COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, N. BEAUREGARD STREET
FROM: FILLMORE AVENUE
TO: BERKELEY STREET

60% SUBMISSION
MARCH 10, 2022
## RIGHT OF WAY DATA SHEET

<table>
<thead>
<tr>
<th>DATE</th>
<th>OWNER</th>
<th>SPORTS</th>
<th>PRESCRIP</th>
<th>SIDE</th>
<th>LANDMARK</th>
<th>U/L</th>
<th>ADDRESS</th>
<th>TEMPORARY</th>
<th>PERMANENT</th>
<th>REMARKS</th>
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<tbody>
<tr>
<td>03/10/2022</td>
<td>Newport</td>
<td>Road</td>
<td>28,600 ft</td>
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<tr>
<td></td>
<td>Village</td>
<td>Caddy</td>
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TOTAL: 46,200 ft

CITY OF ALEXANDRIA, VIRGINIA

C002
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH
60% CONSTRUCTION DOCUMENTS
CITY OF ALEXANDRIA, VIRGINIA

CONSTRUCTION DOCUMENTS
STATE PROJECT N. - 0000-000-B-0164
FEDERAL JEQ N. - 1001 FEDERAL 87-MAG2-5205/705,
CONS N. - 0003
REV N. - 0001
DATE N. - 0000.00.00

DESCRIPTION
This project consists of approximately 2,000 linear feet of a new shared use path along the north side of North Beauregard Street between Pulaski Street and Cameron Street.

3. This project contains three retaining walls to accommodate the 3 percent grade of the shared use path.

PROJECT SHEET
3. This project is not located within a combined sewer area.

QUALITY ASSURANCE

CITY OF ALEXANDRIA

ENVIRONMENTAL ENGINEER
WETLAND STUDIES AND SOLUTIONS, INC.

CIVIL ENGINEER
CHRISTIAN CONSULTANTS, LTD.

GEOENGINEERING ENGINEER
DUNES GEOENGINEERING

COST ESTIMATOR
PROLOG CONSULTANTS
SITE ASSESSMENT:
1. Parks and trail areas, business, commercial, institutional, and residential developments are designated by the City of Alexandria. Site assessment is a necessary step in the development process. Sites are reviewed for their suitability, location, and compatibility with existing and planned uses. 
2. Utilities, infrastructure, and zoning regulations are also considered. The site must be conducive to the intended use and must be in compliance with local codes and regulations.

CONSTRUCTION NOTES:
1. The contractor shall be responsible for determining the exact location of all utilities and for ensuring that proper measures are taken to protect them during construction.
2. The contractor shall ensure that all construction activities are in compliance with applicable safety regulations.
3. The contractor shall be responsible for the installation of any additional utilities required by the project.
4. The contractor shall be responsible for the installation of any additional water and wastewater systems required by the project.
5. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable environmental regulations.
6. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable construction codes and regulations.

ARCHEOLOGY NOTES:
1. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable archeological regulations.
2. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable permitting requirements.
3. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable construction codes and regulations.

ARCHITECTURAL NOTES:
1. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable architectural regulations.
2. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable permitting requirements.
3. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable construction codes and regulations.

MISS UTILITY NOTES:
1. The contractor shall be responsible for determining the exact location of all utilities and for ensuring that proper measures are taken to protect them during construction.
2. The contractor shall ensure that all construction activities are in compliance with applicable safety regulations.
3. The contractor shall be responsible for the installation of any additional utilities required by the project.
4. The contractor shall be responsible for the installation of any additional water and wastewater systems required by the project.
5. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable environmental regulations.
6. The contractor shall be responsible for ensuring that all construction activities are in compliance with applicable construction codes and regulations.

TRAIL SPEED NOTE:
1. The minimum speed of the trail is 20 MPH.

UTILITY NOTES:
1. Shatter and stone areas are maintained by the City of Alexandria.
2. Custy and storage areas are maintained by the Alexandria Police Department.
3. Telephone and utility boxes are maintained by the Alexandria Police Department.
4. Meters and other utility equipment are maintained by the Alexandria Police Department.
5. The contractor assumes responsibility for the installation and maintenance of any additional utility equipment required by the project.

SANITARY AND STORM SEWERS ARE MAINTAINED BY THE CITY OF ALEXANDRIA.
A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY SERVICES.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

KNOWLEDGE OF EXISTING UTILITY LOCATIONS IS NEEDED TO COMPLETE AND DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH THE SITE PLANS, THE CONTRACTOR SHALL DOCUMENT SAME TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES REQUIRED UTILITY-RELATED WORK.

ECOLOGICAL CONSIDERATIONS MUST BE MAINTAINED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND THROUGH AN APPROPRIATE SEDIMENT TRAPPING DEVICE.

A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED MATERIALS/CLEAN FILL ARE TO BE TAKEN.

IN ADDITION TO LOCAL LAWS AND REGULATIONS, THE CONTRACTOR SHALL MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES TO BE ADHERED TO.

PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO BE FOLLOWED:
- RED ELECTRICAL POWER LINES, OR CONDUITS
- ORANGE GAS PIPES, COMMUNICATION CABLES INCLUDING WATER PIPES
- YELLOW ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL PRACTICE GUIDELINES BY THE CITY OF ALEXANDRIA.

VC-000053A

GENERAL NOTES

NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

MATERIALS USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY TESTED AND APPROVED AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).

FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50-30-40 OF THE VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL.

APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, THE CONTRACTOR SHALL DOCUMENT SAME TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS ELECTRIC TRANSFORMERS AND SWITCH GEARS/CONTROL BOXES SHALL BE SHOWN ON THE SITE PLANS.

PERSONNEL ENGAGED IN CONSTRUCTION ACTIVITIES SHALL BE SHOWN ON THE Site Plans. THE CONTRACTOR SHALL MEET OR EXCEED INDUSTRY STANDARDS.

EVERY PERSONNEL ENGAGED IN CONSTRUCTION ACTIVITIES SHALL BE SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
Lighting Section

LIGHTING | STREET POLE

Purpose
The street poles shall be used in accordance with the ship specifications described herein, where applicable.

General Information
Lightning Protection
Lightning protection shall consist of a network of earthed conductors, including any network of earthed conductors, which may be required as part of the lighting protection system. Earthing mats shall be provided in accordance with the specifications.

Lighting in Public Areas
Lighting in public areas shall be provided in accordance with the specifications. Special care shall be taken in the design of the lighting system to ensure that it is safe for public use.

Lighting in Industrial Areas
Lighting in industrial areas shall be provided in accordance with the specifications. Special care shall be taken in the design of the lighting system to ensure that it is safe for industrial use.

Lighting in Commercial Areas
Lighting in commercial areas shall be provided in accordance with the specifications. Special care shall be taken in the design of the lighting system to ensure that it is safe for commercial use.

