ARLINGTON
VIRGINIA

OWNER
DEPARTMENT OF
ENVIRONMENTAL SERVICES

Engineering and Capital Projects Division
Engineering Bureau
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CONSULTANT
RK&K, LLP
12600 FAIR LAKES CIRCLE, SUITE 300
FAIRFAX, VA 22033
PHONE: 703.246.0028

LANDSCAPE ARCHITECT
RHODESIDE & HARDWELL, INC
510 KING STREET #300
ALEXANDRIA, VA 22314
PHONE: 703.683.7447

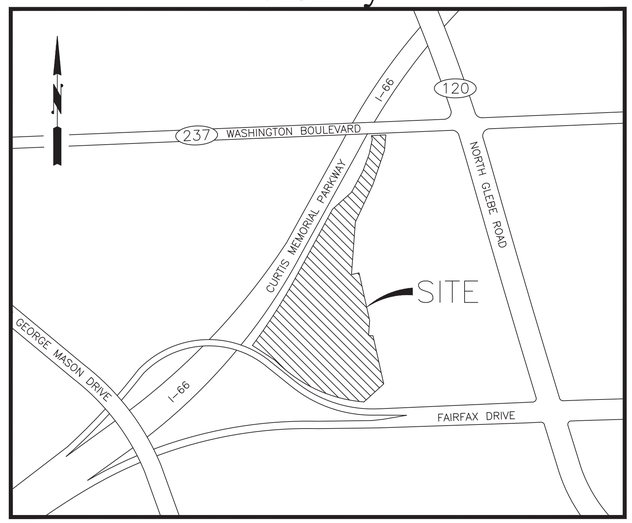
SURVEY AND UTILITY LOCATION
RICE ASSOCIATES, INC.
10625 GASKINS WAY,
MANASSAS, VA 20109
PHONE: 703.968.3200

CONTRACTOR
TO BE DETERMINED

Location Map

Scale: 1"=300'

Vicinity



CONSTRUCTION DRAWINGS FOR:

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DRIVE

PROJECT NUMBER: BBP
SWM NUMBER: 18-0311

General Notes:

GENERAL CONSTRUCTION NOTES

1. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. ALL CONSTRUCTION WORK FOR THIS PROJECT SHALL CONFORM TO THE ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES, CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND WHERE APPLICABLE THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, AND ROAD AND BRIDGE STANDARDS. THE LATEST EDITIONS OF EACH RELEVANT MANUAL SHALL BE USED.
3. ALL CONSTRUCTION AND WORK ACTIVITIES SHALL COMPLY WITH THE VIRGINIA WORK AREA PROTECTION MANUAL AND ALL OTHER RELEVANT WORK SAFETY REQUIREMENTS, LATEST EDITIONS.
4. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 811 FOR MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES (i.e. WATER, SEWER, GAS, TELEPHONE, ELECTRIC, AND CABLE TV) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. THE CONTRACTOR IS REQUIRED TO IDENTIFY AND PROTECT ALL OTHER UTILITY LINES FOUND IN THE WORK SITE AREA BELONGING TO OTHER OWNERS THAT ARE NOT MEMBERS OF "MISS UTILITY". PRIVATE WATER AND/OR SEWER LATERALS WILL NOT BE MARKED BY MISS UTILITY OR THE COUNTY. THE CONTRACTOR WILL BE EXPECTED TO LOCATE AND PROTECT THESE SERVICES DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT THE WORK AND SHALL RETAIN A PROFESSIONAL LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF VIRGINIA TO PROVIDE ALL NECESSARY CONSTRUCTION LAYOUTS AND ESTABLISH ALL CONTROL LINES, GRADES, AND ELEVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A COPY OF ALL CUT SHEETS FOR REVIEW, PER THE SPECIFICATIONS. THE COST OF ALL NECESSARY SURVEYING SERVICES SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND, UNLESS OTHERWISE SPECIFIED, THE COST SHALL BE INCORPORATED INTO THE COSTS FOR RELEVANT ITEMS.
6. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE FROM BEST AVAILABLE RECORDS AND SHALL BE CONSIDERED TO BE APPROXIMATE. WHEN CONSTRUCTION ACTIVITY REACHES IN PROXIMITY TO EXISTING UTILITIES, THE TRENCH(ES) SHALL BE OPENED A SUFFICIENT DISTANCE AHEAD OF THE WORK OR TEST PITS SHALL BE MADE TO VERIFY THE EXACT LOCATION AND INVERTS OF THE UTILITY TO ALLOW FOR POSSIBLE CHANGES IN THE LINE OR GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES AND THE RELATED STRUCTURES. ALL EXISTING UTILITY SYSTEMS SHALL BE PROTECTED TO PREVENT DAMAGE DURING THE CONTRACTOR'S OPERATIONS. ANY SYSTEM DAMAGED SHALL BE PROMPTLY REPAIRED AT NO COST TO THE OWNER.

   THE CONTRACOR SHALL IMMEDIATELY NOTIFY THE PROJECT OFFICER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS.
7. EXISTING MANHOLE FRAMES, COVERS, VALVE BOXES, AND OTHER APPURTENANCES SHALL BE ADJUSTED TO THE FINAL GRADE OR REPLACED, AS NECESSARY. UNLESS OTHERWISE SPECIFIED, THE COST FOR THIS SHALL BE CONSIDERED INCIDENTAL TO THE WORK, AND SHALL BE INCORPORATED INTO THE COSTS FOR RELEVANT ITEMS.
8. THE CONTRACTOR SHALL PROVIDE ADA COMPLIANT ACCESS THROUGH OR AROUND THE SITE AT ALL TIMES AND SHALL ENSURE THE SAFETY OF ALL THOSE PASSING THROUGH OR ADJACENT TO THE SITE.

STORMWATER AND ENVIRONMENTAL PROTECTION

9. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES AT THE SITE ASSOCIATED WITH CONSTRUCTION ACTIVITIES, TO INCLUDE STORAGE OF EQUIPMENT AND OR MATERIALS, ACCESS TO THE WORK, FORMWORK, ETC. TO WITHIN THE DESIGNATED LIMITS OF DISTURBANCE (LOD).
10. THE CONTRACTOR SHALL PROTECT EXISTING DRAINAGE FACILITIES (TO INCLUDE CURB AND GUTTER) AND WATERWAYS FROM ADVERSE IMPACTS PER SECTION 01500 OF THE ARLINGTON COUNTY STANDARDS & SPECIFICATIONS.
11. ANY WORK WITHIN A RESOURCE PROTECTION AREA (RPA) SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 61 OF THE COUNTY CODE (THE CHESAPEAKE BAY PRESERVATION ORDINANCE).

TREE PROTECTION

12. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES AT THE SITE ASSOCIATED WITH TREE ACTIVITIES, TO INCLUDE REMOVAL OF INVASIVE TREES, PLANTINGS OF REPLACEMENT TREES AND SHRUBS, ETC. TO WITHIN THE DESIGNATED LIMITS OF WORK (LOW).
13. NO TREES SHALL BE REMOVED OR OTHERWISE AFFECTED UNLESS CLEARLY MARKED ON THE APPROVED PLAN.
14. TREES SHALL BE PROTECTED PER THE REQUIREMENTS OF SECTION 02100 - CLEARING AND GRUBBING

TRAFFIC CONTROL

15. CONTRACTOR SHALL NOTIFY THE PROJECT OFFICER AT LEAST 3 WORKING DAYS PRIOR TO DISTURBING ANY EXISTING, OR INSTALLING ANY NEW, TRAFFIC SIGNS, SIGNALS, OR OTHER TRAFFIC CONTROL DEVICES.
16. THE CONTRACTOR SHALL PREMARK THE LAYOUT OF ANY PERMANENT TRAFFIC CONTROL STRIPING, INDICATING THE PROPOSED LOCATION AND TYPE OF MARKING TO BE INSTALLED. THE PREMARKING MAY CONSIST OF TYPE D TAPE, CHALK, OR LUMBER CRAYONS. THE CONTRACTOR SHALL ALLOW 3 WORKING DAYS FOR THE INSPECTION AND APPROVAL OF THE PREMARKINGS PRIOR TO PLACING THE PERMANENT MARKINGS.
17. THE CONTRACTOR SHALL SUBMIT ANY REQUESTS FOR TEMPORARY "NO PARKING" RESTRICTIONS TO THE PROJECT OFFICER AT LEAST 3 WORKING DAYS PRIOR TO THE DESIRED ONSET OF RESTRICTIONS.
18. THE CONTRACTOR SHALL PRESERVE ALL BUS STOPS, INCLUDING MAINTAINING ADEQUATE ACCESS THROUGH AND ADJACENT TO THE CONSTRUCTION FOR BUSES AND THEIR PASSENGERS. THE CONTRACTOR SHALL NOT CLOSE, RELOCATE, OR OTHERWISE MODIFY A BUS STOP WITHOUT PRIOR REQUEST OF THE PROJECT OFFICER. TYPICALLY ANY RELOCATION OR CLOSURE OF A BUS STOP WILL REQUIRE AT LEAST FOUR WEEKS ADVANCE NOTICE FOR COORDINATION WITH THE COUNTY'S BUS STOP COORDINATOR, WHO SHALL BE NOTIFIED AT 703-228-3049.
19. WHEN CONDITIONS WARRANT DUE TO TRAFFIC VOLUMES, PATTERNS, OR SPECIAL EVENTS, THE COUNTY MAY SUSPEND OR OTHERWISE DIRECT THE CONTRACTOR'S ACTIVITIES TO PROTECT THE PUBLIC AND OR THE COUNTY'S TRANSPORTATION NETWORK.

WATER DISTRIBUTION, STORM, AND SANITARY SEWER SYSTEMS

20. UNLESS OTHERWISE DIRECTED, CONTRACTORS ARE EXPRESSLY PROHIBITED FROM OPERATING ANY WATER VALVES OR APPURTENANCES. CONTRACTORS SHALL SUBMIT ALL REQUESTS FOR VALVE OPERATIONS TO THE PROJECT OFFICER AT LEAST 3 WORKING DAYS IN ADVANCE OF THE REQUIRED OPERATION.
21. IN THE EVENT OF A WATER OR SEWER EMERGENCY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY'S WATER CONTROL CENTER AT 703-228-5555 AND THE PROJECT OFFICER.
22. STORM OR SANITARY SEWERS AND APPURTENANCES TO BE ABANDONED SHALL BE EXCAVATED AND REMOVED, OR ABANDONED AS DETAILED IN THE COUNTY'S STANDARDS AND SPECIFICATIONS.

WORK WITHIN A VDOT RIGHT OF WAY

23. WHEN REQUIRED FOR THE WORK, AN APPROVED VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) PERMIT WILL BE PROVIDED BY THE COUNTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO AND IMPLEMENTING ALL PERMIT REQUIREMENTS.
24. THE CONTRACTOR SHALL HAVE AT LEAST ONE EMPLOYEE ON-SITE CERTIFIED BY VDOT IN BASIC WORK ZONE TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR THE PLACEMENT, MAINTENANCE AND REMOVAL OF WORK ZONE TRAFFIC CONTROL DEVICES WITHIN THE PROJECT LIMITS IN COMPLIANCE WITH THE PERMIT REQUIREMENTS AND CONDITIONS, THE APPROVED PLANS, SPECIFICATIONS, THE VIRGINIA WORK AREA PROTECTION MANUAL AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
25. THE CONTRACTOR SHALL HAVE AT LEAST ONE EMPLOYEE ON-SITE WHO HAS COMPLETED VDOT EROSION AND SEDIMENT CONTROL CONTRACTOR CERTIFICATION TRAINING AND WILL BE RESPONSIBLE FOR INSURING COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS DURING ALL LAND DISTURBANCE ACTIVITIES.
26. THE CONTRACTOR SHALL NOT ACCESS THE SITE FROM EXISTING LIMITED ACCESS ROADWAYS

Table of Contents:

As-Built:

I CERTIFY THAT THIS PROJECT WAS BUILT IN SUBSTANTIAL CONFORMANCE WITH THIS PLAN, UNLESS DULY NOTED IN THE ABOVE REVISION BLOCK.

PROJECT MANAGER **DATE**

CONSTRUCTION MANAGER **DATE**

ARLINGTON
VIRGINIA

DEPARTMENT OF
ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
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SEAL

COMMONWEALTH OF VIRGINIA
KIRAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

COVER SHEET

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 01-COVER SHEET.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_1054\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: As Noted

LDA Permit #18316
SWM # 18-0311

SHEET 01 of 73

	Existing	Proposed
Easement		
Asphalt		
Building		
Cable TV		
Center Line		
Concrete		
Contours	250	250
Curb		
Electric (Underground)		
Fence	X X X X X	X X X X X
Fiber Optic	fo	
Floodplain	FP FP FP FP	FP FP FP FP
Guardrail		
2" Gas	2" G	
3" Gas	3" G	
6" Gas	6" G	
8" Gas	8" G	
Gas	GAS GAS	
Limits Of Disturbance		LOD LOD
Limits Of Work		LOW LOW
Overhead Wires		
Property Line		
Resource Protection Area	RPA RPA RPA RPA	
8" Sanitary		
12" Sanitary		
Sanitary Sewer		
Sanitary House Con.		
Sidewalk		
Storm (size noted)		
Telephone (Underground)	UGT	
Wall		
6" Water		
8" Water		
20" Water	20" W	
Wetland	W	
Water Main		
Water House Con.	WHC	
Lane Marking		
Tree Line		
PVC (Street Lights)		

Asphalt - Mill & Overlay

Asphalt - Overlay

Asphalt - Full Depth

Water Main (Shown on Profile Only)

Ex. Esm't. for Public Access & Public Utilities

Proposed Emergent Marsh

Proposed Shrub Wetland

Proposed Forested Wetland

Proposed Water Surface

Grasspave2 (Or Equivalent)

Prop. Storm Catch Basin

Ex. Storm Catch Basin

Prop. Storm Grate

Ex. Storm Grate

Prop. Storm MH

Ex. Storm MH

Prop. Sanitary MH

Ex. Sanitary MH

Prop. Cobra Head Light

Prop. Carlyle Light

Prop. Light Pole

Ex. Light Pole

Prop. Utility Pole

Ex. Utility Pole

Ex. Utility MH (Type Indicated Elec. Tele. etc)

Ex. Traffic Control Box

Prop. Water MH

Ex. Water MH

Prop. Water Valve

Ex. Water Valve

Prop. Water FH

Ex. Water FH

Prop. Water Meter

Ex. Water Meter

P.K. Nail Found

P.K. Nail Set

Rebar Rod Found

Rebar Rod Set

Iron Pipe

Monument (GPS)

Monument

Traffic Sign

Guy Wires

Prop. Gas Valve

Ex. Gas Valve

Prop. Handicap Ramp

Ex. Handicap Ramp

Metro Station

Benchmark

Deciduous Tree

Coniferous Tree

Shrub

Wooded Area

Bridge

North Arrow

Telephone Ped.

Electric Box

Cable Ped.

Gas Marker

1 Construction Notes (Leader to area affected)

C1 Curve Number (See Curve Table)

L1 Line Number (See Line Table)

1234 Ex. Sanitary Sewer Structure Number (Number obtained from WSE)

1234 Ex. Storm Sewer Structure Number (Number obtained from WSE)

1234 Prop. Sanitary Sewer Structure Number (Number obtained from WSE)

1234 Prop. Storm Sewer Structure Number (Number obtained from WSE)

Parking Meter

Mailbox

Ground Light

Traverse

Bus Sign

Existing Test Hole
Test Hole Requested and Data Received

Prop. Test Hole
Test Hole Requested

SANITARY SEWER TABLE

(A) SSMH
TOP = 284.83
10" INV. IN = 273.69 (TYPE UNKNOWN)
16" CIP INV. OUT = 273.53

(B) SSMH
TOP = 287.39
16" CIP INV. IN = 268.59
16" INV. OUT = 268.55 (TYPE UNKNOWN)

(C) SSMH
TOP = 286.06
16" INV. IN = 267.28 (TYPE UNKNOWN)
16" INV. OUT = 267.22 (TYPE UNKNOWN)

(D) SSMH
TOP = 275.96
16" INV. IN = 255.22 (TYPE UNKNOWN)
16" INV. OUT = 255.18 (TYPE UNKNOWN)

(E) SSMH
TOP = 272.26
16" INV. IN (A) = 253.34 (TYPE UNKNOWN)
12" CIP INV. IN (B) = 253.62
16" CIP INV. OUT = 253.30

(F) SSMH
TOP = 272.82
12" PVC INV. IN = 254.20
12" CIP INV. OUT = 254.07

(O) SSMH
TOP = 266.96
BOTTOM OF STRUCTURE = 245.94
(INVERTS INACCESSIBLE DUE TO DEBRIS IN STRUCTURE)

(P) SSMH
TOP = 261.67
24" INV. IN = 245.73 (TYPE UNKNOWN)
24" INV. OUT = 245.37 (TYPE UNKNOWN)

(Q) SSMH
TOP = 263.43
BOTTOM OF STRUCTURE = 247.58
(INVERTS INACCESSIBLE)
(STRUCTURE IS SURCHARGED)

(R) SSMH
TOP = 260.45
(INACCESSIBLE)

(S) SSMH
TOP = 260.04
24" INV. IN (From N.E.) = 244.04 (TYPE UNKNOWN)
24" INV. IN (From Str. P)= 244.02 (TYPE UNKNOWN)
30" INV. OUT = 243.68 (TYPE UNKNOWN)

(T) SSMH
(SHOWN FROM GIS)
(NO FIELD EVIDENCE)

STORM SEWER TABLE

(1) CDI
TOP = 282.23
15" RCP INV. IN = 279.63
15" RCP INV. OUT = 279.53

(2) CDI
TOP = 285.32
15" RCP INV. IN = 277.12
18" RCP INV. OUT = 276.87

(3) CDI
TOP = 276.87
18" RCP INV. IN (A) = 270.36
8" CIP INV. IN (B) = 267.72
8" CIP INV. IN (C) = 262.52
18" RCP INV. OUT = 261.98

(4) TRENCH DRAIN
TOP = 271.51
8" CIP INV. OUT = 268.89

(5) TRENCH DRAIN
TOP = 266.38
8" CIP INV. OUT = 264.24

(6) CDI
TOP = 275.29
18" RCP INV. IN = 258.46
24" RCP INV. OUT = 257.33

(7) CDI
TOP = 271.28
24" RCP INV. IN (A) = 257.09
4" CPP INV. IN (B) = 261.43 (ORIGIN UNKNOWN)
18" RCP INV. IN (C) = 256.63 (ORIGIN UNKNOWN)
24" RCP INV. OUT = 256.62

(8) 8" ROUND GRATE
TOP = 271.39
3" PVC INV. OUT = 269.69 (TERMINUS UNKNOWN)

(9) CDI
TOP = 268.37
24" RCP INV. IN (A) = 255.42
18" RCP INV. IN (B) = 256.32
30" RCP INV. OUT = 254.81

(10) GI
TOP = 268.50
15" RCP INV. IN = 258.40
18" RCP INV. OUT = 258.25

(11) GI
TOP = 271.02
15" RCP INV. IN = 259.45
15" RCP INV. OUT = 259.30

(12) SDMH
TOP = 266.71
30" RCP INV. IN = 254.21
15" RCP INV. IN = 255.22 (ORIGIN UNKNOWN)
30" RCP INV. OUT = 253.99

9555 (13) SDMH
TOP = 264.94
C\L INVERT = 251.40

(14) CDI
TOP = 263.88
21" RCP INV. IN = 254.2+/-
INV. OUT (INACCESSIBLE, IT OUTFALLS TO SUBMERGED END WALL IN POND)
BOTTOM OF STRUCTURE =252.45+/-
(STRUCTURE IS SURCHARGED

(15) SDMH
TOP = 264.55
21" RCP INV. IN = 258.61
21" RCP INV. OUT = 258.45

9561 (16) SDMH
TOP = 263.66
C\L INVERT = 250.13

(17) CDI
TOP = 264.79
21" RCP INV. IN = 259.17
21" RCP INV. OUT = 258.79

9589 (18) GI
TOP = 264.56
15" CIP INV. OUT = 259.67 (9589)

(19) CDI
TOP = 261.87
15" RCP INV. OUT =258.14

(20) CDI
TOP = 262.00
15" RCP INV. IN = 256.92
15" RCP INV. OUT = 255.75
(DIRECT CONNECT TO BOX CULVERT)

(21) GI
TOP = 262.74
18" RCP INV. OUT = 252.38
(DIRECT CONNECT TO DOUBLE 8' X 10' BOX CULVERT)

(22) CDI
TOP = 266.14
15" RCP INV. OUT = 255.52
(DIRECT CONNECT TO DOUBLE 8' X 10' BOX CULVERT)

(23) CDI
TOP = 264.54
15" RCP INV. OUT = 255.66
(DIRECT CONNECT TO DOUBLE 8' X 10' BOX CULVERT)

(24) YDI
TOP = 262.90
15" RCP INV. OUT = 253.90
(DIRECT CONNECT TO DOUBLE 8' X 10' BOX CULVERT)

(25) SDMH
TOP = 261.90
BOTTOM OF STRUCTURE = 249.05

(26) SDMH
TOP = 261.71
72" RCP INV. IN = 250.33
30" RCP INV. IN = 251.76
72" RCP INV. OUT = 250.28 (DIRECT CONNECT TO BOX CULVERT)

(27) TRIPLE BOX CULVERT
10.0'W X 6.0'H
INV. OUT (A)= 249.59
INV. OUT (B)= 249.57
INV. OUT (C)= 249.61

(28) SDMH
TOP = 262.25
30" RCP INV. IN = 252.23
30" RCP INV. OUT = 252.20

(29) SDMH
TOP = 262.02
30" RCP INV. IN = 252.29
30" RCP INV. OUT = 252.21

9628 (30) TOP END WALL = 256.98
66" RCP OUT = 249.93

(31) TRIPLE BOX CULVERT
10.0'W X 6.0'H
INV. OUT (A)= 251.87
INV. OUT (B)= 251.85
INV. OUT (C)= 251.86

(32) CDI
TOP = 287.59
15" RCP INV. OUT = 283.29

(33) CDI
TOP = 285.37
15" RCP INV. IN = 279.61
15" RCP INV. OUT = 279.31

9135 (34) YDI
TOP = 262.90
24" RCP INV. IN = 255.70
24" RCP INV. OUT = 255.48

(35) SDMH
TOP = 262.39
72" RCP INV. IN = 250.27
72" RCP INV. OUT = 250.19

(36) SDMH
TOP = 261.92
15" RCP INV. IN = 254.37
72" RCP INV. IN = 251.18
72" RCP INV. OUT = 251.12

9543 SDMH
TOP = 265.90
C\L INVERT = 252.35

9174 ES
24" RCP INV. OUT = 251.99

SANITARY SEWER TABLE

(G) SSMH
TOP = 268.98
16" CIP INV. IN = 251.84
16" CIP INV. OUT = 251.82

(H) SSMH
TOP = 269.06
16" CIP INV. IN = 251.44
16" CIP INV. OUT = 251.40

(I) SSMH
TOP = 263.99
16" CIP INV. IN = 250.15
16" CIP INV. OUT = 250.11

(J) SSMH
TOP = 263.95
16" CIP INV. IN (A) = 249.87
16" INV. IN (B) = 248.95 (TYPE UNKNOWN)
18" INV. OUT = 248.85 (TYPE UNKNOWN)

(K) SSMH
TOP = 262.96
INV. IN (FROM STR. J) = 248.71
INV. IN IS INACCESSIBLE
INV. OUT IS INACCESSIBLE
BOTTOM OF STRUCTURE = 247.06
(STRUCTURE IS SURCHARGED)

(L) SSMH
TOP = 263.82
BOTTOM OF STRUCTURE = 251.5
(INVERTS INACCESSIBLE)
(STRUCTURE IS SURCHARGED)

(M) SSMH
TOP = 265.09
16" INV. IN = 252.02 (TYPE UNKNOWN)
16" INV. OUT = 251.86 (TYPE UNKNOWN)

(N) SSMH
TOP = 266.30
8" CIP INV. IN = 261.20
10" +/- INV. IN = 247.20 (TYPE UNKNOWN)
24" INV. IN = 246.14 (TYPE UNKNOWN)
24" INV. OUT = 245.98 (TYPE UNKNOWN)

(U) SSMH
(SHOWN FROM GIS)
(NO FIELD EVIDENCE)

(V) SSMH
(SHOWN FROM GIS)
(NO FIELD EVIDENCE)

(W) SSMH
(SHOWN FROM GIS)
(NO FIELD EVIDENCE)

(X) SSMH
(SHOWN FROM GIS)
(NO FIELD EVIDENCE)

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FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

LEGEND

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 02-LEGEND.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 13, 2019

PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 02 of 73

MATCHLINE - SEE SHEET 04

INTERSTATE 66 (VDOT)
(R/W VARIES)

EXIST. R/W & LIMITED ACCESS LINE PER PLAN #0066-000-102, RW-202 D.B. 2180, PG. 510

A=336.10'
R=4278.83'
C1

THE COUNTY OF ARLINGTON , VIRGINIA
D.B. 2190, PG. 510
6.0395 ACRES
RPC #14063004

EX. STORM DETENTION POND
HIGHWAY PLAT BOOK 10, PG'S 309-311

WETLANDS

CATTAILS WETLANDS

ABANDONED

ABANDONED 6'X6' BOX CULVERT

EX. PRIVATE ACCESS

APPROX. LOCATION EX. ESM'T PER D.B. 1682, PG. 46

APPROX. LOC. EX. PERMANENT UTILITY EASEMENT (FOR ARLINGTON COUNTY) D.B. 1682, PG. 46

TOP OF PIPE = 250.2

TOP OF PIPE = 250.0

TOP OF PIPE = 249.3

TOP OF PIPE = 249.6

TOP OF PIPE = 254.2

TOP OF PIPE = 255.2

S12°31'51"E 204.78'

S12°32'21"E 207.12'

S85°47'51"E 18.82'

S47°45'15"W 112.18'

N56°44'31"W 107.66'

A=25.14'
R=446.80'
C2

A=401.10'
R=583.85'

EX. ESM'T FOR PUBLIC ACCESS & PUBLIC UTILITIES

APPROX. LOCATION EX. 25' STORM & SANITARY ESM'T D.B. 2003, PG. 521 D.B. 1955, PG. 1306

EX. WATER MAIN ESM'T D.B. 2382, PG. 956

EX. ESM'T FOR PUBLIC ACCESS & PUBLIC UTILITIES D.B. 2382, PG. 956

EX. 25' STORM & SANITARY ESM'T D.B. 2000, PG. 174

EX. 20' STORM SEWER ESM'T D.B. 2000, PG. 174

EX. 10' STORM SEWER ESM'T D.B. 2177, PG. 966

EX. STORM SEWER ESM'T D.B. 2177, PG. 966

EX. 15" SANITARY SEWER ESM'T D.B. 2177, PG. 966

EX. DRAINAGE ESM'T D.B. 2177, PG. 966

CPT FAIRFAX GLEBE, LLC
D.B. 4353, PG. 986
RPC #14013049

PARCEL C-1
RESUBDIVISION OF PARCEL B-1
WESTERN POCOHONTAS CORPORATION
D.B. 2306, PG. 340

4601 NORTH FARIFAX DRIVE
INVESTORS, LLC
D.B. 3535, PG. 921
RPC #14013022

PARCEL "A"
SECTION TWO
KENWOOD
D.B. 1495, PG. 181

4601 NORTH FARIFAX DRIVE
INVESTORS, LLC
D.B. 3535, PG. 921
RPC #14013022

PARCEL "A"
SECTION TWO
KENWOOD
D.B. 1495, PG. 181

BLUEMONT JUNCTION TRAIL

12 STY. CONC. BUILDING

12 STY. CONC. BUILDING

HEIGHT BAR
GATE
CARD READER
ELEC. BOX
GUARD SHACK
GATE
CARD READER
ELEC. BOXES

OVERHEAD SIGN BASE
TRANSFORMER
EX. OVERHEAD SIGN AND ELECT. BOX ESM'T D.B. 2177, PG. 966

APPROX. LOC, C/L EX. VEPCO ESM'T D.B. 1377, PG. 629

NORTH FARIFAX DRIVE (VDOT)
(R/W VARIES)

NORTH FARIFAX DRIVE (VDOT)
(R/W VARIES)

NORTH FARIFAX DRIVE (VDOT)
(R/W VARIES) ASPHALT

APPROX. LOCATION DOUBLE 8' X 6' BOX CULVERT (PERMANENT)

EXIST. R/W PER PLAN #0066-000-102, RW-202

EXIST. LIMITED ACCESS LINE PER PLAN #0066-000-102, RW-202

EXIST. R/W PER PLAN #0066-000-102, RW-202

ASPHALT PATH

BRICK WALK

BRICK PAVERS

MULCH

WOOD DECK

UTILITY POLE #DF630

GUY POLE #DF630

ELEC. VAULT

SURVEY LOCATED WATERLINE

LIGHT POLE #10010

TRAN. ON CONC. PAD

TRASH CAN

MCT SOUND BARRIER

CONC. CURB

6" CURB

30" C&G

72" RCP

15" RCP

24" CMP

BRUSH

FLOATING VEGETATION

OPEN WATER

EDGE OF CATTAILS

RIP-RAP

VDOT PROJECT

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EXISTING CONDITIONS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 03-EX CONDITIONS.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

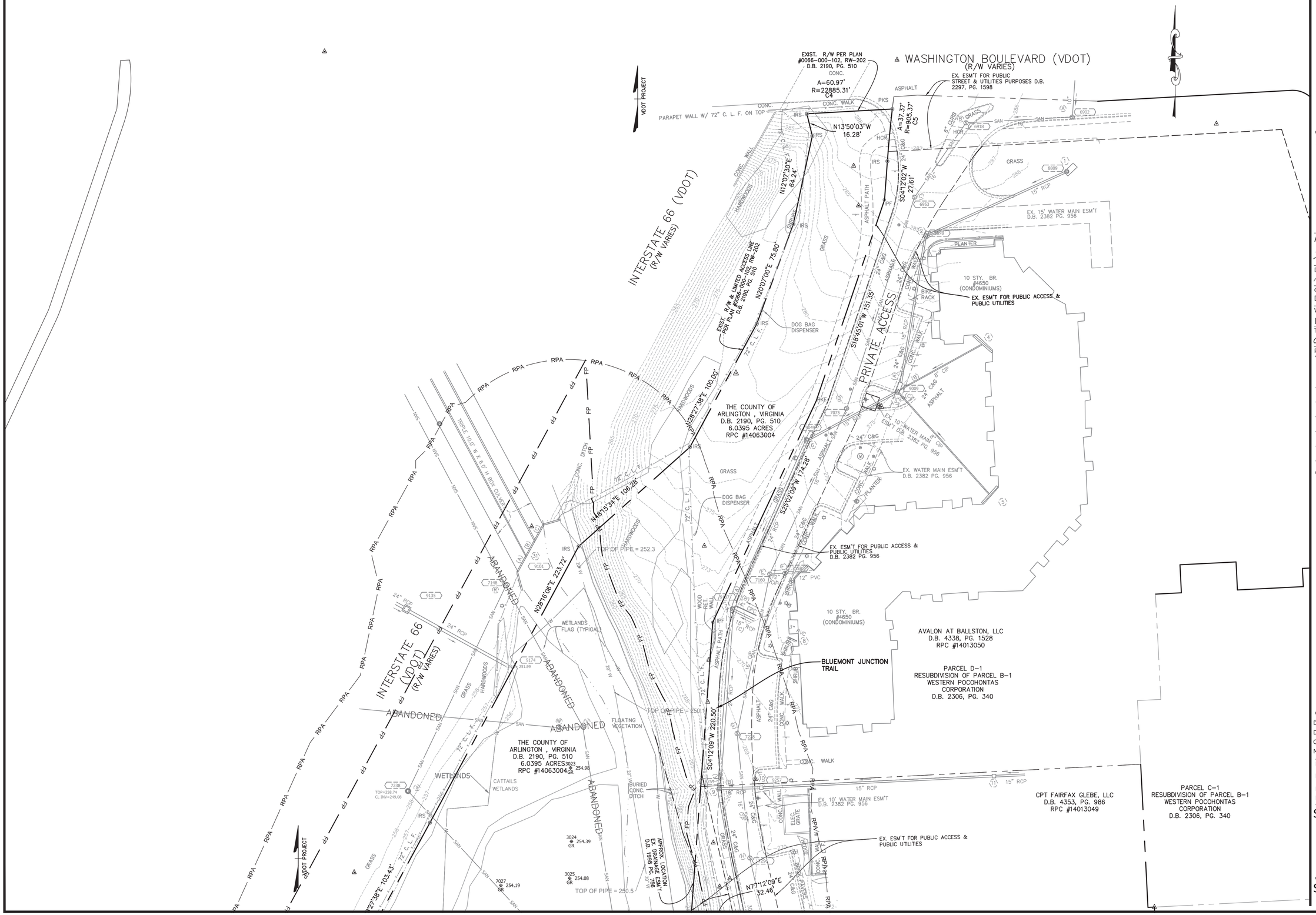
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'

GRAPHIC SCALE

SHEET 03 of 73



MATCHLINE - SEE SHEET 03

BALLSTON POND RETROFIT PROJECT

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

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ENGINEERING BUREAU
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PLOTTED: August 27, 2019

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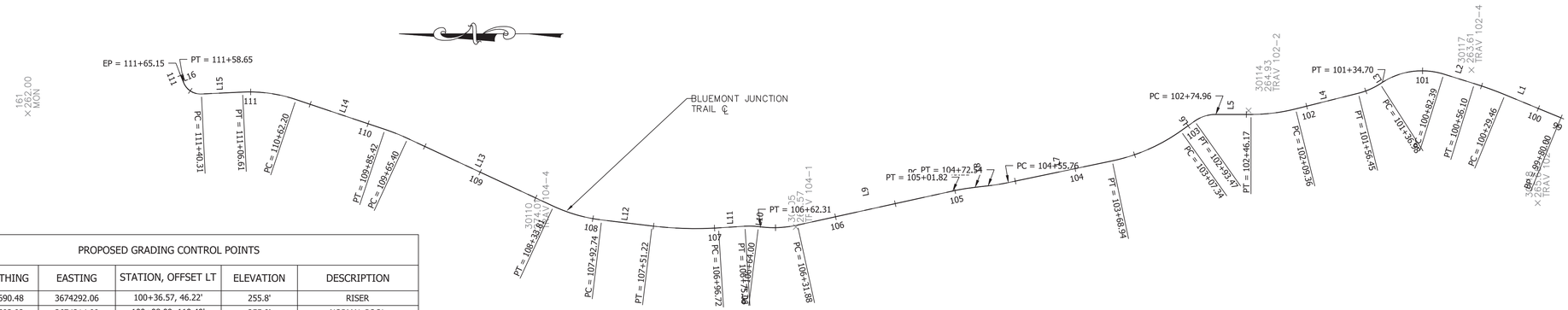
0' 30' 60'

GRAPHIC SCALE

SHEET 04 of 73



PROPOSED GRADING CONTROL POINTS					
POINT #	NORTHING	EASTING	STATION, OFFSET LT	ELEVATION	DESCRIPTION
10	445690.48	3674292.06	100+36.57, 46.22'	255.8'	RISER
11	445693.02	3674214.09	100+08.09, 119.40'	255.0'	NORMAL POOL
12	445814.15	3674218.21	102+10.02, 105.62'	258.0'	POOLS/ISLAND
13	445849.28	3674258.42	102+27.62, 59.64'	255.0'	NORMAL POOL
14	445891.11	3674202.06	103+21.62, 107.45'	255.0'	TURTLE BASKING STATION
15	445919.19	3674135.71	103+49.90, 156.41'	246.0'	POOLS/ISLAND
16	445910.83	3674044.94	103+58.16, 245.53'	255.0'	TURTLE BASKING STATION
17	445976.57	3674068.12	104+00.15, 208.37'	255.0'	TURTLE BASKING STATION
18	445995.22	3674019.18	104+28.42, 252.47'	260.0'	POOLS/ISLAND
19	446061.35	3674258.45	104++44.19, 4.72'	265.65'	TRAIL CONNECTION
20	446102.90	3674233.73	104+88.58, 22.66'	268.2'	PLATFORM
21	446144.43	3674228.19	105+32.01, 19.58'	268.2'	PLATFORM
22	446188.71	3674238.51	105+73.04, 0.00'	269.0'	TRAIL CONNECTION
23	446120.93	3673976.26	105+63.06, 270.71'	255.0'	NORMAL POOL
24	446018.68	3673921.71	104+61.12, 343.30'	255.0'	NORMAL POOL
25	445917.17	3673928.72	103+70.51, 356.95'	255.0'	NORMAL POOL
26	445769.03	3674058.91	102+05.36, 271.10'	255.0'	NORMAL POOL
27	446225.14	3674024.10	106+38.88, 202.49'	255.0'	NORMAL POOL
28	446204.48	3674083.05	106+21.79, 148.46'	258.0'	POOLS/ISLAND
29	446232.16	3674160.58	106+32.06, 66.79'	258.0'	POOLS/ISLAND
30	446302.70	3674093.77	106+96.75, 130.12'	255.0'	WEIR
31	446314.22	3674171.75	107+02.41, 51.63'	255.5'	WEIR
32	446350.14	3674181.54	107+33.57, 42.14'	260.0'	ANCHOR
33	446348.49	3674072.26	107+28.09, 151.19'	256.0'	ANCHOR
34	446435.81	3674163.81	108+06.58, 70.46'	269.0'	GRASSPAVE

PROPOSED GRADING CONTROL POINTS					
POINT #	NORTHING	EASTING	STATION, OFFSET LT	ELEVATION	DESCRIPTION
35	445824.71	3674081.03	102+26.61, 238.86'	255.0'	TURTLE BASKING STATION
36	446046.91	3674087.52	104+60.51, 175.13	255.0'	TURTLE BASKING STATION
37	446499.71	3674261.73	108+83.61, 4.07	274.0'	GRASSPAVE
38	445643.34	3674263.02	99+80.82, 55.16'	264.9'	GRASSPAVE
39	445687.16	3674335.37	100+49.22, 4.27	262.1'	GRASSPAVE
40	446617.96	3674254.55	110+02.17, 58.00'	277.0'	FENCE
41	446450.70	3674209.78	108+26.74, 30.94'	272.2'	FENCE
42	446312.18	3674217.25	106+99.10, 6.26'	268.0'	FENCE
43	446188.99	3674233.13	105+74.47, 4.54'	269.0'	FENCE
44	446060.47	3674252.89	104++44.40, 10.34'	265.0	FENCE
45	446004.79	3674268.24	103+86.81, 6.71'	263.4'	FENCE
46	445732.60	3674331.55	100+96.42, 20.51'	262.2'	FENCE
47	445643.31	3674263.03	99+87.96, 63.27'	264.3'	FENCE

Alignment Curve Table

Curve #	Alignment #	PC STATION	PI STATION	PT STATION	DELTA	DEGREE	TANGENT	RADIUS	EXTERNAL	CHORD	LENGTH	MID. ORD.	BEARING BACK / BEARING AHEAD	NORTHING PC / PI / PT	EASTING PC / PI / PT
C-1	TrailCL	100+29.46	100+42.79	100+56.10	5° 05' 18"	19° 05' 55"	13.33'	300.00'	0.30	26.63	26.64'	0.30	N22° 24' 35"E N17° 19' 16"E	445667.2687 445679.5923 445692.3181	3674332.5638 3674337.6457 3674341.6145
C-2	TrailCL	100+82.39	101+10.34	101+34.70	49° 57' 16"	95° 29' 35"	27.95'	60.00'	6.19	50.67	52.31'	5.61	N17° 19' 16"E N32° 38' 00"W	445717.4146 445744.0966 445767.6339	3674349.4413 3674357.7627 3674342.6906
C-3	TrailCL	101+36.98	101+46.80	101+56.45	18° 35' 37"	95° 29' 35"	9.82'	60.00'	0.80	19.39	19.47'	0.79	N32° 38' 00"W N14° 02' 23"W	445769.5549 445777.8263 445787.3548	3674341.4606 3674336.1640 3674333.7812
C-4	TrailCL	102+09.36	102+27.85	102+46.17	14° 03' 37"	38° 11' 50"	18.50'	150.00'	1.14	36.72	36.81'	1.13	N14° 02' 23"W N0° 01' 14"E	445838.6779 445856.6233 445875.1212	3674320.9472 3674316.4597 3674316.4663
C-5	TrailCL	102+74.96	102+84.52	102+93.47	35° 21' 23"	190° 59' 09"	9.56'	30.00'	1.49	18.22	18.51'	1.42	N0° 01' 14"E N35° 20' 08"W	445903.9103 445913.4719 445921.2720	3674316.4767 3674316.4802 3674310.9501
C-6	TrailCL	103+07.34	103+38.58	103+68.94	23° 31' 45"	38° 11' 50"	31.24'	150.00'	3.22	61.17	61.60'	3.15	N35° 20' 08"W N11° 48' 23"W	445932.5875 445958.0722 445988.6510	3674302.9277 3674284.8598 3674278.4679
C-7	TrailCL	104+55.76	104+64.16	104+72.54	5° 20' 27"	31° 49' 52"	8.40'	180.00'	0.20	16.77	16.78'	0.20	N11° 48' 23"W N6° 27' 56"W	446073.6379 446081.8558 446090.1980	3674260.7031 3674258.9853 3674258.0399
C-8	TrailCL	104+83.21	104+92.52	105+01.82	5° 55' 26"	31° 49' 52"	9.31'	180.00'	0.24	18.60	18.61'	0.24	N6° 27' 56"W N12° 23' 22"W	446100.7965 446110.0508 446119.1475	3674256.8388 3674255.7901 3674253.7918
C-9	TrailCL	106+31.88	106+47.24	106+62.31	19° 22' 19"	63° 39' 43"	15.36'	90.00'	1.30	30.28	30.43'	1.28	N12° 23' 22"W N6° 58' 57"E	446246.1836 446261.1871 446276.4345	3674225.8854 3674222.5895 3674224.4569
C-10	TrailCL	106+64.00	106+69.55	106+75.06	10° 33' 35"	95° 29' 35"	5.54'	60.00'	0.26	11.04	11.06'	0.25	N6° 58' 57"E N3° 34' 38"W	446278.1151 446283.6187 446289.1526	3674224.6627 3674225.3368 3674224.9908
C-11	TrailCL	106+96.72	107+24.05	107+51.22	10° 24' 27"	19° 05' 55"	27.32'	300.00'	1.24	54.42	54.49'	1.24	N3° 34' 38"W N6° 49' 49"E	446310.7723 446338.0410 446365.1690	3674223.6392 3674221.9345 3674225.1838
C-12	TrailCL	107+92.74	108+13.45	108+33.81	18° 05' 58"	44° 04' 25"	20.71'	130.00'	1.64	40.90	41.07'	1.62	N6° 49' 49"E N24° 55' 46"E	446406.3969 446426.9554 446445.7317	3674230.1220 3674232.5845 3674241.3119
C-13	TrailCL	109+65.40	109+75.42	109+85.42	6° 22' 18"	31° 49' 52"	10.02'	180.00'	0.28	20.01	20.02'	0.28	N24° 55' 46"E N18° 33' 29"E	446565.0636 446574.1489 446583.6467	3674296.7787 3674301.0017 3674304.1903
C-14	TrailCL	110+62.20	110+84.66	111+06.61	21° 12' 11"	47° 44' 47"	22.46'	120.00'	2.08	44.15	44.41'	2.05	N18° 33' 29"E N2° 38' 43"W	446656.4355 446677.7284 446700.1653	3674328.6270 3674335.7754 3674334.7388
C-15	TrailCL	111+40.31	111+50.83	111+58.65	70° 04' 34"	381° 58' 19"	10.52'	15.00'	3.32	17.22	18.35'	2.72	N2° 38' 43"W N67° 25' 51"E	446733.8307 446744.3374 446748.3742	3674333.1835 3674332.6981 3674342.4105

Alignment Line Table

Line #	Alignment	Bearing	Begin Station	End Station	Begin Station NORTHING EASTING	End Station NORTHING EASTING
L1	TrailCL	N 22° 24' 35" E	99+80.00	100+29.46	445621.5466 3674313.7095	445667.2687 3674332.5638
L2	TrailCL	N 17° 19' 16" E	100+56.10	100+82.39	445692.3181 3674341.6145	445717.4146 3674349.4413
L3	TrailCL	N 32° 38' 00" W	101+34.70	101+36.98	445767.6339 3674342.6906	445769.5549 3674341.4606
L4	TrailCL	N 14° 02' 23" W	101+56.45	102+09.36	445787.3548 3674333.7812	445838.6779 3674320.9472
L5	TrailCL	N 0° 01' 14" E	102+46.17	102+74.96	445875.1212 3674316.4663	445903.9103 3674316.4767
L6	TrailCL	N 35° 20' 08" W	102+93.47	103+07.34	445921.2720 3674310.9501	445932.5875 3674302.9277
L7	TrailCL	N 11° 48' 23" W	103+68.94	104+55.76	445988.6510 3674278.4679	446073.6379 3674260.7031
L8	TrailCL	N 6° 27' 56" W	104+72.54	104+83.21	446090.1980 3674258.0399	446100.7965 3674256.8388
L9	TrailCL	N 12° 23' 22" W	105+01.82	106+31.88	446119.1475 3674253.7918	446246.1836 3674225.8854
L10	TrailCL	N 6° 58' 57" E	106+62.31	106+64.00	446276.4345 3674224.4569	446278.1151 3674224.6627
L11	TrailCL	N 3° 34' 38" W	106+75.06	106+96.72	446289.1526 3674224.9908	446310.7723 3674223.6392
L12	TrailCL	N 6° 49' 49" E	107+51.22	107+92.74	446365.1690 3674225.1838	446406.3969 3674230.1220
L13	TrailCL	N 24° 55' 46" E	108+33.81	109+65.40	446445.7317 3674241.3119	446565.0636 3674296.7787
L14	TrailCL	N 18° 33' 29" E	109+85.42	110+62.20	446583.6467 3674304.1903	446656.4355 3674328.6270
L15	TrailCL	N 2° 38' 43" W	111+06.61	111+40.31	446700.1653 3674334.7388	446733.8307 3674333.1835
L16	TrailCL	N 67° 25' 51" E	111+58.65	111+65.15	446748.3742 3674342.4105	446750.8686 3674348.4121

Survey Control Points

Point #	Northing	Easting	Elevation	Raw Description
116	445669.09	3673560.38	262.01	MON
117	446226.34	3673968.53	260.33	MON
161	446875.88	3674317.28	262.00	MON
30114	445877.06	3674319.62	264.93	TRAV 102-2
30117	445694.72	3674352.83	263.61	TRAV 102-4
30118	445640.54	3674243.96	265.66	TRAV 102-5
30119	445686.01	3674053.75	275.42	TRAV 102-7
30122	445801.47	3673897.16	284.90	TRAV 102-9
30105	446247.53	3674224.38	268.57	TRAV 104-1
30110	446459.10	3674218.03	274.01	TRAV 104-4

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TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
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REVISIONS	DATE

GEOMETRIC CONTROL PLAN

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 05-GEOMETRIC CONTROL PLN.dwg
PATH: \\tfvsrv01\v0\projects\2016\16068_ArlingtonCo_I66\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=50'

0' 50' 100'
GRAPHIC SCALE

SHEET 05 of 73

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
2. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE ON THE SITE AT ALL TIMES.
5. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN THE AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
7. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
9. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
10. ALL STORM AND SANITARY SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.
11. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 5 DAYS OF BACKFILL.
12. ANY DISTURBED AREA NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, SHALL BE MULCHED WITH HAY OR STRAW AT THE RATE OF 2 TONS PER ACRE AND OVER-SEEDED NO LATER THAN MAY 15TH.
13. AT THE COMPLETION OF THE CONSTRUCTION PROJECT AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL BE STABILIZED. ARLINGTON COUNTY INSPECTOR TO APPROVE REMOVAL OF ALL TEMPORARY SILTATION MEASURES.
14. PROTECT TREES DURING CONSTRUCTION OF PROPOSED WORK AS SHOWN. CALL URBAN FORESTER (702-228-1863) PRIOR TO BEGINNING WORK ADJACENT TO TREE. PROCEED WITH WORK AS DIRECTED BY THE ENGINEER IF ANY CONFLICT ARISES WITH PROPOSED WORK.

GENERAL LAND CONSERVATION NOTES

1. NO DISTURBED AREA WILL REMAIN DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
3. ALL STORM AND SANITARY SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.
4. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 5 DAYS OF BACKFILL.
5. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS ARE TO BE MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL SOIL STOCKPILES. STOCKPILE TO BE COVERED PRIOR TO STORM EVENTS.
6. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
7. ANY DISTURBED AREA NOT COVERED BY NOTE # 1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, SHALL BE MULCHED WITH HAY OR STRAW AT THE RATE OF 2 TONS PER ACRE AND OVER-SEEDED NO LATER THAN MAY 15TH.
8. AT THE COMPLETION OF THE CONSTRUCTION PROJECT AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL BE STABILIZED. ARLINGTON COUNTY INSPECTOR TO APPROVE REMOVAL OF ALL TEMPORARY SILTATION MEASURES.

POLLUTION PREVENTION NOTES

1. ONLY THE FOLLOWING NON-STORMWATER DISCHARGES ARE AUTHORIZED BY ARLINGTON COUNTY'S MS4 PERMIT, UNLESS THE STATE WATER CONTROL BOARD, THE VIRGINIA SOIL AND WATER CONSERVATION BOARD (BOARD), OR ARLINGTON COUNTY DETERMINES THE DISCHARGE TO BE A SIGNIFICANT SOURCE OF POLLUTANTS TO SURFACE WATERS, WATER LINE FLUSHING; LANDSCAPE IRRIGATION; DIVERTED STREAM FLOWS; RISING GROUND WATERS; UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED AT 40 CFR 35.2005(20)); UNCONTAMINATED PUMPED GROUND WATER; DISCHARGES FROM POTABLE WATER SOURCES; FOUNDATION DRAINS; AIR CONDITIONING CONDENSATION; IRRIGATION WATER; SPRINGS; WATER FROM CRAWL SPACE PUMPS; FOOTING DRAINS; LAWN WATERING; INDIVIDUAL RESIDENTIAL CAR WASHING; FLOWS FROM RIPARIAN HABITATS AND WETLANDS; DECHLORINATED SWIMMING POOL DISCHARGES; DISCHARGES OR FLOWS FROM FIRE FIGHTING; AND, OTHER ACTIVITIES GENERATING DISCHARGES IDENTIFIED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY AS NOT REQUIRING VPDES AUTHORIZATION.
2. APPROPRIATE CONTROLS MUST BE IMPLEMENTED TO PREVENT ANY NON-STORMWATER DISCHARGES NOT INCLUDED ON THE ABOVE LIST (E.G., CONCRETE WASH WATER, PAINT WASH WATER, VEHICLE WASH WATER, DETERGENT WASH WATER, ETC.) FROM BEING DISCHARGED INTO ARLINGTON COUNTY'S MS4 SYSTEM, WHICH INCLUDES THE CURB AND GUTTER SYSTEM, AS WELL AS CATCH BASINS AND OTHER STORM DRAIN INLETS, OR STREAM NETWORK.
3. PER CHAPTER 26 OF THE ARLINGTON COUNTY CODE, IT SHALL BE UNLAWFUL FOR ANY PERSON TO DISCHARGE DIRECTLY OR INDIRECTLY INTO THE STORM SEWER SYSTEM OR STATE WATERS, ANY SUBSTANCE LIKELY, IN THE OPINION OF THE COUNTY MANAGER, TO HAVE AN ADVERSE EFFECT ON THE STORM SEWER SYSTEM OR STATE WATERS.

