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These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
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**State Route Project**

1C(1) 0001-212-249, AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

**Acquisition of Right of Way**

**Leon E. Treutle LS (703) 259-3224 7/17/13**

**JMT Engineering (804) 323-9900**

**Cell Revised 12/11/12**

** Renoir Planning, Inc. **

**Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation**

**These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.**
**PRELIMINARY RIGHT OF WAY DATA SHEET**

**PARCEL No.** | **LANDOWNER** | **TOTAL** | **FEE TAKING** | **PRESCRIPTIVE** | **FEE DIMENSION** | **PERMANENT EASEMENTS** | **AREA** | **UTILITY** | **TEMPORARY CONSTRUCTION** | **TEMPORARY EASEMENTS** | **FREIGHT** |
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<td>112</td>
<td>HOUSTON FAMILY, LLC</td>
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<td>0.25 AC</td>
<td>0.24 AC</td>
<td>0.24 AC</td>
<td>0.24 AC</td>
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<td>0.24 AC</td>
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<td>HURSTSHIPS PURCHASER, LLC</td>
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<td>0.564 AC</td>
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<td>200 FT</td>
<td>200 FT</td>
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<td>118</td>
<td>HIGHLAND PARK AT TOWNSQUARE HOMEOWNERS ASSOCIATION, INC.</td>
<td>5</td>
<td>4,827 AC</td>
<td>4,827 AC</td>
<td>2,805 SF</td>
<td>2,805 SF</td>
<td>2,805 SF</td>
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<tr>
<td>119</td>
<td>TOWNSQUARE AT DUMPLIES, LLC</td>
<td>5.9</td>
<td>2,902 SF</td>
<td>2,902 SF</td>
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<tr>
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<td>MANOR AT MALL</td>
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<td>1,805 AC</td>
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<tr>
<td>124</td>
<td>ROALEKTA, INC.</td>
<td>8</td>
<td>1,894 AC</td>
<td>1,894 AC</td>
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</tbody>
</table>

**Notes:**
- These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
- Design Features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by the Department.
Ending chain CANAL_TEST description

Point 289             N       330,634.95 E     3,617,942.87 Sta     202+30.12
Course from 288 to 289 S 27° 42' 30.36" E Dist 230.12

Beginning chain CANAL_TEST description

288 289

<*       1   DESCRIBE CHAIN CANAL_TEST

Point CANALRT2        N       330,419.66 E     3,618,045.13 Sta      12+34.51
Course from CANALRT1 to CANALRT2 S 27° 42' 30.36" E Dist 234.51

Feature: - 25 Scale Baselines

CANALRT1 CANALRT2

<*       1   DESCRIBE CHAIN CANALRT

Ending chain WILLIAMSTOWN description

Point WILLIAMSTOWN2   N       329,208.04 E     3,617,175.85 Sta      13+60.26
Feature: - 25 Scale Baselines

WILLIAMSTOWN1 WILLIAMSTOWN2

Chain WILLIAMSTOWN contains:

WILLIAMSTOWN DRIVE

Ahead       = N  24° 43' 24.37" E
Mid. Ord.   =               21.80
Radius      =              107.00
Length      =              139.03
Delta       =      74° 26' 40.52" (RT)
P.I.  Station            11+55.88  N          328,424.20  E        3,615,866.52
Curve DUKE 3

*----------*

Curve Data
Point DUKE1           N       328,323.42 E     3,615,985.44 Sta      10+00.00

===============================================================================

Feature: - 25 Scale Baselines

Chain DUKE contains:

JMT Engineering (804) 323-9900
Leon E. Treutle LS (703)259-3224 7/17/13

===============================================================================

Point POSSUM5         N       330,981.18 E     3,618,742.42 Sta     205+32.97
Ahead       = N  67° 31' 13.22" E
Back        = S  71° 44' 05.62" E
P.T.  Station           203+93.31  N          330,927.77  E        3,618,613.37
Mid. Ord.   =               18.77
Long Chord  =              208.87
Length      =              213.34
Delta       =      40° 44' 41.16" (LT)
Curve Data
Point POSSUM1         N       330,976.50 E     3,618,233.74 Sta     200+00.00

Feature: - 25 Scale Baselines

Ending chain MAINSTRT description

Point MAINSTRT6       N       331,337.89 E     3,618,466.59 Sta      16+85.72
Chord Bear  = N  46° 05' 33.64" E
Ahead       = N  40° 16' 43.86" E
C.C.                               N          332,248.09  E        3,617,321.56
Mid. Ord.   =                7.52
Tangent     =              148.86

*----------*

Curve Data
Chord Bear  = N  57° 48' 22.15" E
C.C.                               N          332,389.75  E        3,617,210.51
P.C.  Station            10+05.00  N          330,917.64  E        3,617,937.88
External    =                8.74
Radius      =            1,642.00
Tangent     =              169.67
Delta       =      11° 47' 57.43" (LT)
Curve MAINSTRT 3

Course from MAINSTRT1 to PC MAINSTRT 3 N 63° 42' 20.86" E Dist 5.00

Beginning chain MAINSTRT description

MAINSTRT1 CUR MAINSTRT 3 CUR MAINSTRT 4 MAINSTRT6

Chain MAINSTRT contains:

Ending chain CANALRTSVC description

Ahead       = S  64° 39' 51.68" E
Back        = S  72° 27' 22.76" E
C.C.                               N          330,296.03  E        3,618,381.73
Tangent     =               13.62
P.I.  Station            24+78.20  N          330,482.63  E        3,618,455.01
Course from PT CANALRTSVC 6 to PC CANALRTSVC 9 S 72° 27' 22.76" E Dist 36.05
Point CANALRTSVC 6        N       330,520.88 E     3,618,455.00 Sta     204+32.97
Point CANALRTSVC 9        N       330,497.60 E     3,618,407.65 Sta     200+00.00
Point CANALRTSVC 10       N       330,503.86 E     3,618,390.57 Sta     200+00.00
Mid. Ord.   =                0.21
External    =                0.21
Length      =               18.19
Curve CANALRTSVC 6

*----------*

Curve Data
Chord Bear  = N  87° 29' 26.80" E
Ahead       = S  67° 14' 40.50" E
Back        = N  62° 13' 34.10" E
P.T.  Station            23+23.65  N          330,537.39  E        3,618,310.63
P.C.  Station            20+51.14  N          330,525.85  E        3,618,047.12
Mid. Ord.   =               29.56
Radius      =              309.00
Length      =              272.51
Tangent     =              145.83
Delta       =      50° 31' 45.39" (RT)

===============================================================================

Feature: - 25 Scale Baselines

Beginning chain CANALRTSVC description

Chain CANALRTSVC contains:

<*       1   DESCRIBE CHAIN CANALRTSVC

CANAL ROAD RD. SERVICE ROAD

FOR ANY TYPE

OF CONSTRUCTION OR THE

MAY BE SUBJECT TO CHANGE AS DEEMED

OR TO REGULATION AND CONTROL OF TRAFFIC

DESIGN FEATURES RELATING TO CONSTRUCTION

AND UNAPPROVED AND ARE NOT TO BE USED

STATE

VA.
### Horizontal Construction Alignment Data

#### TOWN SQUARE COURT

**Beginning chain TOWN SQUARE description**

<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
<th>E</th>
<th>Sta</th>
<th>Course from PT TOWN SQUARE 3 to TOWN SQUARE5</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOWN SQUARE5</td>
<td>326,543.44</td>
<td>3,615,526.93</td>
<td>14+92.03</td>
<td>N 78° 00' 10.74&quot; E Dist 147.06</td>
</tr>
</tbody>
</table>

**Chord Bear** = N 89° 12' 34.23" E

**Ahead** = N 78° 00' 10.74" E

**Back** = S 79° 35' 02.29" E

**C.C.**

<table>
<thead>
<tr>
<th>N</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>326,845.45</td>
<td>3,615,312.41</td>
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</table>

**P.T. Station**

<table>
<thead>
<tr>
<th>Station</th>
<th>N</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>13+44.97</td>
<td>326,512.87</td>
<td>3,615,383.09</td>
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**P.C. Station**

<table>
<thead>
<tr>
<th>Station</th>
<th>N</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>12+11.97</td>
<td>326,511.05</td>
<td>3,615,250.94</td>
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</tbody>
</table>

**Mid. Ord.** = 6.48

**Long Chord** = 132.16

**External** = 6.61

**Radius** = 340.00

**Length** = 133.00

**Tangent** = 67.36

**Degree** = 16° 51' 06.12"

**Delta** = 22° 24' 46.97" (LT)

**P.I. Station**

<table>
<thead>
<tr>
<th>Station</th>
<th>N</th>
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</thead>
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<tr>
<td>12+79.33</td>
<td>326,498.87</td>
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**Curve TOWN SQUARE 3**

**Beginning chain STAGE ENTR 1 description**

<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
<th>E</th>
<th>Sta</th>
<th>Course from PT STAGE ENTR 1 to PC STAGE ENTR 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE ENTR 1</td>
<td>331,586.12</td>
<td>3,618,864.90</td>
<td>102+91.86</td>
<td>S 74° 13' 35.34&quot; W Dist 189.84</td>
</tr>
</tbody>
</table>

**Chord Bear** = S 51° 21' 58.35" W

**Ahead** = S 74° 13' 35.34" W

**Back** = S 28° 30' 21.36" W

**C.C.**

<table>
<thead>
<tr>
<th>N</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td>331,733.96</td>
<td>3,619,020.41</td>
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**P.T. Station**

<table>
<thead>
<tr>
<th>Station</th>
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<tbody>
<tr>
<td>101+02.02</td>
<td>331,637.72</td>
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**P.C. Station**

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<tr>
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<tbody>
<tr>
<td>100+22.22</td>
<td>331,686.23</td>
<td>3,619,108.28</td>
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**Mid. Ord.** = 7.85

**Long Chord** = 77.70

**External** = 8.52

**Radius** = 100.00

**Length** = 79.80

**Tangent** = 42.16

**Degree** = 57° 17' 44.81"

**Delta** = 45° 43' 13.97" (RT)

**P.I. Station**

<table>
<thead>
<tr>
<th>Station</th>
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<tr>
<td>100+64.38</td>
<td>331,649.18</td>
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**Curve STAGE ENTR 1**

**Beginning chain TRIPOLI description**

<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
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<th>Sta</th>
<th>Course from D806 to D807</th>
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</thead>
<tbody>
<tr>
<td>D806</td>
<td>331,841.92</td>
<td>3,618,969.75</td>
<td>99+87.48</td>
<td>N 45° 47' 21.10&quot; W Dist 278.23</td>
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**Point D806**

<table>
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<tr>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>331,706.76</td>
<td>3,619,108.89</td>
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**Distance** = 10400.00

**Beginning chain TRIPOLI description**

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<tr>
<th>Route 2</th>
<th>Chain 1</th>
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<tr>
<td>STAGE ENTR 1</td>
<td>D806, D807</td>
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</tbody>
</table>

**Chain TRIPOLI contains:**

<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
<th>E</th>
<th>Sta</th>
<th>Course from STAGE ENTR 1 to PC STAGE ENTR 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE ENTR 1</td>
<td>331,705.76</td>
<td>3,619,118.89</td>
<td>100+00.00</td>
<td>S 28° 30' 21.36&quot; W Dist 22.22</td>
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**Point STAGE ENTR 11**

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<td>331,705.76</td>
<td>3,619,118.89</td>
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**Distance** = 22.22

| Feature: - 25 Scale Baselines |

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<td>STAGE ENTR 11 CUR STAGE ENTR 3 STAGE ENTR 15</td>
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<tr>
<td>Chain STAGE ENTR 1 contains: 1 DESCRIBE CHAIN STAGE ENTR 1</td>
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<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
<th>E</th>
<th>Sta</th>
<th>Course from D807 to D806</th>
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<tbody>
<tr>
<td>D807</td>
<td>332,035.93</td>
<td>3,618,770.32</td>
<td>102+65.71</td>
<td>N 45° 47' 21.10&quot; W Dist 278.23</td>
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**Point D807**

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<tr>
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<td>3,618,770.32</td>
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**Distance** = 278.23

**Chain TRIPOLI contains:**

<table>
<thead>
<tr>
<th>Route 2</th>
<th>Chain 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIPOLI</td>
<td>D806, D807</td>
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**Chain TRIPOLI contains:**

<table>
<thead>
<tr>
<th>Point</th>
<th>N</th>
<th>E</th>
<th>Sta</th>
<th>Course from PC STAGE ENTR 3 to PC STAGE ENTR 5</th>
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</thead>
<tbody>
<tr>
<td>PC STAGE ENTR 3</td>
<td>331,733.96</td>
<td>3,619,020.41</td>
<td>102+65.71</td>
<td>S 74° 13' 35.34&quot; W Dist 189.84</td>
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**Point STAGE ENTR 15**

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<tr>
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<td>3,618,864.90</td>
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</tbody>
</table>