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**SITE DETAILS**

**C201**

**TYPICAL 6" CLEAN OUT DETAIL (OR APPROVED EQUIVALENT)**

**RETAINING WALL NOTES:**
1. RETAINING WALL HEIGHTS RANGE FROM 0.5' TO 6.0'.
2. ALL RETAINING WALLS TO BE REINFORCED CONCRETE UNLESS STATED OTHERWISE.
3. PRIOR TO CONSTRUCTION, ALL RETAINING WALLS DESIGN AND SECTIONS TO BE REVIEWED BY A STRUCTURAL & GEOTECHNICAL ENGINEER (LICENSED IN THE COMMONWEALTH OF VIRGINIA).
4. SEE GRADING PLAN SHEETS C500 AND C501 FOR FINAL GRADE BEHIND RETAINING WALL. THERE IS A PROPOSED CLAY DITCH AT THE TOP OF THE RETAINING WALL THAT WILL CONVEY THE STORMWATER.

**CLASS AI RIPRAP DETAIL**

**RIPRAP NOTES:**
1. STONE CLASS AI WITH STONE DIAMETER 0.9'.
2. MINIMUM RIPRAP THICKNESS SHALL BE 2 TIMES THE MAXIMUM STONE DIAMETER.
3. RIPRAP SIZING PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK PLATE 3.18-3.
VICTOR STANLEY TRASH AND RECYCLING DETAILS

Eco-City Alexandria

CANS

Paper
Plastic
Recycling Only

VICTOR STANLEY, INC.

RECYCLING ONLY
RECYCLING ONLY

CITY OF ALEXANDRIA, VIRGINIA

SITE DETAILS

VICTOR STANLEY TRASH AND RECYCLING DETAILS
NOTE: PORTION OF EX. TELECOM TO BE RELOCATED 25' ACCESS AND CONSTRUCTION EASEMENT PROPERTY LINE FROM NEWPORT VILLAGE (DSUP#2020-10026)

EXISTING TREE TO BE REMOVED

LEGEND

EXISTING Tree REMOVED
EXISTING CONCRETE TO BE REMOVED
PROPOSED LIMITS OF DISTURBANCE
EXISTING STORM TO BE REMOVED

GRAPHIC SCALE

1" = 30'

NORTH BEAUREGARD STREET VARIES WIDTH RIGHT OF WAY

NAD 83/93

VIRGINIA STATE GRID NORTH

03/10/2022

CITY OF ALEXANDRIA, VIRGINIA

DEMOLITION PLAN

C303
RETAINING WALL HANDRAIL NOTE:
1. Handrails to be provided for retaining walls greater than 30" in height.
2. Refer to sheet C201 for handrail typical detail.
OVERLAND RELIEF

SUBDIVISION OF PARCEL 3849-01-01-03
DEED BOOK 700 PAGE 527

PARCEL 3849-01-01-03
TAX MAP/PID 011-09-01-01
MULTIPLE ADDRESS
INCLUDING 4839 WEST BRADDOCK ROAD
UER NEWPORT VILLAGE LLC

PROP. LED ACORN LIGHT (TYP)
GRADE TO MATCH THE TOP OF STRUCTURE
WAYFINDING SIGN. SEE DETAIL ON SHEET C503

PROP. BENCH
TIE TO EXISTING SIDEWALK

DITCH SECTION (SEE SHEETS C610-C611)

25' ACCESS AND CONSTRUCTION EASEMENT
OVERLAND RELIEF

INLET THROAT ELEVATION = 146.70'

20'X4' RIPRAP
SEE DETAIL ON SHEET C201

4' WIDE CLAY SWALE CENTERLINE (TYP.)

20'X4' RIPRAP
SEE DETAIL ON SHEET C201

PROP. 8" STRM

PROP. 18" STRM

4' WIDE CLAY SWALE CENTERLINE (TYP.)

1'20"
1'25'
1'30"
1'35"
1'40"
1'45"
1'50"
Note: Refer to sheets C500 and C501 for top of wall (TW) and bottom of wall (BW) elevations. This section identifies where the TW and BW are located in relation to the wall.
NOTES:
1) PERMEABLE PAVEMENT AND ASSOCIATED UNDERDRAINS TO BE INSTALLED PER CITY OF ALEXANDRIA FINAL GREEN STREETS AND SIDEWALKS DESIGN GUIDELINES.
2) REFER TO DETAIL 'PERMEABLE PAVEMENT DETAIL' AND DESIGN NOTES ON SHEET C200.
3) PROP. PERFORATED UNDERDRAINS ARE 6" MIN. PERFORATED PVC SCHEDULE 40 OR HDPE.
4) MAXIMUM SPACING BETWEEN CLEANOUTS SPACING ON A CONTINUOUS SECTION WILL BE 100'.
NOTES:

1) PERMEABLE PAVEMENT AND ASSOCIATED UNDERDRAINS TO BE INSTALLED PER 'CITY OF ALEXANDRIA FINAL GREEN STREETS AND SIDEWALKS STORMWATER DESIGN GUIDELINES'.

2) REFER TO DETAIL 'PERMEABLE PAVEMENT DETAIL' AND DESIGN NOTES ON SHEET C200.

3) PROP. UNDERDRAINS ARE 6" MIN. PERFORATED PVC SCHEDULE 40 OR HDPE.

4) MAXIMUM SPACING BETWEEN CLEANOUTS ON A CONTINUOUS SECTION WILL BE 100'.
CONTRACTOR TO ADJUST EX. SANITARY MH RIM IN THE FIELD
PROP. RETAINING WALL 'C' (L=45')
PROP. RETAINING WALL 'B' (L=385')
PROP. LED ACORN LIGHT (TYP)
PROP. LED ACORN LIGHT (TYP)
PROP. BENCH
GRADE TO MATCH THE TOP OF STRUCTURE

A
B

10+00 = BEGINNING OF WALL
10+05.83 = 90° HORIZONTAL BEND
13+84.24 = END OF WALL

A
B

10+07.88 = PR. 18" STRM. X-ING
10+87.51 = EX. COMM. X-ING
12+37.86 = EX. 10" SAN. X-ING

10+39.42 = HORIZONTAL BEND
12+78.14 = HORIZONTAL BEND
12+54.18 = 15" STM. XING
INV.=144.38

10+65 = END OF WALL

CITY OF ALEXANDRIA, VIRGINIA
RETAINING WALL PLAN AND PROFILE
C511
MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

SEE SHEET CO

TOP OF UTILITY=185.06
@ 3.08%
55.85' - 6" UNDER DRAIN PIPE

TOP OF UTILITY=180.33
@ 3.04%
1.20' (MIN.)

