHALL BE PROVIDED FOR THE WORK ASSOCIATED WITH THE PROPOSED SITE CONSTRUCTION ACTIVITIES. STORMWATER MANAGEMENT CONTROLS WILL BE PROVIDED AS PART OF THE BUILDING PERMIT APPLICATION BY WAY OF GREEN ROOF, TREE PLANTINGS, AND BIORETENTION FACILITIES.

0 20 40 80

1 inch = 40 ft.

4201 GARRISON ST

4201 Garrison Street, NW, Washington, DC 20016

SEDIMENT AND EROSION CONTROL PLAN

CIV0700

08/16/2024

VIKA CAPITOL

COLUMBIA GREEN EXTENSIVE GROWING MEDIA- EAST COAST

COLUMBIA GREEN TECHNOLOGIES

PennState Extension

Agricultural Analytical Services Laboratory
The Pennsylvania State University
111 Ag Analytical Svcs Lab
University Park, PA 16802
(814) 863-0841 aaslab@psu.edu www.aasl.psu.edu

ANALYSIS FOR:	ADDITIONAL COPY TO:
Joe DiNorscia Skyland USA LLC PO BOX 159 Landenberg PA 19350	Peter Philippi Skyland USA LLC P.O. Box 159 Landenberg PA 19350

LAB ID	SAMPLE ID	SAMPLE TYPE	DATE SAMPLED	DATE RECEIVED	DATE COMPLETED
SM07980	Rooflite® Extensive ETB 123	Multi-course extensive	7/31/2019	8/1/2019	8/19/2019

Green Roof Media Analysis

Results on dry weight basis unless specified otherwise

Analysis	Units	Result	FLL Guidelines for Multi Course Extensive Sites[1]
Particle Size Distribution (See accompanying report)[2]			
≤ 0.05 mm *(Fll reference value based on < 0.06 mm)*	mass %	10.7	≤ 15
Density Measurements[3]			
Bulk Density (dry weight basis)	g/cm³	0.80	—
Bulk Density (dry weight basis)	lb/ft³	50.12	—
Bulk Density (at max. water-holding capacity)	g/cm³	1.32	—
Bulk Density (at max. water-holding capacity)	lb/ft³	82.17	—
Water/Air Measurements[3]			
Moisture	mass %	23.2	—
Total Pore Volume	Vol. %	63.7	—
Maximum water-holding Capacity	Vol. %	53.3	35 - 65
Air-Filled Porosity (at max water-holding capacity)	Vol. %	10.4	≥ 10
Water permeability (saturated hydraulic conductivity)	cm/s	0.013	0.001 - 0.12
Water permeability (saturated hydraulic conductivity)	in/min	0.32	0.024 - 2.83
pH and Salt Content[4]			
pH ($CaCl_2$)		7.7	6.0 - 8.5
Soluble salts (water, 1:10, m:v)	mmhos/cm	0.18	—
Soluble salts (water, 1:10, m:v)	g (KCl)/L	0.99	≤ 3.5
Organic Measurements[5]			
Organic matter content	mass %	6.7	—
Organic matter content	g/L	54.1	≤ 65
Nutrients[4]			
Phosphorus, P_2O_5 (CAL)	mg/L	215.3	≤ 200
Potassium, K_2O (CAL)	mg/L	200.6	≤ 700
Magnesium, Mg ($CaCl_2$)	mg/L	137.9	≤ 200
Nitrate + Ammonium ($CaCl_2$)	mg/L	12.6	≤ 80

GR01A Multi Course Extensive

[1]*Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau (FLL). 2008. Guidelines for the Planning Execution and Upkeep of Green-Roof Sites*
[2]*Particle size determined by ASTM D422-63*
[3]*Media density, total pore volume, water-holding capacity, air-filled porosity, & water permeability determined by ASTM E2399*
[4]*Media pH, salt content, & extractable nutrients determined by methods of the Assoc. of German Ag. Analytic & Res. Inst. (VDLUFA) Methods Book vol I, Soil Analysis*
[5]*Organic matter content determined by loss on ignition (500 C), as described by SM 2540 G*

COLUMBIA GREEN INTENSIVE GROWING MEDIA- East Coast

COLUMBIA GREEN TECHNOLOGIES

PennState Extension

Agricultural Analytical Services Laboratory
The Pennsylvania State University
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ANALYSIS FOR:	ADDITIONAL COPY TO:
Joe DiNorscia Skyland USA LLC PO BOX 159 Landenberg PA 19350	Peter Philippi Skyland USA LLC P.O. Box 159 Landenberg PA 19350