PROJECT DESCRIPTION:

THIS PROJECT IS A RETROFIT OF AN EXISTING DETENTION POND DESIGNED TO RESTORE ITS ORIGINAL STORMWATER MANAGEMENT FUNCTIONS, AS WELL AS IMPROVE WATER QUALITY, AND INCREASE WILDLIFE HABITAT. PLANNED IMPROVEMENTS INCLUDE REGRADING THE POND, REFROFITTING THE EXISTING RISER STRUCTURE, ADDING A PLATFORM OVERLOOK, AND RESTORING NATIVE PLANT SPECIES. THE PROJECT IS ESTIMATED TO HAVE A TIMELINE OF 18 MONTHS FROM THE START OF CONSTRUCTION. THE LIMIT OF WORK (LOW) IS 7.24 ACRES. WITHIN THE LOW, THE LIMIT OF DISTURBANCE (LOD) IS 5.95 ACRES.

THE LOD RESTRICTS THE CONTRACTOR ACCESS FOR CONSTRUCTION ACTIVITIES. THE LOW APPENDS THE LOD TO INCLUDE AREAS FOR ACTIVITIES THAT DO NOT REQUIRE DISTURBANCE: INVASIVE MANAGEMENT AND PROPOSED PLANTINGS WITHIN THE UPLAND AREAS.

EXISTING SITE CONDITIONS:

THE POND IS LOCATED TO THE WEST OF I-66 AT FAIRFAX DRIVE. WASHINGTON BOULEVARD BORDERS THE POND ON THE NORTH SIDE, AND AN ASPHALT TRAIL RUNS ALONG THE POND ON BOTH THE EAST SIDE AND SOUTH SIDE. THE POND IS CURRENTLY FILLED WITH SEDIMENT INHIBITING ITS ABILITY FUNCTION AS DESIGNED. THE ORIGINAL POND WAS DESIGNED TO DETAIN THE 2-, 10-, AND 100-YEAR STORM EVENTS.

THE EXISTING POND HAS AN OVERGROWTH OF CATTAILS, AND OTHER INVASIVE PLANTS AND TREES. RUNOFF PRIMARILY ENTERS THE POND FROM A TRIPLE BOX CULVERT UNDER I-66 ON THE NORTH SIDE, AND FLOWS OUT OF THE POND THROUGH A TRIPLE BOX CULVERT ON THE SOUTH SIDE UNDER NORTH FAIRFAX DRIVE, WHERE IT TRANSITIONS DOWN TO A DOUBLE BOX CULVERT AND OUTFALLS TO FOUR MILE RUN. APPROXIMATELY 467.88 ACRES OF URBAN AREA DRAINS TO THIS POND.THIS PROJECT IS IN THE LUBBER RUN WATERSHED.

EXISTING SOILS CONSIST OF WATER (W), AND URBAN LAND-UDORTHENTS COMPLEX (12). THESE SOILS ARE NOT RATED FOR HYDROLOGIC SOIL GROUP, URBAN LAND-UDORTHENTS COMPLEX HAS A LOW EROSION HAZARD.

ADJACENT PROPERTY:

THE POND IS BORDERED BY I-66 TO THE WEST, FAIRFAX DRIVE TO THE SOUTH, AND A MIX OF RESIDENTIAL, AND COMMERCIAL PROPERTIES TO THE EAST.

OFF-SITE AREAS:

ANY ADDITIONAL SOIL STOCKPILES (AS NEEDED) SHALL BE KEPT OFF-SITE TO STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILES WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED. PRIOR TO LAND-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY E&S PLAN TO THE OWNER COVERING THE OFF-SITE STOCKPILE AREA WHICH MUST BE APPROVED BY THE PLAN APPROVING AUTHORITY BEFORE ANY OFF-SITE ACTIVITY COMMENCES.

CRITICAL EROSION AREAS:

NO SLOPES IN THE PROJECT AREA EXCEED 50%. THE SOUTH SIDE OF THE POND WILL HAVE THE LEAST DISTURBANCE OF THE SLOPES WITH JUST THE ADDITION OF A FEW CLUSTERS OF TREES. THE UPPER PORTION OF THE EASTERN SLOPES WILL BE RE-GRADED TO A REDUCED SLOPE TO ACCOMMODATE NEW LANDSCAPING, A NEW ALIGNMENT OF THE EXISTING TRAIL, AND OVERLOOKS EXTENDING FROM THE TRAILS. EXTENSIVE TREE PROTECTION IS SHOWN ON THOSE SLOPES SURROUNDING THE POND ON THE EROSION AND SEDIMENT CONTROL PLAN. ALL DISTURBED AREAS WILL BE PROTECTED WITH ADEQUATE TREE PROTECTION.

THE SITE IS LOCATED WITHIN A FLOODPLAIN AND A RESOURCE PROTECTION AREA (RPA). ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CLOSELY MONITORED THROUGHOUT THE PROJECT.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE HANDBOOK. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

STRUCTURAL PRACTICES:

THE EROSION AND SEDIMENT CONTROL MEASURES FROM THIS PROJECT AREA INCLUDE THE FOLLOWING:

1. SAFETY FENCE (VESCH STD. 3.01) – EXISTING CHAIN LINK FENCE WITH PROPERTY "KEEP OUT" SIGNAGE WILL SERVE AS THE SAFETY FENCE IN THIS PROJECT.
2. CONSTRUCTION ENTRANCE (VESCH STD. 3.02) – THERE WILL BE TWO ACCESS ROADS FOR INSTRUCTION FOR THIS PROJECT. THE FIRST WILL BE ON THE NORTH SIDE OF THE POND THROUGH THE MAINTENANCE TURF AREA. THE SECOND ACCESS ROAD WILL BE ON THE SOUTH SIDE ADJACENT TO THE RISER STRUCTURE. THE NORTH ENTRANCE WILL CONFORM TO VA ESC HANDBOOK STANDARDS. THE SOUTH ENTRANCE WILL BE AN ACCESS HAUL ROAD AND WILL CONFORM TO VDOT STANDARDS.
3. SILT FENCE (VESCH STD. 3.05) – SILT FENCE WILL BE USED AROUND THE STOCKPILE AREA AND THE ACCESS ROAD TO PREVENT SEDIMENT RUNOFF.
4. INLET PROTECTION (VESCH STD. 3.07) – THIS PROJECT HAS SEVERAL PIPES ALONG THE TRAIL THAT DISCHARGE TO THE POND. DURING CONSTRUCTION, INLET PROTECTION WILL BE NEEDED FOR THESE PIPES TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN AND BEING TRANSFERRED DOWNSTREAM OF THE POND. A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET. IN LIEU OF INLET PROTECTION SHOWN HEREIN, A GUTTERBUDDY® OR EQUIVALENT MAY BE USED.
5. TEMPORARY DIVERSION DIKE (VESCH STD. 3.09) – AND TEMPORARY CHANNEL RELOCATION – A DIVERSION DIKE WILL BE USED TO REDIRECT FLOW FROM THE TRIPLE BOX CULVERT THAT FLOWS UNDER I-66 AND GUIDE THAT RUNOFF OVER TO ONE SIDE OF THE POND. THE DIVERSION DIKE AND PORTADAM WILL BE REPOSITIONED SO THAT WORK CAN COMMENCE ON THE OTHER SIDE OF THE POND.
6. PORTADAM (OR EQUIVALENT) – A PORTADAM WILL BE USED TO DIRECT ACTIVE FLOW FROM ONE SECTION OF THE POND TO CREATE A DRY WORKABLE AREA. ONCE WORK IS COMPLETE IN THAT AREA, THE DIVERSION DIKE AND PORTADAM WILL BE REPOSITIONED SO THAT WORK CAN COMMENCE ON THE OTHER SIDE OF THE POND.
7. TEMPORARY VEHICULAR STREAM CROSSING (VESCH STD. 3.24) – A TEMPORARY STREAM CROSSING WILL BE PLACED TO PROVIDE AN ADDITIONAL ACCESS POINT TO THE SOUTHWEST SIDE OF THE POND. THE STREAM 10-YEAR FLOW RATE IS 809.7 CFS.
8. DEWATERING BASIN – (VESCH STD. 3.26) – A TEMPORARY SEDIMENT AND FILTERING DEVICE FOR WATER WHICH IS DISCHARGED FROM DEWATERING ACTIVITIES. A DEWATERING DEVICE WILL BE USED TO PUMP AND CLEAN WATER FROM THE DRY SIDE OF THE POND AFTER ALL MAJOR RAIN EVENTS AND AS NEEDED AT THE DISCRETION OF THE CONTRACTOR. IN LIEU OF DEWATERING BASIN SHOWN IN DETAILS HEREIN, AN ALTERNATIVE OPTION FROM THE ARLINGTON COUNTY PLANNING & FIELD GUIDE FOR POLLUTION PREVENTION MAY BE USED.
9. TURBIDITY CURTAIN (VESCH STD. 3.27) – A TYPE III TURBIDITY CURTAIN WILL BE USED TO FILTER WATER IN THE POND AS IT GETS TRAPPED BEHIND THE PORTADAM BEFORE IT ENTERS THE WEIR STRUCTURE. THE TURBIDITY CURTAIN PROVIDES SEDIMENTATION PROTECTION FOR A WATERCOURSE FROM UP-SLOPE LAND DISTURBANCE OR FROM DREDGING OR FILLING WITHIN THE WATERCOURSE.

TREE PRESERVATION AND PROTECTION (ARLINGTON DPR 02231) – THIS PROJECT HAS AN EXTENSIVE TREE PRESERVATION, PROTECTION, AND REMOVAL PLAN THAT INVOLVES PRESERVING THE MAXIMUM TREES (NATIVE) POSSIBLE, ESPECIALLY ON THE STEEPER SLOPES, ADDING LANDSCAPE WITH ADDITIONAL TREES AND CAREFULLY REMOVING AND RE-STABILIZING AREAS WHERE ONLY ABSOLUTELY NECESSARY TO COMPLETE THE PROJECT.

INLET PROTECTION MAY BE REQUIRED OUTSIDE THE PROJECT LIMITS WHEN WATER FROM DISTURBED AREA WILL FLOW OFFSITE.

PERMANENT STABILIZATION:

ALL OF THE AREA DISTURBED WITH THIS PLAN SHALL BE PERMANENTLY STABILIZED. ALL UNPAVED AREAS WILL BE STABILIZED WITH GRASS OR MULCH.

STORMWATER RUNOFF CONSIDERATIONS:

THE EXISTING STORM SEWER SYSTEM WILL BE USED TO DRAIN THE STORMWATER RUNOFF.

EROSION & SEDIMENT CONTROL PROGRAM:

1. THIS PROJECT UTILIZES TWO WORK ZONES, A AND B, IN THE EROSION CONTROL PLAN. WORK ZONES WILL BE DEWATERED INDIVIDUALLY WITH ALL GRADING OCCURRING IN THE DRY ZONE. ONLY UP TO 1/3RD OF WORK ZONE A MAY BE DISTURBED AT ANY GIVEN TIME. PLACE STABILIZATION SEEDING AND EC MATING WHERE APPLICABLE. EC MATTING TO BE USED IN ALL WETLAND AREAS UNLESS OTHERWISE DIRECTED BY THE PROJECT OFFICER. MATERIAL SHALL BE VDOT EC-2 TYPE 2. OVERSEED WITH ANNUAL RYE TO ESTABLISH IMMEDIATE STABILIZATION. WORK ZONE SHALL BE FULLY STABILIZED PRIOR TO REMOVAL OF DEWATERING DEVICE. SEE PLAN SHEETS FOR SEQUENCE OF CONSTRUCTION AND NOTES ON DOCUMENTATION REQUIREMENTS PRIOR TO SWITCHING WORK ZONES.
2. THE EROSION CONTROL PLAN IS INTENDED TO ESTABLISH ENTRANCES AND PERIMETER CONTROL MEASURES WHICH INCLUDES INLET PROTECTION (IP), AND OTHER CONTROLS SPECIFIED ON THE PLANS.
3. THE SEDIMENT MEASURES ARE INTENDED TO PROVIDE CONTROL DURING THE FINAL STAGES OF IMPROVEMENTS. IT IS ANTICIPATED THAT CONTROLS WILL REMAIN IN PLACE UNTIL THEIR REMOVAL IS REQUIRED TO CONSTRUCT THE PROPOSED IMPROVEMENTS.
4. NO DISTURBED AREA WILL REMAIN DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY ARLINGTON COUNTY.
5. COVER STOCKPILE PRIOR TO STORM EVENTS.
6. WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL SHALL BE PLACED IN STREAMBEDS. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 14 DAYS SHALL BE SEEDED AND MULCHED. WHEN SPOIL IS PLACED ON THE DOWNHILL SIDE OF TRENCH, IT SHALL BE BACKSLOPED TO DRAIN TOWARD THE TRENCH. WHEN NECESSARY TO DEWATER THE TRENCH, THE PUMP DISCHARGE HOSE SHALL OUTLET IN A STABILIZED AREA OR A SEDIMENT TRAPPING DEVICE. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
7. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
9. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
10. THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS TO MINIMIZE THE VOLUME OF SILT:
    A. CONTRACTOR SHALL EVALUATE THE SITE TO DETERMINE EXTENSIVE CUT AND FILL AREAS, AND SHALL WORK THOSE AREAS TO MINIMIZE THE EXTENT OF HEAVY EQUIPMENT WORK. CONTRACTOR SHALL STRIVE TO BRING AREAS TO GRADE (ROUGH OR FINISH) AND TO STABILIZE, BY TEMPORARY OR PERMANENT VEGETATION, THESE DISTURBED AREAS PRIOR TO BEGINNING WORK IN ANOTHER AREA.
    B. FILL AREAS SHALL BE COMPACTED COMPLETELY PRIOR TO THE END OF EACH WORK DAY. FILL SLOPE SURFACES SHALL BE LEFT ROUGHENED TO REDUCE SHEET EROSION OF THE SLOPES. CONTRACTOR SHALL RE-DIRECT CONCENTRATED RUNOFF, BY EARTH BERMS OR OTHER DEVICES, AROUND ACTIVELY DISTURBED AREAS TO STABILIZED OUTLETS.
    C. CUT SLOPE, AS NECESSARY, SHALL BE PROTECTED FROM CONCENTRATED FLOW BY BERMS ABOVE THE SLOPE AND DIRECTED AROUND THE DISTURBED AREA TO STABILIZED OUTLETS.
    D. IN NEW PAVEMENT AREAS, PLACE THE AGGREGATE BASE STONE ON THE FINISH SUBGRADE AT THE EARLIEST POSSIBLE TIME.

MAINTENANCE PROGRAM:

THE FOLLOWING IS A PROGRAM OF MAINTENANCE FOR THE CONTROLS SPECIFIED IN THIS PLAN:

1. THE SITE SUPERINTENDENT OR HIS/HER REPRESENTATIVE SHALL MAKE A VISUAL INSPECTION OF ALL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING IF NECESSARY.
2. ALL SEDIMENT TRAPPING DEVICES SHALL BE CLEARED OUT AT 50% TRAP CAPACITY AND THE SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR IF NOT SUITABLE FOR FILL, HAULING AWAY, AND DEPOSITING AT AN ACCEPTABLE DUMP SITE.
3. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PREVENT MUD AND/OR OTHER DEBRIS FROM BEING ENTERED ONTO EXISTING SWM/BMP FACILITIES OR DOWN STREAM WATER WAYS. SHOULD OFF SITE AREAS BECOME POLLUTED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE EFFECTED AREAS TO THE SATISFACTION OF THE INSPECTOR.
4. AFTER CONSTRUCTION OPERATIONS HAVE ENDED, ALL DISTURBED AREAS SHALL BE STABILIZED. UPON APPROVAL OF THE COUNTY INSPECTOR, SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND PERMANENTLY STABILIZED WITH VEGETATION WITHIN 30 DAYS.

TEMPORARY SEEDING:

TEMPORARY SEEDING, SEEDING RATES AND DATES FOR AREAS WITHIN THE RPA SHALL REFERENCE THE SWPPP ON SHEET 08, OTHER AREAS SHALL CONFORM TO COASTAL PLAIN REQUIREMENTS DETAILED IN TABLE 3.31-B OF THE VESCH (SHEET 08). LIMING SHALL BE BASED ON TABLE 3.31-B OF VESCH (SHEET 08). FERTILIZERS SHALL BE APPLIED AS 600 LB/ACRE. THE FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2"-4" OF SOIL SEED SHALL BE EVENLY APPLIED AND SMALL GRAINS SHALL BE PLANTED NO MORE THAN 1.5" DEEP. SEEDING MADE IN FALL FOR WINTER COVER AND DURING HOT SUMMER MONTHS SHALL BE MULCHED.

PERMANENT SEEDING (TURF):

PERMANENT SEEDING (TURF), SEEDING RATES AND DATES FOR AREAS WITHIN THE WETLAND SHALL CONFORM TO THE PROPOSED WETLAND SEED MIX ON SHEET 51 WITH EC MATTING AND OVERSEEDING OF ANNUAL RYE FOR IMMEDIATE STABILIZATION, UPLAND AREA WITHIN THE RPA SHALL REFERENCE THE SWPPP ON SHEETS 08, ALL OTHER AREAS SHALL CONFORM TO COASTAL PLAIN REQUIREMENTS DETAILED IN TABLE 3.32-E OF THE VESCH (SHEET 08). IF SOD IS TO BE USED LIEU OF PERMANENT SEEDING (TURF), REFERENCE SODDING NOTE BELOW.

SODDING:

SODDED AREAS SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLANS. SOIL TEST SHOULD BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. PRIOR TO LAYING SOD, SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS AND LARGE OBJECTS. QUALITY OF SOD SHALL BE STATE CERTIFIED AND ENSURE GENETIC PURITY. SOD SHALL NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER OR ON FROZEN GROUND. SOD SHALL BE INSTALLED PER PAGE III-339 OF THE VESCH, WITHIN 36 HOURS OF DELIVERY.

DUST CONTROL:

DUST SHALL BE CONTROLLED. DUST CONTROL METHODS INCLUDE VEGETATIVE COVER, MULCH, TILLAGE, IRRIGATION, SPRAY-ON ADHESIVES, STONE, BARRIERS, AND CALCIUM CHLORIDE. DUST CONTROL METHODS SHALL BE INSTALLED PER SECTION 3.39 OF VESCH.

UTILITY INSTALLATION:

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

1. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
2. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
3. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
4. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
5. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
6. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
T T T	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VESCH STD. 3.26)
1657		REMOVE EXISTING TREE
	CE	CONSTRUCTION ENTRANCE (VESCH STD. 3.02)

FOR ALL DETAILS AND SPECIFICATIONS, SEE THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK AND ARLINGTON COUNTY DESIGN STANDARDS

ARLINGTON
VIRGINIA

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL NARRATIVE

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

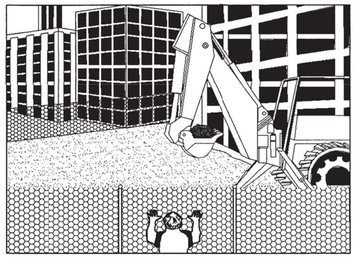
FILENAME: 06-09-E&S NARRATIVE & DETS.dwg
PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

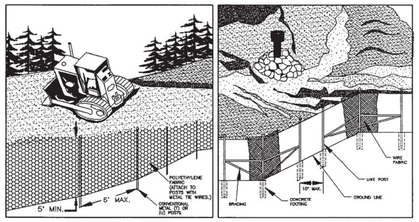
SHEET 06 of 73

1992 3.01

SAFETY FENCE



PERSPECTIVE VIEW



PERSPECTIVE VIEW
PLASTIC FENCE

PERSPECTIVE VIEW
METAL FENCE

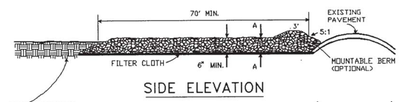
Source: Adapted from Conwed Plastics and VDOT Road and Bridge Standards

Plate 3.01-1

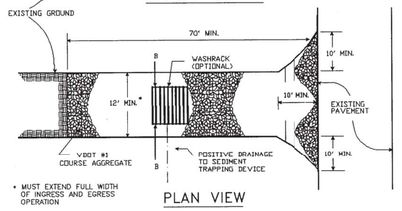
III - 5

1992 3.02

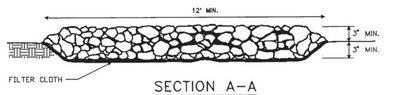
STONE CONSTRUCTION ENTRANCE



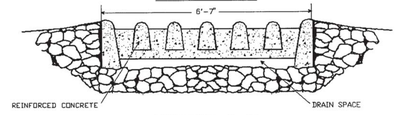
SIDE ELEVATION



PLAN VIEW



SECTION A–A



SECTION B–B

Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC

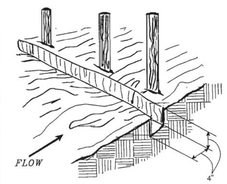
Plate 3.02-1

III - 9

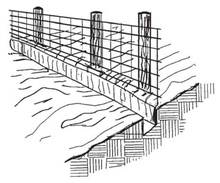
1992 3.05

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)

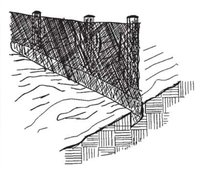
1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



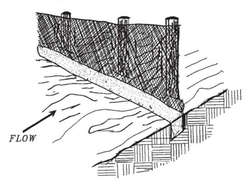
2. STAPLE WIRE FENCING TO THE POSTS.



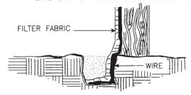
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.



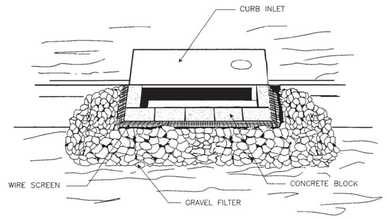
Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

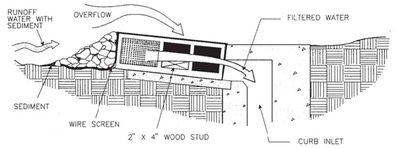
Plate 3.05-1

III - 24

1992 3.07

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER





SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

Source: Va. DSWC

Plate 3.07-8

III - 45

RESPONSIBLE LAND DISTURBER FORM

7/12/19
date

Qianqian Li, P.E.
ESC Program Administrator
Department of Environmental Services
2100 Clarendon Boulevard, Suite 813
Arlington, Virginia 22201

Re: Erosion and Sediment Control Permit Application for:

Ballston Pond Retrofit Project
street address

N/A
lot, block, section subdivision

permit number

Dear Mrs. Li:

I hereby certify that I accept the responsibilities of Responsible Land Disturber for the above referenced project. I understand that these responsibilities include:

1. Reviewing the erosion and sedimentation (E&S) plan for the project.
2. Walking the site prior to construction to identify critical areas.
3. Conducting a pre-construction briefing with earth moving and site contractors to present the E&S plan and highlight the presence of critical areas, the limits of clearing and the required E&S controls and tree protection measures to be installed. Call 703-228-0760 to schedule pre-construction meeting.
4. Regularily inspecting the site during construction to ensure that all E&S controls are functioning and are adequate to address erosion and sedimentation. Inspect the site 48 hours after a runoff-generating storm, and provide a copy of the inspection findings to the county.
5. Reporting to the owner the presence inadequate or non functioning E&S controls when they are observed.
6. Ensuring that temporary soil stabilization is applied within 7 days to areas denuded that will remain undisturbed for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
7. Calling (703) 228-0760 at least 80 hours before demolishing any structure.

I may be reached at 703-246-0028 with questions about this plan or my execution of the duties of
telephone number
Responsible Land Disturber.

Sincerely,

signed

Brian Finerfrock
name printed

Virginia P.E. (Lic. No. 44505)
professional registration (type and number)

PRE-STORM EROSION AND SEDIMENT CONTROL CHECKLIST

Pre-Storm Erosion and Sediment Control Checklist

Per Erosion and Sediment Control General Note 6, the Contractor is responsible for the installation and maintenance of any additional erosion and sediment control (ESC) measures necessary to prevent erosion and sedimentation as determined by the County. These supplementary practices are in addition to those shown in an ESC plan. ESC practices shall be modified as needed to ensure only clear water is discharged from the site.

The following actions shall be taken prior to storm events with predicted heavy and/or large volume rainfall to prevent sediment discharges from a construction site. A typical summer thunderstorm is an example of a storm event with predicted heavy and/or large volume rainfall.

Perimeter controls

- ☐ Silt fence shall be checked for undermining, holes, or deterioration of the fabric. Fencing shall be replaced immediately if the fabric is damaged or worn. Silt fence must be trenched into the ground per state specifications (Std & Spec 3.09).
- ☐ Wooden stakes or steel posts shall be properly secured upright into the ground. Damaged posts or stakes must be replaced.
- ☐ Sediment that has accumulated against the silt fence should be removed. Accumulated sediment must be removed when the level reaches one-half the height of the fencing.
- ☐ Hay bales or a stone berm should be placed across the construction entrance to prevent sediment from leaving the construction site.

Exposed slopes and soil

- ☐ Exposed slopes not at the final stabilization phase shall be covered with tarps, plastic sheeting, or erosion control matting. Covering material shall be properly secured/anchored.
- ☐ Controls shall be installed to prevent concentrated flow down an exposed slope. Berms or diversion dikes shall be installed at the top of cut / exposed slopes to direct storm flow around the disturbed area.
- ☐ Exposed slopes at the final stabilization phase shall be stabilized using slope stabilization practices such as soil stabilization blankets or matting as specified in the Virginia Erosion and Sediment Control Handbook (VESCH) Std & Spec 3.36. Blankets or mats must be properly secured and anchored to the slope using staples, pins, or stakes.
- ☐ Seeded areas shall be checked and reseeded as necessary to cover exposed soil. Recently seeded areas shall be protected by straw or soil stabilization blankets to prevent seeding from being washed away.

Stockpiles

- ☐ Stockpiled soil and other loose materials that can be washed away shall be covered with a tarp, plastic sheeting, or other stabilization matting. The cover must be properly secured / anchored down to prevent it from being blown off and exposing materials to rain. Controls such as hay bales or booms should be placed along the perimeter of the stock pile (downhill side).

Inlet protection

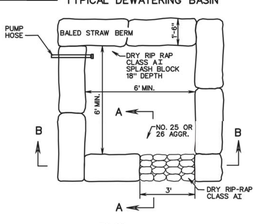
- ☐ Inlet protection controls shall be inspected to ensure they are functioning properly and flooding will not occur. Clogged or damaged controls must be replaced immediately. Ensure controls allow for overflow / bypass of stormwater runoff during significant storm events.

In addition to these pre-storm actions, all erosion and sediment control (ESC) measures must be checked daily and after each significant rainfall.

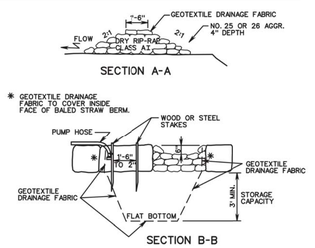
2016 ROAD & BRIDGE STANDARDS

EC-3

TYPICAL DEWATERING BASIN



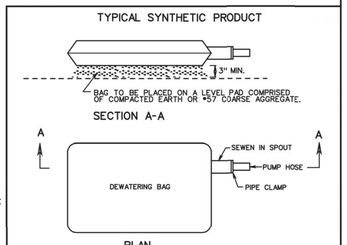
PLAN



NOTES:

1. DEWATERING BASIN SIZE SHALL BE DETERMINED BY THE FORMULA 16 X GAL./MIN. OF PUMP = CU. FT. OF STORAGE CAPACITY.
2. THIS WORK SHALL CONSIST OF THE CONSTRUCTION OF A DEWATERING BASIN FOR THE PURPOSE OF RECEIVING SEDIMENT-LADENED WATER PUMPED FROM A CONSTRUCTION SITE TO ALLOW FOR FILTRATION BEFORE IT REENTERS THE WATERWAY. PUMPING INTO THESE BASINS SHALL CEASE WHEN THE FLOW FROM THE BASIN BECOMES SEDIMENT-LADENED.
3. SURFACE WATER FLOW SHALL BE DIVERTED AROUND THIS DEVICE.
4. THE OUTFALL FROM THE BASIN(S) SHALL HAVE A STABILIZED CONVEYANCE TO RECEIVING WATERS.
5. ONCE THE DEWATERING BASIN BECOMES FILLED TO HALF OF THE STORAGE CAPACITY, ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED DISPOSAL AREA OUTSIDE OF THE 10C-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS.
6. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE ENGINEER APPROVES THEIR REMOVAL. GROUND CONTOURS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ENGINEER.
7. SYNTHETIC PRODUCTS THAT HAVE BEEN APPROVED FOR USE ON VDOT PROJECTS AND FOUND ON VDOT'S SPEL LIST MAY BE USED IN LIEU OF THIS DESIGN. HOWEVER, VDOT WILL ONLY COMPENSATE THE CONTRACTOR UP TO THE BID PRICE PER EACH AT EACH SITE.

TYPICAL SYNTHETIC PRODUCT



PLAN

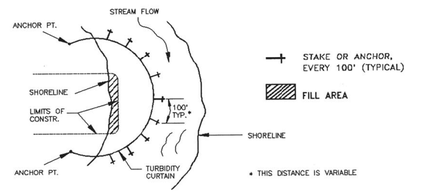
VDOT ROAD AND BRIDGE STANDARDS	DEWATERING BASIN	SPECIFICATION REFERENCE
SHEET 1 OF 1 / REVISION DATE	VIRGINIA DEPARTMENT OF TRANSPORTATION	107 303
113.12		

2016 ROAD & BRIDGE STANDARDS

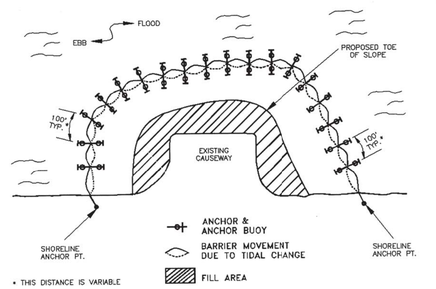
1992 3.27

TURBIDITY CURTAIN

TYPICAL LAYOUTS:
STREAMS, PONDS & LAKES (PROTECTED & NON–TIDAL)



TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION



Source: Adapted from Florida Department of Transportation Road and Design Specifications

Plate 3.27-3

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ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL DETAILS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 06-09-E&S NARRATIVE & DETS.dwg
PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 07 of 73

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

SEED

APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60 - 100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME

- Apply 10-10-10 **fertilizer** at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)
- Apply **Pulverized Agricultural Limestone** at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:
1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
2 - Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.
3 - When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin # 4, 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/e&s.htm#pubs

TABLE 3.32-E
(Revised June 2003)
PERMANENT SEEDING SPECIFICATIONS FOR COASTAL PLAIN AREA

SEED[1]

LAND USE	SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue[1]	175 - 200 lbs.
	or	
	Bermudagrass[1]	75 lbs.
High-Maintenance Lawn	Tall Fescue[1]	200-250 lbs.
	or	
	Bermudagrass[1] (seed)	40 lbs. (unhulled) 30 lbs. (hulled)
	or	
	Bermudagrass[1] (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less)	Tall Fescue[1]	128 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop[2]	20 lbs.
		TOTAL: 150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue[1]	93-108 lbs.
	Bermudagrass[1]	0-15 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop[2]	20 lbs.
	Sericea Lespedeza[3]	20 lbs.
		TOTAL: 150 lbs.

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4884 or at http://sudan.cses.vt.edu/html/Turf/turf/publications/publications2.html
2 - Use seasonal nurse crop in accordance with seeding dates as stated below:
February, March - April ..... Annual Rye
May 1st - August ..... Foxtail Millet
September, October - November 15th ..... Annual Rye
November 16th - January ..... Winter Rye
3 - May through October, use hulled seed. All other seeding periods, use unhulled seed. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30 -40 lbs/acre.

FERTILIZER & LIME

- Apply 10-20-10 **fertilizer** at a rate of **500** lbs. / acre (or 12 lbs. / 1,000 sq. ft.)
- Apply **Pulverized Agricultural Limestone** at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:
- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin # 4, 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/e&s.htm#pubs

SWPPP SHEETS- RPA SEEDING
(SWPPP CONT. ON SHEETS 36-38)

Restoration Measures for Natural Areas and RPAs

☒ If streambanks are to be disturbed, contact DES OSEM about bank stabilization alternatives.

☒ Apply permanent seeding, weed-free straw and matting rather than leaf mulch for stabilization in natural areas.

☒ Use only regionally native plant seed mixes, weed-free straw and 100% biodegradable natural fiber matting for permanent stabilization. *Non-native perennial grasses such as perennial rye, tall fescue, creeping fescue, Kentucky bluegrass, etc. are not appropriate for stabilization of natural areas.*

☒ Permanent seeding: Seed and straw with the following seed mix at a rate of 50 lb per acre (2 lb/1000 sf):

- 20% Annual rye – Lolium multiflorum
- 30% Virginia wild rye – Elymus virginicus
- 25% Deer-tongue grass – Panicum clandestinum

NOTE:NATIVE SEED MIX, AS SPECIFIED HERE, SHALL BE USED FOR PERMANENT STABILIZATION WITHIN VDOT RIGHT OF WAY.

6

STORMWATER POLLUTION PREVENTION PLAN

- 15% Riverbank wild rye – Elymus riparius
- 5% Bottle-brush grass – Elymus hystrix
- 2% Partridge pea – Chamaecrista fasciculata
- 1% Rough-stemmed goldenrod – Solidago rugosa
- 1% Common milkweed – Asclepias syriaca
- 1% Grass-leaved goldenrod – Euthamia graminifolia

Seed should be applied to roughened soil (soil surface broken up) via broadcast seeding.

Due to significant demand, particularly for native seed mix, it is recommended that seed be pre-ordered and stored. Seed mixes are best used within 1 year of ordering, but can be kept for up to 2 years if necessary. Potential sources for native seed mix and native plants:

- Earth Sangha – Wild Plant Nursery (seed mix must be pre-ordered) – www.earthsangha.org
- Ernst Conservation Seeds – www.ernstseed.com
- Davey Tree via the County's existing Landscape Contract.

☒ Apply 100% biodegradable natural fiber erosion control matting. Apply from downslope to upslope and lay perpendicular to the slope. Overlap the edges of the matting by at least 3 inches with the upslope layer on top (like a roof shingle). Staples or deadwood stakes are necessary to hold matting on steeper slopes. For areas with regular water flow (swales, ditches) lay in the direction of flow.

Examples of 100% biodegradable natural fiber erosion control matting:
- KoirMat 400 – Nedia Enterprises, Inc. (Virginia) - http://www.nedia.com/woven_coir_Koirmat400.html
- ECSC – 2B – East Coast Erosion Blankets, LLC (Pennsylvania) - http://www.eastcoasterosion.com/products/erosion-blankets/
- BioD – Rolanka International, Inc - http://www.rolanka.com/gn/geonatural.html

☐ Planting – Plant a diverse mix of regionally native shrubs and/or trees

Recommended Plant List

	Shrubs	Qty		Trees	Qty
☐	American Hazelnut (*Corylus Americana*)		☐	Ironwood (*Carpinus caroliniana*)	
☐	Spicebush (*Lindera benzoin*)		☐	Dogwood (*Cornus florida*)	
☐	Common Elderberry (*Sambucus nigra*)		☐	Black gum (*Nyssa sylvatica*)	
☐	Arrowwood viburnum (*Viburnum dentatum*)		☐	Sycamore (*Platanus occidentalis*)	
☐	Blackhaw vibnurnum (*Viburnum prunifolium*)		☐	White Oak (*Quercus alba*)	
☐	Mapleleaf viburnum (*Viburnum acerifolium*)		☐	Northern Red Oak (*Quercus rubra*)	
			☐	American elm (*Ulmus Americana*)	
			☐	American holly (*Ilex opaca*)	
			☐	Hackberry (*Celtis occidentalis*)	
			☐	Fringetree (*Chionanthus virginicus*)	

For assistance with choosing plants for a specific site, contact:
Alonso Abugattas – DPR – 703-228-7742 – aabugattas@arlingtonva.us– Park sites
Christin Jolicoeur – DES – 703-228-3588 – cjolicoeur@arlingtonva.us – RPA

7

HERBACEOUS INVASIVE PLANT ERADICATION

ANY AND ALL APPLICATION OF HERBICIDES MUST BE PERFORMED BY A STATE CERTIFIED HERBICIDE APPLICATOR. CONTRACTOR SHALL BE RESPONSIBLE FOR POST-CONSTRUCTION MANAGEMENT OF INVASIVE PLANTS FOR TWO YEARS AFTER CONSTRUCTION. SEE INVASIVE SPECIES CONTROL SPECIFICATION FOR MORE DETAILS.

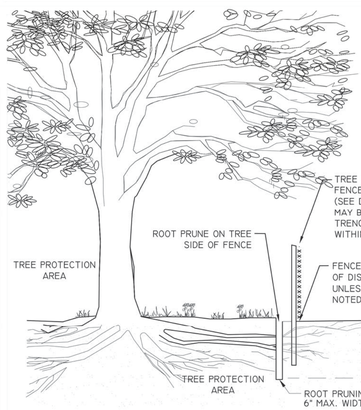
1. WETLAND AREAS
   a. WHERE: EXISTING EMERGENT AND FLOATING WETLAND AREAS COLONIZED BY CATTAILS AND INVASIVE PLANTS.
   b. HOW: THOROUGHLY WET ALL LEAVES OF TARGETED VEGETATION PATCHES WITH 4% SOLUTION OF GLYPHOSPHATE OR IMAZAPYR IN WATER USING A SURFACTANT, USING APPLICATION METHODS APPROPRIATE TO THE SIZE AND QUANTITY OF INVASIVE PLANTS AND APPROVED BY THE PROJECT ENGINEER.
      NOTE: AVOID USING PHYSICAL PULLING OR CUTTING DURING THE TREATMENT OF ALLIGATORWEED AS THIS WILL CREATE FRAGMENTS OF THIS SPECIES THAT CAN COLONIZE DOWNSTREAM LOCATIONS.
   c. WHEN:
      1ST APPLICATION SPRING - BETWEEN MID-APRIL AND MID-JUNE, CHEMICALLY TREAT ALL TARGETED EMERGENT VEGETATION WITHIN LOD WITH IMAZAPYR AS NOTED ABOVE.
      2ND APPLICATION FALL - IN SEPTEMBER AND OCTOBER, CHEMICALLY SPOT TREAT ALL REMAINING AREAS OF TARGETED EMERGENT VEGETATION WITHIN LOD WITH GLYPHOSPHATE AS NOTED ABOVE.
2. UPLAND AREAS
   a. WHERE: UPLAND FOREST AREAS COLONIZED BY INVASIVE ENGLISH IVY.
   b. HOW: TO TREAT ENGLISH IVY VINES GROWING ON TREES, CUT THE VINES AND SWAB THE CUT ENDS WITH THE HERBICIDE TRICLOPYR AT A 3% TO 5% SOLUTION IN WATER USING A SURFACTANT. DO NOT USE TARGETED SPRAY ON THE LEAVES OF ENGLISH IVY GROWING ON TREES IN ORDER TO MINIMIZE THE HARMFUL EFFECTS OF THE HERBICIDE ON THE TREES.
      TO TREAT ENGLISH IVY GROWING ALONG THE GROUND, THOROUGHLY WET ALL LEAVES OF THE TARGET PATCH OF VEGETATION WITH TRICLOPYR AT A 3% TO 5% SOLUTION IN WATER USING A SURFACTANT. THE LARGER VINES OF ENGLISH IVY SHOULD BE CUT AND THE ENDS OF THE CUT VINES TREATED WITH HERBICIDE TO KILL THE ROOTS.
   c. WHEN:
      1ST APPLICATION SPRING - IN LATE FEBRUARY TO EARLY MARCH, PRIOR TO LEAF OUT BY DECIDUOUS PLANT SPECIES, CHEMICALLY TREAT ENGLISH IVY, AS NOTED ABOVE. ENGLISH IVY IS EVERGREEN
      2ND APPLICATION FALL - IN MID-NOVEMBER, REPEAT CHEMICAL TREATMENT OF ENGLISH IVY, AS NOTED ABOVE.

INVASIVE WOODY PLANT AND TARGETED TREE ERADICATIONS

THE CONTRACTOR SHALL REMOVE OR CUT AND TREAT TARGETED TREES, AS DETERMINED IN THE TREE INVENTORY TABLE, AND OTHER INVASIVE WOODY PLANTS AS SPECIFIED BELOW:

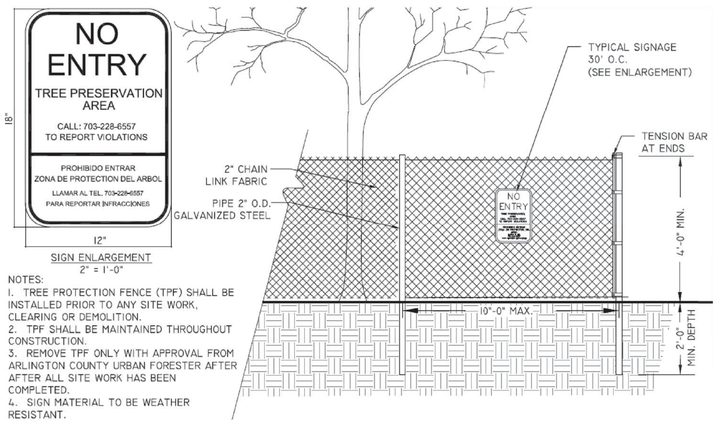
1. WETLAND AREAS
   THE CONTRACTOR SHALL REMOVE TARGETED TREES AND OTHER INVASIVE WOODY PLANTS DURING THE CONSTRUCTION OF THE WETLAND AND MAY CONCURRENTLY REMOVE OR CUT AND TREAT UPLAND AREAS WITH VEGETATION CLEARING OPERATIONS NEEDED FOR SITE ACCESS AND CONSTRUCTION, PROVIDED THOSE OPERATIONS OCCUR DURING THE SPECIFIED TREATMENT WINDOW. NO CHEMICAL TREATMENT IS REQUIRED WITHIN THE WETLAND AREAS. MECHANICAL REMOVAL MAY BE UTILIZED.
2. UPLAND AREAS WITHIN TREE PROTECTION ZONES
   THE CONTRACTOR SHALL CUT AND TREAT TARGETED TREES AND OTHER INVASIVE WOODY PLANTS IN THE AREAS SURROUNDING THE CREATED WETLANDS AND ISOLATED BY TREE PROTECTION FENCING DURING LATE MARCH AND LATE SEPTEMBER. CUT OFF THE PLANTS NEAR THE GROUND AND SWAB THE STUMP SURFACE WITH A 3% TO 5% SOLUTION OF GLYPHOSPHATE IN WATER USING A SURFACTANT. THERE SHALL BE NO MECHANICAL CLEARING OF TARGETED TREES AND INVASIVE WOODY PLANTS WITHIN TREE PROTECTION ZONES. CUTTING AND TREATMENT WITHIN TREE PROTECTION ZONES SHALL BE DONE BY HAND ONLY.
3. UPLAND AREAS OUTSIDE OF TREE PROTECTION ZONES
   THE CONTRACTOR SHALL REMOVE TARGETED TREES AND OTHER INVASIVE WOODY PLANTS IN THE AREAS SURROUNDING THE CREATED WETLANDS AND OUTSIDE OF TREE PROTECTION FENCING. MECHANICAL REMOVAL MAY BE UTILIZED IN AREAS OUTSIDE OF TREE PROTECTION ZONES.

Appendix F: Tree Protection and Planting Standards



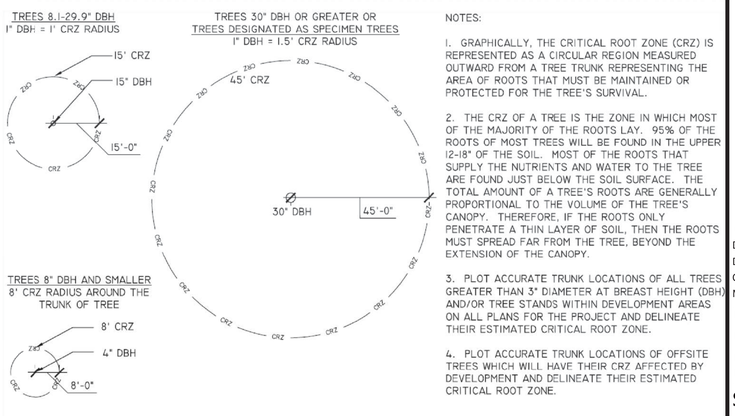
NOTES
1. ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
2. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
3. ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF A CERTIFIED ARBORIST.
4. BACKFILL THE ROOT-PRUNING TRENCH WITH EXCAVATED SOIL AND MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
5. ROOT PRUNING WORK WILL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING WILL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
6. THE ARLINGTON COUNTY URBAN FORESTER SHALL BE NOTIFIED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

ROOT PRUNING
SECTION
0223I.5
NOT TO SCALE
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF PARKS & RECREATION



NOTES:
1. TREE PROTECTION FENCE (TPF) SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
2. TPF SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. REMOVE TPF ONLY WITH APPROVAL FROM ARLINGTON COUNTY URBAN FORESTER AFTER AFTER ALL SITE WORK HAS BEEN COMPLETED.
4. SIGN MATERIAL TO BE WEATHER RESISTANT.

4' CHAIN LINK TREE PROTECTION FENCE
ELEVATION
0223I.2
1/2" = 1'-0"
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF PARKS & RECREATION



NOTES:
1. GRAPHICALLY, THE CRITICAL ROOT ZONE (CRZ) IS REPRESENTED AS A CIRCULAR REGION MEASURED OUTWARD FROM A TREE TRUNK REPRESENTING THE AREA OF ROOTS THAT MUST BE MAINTAINED OR PROTECTED FOR THE TREE'S SURVIVAL.
2. THE CRZ OF A TREE IS THE ZONE IN WHICH MOST OF THE MAJORITY OF THE ROOTS LAY. 95% OF THE ROOTS OF MOST TREES WILL BE FOUND IN THE UPPER 12-18" OF THE SOIL. MOST OF THE ROOTS THAT SUPPLY THE NUTRIENTS AND WATER TO THE TREE ARE FOUND JUST BELOW THE SOIL SURFACE. THE TOTAL AMOUNT OF A TREE'S ROOTS ARE GENERALLY PROPORTIONAL TO THE VOLUME OF THE TREE'S CANOPY. THEREFORE, IF THE ROOTS ONLY PENETRATE A THIN LAYER OF SOIL, THEN THE ROOTS MUST SPREAD FAR FROM THE TREE, BEYOND THE EXTENSION OF THE CANOPY.
3. PLOT ACCURATE TRUNK LOCATIONS OF ALL TREES GREATER THAN 3" DIAMETER AT BREAST HEIGHT (DBH) AND/OR TREE STANDS WITHIN DEVELOPMENT AREAS ON ALL PLANS FOR THE PROJECT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.
4. PLOT ACCURATE TRUNK LOCATIONS OF OFFSITE TREES WHICH WILL HAVE THEIR CRZ AFFECTED BY DEVELOPMENT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.

TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE
ELEVATION
0223I.3
NOT TO SCALE
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF PARKS & RECREATION

ARLINGTON
VIRGINIA
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SEAL
COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS DATE

EROSION & SEDIMENT CONTROL DETAILS

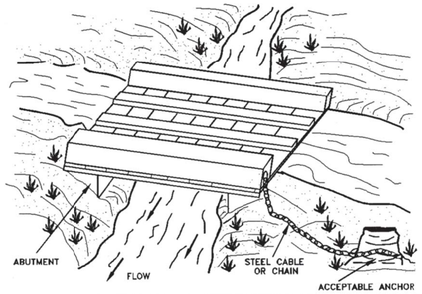
BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR
PROJECT NUMBER: BBP

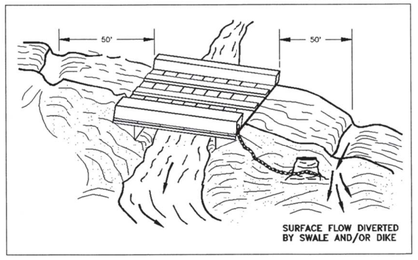
DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: 06-09-E&S NARRATIVE & DETS.dwg
PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 08 of 73

TEMPORARY BRIDGE CROSSING





Source: 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control

Plate 3.24-1

Construction Specifications

1. Temporary Bridge Crossing (see Plate 3.24-1)

a. Clearing and excavation of the stream bed and banks shall be kept to a minimum.

b. The temporary bridge structure shall be constructed at or above bank elevation to prevent the entrapment of floating materials and debris.

c. Abutments shall be placed parallel to and on stable banks.

d. Bridges shall be constructed to span the entire channel. If the channel width exceeds 8 feet (as measured from top-of-bank to top-of-bank), then a footing, pier or bridge support may be constructed within the waterway. One additional footing, pier or bridge support will be permitted for each additional 8-foot width of the channel. No footing, pier or bridge support, however, will be permitted within the channel for waterways which are less than 8 feet wide.

e. Stringers shall either be logs, sawn timber, prestressed concrete beams, metal beams, or other approved materials.

f. Decking materials shall be of sufficient strength to support the anticipated load. All decking members shall be placed perpendicular to the stringers, butted tightly, and securely fastened to the stringers. Decking materials must be butted tightly to prevent any soil material tracked onto the bridge from falling into the waterway below.

g. Run planking (optional) shall be securely fastened to the length of the span. One run plank shall be provided for each track of the equipment wheels. Although run planks are optional, they may be necessary to properly distribute loads.

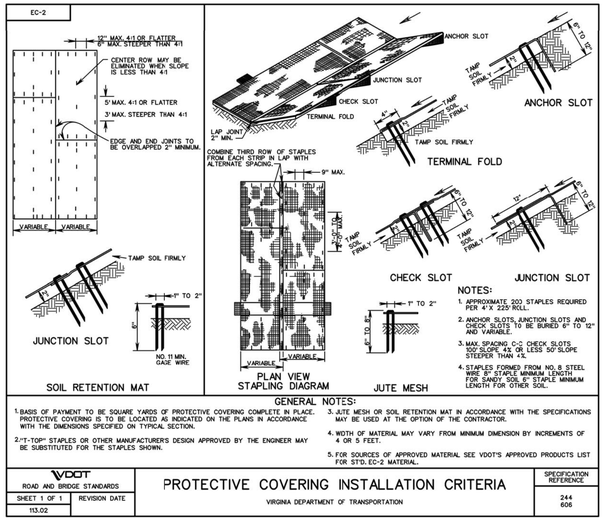
h. Curbs or fenders may be installed along the outer sides of the deck. Curbs or fenders are an option which will provide additional safety.

i. Bridges shall be securely anchored at only one end using steel cable or chain. Anchoring at only one end will prevent channel obstruction in the event that floodwaters float the bridge. Acceptable anchors are large trees, large boulders, or driven steel anchors. Anchoring shall be sufficient to prevent the bridge from floating downstream and possibly causing an obstruction to the flow.

j. All areas disturbed during installation shall be stabilized within 7 calendar days of that disturbance in accordance with MS #1.

k. When the temporary bridge is no longer needed, all structures including abutments and other bridging materials should be removed immediately.