NOTE:
1. SEE SHEET CB FOR TYPICAL TRAIL SECTION.
2. SEE SHEET CS FOR TRAIL SPACINGS.
3. SEE SHEET CT FOR TRAIL CEMENT PLACEMENT.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH.
MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

GRADE TO MATCH THE TOP OF STRUCTURE BY OTHERS (DSUP#2020-10026)

GRADE TO MATCH THE

GRADE TO MATCH THE IN THE FIELD CONTRACTOR TO ADJUST

NOTE:
1. SEE SHEET C09 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C09 FOR TRAIL SURFACING.
3. SEE SHEETS C09-LUT-1 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

LINE # | LENGTH | BEARING
--- | --- | ---
C502 | 34.53 | N36° 00' 04.92"E
C503 | 20 | N36° 00' 04.92"E
C552 | SEE DWGS.
C553 | MATCH LINE "D" - SEE SHEET 20
C9 | L8 | 1836.14
C8 | L5 | 4.83

TRAIL PLAN AND PROFILE

CITY OF ALEXANDRIA, VIRGINIA
INLET THROAT ELEVATION = 146.70'

149
150
151
152
153

150

PROP. BENCH

13
13A
CO

L8
L7

70+00
71+00
71+62

PC=71+22.64
Mid=71+39.91
PT=71+57.17
EP=71+62

PROP. PERFORATED
6" UNDERDRAIN (TYP.)

SEE NOTES ON THIS SHEET

PROP. CLEANOUT (TYP.)

SEE NOTES ON THIS SHEET

PVI: 70+00.00 148.95'
IN: -0.46%
OUT: -0.61%

PVI: 71+00.00 148.34'
IN: -0.61%
OUT: -1.33%

71+28.61 = END OF TRAIL - EAST

PROP. GRADE
EX. GRADE
149.29
149.3
149.18
149.1
149.06
148.9
148.95
148.6
148.80
148.4
148.64
148.3
148.49
148.2
148.34
147.9
148.01
147.6
147.4

71+22.64 = PC
71+31.48

71+31.48 = PC

INV. OUT=141.06 (18")
INV. IN=141.06 (18"")

TOP=147.25
CSDI-1

EX.
ST13

100' - 8" UNDER DRAIN PIPE @ 0.52%
100' - 8" UNDER DRAIN PIPE @ 0.57%
54.47' - 8" UNDER DRAIN PIPE @ 0.86%

69+71.88=ELEC. DUCTBANK
TOP OF UTILITY=145.32

70+71.88=ELEC. DUCTBANK
TOP OF UTILITY=145.05

70+87.92=ELEC. DUCTBANK
TOP OF UTILITY=145.05

TEST PIT #17
TEST PIT #16

CURVE TABLE

CURVE #
C8
C9
RADIUS
1836.14
84.80
LENGTH
255.50
34.53
TANGENT
127.96'
17.51'
CHORD
255.29
34.30
CHORD BEARING
N41°28'59"E
N25°13'52"E

Line Table: Alignments

LINE #
L5
L6
L7
L8
LENGTH
4.97
13.88
353.29
4.83
BEARING
N48° 05' 38.91"E
N47° 26' 22.97"E
N36° 00' 04.92"E
N13° 33' 51.10"E

NOTE:
1. SEE SHEET C552 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C553 FOR TRAIL ALIGNMENTS.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGNED SPEED OF TRAIL IS 20 MPH

TRAIL - WEST (PLAN VIEW)

TRAIL - WEST (PROFILE VIEW)

MATCH LINE "C" - SEE SHEET

MATCH LINE "D" - SEE SHEET

NOTE:
1. SEE SHEET C552 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C553 FOR TRAIL ALIGNMENTS.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGNED SPEED OF TRAIL IS 20 MPH

TRAIL PLAN AND PROFILE

C553
### Drainage Area A Load Cover (acres)

<table>
<thead>
<tr>
<th></th>
<th>A Soils</th>
<th>B Soils</th>
<th>C Soils</th>
<th>D Soils</th>
<th>Total</th>
<th>Land Cover (%)</th>
</tr>
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<tbody>
<tr>
<td>Forest/Open Space (acres)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Managed Turf (acres)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Impervious Cover (acres)</td>
<td>0.35</td>
<td>0.95</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
<td>3.57</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0.35</td>
<td>0.95</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
<td>3.57</td>
</tr>
</tbody>
</table>

### Stormwater Best Management Practices (RR = Runoff Reduction)

<table>
<thead>
<tr>
<th>Practice</th>
<th>Runoff Reduction Credit (%)</th>
<th>Managed Turf Credit Area (acres)</th>
<th>Impervious Cover Credit Area (acres)</th>
<th>Volume from Upland Practice (a³)</th>
<th>Runoff Reduction (β)</th>
<th>Remaining Runoff Volume (a³)</th>
<th>Total BMP Treatment Volume (a³)</th>
<th>Phosphorus Removal Efficiency (%)</th>
<th>Phosphorus Load from Upland Practice (lb)</th>
<th>Unmitigated Phosphorus Load (lb)</th>
<th>Phosphorus Removal Practice (lb)</th>
<th>Remaining Phosphorus Load (lb)</th>
<th>Downstream Practice to be Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Treatment (ST)</td>
<td></td>
<td>3.4x Permeable Treatment (ST)</td>
<td>46</td>
<td>0.08</td>
<td>0</td>
<td>540</td>
<td>1,207</td>
<td>75</td>
<td>0.08</td>
<td>0.75</td>
<td>0.85</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

### Runoff Volume and Curve Number Calculations

**Enter design storm rainfall depths (in):**

- 1-year storm: 2.70
- 2-year storm: 3.20
- 10-year storm: 6.20

*Use NOAA Atlas 14 (http://Atlas.nws.noaa.gov/health/)*

**Notes (see below):**

1. Curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See WRM User's Guide and Documentation for additional information.

2. Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in water-filled inches and shown in the spreadsheet as RV(water-filled) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(water-filled) must be multiplied by the drainage area.

3. Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for vegetated roofs is included in BMP specification No. 5.

### Drainage Area Curve Numbers and Runoff Depths*

<table>
<thead>
<tr>
<th>Drainage Area</th>
<th>A Soils</th>
<th>B Soils</th>
<th>C Soils</th>
<th>D Soils</th>
<th>Total Area (acres)</th>
<th>Runoff Reduction Volume (a³)</th>
<th>1-year storm</th>
<th>2-year storm</th>
<th>10-year storm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest/Open Space – undisturbed, protected forest/open space or reforested land</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>543</td>
<td>2.47</td>
<td>2.97</td>
<td>4.96</td>
</tr>
<tr>
<td>Managed Turf – disturbed,graded for yards or other turf to be mowed/managed</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2.54</td>
<td>2.54</td>
<td>4.54</td>
</tr>
<tr>
<td>Impervious Cover</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>96</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*See Notes above*
SECTION 9. MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (§ VAC 25-60-14) specify the circumstances under which a maintenance agreement must be entered between the owner and the VSPD authority, and sets forth inspection, maintenance, compliance procedures if maintenance is neglected, notification to the local planning commission of continuing or right-of-entry for local personnel.

The regulations require that all post-construction BMPs, including Permeable Pavement installations, be covered by a long term maintenance agreement and drainage management after completion and approval of the project.

The maintenance agreement shall state that the conventional paving lot maintenance requirements shall be met by the applicant in a timely manner. Permeable pavement shall be designed in such a way that the volume of water infiltrates through the cracks of the pavement. The maintenance agreement should include yearly inspections and a guarantee must be submitted to the Virginia Stormwater Management Program (VSPD) by the Virginia Department of Environmental Quality (DEQ) and the Virginia Department of Conservation and Recreation (DCR).