LAB ID	SAMPLE ID	SAMPLE TYPE	DATE SAMPLED	DATE RECEIVED	DATE COMPLETED
SM07883	Rooflite® Intensive ETB 125	Intensive	5/9/2019	5/10/2019	5/17/2019

Green Roof Media Analysis

Results on dry weight basis unless specified otherwise

Analysis	Units	Result	FLL Guidelines for Intensive Sites[1]
Particle Size Distribution (See accompanying report)[2]			
≤ 0.05 mm *(Fll reference value based on < 0.06 mm)*	mass %	9.7	≤ 20
Density Measurements[3]			
Bulk Density (dry weight basis)	g/cm³	0.75	—
Bulk Density (dry weight basis)	lb/ft³	46.99	—
Bulk Density (at max. water-holding capacity)	g/cm³	1.29	—
Bulk Density (at max. water-holding capacity)	lb/ft³	80.30	—
Water/Air Measurements[3]			
Moisture	mass %	23.8	—
Total Pore Volume	Vol. %	65.5	—
Maximum water-holding Capacity	Vol. %	56.6	45 - 65
Air-Filled Porosity (at max water-holding capacity)	Vol. %	8.9	≥ 10
Water permeability (saturated hydraulic conductivity)	cm/s	0.0144	0.0005 - 0.05
Water permeability (saturated hydraulic conductivity)	in/min	0.3394	0.0118 - 1.18
pH and Salt Content[4]			
pH ($CaCl_2$)		7.5	6.0 - 8.5
Soluble salts (water, 1:10, m:v)	mmhos/cm	0.31	—
Soluble salts (water, 1:10, m:v)	g (KCl)/L	1.60	≤ 2.5
Organic Measurements[5]			
Organic matter content	mass %	9.0	—
Organic matter content	g/L	68.0	≤ 90
Nutrients[4]			
Phosphorus, P_2O_5 (CAL)	mg/L	217.1	≤ 200
Potassium, K_2O (CAL)	mg/L	718.3	≤ 700
Magnesium, Mg (CaCl2)	mg/L	193.6	≤ 200
Nitrate + Ammonium (CaCl2)	mg/L	15.1	≤ 80

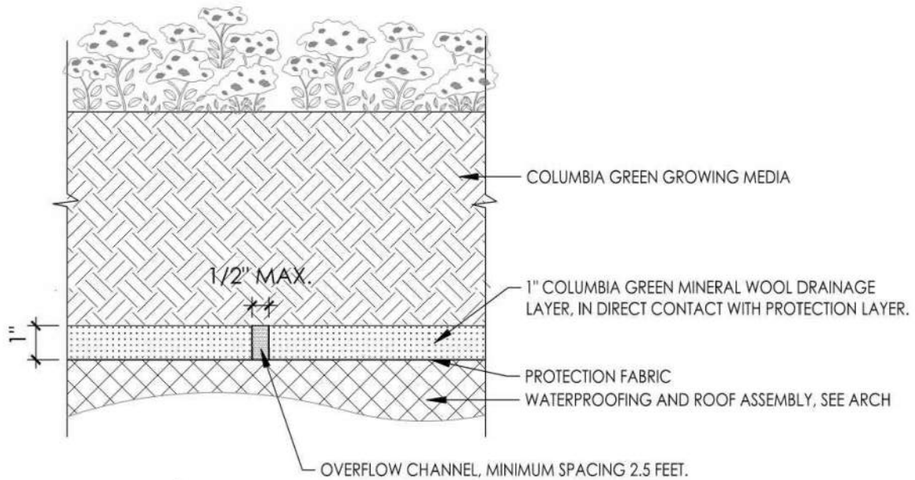
GR01A Intensive

[1]*Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau (FLL). 2008. Guidelines for the Planning Execution and Upkeep of Green-Roof Sites*
[2]*Particle size determined by ASTM D422-63*
[3]*Media density, total pore volume, water-holding capacity, air-filled porosity, & water permeability determined by ASTM E2399*
[4]*Media pH, salt content, & extractable nutrients determined by methods of the Assoc. of German Ag. Analytic & Res. Inst. (VDLUFA) Methods Book vol I, Soil Analysis*
[5]*Organic matter content determined by loss on ignition (500 C), as described by SM 2540 G*