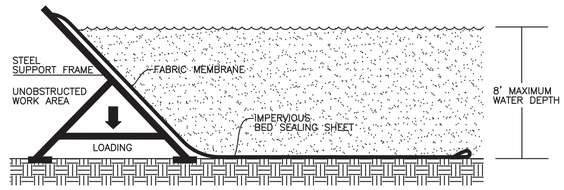
l. Final clean-up shall consist of removal of the temporary bridge from the waterway, protection of banks from erosion, and removal of all construction materials. All removed materials shall be stored outside flood plain of the stream. Removal of the bridge and clean-up of the area shall be accomplished without construction equipment working in the waterway channel.



GENERAL NOTES:

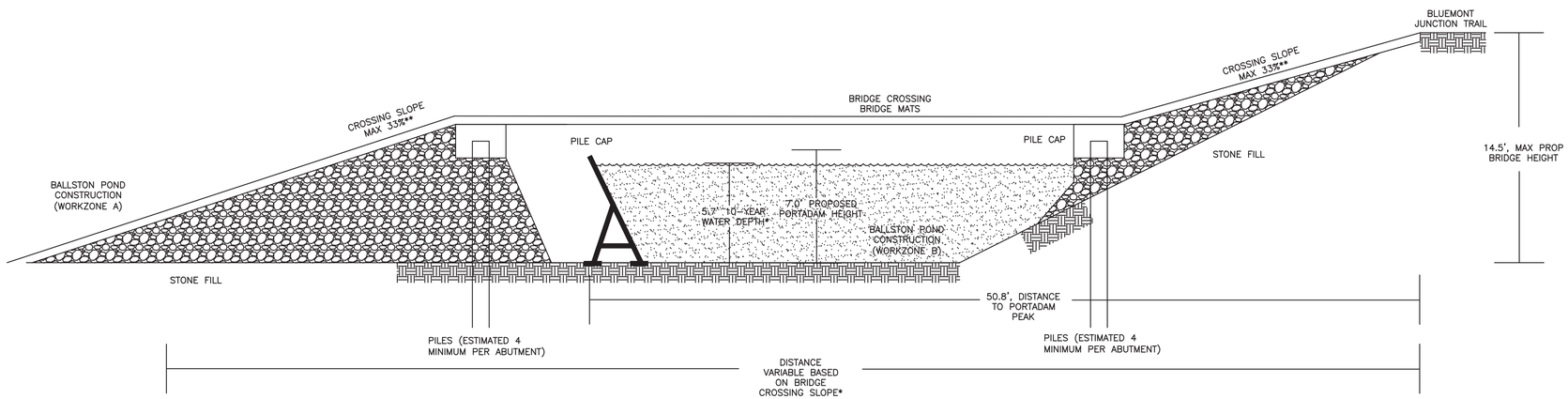
1. BASIS OF PAYMENT TO BE SQUARE YARDS OF PROTECTIVE COVERING COMPLETE IN PLACE. PROTECTIVE COVERING IS TO BE LOCATED AS INDICATED ON THE PLANS IN ACCORDANCE WITH THE DIMENSIONS SPECIFIED ON TYPICAL SECTION.
2. "T-TOP" STAPLES OR OTHER MANUFACTURER'S DESIGN APPROVED BY THE ENGINEER MAY BE SUBSTITUTED FOR THE STAPLES SHOWN.
3. JUTE MESH OR SOIL RETENTION MAT IN ACCORDANCE WITH THE SPECIFICATIONS MAY BE USED AT THE OPTION OF THE CONTRACTOR.
4. WIDTH OF MATERIAL MAY VARY FROM MINIMUM DIMENSION BY INCREMENTS OF 4 OR 5 FEET.
5. FOR SOURCES OF APPROVED MATERIAL SEE VDOT'S APPROVED PRODUCTS LIST FOR STD. EC-2 MATERIAL.

VDOT ROAD AND BRIDGE STANDARDS	PROTECTIVE COVERING INSTALLATION CRITERIA	SPECIFICATION REFERENCE
SHEET 1 OF 1	VIRGINIA DEPARTMENT OF TRANSPORTATION	244
113.02 REVISION DATE		606



PORTADAM PORTABLE DAM
OR EQUIVALENT
N.T.S.

NOTES:
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A SOLID FOOTING FOR THE PORTADAM (OR EQUIVALENT) IF REQUIRED, AT NO ADDITIONAL COST TO THE COUNTY.
2. IMPERVIOUS BED SEALING SHEET TO BE EXTENDED AT EITHER END IN ORDER TO PROVIDE A WATERTIGHT SEAL.



TEMPORARY BRIDGE CROSSING
N.T.S.

**SLOPE TO BE DETERMINED BY CONTRACTOR. BRIDGE SUPPORTS AND ABUTMENTS TO BE DETERMINED AS NECESSARY, PER SLOPE AND DISTANCE SELECTED BY CONTRACTOR.

*THE BOTTOM OF THE BRIDGE SHOULD BE MAINTAINED ABOVE THE INTERIM 10-YEAR WATER SURFACE ELEVATION, 259.2'.

TEMPORARY BRIDGE TO BE DESIGNED, SIGNED, AND SUBMITTED BY A REGISTERED VIRGINIA PROFESSIONAL ENGINEER, AT THE RESPONSIBILITY OF THE CONTRACTOR AFTER AWARD. TEMPORARY BRIDGE CROSSING INTENDED FOR EQUIPMENT THAT EXERT NO MORE THAN 8 PSI. IF THE CONTRACTOR INTENDS TO USE ANY EQUIPMENT GREATER THAN 8 PSI, ADDITIONAL MEASURES MUST BE PROVIDED AT NO ADDITIONAL COST TO THE COUNTY AND THOSE MEASURES MUST BE APPROVED BY THE COUNTY PRIOR TO IMPLEMENTATION.

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL DETAILS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 06-09-E&S NARRATIVE & DETS.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_Ar\Co\MS4\Task5_Ballston 3D\Plan

PLOTTED: November 12, 2019

PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 09 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

EROSION AND SEDIMENT CONTROL LEGEND

- CRZ — CRITICAL ROOT ZONE (DPR STD. 02231.3)
- ROOT PRUNE (DPR STD. 02231.5)
- SAF — SAFETY FENCE (VESCH STD. 3.01)
- SSF — SUPER SILT FENCE (VESCH STD. 3.05)
- TPF — TREE PROTECTION (DPR STD. 02231)
- IP — INLET PROTECTION (VESCH STD. 3.07)
- BC — TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
- PD — PORTADAM (OR EQUIVALENT)
- TC — TURBIDITY CURTAIN (VESCH STD. 3.27)
- DB — DEWATERING BASIN (VDOT STD. EC-8)
- 1657 — REMOVE EXISTING TREE

100-YR FLOODPLAIN

WORK AREA A

WORK AREA B

PROTECT EXISTING TRAIL BEYOND THE SAF LIMITS, NO ACCESS ALLOWED

PLACE PORTADAM (OR EQUIVALENT) AS SHOWN ON PLANS TO DIVERT LUBBER RUN FROM THE WORK AREA. DIVERSION HAS BEEN SIZED FOR THE 10-YEAR STORM, H=7'. CONTRACTOR SHALL ENSURE STABILITY IN ALL CONDITIONS. CONTRACTOR MUST RECEIVE APPROVAL PRIOR TO RESTRICTING THE CHANNEL BEYOND SPECIFICATIONS. SEE SHEET 09 FOR DETAILS.

MATCHLINE - SEE SHEET 13

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
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FAX: 703.228.3606

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/2019

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION AND SEDIMENT CONTROL PLAN- PH I OVERVIEW

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 10-11-E&S PLAN PH I OVERVIEW.dwg
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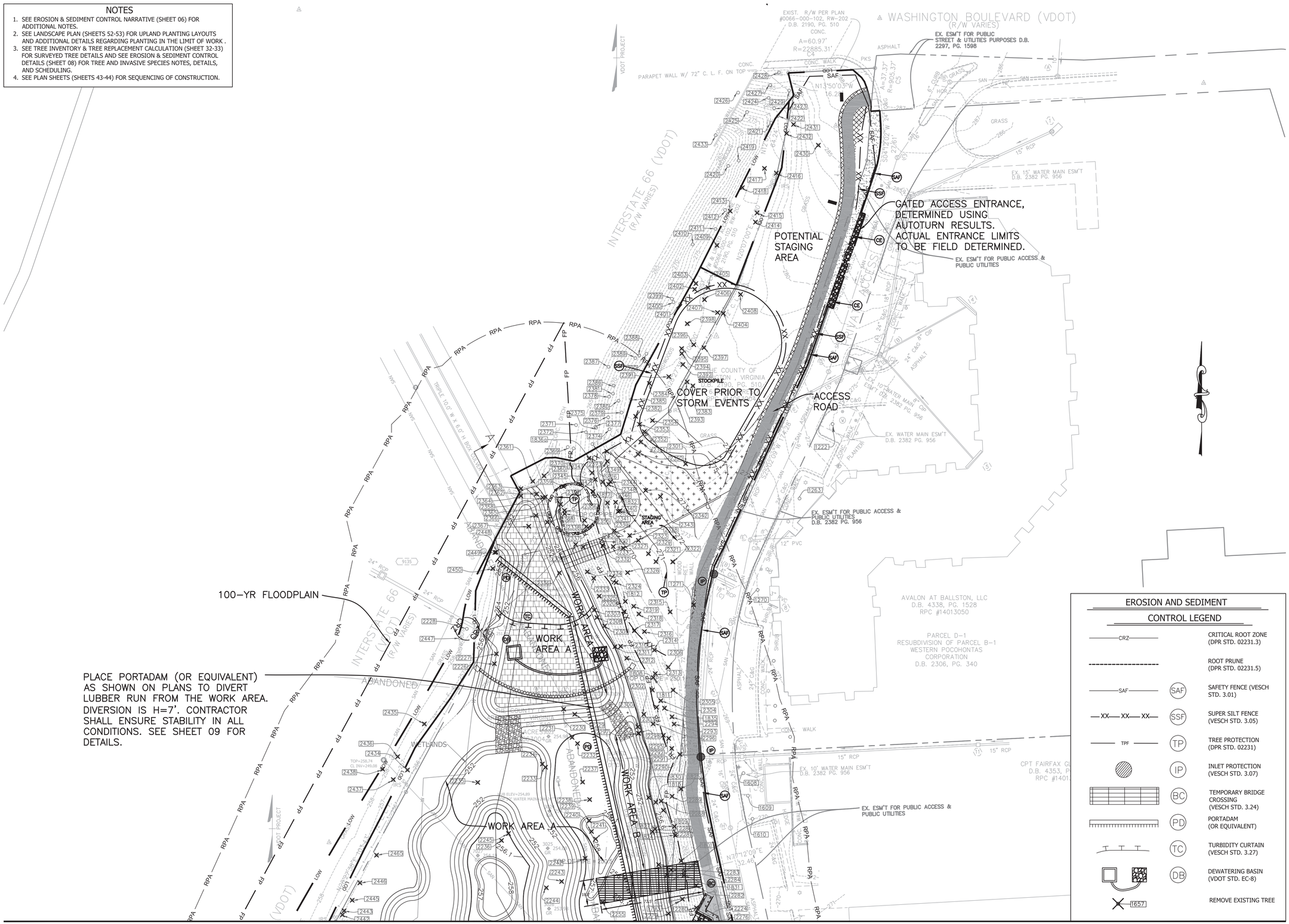
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE:

SHEET 10 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

ARLINGTON VIRGINIA

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SEAL

COMMONWEALTH OF VIRGINIA
CRISTIAN MICHAEL FINERFROCK
Lic. No. 44505
9/20/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION AND SEDIMENT CONTROL PLAN- PH I OVERVIEW

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

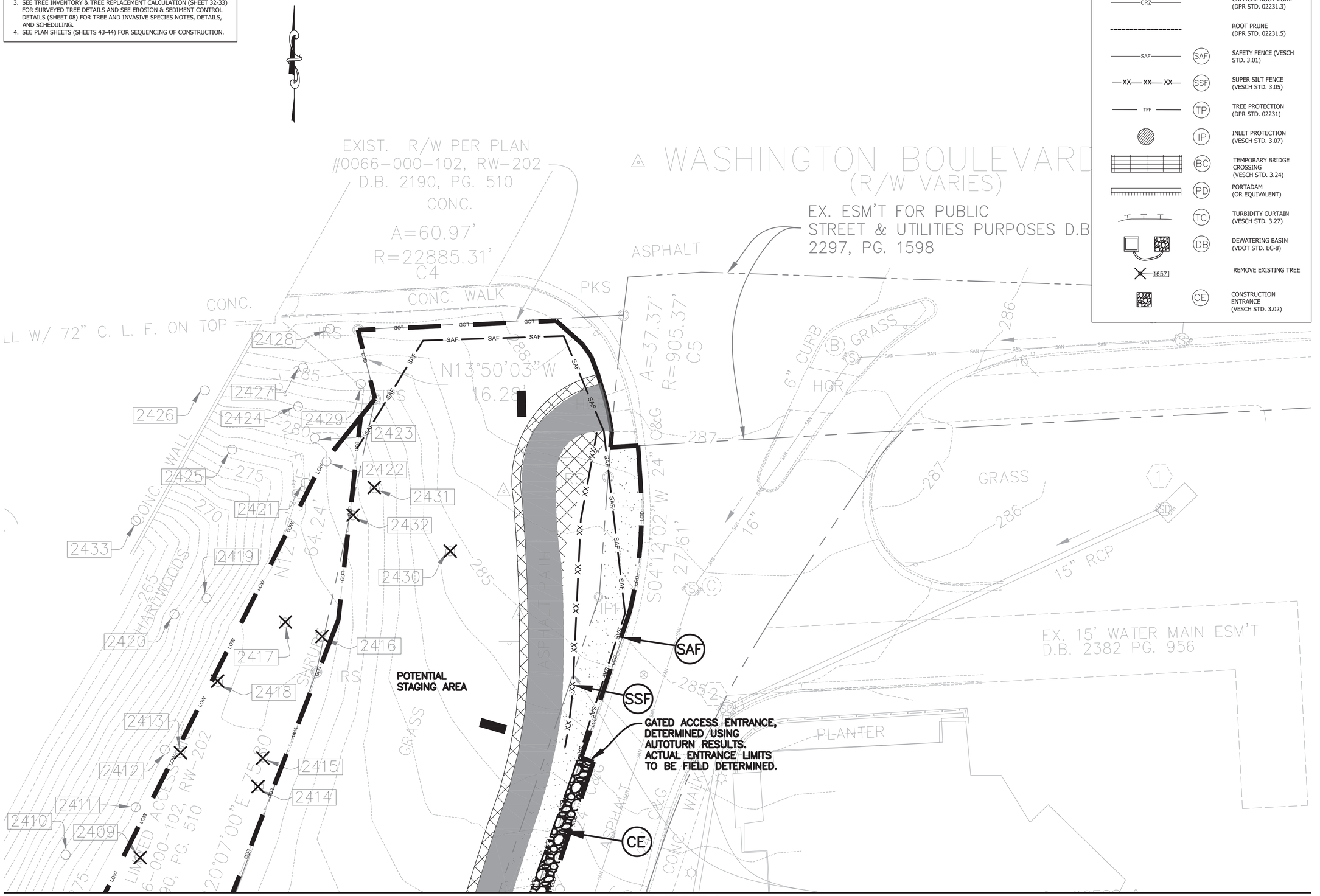
FILENAME: 10-11-E&S PLAN PH I OVERVIEW.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE:

SHEET 11 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE
	CE	CONSTRUCTION ENTRANCE (VESCH STD. 3.02)

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 12-20-E&S PLAN PH I.dwg

PATH: \\ffxrv01\v0\projects\2016\16068_ArlingtonCo_NG4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 12 of 73

MATCHLINE - SEE SHEET 12

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
T T T	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE
	CE	CONSTRUCTION ENTRANCE (VESCH STD. 3.02)

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

CE
GATED ACCESS ENTRANCE
SSF
SAF
STOCKPILE
COVER PRIOR TO STORM EVENTS
ACCESS ROAD
TP
TOP OF PIPE = 252.3
STAGING AREA
THE COUNTY OF ARLINGTON, VIRGINIA D.B. 2190, PG. 510 RPC #14063004
EX. ESM'T FOR PUBLIC ACCESS PUBLIC UTILITIES D.B. 2382 PG. 956

MATCHLINE - SEE SHEET 14

BALLSTON POND RETROFIT PROJECT

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/21/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Tahtah	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 12-20-E&S PLAN PH I.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 13 of 73

MATCHLINE - SEE SHEET 13

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK.
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

TURBIDITY CURTAIN TO BE PLACED AT INFLOW AND USED DURING PORTADAM MOVEMENT

WORK AREA A

WORK AREA B

PLACE PORTADAM (OR EQUIVALENT) AS SHOWN ON PLANS TO DIVERT LUBBER RUN FROM THE WORK AREA. DIVERSION HAS BEEN SIZED FOR THE 10-YEAR STORM, H=7'. CONTRACTOR SHALL ENSURE STABILITY IN ALL CONDITIONS. CONTRACTOR MUST RECEIVE APPROVAL PRIOR TO RESTRICTING THE CHANNEL BEYOND SPECIFICATIONS. SEE SHEET 09 FOR DETAILS.

TOP OF PIPE = 250.1

TOP OF PIPE = 250.5

HUB ELEV=254.89
TOP 20" WATER MAIN=248.24

TOP=258.74
CL INV=249.08

WETLANDS

MATCHLINE - SEE SHEET 15

MATCHLINE - SEE SHEET 16

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SEAL

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JONATHAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/2019

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
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WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
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EROSION & SEDIMENT CONTROL PLAN - PHASE I

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BETWEEN I-66 & FAIRFAX DR

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PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 14 of 73

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
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	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

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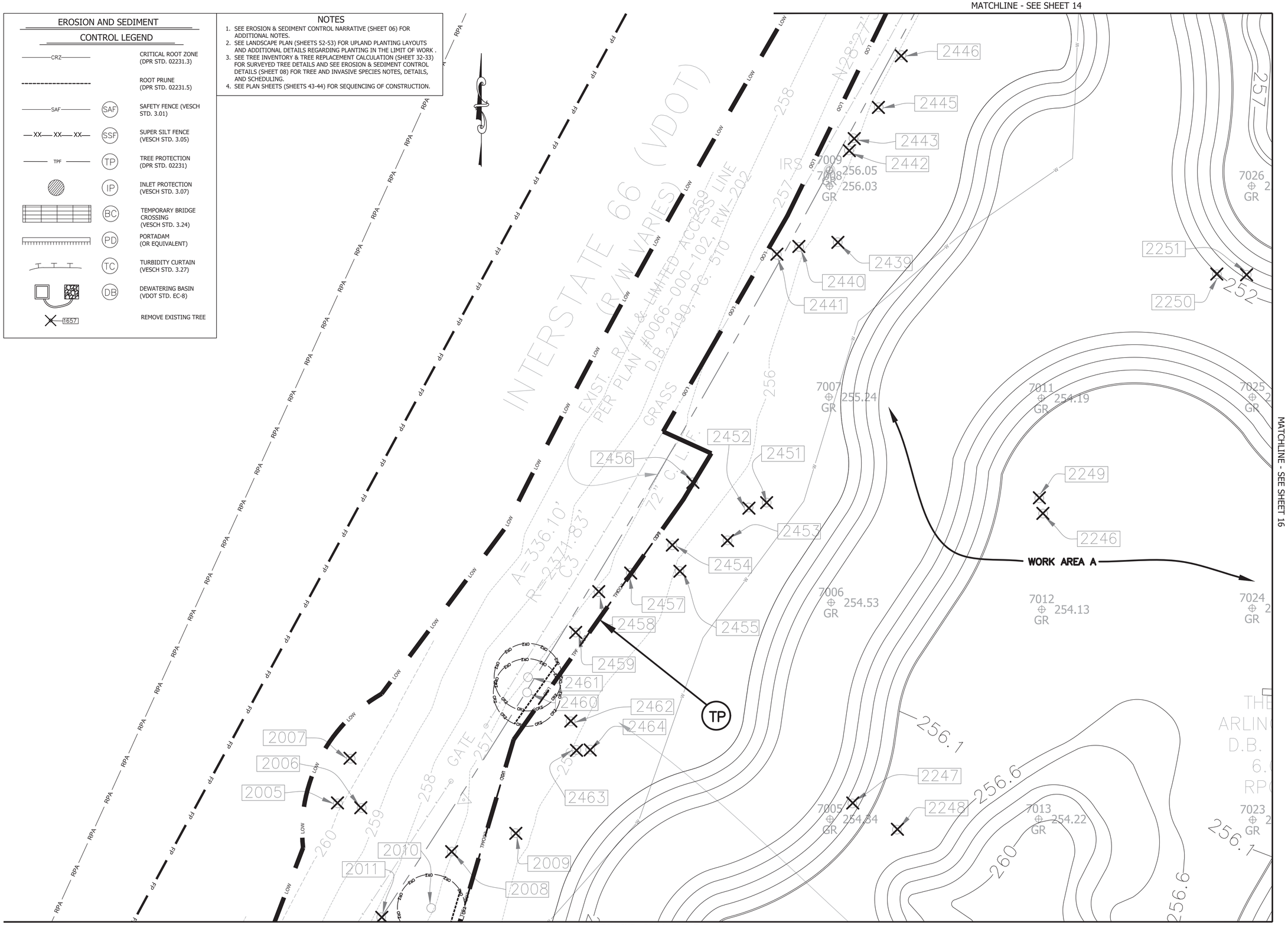

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SEAL

COMMONWEALTH OF VIRGINIA
JULIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
9/2019

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Ramal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 12-20-E&S PLAN PH I.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 15, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

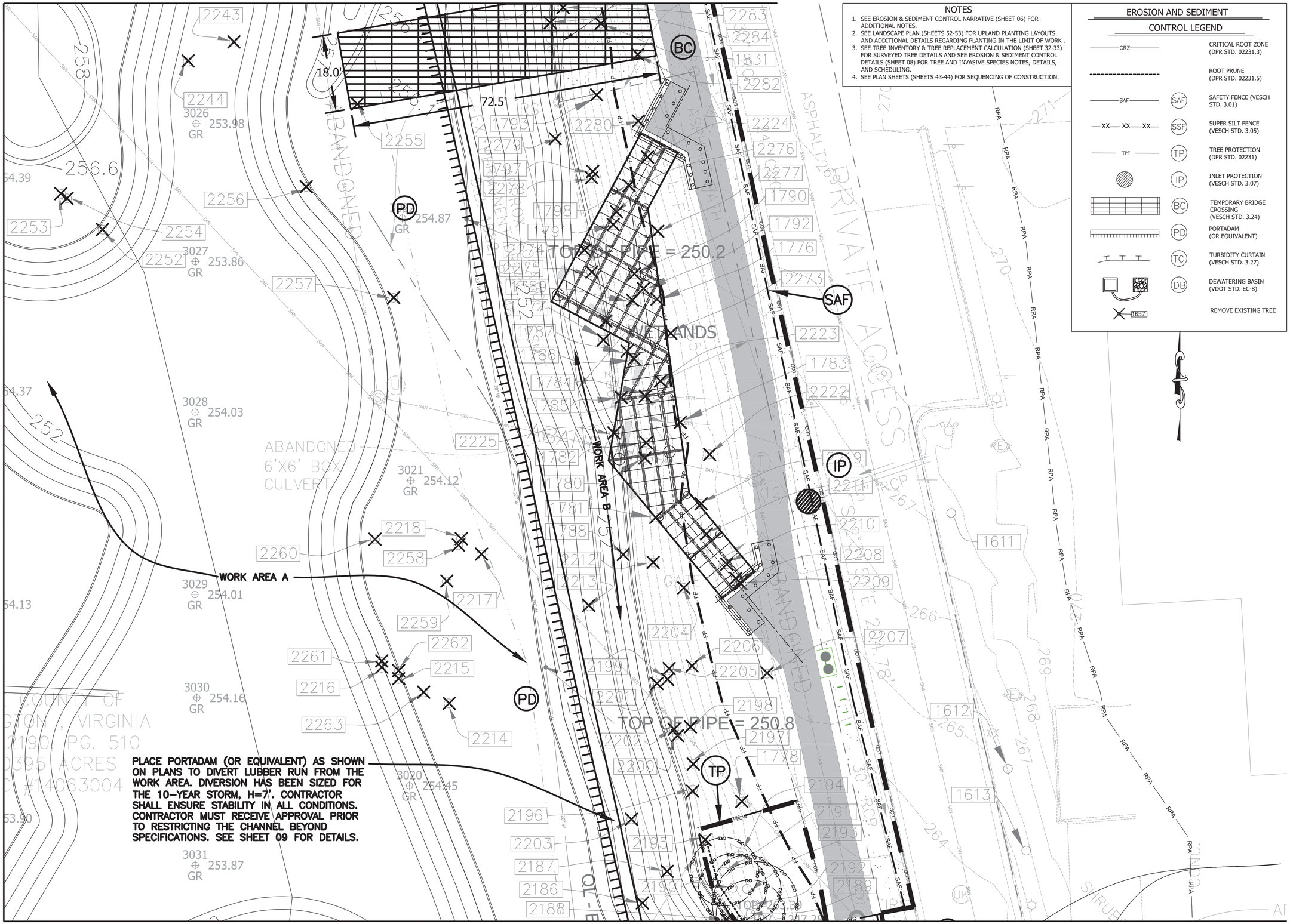
0' 10' 20'

SHEET 15 of 73

MATCHLINE - SEE SHEET 14

MATCHLINE - SEE SHEET 15

MATCHLINE - SEE SHEET 18



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4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

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9/20/19

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TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

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EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
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CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 12-20-E&S PLAN PH I.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

GRAPHIC SCALE

SHEET 16 of 73

MATCHLINE - SEE SHEET 15

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
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4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

WORK AREA A

WETLANDS

72" C.L.E.

IRS A=25°19'52" R=446.80' C2

IRS A=25°19'52" R=446.80' C1

EXISTING 60" RCP

EROSION AND SEDIMENT CONTROL LEGEND

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SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
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	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)

EROSION AND SEDIMENT CONTROL LEGEND

	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

MATCHLINE - SEE SHEET 19

MATCHLINE - SEE SHEET 18

ARLINGTON
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BRIAN MICHAEL FINERFROCK
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PROFESSIONAL ENGINEER
8/21/19

APPROVALS	DATE
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
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WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
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CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 12-20-E&S PLAN PH I.dwg

PATH: \\fxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

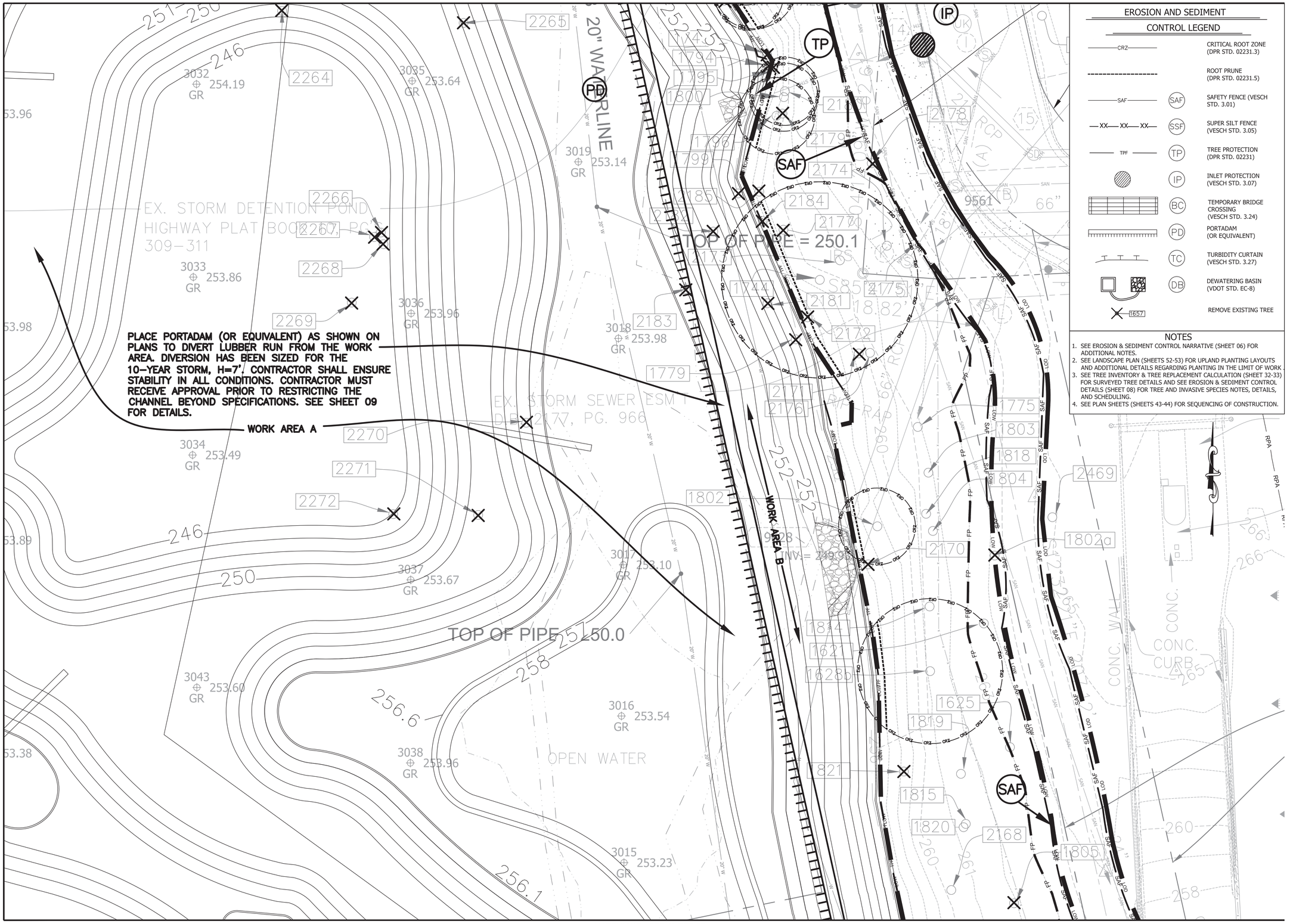
0' 10' 20'
GRAPHIC SCALE

SHEET 17 of 73

MATCHLINE - SEE SHEET 16

MATCHLINE - SEE SHEET 17

MATCHLINE - SEE SHEET 20



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
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SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
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	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
I657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK.
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8/21/19

APPROVALS	DATE
	04/07/20
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TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

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EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
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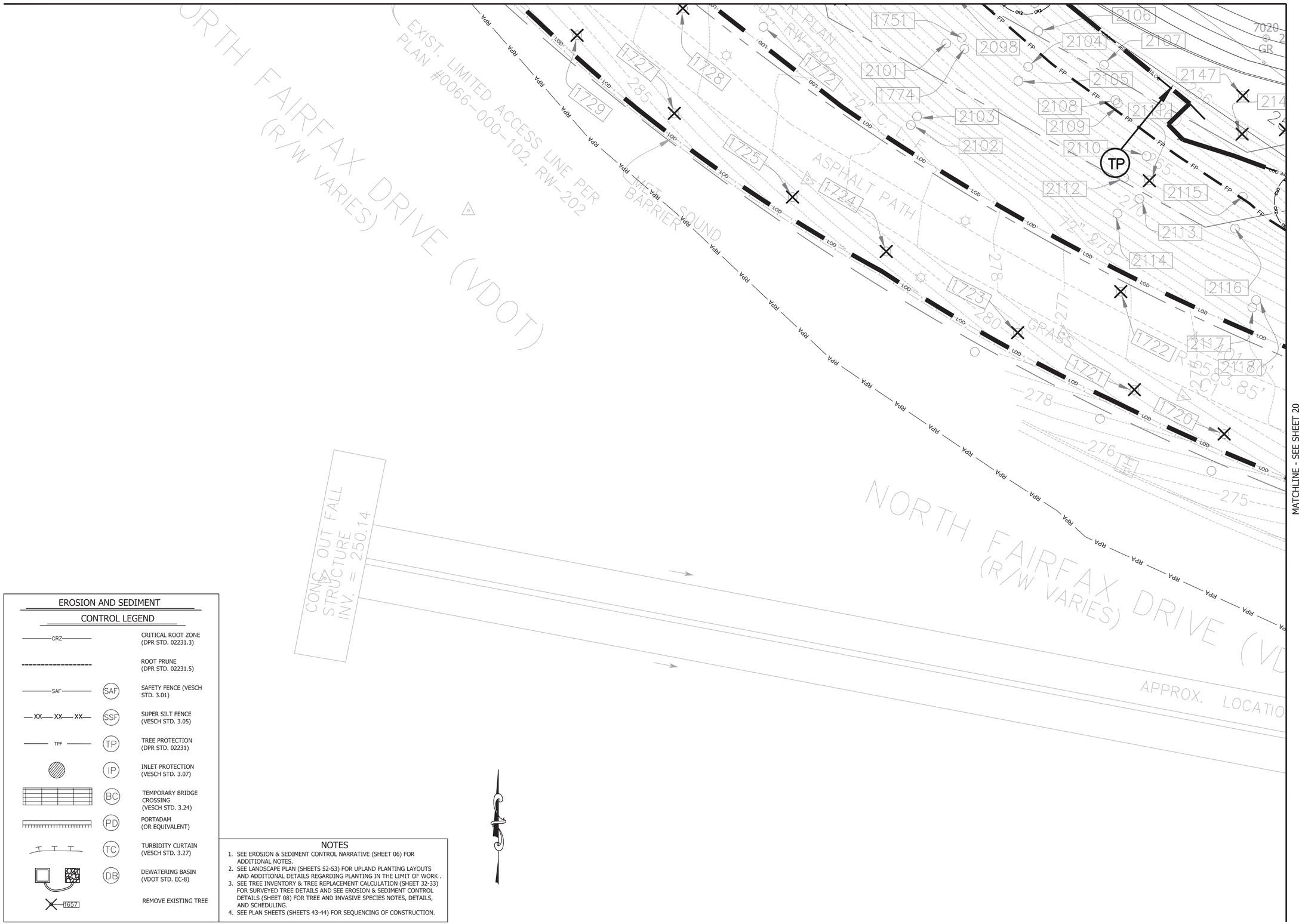
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

MATCHLINE - SEE SHEET 17



EROSION AND SEDIMENT CONTROL LEGEND

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1657		REMOVE EXISTING TREE

NOTES

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EROSION & SEDIMENT CONTROL PLAN - PHASE I

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

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PLOTTED: August 27, 2019
PLOTTED BY: ecox

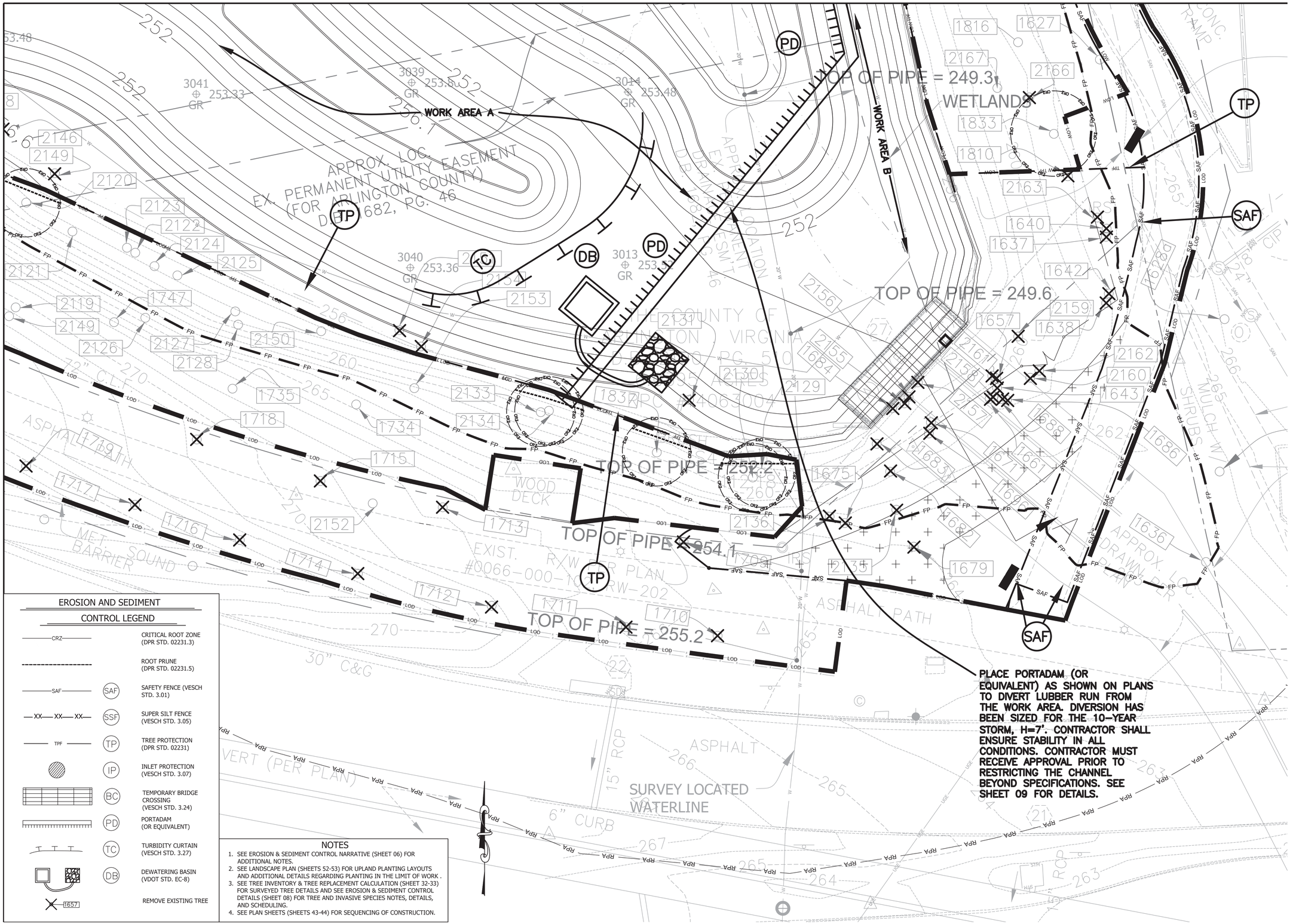
SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 19 of 73

MATCHLINE - SEE SHEET 18

MATCHLINE - SEE SHEET 19



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	04/07/20
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EROSION & SEDIMENT CONTROL PLAN - PHASE I

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PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

GRAPHIC SCALE

SHEET 20 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

100–YR FLOODPLAIN

WORK AREA A

WORK AREA B

ABANDONED 6'X6' BOX CULVERT

EX. STORM DETENTION POND HIGHWAY PLAT BOOK 309–311

WETLANDS

OPEN WATER

PROTECT EXISTING TRAIL BEYOND THE SAF LIMITS, NO ACCESS ALLOWED

PLACE PORTADAM (OR EQUIVALENT) AS SHOWN ON PLANS TO DIVERT LUBBER RUN FROM THE WORK AREA. DIVERSION IS H=7'. CONTRACTOR SHALL ENSURE STABILITY IN ALL CONDITIONS. SEE SHEET 09 FOR DETAILS.

EX. ESM'T FOR PUBLIC ACCESS & PUBLIC UTILITIES D.B. 2382, PG. 956

EX. 25' STORM & SANITARY ESM'T D.B. 2000, PG. 174

EX. 20' STORM SEWER ESM'T D.B. 2000, PG. 174

EX. 10' STORM SEWER ESM'T D.B. 2177, PG. 966

EX. STORM SEWER ESM'T D.B. 2177, PG. 966

EX. WATER MAIN ESM'T D.B. 2382, PG. 956

APPROX. LOCATION EX. 24" STORM & SANITARY ESM'T D.B. 2003, PG. 521 D.B. 1955, PG. 1306

APPROX. LOC, C/L EX. VEPCO ESM'T D.B. 1377, PG. 629

EX. 15' SANITARY ESM'T D.B. 2127, PG. 966

EX. DRAINAGE ESM'T D.B. 2177, PG. 9

APPROX. LOCATION DOUBLE 8' X 6' BOX CULVERT (PERMANENT)

CONC. OUT FALL STRUCTURE # 250.14

TOP OF PIPE = 249.6

TOP OF PIPE = 255.2

TOP OF PIPE = 249.3

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
----------		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

MATCHLINE - SEE SHEET 24

ARLINGTON VIRGINIA

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COMMONWEALTH OF VIRGINIA — BRIAN MICHAEL FINERFROCK — Lic. No. 44505 — 8/2019 — PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION AND SEDIMENT CONTROL PLAN- PH II OVERVIEW

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 21-22-E&S PLAN PH II OVERVIEW.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

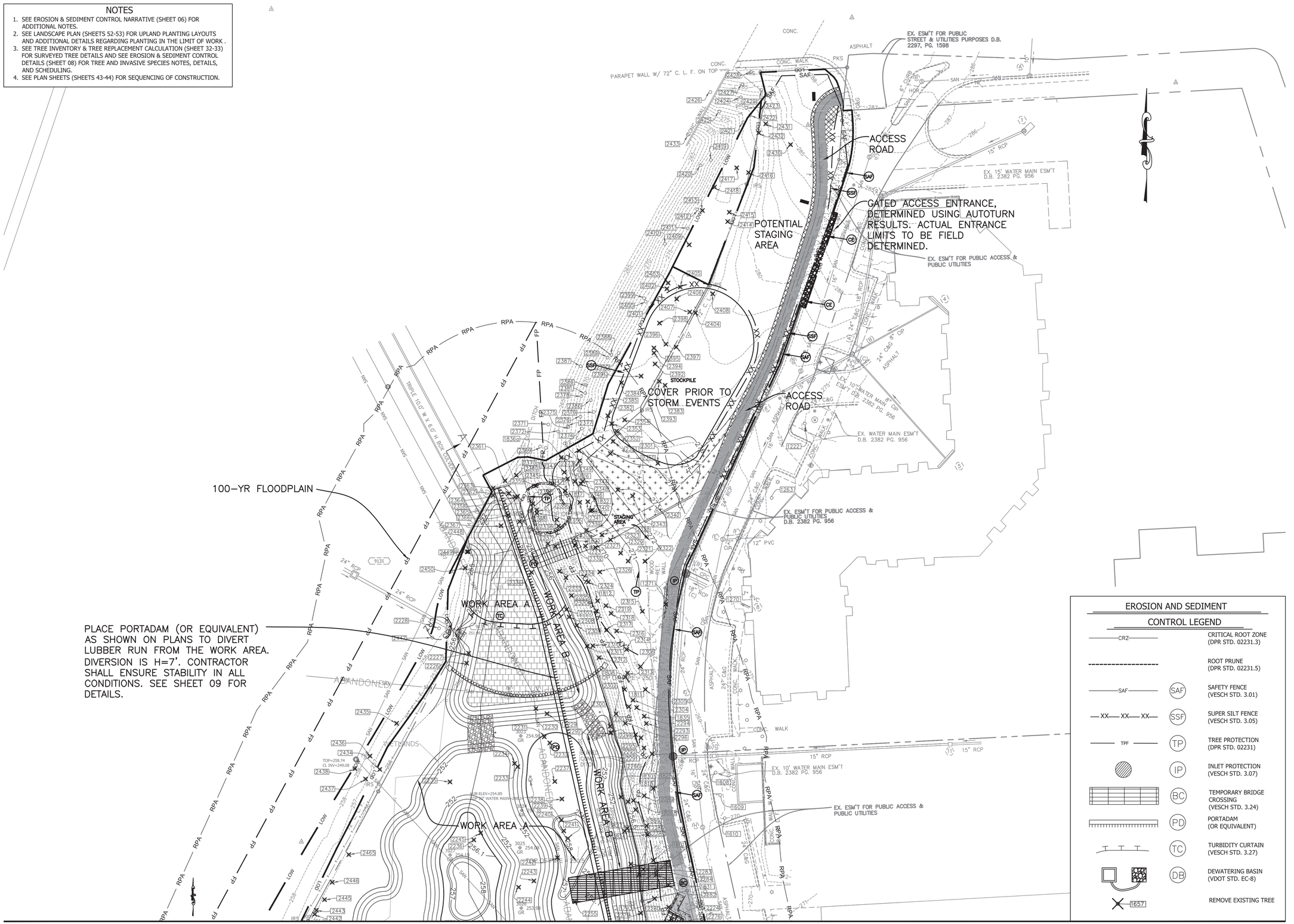
SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET 21 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
9/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION AND SEDIMENT CONTROL PLAN- PH II OVERVIEW

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 21-22-E&S PLAN PH II OVERVIEW.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

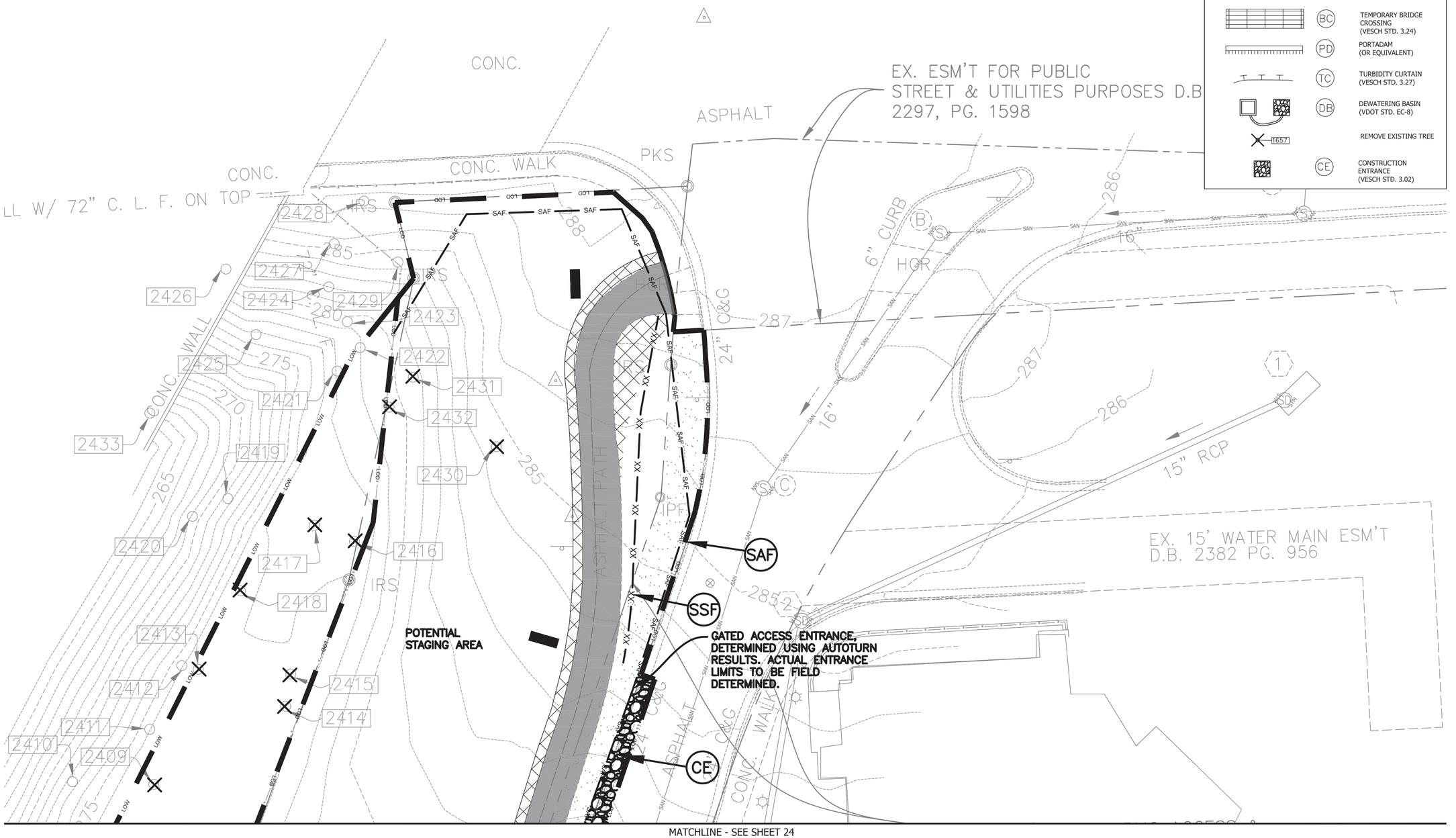
SHEET 22 of 73

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE
	CE	CONSTRUCTION ENTRANCE (VESCH STD. 3.02)



MATCHLINE - SEE SHEET 24

ARLINGTON
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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
9/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ffcsrv01\v0\projects\2016\16068_ArlingtonCo_NG4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 23 of 73

MATCHLINE - SEE SHEET 23

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
T T T	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE
	CE	CONSTRUCTION ENTRANCE (VESCH STD. 3.02)

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
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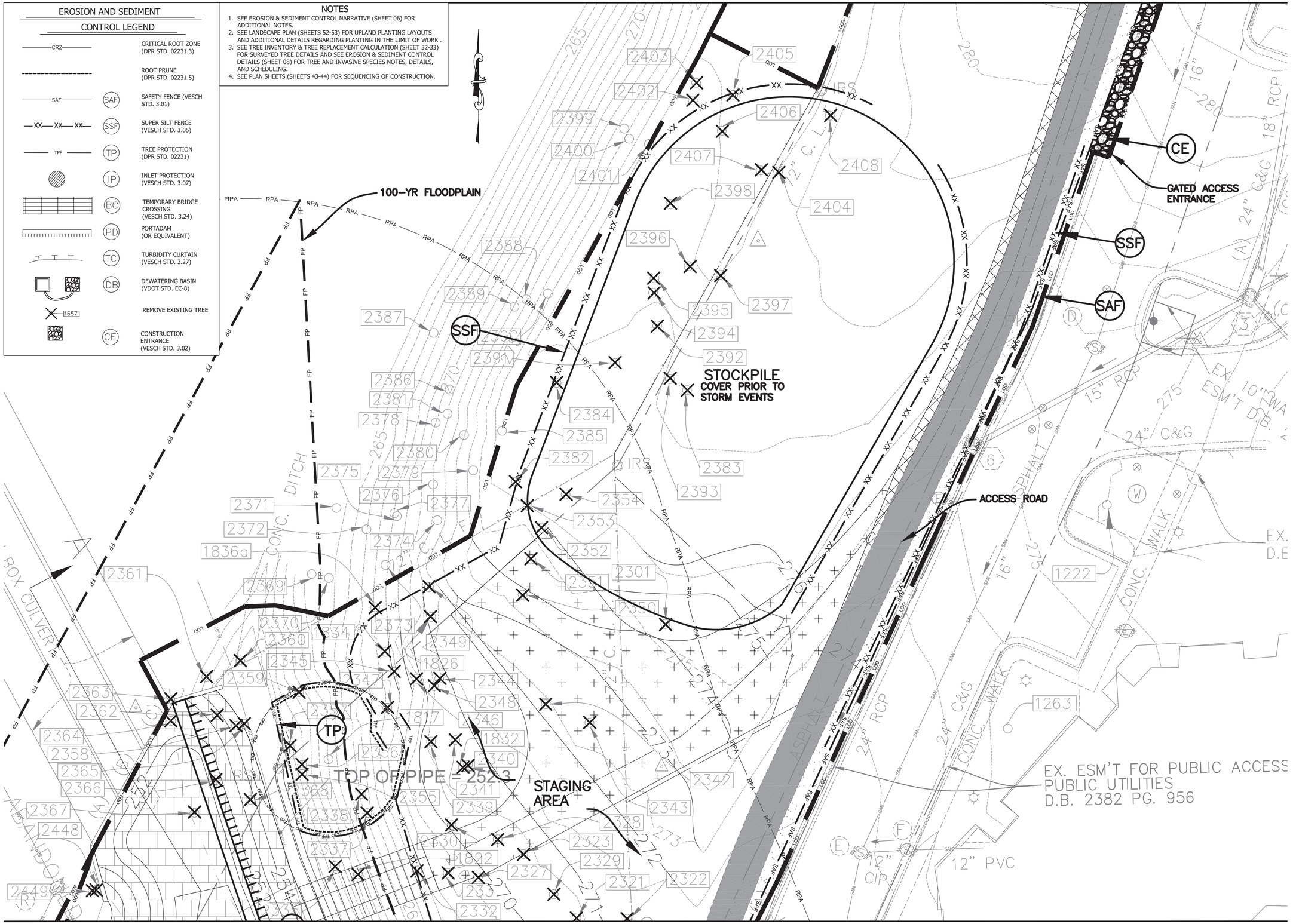
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



MATCHLINE - SEE SHEET 25

ARLINGTON
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BRIAN MICHAEL FINERFROCK
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PROFESSIONAL ENGINEER
8/21/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 24 of 73

MATCHLINE - SEE SHEET 24

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK.
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4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

TURBIDITY CURTAIN TO BE PLACED AT INFLOW AND USED DURING PORTADAM MOVEMENT

WORK AREA B

WORK AREA A

9174
INV.= 251.99

100-YR FLOODPLAIN

WETLANDS

TOP=258.74
CL INV=249.08

PLACE PORTADAM (OR EQUIVALENT) AS SHOWN ON PLANS TO DIVERT LUBBER RUN FROM THE WORK AREA. DIVERSION HAS been SIZED FOR THE 10-YEAR STORM, H=7'. CONTRACTOR SHALL ENSURE STABILITY IN ALL CONDITIONS. CONTRACTOR MUST RECEIVE APPROVAL PRIOR TO RESTRICTING THE CHANNEL BEYOND SPECIFICATIONS. SEE SHEET 09 FOR DETAILS.