**Distance** = 189.84

**Chain TRIPOLI contains:**

<table>
<thead>
<tr>
<th>Route 2</th>
<th>Chain 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIPOLI</td>
<td>D806, D807</td>
</tr>
</tbody>
</table>

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Entrance Alignment Construction Data

Mall Entrance *1 (Sheet 6B)  @ Sta. 274+15.00 Fraley Blvd.
(*) 1 DESCRIBE CHAIN 274+15LT

Chain 274+15LT contains:
Point 133  N  326,792.51 E  3,615,026.51 Sta  10+00.00
Course from 133 to 134 N 86° 05' 53.48" W Dist 400.00
Point 134  N  326,819.73 E  3,614,627.44 Sta  14+00.00

Ending chain 274+15LT description

Mall Entrance *2 (Sheet 6B)  @ Sta. 12+16.60 of Mall Entr *1
(*) 2 DESCRIBE CHAIN MALLRT

Chain MALLRT contains:
Point MALLRT1  N  326,807.25 E  3,614,810.41 Sta  20+00.00
Course from MALLRT1 to MALLRT2 N 10° 48' 48.67" E Dist 300.00
Point MALLRT2  N  327,101.93 E  3,614,866.70 Sta  23+00.00

MALLPARK21 MALLPARK22
Beginning chain MALLPARK21 description
Course from MALLPARK21 to MALLPARK22 S 17° 37' 50.73" E Dist 125.00
Point MALLPARK22  N  326,930.72 E  3,614,784.61 Sta  41+25.00

Ending chain MALLPARK2 description

Mall Entrance *3 (Sheet 6B)  @ Sta. J2-80AI of Mall Entr *1
(*) 3 DESCRIBE CHAIN 261+43RT

Chain 261+43RT contains:
Point 122  N  325,540.94 E  3,614,872.92 Sta  10+00.00
Course from 122 to 123 S 81° 30' 29.24" E Dist 120.00
Point 123  N  325,523.22 E  3,614,991.60 Sta  11+20.00

Ending chain 261+43RT description

Chain 262+17LT contains:
Point 124  N  325,604.61 E  3,614,882.43 Sta  10+00.00
Course from 124 to 125 N 81° 30' 29.24" W Dist 110.00
Point 125  N  325,620.85 E  3,614,773.63 Sta  11+10.00

Ending chain 262+17LT description

Chain 264+70RT contains:
Point 126  N  325,853.82 E  3,614,919.64 Sta  10+00.00
Point 127  N  325,842.01 E  3,614,998.76 Sta  10+80.00

Ending chain 264+70RT description

Chain 267+17RT contains:
Point MALLPARK1 N  327,007.29 E  3,614,864.55 Sta  50+00.00
Course from MALLPARK1 to MALLPARK2 S 70° 06' 56.60" W Dist 60.00
Point MALLPARK2  N  326,983.40 E  3,614,904.42 Sta  50-70.00

Chain MALLPARK1 contains:
MALLPARK11 MALLPARK12
Beginning chain MALLPARK11 description
Feature: - 25 Scale Baselines
Course from MALLPARK11 to MALLPARK12 S 70° 06' 56.60" W Dist 60.00
Point MALLPARK12  N  326,983.40 E  3,614,904.42 Sta  50-70.00

Ending chain MALLPARK1 description

Mall Entrance *4 (Sheet 6B)  @ Sta. 21+34.00 of Mall Entr *2
(*) 4 DESCRIBE CHAIN MALL2

Chain MALL2 contains:
MALL21 MALL22
Point MALL21  N  326,938.87 E  3,614,835.55 Sta  30+00.00
Course from MALL21 to MALL22 N 80° 06' 56.60" W Dist 60.00
Point MALL22  N  326,949.17 E  3,614,776.44 Sta  30+60.00

Ending chain MALL2 description

Chain MALLPARK2 contains:
MALLPARK21 MALLPARK22
Beginning chain MALLPARK21 description
Feature: - 25 Scale Baselines
Course from MALLPARK21 to MALLPARK22 S 70° 06' 56.60" W Dist 60.00
Point MALLPARK22  N  326,983.40 E  3,614,904.42 Sta  50-70.00

Ending chain MALLPARK2 description

Mall Entrance *5 (Sheet 6B)  @ Sta. 22+03.65 of Mall Entr *2
(*) 5 DESCRIBE CHAIN 271+89LT

Chain 271+89LT contains:
Point 130  N  326,568.63 E  3,614,996.61 Sta  10+00.00
Point 131  N  326,575.17 E  3,614,903.61 Sta  10+93.23
Course from 131 to 132 N 79° 27' 50.28" W Dist 156.77

Ending chain 271+89LT description
Entrance Alignment Construction Data

Entrance @ Sta.286+14.02 Fraley Blvd.

Point 139
N 327,840.13 E 3,615,575.89 Sta 10+00.00
Course from 139 to 140 N 49° 43' 16.14" W Dist 100.00
Point 140
N 327,904.78 E 3,615,499.60 Sta 11+00.00

Entrance @ Sta.286+87.78 Fraley Blvd.

Point 137
N 327,891.82 E 3,615,618.70 Sta 10+00.00
Course from 137 to 138 N 49° 43' 16.14" W Dist 120.00
Point 138
N 327,966.41 E 3,615,528.15 Sta 11+20.00

Entrance @ Sta.289+78.07 Fraley Blvd.

Point 143
N 328,118.04 E 3,615,811.40 Sta 10+00.00
Point 144
N 328,147.22 E 3,615,689.86 Sta 11+25.00

Entrance @ Sta.294+00.87 Fraley Blvd.

Point 147
N 328,438.89 E 3,616,083.30 Sta 10+00.00
Course from 147 to 148 S 49° 43' 16.14" E Dist 125.00
Point 148
N 328,527.62 E 3,616,027.41 Sta 11+00.00

Entrance @ Sta.294+30.87 Fraley Blvd.

Point 145
N 328,462.97 E 3,616,103.70 Sta 10+00.00
Course from 145 to 146 N 49° 43' 16.14" W Dist 100.00
Point 146
N 328,537.66 E 3,616,037.11 Sta 11+00.00

Entrance @ Sta.296+75.85 Fraley Blvd.

Point 151
N 328,750.09 E 3,616,282.98 Sta 10+00.00
Course from 151 to 152 S 49° 43' 16.14" E Dist 100.00
Point 152
N 328,835.56 E 3,616,338.67 Sta 11+00.00

Entrance @ Sta.298+03.87 Fraley Blvd.

Point 149
N 328,770.62 E 3,616,279.67 Sta 10+00.00
Point 150
N 328,841.73 E 3,616,215.75 Sta 11+10.00

Entrance @ Sta.298+35.87 Fraley Blvd.

Point 153
N 328,861.24 E 3,616,374.45 Sta 10+00.00
Course from 153 to 154 N 49° 43' 16.14" W Dist 150.00
Point 154
N 328,949.21 E 3,616,260.00 Sta 11+50.00

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
### Entrance Alignment Construction Data

#### Entrance @ Sta. 300+69.38 Fraley Blvd.
- **Described Chain:** Chain 300+69LT
- **Point 155:**
  - **Coordinates:** N 328,952.03, E 3,616,514.86
  - **Station:** 10+00.00
- **Point 156:**
  - **Coordinates:** N 329,026.30, E 3,616,420.61
  - **Station:** 11+20.00

#### Entrance @ Sta. 303+54.14 Fraley Blvd.
- **Described Chain:** Chain 303+54RT
- **Point 157:**
  - **Coordinates:** N 329,178.82, E 3,616,687.05
  - **Station:** 10+00.00
- **Point 158:**
  - **Coordinates:** N 329,100.84, E 3,616,778.27
  - **Station:** 11+20.00

#### Entrance @ Sta. 317+22.00 Fraley Blvd.
- **Described Chain:** Chain 317+22RT
- **Point 159:**
  - **Coordinates:** N 330,455.73, E 3,617,776.48
  - **Station:** 10+00.00
- **Point 160:**
  - **Coordinates:** N 330,960.67

#### Entrance @ Sta. 320+33RT Fraley Blvd.
- **Described Chain:** Chain 320+33RT
- **Point D810:**
  - **Coordinates:** N 330,455.73
- **Point D811:**
  - **Coordinates:** N 330,357.72

#### Entrance @ Sta. 334+23.00 Fraley Blvd.
- **Described Chain:** Chain 334+23LT
- **Point 195:**
  - **Coordinates:** N 331,008.09
- **Point 196:**
  - **Coordinates:** N 331,673.94

#### Entrance @ Sta. 335+83LT Fraley Blvd.
- **Described Chain:** Chain 335+83LT
- **Point 238:**
  - **Coordinates:** N 331,630.45
- **Point 239:**
  - **Coordinates:** N 331,752.28

#### Entrance @ Sta. 336+62LT Fraley Blvd.
- **Described Chain:** Chain 336+62LT
- **Point 242:**
  - **Coordinates:** N 331,690.08
- **Point 243:**
  - **Coordinates:** N 331,801.29

### Curve Data:
- **Point P.I. 12+11.66:**
  - **Coordinates:** N 331,644.93, E 3,618,522.75
- **Degree:** 114° 35' 29.61"
- **Tangent Length:** 17.25
- **Radius:** 50.00
- **Mid. Ord.:** 2.73
- **P.C. Station 11+94.41:**
  - **Coordinates:** N 331,633.78, E 3,618,535.91
- **P.T. Station 12+27.63:**
  - **Coordinates:** N 331,661.82, E 3,618,519.26
- **C.C.:**
  - **Coordinates:** N 331,671.92, E 3,618,568.23
- **Back Course:** N 49° 43' 16.14" W
- **Ahead Course:** N 11° 39' 09.64" W

### Plans
- **R/W Plans:**
  - THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
Side Road Entrance Alignment Construction Data

Entrance @ Sta.11+29.80 Graham Park Rd.Rt (Sheet 7)

- DESCRIBE CHAIN ENTR12+29
  Chain ENTR12+29 contains:
  - 135 136
  Beginning chain ENTR12+29 description
  Feature: 25 Scale Baselines

  Point 135  N 327,618.48 E 3,615,700.78 Sta 30+00.00
  Course from 135 to 136 S 41° 58' 03.23" W Dist 100.00
  Point 136  N 327,544.13 E 3,615,633.91 Sta 31+00.00

Ending chain ENTR12+42 description

Entrance @ Sta.12+42.62 Graham Park Rd.Rt (Sheet 7C)

- DESCRIBE CHAIN ENTR13+02
  Chain ENTR13+02 contains:
  - ENTR141 CUR ENTR13+021 ENTR142
  Beginning chain ENTR13+02 description
  Feature: 25 Scale Baselines

  Point ENTR141  N 327,589.19 E 3,615,751.93 Sta 40+00.00
  Course from ENTR141 to PC ENTR13+021 N 29° 48' 18.42" E Dist 40.09
  Curve Data
  *----------*
  Curve ENTR13+021
  P.I. Station 40+67.02 N 327,647.34 E 3,615,785.24
  Delta       = 15° 19' 56.16" (RT)
  Degree      = 28° 38' 52.40"
  Length      = 53.52
  Radius      = 200.00
  External    = 1.80
  Long Chord  = 53.36
  Mid. Ord.   = 1.79
  P.C. Station 40+40.09 N 327,623.98 E 3,615,771.86
  P.T. Station 40+93.61 N 327,666.33 E 3,615,804.32
  C.C.     N 327,524.57 E 3,615,945.40
  Back       N 29° 48' 18.42" E
  Ahead      N 45° 08' 14.57" E
  Course from PT ENTR13+021 to ENTR142 N 45° 08' 14.57" E Dist 70.43
  Point ENTR142  N 327,716.01 E 3,615,854.24 Sta 41+64.05

Ending chain ENTR13+02 description

Entrance @ Sta.20+49.80 Canal Service Rd. (Sheet 13)

- DESCRIBE CHAIN ENTR20+49
  Chain ENTR20+49 contains:
  - 193 194
  Beginning chain ENTR20+49 description
  Feature: 25 Scale Baselines

  Point 193  N 327,499.89 E 3,618,089.04 Sta 10+50.00

Ending chain ENTR20+49 description

Entrance @ Sta.103+57.90 Reloc. Main St. N. (Sheet 13)

- DESCRIBE CHAIN ENTR103+57
  Chain ENTR103+57 contains:
  - 163 164
  Beginning chain ENTR103+57 description
  Feature: 25 Scale Baselines

  Point 163  N 330,878.96 E 3,617,918.28 Sta 10+00.00
  Course from 163 to 164 N 26° 17' 39.14" W Dist 70.00
  Point 164  N 330,941.72 E 3,617,887.27 Sta 10+70.00

Ending chain ENTR103+57 description
Side Road Entrance Alignment Construction Data

Entrance @ Sta.102-92.53 Main St. RT Lane (Sheet 14)

1 DESCIRIBE CHAIN ENTR102+92

Chain ENTR102+92 contains:

1 Stella

Point 249 N 331,562.79 E 3,618,892.69 Sta 0+30.00
Course from 248 to 249 S 15° 46' 24.66" E Dist 30.00

Point 248 N 331,591.66 E 3,618,884.53 Sta 0+00.00

FEATURE: 25 SCALE BASELINES

Beginning chain ENTR102+92 description

Point 248 N 331,591.66 E 3,618,884.53 Sta 0+00.00
Course from 247 to 248 N 34° 43' 02.50" W Dist 55.00

Point 282 N 331,602.29 E 3,618,922.16 Sta 10+00.00
Course from 281 to 282 N 34° 43' 02.50" W Dist 55.00

Point 283 N 331,655.22 E 3,618,907.21 Sta 10+55.00

Entrance @ Sta.102-32.36 Orginal Stage Coach Rd. (Sheet 15)

2 DESCIRIBE CHAIN ENTR102+32

Chain ENTR102+32 contains:

1 Stella

Point 168 N 331,132.64 E 3,618,137.66 Sta 10+80.00
Course from 167 to 168 N 34° 43' 02.50" W Dist 80.00

Point 167 N 331,066.88 E 3,618,183.23 Sta 10+00.00

FEATURE: 25 SCALE BASELINES

Beginning chain ENTR102+32 description

Point 167 N 331,066.88 E 3,618,183.23 Sta 10+00.00
Course from 166 to 167 N 34° 43' 02.50" W Dist 80.00

Point 268 N 332,373.77 E 3,619,547.84 Sta 20+60.00
Course from 267 to 268 S 40° 30' 28.44" W Dist 60.00

Point 269 N 332,419.39 E 3,619,586.82 Sta 20+00.00

Entrance @ Sta.100-55.7 Orginal Stage Coach Rd. (Sheet 15C)

4 DESCIRIBE CHAIN ENTR100+55

Chain ENTR100+55 contains:

1 Stella

Point 102 N 331,132.64 E 3,618,137.66 Sta 10+80.00
Course from 101 to 102 N 34° 43' 02.50" W Dist 80.00

Point 101 N 331,066.88 E 3,618,183.23 Sta 10+00.00

FEATURE: 25 SCALE BASELINES

Beginning chain ENTR100+55 description

Point 101 N 331,066.88 E 3,618,183.23 Sta 10+00.00
Course from 100 to 101 N 34° 43' 02.50" W Dist 80.00

Point 268 N 332,373.77 E 3,619,547.84 Sta 20+60.00
Course from 267 to 268 S 40° 30' 28.44" W Dist 60.00

Point 269 N 332,419.39 E 3,619,586.82 Sta 20+00.00

Ending chain ENTR100+55 description

SIDE ROAD ENTRANCE ALIGNMENT CONSTRUCTION DATA

JMT Engineering (804) 323-9900
Leon E. Treutle LS (703) 259-3224 7/17/13
Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
Leon E. Treutle LS (703) 259-3224 7/17/13

 THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
The roadway carries large diverse types of travelers. In the peak hours however, commuters

Fraley Boulevard (Route 1) @ Williamstown Drive

There are five unsignalized intersections within the limits of this project. They are the intersections of:

Fraley Boulevard (Route 1) & Main Street @ Possum Point Road

During the initial construction, the Observatory will need to be impounded which will

safety signs, pedestrian markings, lane closures as well as any temporary road

The project location is as shown on Sheet 1A.

Traffic Control Devices (MUTCD), 2009 Edition Revised May 2012, and the Virginia Department of

As unsuitable material as detailed in the geotechnical recommendations shall be disposed

Concrete Traffic Barrier Service. The Concrete Traffic Barrier Service shall be pinned in these locations

that will be affected by the Construction Area or by the traffic control devices:

Traffic Control Devices

Depending on the time of year, the contractor shall notify and coordinate with the local area schools

plotted on any wetlands, ES S & Sediment Basins/traps, or other environmentally sensitive areas.

A performance assessment of the TMP including area-wide impacts on adjacent roadways shall

would not be permitted unless preapproved, the allowable hours for all lane and/or shoulder closures

Unless preapproved, the allowable hours for all lane and/or shoulder closures shall

Designate a person assigned to the project who will have the primary responsibility, with

The Contractor shall have a person designated as the point of contact

depending on the work area shall be maintained at all times throughout the duration of the project.

All existing commercial or private entrances shall remain open for the duration of

If the existing roadway is a divided highway, the project location is as shown on Sheet 1A.

include the traffic control areas.

Along Northbound Richmond Highway/Fraley Boulevard, Approximate Sta. 255+50, 293+50, 308+00, 329+00, 348+25

A performance assessment of the TMP including area-wide impacts on adjacent roadways shall

Traffic Control Devices

and backups are already present along the roadways). Lane closures will not be permitted

work plans and traffic delays.

The project owner shall notify and coordinate with the local area schools

LANE CLOSURES

All costs for placing, maintaining, and removing 6:1 wedge shall be included in the

The contractor shall implement VWAPM TTC 23.2 and TTC 24.2 when working in these areas.

placed on any wetlands, ES S & Sediment Basins/traps, or other environmentally sensitive areas.

If approved, it will be implemented after the Structures have been completed and lane and/or shoulder closures have been removed.

Lee Annam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation

The roadway carries large diverse types of travelers in the peak hours. However, commuters

Fraley Boulevard (Route 1) @ Graham Park Road

Design All structures shall be designed to withstand the peak moving loads and shall be of

Design: A person designated to the project who will have the primary responsibility with

If the roadway is a divided highway, the project location is as shown on Sheet 1A.

The contractor and contractor’s engineer shall utilize all other MUTCD signs, markings,

All containers of construction waste material shall be disposed on the site at the

in the Virginia Department of

Traffic Control Devices

The roadway carries large diverse types of travelers. In the peak hours however, commuters

Designate a person assigned to the project who will have the primary responsibility with

The roadway carries large diverse types of travelers in the peak hours. However, commuters

Fraley Boulevard (Route 1) @ Williamstown Drive

There are five unsignalized intersections within the limits of this project. They are the intersections of:

Fraley Boulevard (Route 1) & Main Street @ Possum Point Road

During the initial construction, the Observatory will need to be impounded which will

safety signs, pedestrian markings, lane closures as well as any temporary road

The project location is as shown on Sheet 1A.

Traffic Control Devices (MUTCD), 2009 Edition Revised May 2012, and the Virginia Department of

As unsuitable material as detailed in the geotechnical recommendations shall be disposed

Concrete Traffic Barrier Service. The Concrete Traffic Barrier Service shall be pinned in these locations

that will be affected by the Construction Area or by the traffic control devices:

Traffic Control Devices

Depending on the time of year, the contractor shall notify and coordinate with the local area schools

plotted on any wetlands, ES S & Sediment Basins/traps, or other environmentally sensitive areas.

A performance assessment of the TMP including area-wide impacts on adjacent roadways shall

Traffic Control Devices

and backups are already present along the roadways). Lane closures will not be permitted

unless preapproved, the allowable hours for all lane and/or shoulder closures shall

Unless preapproved, the allowable hours for all lane and/or shoulder closures shall

Designate a person assigned to the project who will have the primary responsibility, with

The Contractor shall have a person designated as the point of contact

depending on the work area shall be maintained at all times throughout the duration of the project.

All existing commercial or private entrances shall remain open for the duration of

If the existing roadway is a divided highway, the project location is as shown on Sheet 1A.

Traffic Control Devices

All costs for placing, maintaining, and removing 6:1 wedge shall be included in the

The contractor shall implement VWAPM TTC 23.2 and TTC 24.2 when working in these areas.

placed on any wetlands, ES S & Sediment Basins/traps, or other environmentally sensitive areas.

A performance assessment of the TMP including area-wide impacts on adjacent roadways shall

Traffic Control Devices

and backups are already present along the roadways). Lane closures will not be permitted

unless preapproved, the allowable hours for all lane and/or shoulder closures shall

Unless preapproved, the allowable hours for all lane and/or shoulder closures shall

Designate a person assigned to the project who will have the primary responsibility with

The Contractor shall have a person designated as the point of contact

depending on the work area shall be maintained at all times throughout the duration of the project.

All existing commercial or private entrances shall remain open for the duration of

If the existing roadway is a divided highway, the project location is as shown on Sheet 1A.

Traffic Control Devices (MUTCD), 2009 Edition Revised May 2012, and the Virginia Department of
Sequence of Construction Narrative

PHASE 1

- Leave NB and SB traffic in existing locations. Maintain 2 lanes in each direction with a minimum 11' width. Set up temporary construction devices and erosion control measures.
- Begin construction of drainage as shown for Phase 1 and proceed with construction on the west side of the existing NB lanes, including Graham Park Road Left, North Main Street Right, Tripoli Blvd, and Water's Lane. Construct pavement in the median of NB where it intersects with Main Street/Possum Point Road. Place pavement up to the intermediate layer.
- Construct stormwater management ponds and retaining walls on the west side.
- Construct the bridge on the west side, see Bridge plans.

PHASE 2

- Release temporary construction devices and shift NB traffic onto newly constructed lanes from Phase 1 and maintain 2 lanes in each direction with a minimum 11' width.
- Begin construction on the west side of the NB lanes, including Graham Park Road Right, Westover Drive, Canal Road, Possum Point Road, Relocated Old Stage Coach Road, and Old Stage Coach Road Cul-de-sac. Place pavement up to the intermediate layer.
- Construct stormwater management ponds and retaining walls on the west side.
- Construct the bridge on the west side, see Bridge plans.

PHASE 2A

- Release temporary construction devices and shift NB traffic onto 2 minimum 11' width newly constructed lanes from Phase 2. Complete a minimum 2-lane NB lanes on west side from stat 278+00 to stat 303+00 for use by shifted SB traffic in Phase 3.

PHASE 3

- Release temporary construction devices and shift SB traffic onto newly constructed lanes from Phase 1 and 2A, maintain 2 lanes in each direction with a minimum 11' width.
- Initiate construction of median.
- Construct Quantico Gateway Drive, Main Street South Cul-de-sac, and Main Street North Cul-de-sac.
- Complete stormwater management ponds.
- Initiate the bridge construction, see Bridge plans.
- Place final pavement surface layer and pavement markings.
Maintenance of Traffic - Phase I

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

TMP General Notes & Construction Sign Schedule
SSC Narrative
Temporary Signal Plan

Both additional devices will be required at intersections and turn lane locations.

Construction Sign
Denotes Traffic Barrier Service
Denotes Traffic Barrier Service
Denotes Traffic Barrier Service

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase I

**MOT Typical Section**

**Phase I**

*NB: RTE.1 (Fraley Blvd.)*

**Group 2 Channelizing Devices**

Denotes Direction of Traffic

Denotes Traffic Barrier Service

Denotes Traffic Barrier Service

**References**

- Profiles, Geometry, & Drainage Description Sheets, Etc.
- TMP General Notes & Construction Sign Schedule
- SIC Narrative

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase I

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

**REFERENCES**

- Profiles, Details, & Drainage Designation Sheets, etc.
- TMP General Notes
- Construction Sign Schedule
- SOC Narrative
- WU
- Temporary Signal Plan

**NOTES**

- These Plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase I

MOT TYPICAL SECTION
PHASE I
NBL - RTE.1 (FRALEY BLVD.)

GROUP 2 CHANNELIZING DEVICES

ROAD WORK AHEAD

ROAD WORK END

GROUP 2 CHANNELIZING DEVICE

ROADWAY ENGINEER

PROJECT MANAGER

JMT Engineering (804) 323-9900

Leon E. Treutle LS (703)259-3224 7/17/13

Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation

REVISED STATE ROUTE PROJECT SHEET NO.

PLotted By: ong 3:10:10 PM 7/7/2023

REFERENCES ( PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC. )

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
**Maintenance of Traffic - Phase I**

**MOT Typical Section**

**Phase I**

**NBL - RTE. 1 (FRALEY BLVD.)**

- **Group 2 Channelizing Device**
- **Construction Sign**
- **Denotes Traffic Barrier Service**
- **Denotes Direction of Traffic**

**REFERENCES**

- Profiles, Details, and Drainage
- Description Sheets, etc.

**TWP General Notes**

- **Construction Sign Schedule**
- SOC Narrative
- **Temporary Signal Plan**

**R/W Plans**

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.

- **Denotes Impact Attenuator**
- **Denotes Construction Area**
- **Denotes Traffic Barrier Service**
- **Denotes Direction of Traffic**
In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

Markings as needed. Tie proposed pavement to be used. Replace any existing pavement are shown, existing pavement markings are.