1
CIV1110

GREEN ROOF MATERIAL ANALYSIS

NOT TO SCALE



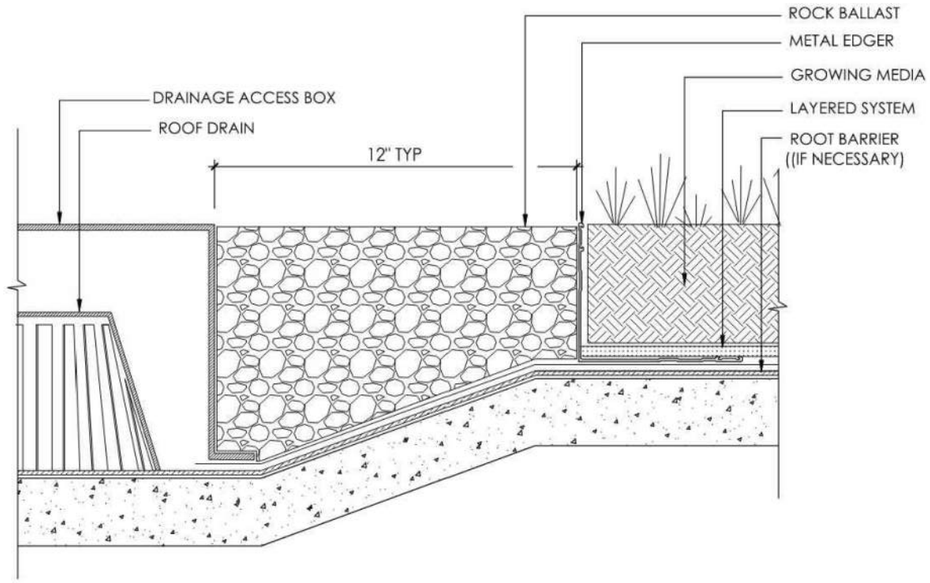
1. MAINTAIN ½" MAXIMUM CHANNEL WIDTH
2. CHANNELS TO BE DISTRIBUTED EVENLY THROUGHOUT THE GREEN ROOF.
3. MINIMUM CHANNEL SPACING 2.5 FEET
4. THE RUNOFF FLOW PATH TO THE CHANNEL MUST BE LESS THAN OR EQUAL TO THE CHANNEL LENGTH
5. CHANNEL TO MEET REQUIREMENTS OF DOEE STORMWATER MANAGEMENT GUIDEBOOK

COLUMBIA GREEN TECHNOLOGIES	LMGR7.02	GREEN ROOF AT OVERFLOW CHANNEL	
		LAYERED SYSTEM / DETAIL SCALE: 4"=1'-0"	

Corporate Office: 79 SE Taylor Street, Suite 201 Portland, OR 97214
Telephone: (503) 327-8723 · www.columbia-green.com