3023 254.98 GR

3024 254.39 GR

3025 254.08 GR

7027 254.19 GR

TOP OF PIPE = 250.1

TOP OF PIPE = 250.5

BURIED CONC. DITCH

EX. DRAINAGE EASEMENT D.B. 1998 PG. 756

ABANDONED WATER MAIN 248.24

MATCHLINE - SEE SHEET 26

MATCHLINE - SEE SHEET 27

ARLINGTON
VIRGINIA

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CHRISTIAN MICHAEL FINERFROCK
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APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 25 of 73

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
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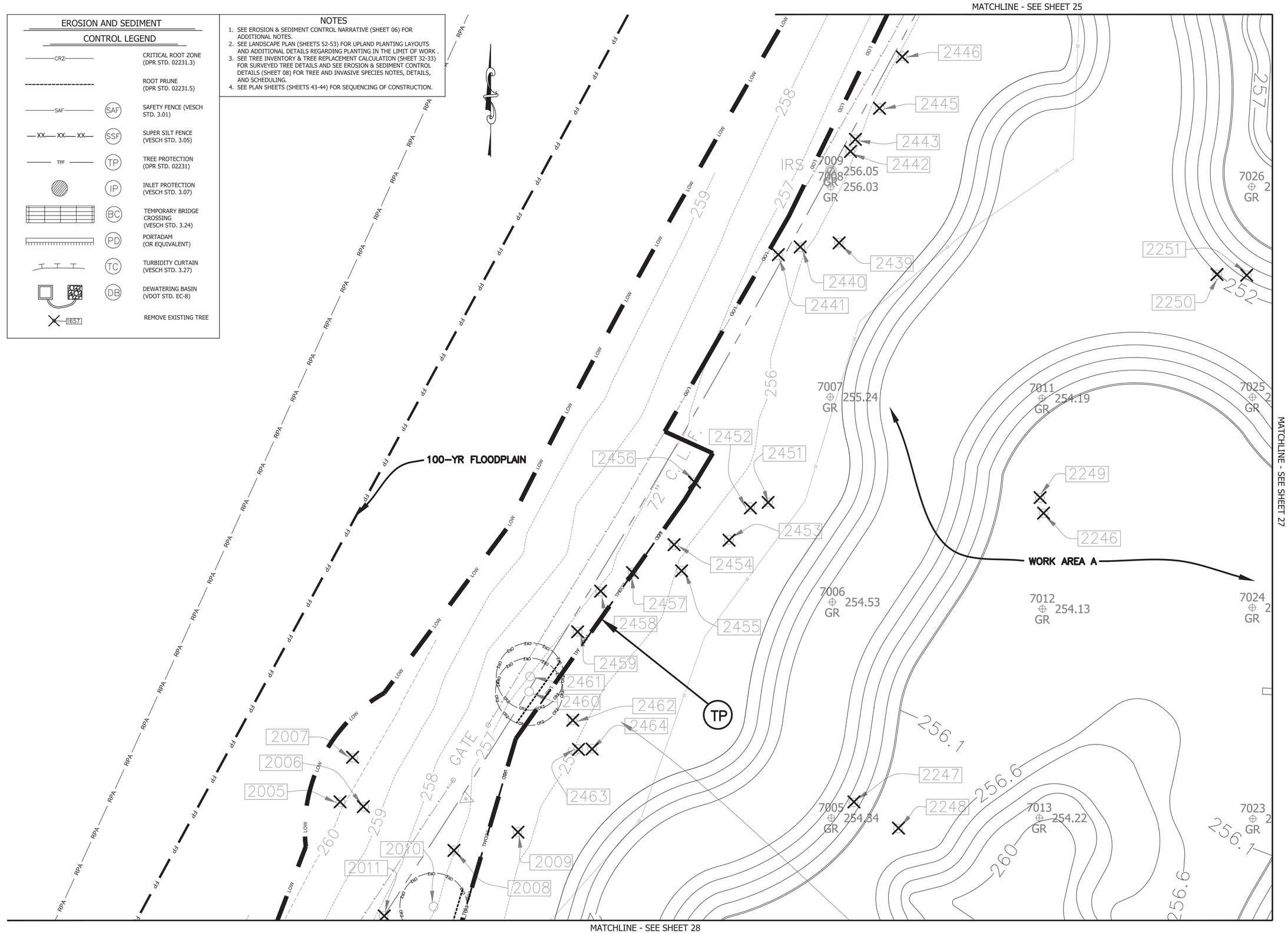
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



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COMMONWEALTH OF VIRGINIA
JULIAN MICHAEL FINERFROCK
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9/20/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 15, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

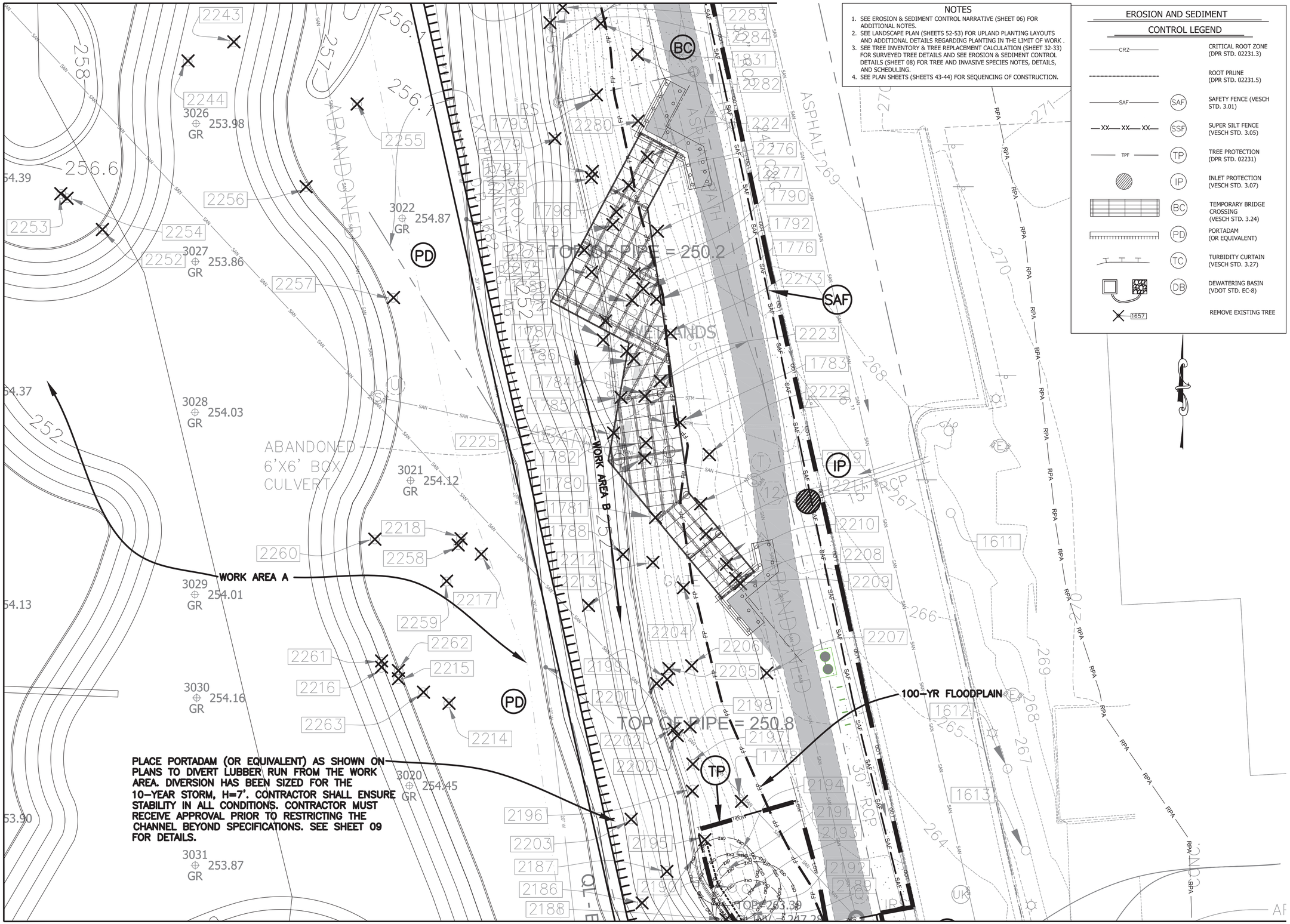
GRAPHIC SCALE

SHEET 26 of 73

MATCHLINE - SEE SHEET 25

MATCHLINE - SEE SHEET 26

MATCHLINE - SEE SHEET 29



NOTES

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EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

ARLINGTON VIRGINIA

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
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8/21/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

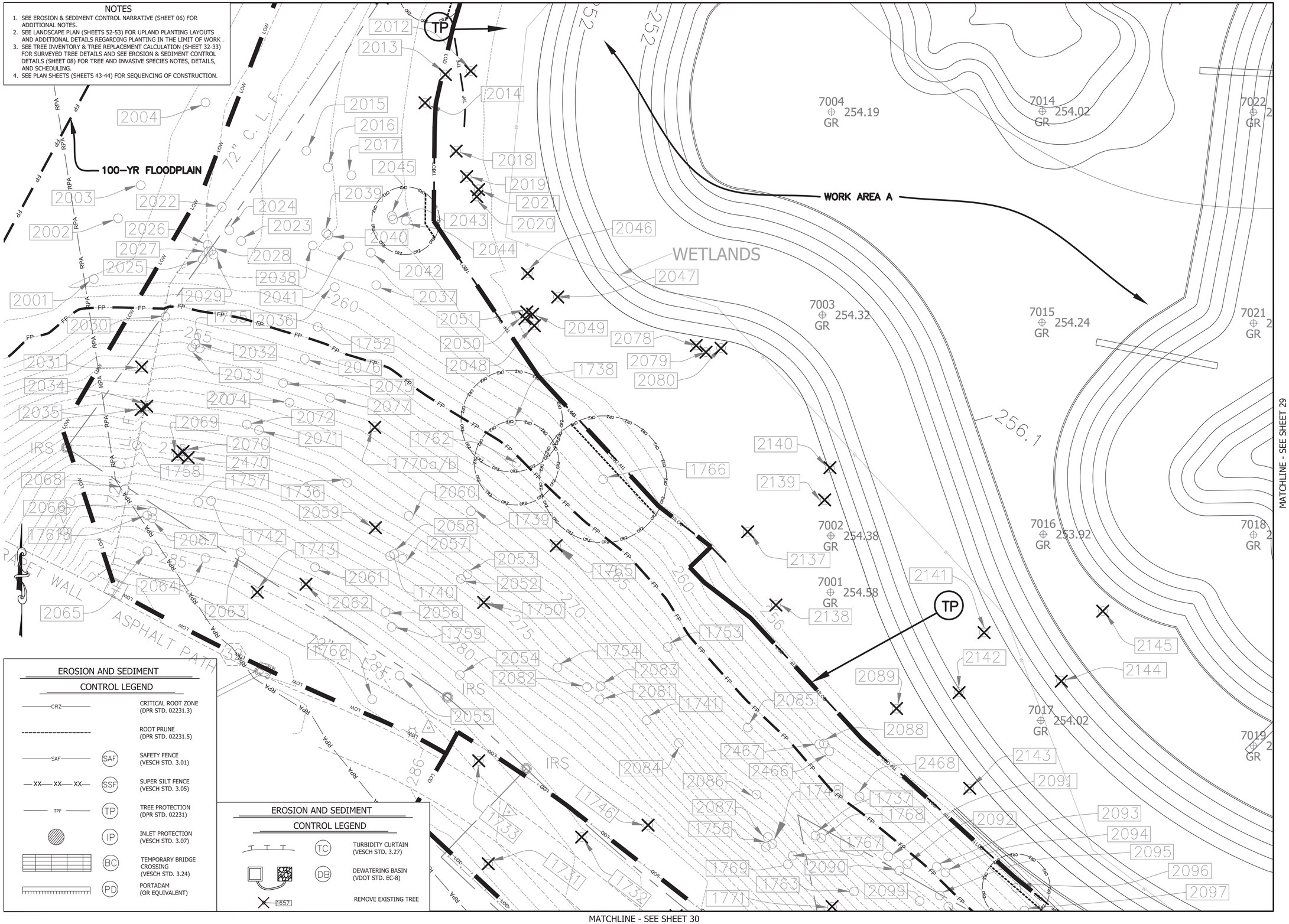
GRAPHIC SCALE

SHEET 27 of 73

MATCHLINE - SEE SHEET 26

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK .
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.



MATCHLINE - SEE SHEET 30

EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)

EROSION AND SEDIMENT CONTROL LEGEND

	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

MATCHLINE - SEE SHEET 29

ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/21/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\fxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

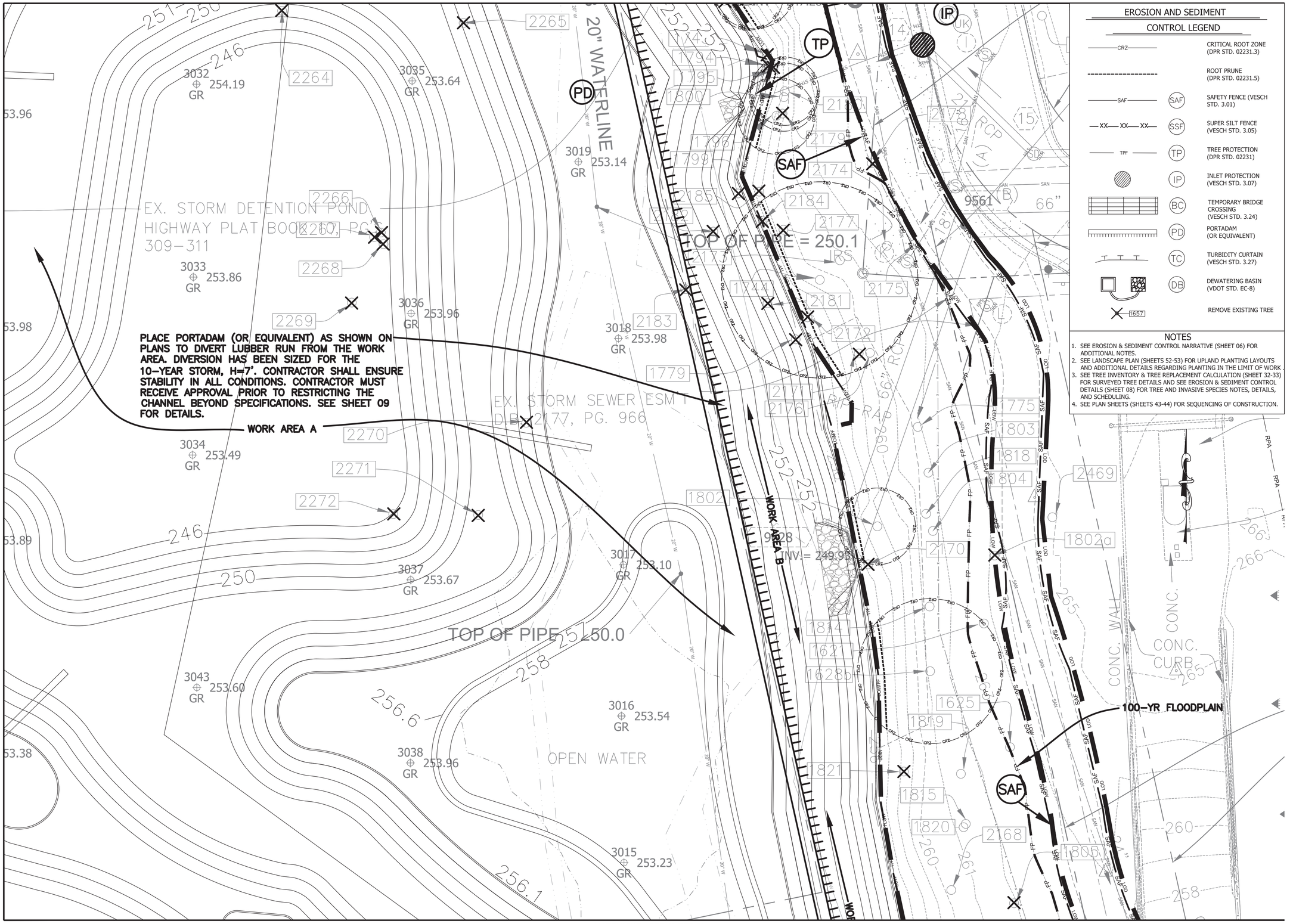
GRAPHIC SCALE

SHEET 28 of 73

MATCHLINE - SEE SHEET 27

MATCHLINE - SEE SHEET 28

MATCHLINE - SEE SHEET 31



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
I657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
2. SEE LANDSCAPE PLAN (SHEETS 52-53) FOR UPLAND PLANTING LAYOUTS AND ADDITIONAL DETAILS REGARDING PLANTING IN THE LIMIT OF WORK.
3. SEE TREE INVENTORY & TREE REPLACEMENT CALCULATION (SHEET 32-33) FOR SURVEYED TREE DETAILS AND SEE EROSION & SEDIMENT CONTROL DETAILS (SHEET 08) FOR TREE AND INVASIVE SPECIES NOTES, DETAILS, AND SCHEDULING.
4. SEE PLAN SHEETS (SHEETS 43-44) FOR SEQUENCING OF CONSTRUCTION.

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EROSION & SEDIMENT CONTROL PLAN - PHASE II

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

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CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 23-31-E&S PLAN PH II.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

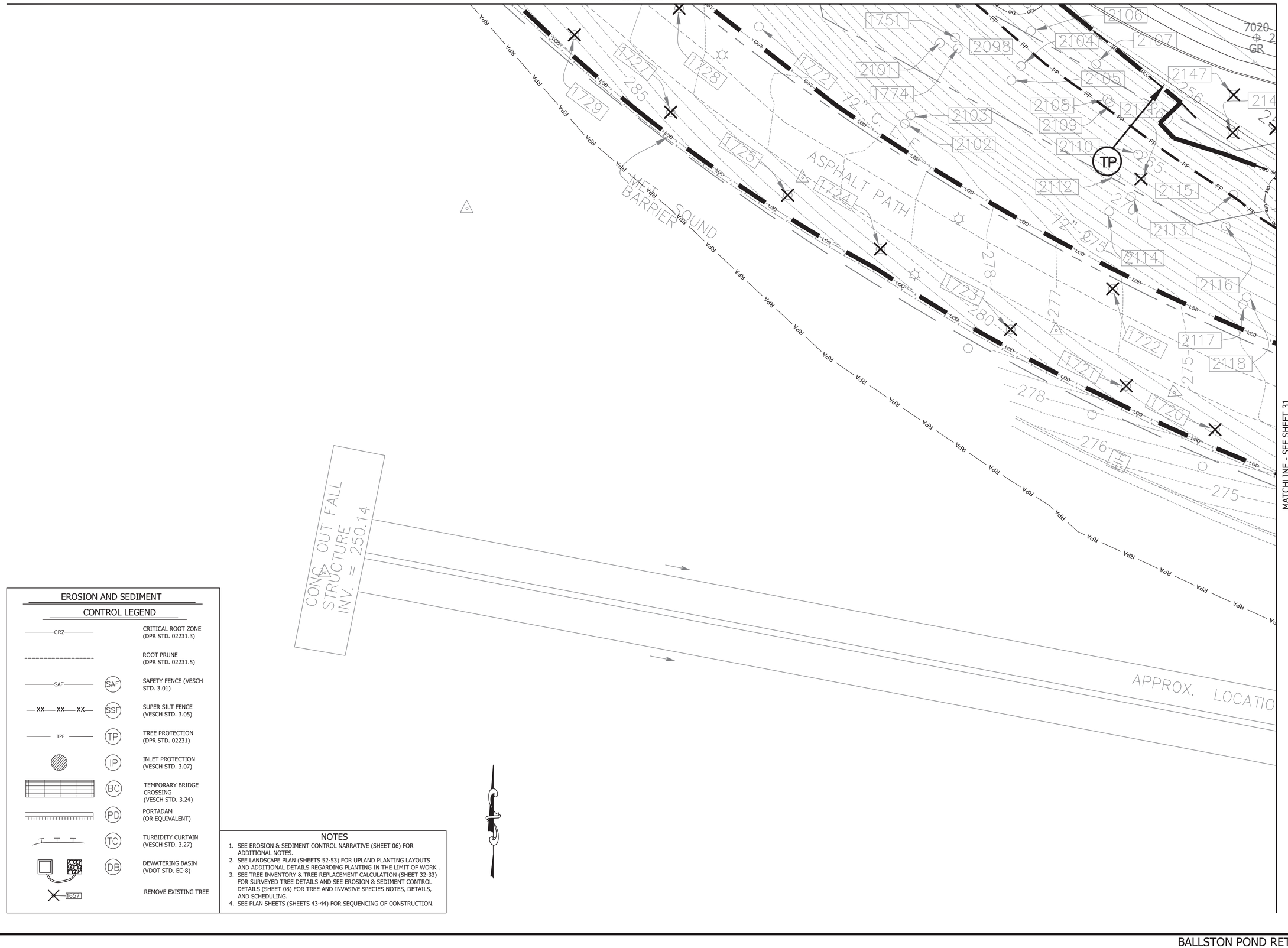
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 29 of 73

MATCHLINE - SEE SHEET 28



EROSION AND SEDIMENT CONTROL LEGEND

CRZ		CRITICAL ROOT ZONE (DPR STD. 02231.3)
		ROOT PRUNE (DPR STD. 02231.5)
SAF	SAF	SAFETY FENCE (VESCH STD. 3.01)
XX XX XX	SSF	SUPER SILT FENCE (VESCH STD. 3.05)
TPF	TP	TREE PROTECTION (DPR STD. 02231)
	IP	INLET PROTECTION (VESCH STD. 3.07)
	BC	TEMPORARY BRIDGE CROSSING (VESCH STD. 3.24)
	PD	PORTADAM (OR EQUIVALENT)
	TC	TURBIDITY CURTAIN (VESCH STD. 3.27)
	DB	DEWATERING BASIN (VDOT STD. EC-8)
1657		REMOVE EXISTING TREE

NOTES

1. SEE EROSION & SEDIMENT CONTROL NARRATIVE (SHEET 06) FOR ADDITIONAL NOTES.
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EROSION & SEDIMENT CONTROL PLAN - PHASE II

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PROJECT NUMBER: BBP

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PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'
GRAPHIC SCALE

SHEET 30 of 73

MATCHLINE - SEE SHEET 29

MATCHLINE - SEE SHEET 30

PLACE PORTADAM (OR EQUIVALENT) AS SHOWN ON PLANS TO DIVERT LUBBER RUN FROM THE WORK AREA. DIVERSION HAS BEEN SIZED FOR THE 10-YEAR STORM, H=7'. CONTRACTOR SHALL ENSURE STABILITY IN ALL CONDITIONS. CONTRACTOR MUST RECEIVE APPROVAL PRIOR TO RESTRICTING THE CHANNEL BEYOND SPECIFICATIONS. SEE SHEET 09 FOR DETAILS.

WORK AREA A

WORK AREA B

TOP OF PIPE = 249.3

TOP OF PIPE = 249.6

TOP OF PIPE = 252.2

TOP OF PIPE = 254.1

TOP OF PIPE = 255.2

CONSTRUCTION ACCESS GATE, 10' SINGLE SWING GATE.

SURVEY LOCATED WATERLINE

WETLANDS

APPROX. LOC. PERMANENT UTILITY EASEMENT (FOR ARLINGTON CO.) DB 1682, PG. 46

EX. PERMANENT UTILITY EASEMENT DB 1682, PG. 46

APPROX. LOC. DRAWN PER SURVEY

ASPHALT PATH

WOOD DECK

MET. SOUND BARRIER

72" C.L.F.

30" C&G

15" RCP

6" CURB

ASPHALT

CONC. RAMP

3041 253.33 GR

3039 253.66 GR

3014 253.48 GR

3040 253.36 GR

3013 253.52 GR

EROSION AND SEDIMENT CONTROL LEGEND

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		ROOT PRUNE (DPR STD. 02231.5)
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EROSION & SEDIMENT CONTROL PLAN - PHASE II

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BETWEEN I-66 & FAIRFAX DR

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PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=10'

0' 10' 20'

GRAPHIC SCALE

SHEET 31 of 73

Number	Tree ID	DBH in.	Common Name	Scientific Name	Condition/Comments	Action	Replace-ments	
1	1222	19	Willow Oak	Quercus phellos	Good	N/A	0	
2	1263	17	Sweet Gum	Liquidambar styraciflua	Good	N/A	0	
3	1270	16	Northern Red Oak	Quercus rubra	Good	N/A	0	
4	1271	30	Silver Maple	Acer saccharinum	Fair -lean, included bark	Remove	2	
5	1608	15	Red Maple	Acer rubrum	Good	N/A	0	
6	1609	9	Red Maple	Acer rubrum	Good	N/A	0	
7	1610	13	Red Maple	Acer rubrum	Good	N/A	0	
8	1611	16	Red Maple	Acer rubrum	Good -girdling roots	N/A	0	
9	1612	17	Red Maple	Acer rubrum	Good	N/A	0	
10	1613	14	Red Maple	Acer rubrum	Good	N/A	0	
11	1617	16	Red Maple	Acer rubrum	Fair - dead branches	N/A	0	
12	1621	9	Northern Red Oak	Quercus rubra	Good	Protect	0	
13	1625	13	Northern Red Oak	Quercus rubra	Good	Protect	0	
14	1627	7	Blue Spruce	Picea pungens	Good	Protect	0	
15	1628a	16	White Pine	Pinus strobus	Good	N/A	0	
16	1628b	17	Green Ash	Fraxinus pennsylvanica	Good - Double leader	Root Prune	0	
17	1635	12	Sugar Maple	Acer saccharum	Good	N/A	0	
18	1636	13	Black Locust	Robinia pseudoacacia	Good	N/A	0	
19	1637	18	Sycamore	Platanus occidentalis	Fair -questionable base	Remove	2	
20	1638	17	Silver Maple	Acer saccharinum	Good/Fair -improper pruning cut	Remove	2	
21	1640	16	Sycamore	Platanus occidentalis	Fair/Poor -hollow & decay	Remove	2	
22	1642	16	Silver Maple	Acer saccharinum	Good	Remove	2	
23	1643	10	Black Locust	Robinia pseudoacacia	Good	Remove[1]	1	SEE NOTE 1
24	1657	9	Northern Catalpa	Catalpa speciosa	Good	Remove	1	
25	1661	8	Black Locust	Robinia pseudoacacia	Good	Remove[2]	1	SEE NOTE 2
26	1671	8	American Elm	Ulmus americana	Poor - trunk wound	Remove	1	
27	1675	10	American Elm	Ulmus americana	Fair/Poor -diseased	Remove	1	
28	1679	11	American Elm	Ulmus americana	Fair -cavity, included bark	Remove	1	
29	1682	7	American Elm	Ulmus americana	Fair	Remove	1	
30	1683	7	American Elm	Ulmus americana	Fair -dead wood	Remove	1	
31	1684	12	American Elm	Ulmus americana	Fair -growing in fence	Remove	1	
32	1686	9	Black Locust	Robinia pseudoacacia	Good	Remove[2]	1	SEE NOTE 2
33	1688	7	Black Locust	Robinia pseudoacacia	Good	Remove	1	
34	1696	7	American Elm	Ulmus americana	Poor - sparse crown	Remove	1	
35	1698	19	Willow Oak	Quercus phellos	Good	N/A	0	
36	1699	7	Eastern Red Cedar	Juniperus virginiana	Good	N/A	0	
37	1700	13	Willow Oak	Quercus phellos	Good	N/A	0	
38	1701	27	Willow Oak	Quercus phellos	Good	N/A	0	
39	1702	9	Eastern Red Cedar	Juniperus virginiana	Good/fair - dead branches	N/A	0	
40	1703	16	Willow Oak	Quercus phellos	Good	N/A	0	
41	1704	22	Willow Oak	Quercus phellos	Good	N/A	0	
42	1705	21	Willow Oak	Quercus phellos	Good	N/A	0	
43	1706	11	Willow Oak	Quercus phellos	Good/fair	N/A	0	
44	1707	12	Willow Oak	Quercus phellos	Good	N/A	0	
45	1708	24	Willow Oak	Quercus phellos	Good	N/A	0	
46	1709	21	Bradford Pear	Pyrus calleryana	Fair -included bark (IB)	Remove	2	
47	1710	16	Bradford Pear	Pyrus calleryana	Fair -IB, girdling roots	Remove	1	
48	1711	19	Bradford Pear	Pyrus calleryana	Good/Fair -IB	Remove	2	
49	1712	11	Bradford Pear	Pyrus calleryana	Fair - mower damage	Remove	1	
50	1713	18	Bradford Pear	Pyrus calleryana	Good/Fair -IB	Remove	2	
51	1714	11	Bradford Pear	Pyrus calleryana	Fair - mower damage	Remove	1	
52	1715	19	Bradford Pear	Pyrus calleryana	Good/Fair -IB	Remove	2	
53	1716	13	Bradford Pear	Pyrus calleryana	Good	Remove	1	
54	1717	11	Bradford Pear	Pyrus calleryana	Good	Remove	1	
55	1718	18	Bradford Pear	Pyrus calleryana	Good/Fair -IB	Remove	2	
56	1719	14	Bradford Pear	Pyrus calleryana	Good - some IB	Remove	1	
57	1720	10	Bradford Pear	Pyrus calleryana	Good - minor IB	Remove	1	
58	1721	11	Bradford Pear	Pyrus calleryana	Good	Remove	1	
59	1722	21	Bradford Pear	Pyrus calleryana	Good	Remove	2	
60	1723	18	Bradford Pear	Pyrus calleryana	Fair -IB	Remove	1	
61	1724	15	Bradford Pear	Pyrus calleryana	Fair -IB	Remove	1	
62	1725	18	Bradford Pear	Pyrus calleryana	Fair -IB	Remove	1	
63	1727	17	Bradford Pear	Pyrus calleryana	Fair -IB	Remove	1	
64	1728	20	Bradford Pear	Pyrus calleryana	Fair -girdling roots, IB	Remove	1	
65	1729	18	Bradford Pear	Pyrus calleryana	Good/Fair -IB	Remove	2	
66	1731	13	Bradford Pear	Pyrus calleryana	Good/Fair -IB, improper pruning	Remove	1	
67	1732	18	Bradford Pear	Pyrus calleryana	Fair -girdling roots, IB	Remove	1	
68	1733	20	Bradford Pear	Pyrus calleryana	Good -IB	Remove	2	
69	1734	16	White Pine	Pinus strobus	Good - heavy vines	Protect	0	
70	1735	18	White Pine	Pinus strobus	Good	Protect	0	
71	1736	8	Black Locust	Robinia pseudoacacia	Fair -dead wood	Protect	0	
72	1737	11	Black Locust	Robinia pseudoacacia	Good/Fair -dead wood, double leader	Protect	0	
73	1738	12	Black Locust	Robinia pseudoacacia	Fair -twin, dead wood, vines	Protect	0	
74	1739	16	Black Locust	Robinia pseudoacacia	Fair -dead wood, vines, double leader	Protect	0	
75	1740	7	Black Locust	Robinia pseudoacacia	Good -minor dead wood	Protect	0	
76	1741	14	Yellowwood	Cladrastis kentukea	Good - vines	Protect	0	
77	1742	8	Black Locust	Robinia pseudoacacia	Fair -dead wood	Protect	0	
78	1743	30	Black Locust	Robinia pseudoacacia	Poor - dead wood, decay, cavities, vines, multistem	Remove	2	
79	1744	23	Black Locust	Robinia pseudoacacia	Good/Fair -minor dead wood, decay	Root Prune	0	
80	1745	12	Black Willow	Salix nigra	Fair -frowing on bank, lean	Remove	1	
81	1746	13	Black Locust	Robinia pseudoacacia	Poor -dead wood, cavities	Remove	1	
82	1747	15	White Pine	Pinus strobus	Fair - vines	Protect	0	
83	1748	10	Black Locust	Robinia pseudoacacia	Fair -vines, dead wood	Protect	0	
84	1750	21	Black Locust	Robinia pseudoacacia	Poor -deadwood, IB	Remove	2	
85	1751	11	Black Locust	Robinia pseudoacacia	Good	Protect	0	
86	1752	16	Northern Red Oak	Quercus rubra	Fair -fungus	Protect	0	
87	1753	13	Black Locust	Robinia pseudoacacia	Fair -dead wood, heavy vines	Protect	0	
88	1754	13	Black Locust	Robinia pseudoacacia	Fair -suspect base, dead wood, IB	Protect	0	
89	1755	9	Southern Red Oak	Quercus falcata	Fair - dead branches	Protect	0	
90	1756	10	Black Locust	Robinia pseudoacacia	Fair -vines, dead wood	Protect	0	
91	1757	14	Southern Red Oak	Quercus falcata	Good - vines	Protect	0	
92	1758	8	Yellowwood	Cladrastis kentukea	Fair - heavy vines	Protect	0	
93	1759	12	Yellowwood	Cladrastis kentukea	Good -minor dead wood, multistem	Protect	0	
94	1760	20	Bradford Pear	Pyrus calleryana	Fair -IB, girdling roots	N/A	0	
95	1761b	11	Black Locust	Robinia pseudoacacia	Fair - dead branches	Protect	0	
96	1762	10	Black Locust	Robinia pseudoacacia	Fair	Protect	0	
97	1763	13	Black Locust	Robinia pseudoacacia	Fair -dead wood	Protect	0	
98	1765	25	Black Locust	Robinia pseudoacacia	Fair/Poor -cavities, decay, dead wood	Remove	2	
99	1766	15	Black Locust	Robinia pseudoacacia	Fair -vines, dead wood	Protect	0	
100	1767	9	Black Locust	Robinia pseudoacacia	Good/Fair -dead wood, double leader	Protect	0	
101	1768	11	Black Locust	Robinia pseudoacacia	Good/Fair -dead wood	Protect	0	
102	1769	10	Black Locust	Robinia pseudoacacia	Fair -vines, dead wood	Protect	0	
103	1770a	13	Black Locust	Robinia pseudoacacia	Poor -vines, dead wood, IB	Remove	1	
104	1770b	8	Black Cherry	Prunus serotina	Poor - fused with Black Locust (1770a)	Remove	1	
105	1771	13	Northern Catalpa	Catalpa speciosa	Fair/Poor -dead wood	Remove	1	
106	1772	8	Black Locust	Robinia pseudoacacia	Good	Protect	0	
107	1774	12	Black Locust	Robinia pseudoacacia	Good	Protect	0	
108	1775	33	American Elm	Ulmus americana	Fair - included bark	Protect	0	
109	1776	15	Black Locust	Robinia pseudoacacia	Good - vines	Remove	2	
110	1777	12	Tree of Heaven	Ailanthus altissima	Good	Remove	1	
111	1778	24	Black Locust	Robinia pseudoacacia	Good -some dead wood	Remove	3	
112	1779	9	Sycamore	Platanus occidentalis	Good - double leader	Remove	1	
113	1780	7	Black Locust	Robinia pseudoacacia	Good	Remove	1	
114	1781	22	Black Locust	Robinia pseudoacacia	Good -double leader, 17" smaller leader	Remove	3	
115	1782	7	Black Locust	Robinia pseudoacacia	Good	Remove	1	

Number	Tree ID	DBH in.	Common Name	Scientific Name	Condition/Comments	Action	Replace-ments	
116	1783	14	Black Locust	Robinia pseudoacacia	Good	Remove	2	
117	1784	6	Black Locust	Robinia pseudoacacia	Good	Remove	1	
118	1785	8	Black Locust	Robinia pseudoacacia	Fair	Remove	1	
119	1786	9	Black Locust	Robinia pseudoacacia	Fair -basal damage, vines	Remove	1	
120	1787	10	Black Locust	Robinia pseudoacacia	Fair - heavy vines	Remove	1	
121	1788	9	Black Locust	Robinia pseudoacacia	Fair -lean	Remove[2]	1	SEE NOTE 2
122	1789	7	Black Locust	Robinia pseudoacacia	Fair - vines, dead wood	Remove	1	
123	1790	10	Black Locust	Robinia pseudoacacia	Good - vines, slight lean	Remove	1	
124	1791	17	Black Locust	Robinia pseudoacacia	Good/Fair-vines, dead wood	Remove	2	
125	1792	8	Black Locust	Robinia pseudoacacia	Good -minor dead wood	Remove	1	
126	1793	11	Black Locust	Robinia pseudoacacia	Good	Remove[1]	2	SEE NOTE 1
127	1794	7	Northern Catalpa	Catalpa speciosa	Fair -leaning over water	Remove	1	
128	1795	7	Northern Catalpa	Catalpa speciosa	Good/Fair -vines	Remove	1	
129	1796	9	Sycamore	Platanus occidentalis	Good -vines	Root Prune	0	
130	1797	15	Black Locust	Robinia pseudoacacia	Good -minor dead wood	Remove	2	
131	1798	18	Black Locust	Robinia pseudoacacia	Fair -vines, lean	Remove	2	
132	1799	11	Sycamore	Platanus occidentalis	Good/Fair -vines, growing at waterline	Remove	2	
133	1800	7	Northern Catalpa	Catalpa speciosa	Good	Root Prune	0	
134	1801	7	Black Walnut	Juglans nigra	Good -vines	Remove	1	
135	1802	9	Black Locust	Robinia pseudoacacia	Fair -base growing on riprap	Root Prune	0	
136	1802a	10	White Pine	Pinus strobus	Very poor	Remove	1	
137	1803	9	Northern Catalpa	Catalpa speciosa	Good -some dead wood	Protect	0	
138	1804	10	American Elm	Ulmus americana	Good	Protect	0	
139	1805	24	American Elm	Ulmus americana	Fair/Poor -IB, basal cracks, deadwood/decay, double leader	Remove	2	
140	1808	15	Black Locust	Robinia pseudoacacia	Poor -split leader, decay	Remove	1	
141	1809	23	Black Locust	Robinia pseudoacacia	Good - double leader, some dead wood	Remove	3	
142	1810	26	American Elm	Ulmus americana	Fair -broken leaders, decay	Remove	3	
143	1811	18	Black Locust	Robinia pseudoacacia	Good	Remove	2	
144	1812	13	American Elm	Ulmus americana	Fair -basal damage	Remove	2	
145	1813	9	Black Locust	Robinia pseudoacacia	Good/Fair -vines	Remove[2]	1	SEE NOTE 2
146	1814	17	American Elm	Ulmus americana	Fair -dead wood	Protect	0	
147	1815	15	Northern Catalpa	Catalpa speciosa	Good -some vines	Protect	0	
148	1816	15	Black Locust	Robinia pseudoacacia	Good	Protect	0	
149	1817	18	Black Locust	Robinia pseudoacacia	Good/Fair -dead wood	Root Prune	0	
150	1818	20	Black Locust	Robinia pseudoacacia	Good	Protect	0	
151	1819	12	Sycamore	Platanus occidentalis	Good/Fair -lean	Protect	0	
152	1820	9	Northern Catalpa	Catalpa speciosa	Good	Protect	0	
153	1821	9	American Elm	Ulmus americana	Fair -vines, basal cavity	Remove	1	
154	1822	19	Black Locust	Robinia pseudoacacia	Good	Remove	2	
155	1824	11	Black Locust	Robinia pseudoacacia	Good-twin, minor deadwood	Remove	1	
156	1825	9	Tree of Heaven	Ailanthus altissima	Good - heavy vines	Remove	1	
157	1826	19	Tree of Heaven	Ailanthus altissima	Fair/Poor -vines, decay, double leader, measured below split	Remove	1	
158	1827	8	Black Locust	Robinia pseudoacacia	Good	Remove[1]	1	SEE NOTE 1
159	1830	8	Black Locust	Robinia pseudoacacia	Good/Fair -dead wood	Remove[2]	1	SEE NOTE 2
160	1831	13	Black Locust	Robinia pseudoacacia	Good	Remove[1]	2	SEE NOTE 1
161	1832	9	Boxelder	Acer negundo	Fair -vines, dead wood	Remove	1	
162	1833	10	Sycamore	Platanus occidentalis	Good	Root Prune	0	
163	1834	12	Black Locust	Robinia pseudoacacia	Good	Remove[1]	2	SEE NOTE 1
164	1835	27	Black Locust	Robinia pseudoacacia	Fair/Poor -vines, dead wood, decay	Remove	2	
165	1836a	14	Honey Locust	Gleditsia triacanthos	Fair -vines, dead wood	Remove	1	
166	1837	8	Northern Catalpa	Catalpa speciosa	Good	Root Prune	0	
167	2001	11	Bradford pear	Pyrus calleryana	Good/fair - Vines	N/A	0	
168	2002	6	Bradford pear	Pyrus calleryana	Double leader	N/A	0	
169	2003	7	Bradford pear	Pyrus calleryana		N/A	0	
170	2004	11	Bradford pear	Pyrus calleryana	Good/fair - Vines	N/A	0	
171	2005	13	Bradford pear	Pyrus calleryana	Good/fair - Dead branches, splits above DBH	Remove	1	
172	2006	15	Bradford pear	Pyrus calleryana	Good/fair - Vines	Remove	1	
173	2007	6	Bradford pear	Pyrus calleryana		Remove	1	
174	2008	3	Bradford pear	Pyrus calleryana		Remove	1	
175	2009	7	Loblolly pine	Pinus taeda		Remove	1	
176	2010	5	Eastern Red Cedar	Juniperus virginiana		Protect	0	
177	2011	6	Bradford pear	Pyrus calleryana	Multistem	Remove	1	
178	2012	3	Green Ash	Fraxinus pennsylvanica	Double leader	Remove	1	
179	2013	3	Bradford pear	Pyrus calleryana		Remove	1	
180	2014	3	Eastern Red Cedar	Juniperus virginiana		Root Prune	0	
181	2015	10	Willow oak	Quercus phellos	Good/fair - Vines	Protect	0	
182	2016	5	Willow oak	Quercus phellos		Protect	0	
183	2017	5	Willow oak	Quercus phellos		Protect	0	
184	2018	3	Northern Catalpa	Catalpa speciosa		Remove	1	
185	2019	4	Bradford pear	Pyrus calleryana		Remove	1	
186	2020	4	Bradford pear	Pyrus calleryana		Remove	1	
187	2021	3	Bradford pear	Pyrus calleryana	Double leader	Remove	1	
188	2022	4	Red maple	Acer rubrum		Protect	0	
189	2023	6	Northern Catalpa	Catalpa speciosa		Protect	0	
190	2024	8	Willow oak	Quercus phellos		Protect	0	
191	2025	3	Green Ash	Fraxinus pennsylvanica		Protect	0	
192	2026	6	Green Ash	Fraxinus pennsylvanica		Protect	0	
193	2027	3	Green Ash	Fraxinus pennsylvanica		Protect	0	
194	2028	4	Green Ash	Fraxinus pennsylvanica		Protect	0	
195	2029	5	Green Ash	Fraxinus pennsylvanica		Protect	0	
196	2030	3	Tulip poplar	Liriodendron tulipifera		Protect	0	
197	2031	5	Bradford pear	Pyrus calleryana		Remove	1	
198	2032	6	Willow oak	Quercus phellos		Protect	0	
199	2033	4	Red maple	Acer rubrum	Double leader	Protect	0	
200	2034	5	Bradford pear	Pyrus calleryana		Remove	1	
201	2035	5	Bradford pear	Pyrus calleryana		Remove	1	
202	2036	6	Willow oak	Quercus phellos		Protect	0	
203	2037	4	Willow oak	Quercus phellos		Protect	0	
204	2038	5	Green Ash	Fraxinus pennsylvanica		Protect	0	
205	2039	5	Northern Catalpa	Catalpa speciosa		Protect	0	
206	2040	6	Green Ash	Fraxinus pennsylvanica		Protect	0	
207	2041	6	Willow oak	Quercus phellos		Protect	0	
208	2042	6	Willow oak	Quercus phellos		Protect	0	
209	2043	4	Willow oak	Quercus phellos		Protect	0	
210	2044	6	Green Ash	Fraxinus pennsylvanica		Protect	0	
211	2045	6	Willow oak	Quercus phellos	Double leader	Protect	0	
212	2046	5	Green Ash	Fraxinus pennsylvanica		Remove	1	
213	2047	3	Bradford pear	Pyrus calleryana		Remove	1	
214	2048	5	Northern Catalpa	Catalpa speciosa		Remove	1	
215	2049	6	Willow oak	Quercus phellos		Remove	1	
216	2050	8	Willow oak	Quercus phellos		Remove	1	
217	2051	8	Willow oak	Quercus phellos		Remove	1	
218	2052	8	Black Cherry	Prunus serotina		Protect	0	
219	2053	3	Black walnut	Juglans nigra		Protect	0	
220	2054	5	Black Cherry	Prunus serotina		Protect	0	
221	2055	3	Black Cherry	Prunus serotina		Protect	0	
222	2056	6	Black Cherry	Prunus serotina		Protect	0	
223	2057	4	Red maple	Acer rubrum		Protect	0	
224	2058	6	Black Cherry	Prunus serotina		Protect	0	
225	2059	8	Bradford pear	Pyrus calleryana		Remove	1	
226	2060	5	Black Cherry	Prunus serotina		Protect	0	
227	2061	8	Black Cherry	Prunus serotina		Protect	0	
228	2062	5	Bradford pear	Pyrus calleryana		Remove	1	
229	2063	4	Black Cherry	Prunus serotina	Double leader	Protect	0	
230	2064	5	Black locust	Robinia pseudoacacia		Protect	0	

Number	Tree ID	DBH in.	Common Name	Scientific Name	Condition/Comments	Action	Replace-ments
231	2065	13	Black locust	Robinia pseudoacacia	Fair - Vines	Protect	0
232	2066	6	Black locust	Robinia pseudoacacia		Protect	0
233	2067	4	Black locust	Robinia pseudoacacia		Protect	0
234	2068	10	Black locust	Robinia pseudoacacia	Fair - Vines	Protect	0
235	2069	5	Bradford pear	Pyrus calleryana		Remove	1
236	2070	3	Bradford pear	Pyrus calleryana		Remove	1
237	2071	10	American Beech	Fagus grandifolia	Fair - Heavy vines, twin	Protect	0
238	2072	7	Black locust	Robinia pseudoacacia		Protect	0
239	2074	5	Black locust	Robinia pseudoacacia		Protect	0
240	2075	3	Willow oak	Quercus phellos		Protect	0
241	2076	5	Black locust	Robinia pseudoacacia		Protect	0
242	2077	5	Black Cherry	Prunus serotina	Double leader	Protect	0
243	2078	5	Silver maple	Acer saccharinum	Multistem	Remove	1
244	2079	5	Silver maple	Acer saccharinum	Multistem	Remove	1
245	2080	3	Silver maple	Acer saccharinum		Remove	1
246	2081	5	Black Cherry	Prunus serotina		Protect	0
247	2082	3	Black Cherry	Prunus serotina		Protect	0
248	2083	5	Black Cherry	Prunus serotina		Protect	0
249	2084	5	Black Cherry	Prunus serotina		Protect	0
250	2085	6	Black Cherry	Prunus serotina		Protect	0
251	2086	6	Northern Catalpa	Catalpa speciosa		Protect	0
252	2087	3	Black Cherry	Prunus serotina		Protect	0
253	2088	6	Black Cherry	Prunus serotina		Protect	0
254	2089	4	Northern Catalpa	Catalpa speciosa		Remove	1
255	2090	7	Black Cherry	Prunus serotina		Protect	0
256	2091	5	Black Cherry	Prunus serotina		Protect	0
257	2092	4	Black Cherry	Prunus serotina		Protect	0
258	2093	3	Black Cherry	Prunus serotina		Protect	0
259	2094	4	Black Cherry	Prunus serotina		Protect	0
260	2095	5	Northern Catalpa	Catalpa speciosa		Protect	0
261	2096	5	Northern Catalpa	Catalpa speciosa		Root Prune	0
262	2097	9	Black locust	Robinia pseudoacacia		Protect	0
263	2098	8	Willow oak	Quercus phellos		Protect	0
264	2099	5	Black locust	Robinia pseudoacacia		Protect	0
265	2101	3	Northern Catalpa	Catalpa speciosa		Protect	0
266	2102	3	Eastern Redbud	Cercic canadensis		Protect	0
267	2103	3	Northern Catalpa	Catalpa speciosa		Protect	0
268	2104	8	Black Cherry	Prunus serotina		Protect	0
269	2105	5	Eastern Redbud	Cercic canadensis		Protect	0
270	2106	0	Black locust	Robinia pseudoacacia		Protect	0
271	2107	6	Black Cherry	Prunus serotina		Protect	0
272	2108	3	Red maple	Acer rubrum		Protect	0
273	2109	3	Black Cherry	Prunus serotina		Protect	0
274	2110	3	Black Cherry	Prunus serotina		Protect	0
275	2111	4	Mimosa	Albizia julibrissin		Remove	1
276	2112	3	Black Cherry	Prunus serotina		Protect	0
277	2113	4	Eastern Red Cedar	Juniperus virginiana		Protect	0
278	2114	3	Black Cherry	Prunus serotina		Protect	0
279	2115	8	Tulip poplar	Liriodendron tulipifera		Protect	0
280	2116	4	Pin Oak	Quercus palustris		Protect	0
281	2117	6	Willow oak	Quercus phellos		Protect	0
282	2118	6	Willow oak	Quercus phellos		Protect	0
283	2119	8	Willow oak	Quercus phellos		Protect	0
284	2120	6	Willow oak	Quercus phellos		Root Prune	0
285	2121	3	Willow oak	Quercus phellos		Protect	0
286	2122	7	Willow oak	Quercus phellos		Protect	0
287	2123	4	Northern Catalpa	Catalpa speciosa		Protect	0
288	2124	5	Green Ash	Fraxinus pennsylvanica		Protect	0
289	2125	8	Northern Catalpa	Catalpa speciosa		Protect	0
290	2126	4	Northern Catalpa	Catalpa speciosa		Protect	0
291	2127	5	Willow oak	Quercus phellos		Protect	0
292	2128	4	Willow oak	Quercus phellos		Protect	0
293	2129	5	Northern Catalpa	Catalpa speciosa		Root Prune	0
294	2130	5	Red maple	Acer rubrum		Root Prune	0
295	2131	5	Northern Catalpa	Catalpa speciosa		Remove	1
296	2133	4	Northern Catalpa	Catalpa speciosa		Root Prune	0
297	2134	5	Northern Catalpa	Catalpa speciosa		Root Prune	0
298	2135	6	Blue Spruce	Picea pungens		Remove	1
299	2136	5	American elm	Ulmus americana		Remove	1
300	2137	3	Northern Catalpa	Catalpa speciosa		Remove	1
301	2138	3	Northern Red oak	Quercus rubra		Remove	1
302	2139	3	Northern Catalpa	Catalpa speciosa		Remove	1
303	2140	4	American Elm	Ulmus americana		Remove	1
304	2141	3	Silver maple	Acer saccharinum		Remove	1
305	2142	3	Northern Catalpa	Catalpa speciosa		Remove	1
306	2143	4	Willow oak	Quercus phellos		Remove	1
307	2144	3	Northern Catalpa	Catalpa speciosa		Remove	1
308	2145	3	Slippery Elm	Ulmus rubra		Remove	1
309	2146	5	Northern Catalpa	Catalpa speciosa		Remove	1
310	2147	3	Northern Catalpa	Catalpa speciosa		Remove	1
311	2148	4	Green Ash	Fraxinus pennsylvanica		Remove	1
312	2149	5	Tree of heaven	Ailanthus altissima		Remove	1
313	2150	3	Willow oak	Quercus phellos		Protect	0
314	2151	6	Willow oak	Quercus phellos		Remove	1
315	2152	3	Willow oak	Quercus phellos		Protect	0
316	2153	3	Green Ash	Fraxinus pennsylvanica		Protect	0
317	2154	3	Black Cherry	Prunus serotina		Remove	1
318	2155	7	American elm	Ulmus americana		Remove	1
319	2156	3	American elm	Ulmus americana		Remove	1
320	2157	8	American elm	Ulmus americana		Remove	1
321	2158	6	Black locust	Robinia pseudoacacia		Remove	1
322	2159	6	American Elm	Ulmus americana		Remove	1
323	2160	4	Willow oak	Quercus phellos		Remove	1
324	2161	7	Black locust	Robinia pseudoacacia		Remove	1
325	2162	4	Willow oak	Quercus phellos		Remove	1
326	2163	5	Blue Spruce	Picea pungens		Remove	1
327	2164	6	River Birch	Betula nigra	Multistem	N/A	0
328	2165	7	River Birch	Betula nigra	Multistem	N/A	0
329	2166	4	Red Mulberry	Morus rubra		Remove	1
330	2167	8	Willow oak	Quercus phellos		Protect	0
331	2168	7	Northern Catalpa	Catalpa speciosa		Protect	0
332	2170	6	Black willow	Salix nigra	Growing over culvert	Remove	1
333	2171	6	White Mulberry	Morus alba		Remove	1
334	2172	4	American elm	Ulmus americana		Remove	1
335	2173	6	American elm	Ulmus americana		Protect	0
336	2174	7	Black locust	Robinia pseudoacacia		Protect	0
337	2175	7	Black locust	Robinia pseudoacacia		Protect	0
338	2176	4	Black Cherry	Prunus serotina		Protect	0
339	2177	7	Tree of heaven	Ailanthus altissima		Remove	1
340	2178	8	Tree of heaven	Ailanthus altissima		Remove	1
341	2179	7	Tree of heaven	Ailanthus altissima		Remove	1
342	2180	4	Black locust	Robinia pseudoacacia		Root Prune	0
343	2181	4	Northern Catalpa	Catalpa speciosa		Remove	1
344	2182	7	Black locust	Robinia pseudoacacia		Remove	1
345	2183	7	Northern Catalpa	Catalpa speciosa		Remove	1
346	2184	3	American elm	Ulmus americana		Remove	1
347	2185	6	Tree of heaven	Ailanthus altissima		Remove	1
348	2186	5	Black willow	Salix nigra	Multistem	Remove	1
349	2187	9	Black willow	Salix nigra		Remove	1
350	2188	5	Northern Catalpa	Catalpa speciosa		Remove	1
351	2189	4	Black Cherry	Prunus serotina		Root Prune	0
352	2190	6	Northern Catalpa	Catalpa speciosa		Root Prune	0

NOTES

1. PREFERRED TREE TRUNKS FOR TURTLE BASKING STATIONS. SEE SHEET 47 FOR DETAILS AND SHEET 43-44 FOR LOCATIONS.
2. ALTERNATIVE TREE TRUNKS FOR TURTLE BASKING STATIONS. TO BE USED IF PREFERRED TREES DO NOT CONFORM TO DETAILS PER SHEET 47.
3. CONTRACTOR TO SALVAGE ALL LOCUST LOGS. LOGS OF 4"-18" CALIPER AND 6' TO 12' LENGTH SHALL BE KEPT FOR PICKUP BY OTHERS. REMAINDER OF LOCUST TREE REMOVALS SHALL BE CUT INTO FIREWOOD LENGTHS AND STOCKPILED ON SITE. PICKUP WILL BE BY OTHERS, COORDINATED BY THE COUNTY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POST-CONSTRUCTION MANAGEMENT OF INVASIVE PLANTS FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION, SEE INVASIVE SPECIES CONTROL SPECIFICATION.