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

Match Line - See Sheet 1K(6)

Match Line - See Sheet 1K(8)

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase I

**Match Line** - See Sheet 1K(7)

- Markings into existing pavement markings.
- Markings as needed. Tie proposed pavement to be used. Replace any existing pavement in areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

**REFERENCES**
- Profiles, Detal & Drainage Description Sheets, etc.
- JMT General Notes
- Construction Sign Schedule L2
- SOC Narrative

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way.
**Maintenance of Traffic - Phase 2**

**Match Line**
- **Sheet 1K (10)**

**Pavement Message Marking**
- Double Turn Arrow Thru/Lt. or Rt.
- Single Turn Arrow
- Single Lane Reduction Arrow

**Type A, White Pavement Line Marking**
- 4" Width (6-2 Skip)
- 4" Width (30-10 Skip)
- 24" Width (Solid)
- 8" Width (Solid)
- 4" Width (Solid)
- 8" Width (Solid)

**Temporary Signal Plan**

**SOC Narrative**

**Construction Sign Schedule**

**TMP General Notes**

**REVISED STATE ROUTE PROJECT SHEET NO.**

**REFERENCES**

**PROJECT MANAGER**
- Richmond, Virginia
- Johnson, Mirmiran & Thompson

**SURVEYED BY, DATE**

**DESIGN BY**
- Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation

**SUBSURFACE UTILITY BY, DATE**

**Cell Revised 12/11/12**

**JMT Engineering (804) 323-9900**

**Leon E. Treutle LS (703)259-3224 7/17/13**

**NOT TO SCALE**

**Temp. Pavement Markers placed at 20' intervals in transition locations.**

**Construction Sign**
- Denotes impact attenuator
- Denotes traffic barrier service
- Denotes construction area

**Denotes Traffic Control Area**

**These Plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.**
Maintenance of Traffic - Phase 2

**MOT Typical Section**

Phase 2

NBL - RTE 1 (FRALEY BLVD)

**Group 2 Channelizing Device**

Denotes Direction of Traffic

Denotes Traffic Barrier Service

Denotes Impact Attenuator

Denotes Construction Area

**Temp. Pave. Markers**

Temp. pave. markers placed at 20' intervals in transition locations.

**Pavement Message Marking**

- Double Turn Arrow Thru/Lt. or Rt.
- Single Turn Arrow
- Single Lane Reduction Arrow
- Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- Type A, White Pavement Line Marking, 24" Width (Solid)
- Type A, White Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 4" Width (Solid)

**NOT TO SCALE**

**REFERENCES**

- Profiles, Detail & Drainage Description Sheets, etc.
- Construction Sign Schedule
- SSO Narrative
- TMP General Notes

**R/W Plans**

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way.
Maintenance of Traffic - Phase 2

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings that are needed. The proposed pavement markings are to replace any existing pavement markings.

Temporary Signal Plan

- Construction Sign
- Denotes Direction of Traffic
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- Denotes Traffic Barriers
- Denotes Construction Area
- Denotes Construction Area

REFERENCES

- Profiles, Details & Drainage
- Description Sheets, etc.

Temporary General Notes & Construction Sign Schedule U.S.

VDOT Narrative

Temporary Traffic Plan U.S.

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase 2

MOT TYPICAL SECTION

In areas where no new pavement markings are shown, existing pavement markings are to be replaced. Existing pavement markings will be replaced with the proposed pavement markings into existing pavement markings.

See Bridge plan sheets for bridge sequence of construction and typical section showing temporary barrier placement.

In areas where no new pavement markings are shown, existing pavement markings are to be replaced. Existing pavement markings will be replaced with the proposed pavement markings into existing pavement markings.

**REFERENCES**
- Profiles & Details
- Drainage
- Description Sheets

**CONSTRUCTION**
- Construction Sign Schedule U
- TMP Narrative

**NOTES**
- These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.

**SCALE**
- 50'

**NOT TO SCALE**
- 100'

**GROUP 2 CHANNELIZING DEVICES**
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- Denotes Construction Area

**DENOTES DIRECTION OF TRAFFIC**
- Denotes Traffic Barrier Service

**ROADeway ENGINEER**
- Hoainam Nguyen, P.E.
- Phone: (703) 792-8161

**PROJECT MANAGER**
- Johnson, Mirmiran & Thompson
- Phone: (804) 323-9900
Maintenance of Traffic - Phase 2

MOT Typical Section
Phase 2
Rte.1 (Fraley Blvd)

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

Temp. Paint, Markers placed at 30' intervals in transition locations.

- Type A Yellow Pavement Line Marking, 4' Width (Solid)
- Group 2 Channelizing Devices. Device

- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- Denotes Construction Area
- Denotes Direction of Traffic

REFERENCES
- Profiles, Detail & Drainage
- Description Sheets, etc.

These Plans are UNFINISHED and UNAPPROVED and are NOT to be used FOR any type of construction or the Acquisition of RIGHT OF WAY.
Maintenance of Traffic - Phase 2

**MOT Typical Section**

Phase 2

RTE. 1 (Fraley Blvd.)

SB  NB  SB  NB

**Phase 2**

**Construction Sign Schedule 1J**

**TMP General Notes**

- Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
- Pavement Message Marking Single Turn Arrow
- Pavement Message Marking Single Lane Reduction Arrow
- Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- Type A, White Pavement Line Marking, 24" Width (Solid)
- Type A, White Pavement Line Marking, 8" Width (Solid)
- Type A, White Pavement Line Marking, 4" Width (Solid)
- Type A, Yellow Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 4" Width (Solid)

**Group 2 Channelizing Devices**

- Denotes Traffic Barrier Service
- Denotes Impact Attenuator
- Denotes Construction Area
- Denotes Construction of Traffic

**Road Sign**

- Construction Sign
- Denotes Right of Way

**REFERENCES**

- Profiles, Detail, & Drainage
- Description sheets, etc.

**JMT Engineering**

- Phone: (804) 323-9900

**Leon E. Treutle LS**

- (703) 259-3224 7/17/13

**Hoainam Nguyen, P.E.**

- (703) 792-8161 PWC Dept. of Transportation

**Project**

- Sheet No. d11948101k(15).dgn

**Plotted By:** ong

**7/7/2023**

**VA. STATE ROUTE PROJECT**

**REVISED STATE ROUTE PROJECT**

**SHEET NO.**

**Project Plans**

- These Plans are unfinished and unapproved and may be subject to change as deemed necessary by the Department.
Maintenance of Traffic - Phase 3

**MOT Typical Section**

**Phase 3**

RTE. 1 (Fraley Blvd.)

**Group 2 Channelizing Devices**

- Denotes Traffic Barrier Service
- Denotes Impact Attenuator
- Denotes Direction of Traffic
- Denotes Construction Area
- Denotes Construction Sign

**Temp. Pave. Markers**

placed at 20' intervals in transition locations.

**Pavement Message Marking**

- Single Lane Reduction Arrow
- Double Turn Arrow (Thru/Lt. or Rt.)
- Single Turn Arrow
- Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- Type A, White Pavement Line Marking, 24" Width (Solid)
- Type A, White Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 8" Width (Solid)

**Temporary Signal Plan**

1L(8)

**SOC Narrative**

1K(1)

**Construction Sign Schedule**

1J

**TMP General Notes**

1I

**REFERENCES**

- profiles, detail, & drainage
- description sheets, etc.

**TEMPORARY SIGN PLAN**

**145 DESCRIPTION SHEETS, ETC.**

**STATEMENT OF CONSTRUCTION OR THE**

**ACQUISITION OF RIGHT OF WAY.**

**STATEMENT OF NECESSARY BY THE DEPARTMENT**

MAY BE SUBJECT TO CHANGE AS DEEMED

OR TO REGULATION AND CONTROL OF TRAFFIC

**DESIGN FEATURES RELATING TO CONSTRUCTION**

**REVISED**

AND UNAPPROVED AND ARE NOT TO BE USED

FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
Maintenance of Traffic - Phase 3

Pavement Message Marking
- Double Turn Arrow Thru/Lt. or Rt.
- Single Turn Arrow
- Single Lane Reduction Arrow

Type A, White Pavement Line Marking
- 4" Width (6-2 Skip)
- 24" Width (Solid)
- 8" Width (Solid)

Type A, Yellow Pavement Line Marking
- 8" Width (Solid)
- 4" Width (Solid)

Temp. Pavement Markers
- Placed at 20' intervals in transition locations.

Not To Scale

MOT TYPICAL SECTION

Group 2 Channelizing Device

Phase 3 Construction Area

construction sign and turn lane locations.

Additional devices will be required at entrances

35 MPH speed limit. Additional devices will be required at entrances

and turn lane locations.
Maintenance of Traffic - Phase 3

Temp. Signal Plan   1L(9)
SOC Narrative           1K(1)
Construction Sign Schedule 1J
TMP General Notes        1I
PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC. )
REFERENCES
ROADWAY ENGINEER
Richmond, Virginia

Northbound - Rte. 1 - Fraley Blvd.
Southbound - Rte. 1 - Fraley Blvd.

Denotes Traffic Barrier Service
Denotes Direction of Traffic
Denotes Impact Attenuator
Denotes Construction Area
Denotes Traffic Control

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

Temporary Signal Plan

Construction Sign Schedule
SOC Narrative
Temporary Signal Plan

R/W PLANS

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.

Phone: (804) 323-9900
Cell Revised 12/11/12

Pavement Message Marking Single Lane Reduction Arrow
Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Pavement Message Marking Single Lane Reduction Arrow
Pavement Message Marking Single Turn Arrow
Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Pavement Message Marking Single Lane Reduction Arrow

Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Type A, White Pavement Line Marking, 24" Width (Solid)
Type A, White Pavement Line Marking, 8" Width (Solid)
Type A, White Pavement Line Marking, 4" Width (Solid)
Type A, Yellow Pavement Line Marking, 4" Width (Solid)

Temp.  Pave.  Markers placed at 20' intervals in transition locations.
Maintenance of Traffic - Phase 3

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. The proposed pavement markings into existing pavement markings.

**MOT TYPICAL SECTION**

**PHASE 3**
RTE. (FRALEY BLVD.)

**GROUP 2 CHANNELIZING DEVICE**

**GROUP 2 CHANNEIZING DEVICE**

**ROAD WORK AHEAD**

**CONSTRUCTION SIGN**

**REFERENCES**

- PROF, DETAIL & DRAINAGE
- DESCRIPTION SHEETS, ETC.

**ROADWAY ENGINEER**

**PROJECT MANAGER**

**JMT Engineering (804) 323-9900**

**Leon E. Treutle LS (703) 259-3224 7/17/13**

**Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation**

**REVISED STATE PROJECT**

**SHEET NO.**

**designed by:**

**drawn by:**

**Mechano:**

**REVISED 12/11/12**

**STATE ROUTE PROJECT**

**R/W PLANS**

**THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.**
Maintenance of Traffic - Phase 3

- Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
- Pavement Message Marking Single Turn Arrow
- Pavement Message Marking Single Lane Reduction Arrow
- Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- Type A, White Pavement Line Marking, 24" Width (Solid)
- Type A, White Pavement Line Marking, 8" Width (Solid)
- Type A, White Pavement Line Marking, 4" Width (Solid)
- Type A, Yellow Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 4" Width (Solid)

Temporary Signal Plan

NOT TO SCALE

In areas where new pavement markings are shown, existing pavement markings are to be removed. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

Group 2 Channelizing Devices

- Denotes Traffic Barrier Service
- Denotes Traffic Barrier Service

REFERENCES

- Profiles, Details, & Drainage Description Sheets, etc.

Construction Sign

Traffic Control System (TCS) Design

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase 3

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Proposed pavement markings into existing pavement markings.

**MOT Typical Section**

- Temp. Pave. Markers placed at 20' intervals in transition locations.
- Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- Type A, White Pavement Line Marking, 24" Width (Solid)
- Type A, White Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 8" Width (Solid)
- Type A, Yellow Pavement Line Marking, 4" Width (Solid)

**REFERENCES**

- Profiles, Detal & Drainage

**Construction Sign Schedule**

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- Denotes Traffic Barrier Service
- Denotes Traffic Barrier Service
- Denotes Traffic Barrier Service

**DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.**

**General Notes**

- General Notes
- General Notes
- General Notes
- General Notes
- General Notes

**NOT TO SCALE**

**SCALE**

- 50'
- 100'

**GROUP 2 CHANNELIZING DEVICES**

- Denotes Construction Area
- Denotes Direction of Traffic

**REFERENCES**

- Profiles, Detal & Drainage

**NOTES**

- These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Maintenance of Traffic - Phase 3

**MOT Typical Section**

**Phase 3**

RTE. 1 (FRALEY BLVD.)

**Groups 2 Channelizing Device**

**Heading**

**Construction Sign** Schedule

**General Notes**

**Construction Sign**

**References**

**Notes:**

1. Denotes Direction of Traffic
2. Denotes Construction Area
3. Denotes Traffic Control Service
4. Denotes Impact Attenuator
5. Denotes Construction Barrier Service

**Construction Sign** and turn lane locations.

Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Type A, White Pavement Line Marking, 24" Width (Solid)
Type A, White Pavement Line Marking, 8" Width (Solid)
Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Type A, White Pavement Line Marking, 4" Width (Solid)

Temp. Pave. Markers placed at 20' intervals in transition locations.