The maintenance agreement shall be subject to the applicable state and federal regulations and standards, and the Stormwater Management Program Responsible Entity (SMRRE) may require additional requirements to ensure the long-term maintenance and use of the permeable pavement.

The maintenance agreement shall include a guarantee that the permeable pavement will be maintained in accordance with the approved plans and specifications or documents as stated above.

9.2. Maintenance Tasks

It is difficult to prescribe the specific tasks and maintenance that are needed to maintain the hydraulic functions of permeable pavement systems over time. The tasks specified below are generally felt to be a minimum required program that will maintain the permeable pavement.

The following tasks shall be performed at least once per year:

- Inspect permeable pavement areas for damage or other indications of potential failure.
- Record the inspection results and any repairs or maintenance actions taken.
- Monitor the performance of the permeable pavement system and report any deviations from the approved plans and specifications.
- Document any changes to the permeable pavement system.
- Provide a copy of the maintenance records to the Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation.

The maintenance tasks shall be performed in accordance with the approved plans and specifications or documents as stated above.

9.3. Maintenance Inspections

It is highly recommended that periodic maintenance inspections be conducted to ensure that the permeable pavement system is maintained as intended. Periodic inspections can help identify any issues that may arise with the permeable pavement system.

Periodic inspections shall include:

- A visual inspection of the permeable pavement system to identify any signs of damage or distress.
- A measurement of the pavement thickness to ensure it is within the approved limits.
- A check of the drainage system to ensure it is functioning properly.
- A check of the pervious material to ensure it is in good condition.

An example maintenance inspection checklist for permeable pavement can be found in Appendix A of the Virginia Stormwater Management Manual (2nd edition, 2010). Bases on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT CONSTRUCTION AND MAINTENANCE

Table 7.1. Recommended Maintenance Tasks for Permeable Pavement Practices

<table>
<thead>
<tr>
<th>Maintenance Task</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual inspection of permeable pavement</td>
<td>Monthly</td>
</tr>
<tr>
<td>Measurement of pavement thickness</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>Measurement of drainage system</td>
<td>Annually</td>
</tr>
<tr>
<td>Measurement of pervious material</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>Replacement of any damaged or non-functional components</td>
<td>As needed</td>
</tr>
</tbody>
</table>

9.4. Additional Maintenance Tasks

In addition to the tasks specified in Table 7.1, the following additional maintenance tasks shall be performed as needed:

- Monitor the performance of the permeable pavement system and report any deviations from the approved plans and specifications.
- Document any changes to the permeable pavement system.
- Provide a copy of the maintenance records to the Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation.

The maintenance tasks shall be performed in accordance with the approved plans and specifications or documents as stated above.

Construction Inspection Checklist: Permeable Pavement

- Inspect permeable pavement areas for damage or other indications of potential failure.
- Record the inspection results and any repairs or maintenance actions taken.
- Monitor the performance of the permeable pavement system and report any deviations from the approved plans and specifications.
- Document any changes to the permeable pavement system.
- Provide a copy of the maintenance records to the Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation.

The maintenance tasks shall be performed in accordance with the approved plans and specifications or documents as stated above.
STORM WATER MANAGEMENT NARRATIVE

THIS SITE DRAINS TO A 66" STORM PIPE ON THE NORTH EAST EDGE OF THE SITE. THIS OUTFALL PIPE FLOWS TO THE NORTHEAST AND ULTIMATELY DRAINS TO FOUR MILE RUN.

CHANNEL PROTECTION

FLOOD PROTECTION

IN ADDITION TO MEETING THE DOWNSTREAM FLOOD PROTECTION REQUIREMENTS, WE ANALYZED A PORTION OF THE EXISTING STREAM AT THE POINT THE LAST STORM PIPE FROM THE PROJECT SITE THAT TIES TO THE STREAM AND 150' DOWNSTREAM OF THAT POINT. THE PEAK FLOW RATES TO EACH CROSS-SECTION ARE CALCULATED USING THE TR-55 METHODOLOGY AND CITY OF ALEXANDRIA RAINFALL DATA. THE 10-YEAR 24-HOUR STORM EVENT CROSS SECTION CALCULATION IS LOCATED ON THIS SHEET AND THE WATER SURFACE ELEVATION FOR THE STORM EVENT IS LOCATED WITHIN THE CROSS SECTIONS DISPLAYED ON THIS SHEET.

EXTENT OF REVIEW
- THE EXTENT OF REVIEW FOR THIS OUTFALL IS TO THE POINT IN WHICH IT REACHES 1% OF THE WATERSHED. THE SITE AREA IS 0.85 ACRES, SO THE ANALYSIS MUST EXCEED A TOTAL WATERSHED AREA OF 85 ACRES. THE TOTAL WATERSHED SHOWN FOR THE EXTENT OF THIS REVIEW ON THE MAP ON THIS SHEET IS APPROXIMATELY 133.00 ACRES.

DUE TO THE POST-DEVELOPED RUNOFF BEING DECREASED (SEE SHEET C606-C608) AND OUR ANALYSIS OF THE EXISTING STREAM, IT IS OUR OPINION THAT THE OUTFALL FOR THIS DEVELOPMENT IS ADEQUATE.

STORM WATER MANAGEMENT POND NARRATIVE

THIS PROJECT IS A LINEAR PROJECT TO CONSTRUCT A 10 FT WIDE SHARED USE PATH. THE NATURE OF THE PROJECT LIMITS THE AVAILABLE RIGHT OF WAY THUS MAKING THE DESIGN OF SWM POND NOT FEASIBLE. TO MEET THE SWM REQUIREMENTS, PERMEABLE PAVEMENT IS UTILIZED.

100-YR STORM ANALYSIS NARRATIVE

**Hydrograph Report**

<table>
<thead>
<tr>
<th>Inlet No. 3</th>
<th>Peak controlled (IP CI of 6b)</th>
<th>Inlet No. 4</th>
<th>Parameater PMW (node)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrograph type</td>
<td>ICD Runoff</td>
<td>Hydrograph type</td>
<td>ICD Runoff</td>
</tr>
<tr>
<td>Stage frequency</td>
<td>1.45 s</td>
<td>Stage frequency</td>
<td>1.45 s</td>
</tr>
<tr>
<td>Drainage area</td>
<td>0.095 ac</td>
<td>Drainage area</td>
<td>0.095 ac</td>
</tr>
<tr>
<td>Percent runoff</td>
<td>12.4%</td>
<td>Percent runoff</td>
<td>12.4%</td>
</tr>
<tr>
<td>Total runoff</td>
<td>27.3 in</td>
<td>Total runoff</td>
<td>27.3 in</td>
</tr>
<tr>
<td>Storm duration</td>
<td>28 min</td>
<td>Storm duration</td>
<td>28 min</td>
</tr>
</tbody>
</table>