ARLINGTON
VIRGINIA

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/26/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
DESIGN TEAM ENGINEER SUPERVISOR	04/07/20
Kamal N. Taktak — CONSTRUCTION MANAGEMENT SUPERVISOR	4.13.20
David W. Hundelt — WATER, SEWER, STREETS BUREAU CHIEF	04.20.2020
Dennis M. Leach — TRANSPORTATION DIRECTOR	4/22/20
Christin C. Jolicoeur — PROJECT MANAGER	04.22.2020

REVISIONS DATE

TREE INVENTORY & TREE REPLACEMENT CALCULATION

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 32-33-TREE INVENTORY.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_MS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 32 of 73

Number	Tree ID	DBH in.	Common Name	Scientific Name	Condition/Comments	Action	Replacements
353	2191	6	Northern Catalpa	Catalpa speciosa		Root Prune	0
354	2192	10	Northern Catalpa	Catalpa speciosa		Root Prune	0
355	2193	8	Northern Catalpa	Catalpa speciosa		Protect	0
356	2194	4	Boxelder	Acer negundo		Protect	0
357	2195	12	Black willow	Salix nigra	Fair - Lean, dead branches	Remove	1
358	2196	7	Northern Catalpa	Catalpa speciosa		Remove	1
359	2197	4	Black locust	Robinia pseudoacacia		Remove	1
360	2198	5	Northern Catalpa	Catalpa speciosa		Remove	1
361	2199	12	Northern Catalpa	Catalpa speciosa	Good	Remove	1
362	2200	6	Black willow	Salix nigra		Remove	1
363	2201	3	Black Walnut	Juglans nigra		Remove	1
364	2202	4	Northern Catalpa	Catalpa speciosa		Remove	1
365	2203	8	Black willow	Salix nigra		Remove	1
366	2204	5	Black locust	Robinia pseudoacacia		Remove	1
367	2205	4	Black locust	Robinia pseudoacacia		Remove	1
368	2206	5	Black locust	Robinia pseudoacacia		Remove	1
369	2207	8	Black locust	Robinia pseudoacacia		Remove	1
370	2208	7	Black locust	Robinia pseudoacacia		Remove	1
371	2209	4	Black locust	Robinia pseudoacacia		Remove	1
372	2210	8	Black locust	Robinia pseudoacacia		Remove	1
373	2211	4	Black locust	Robinia pseudoacacia		Remove	1
374	2212	8	Tree of heaven	Ailanthus altissima		Remove	1
375	2213	8	Tree of heaven	Ailanthus altissima		Remove	1
376	2214	7	Black willow	Salix nigra		Remove	1
377	2215	7	Black willow	Salix nigra		Remove	1
378	2216	7	Black willow	Salix nigra		Remove	1
379	2217	8	Northern Catalpa	Catalpa speciosa		Remove	1
380	2218	6	Northern Catalpa	Catalpa speciosa		Remove	1
381	2219	9	Black locust	Robinia pseudoacacia		Remove	1
382	2222	5	Black Cherry	Prunus serotina		Remove	1
383	2223	7	Green Ash	Fraxinus pennsylvanica	Double leader	Remove	1
384	2224	6	Black locust	Robinia pseudoacacia		Remove	1
385	2225	3	American elm	Ulmus americana		Remove	1
386	2226	12	Northern Catalpa	Catalpa speciosa	Good	Remove	1
387	2227	10	Northern Catalpa	Catalpa speciosa	Good	Remove	1
388	2228	4	Black locust	Robinia pseudoacacia		Protect	0
389	2229	5	Mimosa	Albizia julibrissin		Remove	1
390	2230	6	Sugar maple	Acer saccharum	Multistem	Remove	1
391	2231	5	Sugar maple	Acer saccharum		Remove	1
392	2232	7	Sugar maple	Acer saccharum		Remove	1
393	2233	8	Black willow	Salix nigra		Remove	1
394	2234	7	Black willow	Salix nigra		Remove	1
395	2235	8	Black willow	Salix nigra		Remove	1
396	2236	6	Black willow	Salix nigra	Multistem	Remove	1
397	2237	5	Sugar maple	Acer saccharum		Remove	1
398	2238	7	Silver maple	Acer saccharinum	Multistem	Remove	1
399	2239	5	Silver maple	Acer saccharinum	Multistem	Remove	1
400	2240	6	Silver maple	Acer saccharinum		Remove	1
401	2241	4	Sugar maple	Acer saccharum	Multistem	Remove	1
402	2242	10	Black willow	Salix nigra	Fair - Heavy vines	Remove	1
403	2243	5	Black willow	Salix nigra		Remove	1
404	2244	6	Black willow	Salix nigra		Remove	1
405	2245	6	Black willow	Salix nigra		Remove	1
406	2246	5	Northern Catalpa	Catalpa speciosa		Remove	1
407	2247	6	American elm	Ulmus americana		Remove	1
408	2248	4	American elm	Ulmus americana		Remove	1
409	2249	4	Northern Catalpa	Catalpa speciosa		Remove	1
410	2250	5	Black willow	Salix nigra		Remove	1
411	2251	4	Black willow	Salix nigra		Remove	1
412	2252	4	Black willow	Salix nigra		Remove	1
413	2253	5	Black willow	Salix nigra	Multistem	Remove	1
414	2254	3	Black willow	Salix nigra		Remove	1
415	2255	7	Silver maple	Acer saccharinum		Remove	1
416	2256	3	Silver maple	Acer saccharinum		Remove	1
417	2257	9	Sugar maple	Acer saccharum		Remove	1
418	2258	6	Northern Catalpa	Catalpa speciosa		Remove	1
419	2259	8	Northern Catalpa	Catalpa speciosa		Remove	1
420	2260	4	Northern Catalpa	Catalpa speciosa		Remove	1
421	2261	6	Black willow	Salix nigra		Remove	1
422	2262	6	Black willow	Salix nigra		Remove	1
423	2263	6	Black willow	Salix nigra		Remove	1
424	2264	3	Sugar maple	Acer saccharum		Remove	1
425	2265	4	Northern Catalpa	Catalpa speciosa		Remove	1
426	2266	4	Black willow	Salix nigra		Remove	1
427	2267	4	Black willow	Salix nigra		Remove	1
428	2268	4	Black willow	Salix nigra		Remove	1
429	2269	4	Black willow	Salix nigra		Remove	1
430	2270	3	Black willow	Salix nigra	Multistem	Remove	1
431	2271	4	Northern Catalpa	Catalpa speciosa		Remove	1
432	2272	3	Black willow	Salix nigra		Remove	1
433	2273	4	Green Ash	Fraxinus pennsylvanica		Remove	1
434	2274	3	Boxelder	Acer negundo		Remove	1
435	2275	3	Boxelder	Acer negundo		Remove	1
436	2276	5	Black locust	Robinia pseudoacacia		Remove	1
437	2277	4	Boxelder	Acer negundo		Remove	1
438	2278	3	Boxelder	Acer negundo		Remove	1
439	2279	4	Black locust	Robinia pseudoacacia		Remove	1
440	2280	4	Amur Honeysuckle	Lonicera maackii		Remove	1
441	2282	9	Tree of heaven	Ailanthus altissima		Remove	1
442	2283	9	Black locust	Robinia pseudoacacia		Remove	1
443	2284	7	Black locust	Robinia pseudoacacia	Double leader	Remove	1
444	2285	7	Black locust	Robinia pseudoacacia		Remove	1
445	2286	6	Northern Catalpa	Catalpa speciosa		Remove	1
446	2287	7	Mimosa	Albizia julibrissin		Remove	1
447	2288	3	Amur Honeysuckle	Lonicera maackii		Remove	1
448	2289	4	Black Cherry	Prunus serotina		Remove	1
449	2290	8	Eastern Redbud	Cercic canadensis		Remove	1
450	2291	10	Green Ash	Fraxinus pennsylvanica	Poor - Large trunk wound/cavity	Remove	1
451	2292	7	Green Ash	Fraxinus pennsylvanica		Remove	1
452	2293	4	Amur Honeysuckle	Lonicera maackii		Remove	1
453	2294	7	Amur Honeysuckle	Lonicera maackii		Remove	1
454	2295	6	Black Cherry	Prunus serotina		Remove	1
455	2296	6	Tree of heaven	Ailanthus altissima		Remove	1
456	2297	10	Tree of heaven	Ailanthus altissima	Good	Remove	1
457	2298	3	Black Cherry	Prunus serotina		Remove	1
458	2300	5	Tree of heaven	Ailanthus altissima		Remove	1
459	2301	8	Tree of heaven	Ailanthus altissima		Remove	1
460	2302	4	Tree of heaven	Ailanthus altissima		Remove	1
461	2303	3	Amur Honeysuckle	Lonicera maackii		Remove	1
462	2304	7	Black Cherry	Prunus serotina		Remove	1
463	2305	3	Black Cherry	Prunus serotina		Remove	1
464	2306	5	Amur Honeysuckle	Lonicera maackii		Remove	1
465	2307	10	Northern Catalpa	Catalpa speciosa	Good - Lean, vines	Remove	1
466	2308	6	Northern Catalpa	Catalpa speciosa		Remove	1
467	2309	3	Black Cherry	Prunus serotina		Remove	1
468	2310	10	Black locust	Robinia pseudoacacia	Good/fair - Some bark damage, minor trunk wound	Remove	1
469	2311	4	Boxelder	Acer negundo		Remove	1
470	2312	4	Black locust	Robinia pseudoacacia		Remove	1
471	2313	6	Black Cherry	Prunus serotina	Double leader	Remove	1
472	2314	3	Amur Honeysuckle	Lonicera maackii		Remove	1
473	2315	3	Amur Honeysuckle	Lonicera maackii		Remove	1
474	2316	8	Sugar maple	Acer saccharum		Remove	1
475	2317	5	White Mulberry	Morus alba	Multistem	Remove	1
476	2318	5	Sugar maple	Acer saccharum		Remove	1
477	2319	7	Boxelder	Acer negundo		Remove	1
478	2320	4	Yellowwood	Cladrastis kentukea		Remove	1
479	2321	16	Black locust	Robinia pseudoacacia	Fair - Trunk wound, included bark, broken branches	Remove	1
480	2322	10	Black locust	Robinia pseudoacacia	Good - Lean, vines	Remove	1
481	2323	6	Northern Catalpa	Catalpa speciosa		Remove	1
482	2324	6	Northern Catalpa	Catalpa speciosa		Remove	1
483	2325	4	Northern Catalpa	Catalpa speciosa		Remove	1
484	2326	5	Yellowwood	Cladrastis kentukea		Remove	1
485	2327	8	Northern Catalpa	Catalpa speciosa	Double leader	Remove	1
486	2328	5	Northern Catalpa	Catalpa speciosa		Remove	1
487	2329	5	Northern Catalpa	Catalpa speciosa		Remove	1
488	2330	5	Northern Catalpa	Catalpa speciosa		Remove	1
489	2331	8	Northern Catalpa	Catalpa speciosa	Double leader	Remove	1
490	2332	6	Northern Catalpa	Catalpa speciosa	Double leader	Remove	1
491	2333	6	Northern Catalpa	Catalpa speciosa		Remove	1
492	2334	7	Black locust	Robinia pseudoacacia		Remove	1
493	2335	15	Northern Catalpa	Catalpa speciosa	Good	Remove	2
494	2336	3	American Sycamore	Platanus occidentalis		Remove	1
495	2337	5	Tree of heaven	Ailanthus altissima		Remove	1
496	2338	3	Tree of heaven	Ailanthus altissima		Remove	1
497	2339	9	Black locust	Robinia pseudoacacia		Remove	1
498	2340	8	Northern Catalpa	Catalpa speciosa		Remove	1
499	2341	5	Northern Catalpa	Catalpa speciosa		Remove	1
500	2342	8	Northern Catalpa	Catalpa speciosa		Remove	1
501	2343	4	Northern Catalpa	Catalpa speciosa		Remove	1
502	2344	4	Black locust	Robinia pseudoacacia		Remove	1
503	2345	3	Tree of heaven	Ailanthus altissima		Remove	1
504	2346	12	Black locust	Robinia pseudoacacia	Fair - Heavy vines	Remove	1
505	2347	4	Northern Catalpa	Catalpa speciosa	Double leader	Remove	1
506	2348	3	Tree of heaven	Ailanthus altissima		Remove	1
507	2349	5	Black Cherry	Prunus serotina		Remove	1
508	2350	6	Tree of heaven	Ailanthus altissima		Remove	1
509	2351	4	Amur Honeysuckle	Lonicera maackii		Remove	1
510	2352	7	Black Cherry	Prunus serotina		Remove	1
511	2353	5	Black Cherry	Prunus serotina		Remove	1
512	2354	4	Bradford pear	Pyrus calleryana		Remove	1
513	2355	3	Tree of heaven	Ailanthus altissima		Remove	1
514	2356	5	Black locust	Robinia pseudoacacia		Remove	1
515	2357	5	Tree of heaven	Ailanthus altissima		Remove	1
516	2358	4	Tree of heaven	Ailanthus altissima		Remove	1
517	2359	10	Boxelder	Acer negundo	Good - Vines	Remove	1
518	2360	5	Tree of heaven	Ailanthus altissima		Remove	1
519	2361	7	Mimosa	Albizia julibrissin		Remove	1
520	2362	11	Northern Catalpa	Catalpa speciosa	Poor - Trunk wounds, heavy vines, peeling bark, dead branches	Remove	1
521	2363	6	Northern Catalpa	Catalpa speciosa		Remove	1
522	2364	6	Northern Catalpa	Catalpa speciosa		Remove	1
523	2365	3	Tree of heaven	Ailanthus altissima		Remove	1
524	2366	5	Sugar maple	Acer saccharum		Remove	1
525	2367	6	Northern Catalpa	Catalpa speciosa		Remove	1
526	2368	4	Tree of heaven	Ailanthus altissima		Remove	1
527	2369	3	Tree of heaven	Ailanthus altissima		N/A	0
528	2370	4	Tree of heaven	Ailanthus altissima		N/A	0
529	2371	6	Black locust	Robinia pseudoacacia		N/A	0
530	2372	4	Tree of heaven	Ailanthus altissima		N/A	0
531	2373	4	Tree of heaven	Ailanthus altissima		N/A	0
532	2374	5	Tree of heaven	Ailanthus altissima		N/A	0
533	2375	4	Tree of heaven	Ailanthus altissima		N/A	0
534	2376	3	Tree of heaven	Ailanthus altissima		N/A	0
535	2377	5	Tree of heaven	Ailanthus altissima		N/A	0
536	2378	3	Tree of heaven	Ailanthus altissima		N/A	0
537	2379	3	Tree of heaven	Ailanthus altissima		N/A	0
538	2380	4	Bradford pear	Pyrus calleryana		N/A	0
539	2381	4	Bradford pear	Pyrus calleryana		N/A	0
540	2382	17	White pine	Pinus strobus	Good	Remove	2
541	2383	5	White Mulberry	Morus alba		Remove	1
542	2384	10	White pine	Pinus strobus	Fair - Heavy vines, dead branches	Remove	1
543	2385	3	Bradford pear	Pyrus calleryana		N/A	0
544	2386	4	Bradford pear	Pyrus calleryana		N/A	0
545	2387	8	Mimosa	Albizia julibrissin		N/A	0
546	2388	4	Bradford pear	Pyrus calleryana		N/A	0
547	2389	5	Bradford pear	Pyrus calleryana		N/A	0
548	2390	3	Bradford pear	Pyrus calleryana		N/A	0
549	2391	15	White pine	Pinus strobus	Fair - Dead branches	Remove	1
550	2392	13	White pine	Pinus strobus	Fair - Dead branches	Remove	1
551	2393	4	White Mulberry	Morus alba		Remove	1
552	2394	3	Bradford pear	Pyrus calleryana		Remove	1
553	2395	3	Bradford pear	Pyrus calleryana		Remove	1
554	2396	19	White pine	Pinus strobus	Fair - Heavy vines	Remove	2
555	2397	4	White Mulberry	Morus alba		Remove	1
556	2398	16	White pine	Pinus strobus	Fair - Heavy vines	Remove	1
557	2399	5	Bradford pear	Pyrus calleryana		N/A	0
558	2400	5	Bradford pear	Pyrus calleryana		N/A	0
559	2401	3	Bradford pear	Pyrus calleryana		N/A	0
560	2402	4	Bradford pear	Pyrus calleryana		Remove	1
561	2403	3	Bradford pear	Pyrus calleryana		Remove	1
562	2404	6	White Mulberry	Morus alba		Remove	1
563	2405	13	White pine	Pinus strobus	Fair - Double leader, heavy vines, sparse crown	Remove	1
564	2406	5	Bradford pear	Pyrus calleryana		Remove	1
565	2407	4	Bradford pear	Pyrus calleryana		Remove	1
566	2408	4	Bradford pear	Pyrus calleryana		Remove	1
567	2409	3	Bradford pear	Pyrus calleryana		Remove	1
568	2410	6	Red maple	Acer rubrum		N/A	0
569	2411	3	Bradford pear	Pyrus calleryana		N/A	0
570	2412	3	Bradford pear	Pyrus calleryana		N/A	0
571	2413	3	Bradford pear	Pyrus calleryana		Remove	1
572	2414	4	White Mulberry	Morus alba		Remove	1
573	2415	5	White Mulberry	Morus alba		Remove	1
574	2416	9	Bradford pear	Pyrus calleryana		Remove	1
575	2417	5	Bradford pear	Pyrus calleryana		Remove	1
576	2418	6	Bradford pear	Pyrus calleryana	Double leader	Remove	1
577	2419	7	Bradford pear	Pyrus calleryana		N/A	0
578	2420	8	Boxelder	Acer negundo		N/A	0
579	2421	26	Black Cherry	Prunus serotina	Fair/poor - Heavy vines, broken branches	N/A	0
580	2422	16	Northern red oak	Quercus rubra	Fair - Heavy vines	N/A	0
581	2423	17	Black Cherry	Prunus serotina	Poor - Broken branches, sparse top	N/A	0
582	2424	10	Norway maple	Acer platanoides	Good - Some vines	N/A	0
583	2425	8	Black Cherry	Prunus serotina		N/A	0
584	2426	7	Bradford pear	Pyrus calleryana	Double leader	N/A	0
585	2427	13	Black Cherry	Prunus serotina	Fair - Broken branches	N/A	0
586	2428	5	Amur Honeysuckle	Lonicera maackii	Multistem	N/A	0
587	2429	4	Amur Honeysuckle	Lonicera maackii	Multistem	N/A	0
588	2430	5	Northern Catalpa	Catalpa speciosa	Double leader	Remove	1
589	2431	5	Northern Catalpa	Catalpa speciosa		Remove	1
590	2432	3	Black Cherry	Prunus serotina		Remove	1
591	2433	4	White Mulberry	Morus alba		N/A	0
592	2434	8	Bradford pear	Pyrus calleryana		Remove	1
593	2435	14	Bradford pear	Pyrus calleryana	Good	Remove	1
594	2436	5	Bradford pear	Pyrus calleryana	Multistem	Remove	1
595	2437	7	Bradford pear	Pyrus calleryana		Remove	1
596	2438	12	Bradford pear	Pyrus calleryana	Fair - Dead branches, fused double leader	Remove	1
597	2439	8	American elm	Ulmus americana		Remove	1
598	2440	4	Bradford pear	Pyrus calleryana		Remove	1
599	2441	3	Bradford pear	Pyrus calleryana		Remove	1
600	2442	5	Bradford pear	Pyrus calleryana		Remove	1
601	2443	3	Bradford pear	Pyrus calleryana		Remove	1
602	2445	5	Bradford pear	Pyrus calleryana		Remove	1
603	2446	6	Bradford pear	Pyrus calleryana		Remove	1
604	2447	5	Black Cherry	Prunus serotina		Protect	0
605	2448	8	Tree of heaven	Ailanthus altissima		Remove	1
606	2449	7	Green Ash	Fraxinus pennsylvanica		Remove	1
607	2450	13	Northern Catalpa	Catalpa speciosa	Good	Remove	1
608	2451	6	Northern Catalpa	Catalpa speciosa		Remove	1
609	2452	4	Red maple	Acer rubrum	Multistem	Remove	1
610	2453	4	Red maple	Acer rubrum		Remove	1
611	2454	4	Bradford pear	Pyrus calleryana	Multistem	Remove	1
612	2455	4	Bradford pear	Pyrus calleryana	Multistem	Remove	1
613	2456	3	Eastern Red Cedar	Juniperus virginiana		Protect	0
614	2457	4	Bradford pear	Pyrus calleryana		Remove	1
615	2458	3	Bradford pear	Pyrus calleryana		Remove	1
616	2459	6	Autumn Olive	Elaeagnus umbellata		Remove	1
617	2460	4	Eastern Red Cedar	Juniperus virginiana		Protect	0
618	2461	3	Eastern Red Cedar	Juniperus virginiana		Protect	0
619	2462	3	Bradford pear	Pyrus calleryana		Remove	1
620	2463	5	Northern Catalpa	Catalpa speciosa		Remove	1
621	2464	5	Northern Catalpa	Catalpa speciosa		Remove	1
622	2465	4	Bradford pear	Pyrus calleryana		Remove	1
623	2466	4	Northern Catalpa	Catalpa speciosa		Protect	0
624	2467	5	Northern Catalpa	Catalpa speciosa		Protect	0
625	2468	4	Black Cherry	Prunus serotina		Protect	0
626	2469	5	Black Cherry	Prunus serotina	Twin cherry	N/A	0
627	2470	3	Bradford pear	Pyrus calleryana		Remove	1

Total Tree Replacements Required	430

NOTES

1. CONTRACTOR TO SALVAGE ALL LOCUST LOGS. LOGS OF 4"-18" CALIPER AND 6' TO 12' LENGTH SHALL BE KEPT FOR PICKUP BY OTHERS. REMAINDER OF LOCUST TREE REMOVALS SHALL BE CUT INTO FIREWOOD LENGTHS AND STOCKPILED ON SITE. PICKUP WILL BE BY OTHERS, COORDINATED BY THE COUNTY.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POST-CONSTRUCTION MANAGEMENT OF INVASIVE PLANTS FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION, SEE INVASIVE SPECIES CONTROL SPECIFICATION.

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
9/2019
PROFESSIONAL ENGINEER

APPROVALS DATE

04/07/20

DESIGN TEAM ENGINEER SUPERVISOR
Kamal N. Taktak 4.13.20

CONSTRUCTION MANAGEMENT SUPERVISOR
David W. Hundelt 04.20.2020

WATER, SEWER, STREETS BUREAU CHIEF
Dennis M. Leach 4/22/20

TRANSPORTATION DIRECTOR
Christin C. Jolicoeur 04.22.2020

PROJECT MANAGER

REVISIONS DATE

TREE INVENTORY & TREE REPLACEMENT CALCULATION

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 32-33-TREE INVENTORY.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_PS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 33 of 73

DA=467.88 Acres

N WOODSTOCK ST

INTERSTATE 66

INTERSTATE 66

FAIRFAX DR

N GLEBE RD

WASHINGTON BLVD

Open

Pipe

Open

Pond

Pond Outlet

Pipe

N GEORGE MASON DR

LEE HWY

Channel

OLF

PATRICK HENRY DR

WILSON BLVD

125 120 115 110 105 100 95 90 85 80

Legend

- Watershed Boundary

Longest Flow Path

- Channel
- OLF
- Perennial
- Pipe

Ballston Pond SWM
Lubber Run Watershed

0 200 400 600 800 1,000 Feet

1 inch = 250 feet

ARLINGTON
VIRGINIA

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WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

DRAINAGE AREA MAP

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 34-DA MAP.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

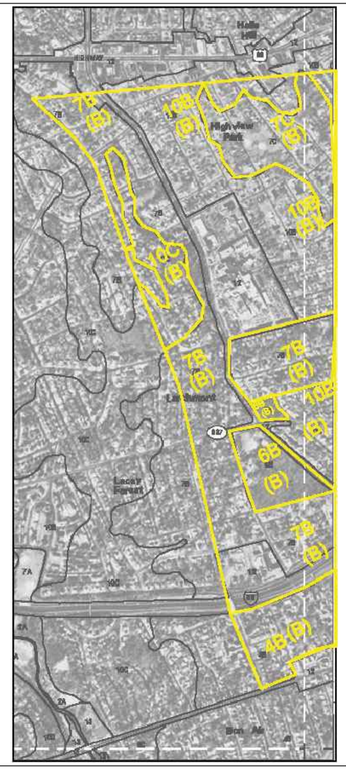
PLOTTED BY: ecox

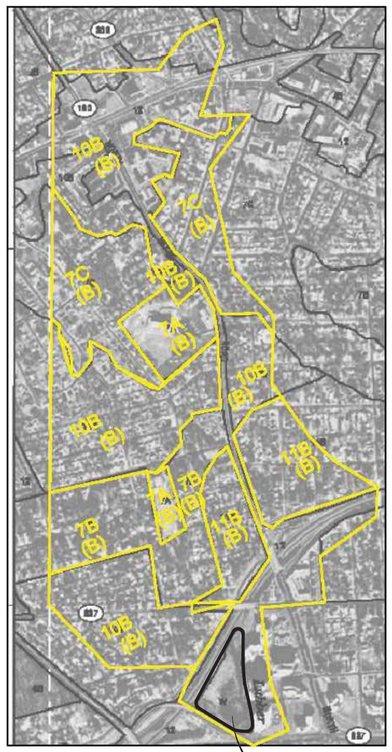
SCALE: Hor.: 1"=250'

0' 250' 500'

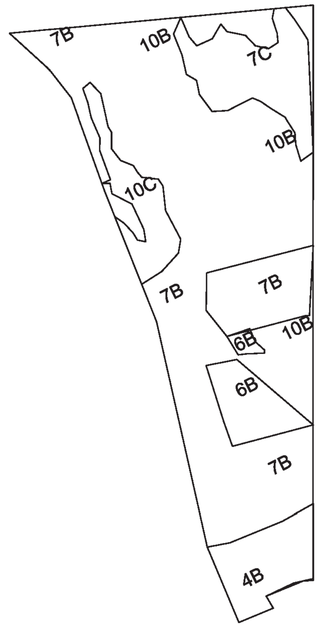
GRAPHIC SCALE

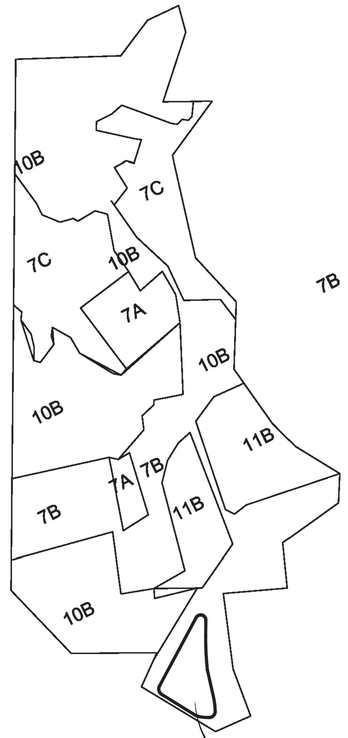
APPENDIX A: SOIL DELINEATION MAP FROM THE SOIL SURVEY OF ARLINGTON COUNTY, VA





PROJECT AREA





PROJECT AREA

Soil MuSym	Species/Class	Hydric?	Acres
4B	Urban land-Sassafras-Neabsco complex, 3 to 8 % slopes	N	12.35
7A	Glenelg-Urban land complex, 0 to 3 percent slopes	N	14.20
7B	Glenelg-Urban land complex, 3 to 8 percent slopes	N	79.90
7C	Glenelg-Urban land complex, 8 to 15 percent slopes	N	48.07
10B	Urban land-Glenelg complex, 3 to 8 % slopes	N	129.77
10C	Urban land-Glenelg complex, 8 to 15 % slopes	N	13.33
11B	Urban land-Sassafras complex, 3 to 8 % slopes	N	28.87
12	Urban land-Udorthents complex, 2 to 15 % slopes	N	77.12
W	Water		5.94

ARLINGTON
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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

SOILS MAP

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 35-SOILS MAP.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET 35 of 73

Stormwater Pollution Prevention Plan
Linear / Utility / Right-of-Way Projects (<1 acre and ≥2500 square feet)

Arlington County Department of Environmental Services
Water, Sewer, Streets Bureau

For Construction Activities At:
Ballston Pond Retrofit Project
Between I-66 & Fairfax Drive
Arlington, Virginia

TOTAL LAND DISTURBANCE AREA: 259,244.82 SF

Latitude: 38.8832 N (decimal degrees)

Longitude: 77.1193 W (decimal degrees)

Construction Activity Operator:

Name: TBD
Address: TBD
Phone: TBD
Email: TBD

SWPPP Preparation Date:
May 2019

CERTIFICATION
"I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name: _____

Title: _____

Signature: _____

Date: _____

Table of Contents

1.0 SWPPP Documents Located Onsite & Available for Review

This document, which contains information on erosion and sediment controls and pollution prevention, will be available for review on-site via electronic media (tablet) and/or hard copy kept on-site / in vehicle.

2.0 Authorized Non-Stormwater Discharges

Type of Authorized Non-Stormwater Discharge	Likely Present at Your Project Site?	
Uncontaminated excavation dewatering	☒ Yes	☐ No
Landscape irrigation	☒ Yes	☐ No
Others [describe]:	☐ Yes	☒ No

3.0 Pollution Prevention Awareness

Employees and contractors will be given a "walk through" of the project / site identifying areas of possible pollution and will be shown Erosion and Sediment Controls and Pollution Prevention Practices (identified in Sections 4.0 and 5.0 of this SWPPP) that are applicable to their assigned job duties. Refresher training will be conducted on an as needed basis.

4.0 Erosion & Sediment Controls

Erosion and Sediment Control Narrative and Notes

Project Description: See erosion and sediment control narrative on sheet 4 of the associated plan set.

Select One	
☐	Installation / repair / maintenance of underground wet utilities – one location
☐	Installation / repair / maintenance of underground wet utilities – same project at multiple locations
☐	Replacing road – full reclamation, removal of pavement to bare soil
☐	Sidewalk or apron – maintenance, repair, replacement of existing pavement
☐	Sidewalk or apron – new installation
☒	Other:

This project will involve disturbance in a stream valley, stream channel, and/or other natural area (non-turf/landscaped, vegetated/wooded area)

☒	Location: Ballston Pond, Lubber Run

Select all that apply	Erosion & Sediment Controls	Description
☒	Perimeter Controls	☒ Silt Fence ☐ Booms ☐ Hay bales ☐ Berm ☐ Filter Mulch Socks ☐
☒	Inlet Protection	☒ Rock Sock / Stone ☐ Boom ☐ Tarp / Sheeting ☐
☐	Stockpile Protection	☐ Plastic cover / tarp ☐ Hay bales ☐ Booms
☒	Dewatering	☒ Dewatering Bag or Sock
☒	Temporary Stabilization/ Seeding	☐ Straw ☒ Seeding (Annual Rye or Oats) ☒ Mulch ☐ Matting
☒	Tree Protection	☒ Fencing ☐ Plank trunk wrap ☒ Root Pruning ☐ Mulch padding / pallets (to prevent soil compaction) ☐
☐	Construction Entrance for Natural Areas	☐ Pallets ☐ Mulch ☐ Rubber Mats ☐
☐	Pump Around	☐
☒	Stream Channel Crossing	Bridge Crossing
☒	Other:	☒ Safety Fence

An erosion and sediment control plan and/or map/drawing (11" x 17") with markups showing the limits of disturbance and location of the selected ESC controls will be included as part of this SWPPP. See Appendix A for examples of practices.

☒ All structural erosion and sediment controls will be maintained throughout the duration of the project. Controls will be inspected periodically and after each runoff producing rainfall event. Any necessary maintenance or repairs to maintain the effectiveness of the controls shall be made immediately.

☒ During construction all storm drain inlets will be protected by inlet protection.

☒ Dewatering – During dewatering operations, water will be pumped into an approved filtering device.

☒ Excavated material shall be placed on the uphill side of the excavation trench. When material is placed on the downhill side of the excavation, it shall be back-sloped to drain toward the excavation.

☐ Bypass Pumping - Temporary pump(s) shall be utilized to divert flow to the nearest storm drain or manhole.

☒ Additional erosion and sediment controls will be implemented as necessary to prevent erosion and sedimentation.

☒ Temporary seeding / stabilization - Seed and straw with Annual rye – *Lolium multiflorum* at 60 lbs/acre (1.5 lbs/1000 sf) or Oats – *Avena sativa* at a rate of 50 lbs/acre or 2 lb/1000 sf, or as shown in table 3.31-B of the VESCH.

☒ Permanent Stabilization / Restoration – All of the area disturbed as a result of this project will be returned to a condition similar to pre-project condition. All areas not stabilized with pavement will be stabilized with seed, straw, and/or mulch.

Additional information can be found in the "*Planning & Field Guide for Erosion & Sediment Control*" and VA Erosion and Sediment Control Handbook.

Pre-Storm Erosion and Sediment Control Checklist

The following actions shall be taken prior to storm events with predicted heavy and/or large volume rainfall to prevent sediment discharges from a construction site. A typical summer thunderstorm is an example of a storm event with predicted heavy and/or large volume rainfall.

☐ Perimeter controls (silt fence, hay bales, stone berms) used to prevent sediment from leaving the site shall be checked for undermining, holes, or deterioration.

☐ Sediment that has accumulated against controls should be removed.

☐ Exposed soil or slopes shall be covered with straw, tarps, plastic sheeting, or erosion control matting. Covering material shall be properly secured/anchored.

☒ Stockpiled soil and other loose materials that can be washed away shall be covered with a tarp, plastic sheeting, or other stabilization matting. The cover must be properly secured / anchored down to prevent it from being blown off and exposing materials to rain. Controls such as hay bales or booms should be placed along the perimeter of the stock pile (downhill side). Stockpiled materials should not obstruct flow along the curb line.

☒ Inlet protection controls shall be inspected to ensure they are functioning properly and flooding will not occur. Clogged or damaged controls must be replaced immediately. Ensure controls allow for overflow / bypass of stormwater runoff during significant storm events.

Resource Protection Areas (RPA) – Submission Requirements
Notice shall be given to DES OSEM whenever work is scheduled to be done in an RPA.
Contact Christin Jolicoeur at 703-228-3588 or cjolicoeur@arlingtonva.us

TOTAL LAND DISTURBANCE AREA in RPA: 236,457.75 Square feet

Will the project add additional impervious cover to the RPA? ☐ Yes ☒ No

Will the project impact the banks of a stream or involve a stream crossing? ☒ Yes ☐ No

Could the work result in a discharge to surface waters? ☒ Yes ☐ No

How many trees will be removed in the RPA? 430

Tree Protection Measures for Natural Areas and RPAs
Measures shall be taken to prevent soil compaction and damage to vegetation from equipment. Specifications in the County's Tree Protection and Planting Standards shall be followed throughout the duration of the work. Contact the Urban Forester 72 hours prior to the start of the project to inspect tree protection at 703-228-1363.

☒ Avoid soil disturbance to the extent possible.

☐ Create access and staging areas using 8 inches of hardwood mulch or wood chips (maximum 2 inch in size) on the ground for soil and root protection. Wooden mats (Carolina Mat - http://carolinamat.com/Mat%20Designs.htm or similar) can be placed on top of the mulch. HDPE mats may also be used (Alturnamat - www.alturnamats.com or similar). Wooden wetland protection mats should be used to cross wetlands or floodplains.

☐ Wrap trunks in burlap and place wooden planks a minimum of 2" thick placed around trees to a height of 10 feet to protect trunks.

☐ No person, materials or equipment shall be permitted within the tree protection area. Material stockpiles, including topsoil, are included in this exclusion.

☒ Tree protection will be maintained throughout the duration of the project and shall not be removed until completion of all construction activity.

Restoration Measures for Natural Areas and RPAs
☒ If streambanks are to be disturbed, contact DES OSEM about bank stabilization alternatives.

☒ Apply permanent seeding, weed-free straw and matting rather than leaf mulch for stabilization in natural areas.

☒ Use only regionally native plant seed mixes, weed-free straw and 100% biodegradable natural fiber matting for permanent stabilization. *Non-native perennial grasses such as perennial rye, tall fescue, creeping fescue, Kentucky bluegrass, etc. are not appropriate for stabilization of natural areas.*

☒ Permanent seeding: Seed and straw with the following seed mix at a rate of 50 lb per acre (2 lb/1000 sf):

- 20% Annual rye – Lolium multiflorum
- 30% Virginia wild rye – Elymus virginicus
- 25% Deer-tongue grass – Panicum clandestinum

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COMMONWEALTH OF VIRGINIA
CHRISTIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2/19
PROFESSIONAL ENGINEER

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STORMWATER POLLUTION PREVENTION PLAN

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR
PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

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PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

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- 15% Riverbank wild rye – Elymus riparius
- 5% Bottle-brush grass – Elymus hystrix
- 2% Partridge pea – Chamaecrista fasciculata
- 1% Rough-stemmed goldenrod – Solidago rugosa
- 1% Common milkweed – Asclepias syriaca
- 1% Grass-leaved goldenrod – Euthamia graminifolia

Seed should be applied to roughened soil (soil surface broken up) via broadcast seeding.

Due to significant demand, particularly for native seed mix, it is recommended that seed be pre-ordered and stored. Seed mixes are best used within 1 year of ordering, but can be kept for up to 2 years if necessary. Potential sources for native seed mix and native plants:

- Earth Sangha – Wild Plant Nursery (seed mix must be pre-ordered) – www.earthsangha.org
- Ernst Conservation Seeds – www.ernstseed.com
- Davey Tree via the County's existing Landscape Contract.

☒ Apply 100% biodegradable natural fiber erosion control matting. Apply from downslope to upslope and lay perpendicular to the slope. Overlap the edges of the matting by at least 3 inches with the upslope layer on top (like a roof shingle). Staples or deadwood stakes are necessary to hold matting on steeper slopes. For areas with regular water flow (swales, ditches) lay in the direction of flow.

Examples of 100% biodegradable natural fiber erosion control matting:

- KoirMat 400 – Necia Enterprises, Inc. (Virginia) - http://www.necia.com/woven_coir_Koirmat400.html
- ECSC – 2B – East Coast Erosion Blankets, LLC (Pennsylvania) - http://www.eastcoasterosion.com/products/erosion-blankets/
- BioD – Rolanka International, Inc - http://www.rolanka.com/gn/geonatural.html

☐ Planting – Plant a diverse mix of regionally native shrubs and/or trees

Recommended Plant List

	Shrubs	Qty		Trees	Qty
☐	American Hazelnut (*Corylus Americana)*		☐	Ironwood (*Carpinus caroliniana)*	
☐	Spicebush (*Lindera benzoin)*		☐	Dogwood (*Cornus florida)*	
☐	Common Elderberry (*Sambucus nigra)*		☐	Black gum (*Nyssa sylvatica)*	
☐	Arrowwood viburnum (*Viburnum dentatum)*		☐	Sycamore (*Platanus occidentalis)*	
☐	Blackhaw viburnum (*Viburnum prunifolium)*		☐	White Oak (*Quercus alba)*	
☐	Mapleleaf viburnum (*Viburnum acerifolium)*		☐	Northern Red Oak (*Quercus rubra)*	
			☐	American elm (*Ulmus Americana)*	
			☐	American holly (*Ilex opaca)*	
			☐	Hackberry *(Celtis occidentalis)*	
			☐	Fringetree *(Chionanthus virginicus)*	

For assistance with choosing plants for a specific site, contact:
Alonso Abugattas – DPR – 703-228-7742 – aabugattas@arlingtonva.us– Park sites
Christin Jolicoeur – DES – 703-228-3588 – cjolicoeur@arlingtonva.us – RPA

6.0 Stormwater Management Controls – NA

7.0 Spill Prevention & Response

Most spills can be cleaned up following manufacturer specifications. Absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be available at this location.

1. Check for hazards (flammable material, noxious fumes, cause of spill) – if flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave the area and call 911.
2. Make sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
3. Stop the spill source.
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers.
5. If possible, stop spill from entering storm drains (use absorbent or other material as necessary).
6. Stop spill from spreading (use absorbent or other material)
7. **If spilled material has entered a storm drain or surface waters; contact OSEM (703-228-0772 or 703-228-3979).**
8. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials and do not flush area with water.
9. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.

Emergency Contacts:

Arlington County Fire & Police	703-558-2222
DES Water, Sewer, Streets 24-Hour Emergency	703-228-6555
Washington Gas Emergency	703-750-1400

5.0 Potential Sources of Pollution & Pollution Prevention Practices

Pollutant-Generating Activity	Likely Present at your Project Site?	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Oil & Grease	Bacteria	Trash, Debris, Solids	Other Toxic Chemicals	Pollution Prevention Practice
Clearing, grading, excavating, and un-stabilized areas	☒ Yes ☐ No	X						X		(1)
Paving operations	☒ Yes ☐ No	X				X		X		(2)
Concrete washout and cement waste	☒ Yes ☐ No			X	X			X		(3)
Structure construction, painting, and cleaning	☒ Yes ☐ No			X	X			X	X	(4)
Dewatering operations	☒ Yes ☐ No	X	X					X		(5)
Material delivery and storage	☒ Yes ☐ No	X	X	X	X	X		X	X	(6)
Material use during building process	☒ Yes ☐ No		X	X	X	X		X	X	(7)
Solid waste disposal	☒ Yes ☐ No							X	X	(8)
Sanitary waste	☒ Yes ☐ No		X		X		X			(9)
Landscaping operations	☒ Yes ☐ No	X	X					X	X	(10)
Other	☐ Yes ☐ No									(11)

Pollution Prevention Practices:

(1) **Clearing, grading, excavating and un-stabilized areas** – Utilize erosion and sediment controls to prevent sediment laden or turbid runoff from leaving the construction site. Dispose of clearing debris at acceptable disposal sites. Apply permanent or temporary stabilization, sodding and/or mulching to denuded areas in accordance with the erosion and sediment control specifications and the general VPDES permit for discharges of stormwater from construction activities.

(2) **Paving operations** – Cover storm drain inlets during paving operations and utilize pollution prevention materials such as drip pans and absorbent/oil dry for all paving machines to limit leaks and spills of paving materials and fluids.

(3) **Concrete washout and cement waste** – Direct concrete wash water into a leak-proof container or leak-proof settling basin that is designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes.

(4) **Structure construction, stucco, painting and cleaning** – Enclose, cover or berm building material storage areas if susceptible to contaminated stormwater runoff. Conduct painting operations consistent

with local air quality and OSHA regulations. Mix paint indoors, in a containment area or in a flat unpaved area. Prevent the discharge of soaps, solvents, detergents and wash water from construction materials, including the clean-up of stucco paint, form release oils and curing compounds.

(5) **Dewatering operations** – Construction site dewatering may not be discharged without treatment. Sediment laden or turbid water shall be filtered, settled or similarly treated prior to discharge.

(6) **Material delivery and storage** – Designate areas of the construction site for material delivery and storage. Place near construction entrances, away from waterways, and avoid transport near drainage paths or waterways.

(7) **Material use during building process** – Use materials only where and when needed to complete the construction activity. Follow manufacturer's instructions regarding uses, protective equipment, ventilation, flammability and mixing of chemicals.

(8) **Solid waste disposal** – Designate a waste collection area on the construction site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterway. Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible. Schedule waste collection to prevent the containers from overfilling.

(9) **Sanitary waste** – Prevent the discharge of sanitary waste by providing convenient and well-maintained portable sanitary facilities. Locate sanitary facilities in a convenient location away from waterways.

(10) **Landscaping operations** – Maintain as much existing vegetation as practicable. Apply permanent or temporary stabilization, sodding and/or mulching to denuded areas in accordance with the erosion and sediment control specifications and the general VPDES permit for discharges of stormwater from construction activities. Apply nutrients in accordance with manufacturer's recommendations and not during rainfall events.

(11) **Others** –

Pollution Prevention Standard Notes (Stormwater Manual Section 2.4)

- Only the following non-stormwater discharges are authorized by Arlington County's MS4 permit, unless the State Water Control Board, the Virginia Soil and Water Conservation Board (Board), or Arlington County determines the discharge to be a significant source of pollutants to surface waters: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)); uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; discharges or flows from firefighting; and, other activities generating discharges identified by the Department of Environmental Quality as not requiring VPDES authorization.

- Appropriate controls must be implemented to prevent any non-stormwater discharges not included on the above list (e.g., concrete wash water, paint wash water, vehicle wash water, detergent wash water, etc.) from being discharged into Arlington County's MS4 system, which includes the curb and gutter system, as well as catch basins and other storm drain inlets, or stream network.