**References in Profiles, Detail and Drainage Specifications, etc:**

**General Notes:**

- Construction Sign Schedule
- TJCC Narrative

**Notes:**

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Erosion & Sediment Control General Notes

**Project Description**

This project is located in Prince William County and approximately 36.30 acres will be disturbed by existing channels and allow for the construction of the culverts to be performed in the dry. Temporary Diversion Channels shall be installed in the locations shown on the plan to divert the water. The contractor shall install erosion control measures as the Contractor deems necessary to prevent erosion and sedimentation as the Contractor deems necessary to prevent erosion and sedimentation.

**Site Plan**

- **Location:** A small area existing in the region is selected in the surrounding area. Include any existing and active drainage areas.
- **Phase Plan:** The contractor shall submit a plan to the County Inspector for approval. The implementation of Phase II controls cannot begin until the Phase II controls have been approved by the County Inspector.
- **Construction:** The existing drainage channels and other drainage features shall be protected and stabilized during construction. The contractor shall be responsible for the construction of the culverts to be performed in the dry. Temporary Diversion Channels shall be installed in the locations shown on the plan.
- **Landscape:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Sediment Control:** Sediment control measures shall be installed as a first step in grading per the Phase 1 Erosion and Sediment Control Plan. The contractor shall install temporary sediment traps at proposed locations. The contractor shall install permanent stabilization as needed.

**Other Requirements**

- **Silt Fence:** Construct temporary sediment traps at proposed locations. The contractor shall install temporary silt fence as shown and as necessary, install inlet protection as shown and as needed. All silt fence is to be installed as shown and as necessary. All landscaping, including permanent seeding and fertilization as shown in the plan.
- **Inlet Protection:** The contractor shall install temporary sediment traps at proposed locations. The contractor shall install inlet protection as shown and as needed. All silt fence is to be installed as shown and as necessary.
- **Doitch:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Construct:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Exclude:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Stabilize:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Road:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Plant:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Lime:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
- **Fertilizer:** The contractor shall install all landscaping, including permanent seeding and fertilization as shown in the plan. Include the size (acreage) of each drainage area.
EROSION & SEDIMENT CONTROL PLAN (PHASE D)

REFERENCES

R/W PLANS

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way.
EROSION & SEDIMENT CONTROL
PLAN (PHASE I)

PROPOSED INTERSECTION DEVELOPMENT PROJECT - LPC 154102
ALERT SITE PLAN PROPOSED FOR FHWA AREA. CHECK FOR THE FTC
PLAN CONSTRUCTION AT EACH STAGE OF PROJECT
DEVELOPMENT AND ORDER ADDITIONAL SURVEY WHEN
CONSTRUCTED. EXCESS OF ANY PROFFERED R/W SHOULD
BE CHECKED AT R/W STAGE.

BE CHECKED AT R/W STAGE.
CONSTRUCTED. STATUS OF ANY PROFFERED R/W SHOULD
DEVELOPMENT AND ORDER ADDITIONAL SURVEY WHEN
PLAN CONSTRUCTION AT EACH STAGE OF PROJECT
"ALERT: SITE PLAN PROPOSED FOR THIS AREA. CHECK FOR THE SITE
PROPOSED INTERSECTION/DEVELOPMENT PROJECT - UPC 104102

SCALE
50'

Legend

Notes, Details & M
Match Line Sta. 353+

55

STA. 353+78.84

Southbound - Rte. 1 - Fraley Blvd.

000-212-249, PE-101, C-501
END CONSTR./END PROJ.

000-212-249, PE-101, C-501

STA. 353+78.84

Northbound - Rte. 1 - Fraley Blvd.

R/W-201, C-501

JMT Engineering (804) 323-9900
Leon E. Treutle LS (703)259-3224 7/17/13
Cell Revised 12/11/12

REFERENCES

(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Note: Check & Submit Final
Drafts - 2013 & 2014
Plan Sheet 18

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
## Temporary Sediment Trap Table

<table>
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<td>145</td>
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<td>15</td>
<td>DA = 0.5 AC</td>
</tr>
</tbody>
</table>

### Plan View of Temporary Sediment Trap

**Typical Section (A-A) Thru Temporary Sediment Trap**

**References**

- Profiles, Detail & Drainage
- Description Sheets, etc.

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way.
EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

**Legends**
- **Construction Limits in Cuts** denoted by **E**
- **Construction Limits in Fills** denoted by **F**

**Notes and Details**
- **M**atch Line Sheet 2
- **P**roject Sheet 10
- **R/W** Plans 000-212-249, RW-250-505

**References**
- Profiles, Detail & Drainage Description Sheets, etc.

**Erosion & Sediment Control Plan (Phase 2)**

**Hydraulic Engineer**
- Richmond, Virginia
- VDOT Location & Design

**Acquisition of Right of Way**
- For any type of construction or the acquisition of right of way.

**Scale**
- 1:25'

**Proj. Sheet**
- 10001-212-249

**drawing by**
- Huy Tran

**Plotted By**
- ong

**Date**
- 7/6/2023

**JMT Engineering**
- (804) 323-9900
- Leon E. Treutle LS (703) 259-3224

**Cell Revised**
- 12/11/12

**Virginia**
- STATE ROUTE PROJECT

**10001-212-249, RW-250-505**

**REVISED STATE ROUTE PROJECT SHEET NO.**

**d11948101p(04).dgn**

**Plotted By:** ong

**Date:** 7/6/2023

**Design Features RELATING TO CONSTRUCTION**
- **R/W** Plans are unfinished.
- These Plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.

**REFERENCES**
- Profiles, detail & drainage description sheets, etc.
EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY, THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED.

ACCOUNTING:
REVISED
12/11/12

PROJECT
R C D -2
SHEET NO.
2 8 4+42.47
50'

SUBSURFACE UTILITY BY, DATE
DESIGN BY
PROJECT MANAGER
JMT Engineering (804) 323-9900
Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
Leon E. Treutle LS (703)259-3224 7/17/13

MATCH LINE STA. 11+50 - SEE SHEET 1P (8)
MATCH LINE STA. 10+45.15
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+57.97
BEG. CONSTR. GRAHAM PARK RD. RT.

MATCH LINE STA. 8+23
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+55.04
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+45.15
BEG. CONSTR. GRAHAM PARK RD. RT.

MATCH LINE STA. 7+88.00
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+55.04
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+45.15
BEG. CONSTR. GRAHAM PARK RD. RT.

MATCH LINE STA. 8+23
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+57.97
BEG. CONSTR. GRAHAM PARK RD. RT.

MATCH LINE STA. 10+55.04
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 7+88.00
BEG. CONSTR. GRAHAM PARK RD. LT.

MATCH LINE STA. 10+57.97
BEG. CONSTR. GRAHAM PARK RD. RT.
Erosion & Sediment Control Plan (Phase 2)

Match Line - See Sheet 1P(10)

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & INFLUENCE
Legend 2D & 3D
Plan Sheet 7B
ESC Plan - Phase 1 1M

R/W PLANS

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
REFERENCES

(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

ESC Plan - Phase I          1N(11)

Plan Sheet                          9

Legend

Notes, Details &   1M(1), 1M(2),

1P (1 1)

Match Line Sta.  300+00

Sheet 1P(12)

Match Line Sta.  293+00

PC =

PRC =

Ordinates

E  = Normal Crown (ULS)

V  = 45 MPH

12

Curve RTE1MLALI_12

PI = 300+84.31

T = 173.31'

L = 346.48'

R = 5,000.00'

299+11.00

PC =

PRC =

E  = Normal Crown (ULS)

V  = 45 MPH

Site

Design Features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by the Department.

Surveyed by, Date

Design by

Subsurface Utility by, Date

Project

Project Manager

Hydraulic Engineer

Richmond, Virginia

Johnson, Mirmiran & Thompson

Phone: (804) 323-9900

18"

12

18"

48"

18"

18"

12

12

35

40

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EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
HYDROLOGIC DATA

The data presented herein was statistically derived by empirical methods and from field observations. It is presented as an estimate of the hydraulic performance of these facilities during the passage of actual flood events.

1. Estimated 100 year frequency flood data (unless otherwise noted). This magnitude of flooding may pass through the proposed facility or it may obtain the necessary hydraulic conveyance by partial inundation of roadways and/or partial by pass of the facility.

2. Specified frequency flood data. It is anticipated that this magnitude of flooding will be conveyed through the proposed hydraulic facility under estimated conditions which satisfy the design criteria applicable to the site.

3. This data was obtained from observations by persons familiar with the area and/or official records combined with an evaluation by empirical methods. The reliability of this data is relative to the accuracy of the source. A future flood of the same magnitude may achieve a significantly different stage elevation from that shown due to changes in the physical characteristics of the watershed.

FIELD INSPECTION STAGE | FINAL DESIGN STAGE
--- | ---
Station | Discharge (C.F.S.) | Stage Elevation (Ft.) | Discharge (C.F.S.) | Stage Elevation (Ft.) | Discharge (C.F.S.) | Stage Elevation (Ft.)
Quantico Creek | 271 sq. mi. | 785 ft. | 15,000 | 19.4 | 11,800 | 18.4 | 9,800 | 16.8 | 15%


Historical Flood Data Source is Hurricane Agnes.
GENERAL NOTES (SHEET 1)

GRADING

G-1. The grade of the various top of finished pavement unless shown otherwise on typical sections or plans.

G-2. Earthwork quantities on this project are based on anticipated settlement.

G-3. The excavation of unsuitable material as specified on these plans is based on the placement of the bottom of the excavation.

G-4. Where open joint pipe is to be used, no joint shall be opened a distance exceeding 25% of the spigot length. Sealing of the pipe joint shall be in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

G-5. A pipe joint length different from that stated on the plans may be used. An adjustment in the percentage of pipe joints to be replaced shall be made where necessary. Sealing of the pipe joint in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

G-6. The proposed quantities shall be approved by the Engineer prior to installation of the pipe.

G-7. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

G-8. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

DRAINAGE

D-1. The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific items, special design bridges and storm sewer systems.

D-2. The horizontal location and vertical elevations shown for proposed culverts and other water control features shall be based on existing surveys and/or existing aerial photographs. Where the horizontal location of the proposed structure is fixed by the Engineer, the horizontal location shall be determined by the Contractor.

D-3. The "H" dimensions shown on plans for drop inlets and junction boxes are for estimating the volume and are based on the proposed invert elevations shown in the plan. Where the horizontal location of the drainage structures shown on the plans differ significantly from the horizontal location shown on the plans, the engineer shall specify the horizontal location or elevations of the structure to be included in the contract price for other items.

D-4. The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific items, special design bridges and storm sewer systems.

D-5. The horizontal location and vertical elevations shown for proposed culverts and other water control features shall be based on existing surveys and/or existing aerial photographs. Where the horizontal location of the proposed structure is fixed by the Engineer, the horizontal location shall be determined by the Contractor.

D-6. The horizontal location and vertical elevations shown for proposed culverts and other water control features shall be based on existing surveys and/or existing aerial photographs. Where the horizontal location of the proposed structure is fixed by the Engineer, the horizontal location shall be determined by the Contractor.

D-7. The horizontal location and vertical elevations shown for proposed culverts and other water control features shall be based on existing surveys and/or existing aerial photographs. Where the horizontal location of the proposed structure is fixed by the Engineer, the horizontal location shall be determined by the Contractor.

D-8. Where open joint pipe is to be used, no joint shall be opened a distance exceeding 25% of the spigot length. Sealing of the pipe joint shall be in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

D-9. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

D-10. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

D-11. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

PAVEMENT

P-1. All other nonstandard areas in concrete pavement account to be designed in accordance with the applicable VDOT Road and Bridge Specifications. All other nonstandard areas in concrete pavement account to be designed in accordance with the applicable VDOT Road and Bridge Specifications.

P-2. The pavement materials on this project will be used for a on a 22" base. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications.

P-3. The pavement materials on this project will be used for a on a 22" base. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications.

P-4. The pavement materials on this project will be used for a on a 22" base. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications.

P-5. The pavement materials on this project will be used for a on a 22" base. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications. All materials placed in the construction of the base will be in accordance with the specifications of the applicable VDOT Road and Bridge Specifications.

INCIDENTALS

I-1. Service Roads are to be constructed, and private entrances connected thereto prior to the permanent surveying of tentative entrances by other phases of the proposed construction.

I-2. All trees located within the Clear Zone or within a minimum of 20 feet of the edge of pavement, within the limits of the right of way or construction easement, unless otherwise noted on plans or directed by the Engineer. The proposed quantities shall be based on the quantities at the time of the survey or plans or directed by the Engineer.

I-3. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

I-4. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

I-5. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

I-6. Where Standard Design Roundoffs would damage trees, bushes or other vegetation, they shall be altered as so ordered by the Engineer.

If questions or problems arise during construction, please contact the Project Manager. DO NOT CONTACT THE OUTSIDE SOURCES.

The Official (Electronic) PDF Version of the plans will override the paper copies or prints of specific layers.