1 / CIV1115 — GREEN ROOF SPECIFICATIONS & DETAIL

NOT TO SCALE

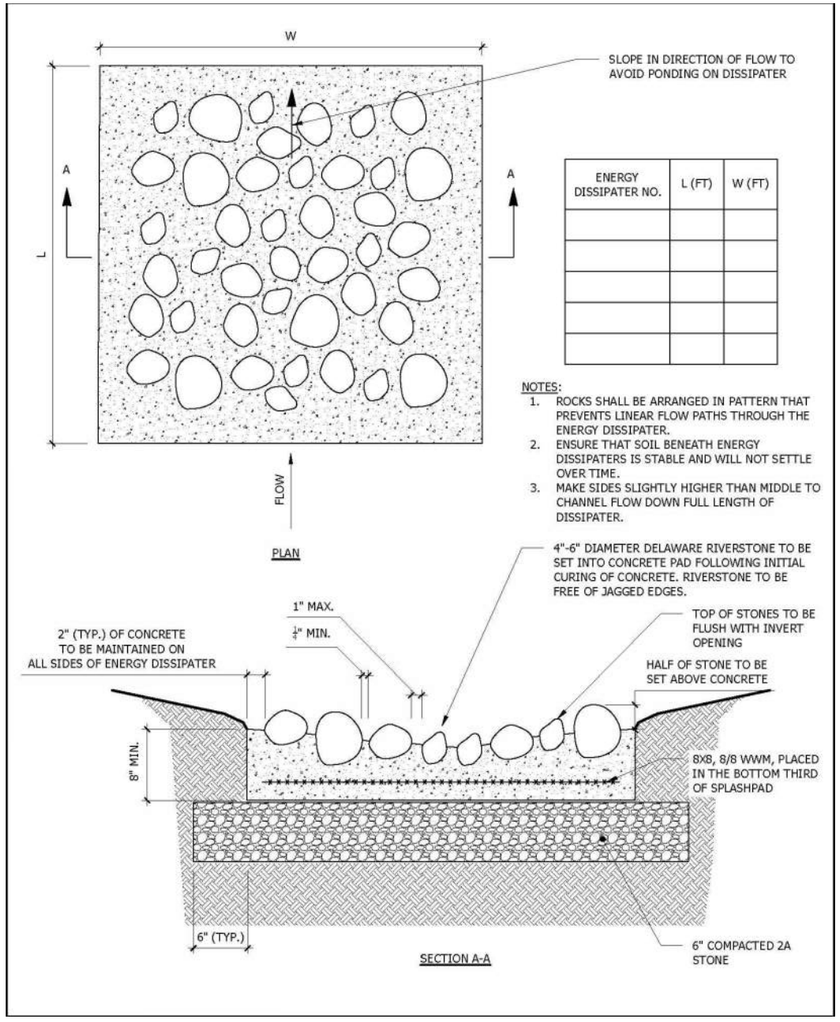


COLUMBIA GREEN TECHNOLOGIES	LGR3.04	VEGETATION FREE ZONE: ROOF DRAIN	
		LAYERED SYSTEM / DETAIL SCALE: 3"=1'-0"	

Corporate Office: 79 SE Taylor Street, Suite 201 Portland, OR 97214
Telephone: (503) 327-8723 · www.columbia-green.com