- Per Chapter 26 of the Arlington County Code, it shall be unlawful for any person to discharge directly or indirectly into the storm sewer system or state waters, any substance likely, in the opinion of the County Manager, to have an adverse effect on the storm sewer system or state waters.

8.0 SWPPP Self Inspection Report & Corrective Action Log for DES RoW / Utility Projects (<1 acre)

Inspection Date: _____

Qualified Inspector: _____ ***Phone #:*** _____

Inspection Schedule: Discharges to impaired waters, surface waters within a TMDL watershed, or exceptional waters:
☒ Once every 4 business days

Is a copy of the SWPPP available on site? ☐ Yes ☐ No Is the SWPPP complete? ☐ Yes ☐ No

Are there any discharges at the time of this inspection? ☐ Yes ☐ No If yes, describe:

Have any discharge occurred since the last inspection? ☐ Yes ☐ No If yes, describe:

Best Management Practices	In Compliance with SWPPP?	Corrective Action Needed	Date Corrective Acton Taken
Are actions being taken to prevent sediment from being tracked outside of the project site?	☐ Yes ☐ No ☐ NA		
Are nearby storm drain inlets properly protected?	☐ Yes ☐ No ☐ NA		
Are controls and sediment barriers around disturbed areas adequately installed?	☐ Yes ☐ No ☐ NA		
Are discharges from saw cutting operations being contained?	☐ Yes ☐ No ☐ NA		
Are disturbed areas properly stabilized?	☐ Yes ☐ No ☐ NA		
Are washout facilities (e.g., concrete, paint) available?	☐ Yes ☐ No ☐ NA		
Are trash, litter, and debris being collected and disposed of properly?	☐ Yes ☐ No ☐ NA		
Are dewatering discharges being properly filtered to remove sediment or treated to remove chlorine?	☐ Yes ☐ No ☐ NA		
Are stockpiles properly contained and/or covered?	☐ Yes ☐ No ☐ NA		

Are vehicles and equipment being checked for leaks?	☐ Yes ☐ No ☐ NA		
Are materials (e.g. fuel, oil, chemicals, and loose materials) that are potential stormwater pollutants contained or stored properly?	☐ Yes ☐ No ☐ NA		
Are disturbed areas properly stabilized?	☐ Yes ☐ No ☐ NA		
Are spill kits readily available and properly stocked?	☐ Yes ☐ No ☐ NA		
Are good housekeeping practices being implemented?	☐ Yes ☐ No ☐ NA		
Are tree protection practices properly installed and maintained?	☐ Yes ☐ No ☐ NA		
Are measures being taken to protect natural areas and minimize impacts to vegetation and soil compaction?	☐ Yes ☐ No ☐ NA		
Have appropriate stabilization measures been taken?	☐ Yes ☐ No ☐ NA		

Non – Compliance **-** Describe any incidents of non-compliance not described above

Certification
"I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Operator or Assigned Qualified Personnel Name: _____

Signature: _____

Date: _____

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PROJECT MANAGER	

REVISIONS DATE

STORMWATER POLLUTION PREVENTION PLAN

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 36-37-38-SWPPP.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

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9.0 Grading & Stabilization Activities Log

Date Grading Activity Initiated	Description of the Grading Activity (incuding location)	Date Grading Activity Ceased	Date Stabilization Measures Initiated	Description of the Stabilization Measure (including location)

10.0 SWPPP Modification & Update Log

Modification Date	Description of the Modification / Update	Modification Prepared By (name & title)

RLD Form

_____
Date

Qianqian Li, P.E.
ESC Program Administrator
Department of Environmental Services
2100 Clarendon Boulevard, Suite 813
Arlington, Virginia 22201

Re: Erosion and Sediment Control Permit Application for: _____

Permit #: _____

Dear Mrs. Li:

I hereby certify that I accept the responsibilities of Responsible Land Disturber for the above referenced project. I understand that these responsibilities include:

- Reviewing the erosion and sedimentation control plan for the project.
- Walking the site prior to construction to identify critical areas.
- Conducting a pre-construction briefing with contractors to review the SWPPP, the limits of clearing and the required E&S controls and tree protection measures to be installed.
- Schedule a pre-construction meeting.
- Inspecting the site during construction to ensure that all E&S controls are functioning and are adequate to address erosion and sedimentation. Inspecting the site 48 hours after a runoff-generating storm.
- Ensuring temporary stabilization is applied within seven (7) days to areas that will remain undisturbed for longer than 14 days.

I may be reached at _____for any questions about this project or my execution of the duties of Responsible Land Disturber.

Sincerely,

Professional Registration (type and #): _____

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SCALE: N.T.S.

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BALLSTON POND STORMWATER NARRATIVE

THE BALLSTON POND RETROFIT PROJECT IS LOCATED IN ARLINGTON, VIRGINIA AT THE INTERSECTION OF I-66 AND FAIRFAX DRIVE. THE POND WAS BUILT AS PART OF THE ORIGINAL CONSTRUCTION OF I-66 IN THE 1960'S. SUBSEQUENT TO THE CONSTRUCTION OF I-66 THE OWNERSHIP OF THE FACILITY WAS TRANSFERRED TO ARLINGTON COUNTY IN 1985. THE OUTFALL STRUCTURE WAS MODIFIED AT SOME POINT AFTER THE INITIAL CONSTRUCTION, PLANS FOR THE RETROFIT ARE NOT AVAILABLE. OVER TIME, THE POND HAS BECOME FILLED WITH SEDIMENT WHICH HAS DECREASED THE CAPACITY. LUBBER RUN, A TRIBUTARY OF FOUR MILE RUN, FLOWS THRU THE FACILITY. THE ULTIMATE GOALS OF THIS PROJECT ARE TO IMPROVE WATER QUALITY, INCREASE WILDLIFE PRESENCE , AND INCREASE PUBLIC INTEREST. ELEMENTS OF THIS PROJECT INCLUDE GRADING MARSHES AND UPLAND AREAS, MODIFYING THE EXISTING RISER, ADDING A SEDIMENT FOREBAY, AND CONSTRUCTING AN OVERLOOK WHICH CONNECTS TO THE EXISTING TRAIL. THE POND IS LOCATED IN A FEMA ZONE AE FLOODPLAIN, AND RPA.

WATER QUALITY AND QUANTITY CRITERIA

DESIGN OF THIS PROJECT ORIGINALLY STARTED IN 2010. A LDA PERMIT AND CONSTRUCTION GENERAL PERMIT ARE ANTICIPATED TO BE RECEIVED BY JANUARY 2019. THEREFORE IT IS GRANDFATHERED UNDER § 60-12(B)(1) AND SUBJECT TO THE PART IIC TECHNICAL CRITERIA. PER DIRECTION OF ARLINGTON COUNTY, BECAUSE THIS IS A PUBLIC PROJECT, IT IS EXEMPT FROM PROVIDING STORMWATER MANAGEMENT CONTROLS (QUALITY AND QUANTITY), PER SECTION § 61-15(A) (AS OF 12/2008). THIS PLAN DOES COMPLY WITH MS-19.

WATER QUALITY

THE DRAINAGE AREA TO THIS FACILITY IS 468 ACRES. DUE TO THE SIZE OF THE DRAINAGE AREA AND LIMITED SPACE, IT IS NOT FEASIBLE TO CREATE A FACILITY TO TREAT THE ENTIRE DRAINAGE AREA. THIS FACILITY WILL PROVIDE TMDL CREDIT AS CALCULATED PER THE RECOMMENDATIONS OF THE EXPERT PANEL TO DEFINE REMOVAL RATES FOR URBAN STORMWATER RETROFIT PROJECTS. SINCE THIS IS A CONSTRUCTED WETLAND, THERE IS NO RUNOFF REDUCTION, AND THE POND WILL BE TREATED AS A STORMWATER TREATMENT (ST) FACILITY. THE FOREBAY HAS BEEN SIZED FOR A 5-YEAR MAINTENANCE CYCLE. THE WATERGOAT SHOULD BE CLEANED OUT EVERY 90 DAYS.

WATER QUANTITY

THE STREAM DISCHARGES IN THE FOUR MILE RUN WATERSHED MUST BE CONTROLLED FOR UP TO THE 100-YEAR STORM IN ORDER TO PROTECT THE U.S. ARMY CORPS OF ENGINEERS FLOOD CONTROL PROJECT IN THE LOWER PORTION OF THE WATERSHED. RESULTS OF THE ROUTING SHOW A SMALL DECREASE IN FLOWS FROM EXISTING TO PROPOSED. THE DECREASE IN FLOWS IS DUE TO THE FACT THAT THE PERMANENT POOL IS 0.8 FEET LOWER THAN THE EXISTING CONDITION AS A RESULT OF THE INTRODUCTION OF THE BEAVER POND LEVELER. BECAUSE OF THE REDUCTION IN FLOW, MS-19 IS SATISFIED.

POND ROUTING

BALLSTON POND WAS ROUTED USING HEC-HMS 4.2.1. HYDROLOGIC PARAMETERS WERE TAKEN FROM THE ORIGINAL 2010 DESIGN, SEE BALLSTON POND DESIGN COMPENDIUM FOR MORE INFORMATION. THE POND DISCHARGES THROUGH A TRIPLE BOX CULVERT WHICH TRANSITIONS TO A DOUBLE CONCRETE BOX CULVERT (10'X6') BEFORE ULTIMATELY DISCHARGING TO AN OPEN CHANNEL. THE RATING CURVE FOR THIS CULVERT WAS OBTAINED FROM THE ARLINGTON COUNTY SWMM MODEL PERFORMED BY CH2MHILL IN JANUARY 2013. MINOR ADJUSTMENTS TO THE MODEL WERE MADE TO ENSURE THERE WERE NO UPSTREAM LOSSES IN THE SYSTEM. FOR THE 100-YEAR RATING CURVES, THE RISER (EXISTING AND PROPOSED CONDITIONS) IS CONSIDERED 50% CLOGGED. THE EXISTING RISER HAS THREE V-NOTCH WEIRS. THESE WEIRS WERE INTENDED TO BE ONLY OPENED FOR MAINTENANCE ACTIVITIES, AND ARE THEREFORE MODELED AS CLOGGED FOR ALL STORM EVENTS.

IMPROVEMENTS WILL NOT INCREASE THE 100-YEAR FLOOD ELEVATION. ROUTING RESULTS FOR THE PROPOSED CONDITIONS ARE SHOWN ON THIS SHEET.

EXISTING STAGE/STORAGE TABLE

ELEVATION [FT.]	AREA [FT.²]	AREA [ACRE]
255.80	178,062	4.0877
256.00	179,429	4.1191
257.00	189,779	4.3567
258.00	198,394	4.5545
259.00	206,385	4.7379
260.00	213,852	4.9093
261.00	222,699	5.1124
262.00	245,490	5.6357
263.00	252,875	5.8052

PROPOSED STAGE/STORAGE TABLE

ELEVATION [FT.]	AREA [FT.²]	AREA [ACRE]
255.00	103,994	2.3874
255.80	105,508	2.4221
256.00	105,886	2.4308
257.00	189,546	4.3514
258.00	196,280	4.5060
259.00	204,857	4.7029
260.00	213,206	4.8945
261.00	222,699	5.1124
262.00	245,490	5.6357
263.00	252,875	5.8052

RISER OUTLET RATING CURVE

ELEV.	EXISTING TOTAL FLOW [CFS.]	EXISTING (100YR) TOTAL FLOW [CFS.]	PROPOSED TOTAL FLOW [CFS.]	PROPOSED (100YR) TOTAL FLOW [CFS.]
255.80	0.0	0.0	1.3	0.0
256.00	21.5	10.8	1.7	10.8
257.00	316.7	158.3	319.3	158.3
258.00	698.2	393.0	698.2	393.0
259.00	751.3	689.5	751.3	689.5
260.00	811.5	811.5	811.5	811.5
261.00	882.6	882.6	882.6	882.6
262.00	974.4	974.4	974.4	974.4
263.00	1151.7	1151.7	1151.7	1151.7

POND ROUTING

	EX PEAK INFLOW [CFS.]	EX PEAK OUTFLOW [CFS.]	EX PEAK ELEVATION [FT.]	PROP PEAK INFLOW [CFS.]	PROP PEAK OUTFLOW [CFS.]	PROP PEAK ELEVATION [FT.]
1-YEAR	238.9	205.2	256.6	238.9	193.1	256.6
2-YEAR	364.8	316.4	257.0	364.8	308.9	257.0
10-YEAR	809.7	703.6	258.1	809.7	703.4	258.1
100-YEAR	1654.7	1146.3	263.0	1654.7	1147.3	263.0

Arlington County Areas

Arlington County Chesapeake Bay Preservation Ordinance Stormwater Requirements Worksheet

Step 1. Enter site characteristics and determine impact area

	Area (sf)	%I	
Total Site Area	237253		
Existing Impervious Cover	169848	71.6%	
Proposed Impervious Cover	111652	47.1%	
Average Land Cover condition		16.0%	
90% of Existing Impervious Cover	152863	64.4%	
			Impact area (sf)
	pre<=avg; post<=avg	No	--
	pre<=avg; post>avg	No	--
	pre>avg	Yes	**-41211**
		Total Impact Area	**0**
	Impact area > 50% of total impervious area?		**No**
		Impact Area Requirement	**0**
Maximum Watershed Management Fund fee		**$ 2.50**	**$ -**

Step 2. Vehicle-related pavement treatment

	Area (sf)		
Vehicle-related pavement	0		
Required to be treated	0		
Required min. treatment efficiency	50%		
Treatment credit needed	0	Not to exceed Impact Area Requirement	
Pervious surface BMPs	**Impervious area reduction (sf)**		**Treatment Credit (sf)**
Pervious paving system			0
	Impervious area treated (sf)	**Treatment efficiency**	**Treatment Credit (sf)**
Additional BMPs	**(A)**	**(B)**	**(A X B)**
		50%	0
			0
			0
Total vehicle-related pavement stormwater treatment credits			**0**

Step 3. Additional treatment

Pervious surface BMPs	**Impervious area reduction (sf)**		**Treatment Credit (sf)**
Pervious paving system			0
Vegetated roof system			0
	Impervious area treated (sf)	**Treatment efficiency**	**Treatment Credit (sf)**
Additional BMPs	**(A)**	**(B)**	**(A X B)**
			0
			0
			0
Total additional treatment credits			**0**

Step 4. Determine compliance

	Area (sf)	
Impact area	0	
Total treatment credits	0	
Remaining impact area	0	
Total Watershed Management Fun	**$ -**	Fee payment only allowed if exception criteria r

CULVERT OUTLET RATING CURVE

SIZE: 10' W x 6' H TRIPLE BOX CULVERT	
ELEV. [FT.]	DISCHARGE [CFS.]
254.75	564.74
255.00	564.74
255.80	597.47
256.00	605.94
256.50	627.63
257.00	650.17
257.50	673.66
258.00	698.24
258.50	724.05
259.00	751.33
259.50	780.35
260.00	811.48
261.00	882.58
262.00	974.42
263.00	1151.69

VDOT Areas

Arlington County Chesapeake Bay Preservation Ordinance Stormwater Requirements Worksheet

Step 1. Enter site characteristics and determine impact area

	Area (sf)	%I	
Total Site Area	25106		
Existing Impervious Cover	6719	27.0%	
Proposed Impervious Cover	6719	27.0%	
Average Land Cover condition		16.0%	
90% of Existing Impervious Cover	6047	24.1%	
			Impact area (sf)
	pre<=avg; post<=avg	No	--
	pre<=avg; post>avg	No	--
	pre>avg	Yes	**672**
		Total Impact Area	**672**
	Impact area > 50% of total impervious area?		**No**
		Impact Area Requirement	**672**
Maximum Watershed Management Fund fee		**$ 2.50**	**$ 1,680**

Step 2. Vehicle-related pavement treatment

	Area (sf)		
Vehicle-related pavement	0		
Required to be treated	0		
Required min. treatment efficiency	50%		
Treatment credit needed	0	Not to exceed Impact Area Requirement	
Pervious surface BMPs	**Impervious area reduction (sf)**		**Treatment Credit (sf)**
Pervious paving system			0
	Impervious area treated (sf)	**Treatment efficiency**	**Treatment Credit (sf)**
Additional BMPs	**(A)**	**(B)**	**(A X B)**
		50%	0
			0
			0
Total vehicle-related pavement stormwater treatment credits			**0**

Step 3. Additional treatment

Pervious surface BMPs	**Impervious area reduction (sf)**		**Treatment Credit (sf)**
Pervious paving system			0
Vegetated roof system			0
	Impervious area treated (sf)	**Treatment efficiency**	**Treatment Credit (sf)**
Additional BMPs	**(A)**	**(B)**	**(A X B)**
			0
			0
			0
Total additional treatment credits			**0**

Step 4. Determine compliance

	Area (sf)	
Impact area	672	
Total treatment credits	0	
Remaining impact area	672	
Total Watershed Management Fun	**$ 1,680**	Fee payment only allowed if exception criteria met

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
9/2/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
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CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

STORMWATER MANAGEMENT CALCULATIONS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 39-SWM CALCULATIONS.dwg

PATH: M:\projects\2016\16068_ArlingtonCo_MS4\Task5_Ballston_Pond\CAD\3D\Plan

PLOTTED: October 02, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 39 of 73

LD-269
Rev. 3-83

Project: Ballston Pond
Pipe # 14 - 21" RCP

Designer: Khadija Abdur-Rahman
Date: 8-Nov-12

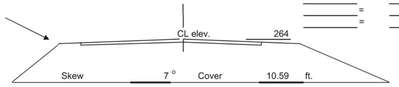
HYDROLOGICAL DATA:
D.A.= 41.6 AC

Assuming Pipe flowing at 80% full - flow capacity = 34.63 cfs

AHW Controls
100 yr. Flood plain = elev.

freq.	TWelev.
10 yr. =	263.82
=	
=	
=	
=	

Shoulder elev. N/A



Inv. El. 254.2 So= 0.051 Inv. El. 252.45
Orig. Gr. Elev. Unchanged L= 34.54 ft. Orig. Gr. Elev. Unchanged

DISCHARGES USED

Q 10 = 34.63 CFS
Q = CFS
Q = CFS
Q = CFS
Q = CFS

CULVERT TYPE & SIZE	Q	Q/B	HEADWATER COMPUTATIONS: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL Ke	LSo	HW	CONT. HW. ELEV.	OUTLET VELOCITY C.M.	Smooth	End Treat.	COMMENTS
21" RCP	34.63		5.50	9.62	0.5	1.8	7.03	9.62		14.4	EC-1	Class I, Dry Riprap

Design Flood Exceed. Prob. 10-year Elev. 263.82
Base Flood 1% Exceed. Prob. 100-year Elev. N/A

SUMMARY & RECOMMENDATIONS:

LD-269

Project: Ballston Pond
Pipe #9135 to #9174 - 24" RCP

Designer: Khadija Abdur-Rahman
Date: 16-Oct-12

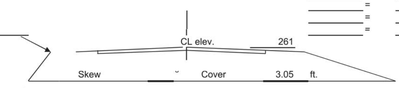
HYDROLOGICAL DATA:
D.A.= 7.95

Drainage Area obtained from GIS contours.
Flow calculated using Rational Method
Composite C-value = 0.665
Total Time of Cocentratio = 43.2 min

AHW Controls
100 yr. Flood plain elev.
Design AHW depth elev.
Structures elev.

freq.	TWelev.
10 yr. =	257.4
=	
=	
=	
=	

Shoulder elev. N/A



Inv. El. 255.48 So= 0.0441 Inv. El. 251.99
Orig. Gr. Elev. Unchanged L= 79.1 ft. Orig. Gr. Elev. Unchanged

DISCHARGES USED

Q 10 = 12.42 CFS
Q = CFS
Q = CFS
Q = CFS
Q = CFS

CULVERT TYPE & SIZE	Q	Q/B	HEADWATER COMPUTATIONS: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL Ke	LSo	HW	CONT. HW. ELEV.	OUTLET VELOCITY C.M.	Smooth	End Treat.	COMMENTS
24" RCP	12.42		0.96	1.92	0.5	3.49	0.12	1.92		3.95	EC-1	Class I, Dry Riprap

Design Flood Exceed. Prob. 10-year Elev. 257.4
Base Flood 1% Exceed. Prob. 100-year Elev. 258.41

SUMMARY & RECOMMENDATIONS:

LD-269

Project: Ballston Pond
Pipe #9561 to #9628 - 66" RCP

Designer: Erin Cox
Date: 24-May-19

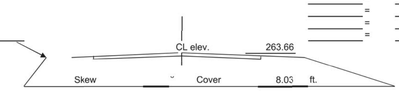
HYDROLOGICAL DATA:
Max Depth= 3.79 FT.

Max Depth obtained from SWMM Model.
Flow calculated using Manning Normal Depth.

AHW Controls
100 yr. Flood plain elev.
Design AHW depth elev.
Structures elev.

freq.	TWelev.
10 yr. =	255.61
=	
=	
=	
=	

Shoulder elev. N/A



Inv. El. 250.13 So= 0.0025 Inv. El. 249.93
Orig. Gr. Elev. Unchanged L= 81 ft. Orig. Gr. Elev. Unchanged

DISCHARGES USED

Q 10 = 127.9 CFS
Q = CFS
Q = CFS
Q = CFS
Q = CFS

CULVERT TYPE & SIZE	Q	Q/B	HEADWATER COMPUTATIONS: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL Ke	LSo	HW	CONT. HW. ELEV.	OUTLET VELOCITY C.M.	Smooth	End Treat.	COMMENTS
66" RCP	127.85		0.85818	4.72	0.5	0.2	5.68	5.68		5.55	EC-1	Class I, Dry Riprap

Design Flood Exceed. Prob. 10-year Elev. 255.81
Base Flood 1% Exceed. Prob. 100-year Elev. N/A

SUMMARY & RECOMMENDATIONS:

ARLINGTON
VIRGINIA

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/20/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OUTLET PROTECTION EC-1 CALCULATIONS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 40-EC-1 CALCULATIONS.dwg
PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 40 of 73

Step 1

Characterize the Acres and Loads Draining to the Retrofit

				Impervious LOADS (per DCR Potomac River Basin)			Pervious LOADS (per DCR Potomac River Basin)			TOTAL LOADS to retrofit	
	Urban Impervious Acres	Urban Pervious Acres	Total Urban Acres	TN	TP	TSS	TN	TP	TSS	TN	TP
Regulated AC	201.47	206.23	407.70	3396.9	326.4	235990.5	2076.7	84.6	36255.2	**5473.6**	**410.9**
Regulated APS	4.44	5.09	9.54	74.9	7.2	5200.7	51.3	2.1	894.8	**126.1**	**9.3**
Regulated VDOT	21.50	9.50	31.00	362.5	34.8	25183.4	95.7	3.9	1670.1	**458.2**	**38.7**
Regulated FED	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Unregulated Land	6.84	12.78	19.63	115.3	11.1	8011.8	128.7	5.2	2246.7	**244.0**	**16.3**
	234.25	233.60	467.87								

Step 2

Calculate retrofit removal rates and loads removed

		REMOVAL RATES per adjustor curves		
Retrofit storage vol (ac-ft)	Runoff depth trea	TN	TP	TSS
8.04	0.41	**23%**	**37%**	**47%**

Calculate total loads removed for Regulated and Unregulated lands	TN	TP	TSS
Regulated AC	1273.1	150.2	126662.4
Regulated APS	29.3	3.4	2835.9
Regulated VDOT	106.6	14.2	12493.6
Regulated FED	0.0	0.0	0.0
Unregulated Land	56.8	6.0	4772.8
	1465.7	**173.7**	**146764.7**

Step 3

Account for the Total Baseline Reduction on Unregulated land and Other Regulated land

UNREGULATED	Pollutant	2009 EOSLoading Rate (lbs/ac)	Loading Rate for Unregulated land	Unregulated land draining to retrofit	Total required baseline reduction	Total required baseline reduction
Unregulated Urban Impervious	TN	0.08	1.6	6.84	10.94	18.61
Unregulated Urban Pervious		0.03	0.6	12.78	7.67	
Unregulated Urban Impervious	TP	0.01	0.2	6.84	1.37	1.62
Unregulated Urban Pervious		0.001	0.02	12.78	0.26	
Unregulated Urban Impervious	TSS	11.71	234.2	6.84	1601.93	1798.74
Unregulated Urban Pervious		0.77	15.4	12.78	196.81	

Baseline reduction totals required for other regulated and unregulated land
68.87
7.10
8098.57

Regulated APS	Pollutant	2009 EOSLoading Rate (lbs/ac)	Loading Rate for Other Regulated land	Other regulated land draining to retrofit	Total required baseline reduction	Total required baseline reduction
Unregulated Urban Impervious	TN	0.08	1.6	4.44	7.10	10.16
Unregulated Urban Pervious		0.03	0.6	5.09	3.05	
Unregulated Urban Impervious	TP	0.01	0.2	4.44	0.89	0.99
Unregulated Urban Pervious		0.001	0.02	5.09	0.10	
Unregulated Urban Impervious	TSS	11.71	234.2	4.44	1039.85	1118.23
Unregulated Urban Pervious		0.77	15.4	5.09	78.39	

Regulated VDOT	Pollutant	2009 EOSLoading Rate (lbs/ac)	Loading Rate for Other Regulated land	Other regulated land draining to retrofit	Total required baseline reduction	Total required baseline reduction
Unregulated Urban Impervious	TN	0.08	1.6	21.50	34.40	40.10
Unregulated Urban Pervious		0.03	0.6	9.50	5.70	
Unregulated Urban Impervious	TP	0.01	0.2	21.50	4.30	4.49
Unregulated Urban Pervious		0.001	0.02	9.50	0.19	
Unregulated Urban Impervious	TSS	11.71	234.2	21.50	5035.30	5181.60
Unregulated Urban Pervious		0.77	15.4	9.50	146.30	

Regulated FED	Pollutant	2009 EOSLoading Rate (lbs/ac)	Loading Rate for Other Regulated land	Other regulated land draining to retrofit	Total required baseline reduction	Total required baseline reduction
Unregulated Urban Impervious	TN	0.08	1.6	0.00	0.00	0.00
Unregulated Urban Pervious		0.03	0.6	0.00	0.00	
Unregulated Urban Impervious	TP	0.01	0.2	0.00	0.00	0.00
Unregulated Urban Pervious		0.001	0.02	0.00	0.00	
Unregulated Urban Impervious	TSS	11.71	234.2	0.00	0.00	0.00
Unregulated Urban Pervious		0.77	15.4	0.00	0.00	

Step 4

Calculate net credit to MS4

	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Total loads removed by retrofit	1465.7	173.7	146764.7
Baseline reductions required for other regulated and unregulated land	68.87	7.10	8098.57
Net TMDL Credit	**1396.9**	**166.6**	**138666.1**

Impervious and pervious urban loading rates for Potomac River Basin per DCR

Subsource		Pollutant	2009 EOS Loading Rate (lbs/ac)
Regulated Urban Impervious		Nitrogen	16.86
Regulated Urban Pervious			10.07
Regulated Urban Impervious		Phosphorus	1.62
Regulated Urban Pervious			0.41
Regulated Urban Impervious		Sediment	1,171.32
Regulated Urban Pervious			175.8

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COMMONWEALTH OF VIRGINIA
DYLAN MICHAEL FINERFROCK
Lic. No. 44505
8/20/19
PROFESSIONAL ENGINEER

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TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

STORMWATER MANAGEMENT
TMDL CALCULATIONS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

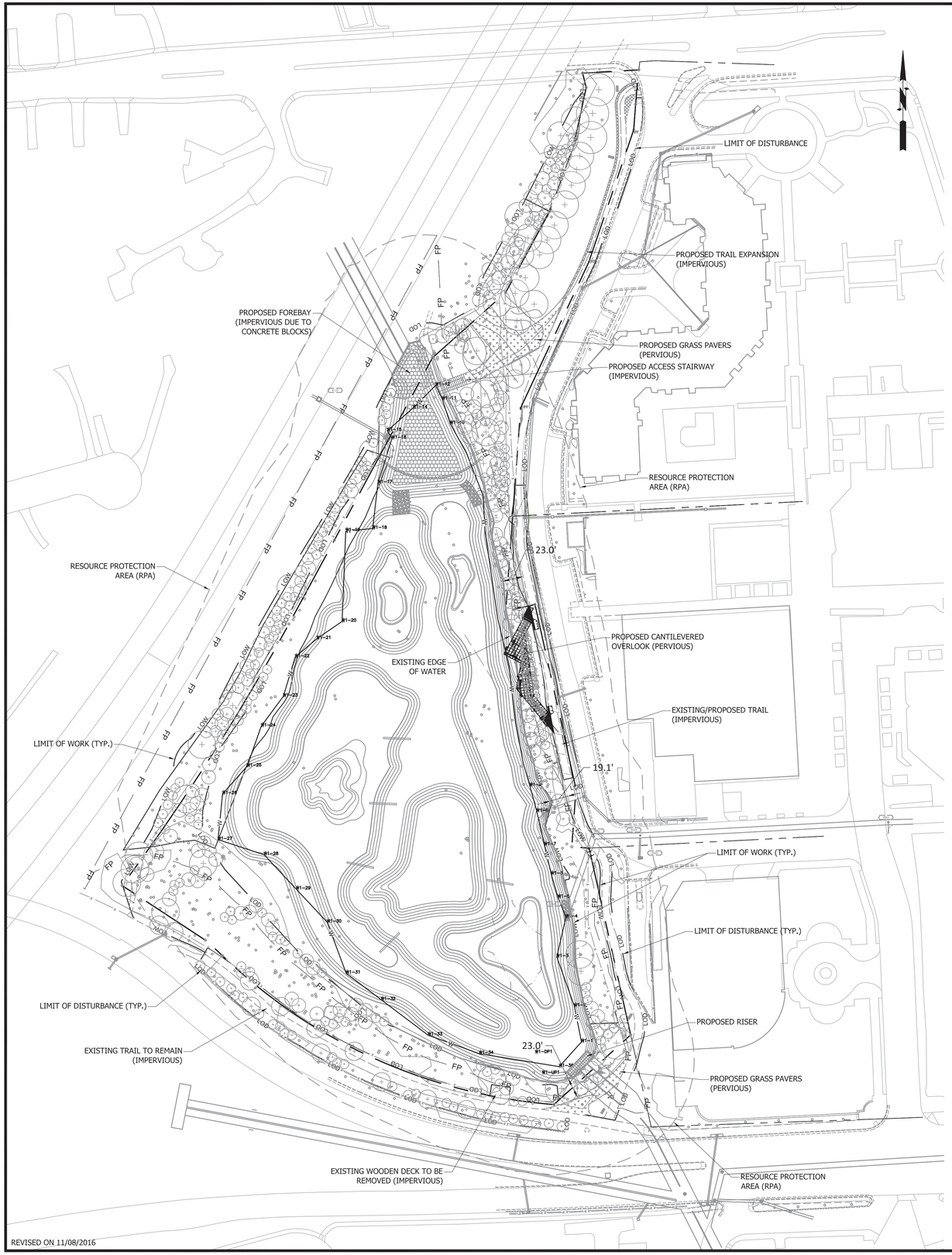
FILENAME: 41-SWM TMDL CALC.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\L6068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 41 of 73



REVISED ON 11/08/2016

Appendix C. Water Quality Impact Assessment Data Sheet

Project Address: BALLSTON POND RETROFIT, ARLINGTON, VA	Date: 07/29/2019
Applicant Name/Affiliation: ARLINGTON COUNTY DES- 2100 CLARENDON BLVD. STE. 813 ARLINGTON, VA 22201	Applicant Contact Information (phone and email): (703) 228-7595 (apatel@arlingtonva.us)
Owner/Client Name: ARLINGTON COUNTY DES-OSEN	Owner/Client Contact Information (phone and email): (703) 228-3588 (cjolicoeur@arlingtonva.us)

Section 1: Type of activity proposed

Activity type (check all that apply): ☐ New construction (residential, commercial, public, etc.) ☐ Alteration of non-residential structure ☐ Residential addition ☐ Detached residential structure	☒ Deck, patio, or retaining wall ☐ Landscaping (includes tree removal) ☐ Utility work ☒ Fence ☒ Other (please describe): Pond Retrofit

Section 2: Key details of the proposed activity

Complete all that apply		Explanation
Total area of disturbance on parcel (sf):	271,633	Includes building footprint plus a 10 foot buffer. Also includes all soil disturbance, ingress/egress areas, stockpiling areas, etc.
Area of disturbance within RPA (sf):	256,458	Includes removal of trees ≥ 3" in diameter
Area of disturbance on slopes greater than or equal to 15 percent located adjacent to landward RPA boundary (sf):	0	Does not apply to RPA parcels along Chain Bridge Road (15 percent and greater slopes are included as part of RPA)

Complete all fields		Existing condition	Proposed condition	Explanation
RPA encroachment (ft)	Left third of parcel or site	23.0	0.0	The **distance** (in feet) from the existing or proposed structure to the designated RPA feature (edge of stream or open channel, wetland, etc.). Encroachments of zero (0) indicate the project will impact the stream or other RPA feature.
	Middle third of parcel or site	19.1	0.0	
	Right third of parcel or site	0.0	0.0	
Total development footprint in RPA (sf):		256,458	256,458	The existing footprint includes the **area** of any existing structures, patios, decks, walkways, etc. Proposed footprint is the anticipated post-project area of all structures, additions, decks, walkways, patios, accessory structures, retaining walls, etc.
Impervious footprint in RPA (sf):		71,282	77,881	Total area of impervious surfaces within the RPA (rooftops, pavement, etc.)

(OVER)

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Building/demolition/LDA/Fence permit number(s):

Major WQIA required? ☐ Yes ☐ No

Date WQIA/Exception request information complete:

Date Chesapeake Bay Preservation Ordinance and E/S ordinance (if applicable) approvals issued or Permits Plus: ~

Section 3: Plan and Narrative

Provide a plan showing the location of the proposed activity, along with the RPA boundary
Briefly describe the proposed project, including any potential water quality impacts and mitigation measuresproposed. The narrative must address three impact categories 1. Tree/vegetation impacts, 2. Stormwater and runoff 3. Erosion and sediment control. Please refer to the WQIA plan/narrative checklist for additional information:
THE PROJECT CONSISTS OF THE REFOITTING OF BALLSTON POND TO ENHANCE WATER QUALITY IN LUBBER RUN AND ITS RECEIVING WATERS. ORIGINALLY DESIGNED AS A DRY POND, BALLSTON POND HAS COLLECTED SILT OVER THE YEARS AND IS NOW HOLDING WATER. THE RETROFIT HAS BEEN DESIGNED AS A CONSTRUCTED WETLAND WITH A FOREBAY TO PREVENT SEDIMENT ACCUMULATION AND FACILITATE MAINTENANCE. SHALLOW EMERGENT WETLAND AREAS AND DEEP WATER HABITATS. THE RETROFIT HAS A DRAINAGE AREA OF 467.58 ACRES AND WILL REMOVE 1,465.7 LBS NITROGEN (23%), 173.7 LBS PHOSPHORUS (37%) AND 146,764.1 LBS SEDIMENT (47%) ANNUALLY. TRASH REMOVAL 'EATURES, INCLUDING A WATERGOAT OR THE INLET AID A TRASH RACK ON THE OUTLET, WILL ALSO BE INSTALLED TO PROTECT WATER QUALITY. THESE FEATURES WILL BE MAINTAINED REGULARLY BY DES-OSEM.
A NEW 1500 SQUARE FOOT OBSERVATION PLATFORM IS PROPOSED IN THE RPA TO ENABLI ENVIRONMENTAL EDUCATION AND ACCESS TO THE WITLAND (SEE SHEETS 61-68 FOR DETAILS). THE PLATFORM IS DESIGNED TO HAVE A MINIMAL FOOTPRINT - IT IS SUPPORTED BY 15 PIERS. A METAL SLATWORK SURFACE WILL ALLOW WATER TO INFILTRATE UNDERNEATH THE PLATFORM.
EXISTING TREES WILL BE SAVED WHEREVER POSSIBLE. 363 TREES ARE PROPOSED TO BE REMOVED FROM THE RPA IN ASSOCIATION WITH THIS PROJECT AS SHOWN ON SHEETS 10-33. 99 OF THESE TREES ARE INVASIVE NON-NATIVE TREES. 271 TREES ARE LESS THAN 19 INCHES IN DBH. THE DISTURBED AREA WILL BE RE-PLANTED WITH A VARIETY OF NATIVE TREES, SHRUBS, ANDHERBACEOUS MATERIALS TO PROMOTE LONG-TERM MORPHOLOGICAL STABILITY, INCREASE HABITAT DIVERSITY, AND ENHANCE VISUAL VALUE OF THE POND. THE PROPOSED PLANTING PLAN IS INCLUDED ON SHEETS 52-53. A MINIMUM OF 296 NATIVE TREES WILL BE REPLANTED WITHIN THE RPA. THE REMAINING 136 REPLACEMENT TREES REQUIRED WILL BE PLANTED ON OTHER COUNTY-OWNED LANDS AS DIRECTED BY DPR. INVASIVE SPECIES REMOVAL WILL OCCUR PRIOR TO, DURING AND FOLLOWING CONSTRUCTION FOR A MINIMUM POST-CONSTRUCTION PERIOD OF TWO YEARS. A TWO-YEAR WARRANTY ON ALL PLANTS WILL BE REQUIRED OF THE CONTRACTOR.
EROSION and SEDIMENT CONTROL MEASURES WILL BE INSTALLED AND MAINTAINED AS SHOWN ON SHEETS 6-31 AND IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), CURRENT EDITION. THESE CONTROLS ARE SIZED FOR THE 10-YR STROM AND INCLUDE SILT FENCE, INLET PROTECTION, TURBIDITY CURTAINS, DEWATERING BASINS, TEMPORARY BRIDGES AND TEMPORARY PORTABLE DAMS TO SAFELY CONVEY LUBBER RUN DURING CONSTRUCTION. TREE PROTECTION WILL BE INSTALLED AND TREES WILL BE ROOT-PRUNED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.
A FEMA FLOODPLAIN IS PRESENT WITHIN THE PROJECT AREA. CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WILL RESULTS IN A DECREASE OF THE 100-YEAR WATER SURFACE ELEVATION, WHEN COMPARED TO BOTH THE EXISTING AND EFFECTIVE FLOODPLAIN MODELS.
BOTH IMPERVIOUS COVERAGE AND RPA ENCROACHMENT WILL INCREASE AS A RESULT OF THE PROJECT (SEE SECTION 2 ABOVE).
THE PROJECT WILL INCREASE THE IMPERVIOUS COVERAGE BY APPROXIMATELY 9.25% (OR2.8% OF THE DEVELOPMENT FOOTPRINT WITHIN "HE RPA). ENCROACHMENT OF THE RPA WILL ALSO INCREASE (TO 0.0 FEET) IN THE LEFT AND MIDDLE THIRDS OF THE SITE DUE TO THE ADDITION OF THE BOAT LAUNCH (FOR MAINTENANCE PURPOSES), AND THE CANTILEVERED OVERLOOK. THESE PROPOSED ENCROACHING FEATURES (WHICH ALSO ACCOUNT FOR THE INCREASE IN IMPERVIOUS COVERAGE), ARE FOR PASSIVE RECREATION AND MAINTENANCE OF THE RETROFITTED STORMWATER FACILITY; THEREFORE AN EXCEPTION FOR THESE INCREASES IS NOT REQUIRED.

Additional Water Quality Impact Assessment Information

The information supplied on this form satisfies the minimum requirements for a Minor Water Quality Impact Assessment. For projects that disturb over 2500 square feet, elements of a Major Water Quality Impact Assessment may also be required, depending on the nature and extent of the proposed RPA encroachment, as outlined in Section 61-12 of the ordinance.

Appendix D. Exception Request Form

Applicant:	Project address:
N/A	N/A

Section 1: Brief description of exception request

N/A

Section 2: Parcel, structure, and ownership information

Date parcel ownership began: N/A Date existing principal structure built: N/A Will existing principal structure remain intact? ☐ Yes ☐ No	Date(s) of construction of any prior work by current owner (alterations, additions, decks, patios, etc.) – list individually: Date — Type of prior work 1. 2. 3. 4.

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☐ Allowable development in RPA (§ 61-7.A) ☐ Allowable modification in RPA (§ 61-7.B) ☐ Allowable encroachment in RPA (§ 61-7.C) ☐ Expansion of nonconforming structure or use in RPA (§ 61-14) (exception request reuired)	☐ New development in the RPA, redevelopment that increases impervious area in the RPA or encroaches further into the RPA, or any other proposed disturbance of any RPA component (exception request required) ☐ Exempted activity in RPA (§ 61-15) ☐ Proposed development in RMA on 15 percent slopes adjacent to RPA ☐ Other RMA activity_____

CBORC hearing required? ☐ Yes ☐ No

Date public notification sent certified mail:

Hearing date:

CBORC decision: ☐ Approved ☐ Not approved

Date of final approval letter:

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
ANKUR B. PATEL
Lic. No. 57046
09/06/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WATER QUALITY IMPACT ASSESSMENT

BALLSTON POND RETROFIT PROJECT
BBP

DESIGNED: JTASTAD
DRAWN: JTASTAD
CHECKED: APATEL
MISS UTILITY TRANSMITTAL #: N/A

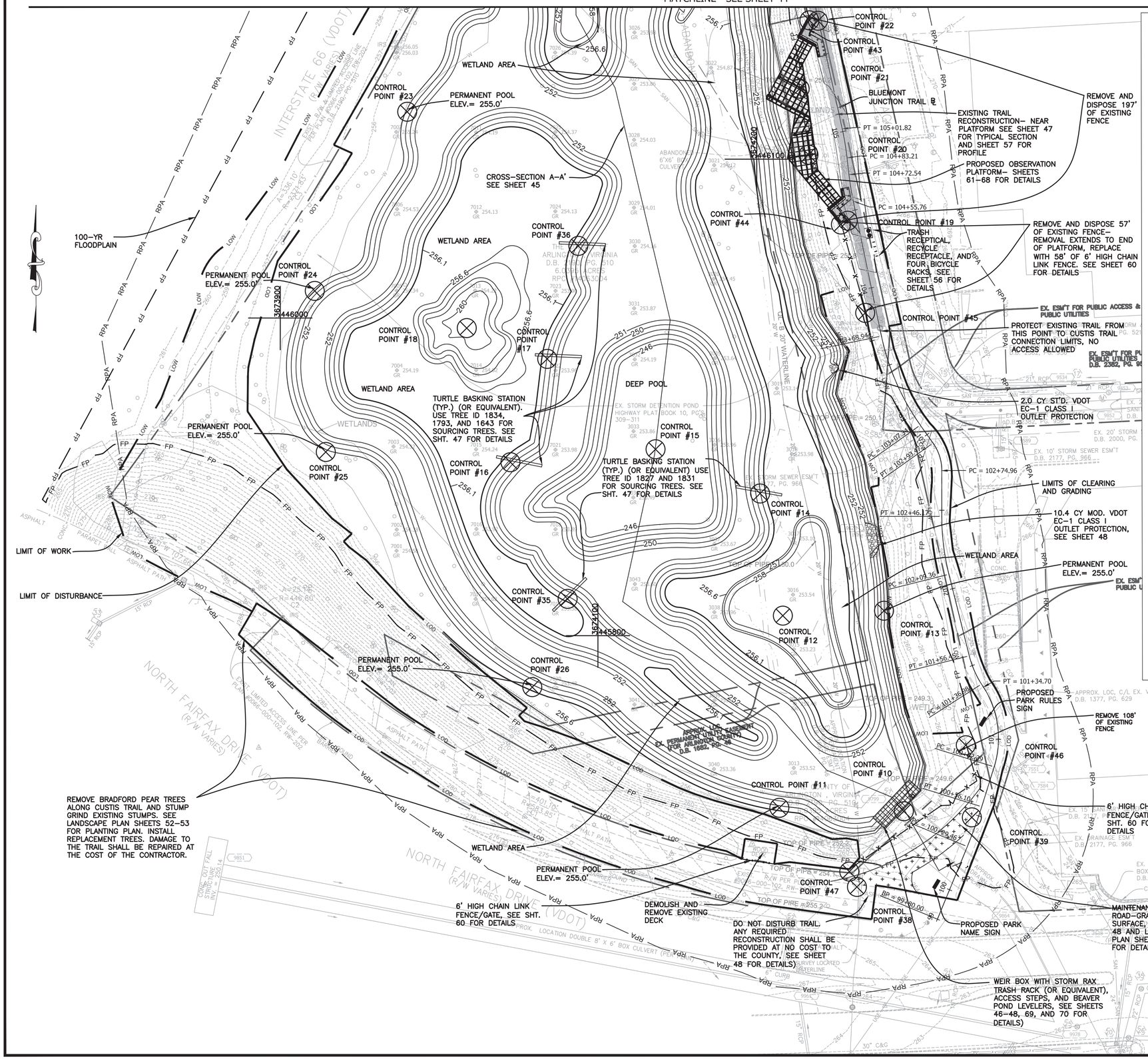
FILENAME:
BBP-256-WQIA.DWG
PATH:Q:\DATA\BBP\DESIGN\DRAWINGS

PLOTTED: SEPTEMBER 5 2019
PLOTTED BY: JTASTAD

SCALE:
GRAPHIC SCALE
60 0 60
SCALE: 1" = 60'

SHEET 42 OF 73

MATCHLINE - SEE SHEET 44



SUGGESTED SEQUENCE OF CONSTRUCTION

1. SCHEDULE A PRE-CONSTRUCTION MEETING WITH ARLINGTON COUNTY E&S OFFICIALS, INSPECTORS AND COUNTY ENGINEER. CONTRACTOR MUST OBTAIN COUNTY APPROVAL OF THE INSTALLATION OF ALL FIRST MEASURES BEFORE BEGINNING OF WORK. RLD MUST BE PRESENT AND SHOWN APPROVED LAND DISTURBANCE PERMIT BEFORE START OF WORK.
2. CONTRACTOR SHALL CONTACT THE ARLINGTON COUNTY URBAN FORESTER TO SCHEDULE A PRE-CONSTRUCTION INSPECTION BEFORE ANY WORK NEAR THE CRITICAL ROOT ZONES OF TREES. TO SCHEDULE CALL 703-228-1863.
3. PLACE TEMPORARY TRAFFIC CONTROLS FOR PATH CLOSURE.
4. INSTALL PHASE I EROSION AND SEDIMENT CONTROLS, INCLUDING TREE PROTECTION.
5. DEWATER AND GRADE WEST SIDE OF POND WITHIN WORK AREA A (NOTE: THIS WORK MAY OCCUR SIMULTANEOUSLY WITH UPLAND CLEARING AND PLANTING). ONLY 1/3RD OF WORK ZONE A MAY BE DISTURBED AT ANY GIVEN TIME. PLACE STABILIZATION SEEDING AND AND VDOT EC-2 TYPE 2 MATTING, IN ALL WETLAND AREAS UNLESS OTHERWISE DIRECTED BY PROJECT OFFICER. OVERSEED WITH ANNUAL RYE TO ESTABLISH IMMEDIATE STABILIZATION.
6. ADJACENT TO WORK AREA A, COMPLETE TREE REMOVAL AND INSTALL LANDSCAPING (EXCLUDING WETLAND PLANTINGS).
7. INSTALL TURTLE BASKING STATIONS.
8. ONCE ALL GRADING IS COMPLETE IN WORK AREA A, CONTRACTOR WILL VERIFY FINAL GRADES OF THE WEST PORTION USING PROJECT BENCHMARKS AND SUBMIT PARTIAL AS-BUILTS FOR THAT SECTION OF THE POND TO CONFIRM FINAL ELEVATIONS WERE MET. CONTRACTOR MUST RE-GRADE IF FINAL ELEVATIONS ARE NOT MET. WORKZONE A SHALL BE FULLY STABILIZED.
9. INSTALL PHASE II EROSION AND SEDIMENT CONTROLS, WITH THE EXCEPTION OF THE TURBIDITY CURTAIN DOWNSTREAM OF STRUCTURE 31, TRIPLE BOX CULVERT INFLOW STRUCTURE.
10. DEWATER AND GRADE THE EAST SIDE OF THE POND WITHIN WORK AREA B.
11. INSTALL OVERLOOK PLATFORM. (SPECIAL INSPECTION REQUIRED OF PLATFORM & PILES).
12. RELOCATE PORTADAM AND DEWATERING AROUND WEIR BOX, AS NECESSARY, TO INSTALL MODIFICATIONS TO STORMWATER MANAGEMENT WEIR BOX STRUCTURE. MAINTAIN PUMP AROUND SYSTEM THROUGHOUT INSTALLATION.
13. INSTALL THE REMAINDER OF THE LANDSCAPE PLANTINGS.
14. ONCE ALL GRADING IS COMPLETE ON THE EAST SIDE, CONTRACTOR WILL VERIFY FINAL GRADES OF THE EAST PORTION USING PROJECT BENCHMARKS AND SUBMIT PARTIAL AS-BUILTS FOR THAT SECTION OF THE POND TO CONFIRM FINAL ELEVATIONS WERE MET. NOTE: CONTRACTOR MUST RE-GRADE IF FINAL ELEVATIONS ARE NOT MET.
15. ONCE FINAL ELEVATIONS HAVE BEEN VERIFIED AND AS-BUILTS HAVE BEEN SECURED, REMOVE ALL EROSION CONTROL AND CONSTRUCTION EQUIPMENT FROM THE POND.
16. INSTALL TURBIDITY CURTAIN DOWNSTREAM OF STRUCTURE 31, PLACE RIPRAP OUTLET PROTECTION, THEN REMOVE TURBIDITY CURTAIN.
17. AFTER HYDROLOGY OF POND IS RE-ESTABLISHED, PLANT ALL WETLAND PLANTINGS IN POND. REFER TO SHEETS "WETLAND PLANTING PLAN AND SCHEDULE" FOR DETAILS.
18. CONTRACTOR MUST PROVIDE AS-BUILTS FOR WETLAND AND LANDSCAPING PLANTINGS TO CONFIRM FINAL DESIGN LAYOUT WAS MET.
19. INSTALL PERMANENT ACCESS ROAD AND APPLY FINAL STABILIZATION, WHERE APPLICABLE.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR POST-CONSTRUCTION MANAGEMENT OF INVASIVE PLANTS FOR TWO YEARS AFTER CONSTRUCTION, OF LANDSCAPING FOR TWO YEARS AFTER COUNTY PLANT APPROVAL, AND WETLAND PLANTINGS FOR TWO YEARS AFTER COUNTY PLANT APPROVAL. SEE SPECIFICATIONS FOR MORE DETAILS.
21. ONCE SITE HAS BEEN STABILIZED TO THE SATISFACTION OF THE COUNTY, REMOVE EROSION AND SEDIMENT CONTROLS.