These plans are unapproved and are not to be used for any type of construction or the acquisition of right of way.
GENERAL NOTES (Sheet 2)

STORMWATER MANAGEMENT

5-1 DETENTION BASIN SITE - The area where the detention basin is to be constructed and the area upon which the detenion basin is to be elevated equal to the area of the detention basin. Projected water elevations shall be shown in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-2 SWM DETENTION BASIN CONSTRUCTION - The area for detention basins to be constructed in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications. The active or passive portion of the dam, including the detention basin for temporary sediment basins shall be designed and constructed in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications. The active portion of the dam shall meet the applicable VDOT Type 4 or Type 6 classification unless otherwise specified in the plans. The active portion of the dam shall meet the applicable VDOT Type 4 or Type 6 classification unless otherwise specified in the plans.

5-3 CLEARING AND GRUBBING OF SWM BASIN SITE - The area where vegetation has been removed to construct the SWM Basin. The area shall be cleared and grubbed in accordance with Section 301 of the applicable VDOT Road and Bridge Specifications.

SEDIMENT CONTROL AND EROSION CONTROL - The area where sediment is to be controlled and erosion is to be prevented. Sediment and erosion control should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-4 SHRUB Silt Barrier - The shrub and/or vegetative barrier used to control sediment and erosion at the SWM Basin. The area shall be designed and constructed in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

5-5 ROCK Silt Barrier - The rock or other material used to control sediment and erosion at the SWM Basin. The area shall be designed and constructed in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

5-6 ROCK Check Dam - The check dam used to control sediment and erosion at the SWM Basin. The area shall be designed and constructed in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

5-7 EROSION CONTROL SHEET - The area where erosion control is to be implemented. Erosion control should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-8 TURBIDITY CURTAIN - The area where turbidity control is to be implemented. Turbidity control should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-9 INFILTRATIONיךמ - The area where infiltration is to be implemented. Infiltration should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-10 ROCK Check Dam - The check dam used to control sediment and erosion at the SWM Basin. The area shall be designed and constructed in accordance with Section 304 of the applicable VDOT Road and Bridge Specifications.

5-11 TURBIDITY CURTAIN - The area where turbidity control is to be implemented. Turbidity control should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-12 INFILTRATIONיךמ - The area where infiltration is to be implemented. Infiltration should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

5-13 EROSION CONTROL SHEET - The area where erosion control is to be implemented. Erosion control should be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

EROSION AND SEDIMENT CONTROL (ESC)

E-1 If the removed Brush Silt Barrier is specified by the plans or required by the Engineer, the cost of removal and disposal shall be in accordance with Section 109 of the applicable VDOT Road and Bridge Specifications.

E-2 The following symbols are used to depict Erosion Control Items in the plan assembly:

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GENERAL NOTES (Sheet 2)

STORMWATER MANAGEMENT

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BUILDUP DETAIL FOR RESURFACING EXISTING PAVEMENT

(Typical Overlying Sections)

Variable Depth Asphalt Finishing To Achieve
An Asphalt Concrete Surface Course Application

NOTE:

- Sections of Sub-Base are shown only to indicate location of sub-base material.
- Sections of Unbound Aggregate are shown only to indicate location of sub-base material.
- Sections of asphalt emulsion are shown only to indicate location of sub-base material.
- Sections of asphalt concrete are shown only to indicate location of sub-base material.
- Sections of Governor Material are shown only to indicate location of sub-base material.
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Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

Bridge Over Quantico Creek

PROJECT MANAGER

JMT Engineering (804) 323-9900

Leon E. Treutle LS (703) 259-3224 7/17/13

Sta. 259+58.00 to 261+25.00 RETAINING WALL NO. 1

Sta. 328+82.00 to 332+00.00 RETAINING WALL NO. 3

Sta. 255+80.00 to 260+25.00 RETAINING WALL NO. 2

See Plans For Right Turn Lanes Locations

SHARED USE PATH

STANDARD CUT SLOPE

STANDARD FILL SLOPE

LEON E. TREUTLE LS (703) 259-3224 7/17/13

R/W 2F 1F

ROUTE 1 (Fratley Boulevard) - 6 Lane Design Typical

GS-5 - Urban Principal Arterial - 45 MPH Design Speed

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

St'd. HR-1, Type III Hand Rail

9
10'
8' to 12'

Project Manager
JMT Engineering (804) 323-9900

Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
Leon E. Treutle LS (703) 259-3224 7/17/13

Inset A

Standard MS-2 Req'd.

Prop. R/W

Inset B

Standard CG-6

Prop. R/W

Inset C

Standard CG-3

Prop. R/W

Inset D

Standard CG-7

Prop. R/W

Note:
- Anywhere where fills are greater than 4' in depth beside a sidewalk, except where retaining walls are proposed, the greenspace back of shared use path is 5' wide.
- Anywhere where handrail is shown beside a sidewalk except where retaining walls are proposed, the greenspace back of shared use path is 2' wide.

Existing pavement to be milled 2" and resurfaced.

For existing pavement cross slopes:
- New Pavement layers to existing layer per Std. WP-2.

Existing pavement is to be Saw Cut to the full depth of asphalt. Abutment to the edge of the surface material.

4" Hydraulic Cement Concrete, Class A3
6" Aggregate Base Mat'l, Type I, No. 21B
9" Asphalt Concrete, Type BM-25.0A

Min. 8" Aggregate Base Mat'l, Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgerail located beneath the curb and gutter.

Min. 6" Aggregate Base Mat'l, Type I, No. 21B extended to the edge of the surface material.

MATERIALS ENGINEER

Richmond, Virginia

Johnson, Mirmiran & Thompson

GS-5 - Urban Principal Arterial - 45 MPH Design Speed

TYPICAL SECTIONS

Route I (Freley Boulevard) - 6 Lane Design Typical

GS-5 - Urban Principal Arterial - 45 MPH Design Speed

STA. 335+00.00 to 345+03.00

RETAINING WALL NO. 6

3'

OFFSET

SIDEWALK

Note:
- Minimum 6" Offset
- 2% Grade

OFFSET

LATERAL

OFFSET

LATERAL

See Plans For Right Turn Lanes Locations

See Plans For Left Turn Lanes Locations

Prop. R/W

LATERAL

OFFSET

LATERAL

OFFSET

See Plans For Right Turn Lanes Locations

See Plans For Left Turn Lanes Locations

Prop. R/W

LATERAL

OFFSET

LATERAL

OFFSET

See Plans For Right Turn Lanes Locations

See Plans For Left Turn Lanes Locations

Prop. R/W

LATERAL

OFFSET

LATERAL

OFFSET

See Plans For Right Turn Lanes Locations

See Plans For Left Turn Lanes Locations

Prop. R/W

LATERAL

OFFSET

LATERAL

OFFSET

See Plans For Right Turn Lanes Locations

See Plans For Left Turn Lanes Locations

Prop. R/W

LATERAL

OFFSET
Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

3:1 Fill Slope
2.5' Prop. R/W
Prop. R/W
13.5' STD. CG-7
2.5' Prop. R/W
13' & Var.
13' & Var.

Typical Sections

Tripoli Boulevard
GS-8 - Urban Local Street - 30 MPH Design Speed

Canal Road RT
GS-8 - Urban Local Street - 25 MPH Design Speed

Reloc. Duke Street
GS-8 - Urban Local - 20 MPH Design Speed

Reloc. Old Stage Coach Road
GS-8 - Urban Local Street - 30 MPH Design Speed

Canal Road LT
GS-8 - Urban Local Street - 25 MPH Design Speed

Notes:
All pavement widening shall be performed in accordance with standard WP-2.

Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
Leon E. Treutle LS (703) 259-3224 7/17/13

3:1 Cut Slope
2:1 Fill Slope
2:1 Fill Slope

30 MPH Design Speed

OFFSET
LATERAL
BUFFER

GS-8 - Urban Local Street - 30 MPH Design Speed

STD. CG-7
OFFSET
LATERAL

STD. CG-6
OFFSET
1'

Johnson, Mirmiran & Thompson
VDOT Location & Design
ROADWAY ENGINEER
ROADWAY ENGINEER
MATERIALS ENGINEER

Fairfax, Virginia

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
TYPICAL SECTIONS

Williamstown Drive
GS-8 - Urban Local Street - 30 MPH Design Speed

Town Square Ct
GS-8 - Urban Local St - 25 MPH Design Speed

1. Roadway
2. Existing Surface
3. New Pavement
4. Standard Edgedrain
5. 4" Aggregate Base Mat'l Type I, No. 21B
6. 4" Hydraulic Cement Concrete, Class A3
7. 5" Asphalt Concrete, Type BM-25.0A
8. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sq yd)
9. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sq yd)
10. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sq yd)
11. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sq yd)

NOTES:
- These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
- Revised 12/11/12
- Sheet No. 2D(2)
**Typical Sections**

**Removal of Unsuitable Material Detail**

- **Unsuitable Materials at or Below Subgrade**
  - Footing Type: Slab
  - Footing Width: 24" (a)
  - Footing Width: 24" (b)
  - Footing Width: 24" (c)
  - Footing Width: 12" (d)
  - Footing Width: 24" (e)

**Unsuitable Materials at or Below Subgrade**

- **Depth of Removal and Replacement**
  - **EB+WB**
    - 258+25 to 260+50
    - 269+25 to 271+50
  - **NB+SB**
    - 270+75 to 271+75
    - 272+25 to 274+00
    - 274+00 to 276+50
    - 279+50 to 282+00

**Slope Stability Recommendations**

- 2:1 Fill Slope
- 3:1 Fill Slope
- 2:1 Cut Slope
- 3:1 Cut Slope

**Slab Stability Recommendations**

- **Location**
  - **Type A**
  - **Type B**
  - **Type C**
  - **Type D**
  - **Type E**
  - **Type F**
  - **Type G**
  - **Type H**
  - **Type I**
  - **Type J**
  - **Type K**
  - **Type L**
  - **Type M**
  - **Type N**
  - **Type O**
  - **Type P**
  - **Type Q**
  - **Type R**
  - **Type S**
  - **Type T**
  - **Type U**
  - **Type V**
  - **Type W**
  - **Type X**
  - **Type Y**
  - **Type Z**

**R/W Plans**

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
DRAINAGE DESCRIPTIONS

CONNECT UD-4 TO STRUCTURE
INV(IN)=108.09 INV(OUT)=105.77
SILT TIGHT JOINT TYPE
42'-24" CONC. SSP CLASS III REQ'D (10' COVER)
1 ST'D DI-5 REQ'D
INV(IN)=120.38 INV(OUT)=117.28
4 L.F 15" RCP REQ'D FOR CONNECTION
1 ST'D MH-1 FRAME & COVER REQ'D
109'-18" CONC. SSP CLASS III REQ'D (5' COVER)
ST'D ST-1 REQ'D
INV(IN)=121.30 INV(OUT)=114.45
H=8.2' L=8' INV=121.30
INV(IN)=114.45 INV(OUT)=106.20
SILT TIGHT JOINT TYPE
ST'D ST-1 REQ'D
INV(IN)=125.70 INV(OUT)=125.00
ST'D ST-1 REQ'D
INV(IN)=103.00 INV(OUT)=92.70
LEAK-RESISTANT JOINT TYPE
294'-24" CONC. SSP CLASS III REQ'D (14' COVER)
ST'D ST-1 REQ'D
TYPE III GRATE REQ'D
TYPE E COVER REQ'D
INV(IN)=106.20 INV(OUT)=85.00
H=3.9' L=6' INV=104.60
13'-15" CONC. SSP CLASS III REQ'D (2' COVER)
1 ST'D DI-7(req'D
INV(IN)=104.00 INV(OUT)=101.50
CONNECT UD-4 TO STRUCTURE
INV(IN)=101.50 INV(OUT)=101.00
13'-15" CONC. SSP CLASS III REQ'D (2' COVER)
1 ST'D DI-3B REQ'D
CONNECT UD-4 TO STRUCTURE
12'-15" CONC. SSP CLASS III REQ'D (3' COVER)
1 ST'D DI-3A REQ'D
H=4.0' INV=108.50
INV(IN)=105.77
1 ST'D MH-1 FRAME & COVER REQ'D
6.2 L.F OF ST'D MH-1 REQ'D
INV(IN)=109.00 INV(OUT)=107.50
CONNECT UD-4 TO STRUCTURE
32'-15" CONC. SSP CLASS III REQ'D (4' COVER)
CONNECT UD-4 TO STRUCTURE
H=3.9' INV=112.40
37'-15" CONC. SSP CLASS III REQ'D (5' COVER)
H=3.9' INV=112.40
12'-15" CONC. SSP CLASS III REQ'D (3' COVER)
1 ST'D DI-3A REQ'D
H=4.0' INV=108.50
1 ST'D DI-7(req'D
CONNECT UD-4 TO STRUCTURE
1 ST'D DI-3B REQ'D
20'-15" CONC. SSP CLASS III REQ'D (6' COVER)
CONNECT UD-4 TO STRUCTURE
H=3.9' INV=112.40
37'-15" CONC. SSP CLASS III REQ'D (5' COVER)
H=3.9' INV=112.40
1 ST'D DI-3B REQ'D
CONNECT UD-4 TO STRUCTURE
1 ST'D SL-1 REQ'D
13.3 L.F OF ST'D MH-2 REQ'D
INV(IN)=82.70 INV(OUT)=77.82
159'-24" CONC. SSP CLASS III REQ'D (13' COVER)
CONNECT UD-4 & UD-2 TO STRUCTURE
1 ST'D SL-1 REQ'D
SILT TIGHT JOINT TYPE
ST'D ST-1 REQ'D
INV(IN)=69.00 INV(OUT)=65.50
CONNECT UD-4 TO STRUCTURE
1 ST'D DI-3BB REQ'D
INV(IN)=59.40 INV(OUT)=58.00
SILT TIGHT JOINT TYPE
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE
1 ST'D DI-3B REQ'D
34'-15" CONC. SSP CLASS III REQ'D (9' COVER)
CONNECT UD-4 TO STRUCTURE
SILT TIGHT JOINT TYPE
CONNECT UD-4 TO STRUCTURE
H=6.8' L=6' INV=57.10
1 ST'D DI-3B REQ'D
INV(IN)=61.00 INV(OUT)=60.70
SILT TIGHT JOINT TYPE
ST'D ST-1 REQ'D
30'-18" CONC. SSP CLASS III REQ'D (4' COVER)
CONNECT UD-4 TO STRUCTURE
H=5.8' L=4' INV=60.60
INV(IN)=60.30 INV(OUT)=60.00
CONNECT UD-4 TO STRUCTURE
H=5.6' L=4' INV=60.30
1 ST'D DI-3B REQ'D
CONNECT UD-4 TO STRUCTURE
25'-24" CONC. SSP CLASS III REQ'D (11' COVER)
ST'D ST-1 REQ'D
H=5.5' L=8' INV=57.06
34'-15" CONC. SSP CLASS III REQ'D (9' COVER)
CONNECT UD-4 TO STRUCTURE
SILT TIGHT JOINT TYPE
CONNECT UD-4 TO STRUCTURE
H=6.8' L=6' INV=57.10
1 ST'D DI-3B REQ'D
INV(IN)=61.00 INV(OUT)=60.70
SILT TIGHT JOINT TYPE
ST'D ST-1 REQ'D
30'-18" CONC. SSP CLASS III REQ'D (4' COVER)
CONNECT UD-4 TO STRUCTURE
H=5.8' L=4' INV=60.60
INV(IN)=60.30 INV(OUT)=60.00
CONNECT UD-4 TO STRUCTURE
H=5.6' L=4' INV=60.30
1 ST'D DI-3B REQ'D
CONNECT UD-4 TO STRUCTURE
DRAINAGE DESCRIPTIONS