*Complete description and details are provided in the report.*

**Pond Report**

<table>
<thead>
<tr>
<th>Pond No. 5</th>
<th>Inlet No. 4</th>
<th>Parameater PMW (node)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrograph type</td>
<td>Reservoir</td>
<td>Hydrograph type</td>
</tr>
<tr>
<td>Stage frequency</td>
<td>1.45 s</td>
<td>Stage frequency</td>
</tr>
<tr>
<td>Drainage area</td>
<td>0.095 ac</td>
<td>Drainage area</td>
</tr>
<tr>
<td>Percent runoff</td>
<td>12.4%</td>
<td>Percent runoff</td>
</tr>
<tr>
<td>Total runoff</td>
<td>27.3 in</td>
<td>Total runoff</td>
</tr>
<tr>
<td>Storm duration</td>
<td>28 min</td>
<td>Storm duration</td>
</tr>
</tbody>
</table>

*Complete description and details are provided in the report.*

**Pre and Post Hydrograph**

<table>
<thead>
<tr>
<th>Inlet No. 2</th>
<th>Peak discharge</th>
<th>Inlet No. 3</th>
<th>Peak discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrograph type</td>
<td>ICD Runoff</td>
<td>Hydrograph type</td>
<td>ICD Runoff</td>
</tr>
<tr>
<td>Stage frequency</td>
<td>1.45 s</td>
<td>Stage frequency</td>
<td>1.45 s</td>
</tr>
<tr>
<td>Drainage area</td>
<td>0.095 ac</td>
<td>Drainage area</td>
<td>0.095 ac</td>
</tr>
<tr>
<td>Percent runoff</td>
<td>12.4%</td>
<td>Percent runoff</td>
<td>12.4%</td>
</tr>
<tr>
<td>Total runoff</td>
<td>27.3 in</td>
<td>Total runoff</td>
<td>27.3 in</td>
</tr>
<tr>
<td>Storm duration</td>
<td>28 min</td>
<td>Storm duration</td>
<td>28 min</td>
</tr>
</tbody>
</table>

*Complete description and details are provided in the report.*

**NOTE:** TO COMPLY WITH SWM REQUIREMENTS, THIS SECTION OF THE PERMEABLE PAVEMENT TRAIL THAT SLOPES AT LESS THAN 2% AND DRAINS TO STRUCTURE #13A IS MODELED IN THIS ANALYSIS. SEE SHEET C603 FOR LOCATION OF THIS SECTION OF THE PERMEABLE PAVEMENT TRAIL.
STORAGE VOLUME TABULATION:

<table>
<thead>
<tr>
<th>ID</th>
<th>DIA (IN)</th>
<th>LENGTH (FEET)</th>
<th>MASS (LBS)</th>
<th>VOLUME (CU FT)</th>
<th>VOLUME (GAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>2</td>
<td>100</td>
<td>10</td>
<td>3,587</td>
<td>100</td>
</tr>
<tr>
<td>101</td>
<td>3</td>
<td>100</td>
<td>15</td>
<td>105.1</td>
<td>315.3</td>
</tr>
<tr>
<td>102</td>
<td>4</td>
<td>100</td>
<td>20</td>
<td>163.6</td>
<td>491.8</td>
</tr>
<tr>
<td>103</td>
<td>5</td>
<td>100</td>
<td>25</td>
<td>222.1</td>
<td>666.3</td>
</tr>
<tr>
<td>104</td>
<td>6</td>
<td>100</td>
<td>30</td>
<td>280.6</td>
<td>840.9</td>
</tr>
<tr>
<td>105</td>
<td>7</td>
<td>100</td>
<td>35</td>
<td>338.1</td>
<td>1014.3</td>
</tr>
<tr>
<td>106</td>
<td>8</td>
<td>100</td>
<td>40</td>
<td>395.6</td>
<td>1181.9</td>
</tr>
<tr>
<td>107</td>
<td>9</td>
<td>100</td>
<td>45</td>
<td>453.1</td>
<td>1348.3</td>
</tr>
<tr>
<td>108</td>
<td>10</td>
<td>100</td>
<td>50</td>
<td>510.6</td>
<td>1514.9</td>
</tr>
</tbody>
</table>

TOTAL: 1,419.0

VOLUME = AREA X DEPTH X POROSITY

AREA OF POROUS TRAIL PAVEMENT = 3,587 SQ FT

VOLUME = 3,587 X 3" X 0.25

TOTAL STORAGE VOLUME = 224 CU FT

B = 2.33' COVER MANHOLE FRAME

WEIR TOP ELEVATION = 145.35

OUTFLOW = 144.70 (PROP. 8")

H = 1.80'
THE PROJECT CONSISTS OF APPROXIMATELY 1,400 LINEAR FEET OF 10' WIDE SHARED USE PATH. TO MEET SWM/BMP REQUIREMENTS, THE TRAIL UTILIZES LEVEL 1 PERMEABLE PAVEMENT. DUE TO THE NATURE OF THE PROJECT, POST DEVELOPMENT CONDITIONS HAVE HONORED AND MAINTAINED THE PRE DEVELOPMENT DRAINAGE DIVIDES OF WHICH EXISTING STORM INLETS AND PIPES ARE UTILIZED TO CONVEY POST DEVELOPMENT RUNOFF. ADDITIONAL INLETS ARE PROPOSED TO COLLECT POST DEVELOPMENT RUNOFF. POST DEVELOPMENT RUNOFF CALCULATIONS ARE SHOWN ON THIS SHEET. PER STORM CALCULATIONS, IT IS DETERMINED THAT THE EXISTING STORM DRAINAGE SYSTEM IS ADEQUATE TO HANDLE AND CONVEY DISCHARGES FROM POST DEVELOPMENT CONDITIONS. A NARRATIVE SUMMARY AND STORM WATER QUANTITY FOR THE SITE IS INCLUDED ON SHEETS C605-C608.

FOR TEMPORARY DRAINAGE DURING CONSTRUCTION OPERATIONS, THE SEQUENCE OF INLETS INSTALLATION AND IMPROVEMENTS IS SET TO PROVIDE ADEQUATE CAPTURE TO RUN OFF WITH THE USE OF SUPER SILT FENCE. REFER TO SEQUENCE OF CONSTRUCTION ON SHEETS C802.
TRANSPORTATION MANAGEMENT PLAN (TMP)

OVERALL PROJECT:
The maintenance of traffic (MOT) plan will accommodate the construction activities for the demolition of existing sidewalk and placement of pervious pavement as a shared use path located on the south side of North Beauregard Street (Route 942) between Fillmore Ave and Berkeley St.

The contractor shall be responsible for maintaining project lane closure information on LCAMS and VDOT through the duration of the project. The information shall be entered into LCAMS and VDOT no later than Wednesday with the following week's schedule.

The MOT plan will be implemented in two phases. See Sheet C701 for maintenance of traffic plan.

NOTE:
1. The site work area will require to follow TTC-161 regulations per Virginia work protection manual.
2. The distance between signs and the beginning of channelizing devices should be 300'-500' in areas where the speed limit is 45 MPH or less and spacing should be 500'-800' in areas where the speed limit is greater than 45 MPH. The posted speed limit on North Beauregard Street near the project is 35 MPH.