NOTES:

1. CONTRACTOR SHALL CALL "MISS UTILITY" AT LEAST 72 HOURS PRIOR TO EXCAVATION TO MARK ALL EXISTING UNDERGROUND UTILITIES.
2. CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF THE EXISTING TRAIL WITHIN THE LIMITS OF DISTURBANCE, AND PROVIDE A RECORD COPY TO THE COUNTY. CONTRACTOR SHALL ALSO DOCUMENT USING PHOTOS AND/OR VIDEOS.
3. TREATMENT FOR INVASIVE SPECIES, AS WELL AS WILDLIFE RESCUE/REMOVAL SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF WATER LINE, PRIOR TO GRADING.
5. ACCESS TO THE SITE SHALL BE FROM THE NORTH (WASHINGTON BOULEVARD). NO OTHER ENTRANCES ARE PERMITTED.
6. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL TRAILS TO EXISTING CONDITIONS THAT ARE DISTURBED AND/OR DAMAGED DURING CONSTRUCTION. USE TYPICAL SECTIONS AS DETAILED IN PLANS FOR PLANNED TRAIL RECONSTRUCTION.
7. STOCKPILE DREDGE MATERIAL IN DESIGNATED AREA. ALLOW STOCKPILE TO DRY OUT PRIOR TO REMOVAL, AND DISPOSE IN A LANDFILL OR SITE APPROVED BY THE COUNTY.
8. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS SHOWING FINISHED GROUND CONTOURS, OUTLET STRUCTURE DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL ESTABLISH A FINISHED GRADE BENCHMARK. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF VIRGINIA. ALL COSTS SHALL BE INCLUDED UNDER CONSTRUCTION SURVEYING.
9. IT MAY BE DIFFICULT FOR ON-ROAD EQUIPMENT/VEHICLE TRAFFIC TO MANEUVER WITHIN THE EXISTING/PROPOSED POND. THE CONTRACTOR SHALL DETERMINE THE APPROPRIATE MEANS AND METHODS FOR TRAVERSING THIS AREA. NO ADDITIONAL PAYMENT WILL BE MADE DUE TO DIFFICULT ACCESS.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT FROM HARM, OR REPLACE UNDER A LICENSED LAND SURVEYOR, ALL PROPERTY MONUMENTATION DISTURBED BY CONSTRUCTION.
11. THE CONTRACTOR SHALL NOT ACCESS THE SITE FROM EXISTING LIMITED ACCESS ROADWAYS

LEGEND

- EXISTING TRAIL RECONSTRUCTION (NEAR PLATFORM SEE SHEET 47 FOR TYPICAL DETAILS AND SHEET 05 FOR TRAIL PROFILE)
- PROPOSED TRAIL WIDENING (SEE SHEET 47 FOR TYPICAL DETAILS AND SHEET 05 FOR TRAIL PROFILE)
- PROPOSED GRADING CONTROL POINTS
- GRASSPAVE

NOTE:

1. THE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WILL MAINTAIN BALLSTON POND, SWM 18-0311.
2. GOOSE EXCLUSION FENCING SHALL BE INSTALLED UPON COMPLETION OF LANDSCAPING AND SEEDING INSTALLATIONS IN THE WETLAND AREA. SEE PROJECT SPECIFICATIONS FOR PROJECT REQUIREMENTS.
3. DEER PROTECTION SHALL BE INSTALLED ON SMALL DIAMETER TREES OUTSIDE THE FENCED AREA. SEE PROJECT SPECIFICATIONS FOR PROJECT REQUIREMENTS.

SEE GEOMETRIC CONTROL PLAN, SHEET 05, FOR PROPOSED CONTROL POINT INFORMATION

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COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
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TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

PLAN SHEET

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 43-44-56-PLAN SHEET & TRAIL PROF.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\L6068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 13, 2019

PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'

GRAPHIC SCALE

SHEET 43 of 73

LEGEND

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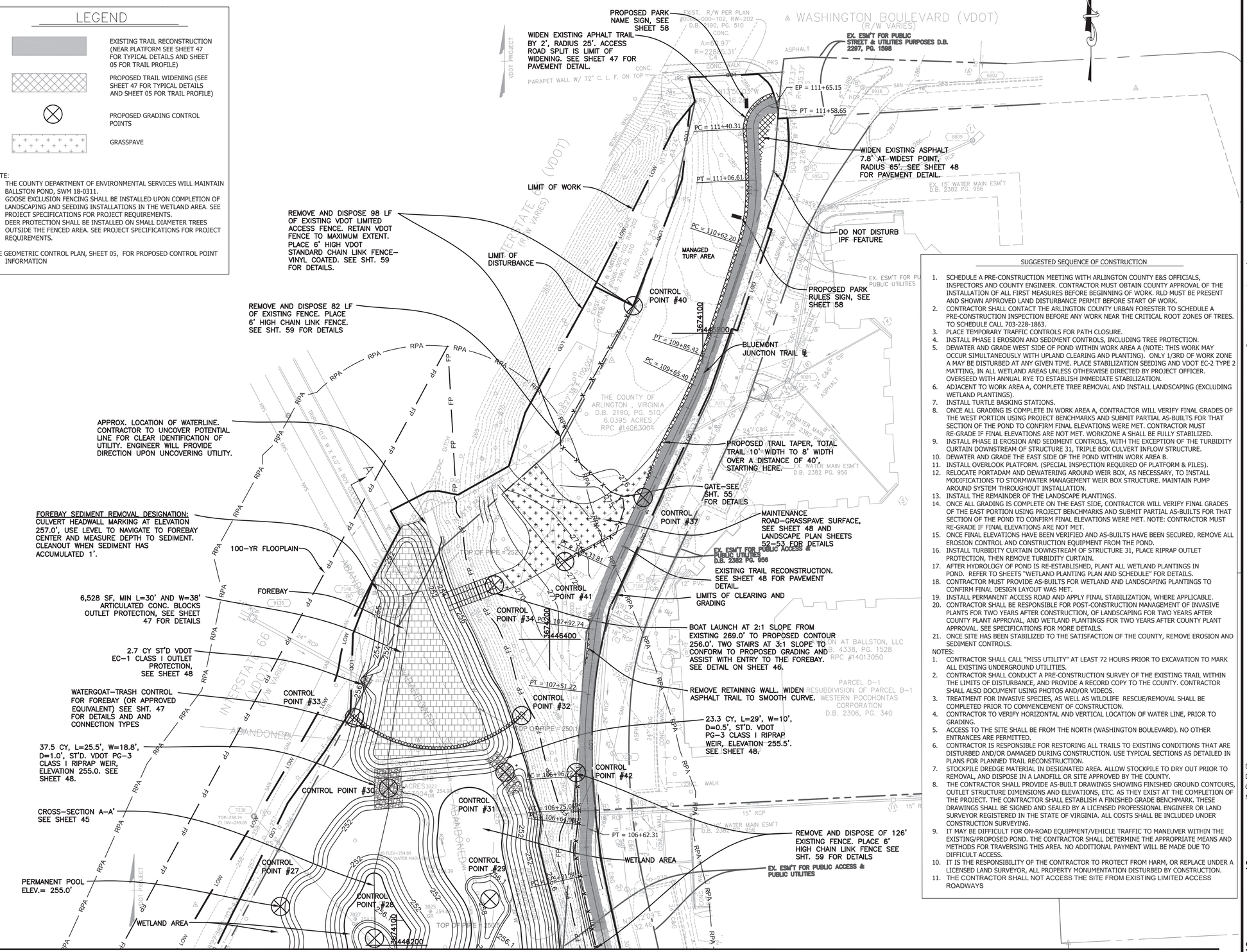

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3. TREATMENT FOR INVASIVE SPECIES, AS WELL AS WILDLIFE RESCUE/REMOVAL SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF WATER LINE, PRIOR TO GRADING.
5. ACCESS TO THE SITE SHALL BE FROM THE NORTH (WASHINGTON BOULEVARD). NO OTHER ENTRANCES ARE PERMITTED.
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SEAL

COMMONWEALTH OF VIRGINIA — JONATHAN MICHAEL FINERFROCK — Lic. No. 44505 — PROFESSIONAL ENGINEER — 8/2019

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

PLAN SHEET

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 43-44-56-PLAN SHEET & TRAIL PROF.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\L6068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 13, 2019

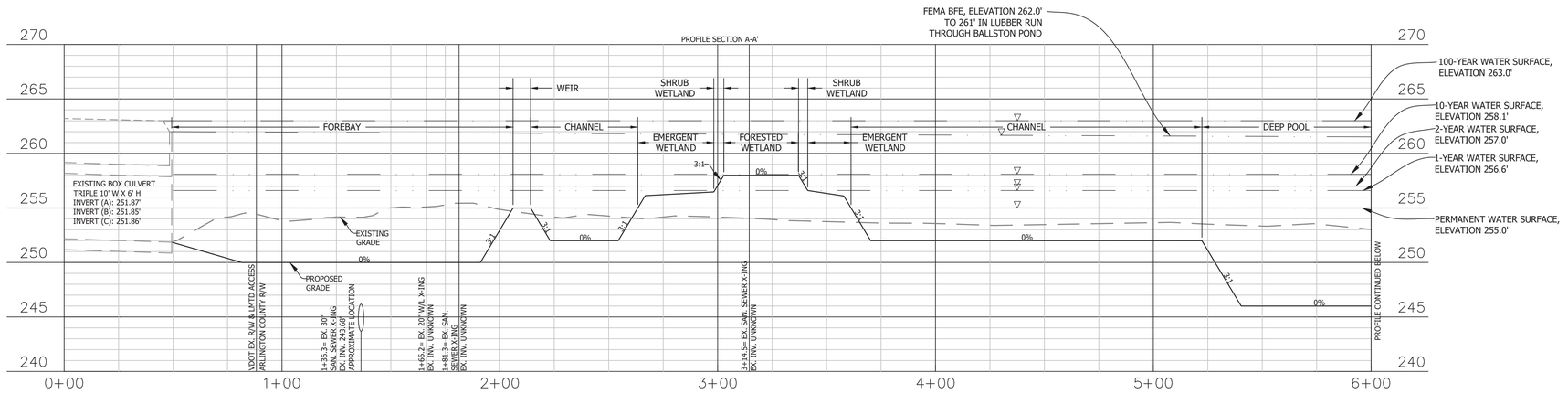
PLOTTED BY: ecox

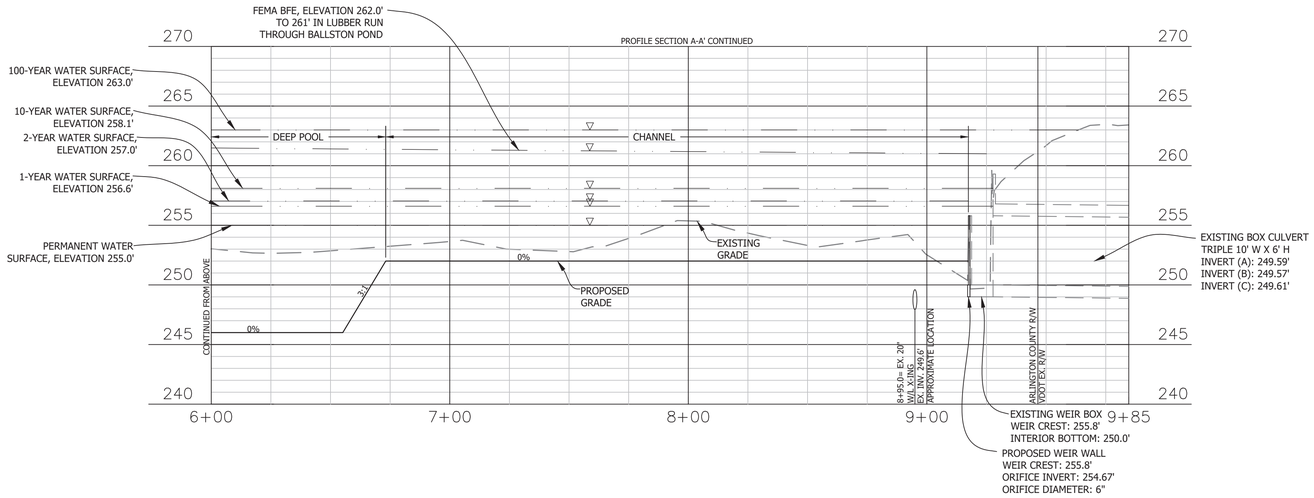
SCALE: Hor.: 1"=30'

0' 30' 60'

GRAPHIC SCALE

SHEET 44 of 73





ARLINGTON
VIRGINIA

DEPARTMENT OF
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BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/21/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
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Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

POND PROFILE

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 45-POND XS.dwg

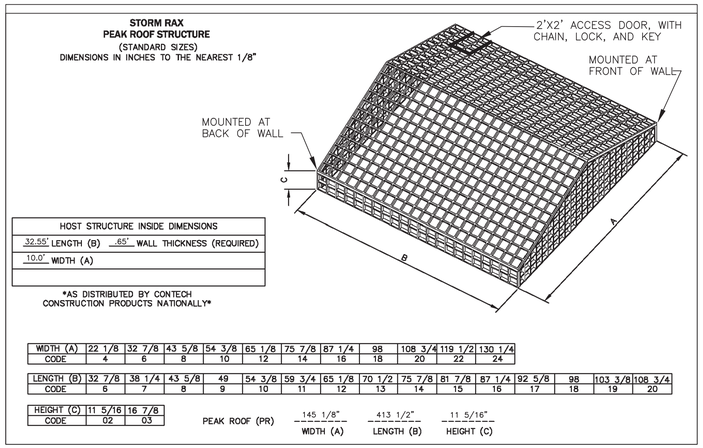
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'
Vert.: 1"=6'

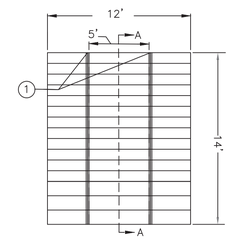
0' 30' 60'
GRAPHIC SCALE

SHEET 45 of 73

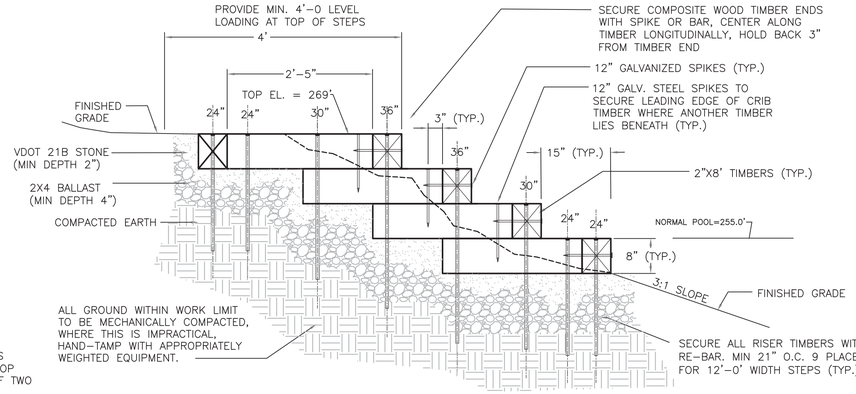


TRASH RACK AT OUTLET STRUCTURE
STORM RAX (OR EQUIVALENT)

NOTE:
1. PROVIDE ACCESS STEPS INSIDE ACCESS DOOR TO WEIR BOTTOM, SEE SHEET 48 FOR VDOT ST-1 DETAILS.



PLAN VIEW

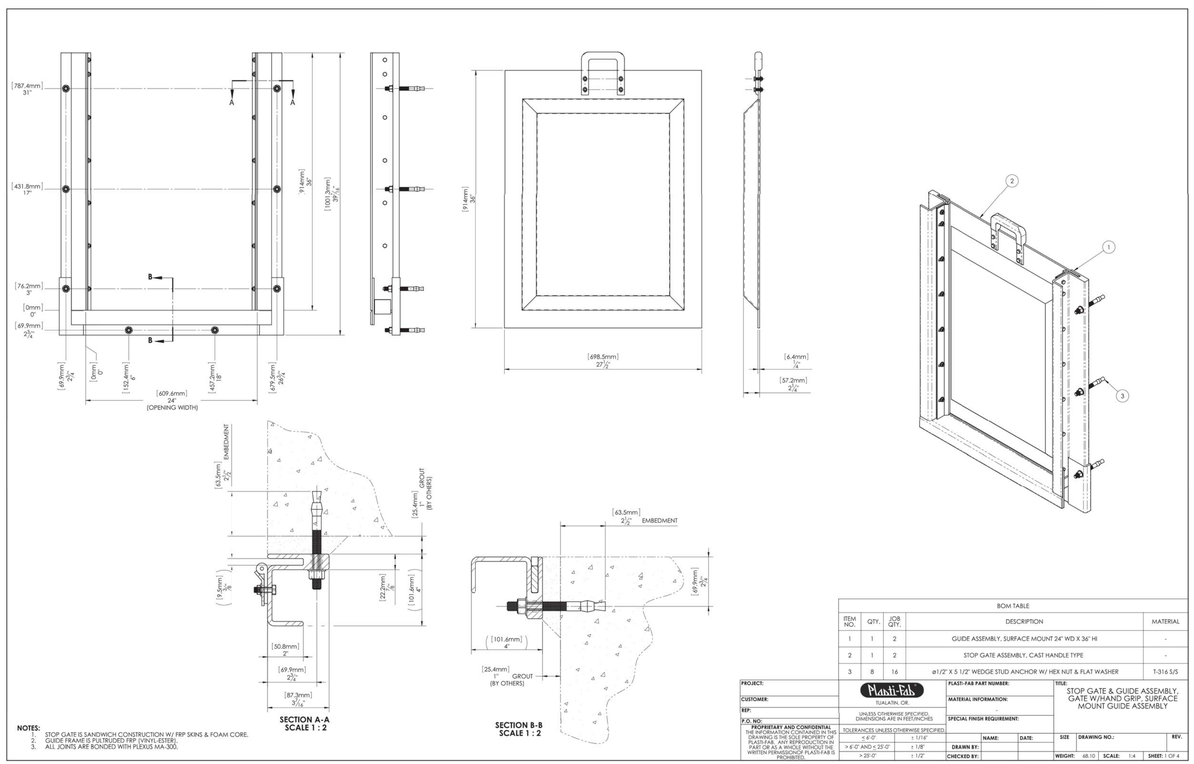


CROSS SECTION VIEW A-A

(1) 2 BOAT SLIDE RAILS: 2-2"X8" COMPOSITE WOOD TIMBERS FASTENED WITH JOIST HARDWARE TO LEADING EDGE OF TOP STEP AND TO TOP OF EACH SUBSEQUENT STEP. SET OF TWO TIMBERS SPACED 5' APART AND CENTERED ON 12' WIDE STEPS.

NOTES:
1. USE THIS DETAIL WHERE AVERAGE GROUND SLOPE IS 25-50%.
2. PREPARE ALL SUBGRADE SURFACES PRIOR TO DRILLING TIMBERS FOR STEEL PINS. ADJUST DRILL-POINTS TO ALLOW FOR SUBGRADE OBSTRUCTIONS SUCH AS ROCKS. COMPACT ALL SUBGRADE SURFACES TO RECEIVE TIMBERS.
3. ALL HORIZONTAL DIMENSIONS GIVEN ABOVE ASSUME 2:1 (50%) GRADE. ADJUST AS NECESSARY TO ACCOMODATE SHALLOWER GRADES TO 4:1 (25%).
4. BACKFILL ALL TIMBER CRIBS WITH MIN. 6" COMPACTED VDOT 21B AGGREGATE, COMPACT FINISHED GRADE FLUSH TO TOP OF TIMBER CRIB.
5. ALL TIMBERS SHALL BE COMPOSITE WOOD TIMBERS OF NATURAL COLOR.
6. STEPS MUST BE INSTALLED AT CONSTANT SPACING AND SLOPE IN ORDER TO PROPERLY RECEIVE BOAT RAILINGS.

BOAT STAIR ACCESS DETAIL
N.T.S.



NOTES:
1. STOP GATE IS SANDWICH CONSTRUCTION W/ FRP SKINS & FOAM CORE.
2. GUIDE FRAME IS PULTRUDED FRP (VINYL-ESTER).
3. ALL JOINTS ARE BONDED WITH PLEXUS MA-300.

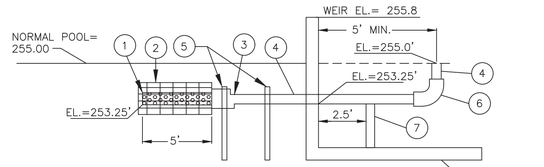
BOM TABLE				
ITEM NO.	QTY.	JOB QTY.	DESCRIPTION	MATERIAL
1	1	2	GUIDE ASSEMBLY, SURFACE MOUNT 24" WD X 36" HI	-
2	1	2	STOP GATE ASSEMBLY, CAST HANDLE TYPE	-
3	8	16	ø1/2" X 5 1/2" WEDGE STUD ANCHOR W/ HEX NUT & FLAT WASHER	T-316 S/S

PROJECT:
CUSTOMER:
REF:
P.O. NO:
Plasti-Fab TUALATIN, OR
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET/INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED:
< 6'-0" ± 1/16"
> 6'-0" AND < 21'-0" ± 1/8"
> 21'-0" ± 1/2"
PLASTI-FAB PART NUMBER: -
MATERIAL INFORMATION: -
SPECIAL FINISH REQUIREMENT:
DRAWN BY: NAME: DATE:
CHECKED BY:
TITLE: STOP GATE & GUIDE ASSEMBLY, GATE W/HAND GRIP, SURFACE MOUNT GUIDE ASSEMBLY
SIZE DRAWING NO.: REV.
WEIGHT: 68.10 SCALE: 1:4 SHEET: 1 OF 4

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF PLASTI-FAB. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF PLASTI-FAB IS PROHIBITED.

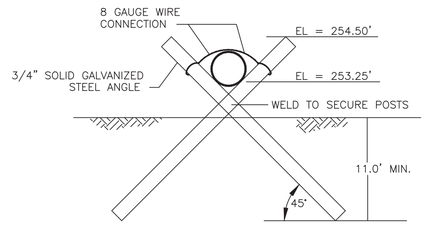
STOP GATE AT OUTLET STRUCTURE
PLASTI-FAB (OR EQUIVALENT)
N.T.S.

BEAVER POND LEVELER (BYPASS DEVICE)
N.T.S.



1. 5 LF 8" DIA. PVC PIPE PERFORATED
2. 24" DIA. WIRE CAGE AROUND PIPE GALVANIZED OR STAINLESS STEEL 6 LF 2"X4" 12 1/2 GAUGE WELD WIRE, ATTACHED TO PVC WITH 8 GAUGE WIRE TIED TO EYE BOLT DRILLED INTO PVC.
3. 8" TO 6" PVC REDUCER (WATERTIGHT SEAL)
4. 10 LF 6" DIA. PVC PIPE
5. SUPPORT POST SPACED 5' OC, SEE DETAIL BELOW
6. 6" 90 DEGREE PVC ELBOW.
7. SUPPORT POST 3" C CHANNEL, ATTACHED TO PVC WITH A SADDLE CLAMP, BOLTED TO CHANNEL AND WEIR BOTTOM. ALL MATERIAL SHALL BE GALVANIZED OR STAINLESS STEEL.

NOTES:
1. ALL PVC AND FITTINGS SHALL BE SCHEDULE 80, SECURED WITH PVC CEMENT.
2. RISING WATER LEVEL FORCES WATER THROUGH DEVICE.
3. COMPLETE BEAVER POND LEVELER KIT WEIGHT = APPROX. 265 LBS.
4. FLOW RATE = MORE THAN 10,000 GALLONS PER HOUR.
5. OUTLET STRUCTURE WILL BE EQUIPT WITH TWO BYPASS DEVICES.



SUPPORT POST DETAIL
N.T.S.

ARLINGTON
VIRGINIA
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SEAL
COMMONWEALTH OF VIRGINIA
TIAN MICHEL FINERFROCK
Lic. No. 44505
8/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
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TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

SITE DETAILS

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR
PROJECT NUMBER: BBP

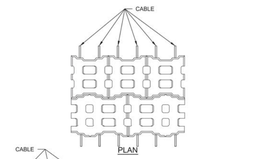
DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 46-47-48-SITE DETS.dwg
PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan
PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 46 of 73

ARTICULATED CONCRETE BLOCKS OUTLET PROTECTION
ARMORFLEX OR APPROVED EQUIVALENT



TYP. 40T - 1.5 BLOCK (1)
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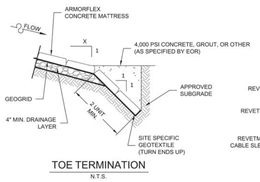
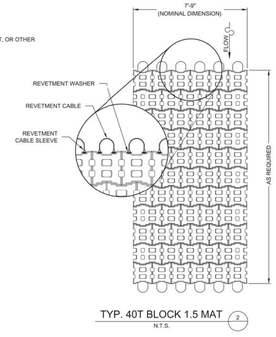
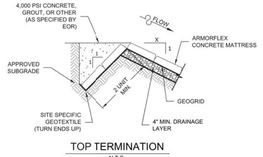


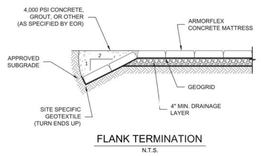
TOE TERMINATION
N.T.S.



TYP. 40T BLOCK 1.5 MAT (2)
N.T.S.

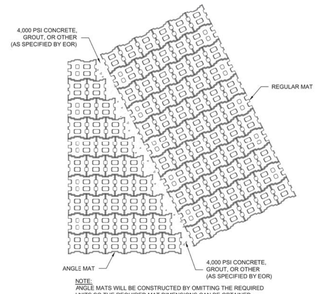


TOP TERMINATION
N.T.S.



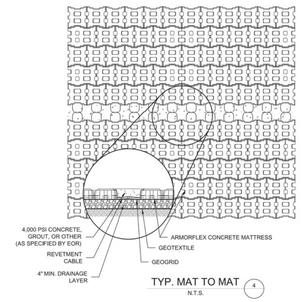
FLANK TERMINATION
N.T.S.

PRELIMINARY
NOT FOR CONSTRUCTION



NOTE:
ANGLE MATS WILL BE CONSTRUCTED BY OMITTING THE REQUIRED UNITS SO THE REQUIRED MAT DIMENSIONS CAN BE OBTAINED.

TYP. ANGLE MAT (3)
N.T.S.



TYP. MAT TO MAT (4)
N.T.S.

PRELIMINARY
NOT FOR CONSTRUCTION

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

ARMORTEC Armtec Engineered Solutions
CONTECH PROPOSAL DRAWING

ARMORFLEX
CLASS 40T. BLOCK & HALF
STANDARD TERMINATION DETAILS

PROJECT No.:	REQ. No.:	DATE:
		09/26/2018
DESIGNED:	DRAWN:	
	MEG	
CHECKED:	APPROVED:	
	CBK	
SHEET NO.:	CT1 OF CT2	

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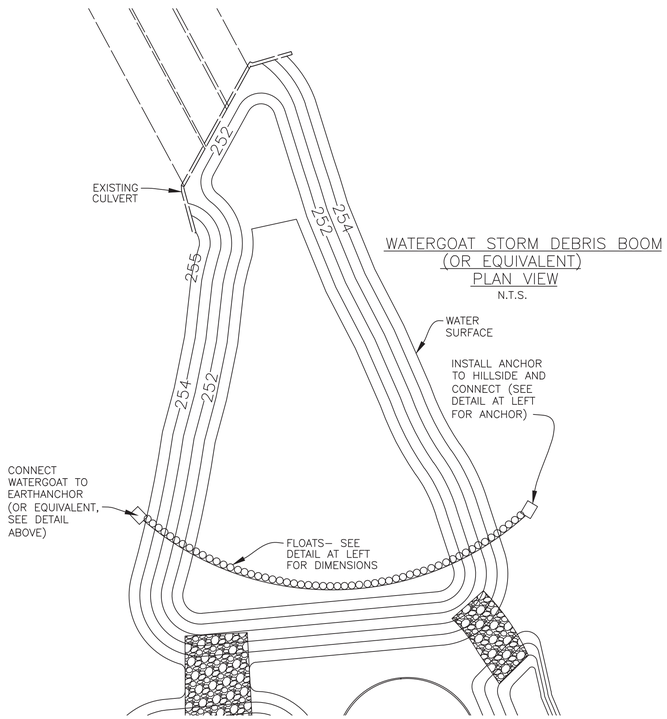
MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

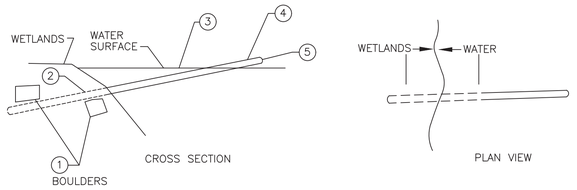
ARMORTEC Armtec Engineered Solutions
CONTECH PROPOSAL DRAWING

ARMORFLEX
CLASS 40T, BLOCK & HALF
STANDARD TERMINATION DETAILS

PROJECT No.:	REQ. No.:	DATE:
		09/26/2018
DESIGNED:	DRAWN:	
	MEG	
CHECKED:	APPROVED:	
	CBK	
SHEET NO.:	CT2 OF CT2	

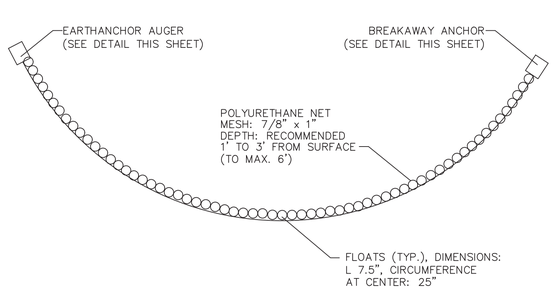


WATERGOAT STORM DEBRIS BOOM
(OR EQUIVALENT)
PLAN VIEW
N.T.S.

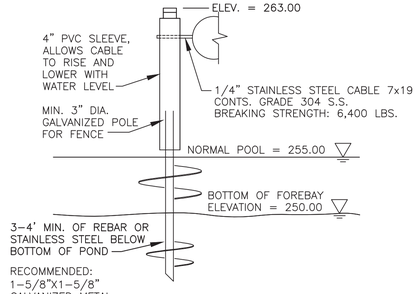


1. BOULDERS TO BE D_{50}>1', ATTACHED TO TREE TRUNK WITH 3/16", 7X19 TYPE 304 STAINLESS STEEL CABLE.
2. MINIMUM LENGTH OF EMBEDED TRUNK = 2'
3. MINIMUM DISTANCE BETWEEN EDGE OF SHORE AND EXPOSED TRUNK = 5'
4. MINIMUM LENGTH OF EXPOSED TRUNK = 5'
5. SALVAGED TREE TRUNK WITH BARK ATTACHED AND BRANCHES REMOVED. MINIMUM TRUNK DIAMETER = 8". TRUNK SHOULD BE PLACED TO MIN. SLOPE, OF APPROXIMATELY 5%.

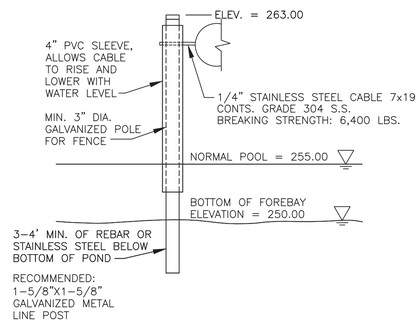
TURTLE BASKING STATIONS
N.T.S.



WATERGOAT AND NET DETAIL
(OR EQUIVALENT)
N.S.T.



WATERGOAT EARTHANCHOR
AUGER DETAIL
N.T.S.



WATERGOAT BREAKAWAY
ANCHOR DETAIL
N.T.S.

ARLINGTON
VIRGINIA

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FACILITIES & ENGINEERING DIVISION
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SEAL

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PROJECT MANAGER	

REVISIONS	DATE

SITE DETAILS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
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MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 46-47-48-SITE DETS.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

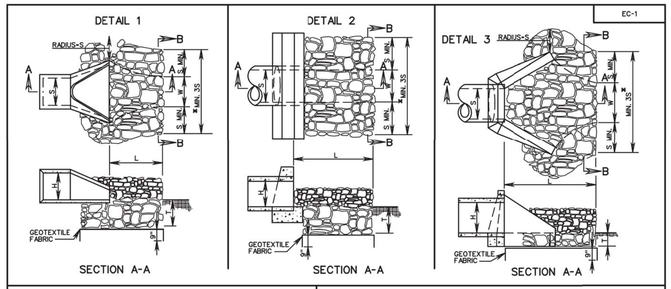
PLOTTED: November 12, 2019
PLOTTED BY: ecox

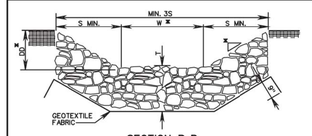
SCALE: N.T.S.

SHEET 47 of 73

2016 ROAD & BRIDGE STANDARDS

EC-1





TYPE OF OUTLET PROTECTION MATERIAL		MAXIMUM OUTLET VELOCITY (FOR DESIGN STORM)	MINIMUM "T" (INCHES)
CLASS AI	CLASS AI DRY RIPRAP	8 fps	18
CLASS I	CLASS I DRY RIPRAP	14 fps	24
CLASS II	CLASS II DRY RIPRAP	19 fps	36

NOTES:

1. FOR MULTIPLE LINE INSTALLATIONS, DIMENSION S IS TO GOVERN THE PROTECTION OUTSIDE THE CHANNEL WIDTH (W).
2. ON ANY INSTALLATION REQUIRING CULVERT OUTLET PROTECTION WHERE NO ENDWALL OR ENDSECTION IS SPECIFIED ON THE PLANS, CONSTRUCTION IS TO BE IN ACCORDANCE WITH DETAIL 2 SHOWN ABOVE.
3. GEOTEXTILE FABRIC TO BE INSTALLED UNDER CLASS AI,I, AND II MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.
4. S = DIAMETER OF CIRCULAR CULVERT OR SPAN FOR BOX, ELLIPTICAL OR ARCH CULVERT. H = DIAMETER OF CIRCULAR CULVERT OR RISE/HEIGHT FOR BOX, ELLIPTICAL OR ARCH CULVERT.

✖ USE TYPICAL SECTION SHOWN ON PLANS FOR SIDE SLOPE, BOTTOM WIDTH AND DEPTH OF CHANNEL OR MATCH EXISTING DITCH OR NATURAL GROUND.

OUTLET PROTECTION MINIMUM LENGTH (L)	
TYPE A INSTALLATION	3H
TYPE B INSTALLATION	5H

SPECIFICATION REFERENCE
204 245 303 414

CULVERT OUTLET PROTECTION

VIRGINIA DEPARTMENT OF TRANSPORTATION

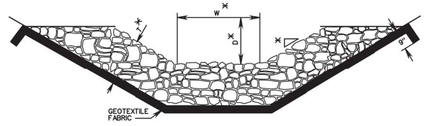
VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
	113.01

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

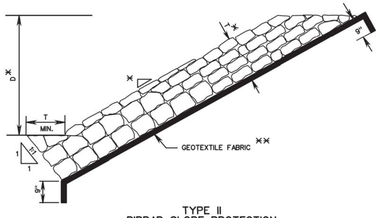
PG-3

PG-3



TYPE I
RIPRAP DITCH PROTECTION

MINIMUM THICKNESS "T"	
RIP RAP CLASS	MINIMUM "T"
CLASS AI	20"
CLASS I	26"
CLASS II	38"
CLASS III	53"



TYPE II
RIPRAP SLOPE PROTECTION

NOTES:

✖✖ RIP RAP BEDDING MATERIAL

GEOTEXTILE FABRIC TO BE PROVIDED UNDER ALL RIPRAP INSTALLATIONS CLASS AI, CLASS I AND CLASS II UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER.

RIPRAP INSTALLATIONS OF CLASS III SHALL HAVE AN INTERMEDIATE AGGREGATE BEDDING LAYER(S) AS SPECIFIED ON THE PLANS BASED ON GEOTECHNICAL RECOMMENDATIONS.

✖ SEE TYPICAL SECTION SHOWN ON PLANS FOR SIDE SLOPE, BOTTOM WIDTH AND DEPTH OF CHANNEL AND RIPRAP THICKNESS.

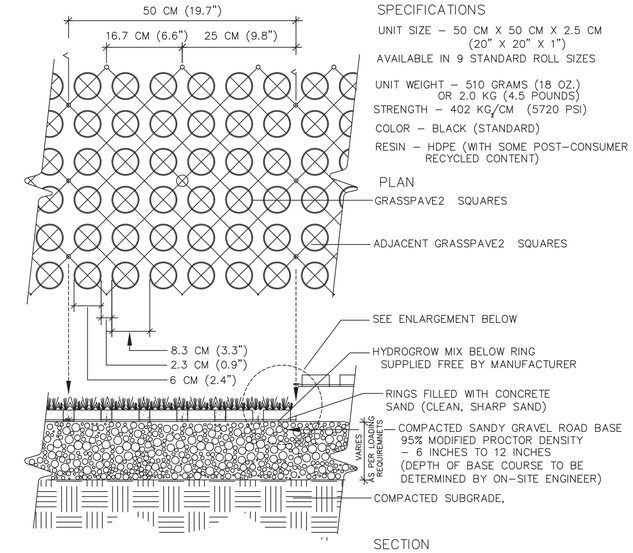
VDOT ROAD AND BRIDGE STANDARDS	
SHEET 1 OF 1	REVISION DATE
109.02	

STANDARD RIP RAP DITCH & SLOPE PROTECTION PG-3

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
245 414

2016 ROAD & BRIDGE STANDARDS



SPECIFICATIONS

UNIT SIZE – 50 CM X 50 CM X 2.5 CM (20" X 20" X 1")

AVAILABLE IN 9 STANDARD ROLL SIZES

UNIT WEIGHT – 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)

STRENGTH – 402 KG/CM (5720 PSI)

COLOR – BLACK (STANDARD)

RESIN – HDPE (WITH SOME POST-CONSUMER RECYCLED CONTENT)

PLAN

GRASSPAVE2 SQUARES

ADJACENT GRASSPAVE2 SQUARES

SEE ENLARGEMENT BELOW

HYDROGROW MIX BELOW RING SUPPLIED FREE BY MANUFACTURER

RINGS FILLED WITH CONCRETE SAND (CLEAN, SHARP SAND)

COMPACTED SANDY GRAVEL ROAD BASE 95% MODIFIED PROCTOR DENSITY – 6 INCHES TO 12 INCHES (DEPTH OF BASE COURSE TO BE DETERMINED BY ON-SITE ENGINEER)

COMPACTED SUBGRADE,

SECTION

TOP OF GRASS ROOT MASS 6 MM (1/4") ABOVE TOP OF RING

GRASSPAVE2 ATTACH WITH SNAP-FIT FASTENERS

ROOT MASS TO FILL GRASSPAVE2

COMPACTED SANDY GRAVEL BASE COURSE

ENLARGEMENT

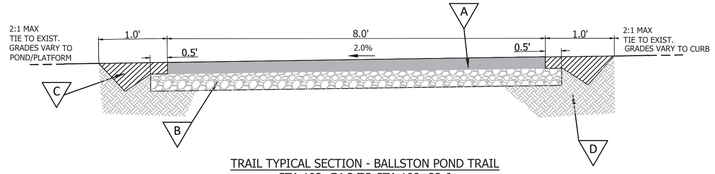
NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE PLAN, SEE SHEETS 52–53.

TYPICAL GRASSPAVE DETAIL– BALLSTON MAINTENANCE ROAD

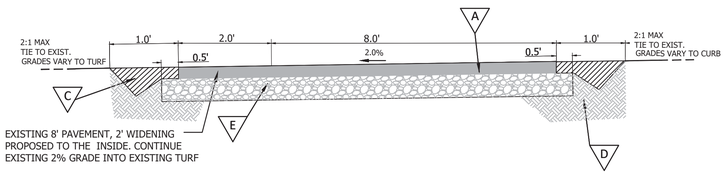
NOT TO SCALE

CHOOSE THIS PRODUCT FOR REINFORCING GRASS WEARING SURFACES OR APPROVED EQUIVALENT

1
1 OF 1



TRAIL TYPICAL SECTION - BALLSTON POND TRAIL
STA 103+74.2 TO STA 109+23.6
(N.T.S)



TRAIL TYPICAL SECTION - BALLSTON POND TRAIL
STA 109+23.6 TO STA 111+11.0
(N.T.S)

TRAIL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL STRICTLY FOLLOW THE TYPICAL SECTION PROVIDED THROUGH OUT THE PLAN. ANY DEVIATIONS OR MODIFICATIONS TO THE TRAIL SECTION SHALL BE APPROVED BY THE ENGINEER.
2. TRANSITIONS FROM THE TYPICAL SECTION TO THE EXISTING CONDITION SHALL BE TAPERED SMOOTHLY ON BOTH EDGES OF THE TRAIL.
3. BOTH THE ASPHALT AND THE BASE MATERIAL OF THE EXISTING TRAIL SHALL BE COMPLETELY REMOVED AND THE SUB BASE COMPACTED TO 95% MAXIMUM DENSITY ACCORDING TO ASHTO STANDARDS BEFORE PLACING THE NEW SECTION OF ASPHALT.
4. STABLE SUBGRADE SHALL COMPRISE SOLID, WELL DRAINED, UNDISTURBED EARTH CAPABLE OF SUPPORTING STREET LOADING WITHOUT RESULTING IN ANY DAMAGING SETTLEMENT AS DETERMINED BY THE ENGINEER.
5. WHERE UNSUITABLE SUBGRADE, AS DETERMINED BY THE ENGINEER, IS ENCOUNTERED, IT SHALL BE MADE STABLE BY DRAINING, COMPACTING AND/OR REPLACING AS REQUIRED, TO THE SATISFACTION OF THE ENGINEER.

A 4" VDOT TYPE SM-9.5A ASPHALT CONCRETE

B 6" VDOT 21-A AGGREGATE BASE

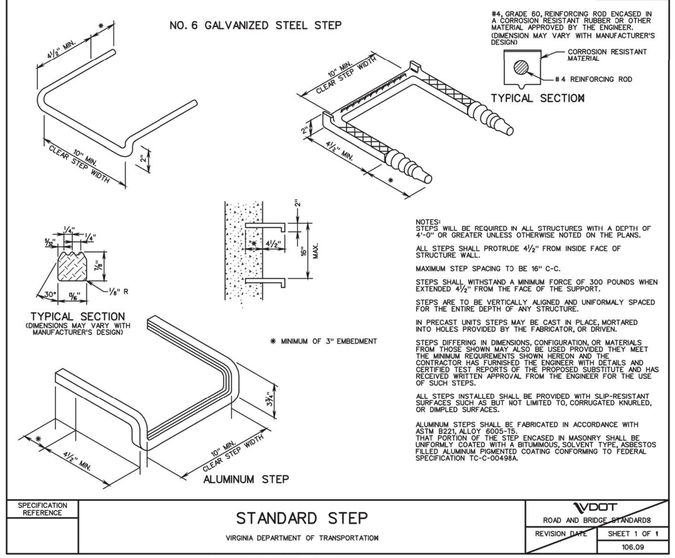
C TOPSOIL BACKFILL AND SEED / SOD.

D COMPACTED SUBGRADE (95% MAXIMUM DENSITY PER AASHTO T-99

E 8" VDOT 21-A AGGREGATE BASE

2016 ROAD & BRIDGE STANDARDS

ST-1



NOTES:
STEPS WILL BE REQUIRED IN ALL STRUCTURES WITH A DEPTH OF 4'-0" OR GREATER UNLESS OTHERWISE NOTED ON THE PLANS.

ALL STEPS SHALL PROTRUDE 4½" FROM INSIDE FACE OF STRUCTURE WALL.

MAXIMUM STEP SPACING TO BE 16" C-C.

STEPS SHALL WITHSTAND A MINIMUM FORCE OF 300 POUNDS WHEN EXTENDED 4½" FROM THE FACE OF THE SUPPORT.

STEPS ARE TO BE VERTICALLY ALIGNED AND UNIFORMALY SPACED FOR THE ENTIRE DEPTH OF ANY STRUCTURE.

IN PRECAST UNITS STEPS MAY BE CAST IN PLACE, MORTARED INTO HOLES PROVIDED BY THE FABRICATOR, OR DRIVEN.

STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THEY MEET THE MINIMUM REQUIREMENTS SHOWN HEREON AND THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS AND CERTIFIED TEST REPORTS OF THE PROPOSED SUBSTITUTE AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

ALL STEPS INSTALLED SHALL BE PROVIDED WITH SLIP-RESISTANT SURFACES SUCH AS BUT NOT LIMITED TO, CORRUGATED KNURLED, OR DIMPLED SURFACES.

ALUMINUM STEPS SHALL BE FABRICATED IN ACCORDANCE WITH ASTM B221, ALLOY 6005-T5. THAT PORTION OF THE STEP ENCASED IN MASONRY SHALL BE UNIFORMLY COATED WITH A BITUMMOUS, SOLVENT TYPE, ASBESTOS FILLED ALUMINUM PIGMENTED COATING CONFORMING TO FEDERAL SPECIFICATION TC-C-00498A.

SPECIFICATION REFERENCE

STANDARD STEP

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
	106.09

2016 ROAD & BRIDGE STANDARDS

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/21/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Tahtak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

SITE DETAILS

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 46-47-48-SITE DETS.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

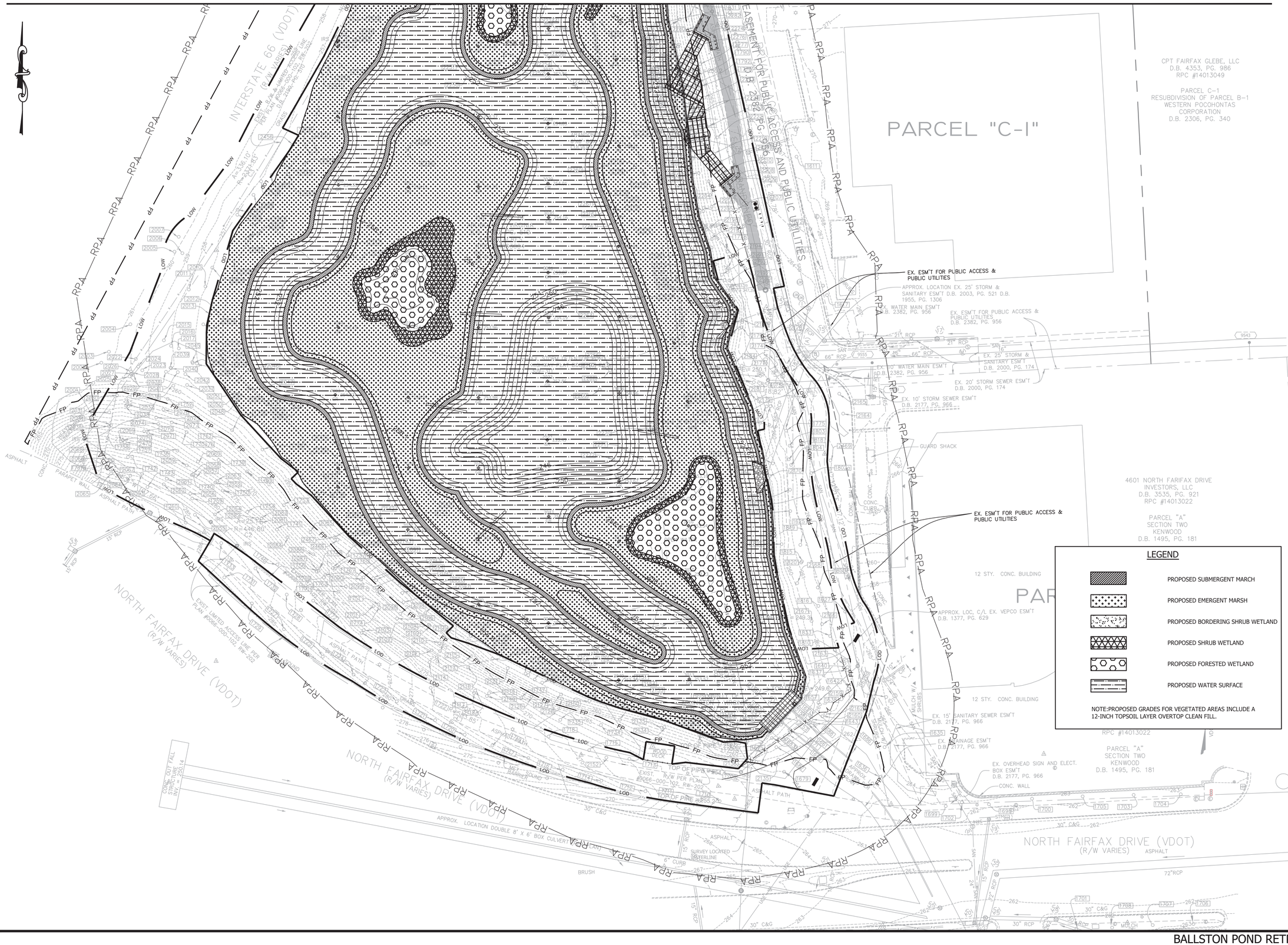
PLOTTED: November 12, 2019

PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 48 of 73

MATCHLINE - SEE SHEET 50



LEGEND

- PROPOSED SUBMERGENT MARCH
- PROPOSED EMERGENT MARSH
- PROPOSED BORDERING SHRUB WETLAND
- PROPOSED SHRUB WETLAND
- PROPOSED FORESTED WETLAND
- PROPOSED WATER SURFACE

NOTE:PROPOSED GRADES FOR VEGETATED AREAS INCLUDE A 12-INCH TOPSOIL LAYER OVERTOP CLEAN FILL.

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DAMIAN MICHAEL FINERFROCK
Lic. No. 44505
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8/21/19

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	04/07/20
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TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WETLAND PLANTING PLAN

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 49-50-WETLAND PLANTING PLN.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

MATCHLINE - SEE SHEET 49

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	04/07/20
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WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WETLAND PLANTING PLAN

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 49-50-WETLAND PLANTING PLN.dwg
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET 50 of 73

PLANT AND SEEDING SCHEDULE

WETLAND SEED MIX

Species Name	Common Name	Wetland Indicator Status	Percent of Seed Mix
Elymus virginicus	Virginia Wildrye	FACW-	25
Leersia virginica	White Grass	FACW	20
Glyceria striata	Fowl Manna Grass	NI	5
Polygonum pensylvanicum	Pennsylvania Smartweed	FACW	5
Lolium multiflorum	Annual Rye	FACU	5
Scirpus cyperinus	Woolgrass	FACW+	5
Carex vulpinoidea	Fox Sedge	FACW	10
Eupatorium perfoliatum	Common Boneset	FACW+	3
Ludwigia alternifolia	Seedbox	FACW+	3
Vernonia noveboracensis	New York Ironweed	FACW+	3
Asclepias incarnata	Swamp Milkweed	OBL	3
Bidens cernua	Nodding Bur Marigold	OBL	3
Carex stipata	Awl-fruited Sedge	OBL	3
Helenium autumnale	Common Sneezeweed	FACW+	3
Mimulus ringens	Square Stemmed Monkey	OBL	2
Verbena hastata	Blue Vervain	FACW+	2
	TOTAL		**100**

NOTE
THE CONTRACTOR SHALL BE RESPONSIBLE FOR POST-CONSTRUCTION MANAGEMENT OF WETLAND PLANTINGS FOR TWO YEARS AFTER COUNTY APPROVAL OF THE PLANTS, SEE WETLAND SEEDING AND WETLAND PLANTING SPECIFICATIONS FOR MORE DETAILS.