104'-15" CONC. SSP CLASS III REQ'D (5' COVER)

CONNECT UD-4 & UD-2 TO STRUCTURE

H=5.1' L=4' INV=11.90

SILT TIGHT JOINT TYPE

130'-15" CONC. SSP CLASS III REQ'D (6' COVER)

INV(IN)=10.10 INV(OUT)=9.30

SILT TIGHT JOINT TYPE

H=8.0' L=4' INV=10.10

1 ST'D DI-3B REQ'D

SILT TIGHT JOINT TYPE

36'-24" CONC. SSP CLASS III REQ'D (7' COVER)

ST'D ST-1 REQ'D

H=3.6' L=4' INV=15.50

329'-15" CONC. SSP CLASS III REQ'D (7' COVER)

22'-18" CONC. SSP CLASS III REQ'D (7' COVER)

INV=13.83

4 L.F OF 18" RCP REQ'D FOR CONNECTION

INV(IN)=13.71 INV(OUT)=13.83

SILT TIGHT JOINT TYPE

14'-24" CONC. SSP CLASS III REQ'D (2' COVER)

47'-15" CONC. SSP CLASS III REQ'D (2' COVER)

SILT TIGHT JOINT TYPE

150'-60" CONC. SSP CLASS III REQ'D (7' COVER)

CONNECT UD-4 & UD-2 TO STRUCTURE

CONNECT TO EXISTING 24" RCP

1 ST'D PRECAST T-DI-3 TOP REQ'D

CONNECT TO EXISTING 60" RCP

1 ST'D PRECAST T-DI-7 TOP REQ'D

9.7 CY OF CONCRETE CRADLE REQ'D

INV(IN)=7.00 INV(OUT)=6.50

LEAK-RESISTANT JOINT TYPE

CONNECT BMP UD TO RISER STRUCTURE

SEE SHEETS 2i(6)-2i(6A) FOR DETAILS

BOTTOM ELEV=4.00

8.0' STD. SWM-1 REQ'D

6.00 TONS ST'D EC-1 CLASS A1 REQ'D

INV(IN)=7.50 INV(OUT)=7.00

58'-24" CONC. SSP CLASS III REQ'D (6' COVER)

CONNECT BMP UD TO RISER STRUCTURE

GRAVEL DIAPHRAGM, AS PER DETAIL

BOTTOM ELEV=6.80

TOP ELEV=11.50

TYPE A INSTALLATION

SILT TIGHT JOINT TYPE

50'-15" CONC. SSP CLASS III REQ'D (3' COVER)

ST'D ST-1 REQ'D

H=4.1' L=6' INV=13.10

SILT TIGHT JOINT TYPE

1 ST'D DI-3B REQ'D

INV(IN)=11.80 INV(OUT)=10.00

SILT TIGHT JOINT TYPE

CONNECT UD-4 TO STRUCTURE

1 ST'D DI-3B REQ'D

INV(IN)=12.50 INV(OUT)=11.90

CONNECT UD-4 TO STRUCTURE

66'-15" CONC. SSP CLASS III REQ'D (2' COVER)

CONNECT UD-4 TO STRUCTURE

H=4.1' L=8' INV=20.21

1 ST'D DI-3B REQ'D

INV(IN)=20.63 INV(OUT)=20.06

77'-18" CONC. SSP CLASS III REQ'D (6' COVER)

CONNECT UD-4 TO STRUCTURE

48'-15" CONC. SSP CLASS III REQ'D (3' COVER)

CONNECT UD-4 TO STRUCTURE

ST'D ST-1 REQ'D

H=3.7' L=4' INV=13.50

1 ST'D DI-3B REQ'D

INV(IN)=14.14 INV(OUT)=13.44

140'-15" CONC. SSP CLASS III REQ'D (4' COVER)

CONNECT UD-4 TO STRUCTURE

1 ST'D DI-2B REQ'D

SILT TIGHT JOINT TYPE

CONNECT UD-4 TO STRUCTURE

1 ST'D DI-3B REQ'D

INV(IN)=15.08 INV(OUT)=14.05

SILT TIGHT JOINT TYPE

CONNECT UD-4 TO STRUCTURE

1 ST'D DI-3B REQ'D

INV(IN)=15.00 INV(OUT)=14.00

ST'D ST-1 REQ'D

1 ST'D DI-3B REQ'D

H=4.1' L=4' INV=12.90

INV=11.00

6.00 TONS ST'D EC-1 CLASS A1 REQ'D

FOR ANY TYPE

HYDRAULIC ENGINEER

FOR CONNECTION

MAY BE SUBJECT TO CHANGE AS DEEMED OR TO REGULATION AND CONTROL OF TRAFFIC

visual/video camera inspection shall be conducted by the Department during the final inspection of storm sewer pipes and pipe culverts, a post installation inspection is required. A post installation inspection is necessary by the Department.

Plotted By: ong

R/W PLANS

ACQUISITION OF RIGHT OF WAY.

STATE

2E(4)
STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

SECTION I GENERAL INFORMATION

1. Activity Description - This project consists of the widening of the U.S. Route 1, Prince William County and approximately 36.30 acres will be disturbed by excavation, grading or other construction activities.

2. This disturbance (construction) activity site is located in Town of Dumfries, Prince William County and approximately 36.30 acres will be disturbed by excavation, grading or other construction activities.

3. Include all the notes as follows of appropriate:

   a. The proposed activity does not occur at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

   b. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

4. The location of the support service facilities that will be covered under the VOSD Construction Permit coverage for these construction activities is provided by the contractor and identified on the record of the site plan or other correspondence. Support facilities must be within 500 feet of the property line of the construction site or the property line of the construction site.

   a. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

5. The VOSD General Information sheets are to be completed and included in the construction proposal for all documents related to the disturbance activities that will not exceed the limits of the project. The stormwater management plan as defined by the VOSD Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program is required for all stormwater activities that will not exceed the limits of the project.

6. The VOSD General Information sheets are to be completed and included in the construction proposal for all documents related to the disturbance activities that will not exceed the limits of the project. The stormwater management plan as defined by the VOSD Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program is required for all stormwater activities that will not exceed the limits of the project.

   a. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

   b. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

7. The location of the support service facilities that will be covered under the VOSD Construction Permit coverage for these construction activities is provided by the contractor and identified on the record of the site plan or other correspondence. Support facilities must be within 500 feet of the property line of the construction site or the property line of the construction site.

   a. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

   b. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

8. The VOSD General Information sheets are to be completed and included in the construction proposal for all documents related to the disturbance activities that will not exceed the limits of the project. The stormwater management plan as defined by the VOSD Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program is required for all stormwater activities that will not exceed the limits of the project.

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   b. The proposed activity occurs at or greater than the frequency coverage under the VDOT Stormwater Management Program (WP) or the VDOT Off-Site Stormwater Management Program.

9. The location of the support service facilities that will be covered under the VOSD Construction Permit coverage for these construction activities is provided by the contractor and identified on the record of the site plan or other correspondence. Support facilities must be within 500 feet of the property line of the construction site or the property line of the construction site.

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11. The location of the support service facilities that will be covered under the VOSD Construction Permit coverage for these construction activities is provided by the contractor and identified on the record of the site plan or other correspondence. Support facilities must be within 500 feet of the property line of the construction site or the property line of the construction site.

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12. The location of the support service facilities that will be covered under the VOSD Construction Permit coverage for these construction activities is provided by the contractor and identified on the record of the site plan or other correspondence. Support facilities must be within 500 feet of the property line of the construction site or the property line of the construction site.

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XXII. The name of the individual(s) or contractor(s) responsible for the installation and maintenance of the erosion and sediment control measures shall be supplied by the contractor and maintained with the other SWPPP documents for this land disturbance (construction) activity.

17. Subdivisions temporarily (2) within the project area or on VDOT right of way or easement shall be identified, staked, and protected with sediment trapping devices.

18. A construction variance or other approved measure shall be installed a minimum distance from any existing structure or utility that is part of the 500 year floodplain. In order to minimize the disturbance to the soil and water resources, the location of the sediment control measures shall be designed to maintain a minimum distance from all existing structures, utilities, and infrastructure. No installation shall cause the construction disturbance to extend onto a paved or public road surface, the road exposure (i.e., threshold), at the end of each work day by clearing or removing. Removal of the sediment trapping device is in accordance with Section T06-04 of the VDOT Specifications.

19. Any variance, exception or deviation approved by (9) must be noted below and supporting documentation (document reference or deviation request and (7)) approved must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VSMP Regulations have been approved by the (2) for this land disturbance (construction) activity and are contained in the project drainage plan located in the (7).

**ACRONYMS**

YEA - Water Quality by EPA

9VAC25-870-93 et seq. of the VSMP Regulations.

9VAC25-870-62 et seq. of the VSMP Regulations.

The following exceptions to the Water Quantity criteria of the VSMP Regulation have been approved by the DEQ for this land disturbance activity: (list all approved exceptions (exception/variance/deviation request and DEQ approval) must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VSMP Regulation have been approved by the DEQ for this land disturbance activity:

**SECTION III POST CONSTRUCTION STORMWATER MANAGEMENT**

(1) Type of modification variance from VOC regulations or deviation from SWPPP documents

(2) Reference to VOC document modified or SWPPP

(3) Date that variance/exception/deviation was approved by the (Office)

XXII. The name of the individual(s) or contractor(s) responsible for the installation and maintenance of the erosion and sediment control measures shall be supplied by the contractor and maintained with the other SWPPP documents for this land disturbance (construction) activity.

17. Subdivisions temporarily placed within the project area or on VDOT right of way or easement shall be identified, staked, and protected with sediment trapping devices.

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The following exceptions to the Water Quantity criteria of the VSMP Regulations have been approved by the DEQ for this land disturbance (construction) activity and are contained in the project drainage plan located in the (Office).

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19. Any variance, exception or deviation approved by the (Office) must be noted below and supporting documentation (document reference or deviation request and (Office) approved must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VSMP Regulations have been approved by the DEQ for this land disturbance (construction) activity and are contained in the project drainage plan located in the (Office).
The Stormwater Pollution Prevention Plan (SWPPP) General Information Sheet is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the site disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans or other such documents for the site disturbing (construction) activity.