MAINTENANCE OF TRAFFIC NOTES:
1. Traffic control and safety measures shall be in conformance with the following, and the latest revisions thereto:
   b) The Virginia Department of Transportation Road and Bridge Standards.
   c) The Virginia Department of Transportation Road and Bridge Specifications.

2. Unless otherwise approved or directed by the VDOT inspector, the contractor shall plan and execute the work in accordance with the sequence of construction.

3. The sequence of construction and maintenance of traffic shows the major traffic control, and the sequencing of construction, the daily control of traffic, including the provision, placement, maintenance, and removal of traffic devices shall be the contractor's responsibility. The traffic control devices required are shown on the plan and the identified figures of the Virginia work area protection manual.

4. Road drums to be removed from road and placed on shoulder after completion of each day's work.

5. Contractor to coordinate with VDOT prior to implementing plan and any other construction activity within right of way.

6. All construction activities must comply with the Alexandria work control code, title 6, chapter 5, which permits construction activities to occur between the following hours:
   Monday through Saturday from 7:00 AM to 6:00 PM
   No work on Sundays is permitted. The alternative work hours the contractor can call the 1-800-466-4311 for review and approval of the alternative work hours.

GENERAL NOTES:
1. Temporary low-weights shall not be less than 30 ft.
2. Work operations within theMaintenance of traffic shall not be initiated until the DIAR has been notified of the work operation and location in order to withdraw all the hindering zone restrictions.
3. Measures shall be taken to ensure acceptance of waste materials during construction operations. Traffic Control Device (TCP) construction equipment, material storage or any other operations will not be allowed to interfere with other construction equipment of other contractors.
4. All traffic control devices and signs necessary for the movement of traffic are to be properly maintained for the duration of the work.
5. All traffic control signs and devices shall be removed by the Contractor and reviewed by the Engineer prior to installation.
6. All signs and drawings are to be scaled and used for reference only.
7. All work schedules are subject to change in accordance with the VDOT as per Section 1-1927 Work Area Protection Manual.
8. The travel and procedures for each stage of construction shall not be initiated until traffic has been arranged in the following plans:
   a) All conflicting pavement markings and road work signs/panels placed or removed shall be covered using Construction Powered Warning Type E.
PHASE 2 PEDESTRIAN DETOUR

PHASE 2 CLOSE DOWN SIDEWALK AND EAST BOUND CURB LANE FOR CONSTRUCTION STAGING.

PHASE 1 PEDESTRIAN DETOUR

PHASE 1 CLOSE DOWN SIDEWALK AND EAST BOUND CURB LANE FOR CONSTRUCTION STAGING.

NOTE:

1. SEE SHEET C02 FOR TYPICAL TRAFFIC CONTROL OUTSIDE LANE CLOSURE OPERATION ON A FOUR-LANE ROADWAY (PHASE TC-9).3.

2. SIDEWALK CLOSURES ARE SUBJECT TO SEPARATE APPROVAL FROM TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). AT THE TIME OF PRINT APPLICATION, SIDEWALKS MAY BE CLOSED IN THE SHORT TERM AND MAY BE REOPENED AT ANY TIME. ASIDE FROM THE APPROVAL FROM THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, NO SIDEWALKS MAY BE CLOSED OR REOPENED WITHOUT THE DIRECTOR'S APPROVAL.

3. CONTRACTOR SHALL APPLY FOR ALL NECESSARY PERMITS FOR USE OF THE CITY RIGHT OF WAY AND SHALL SUBMIT DINING PLANS WITH THE TREE APPLICATION FOR FINAL APPROVAL AT THAT TIME.
THIS MOT PLAN IS FOR INFORMATION ONLY!!!
NOTES:

1. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE AND RIGHT OF WAY (IROW) PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.

2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE LATEST EDITION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK".

3. ADDITIONAL EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED, IF DIRECTED BY THE T&ES INSPECTOR.

ARCHAEOLOGY NOTES

1. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.

2. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

TOTAL DISTURBED AREA = 38,554 SF OR 0.89 AC
THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND STORM DRAIN INLET PROTECTION - 3.07

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL PERMANENT SEEDING - 3.32

PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF VPDES PERMITS WILL BE FILED FOR WITH THE CITY OF ALEXANDRIA. PERMITS SHALL BE OBTAINED PRIOR TO LAND DISTURBANCE ACTIVITIES. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TREE PRESERVATION AND PROTECTION (3.38): WILL BE CONSTRUCTED AT TREE SAVE AREAS TO SUPPRESS SILT FENCE BARRIER - 3.05

TEMPORARY SEEDING - 3.31

SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE BUILT AND MAINTAINED IN ACCORDANCE WITH ARTICLES 6.05.2 (B) AND 6.05.3.2, AND THE CONTRACTOR SHALL: 2. INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN

THE CONTRACTOR SHALL MAINTAIN EROSION & SEDIMENT CONTROLS IMPLEMENTED DURING PHASE I. 1. THE SUPER SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

THE EROSION AND SEDIMENT CONTROL PROGRAM SHALL PROGRESS AS FOLLOWS:

PHASE I - GENERAL PHASE: ADDITIONAL PERMEABLE PRACTICES AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES IN CHANGED CONDITIONS IN SITE CONSTRUCTION:

PHASE 1 - GENERAL PHASE: ADDITIONAL PERMEABLE PRACTICES AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES IN CHANGED CONDITIONS IN SITE CONSTRUCTION:

PHASE II: PHASE II IS IMPLEMENTED DURING SITE STABILIZATION. THIS COVERS SHORT AND LONG TERM MOTION. SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE BUILT AND MAINTAINED IN ACCORDANCE WITH ARTICLES 6.05.2 (B) AND 6.05.3.2, AND THE CONTRACTOR SHALL: 2. INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN

DIFFERENT PRACTICES ARE TO BE USED AS SHOWN ON THE APPROVED PLAN TO ENSURE THE COMPLETE EROSION CONTROL PROGRAM.

THE PROJECT SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET, AND TO THE SOUTH BY NORTH BEAUREGARD, TO THE EAST BY THE CHIEF OF VPDES, AND TO THE WEST BY NICHOLS STREET.