2 / CIV1115 — GREEN ROOF AT ROOF DRAIN DETAIL

NOT TO SCALE



1
CIV1120

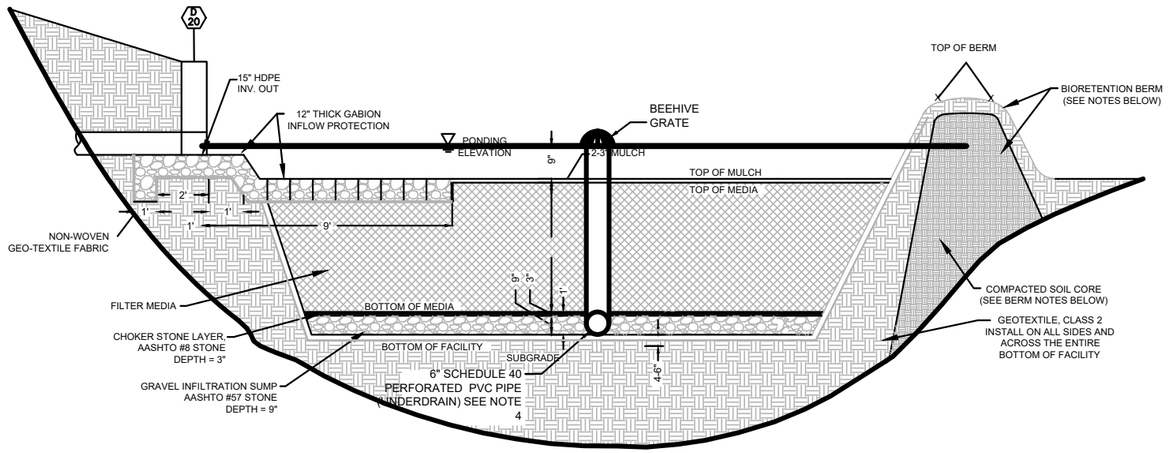
SPLASH ROCK DETAIL

NOT TO SCALE

GREEN ROOF MAINTENANCE

Table 3-3 Typical Maintenance Activities Associated with Green Roofs

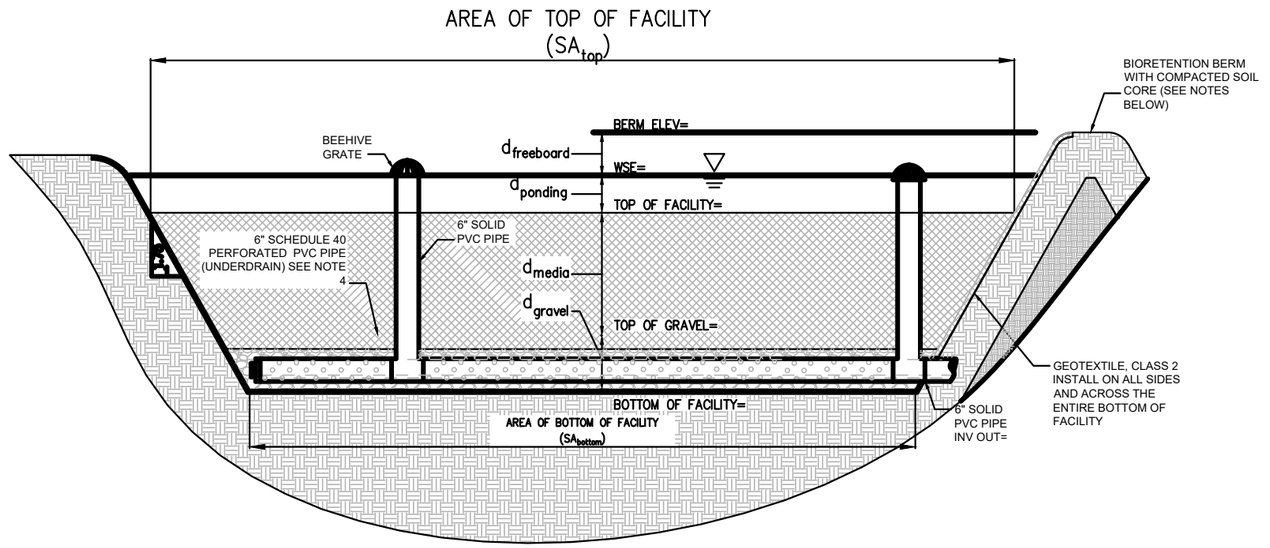
Schedule (following construction)	Activity
As needed or as required by manufacturer	▪ Water to promote plant growth and survival. ▪ Inspect the green roof and replace any dead or dying vegetation.
Semi-annually	▪ Inspect the waterproof membrane for leaks and cracks. ▪ Weed to remove invasive plants and tree seedlings (do not dig or use pointed tools where there is potential to harm the root barrier or waterproof membrane). ▪ Inspect roof drains, scuppers, and gutters to ensure they are not overgrown and have not accumulated organic matter deposits. Remove any accumulated organic matter or debris. ▪ Inspect the green roof for dead, dying, or invasive vegetation. Plant replacement vegetation as needed. ▪ For roofs with a rock or mineral wool drainage layer, inspect green roof areas for evidence of settlement or ponding in the vegetation layer (as they may compress over time). If settlement exceeds two inches in depth and covers 20% of the green roof surface area, replacement of the drainage layer is required.



BIORETENTION AREA SECTION CROSSING UNDER DRAIN

1 / C1125

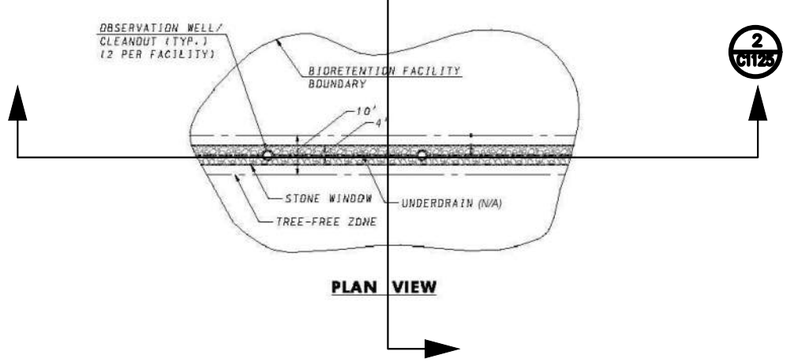
NOT TO SCALE
SEE CHART FOR ADDITIONAL DIMENSIONS



BIORETENTION AREA SECTION ALONG UNDER DRAIN

2 / C1125

NOT TO SCALE
SEE CHART FOR ADDITIONAL DIMENSIONS



NOTES:

1. SCARIFY SUBGRADE 3" MIN. BEFORE INSTALLATION
2. OBSERVATION WELL NOTES: INCLUDE AN OBSERVATION WELL CONSISTING OF A 6" DIAMETER NON-PERFORATED PVC PIPE FITTED WITH A PVC SEWER CAP (SET 6" ABOVE FINISHED GRADE).
3. BERM NOTES:
   A. STABILIZE BERM WITH EC-3 MATTING
   B. REMAINING DISTURBED SLOPES SHALL BE STABILIZED WITH EC-3 MATTING.
   C. ALL BERM/COMPACTED SOIL CORE FILL MATERIAL SHALL CONSIST OF ML, CL, SC, OR GC SOILS (USCS) OR AS APPROVED BY GEOTECHNICAL ENGINEER TO CREATE AN ACCEPTABLE EMBANKMENT AS APPLICABLE FOR THE CONDITIONS. COMPACTED FILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, OR ANY OTHER NON-COMPACTIBLE SOIL. COMPACTED FILL SHALL BE INSTALLED IN MAXIMUM 6-INCH LIFTS TO A DRY DENSITY OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY ASTM D698.
4. 6" PERFORATED SCHEDULE 40 PVC WITH 3/8" PERFORATIONS AT 6" ON CENTER