SECTION IV SWPPP

1. Definitions related to the SWPPP for this land disturbing (construction) activity shall maintain the site office and shall be readily available for review upon request during normal business hours. Such documents include, but are not limited to, the contractor's plan, any site access agreements, VDOT R&B Standards and Specifications, Supplemental Specifications, Special Project Specifications and Vendor Specifications.

2. Stormwater pollution prevention plans shall be developed and implemented in accordance with, but not limited to, Section 106.08, Chesapeake Bay Preservation Act. From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

3. The SWPPP and any subsequent amendments, modifications and updates shall be made available for review by the public upon request. Such documents include, but are not limited to, the contractor's plan, any site access agreements, VDOT R&B Standards and Specifications, Supplemental Specifications, Special Project Specifications and Vendor Specifications.

4. For all stormwater discharges from land disturbing (construction) activities, including operations that have a potential to generate a pollutant that may reasonably be expected to affect the quality of stormwater discharges from this land disturbing (construction) activity. The Pollution Prevention Plan shall be developed in accordance with, but not limited to, Section 106.08, Chesapeake Bay Preservation Act. From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

5. The contractor shall develop a SWPPP in accordance with, but not limited to, Section 106.08, Chesapeake Bay Preservation Act. From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

6. The SWPPP shall be made available for review by the public upon request. Such documents include, but are not limited to, the contractor's plan, any site access agreements, VDOT R&B Standards and Specifications, Supplemental Specifications, Special Project Specifications and Vendor Specifications.

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### Table A: Permanent BMP Types (1999 Va. SWM Handbook)

<table>
<thead>
<tr>
<th>No.</th>
<th>BMP Type</th>
<th>Type of BMP Installed</th>
<th>Geographic Location (County or City)</th>
<th>Latitude/Longitude</th>
<th>Name of Boated Water</th>
<th>No. Acres Tracked Per BMP ($)</th>
<th>BMP Maintenance No.</th>
<th>BMP Inspection No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/15C</td>
<td>Soil Compost Amendment</td>
<td></td>
<td>Virginia</td>
<td>38.5647 -77.3213</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>10</td>
<td>Grass Channel</td>
<td></td>
<td>Virginia</td>
<td>38.5685 -77.3232</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.46</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>13</td>
<td>Sheet Flow to Vegetated Filter Strip</td>
<td></td>
<td>Virginia</td>
<td>38.5668 -77.3252</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>14</td>
<td>Bioretention</td>
<td></td>
<td>Virginia</td>
<td>38.5712 -77.3200</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
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</tbody>
</table>

### Table B: Alternative BMP Types

<table>
<thead>
<tr>
<th>No.</th>
<th>BMP Type</th>
<th>Type of BMP Installed</th>
<th>Geographic Location (County or City)</th>
<th>Latitude/Longitude</th>
<th>Name of Boated Water</th>
<th>No. Acres Tracked Per BMP ($)</th>
<th>BMP Maintenance No.</th>
<th>BMP Inspection No.</th>
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<tr>
<td>11</td>
<td>Infiltration Practice (Level 1)</td>
<td></td>
<td>Virginia</td>
<td>38.5647 -77.3213</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
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<td>1.11</td>
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<tr>
<td>12</td>
<td>Infiltration Practice (Level 2)</td>
<td></td>
<td>Virginia</td>
<td>38.5685 -77.3232</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.46</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>13</td>
<td>Infiltration Trench</td>
<td></td>
<td>Virginia</td>
<td>38.5668 -77.3252</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
<td>1.11</td>
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<tr>
<td>14</td>
<td>Bio-Retention Basin</td>
<td></td>
<td>Virginia</td>
<td>38.5712 -77.3200</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
<td>1.11</td>
</tr>
</tbody>
</table>

### Table C: Permanent BMP Types (BMP Clearing House)

<table>
<thead>
<tr>
<th>No.</th>
<th>BMP Type</th>
<th>Type of BMP Installed</th>
<th>Geographic Location (County or City)</th>
<th>Latitude/Longitude</th>
<th>Name of Boated Water</th>
<th>No. Acres Tracked Per BMP ($)</th>
<th>BMP Maintenance No.</th>
<th>BMP Inspection No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/15C</td>
<td>Soil Compost Amendment</td>
<td></td>
<td>Virginia</td>
<td>38.5647 -77.3213</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>10</td>
<td>Grass Channel</td>
<td></td>
<td>Virginia</td>
<td>38.5685 -77.3232</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.46</td>
<td>4.11</td>
<td>1.11</td>
</tr>
<tr>
<td>13</td>
<td>Sheet Flow to Vegetated Filter Strip</td>
<td></td>
<td>Virginia</td>
<td>38.5668 -77.3252</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
<td>4.11</td>
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</tr>
<tr>
<td>14</td>
<td>Bioretention</td>
<td></td>
<td>Virginia</td>
<td>38.5712 -77.3200</td>
<td>Plan File Room (ProjectWise)</td>
<td>3.60</td>
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<td>1.11</td>
</tr>
</tbody>
</table>

### Stormwater Pollution Prevention Plan (SWPPP) General Information Sheet

- **Project Name:** Qunatico Creek
- **Project Location:** Virginia
- **Latitude/Longitude:** 38.5647, -77.3213
- **Receiving Water:** Virginia Chesapeake Bay Preservation Act.
- **Other Approved Options:** List Type (4)

### BMP Maintenance Identification

- **BMP Maintenance ID Number:** Assigned by the District
- **BMP Maintenance ID Number:** To be assigned prior to the permit close-out process
- **BMP Maintenance ID Number:** To be assigned prior to the permit close-out process

### BMP Inspection Identification

- **BMP Inspection ID Number:** To be assigned prior to the permit close-out process
- **BMP Inspection ID Number:** To be assigned prior to the permit close-out process
- **BMP Inspection ID Number:** To be assigned prior to the permit close-out process

###Diagram and Notes

- **Diagram:** SWPPP General Information Sheet
- **Notes:** See Table A and B for alternative BMP types.
LANDSCAPING & PLANTING PLAN

Landscape Planting Notes:
1. Plants shall be in accordance with the current edition of the American Standard for Nursery Stock published by the American Association of Nurserymen and conform to general principles for the selection of species.
2. Substitutions shall not be made without prior written approval from the owner, any substitutions made without this approval may be rejected by the contractor.
3. All trees shall be grown in accordance with the American Standard for Nursery Stock.
4. All trees shall be of such quality as to be free of disease, structural defects, and other defects that would cause injury or death or reduce vigor.
5. All trees shall be in conformance with the specifications presented herein.
6. All trees shall be grown in conformance with the American Standard for Nursery Stock.
7. All trees shall be grown in accordance with the American Standard for Nursery Stock.
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50. All trees shall be grown in accordance with the American Standard for Nursery Stock.

VA Northern Coastal Plain Detention Basin Mix - ERNMX-874

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panicum virgatum 'Shenandoah'</td>
<td></td>
<td>99.5%</td>
</tr>
<tr>
<td>Bidens fruticosa</td>
<td>Bidens fruticosa</td>
<td>0.5%</td>
</tr>
<tr>
<td>Eleocharis palustris</td>
<td>Eleocharis palustris</td>
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</tr>
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<td>Carex stricta</td>
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</tr>
<tr>
<td>Sedges</td>
<td>Carex stricta</td>
<td>9.9%</td>
</tr>
<tr>
<td>Carex stricta</td>
<td>Carex stricta</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Seeding Rate: Seed at 20 lbs/acre with a cover crop. For a cover crop use Japanese millet (10 lbs/acre; 1 May to 31 Aug), Bermudagrass (10 lbs/acre; 1 May to 31 Aug), or Rye Grass (30 lbs/acre; 1 Sept to 30 Apr).

Stormwater Management

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding principles and function of the mix will not.
BIORETENTION
CONSTRUCTION SEQUENCE

Construction Sequence

1. Bioretention to be used as Sediment Basins at proposed grading during construction activities.

2. Construction of the bioretention may only begin after the entire contributing drainage area has been drained. For projects with vegetation being incorporated, it may be necessary to leave certain areas or other sites where the vegetation is being constructed free of sediments prior to any excavation.

3. The designer and the installer should have a preconstruction meeting identifying the boundaries of the contributing drainage area and the location of any proposed bioretention basins. The designer and installer should not proceed until the boundaries are clearly marked.

4. Once all site surveying, permitting, and design have been completed, a preconstruction meeting shall be held to discuss the construction details and to confirm the plans and specifications. The preconstruction meeting shall be documented by minutes of the meeting, including any decisions made.

5. Temporary E&S controls are needed during construction of the bioretention area to divert stormwater away from the bioretention area without affecting the overall U&D plan. Temporary controls should be removed prior to any permanent construction.

6. Existing or introduced slope work from the sides to expose the bioretention area to its design. A minimum of one to one and a half of the bioretention area should be excavated to its final design. The existing or introduced slope work should be carefully monitored to prevent erosion.

7. It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

8. Place geotextile fabric on the sides of the bioretention area with a 6-inch overlap on the sides.

9. Place geotextile fabric on the bottom of the bioretention area as mentioned above. The fabric should be placed to cover the entire area and extend above the design elevation.

10. Prepare planting holes for any trees and shrubs, install the vegetation, and water accordingly.

11. Place the surface cover in both cells (mulch, river stone or turf), depending on the design. If coir or jute matting is to be used, the matting will need to be installed prior to planting.

12. Install the plant materials as shown in the landscaping plan, and water them during weeks of no rain for the first two months.

13. Conduct the final construction inspection (see Section 9.2 of the VA DEQ Stormwater BMP Design Handbook), and issue the final inspection report.

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of right of way.
Notes:
1. The foundation materials under the dome and the materials to be used for the embankment of the dome shall be an AASHTO Type A-4 or finer and meet the approval of the materials engineer.
2. The contractor shall provide "As-Built" drawings of all stormwater management facilities. The "As-Built" drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Virginia.
3. All costs shall be included under Construction Surveying.
4. The contractor shall provide 'As-Built' drawings of all stormwater management facilities. The 'As-Built' drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Virginia.
5. For Profile SWM 1B-1 Cross Section A-A and details see sheet 2K3-A1.
6. For Drainage Descriptions see sheet 2E05-2F03.
7. Construction Inspections must be conducted in accordance with Non-Proprietary BMP's 3 (Non-Proprietary Inspection Checklist, dated April 2018) and the Prince William County Construction Inspection Checklist found at https://www.pwcva.gov/environmental-services/stormwater-management. Additionally, the inspection Checklist shall be kept in the Prince William County Stormwater Management.
8. TEMPORARY SWM-1 STR. T-5-9 RISER OF 60" AT ELEVATION 136.00' IS REQUIRED. TEMPORARY SWM-1 STRUCTURE SHALL BE CONVERTED TO PERMANENT STRUCTURE 5-9 WITH RISER OF 60" AT ELEVATION 136.00'.
BASIN #5 DETAILS, PROFILE, AND CROSS-SECTION

SWM 5 PROFILE B-B
VERTICAL SCALE: 25'
HORIZONTAL SCALE: 25'

EXISTING GRADE
PROPOSED GRADE

MIXTURE, 2.5' DEPTH
BIORETENTION SOIL

PEA GRAVEL, 0.25' DEPTH

1.5' DEPTH
NO. 8 AGGREGATE,

12' WIDTH
BERM ELEV 15.00

INVENTORY OUT 7.00
8.50
8.25
6.75

SWM-5 PROFILE B-B
VERTICAL SCALE: 25'
HORIZONTAL SCALE: 25'

CONNECT TO UNDERDRAIN
6" ORIFICE, ELEV 7.10

GEOTEXTILE
OVER UNDERDRAIN
WITH FILTER FABRIC

LONGITUDINAL SLOPE
6" UNDERDRAIN AT 1%

1 YR. WSE = 12.37
10 YR. WSE = 12.63
100 YR. WSE = 12.94

WQV = 12.00

FLUX TO STANDPIPE
TO CONNECT UNDERDRAIN
DIRECTIONAL CONNECTION
FITTING OR EQUIVALENT
USE 45 DEG. WYE AND

elev 12.00
top of structure
elev 7.00
24" RCP OUTFALL
elev 7.00
conc. top
elev 4.00
infill
3.0' DEPTH conc.

4" PVC UD EL.131.10
6" PERFORATED
NEXT PIPE.
THAN 20' FROM THE
LOCATED NO MORE
AT 1% OR 2% SLOPE
POSITION UNDERDRAIN

SWM RISER DETAIL
NOT TO SCALE

CONCRETE CRADLE
0.89% SLOPE
CLASS III @
CONCRETE SSP
56'-24"

UNDERDRAIN CLEANOUT DETAIL

3/8" PERFORATIONS AT
FOR BIORETENTION).
CORRUGATED HDPE
P.V.C. PIPE (OR EQUIV.
4" RIGID SCHEDULE 40
ON GRADE
4" P.V.C. SCREWCAP
P.V.C. UNDERDRAIN
4" NONPERFORATED
OF PIPE
ON TERMINAL END
WATERTIGHT CAP

R/W PLANS
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.