A "CERTIFIED LAND DISTURBER" (CLD) IS NAMED IN A LETTER TO THE DIVISION CHIEF OF VPDES. PERMITS WILL BE FILED FOR WITH THE CITY OF ALEXANDRIA. PERMITS SHALL BE OBTAINED PRIOR TO LAND DISTURBANCE ACTIVITIES. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TREE PRESERVATION AND PROTECTION (3.38): WILL BE CONSTRUCTED AT TREE SAVE AREAS TO SUPPRESS SILT FENCE BARRIER - 3.05

TEMPORARY SEEDING - 3.31

SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE BUILT AND MAINTAINED IN ACCORDANCE WITH ARTICLES 6.05.2 (B) AND 6.05.3.2, AND THE CONTRACTOR SHALL: 2. INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN

THE CONTRACTOR SHALL MAINTAIN EROSION & SEDIMENT CONTROLS IMPLEMENTED DURING PHASE I. 1. THE SUPER SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

THE EROSION AND SEDIMENT CONTROL PROGRAM SHALL PROGRESS AS FOLLOWS:

PHASE I - GENERAL PHASE: ADDITIONAL PERMEABLE PRACTICES AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES IN CHANGED CONDITIONS IN SITE CONSTRUCTION:

PHASE II: PHASE II IS IMPLEMENTED DURING SITE STABILIZATION. THIS COVERS SHORT AND LONG TERM MOTION. SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE BUILT AND MAINTAINED IN ACCORDANCE WITH ARTICLES 6.05.2 (B) AND 6.05.3.2, AND THE CONTRACTOR SHALL: 2. INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN

DIFFERENT PRACTICES ARE TO BE USED AS SHOWN ON THE APPROVED PLAN TO ENSURE THE COMPLETE EROSION CONTROL PROGRAM.
GRAVEL SHAL BE VDOT #3, #357 OR #5 COARSE AGGREGATE TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY THIS METHOD OF INLET PROTECTION IS APPLICABLE AT SEDIMENT WIRE SCREEN WATER WITH SEDIMENT SPECIAL APPLICATION GRAVEL FILTER

GUTTER GATOR CURB INLET SEDIMENT FILTER

ACF Environmental "Complete Solution for Water Quality Solutions"
**LIGHTING NOTES:**

1. CENTER OF FOUNDATION FOR LUMINAIRES SHALL BE 2 FEET BACK OF THE CURB LINE, UNLESS OTHERWISE NOTED.
2. RUN TWO 8000 V RMS COPPER CONDUCTORS PLUS GROUND FROM LUMINAIRE BALLAST TO POLE BASE, LEAVE 3 FT SLACK FOR TAP SPlice.
3. CONSULT SHOWN ON THIS PLAN FOR INFORMATIONAL PURPOSES, THE CONTRACTOR IS RESPONSIBLE FOR THE LIGHTING CONSTRUCTION LAYOUT.
4. SEE SHEET 1232 FOR LIGHTS SPECS.

---

**Lighting Schedule**

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Qty.</th>
<th>Arrangement</th>
<th>Description</th>
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<tbody>
<tr>
<td>19</td>
<td>10</td>
<td>Single</td>
<td>10000 V RMS Copper Conductors Plus Ground</td>
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**Lighting Details**

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<th>Location</th>
<th>Symbol</th>
<th>Qty.</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>16</td>
<td>10</td>
<td>Single</td>
<td>10000 V RMS Copper Conductors Plus Ground</td>
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</table>
LIGHTING NOTES:

1. CENTER OF FOUNDATION FOR LUMINARIES SHALL BE 2 FEET BACK OF THE CURB LINE, UNLESS OTHERWISE NOTED.
2. RUN TWO #10 RHW COPPER CONDUCTORS PLUS GROUND FROM LUMINARIES BALLAST TO POLE BASE. LEAVE 3 FT SLACK FOR TAP SPlice.
3. CONDUIT SHOWN ON THIS PLAN IS FOR INFORMATIONAL PURPOSES, THE CONTRACTOR IS RESPONSIBLE FOR THE LIGHTING CONDUIT LAYOUT.
4. SEE SHEET C082 FOR LIGHTS SPECS.
VAN DORN & BEAUREGARD BIKE FACILITY
& SHARED USE PATH

TREE PRESERVATION AND LANDSCAPE PLAN

4899 WEST BRADDOCK ROAD
ALEXANDRIA, VIRGINIA 22311

PROJECT NUMBERS:
STATE PROJECT #: U003-105-814
FEDERAL JOB #: P101 FEDERAL #CMAQ-5901(105)
UPC #: 105583
RFQU #: 912
CCL #: 212961010.00

SHEET INDEX
L100 LANDSCAPE COVER
L200 TREE PRESERVATION PLAN
L201 TREE PRESERVATION PLAN
L202 TREE PRESERVATION INVENTORY
L203 TREE PRESERVATION NOTES AND DETAILS
L300 LANDSCAPE PLAN
L301 LANDSCAPE PLAN
L302 LANDSCAPE SCHEDULE
L303 LANDSCAPE DETAILS AND SPECIFICATIONS

SUBMITTALS
60% SUBMISSION: 2022-03-09
EXISTING TREE TO BE REMOVED
LEGEND
EXISTING TREE TO BE REMOVED
ROOT PRUNING
TREE PROTECTION FENCE
PROPOSED LINES OF DISTURBANCE

VIEW A

VIEW B

REFER TO SHEET L202 FOR TREE INVENTORY/PROTECTION AND REMOVAL SCHEDULE
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NOTES:

1. All work performed shall meet or exceed the most recent industry standards, as published by the International Society of Arboriculture (ISA). In the event cultural treatments prescribed are not covered by an existing standard, all work performed shall meet or exceed standards approved by the City Urban Forester.

2. All tree preservation activities shall be performed under the direct supervision of an ISA certified arborist.

3. Trees being removed shall not be filled, pushed or pulled into tree preservation areas. Equipment operators shall not clean any part of their equipment by slamming against the trunks of trees to be retained.

4. Trees on the edge of the limits of clearing and grading shall be cut down by hand with a chain saw. Remaining stumps shall either be left in place or ground down with a stump grinder.

5. Trees indicated will be mulched with wood chips generated from on site clearing or tree removal and pruning operations. When possible, shredded hardwood mulch from offsite may be utilized if approved by project arborist. Mulch shall be spread in a uniform depth of three (3”) inches by hand. Mulch shall be placed in areas as indicated on approved plans.

6. During clearing and grading operations and throughout construction, no activity shall be permitted in tree save areas without authorization from owner, arborist/forester, and city urban forester. Precluded activities include:
   - Filling of trees into preservation areas or operation of heavy machinery in save areas to fill trees on the perimeter of preservation areas.
   - Operation of heavy equipment or machinery of any kind in preservation areas for any purpose including removal of trees adjacent to save areas.
   - Placement of excess soil, fill or materials of any kind in preservation areas.
   - Placement of any construction materials of any kind in preservation areas.
   - Parking or storing equipment or vehicles in preservation areas.
   - Placement of chemicals or concrete washout in preservation areas.
   - Burning of any material or debris in preservation areas or within 200 feet of preservation areas.
   - Trenching, grading, excavating or tree pruning in any purpose in preservation areas.
   - Installation of landscaping, irrigation, turf, drainage systems, etc.

7. All existing trash and/or debris on site shall be removed at the time of disturbance. Individual trees and forested areas designated to be preserved shall be protected and managed that ensures tree survival during all phases of demolition, clearing, grading, and construction. In addition to protecting trees, all understory plants, leaf litter and soil conditions found in forested areas designated to be left preserved shall be protected.

8. Trees to remain located along the limits of clearing and grading shall be pruned during clearing operations. Operations to avoid mechanical damage. This shall be administered under the supervision of an ISA certified arborist.

9. Any damage inflicted to the above or below-ground portions of the trees shown to be preserved shall be repaired immediately.

10. All pruning shall conform to the latest edition of ANSI A300 (Part 1) pruning standards. Diseased limbs shall be removed or treated at the discretion of the arborist. While pruning, the arborist shall make note of any conditions which affect the health or condition of the tree and recommend corrective treatment for these conditions. Vine removal shall be included in all pruning activities. Under no circumstances shall the interior of trees be stripped of foliage, suckers, epicormic branching, or other live growth. Interior growth may be thinned as necessary to remove branches damaged during operations. Debris from pruning shall be chipped and dispersed into the tree save area and spread by hand to a uniform thickness or be removed from site.
THIS SHEET IS FOR LANDSCAPE PLAN. SHEET TO BE FINALIZED AND SUBMITTED WITH SUBSEQUENT SUBMISSION.
THIS SHEET IS FOR LANDSCAPING PLAN.
SHEET TO BE FINALIZED AND SUBMITTED
WITH SUBSEQUENT SUBMISSION
### Native Plant Specifications

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<th>Native Plant Specifications</th>
<th>January 2, 2023</th>
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<tbody>
<tr>
<td>Percent of Plants</td>
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<td>%</td>
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<td>Total Plants</td>
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<td>Total % of Native Plants</td>
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**Notes:**
1. Percentages apply to the total quantity of each plant type specified on Construction/Preconstruction Plans and Final As-Built Drawings.
2. Final Notices are in the form of Custom's U. States. Regional Notice, and can be requested upon completion of the project for each plant type.
3. Not all requirements cover the percentage of planting within the project area, or the type of planting specified. See the specifications for more information regarding plant type.

### Canopy Cover Calculations

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<th>Canopy Cover</th>
<th>Percentage</th>
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<tr>
<td>Site Area</td>
<td>25%</td>
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<tr>
<td>Total Canopy</td>
<td>75%</td>
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**Notes:**
- The above calculations do not include the percentage of planting within the project area, or the type of planting specified. See the specifications for more information regarding plant type.

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**Landscape Schedule and Calculations**

**CITY OF ALEXANDRIA, VIRGINIA**

**LANDSCAPE SCHEDULE AND CALCULATIONS**

**CROWN COVER ALLOWANCES (SCA)**

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**Crown Cover Allowance (SCA)**

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**Plants to Be Submitted with Subsequent Submissions**

- 03/08/2022
- 03/08/2022
IN THE COURSE OF PLANTING, LARGE WOODY ROOTS BE DISCOVERED BELONGING TO ADJACENT LARGE TREES THAT ARE TO BE PRESERVED, SHIFT THE
IS ASPHALT, COVER BARE ASPHALT WITH A LAYER OF WOODCHIPS. STORAGE SHOULD BE IN SHADE, AND PLANTS BE REGULARLY WATERED AT ROOT-BALL LEVEL,
INSPECTION, SUBSTANTIAL COMPLETION APPROVAL, OR PER OWNER'S REPRESENTATIVE'S INSTRUCTION.

IF THERE ARE DISCREPANCIES OR CONTRADICTIONS IN SPECIFICATION SECTIONS OR DETAILS, THE STRICTER SPECIFICATION SHALL TAKE PRECEDENCE. A
PLANTING LOCATION OF THE TREE TO BE PLANTED TO AVOID CUTTING THE WOODY ROOT. SHOULD A SUITABLE PLANTING LOCATION NOT BE FOUND WITHIN THE
ENCOUNTERED.

PRODUCED COMPOST, OR A CLASS A BIOSOLID ALSO MEETING THE REFERENCED US COMPOSTING COUNCIL SPECIFICATION PRIOR TO PLANTING. APPLY 3" OF
STAKING:  STAKING (IF ANY) IS TO BE INSTALLED PER THE ACCOMPANYING DETAILS, UTILIZING TREE WEBBING STRAPS WITH GROMMETS TO PREVENT WIRE FROM
OVER-COMPACT THE SOIL. INOCULATE BACKFILL SOIL OR ROOTBALL WITH AN APPROVED BALANCED (ENDO/ECTO) COMMERCIAL MYCORRHIZAE APPLICATION. DO
SHRUBS: FOR CONTAINER SHRUBS, THE PLANTING HOLE IS TO BE DUG 3 TIMES THE WIDTH OF THE INTACT CONTAINER. THE CONTAINER IS TO BE COMPLETELY
SLOPE AND SCARIFY SIDES
SLOPE: TO BE CONSTRUCTED AS A SOIL EMBANKMENT AROUND THE BASE OF THE TREE TO THE AREA AND DEPTH SHOWN.

TREES:  THE PLANTING HOLE DIAMETER IS TO BE AT A MINIMUM THREE TIMES THE DIAMETER OF THE ROOT BALL. THE DEPTH OF THE PLANTING HOLE SHALL BE
A MINIMUM OF 12" DEEP. THE PLANTING HOLE IS TO BE DUG WITH A SLOPE OF 1:1. THE HOLE MAY BE SLOTTED UP TO A MINIMUM OF 8" IN THE TRUNK CALIPER
AREA AND 12" IN THE HIGHEST POINT OF THE ROOT BALL. HOLE MUST BE SHAPED TO CORRECT THE NATURAL SLOPE OF THE EMBANKMENT. HOLE SHOULD BE
A MINIMUM OF 2" LARGE ENOUGH TO ALLOW ROOTS TO BE PLACED IN THE HOLE

STAKING:  STAKING (IF ANY) IS TO BE INSTALLED PER THE ACCOMPANYING DETAILS, UTILIZING TREE WEBBING STRAPS WITH GROMMETS TO PREVENT WIRE FROM
COMPLIANCE WITH MARYLAND LAW AND REGULATIONS GOVERNING THE PREVENTION OF WATER WASTE AND INVASIVE SPECIES. A MANAGEMENT PLAN (IF
PLANTS SHOULD BE PROTECTED FROM DESSICATION DURING TRANSPORT VIA BREATHABLE FABRIC COVERING THE CANOPY.

EVE ROX  1/2" IN ALL DIRECTIONS FROM TRUNK, AND DRIVEN AT LEAST 2' INTO THE GROUND.

3" LAYER OF APPROVED COMPOST IS TO BE PLACED UNDER THE MULCH LAYER. DO NOT PLACE MULCH AGAINST TREE TRUNK.

PLANT MATERIALS SHOWN ON THE LEND IN VEST TREE PLANTING ALLIANCE APPROVED LIST IS ENCOURAGED. SEEDS COATINGS THAT AID IN
GERMINATION, MOISTURE RETENTION AND PREVENT LOSS TO BIRD CONSUMPTION ARE ACCEPTABLE. SEEDED AREAS ARE TO BE COVERED BY A LIGHT AND
STANNED. SEED MIX COMPOSITION CHART SHALL BE SUBMITTED PRIOR TO PLANTING.

TREES NOT PRESENTING PROPER FORM, INCORRECT VARIETY, SIGNS OF POOR HEALTH OR OVER-STRESS, AND GIRLDING ROOTS ARE TO BE REJECTED.

PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS ON THIS SHEET. DETAILS AND SPECIFICATIONS FOR OTHER

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