SUBMERGENT MARSH - Elevations 254.0 to 255.0

Size Planted (acres): 0.1986
Size Seeded (acres): 0

Minimum Spacing (Feet on Center)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Min. Stem Height	Type	Comment
				Submergent Herbaceous					
2	10,890	15	324	*Pontederia Cordata*	Pickerelweed	OBL	6"	Deep Plug	Plant above/at 6"
4	2723	40	216	*Nymphaea odorata*	White Water Lily	OBL	6"	Deep Plug	Plant below 6"
2	10,890	15	324	*Carex vulpinoidea*	Fox Sedge	OBL	6"	Deep Plug	Plant above/at 6"
2	10,890	15	324	*Scirpus atrovirens*	Green Bulrush	OBL	6"	Deep Plug	Plant above/at 6"
		85	**1190**	**=Total**					

Seed Mix	Application Rate	Application Method	Additional Notes	Total Seed (lbs)
Wetland Seed Mix	60 lbs/ac	Dry broadcast spreader		0

EMERGENT MARSH - Elevations 255.0 to 256.6

Size Planted (acres): 1.5875
Size Seeded (acres): 1.5875

Minimum Spacing (Feet on Center)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Min. Stem Height	Type	Comment
2	10,890			**Emergent Herbaceous**					
		10	1729	*Eupatorium perfoliatum*	Boneset	FACW+	6"	Deep Plug/Peat Pot	
		10	1729	*Eupatorium fistulosum*	Hollow Joe-pye-weed	FACW	6"	Deep Plug/Peat Pot	
		10	1729	*Eupatorium coelestinum*	Mistflower	FACW+	6"	Deep Plug/Peat Pot	
		15	2593	*Symphyotrichum racemosum*	Small White Aster	FACW	6"	Deep Plug/Peat Pot	
		5	864	*Asclepias incarnata*	Swamp Milkweed	OBL	6"	Deep Plug/Peat Pot	
		25	4322	*Juncus effusus*	Soft Rush	FACW+	6"	Deep Plug/Peat Pot	
		10	1729	*Lobelia cardinalis*	Cardinal Flower	FACW+	6"	Deep Plug/Peat Pot	
		5	864	*Sagitaria latifolia*	Common Arrowhead	OBL	6"	Deep Plug/Peat Pot	
		10	1729	*Vernonia noveborecensis*	New York Ironweed	FACW	6"	Deep Plug/Peat Pot	
		100	**17288**	**=Total**					

Seed Mix	Application Rate	Application Method	Additional Notes	Total Seed (lbs)
Wetland Seed Mix	60 lbs/ac	Dry broadcast spreader		95.3

BORDERING SHRUB WETLAND - Elevations 255.0 to 256.6

Size Planted (acres): 0.0156
Size Seeded (acres): 0.0156

Minimum Spacing (Feet on Center)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Min. Stem Height	Type	Comment
				WOODY					
4	2723	20	8	*Cephalanthus occidentalis*	Buttonbush	OBL	24"	3-Gal Cont.	
2	10890	40	68	*Juncus effusus*	Soft Rush	FACW+	6"	Deep Plug/Peat Pot	
2	10890	40	68	*Sagittaria latifolia*	Common Arrowhead	OBL	6"	Deep Plug/Peat Pot	
		100	**144**	**=Total**					

Seed Mix	Application Rate	Application Method	Additional Notes	Total Seed (lbs)
Wetland Seed Mix	60 lbs/ac	Dry broadcast spreader		0.9

SHRUB WETLAND - Elevations 256.6 to 258.0

Size Planted (acres): 0.1085
Size Seeded (acres): 0.1085

Minimum Spacing (Feet on Center)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/Species Name	Common Name	Wetland Indicator Status	Min. Stem Height	Type	Comment
10	400			**WOODY**					
		20	9	*Viburnum dentatum*	Southern Arrowwood	FAC	24"	3-Gal Cont.	Upper Half
		20	9	*Cornus amomum*	Silky Dogwood	FACW	24"	3-Gal Cont.	
		20	9	*Sambucus canadensis*	Elderberry	FACW	24"	3-Gal Cont.	
		20	9	*Alnus serrulata*	Common Alder	OBL	24"	3-Gal Cont.	Lower Half
		20	9	*Cephalanthus occidentalis*	Buttonbush	OBL	24"	3-Gal Cont.	
		100	**45**	**=Total**					

Seed Mix	Application Rate	Application Method	Additional Notes	Total Seed (lbs)
Wetland Seed Mix	60 lbs/ac	Dry broadcast spreader		6.5

FORESTED WETLAND - Elevation 258.0

Size Planted (acres): 0.1537
Size Seeded (acres): 0.1537

Minimum Spacing (Feet on Center)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/Species Name	Common Name	Wetland Indicator Status	Min. Stem Height	Type	Comment
15	200			**WOODY**					
		30	9	*Quercus palustris*	Pin Oak	FACW	24"	5-Gal Cont.	
		30	9	*Quercus phellos*	Willow Oak	FAC	24"	5-Gal Cont.	
		20	6	*Liquidambar styraciflua*	Sweet Gum	FAC	24"	5-Gal Cont.	
		20	6	*Platanus occidentalis*	Sycamore	FACW	24"	5-Gal Cont.	
		-	6	*Cornus amomum*	Silky Dogwood	FACW	24"	3-Gal Cont.	
		-	6	*Cephalanthus occidentalis*	Buttonbush	OBL	24"	3-Gal Cont.	
		100	**42**	**=Total**					

Seed Mix	Application Rate	Application Method	Additional Notes	Total Seed (lbs)
Wetland Seed Mix	60 lbs/ac	Dry broadcast spreader		9.2

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SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/2/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WETLAND PLANTING SCHEDULE

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 51-WETLAND PLANT SCHED.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCoMS4\Task5_Ballston 3D\Plan

PLOTTED: November 12, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET 51 of 73

EDGE AND SLOPE MIX QTY. BY AREA

	Unit	Total Qty.	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant
Edge Mix 1			Plantain-leaved	Meehan's Mint	Golden Groundsel	Blue-eyed Grass							
Area "A"	EA	3484	871	871	871	871							
Edge Mix 2			Blue Wood Aster	Purple Love Grass	Robin's Plantain	Prairie Dropseed							
Area "A"	EA	576	144	144	144	144							
Area "B"	EA	633	158	158	158	158							
	Unit	Total Qty.	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant
Slope Mix			Creek Sedge	Appalachian Sedge	Blue Wood Sedge	Hay-scented Fern	White Wood Aster	Cream Iris	Am. Hazelnut	Strawberry-Bush	Winterberry (Female)	Winterberry (Male)	Elderberry
Area "A" Low Density	EA	3338	450	450	450	450	450	450	159	159	129	32	159
Area "B" Low Density	EA	481	50	100	50	100	50	50	20	20	17	4	20
Area "C" Low Density	EA	355	50	50	50	50	50	50	13	13	13	3	13
AREA "D" Low Density	EA	1852	250	250	250	250	250	250	88	88	70	18	88
Area "E" Low Density	EA	730	100	100	100	100	100	100	32	32	27	7	32
Area "F" Low Density	EA	4414	600	600	600	600	600	600	203	203	164	41	203
Area "G" Low Density	EA	169	25	25	25	25	25	25	4	4	6	1	4
Area "H" Low Density	EA	549	75	75	75	75	75	75	24	24	22	5	24
Area "I" Low Density	EA	741	100	100	100	100	100	100	35	35	29	7	35
Area "J" Low Density	EA	2030	275	275	275	275	275	275	95	95	76	19	95
Area "K" Low Density	EA	217	25	25	25	50	25	25	10	10	10	2	10
Area "L" Low Density	EA	1802	250	250	250	250	250	250	75	75	62	15	75
Area "M" Low Density	EA	2935	400	400	400	400	400	400	133	133	109	27	133
Area "N" Low Density	EA	358	50	50	50	50	50	50	14	14	13	3	14
Area "O" Low Density	EA	176	25	25	25	25	25	25	6	6	6	2	6
Area "P" High Density	EA	1844	275	275	275	275	275	275	48	48	40	10	48

ARLINGTON
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SEAL

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

LANDSCAPE PLAN - A

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR
PROJECT NUMBER: BBP

DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: LANDSCAPE- A_revised.dwg
PATH:
PLOTTED: September 30, 2019
PLOTTED BY: JTASTAD

SCALE: Hor.: 1"=30'

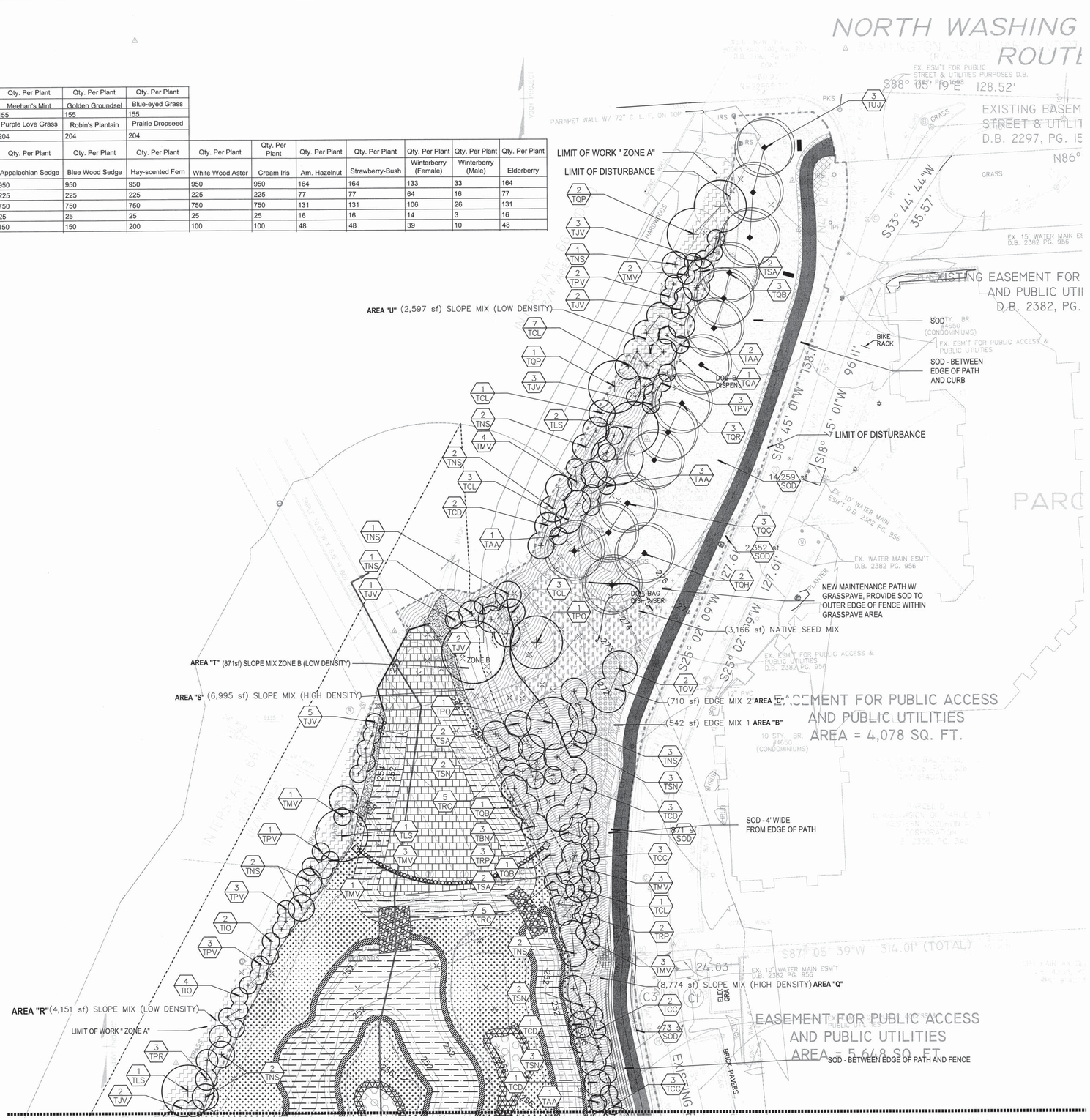
0' 30' 60'
GRAPHIC SCALE

SHEET
52 OF 73

EDGE AND SLOPE MIX QTY. BY AREA

	Unit	Total Qty.	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant
Edge Mix 1			Plantain-leaved	Meehan's Mint	Golden Groundsel	Blue-eyed Grass
Area "B"	1715 1715A	13 6M1	PEAR PEAR	155	155	155
Edge Mix 2			Blue Wood Aster	Purple Love Grass	Robin's Plantain	Prairie Dropseed
Area "C"	1720 1720A	15 8QH	PEAR PEAR	204	204	204

	Unit	Total Qty.	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant	Qty. Per Plant
Slope Mix			Creek Sedge	Appalachian Sedge	Blue Wood Sedge	Hay-scented Fern	White Wood Aster	Cream Iris	Am. Hazelnut	Strawberry-Bush	Winterberry (Female)	Winterberry (Male)	Elderberry
Area "Q" High Density	EA	6358	950	950	950	950	950	950	164	164	133	33	164
Area "R" Low Density	EA	1661	225	225	225	225	225	225	77	77	64	16	77
Area "S" High Density	EA	5025	750	750	750	750	750	750	131	131	106	26	131
Area "T" Low Density	EA	215	25	25	25	25	25	25	16	16	14	3	16
Area "U" Low Density	EA	943	100	150	150	200	100	100	48	48	39	10	48



LEGEND

- PROPERTY LINE
- LOW — LIMIT OF WORK "ZONE A "- CONTRACTOR RESTRICTED ACCESS FOR INVASIVE MANAGEMENT AND PROPOSED PERMANENT PLANTING IN UPLAND AREAS
- LOD — LIMIT OF DISTURBANCE CONTRACTOR ALLOWED FULL ACCESS FOR ALL CONSTRUCTION ACTIVITIES **EXCLUDES ZONE B**
- B B — ZONE B - CONTRACTOR RESTRICTED AREA EXCEPT FOR INVASIVE MANAGEMENT AND HAND DIGGING OF PLANTINGS AND SHRUBS AS DIRECTED BY THE PROJECT OFFICER OR DESIGNEE. PLANTS TO BE DISTRIBUTED IN THE FIELD UNDER SUPERVISION OF ARLINGTON COUNTY.
- EXISTING TREE TO BE REMOVED SEE CIVIL DWGS
- EXISTING TREE TO REMAIN AND BE PROTECTED SEE CIVIL DWGS
- CHAIN LINK FENCING

PLANT LEGEND

- PROPOSED TREE, TYP.- SEE PLANTING DETAILS
- SHRUBS AT DECK- FOR ADDITIONAL SHRUB PLANTINGS REFERENCE SLOPE MIX
- SOD-
- NATIVE SEED MIX
- EDGE MIX 1 SEE DETAIL 6, SHEET 55 FOR TYPICAL LAYOUT
- EDGE MIX 2 SEE DETAIL 6, SHEET 55 FOR TYPICAL LAYOUT
- SLOPE MIX SEE DETAIL 6, SHEET 55 FOR TYPICAL LAYOUT
- HIGH DENSITY= QUANTITIES CALCULATED FOR 100% OF THE AREA. SLOPE MIX SPECIES TO BE DISTRIBUTED RANDOMLY, AT 12" ON CENTER, TRIANGULAR SPACING
- LOW DENSITY ZONE B = QUANTITIES CALCULATED FOR 50% OF THE AREA. SLOPE MIX SPECIES TO BE DISTRIBUTED AS DIRECTED IN THE FIELD BY THE PROJECT OFFICE OR DESIGNEE. AVOID DISTURBING EXISTING TREES OR PLANTS REMAINING AFTER INVASIVE SPECIES REMOVAL.
- LOW DENSITY = QUANTITIES CALCULATED FOR 50% OF THE AREA. SLOPE MIX TO BE DISTRIBUTED RANDOMLY AT 24" ON CENTER, TRIANGULAR SPACING.
- PROPOSED WETLAND PLANTING AREA- SEE CIVIL DWGS

REFERENCE SYMBOLS

- 10 PHO — PLANT QUANTITY / PLANT SYMBOL, REFER TO PLANT SCHEDULE

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
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PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

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Filename for invalid re

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
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TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

LANDSCAPE PLAN - B

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: LANDSCAPE- B_revised.dwg

PATH: Q:\Data\BBP\Design\Drawings\From RK&K\files from Anne - from RK&K\Landscape Plans_Updated_September 30_2019 Ballston Pond\CAD

PLOTTED: September 30, 2019
PLOTTED BY: JTASTAD

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET
53 OF 73

NOTES

1. **SEE ARLINGTON COUNTY STANDARD SPECIFICATION SECTION 329100 PLANTING PREPARATION.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO HAVE TOPSOIL, PLANTING SOIL MIX, SOIL STABILIZATION, AMENDMENTS, AND MULCH APPLIED PER THE SPECIFICATIONS ON ALL AREAS DISTURBED BY CONSTRUCTION TO RECEIVE PLANT MATERIALS AS INDICATED IN THE APPROVED PLANS.
2. **SEE ARLINGTON COUNTY STANDARD SPECIFICATION SECTION 329200 SEEDING AND SODDING.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO PREPARE SOIL AND SUBGRADES, PLACE SOD, ESTABLISH, MAINTAIN AND GUARANTEE HEALTHY SOD COVERAGE PER THE SPECIFICATIONS ON ALL AREAS DISTURBED BY CONSTRUCTION TO RECEIVE SODDING AS INDICATED IN THE APPROVED PLANS.
3. **SEE ARLINGTON COUNTY STANDARD SPECIFICATION SECTION 329200 EXTERIOR PLANTS.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO HAVE PLANTS, TOPSOIL, AMENDMENTS, MULCH AND SEED AND/OR SOD APPLIED ON ALL AREAS CALLED FOR ON THE APPROVED PLANS.
4. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO COMMENCING PLANTING WORK AND NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF CONDITIONS DETRIMENTAL TO NEW AND EXISTING PLANT MATERIAL ARE ENCOUNTERED.
5. PRIOR TO COMMENCING WORK THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO UTILIZE A LOCATING SERVICE TO VERIFY UNDERGROUND UTILITY LOCATIONS.
6. THE CONTRACTOR SHALL STAKE LOCATIONS OF ALL PLANT MATERIALS PRIOR TO INSTALLATION. NOTIFY THE OWNER'S REPRESENTATIVE WHEN STAKING IS COMPLETE AT WHICH TIME A MEETING WILL TAKE PLACE WITH LANDSCAPE ARCHITECT TO ADJUST AND DETERMINE FINAL LOCATIONS.
7. THE OWNERS REPRESENTATIVE SHALL INSPECT ALL PLANT MATERIAL PRIOR TO INSTALLATION. ALL PLANT MATERIAL IS TO BE INSTALLED IN THE SPECIFIED TIME FRAME (SPRING OR FALL PLANTING). IF NO TIME FRAME IS SPECIFIED, ALL PLANT MATERIAL IS TO BE INSTALLED AS PER CONTRACT.
8. TREES SHALL BE NOT PLANTED WITHIN 10 FEET OF ANY UNDERGROUND UTILITY.
9. ADDITIONAL REPLACEMENT REQUIREMENT WILL BE MET VIA REPLACEMENT ON OTHER COUNTY LANDS AND WILL BE DIRECTED AND MANAGED BY THE DPR TREE PLANTING CORRIDOR
10. TREES TO BE REMOVED WITHIN TREE PROTECTION ZONE MUST BE REMOVED USING HAND TOOLS ONLY. SEE CIVIL DWGS

NOTE:
296 of 432 TREES HAVE BEEN REPLACED ON SITE.
136 ADDITIONAL REPLACEMENTS WILL BE PLANTED ON OTHER COUNTY LANDS AND WILL BE DIRECTED AND MANAGED BY THE DPR TREE PLANTING CORRIDOR

LEGEND

- PROPERTY LINE
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PLANT LEGEND

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- PROPOSED WETLAND PLANTING AREA- SEE CIVIL DWGS

REFERENCE SYMBOLS

10 — PLANT QUANTITY
PHO — PLANT SYMBOL, REFER TO PLANT SCHEDULE

PLANT SCHEDULE

1,2 / 55 — IN-PARK AREA/SPECIMEN TREES

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	DETAIL	REMARKS
TQA	1	Quercus alba	White Oak	1-3/4 - 2" Cal.	B&B	As Shown		
TQB	3	Quercus bicolor	Swamp White Oak	1-3/4 - 2" Cal.	B&B	As Shown		
TQC	3	Quercus coccinea	Scarlet Oak	1-3/4 - 2" Cal.	B&B	As Shown		
TQH	2	Quercus phellos	Willow Oak	1-3/4 - 2" Cal.	B&B	As Shown		
TQR	3	Quercus nubra	Northern Red Oak	1-3/4 - 2" Cal.	B&B	As Shown		
TUJ	5	Ulmus americana 'Jefferson'	American Elm	1-3/4 - 2" Cal.	B&B	As Shown		

1,2 / 55 — LARGE TREES

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	DETAIL	REMARKS
TLS	5	Liquidambar styraciflua 'Rotundiloba'	Seedless Sweet Gum	1-1/4" Cal.	B&B	As Shown		Non fruiting Cultivar
TPO	3	Platanus occidentalis	American Sycamore	1-1/4" Cal.	B&B	As Shown		
TQA	3	Quercus alba	White Oak	3/4 - 1" Cal.	B&B	As Shown		
TQB	4	Quercus bicolor	Swamp White Oak	3/4 - 1" Cal.	B&B	As Shown		
TQC	2	Quercus coccinea	Scarlet Oak	3/4 - 1" Cal.	B&B	As Shown		
TQP	6	Quercus palustris	Pin Oak	1-1/4" Cal.	B&B	As Shown		
TQH	1	Quercus phellos	Willow Oak	1-1/4" Cal.	B&B	As Shown		

1,2 / 55 — MEDIUM TREES

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	DETAIL	REMARKS
TBN	10	Betula nigra	River Birch	6-8' Ht. Multi-Stem	B&B	As Shown		
TCL	24	Celtis laevigata	Sugar Hackberry	1-1/4" Cal.	B&B	As Shown		
TCD	24	Celtis occidentalis	Common Hackberry	1-1/4" Cal.	B&B	As Shown		
TNS	32	Nyssa sylvatica	Black Tupelo	1-1/4" Cal.	B&B	As Shown		
TPR	11	Pinus rigida	Pitch Pine	5-6' Ht.	B&B	As Shown		
TSN	16	Salix nigra	Black Willow	5-6' Ht.	B&B	As Shown		
TSA	11	Sassafras albidum	Sassafras	5-6' Ht.	B&B	As Shown		

1,2 / 55 — SMALL TREES

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	DETAIL	REMARKS
TAA	21	Amelanchier arborea	Downy Serviceberry	5-6' Ht. Multi-Stem	B&B	As Shown		
TCC	24	Cercis canadensis	Eastern Redbud	6-7' Ht. Single Stem	B&B	As Shown		
TIO	18	Ilex opaca	American Holly	5-6' Ht.	B&B	As Shown		
TPV	20	Pinus virginiana	Virginia Pine	5-6' Ht.	B&B	As Shown		
TRC	31	Rhus copallina	Winged Sumac	5 Gal. Min. 3' Ht.	B&B	As Shown		
TRP	10	Robinia pseudoacacia	Black Locust	3/4-1" Cal.	B&B	As Shown		

1,2 / 55 — TREES WITHIN 10` OF CUSTIS TRAIL EDGE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	DETAIL	REMARKS
TCV	12	Chionanthus virginicus	White Fringetree	6-8' Ht. Single Stem	B&B	As Shown		Male Species Only
TJV	27	Juniperus virginiana	Eastern Red Cedar	6-7' Ht.	B&B	As Shown		Male Species Only
TMV	35	Magnolia virginiana	Sweet Bay	6-7' Ht.	B&B	As Shown		
TOV	17	Ostrya virginiana	American Hophornbeam	1-1/4" Cal.	B&B	As Shown		

* REPLACEMENT CREDIT VALUE OF 12 ADDITIONAL TREES SHOWN IN WETLAND PLANTING PLAN; SEE CIVIL DWGS

3,4 / 55 — SHRUBS

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	DETAIL	REMARKS
SLB	8	Lindera benzoin	Spicebush	3 gal.	As Shown		
SVA	18	Viburnum acerifollium	Mapleleaf viburnum	3 gal.	As Shown		
SVD	7	Viburnum dentatum	Viburnum	3 gal.	As Shown		

3,4,6 / 55 — EDGE & SLOPE MIX

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING		
	4,105 ea	EDGE MIX 1 (ALL AREAS)					
	1,026 ea	Antennaria plantaginifolia	Plantain-leaved Pussytoes	Deep Plug	12" o.c.		
	1,026 ea	Meehania cordata	Meehan`s Mint	Deep Plug	12" o.c.		
	1,026 ea	Packera aurea	Golden Groundsel	Deep Plug	12" o.c.		
	1,026 ea	Sisyrinchium angustifolium	Narrowleaf Blue-eyed Grass	Deep Plug	12" o.c.		
	2,023 ea	EDGE MIX 2 (ALL AREAS)					
	506 ea	Aster cordifolius	Blue Wood Aster	Deep Plug	12" o.c.		
	506 ea	Eragrostis spectabilis	Purple Love Grass	Deep Plug	12" o.c.		
	506 ea	Erigeron pulchellus	Robin`s Plantain	Deep Plug	12" o.c.		
	506 ea	Sporobolus heterolepis	Prairie Dropseed	Deep Plug	12" o.c.		
	36,193 ea	SLOPE MIX (ALL AREAS)			HIGH DENSITY		LOW DENSITY
	5,000 ea	Carex amphibola	Creek Sedge	Deep Plug	12" o.c.		24" o.c.
	5,150 ea	Carex appalachica	Appalachian Sedge	Deep Plug	12" o.c.		24" o.c.
	5,100 ea	Carex flaccasperma	Blue Wood Sedge	Deep Plug	12" o.c.		24" o.c.
	5,225 ea	Dennstaedtia punctilobula	Hay-scented Fern	Deep Plug	12" o.c.		24" o.c.
	5,050 ea	Eurybia divaricata	White Wood Aster	Deep Plug	12" o.c.		24" o.c.
	5,050 ea	Iris cristata	Cream Iris	Deep Plug	12" o.c.		24" o.c.
	1,395 ea	Corylus americana	American Hazelnut	Seedling / 2' ht. min.	4' o.c.	4' o.c. or as directed	4' o.c.
	1,395 ea	Euonymus americanus	Strawberry Bush	Seedling / 2' ht. min.	4' o.c.	4' o.c. or as directed	4' o.c.
	1,149 ea	Ilex verticillata 'Winter Red' (Female)	Winterberry	Seedling / 2' ht. min.	4' o.c.	4' o.c. or as directed	4' o.c.
	284 ea	Ilex verticillata 'Southern Gentlemen' (Male)	Winterberry	Seedling / 2' ht. min.	4' o.c.	4' o.c. or as directed	4' o.c.
	1,395 ea	Sambucus canadensis	Elderberry	Seedling / 2' ht. min.	4' o.c.	4' o.c. or as directed	4' o.c.

HIGH DENSITY | LOW DENSITY ZONE B | LOW DENSITY

SEED MIX

3,166 sf	NATIVE SEED MIX			
1%	Asclepias syriaca	Common Milkweed	seed	
2%	Chamaecrista fasciculata	Patridge pea	seed	
5%	Elymus hystrix	Bottlebrush Grass	seed	
15%	Elymus riparius	Riverbank Wild Rye	seed	
30%	Elymus virginicus	Virginia Wild Rye	seed	
1%	Euthamia graminifolia	Grass Leafed Golden Rod	seed	
20%	Lolium multiflorum	Annual Ryegrass	seed	
25%	Panicum clandestinum	Deer Tongue	seed	

5 / 55 — SOD

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
SOD	29,585 sf	Turf Sod		sod
	90%	Turf-type tall fescue		
	10%	Kentucky bluegrass		

ARLINGTON VIRGINIA

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ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS DATE

PLANTING NOTES, LEGEND & PLANT LIST

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

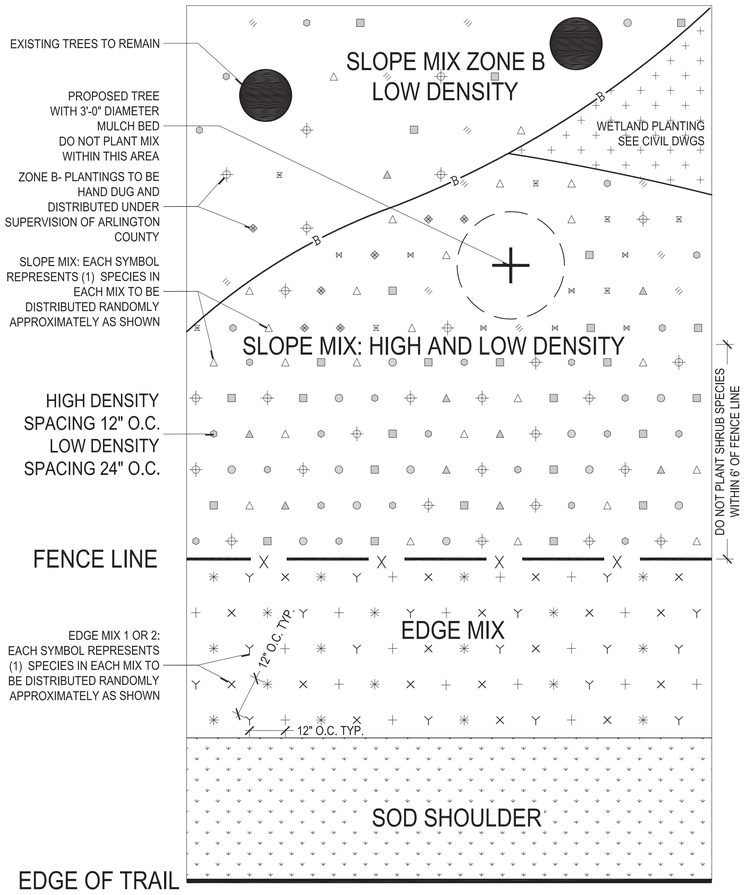
PROJECT NUMBER: BBP

DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: PLANTING NOTES & SCHEDULE_ACG.dwg
PATH:
PLOTTED: September 30, 2019
PLOTTED BY: JTASTAD

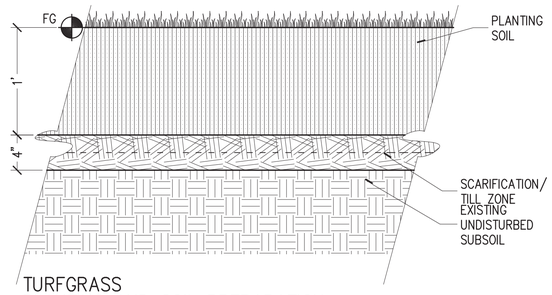
SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

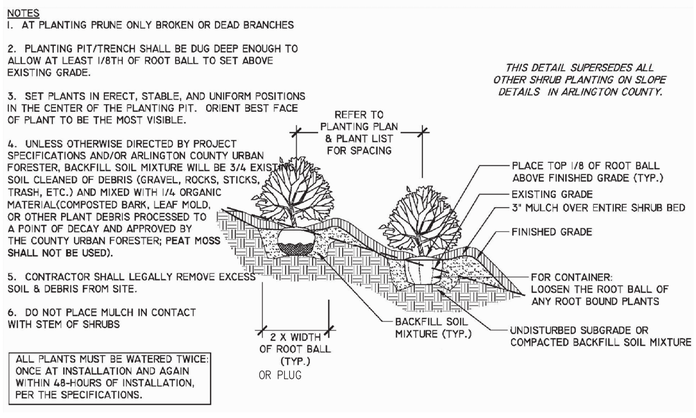
SHEET 54 OF 73



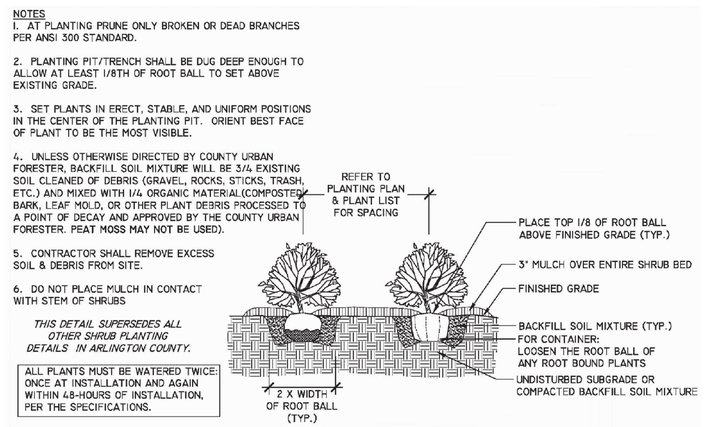
6 TYPICAL LAYOUT FOR PLANTING FOR SLOPE & TRAIL EDGE MIXES
1/2"=1'



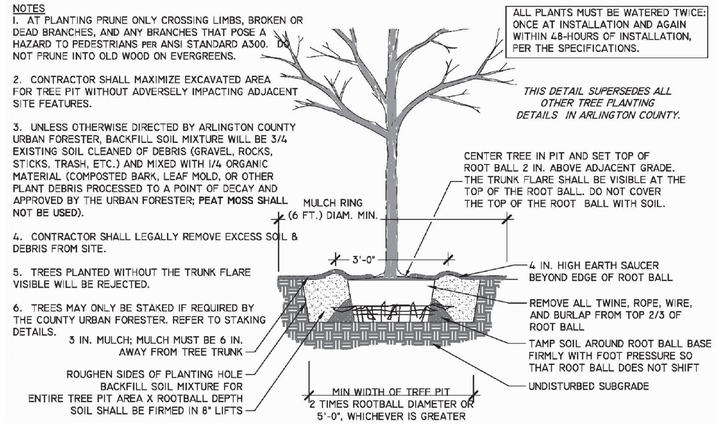
5 TURFGRASS PLANTING AND SOIL PREPARATION
1-1/2"=1'



4 SHRUB AND PERENNIAL PLANTING ON SLOPE (ARLINGTON STANDARD DETAIL 02930.9)
NTS



3 SHRUB AND PERENNIAL PLANTING (ARLINGTON STANDARD DETAIL 02930.8)
NTS



2 TREE PLANTING ON SLOPE DETAIL (ARLINGTON STANDARD DETAIL 02930.2)
NTS

1 TREE PLANTING DETAIL (ARLINGTON STANDARD DETAIL 02930.1)
NTS

ARLINGTON
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File: M:\projects\2016 [illegible] for invalid refere

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MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: PLANTING DETAILS_ACG.dwg
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PLOTTED: [illegible], 2019
PLOTTED BY: JTASTAD

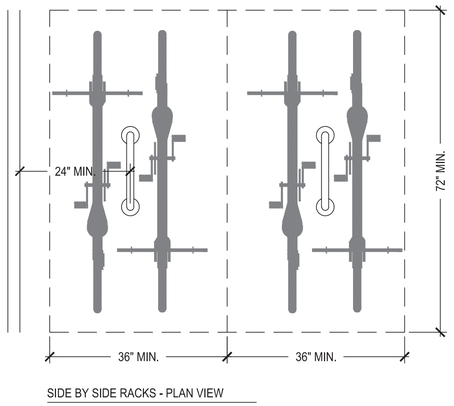
SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET
55 OF 73

IN-GROUND RACK INSTALLATION:

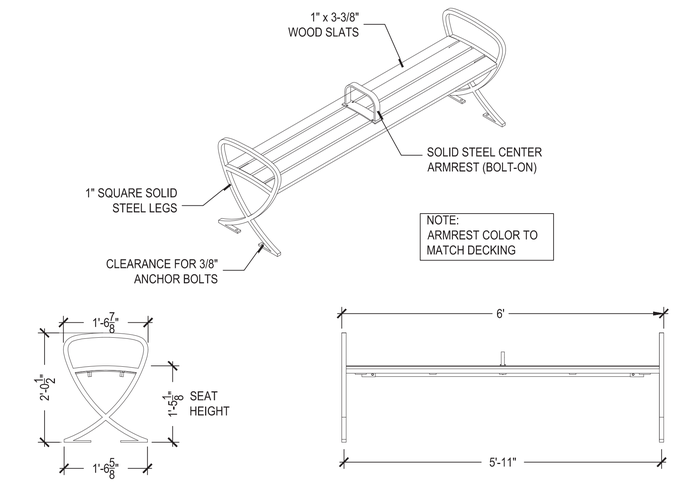
1. LEGS OF IN-GROUND RACKS SHALL BE FITTED WITH ANCHOR PINS TO PREVENT LIFT-OUT. ANCHOR PINS SHALL BE:
   a. OF ACCEPTABLE MATERIAL.
   b. MIN. 3/8" DIAMETER WITH MIN. 3" CONCRETE ENCASEMENT.
2. IN-GROUND RACKS SHALL BE INSTALLED AND FIRMLY ANCHORED IN NEW CONCRETE OF MINIMUM DIMENSIONS SHOWN. ANCHORED PORTIONS OF RACK SHALL HAVE MIN. 3" CONCRETE ENCASEMENT ON ALL SIDES.
3. FOR RACK INSTALLATIONS ON SITES WITH CONCRETE PAVERS OR FIRED CLAY BRICK INSTALLED OVER COMPACTED SOIL SUB-BASE AND SAND LEVELING COURSE AS PER ARLINGTON COUNTY STANDARD SPECIFICATIONS SECTION 02612, AND STANDARD DWG. R-2.1, RACKS SHALL BE INSTALLED IN CONCRETE FOOTING OF DIMENSIONS SHOWN.
4. WHERE IN-GROUND RACKS ARE INSTALLED IN UNPAVED SOIL, OR SOD/GRASS/TURF, PROVIDE A SINGLE CONCRETE FOOTING OF DIMENSIONS SHOWN. PROVIDE A TAMPED GRAVEL PAD MIN. 4" THICKNESS, AND MIN. 36" X 72" CENTERED ON EACH INSTALLED RACK.
5. LEGS OF IN-GROUND RACKS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE ANCHORING BELOW GRADE A MINIMUM OF 9" AND BE A MINIMUM HEIGHT OF 33" ABOVE FINISH GRADE.



SIDE BY SIDE RACKS - PLAN VIEW

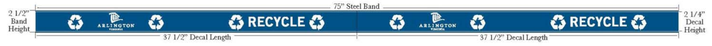
1. **See Specification Section 323300 Site Furnishings.** Procure, finish, and install prefabricated site furnishings on the Overlook Platform and other locations designated on the Plans, and all necessary material, labor, incidentals, tools, and equipment necessary to complete this work.

SITE FURNISHING NOTE
NTS

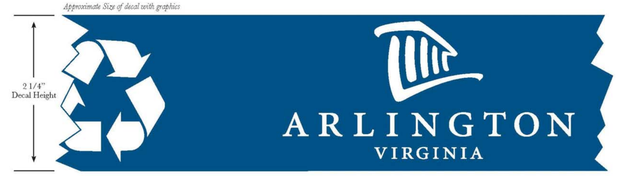


LILLY BACKLESS BENCH
(VICTOR STANLEY-LIL-23CA - IPE WOOD) OR APPROVED EQUAL
5 NTS

Graphics Application: The graphics will be printed onto a pressure sensitive vinyl decal and applied to the top steel band of the receptacle.
Product Color: Blue
Decal Size: 37 1/2" x 2 1/4" (2 per band)
Decal Material Color: Clear
Image Color: White

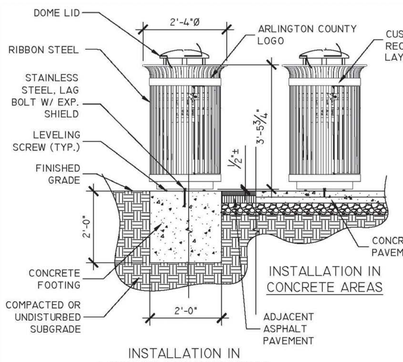


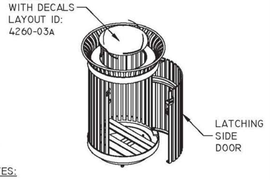
Approximate Size of decal with graphics



Specifications are subject to change at manufacturer's discretion to ensure proper fit and/or optimum output.

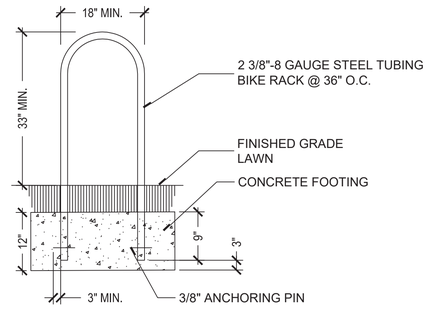
CUSTOM ARLINGTON COUNTY RECYCLE BAND DETAIL (LAYOUT ID# 2712-02E)
3 NTS





NOTES:
1. RECYCLING RECEPTACLE SHALL BE MODEL SD-42 WITH RECYCLE PACKAGE WITH DOME LID AND DECALS AND SIDE DOOR BY VICTOR STANLEY, INC. WWW.VICTORSTANLEY.COM OR APPROVED EQUAL.
2. SEE PLANS FOR EXACT INSTALLATION CONDITIONS.
3. ANCHOR TO GROUND PER MANUFACTURER'S RECOMMENDATIONS.
4. SEE APPROPRIATE DETAILS FOR CONCRETE PAVING AND/OR ASPHALT PAVING.
5. COLOR SHALL BE VS BLUE.
6. LATCHING SIDE DOOR TO BE LOCATED TO FRONT OF BIN SO THAT THE DOOR OPENS ALL THE WAY.

RECYCLING RECEPTACLE
(ARLINGTON STANDARD DETAIL 1293000.6)
2 1/2" = 1'-0"

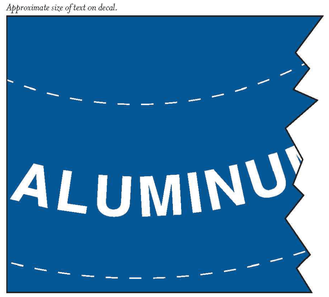


IN GROUND RACK INSTALLATION - SECTION VIEW

BICYCLE RACK
(ARLINGTON STANDARD DETAIL R-8.3)
6 NTS

Graphics Application: The graphics will be digitally printed onto a pressure sensitive vinyl decal and applied to the lid.
Lid Size: 16.5" Dome Top Diameter
Lid Color: Blue
Decal Size: Approx. 14" Outer Diameter
Decal Material Color: Clear
Image Color: White

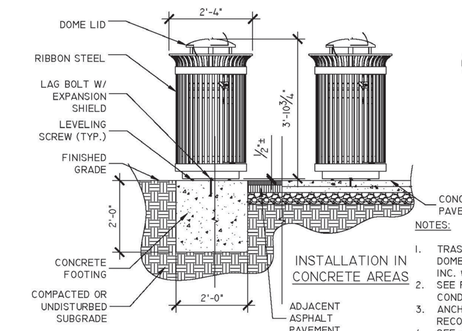
Approximate size of text on decal.

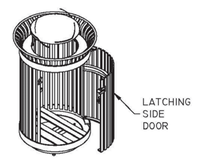


Specifications and art are subject to change at manufacturer's discretion to ensure proper fit and/or optimum output.

P.O. Drawer 330, Dunkirk, MD 20754 1.800.368.2573 (USA + Canada) TEL 301.855.8300 FAX 410.257.7579 sales@victorstanley.com VICTORSTANLEY.COM

DOME RECYCLE LID WITH DECAL
(LAYOUT ID# 4260-03A)
4 NTS





NOTES:
1. TRASH RECEPTACLE SHALL BE MODEL SD-42 WITH DOME LID AND SIDE DOOR BY VICTOR STANLEY, INC. WWW.VICTORSTANLEY.COM OR APPROVED EQUAL.
2. SEE PLANS FOR EXACT INSTALLATION CONDITIONS.
3. ANCHOR TO GROUND PER MANUFACTURER'S RECOMMENDATIONS.
4. SEE APPROPRIATE DETAILS FOR CONCRETE PAVING AND/OR ASPHALT PAVING.
5. METAL COLOR SHALL BE PER PLANS AND SPECIFICATIONS.
6. LATCHING SIDE DOOR TO BE LOCATED TO FRONT OF BIN SO THAT THE DOOR OPENS ALL THE WAY.

TRASH RECEPTACLE
(ARLINGTON STANDARD DETAIL 1293000.5)
1 1/2" = 1'-0"

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
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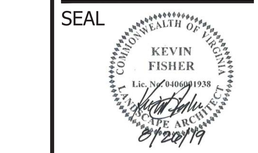
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL



APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

FURNISHING DETAILS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

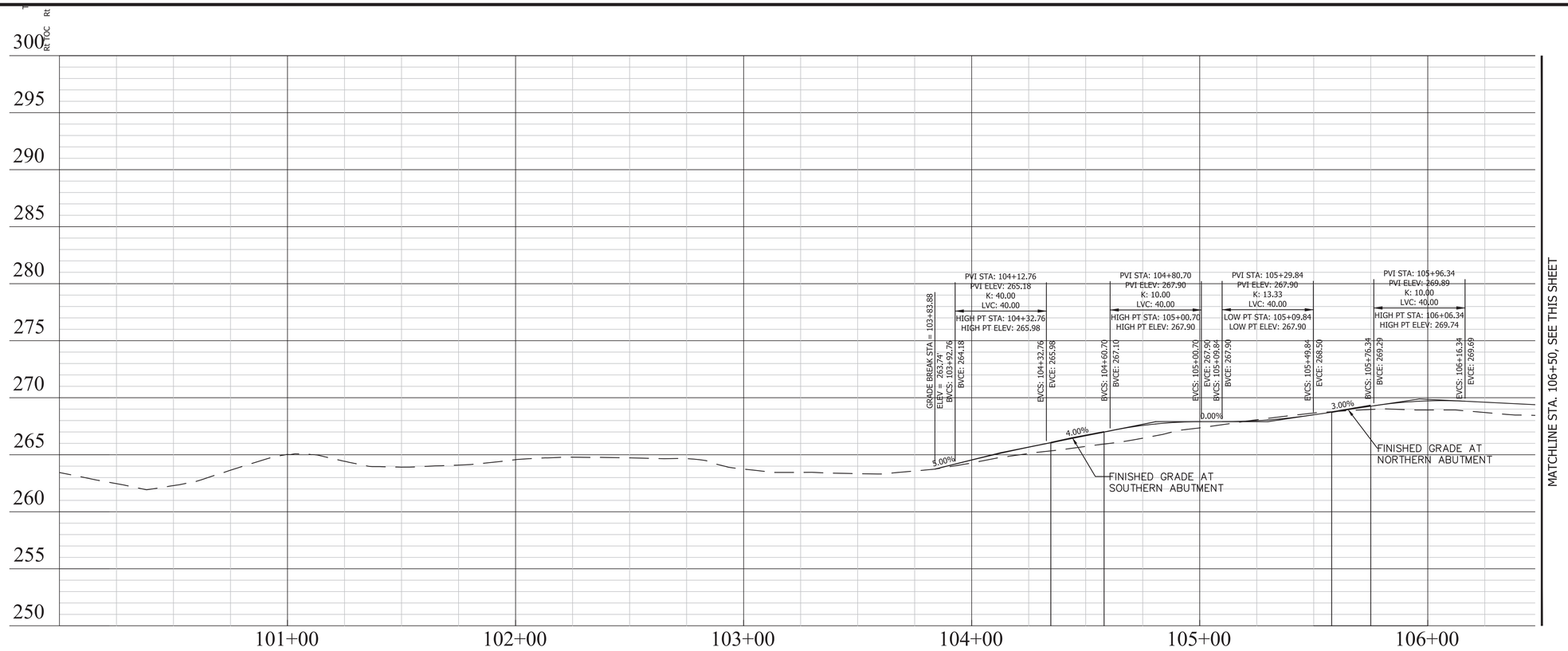
DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: FURNISHING DETAILS edited.dwg
PATH:
PLOTTED: March 18, 2020
PLOTTED BY: jcandler

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET 56 OF 73



ARLINGTON
VIRGINIA

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ENVIRONMENTAL SERVICES
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ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
8/2/19
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

TRAIL PROFILE

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: TIS
DRAWN: TIS
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 43-44-56-PLAN SHEET & TRAIL PROF.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019
PLOTTED BY: ecox

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

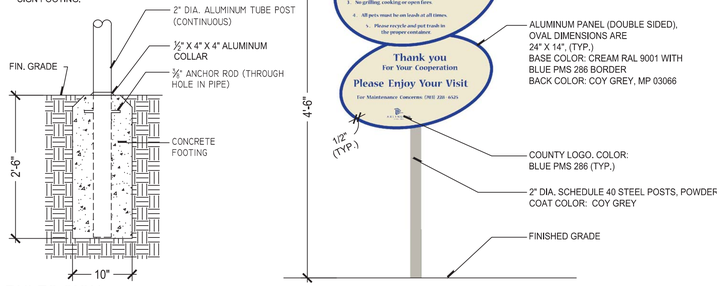
SHEET 57 of 73

RAILINGS AND SIGNAGE NOTES

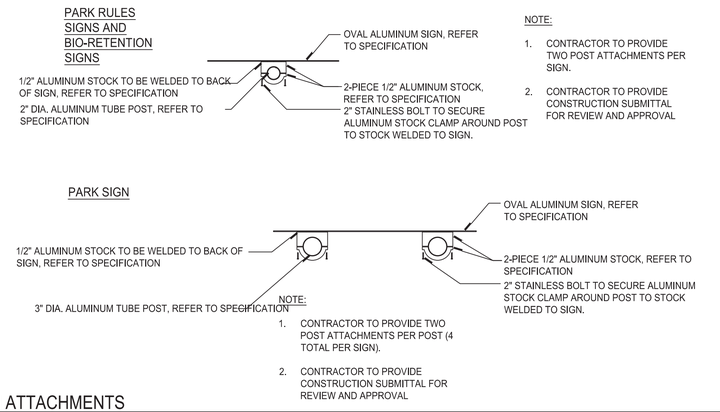
1. **SEE SPECIFICATION SECTION 061065 WOOD CAP FOR RAILING.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO FURNISH AND INSTALL THE WOOD CAP ON TOP OF THE CABLE RAILING AS SHOWN ON THE CONTRACT PLANS AND DESCRIBED IN THE SPECIFICATIONS.
2. **SEE SPECIFICATION SECTION 05502 CABLE RAILING.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO FURNISH AND INSTALL CABLE RAILING ON THE STEEL PLATFORM AND ABUTMENTS AS SHOWN ON THE CONTRACT PLANS AND DESCRIBED IN THE SPECIFICATIONS.
3. **SEE SPECIFICATION SECTION 101423 PANEL SIGNAGE.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO FABRICATE AND INSTALL THE ALUMINUM RAIL MOUNTED SIGN FRAMES AND BACKER PLATES TO RECEIVE SIGN PANEL PROVIDE BY COUNTY MOUNTED ON WOOD CAP ON THE CABLE RAILING.
4. **SEE SPECIFICATION SECTION 101400 PARK SIGNS.** PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO FABRICATE AND INSTALL THE UNFRAMED SIGN PANELS ON DIRECT BURIAL POSTS AS SHOWN ON THE CONTRACT PLANS AND DESCRIBED IN THE SPECIFICATIONS.

NOTES
NTS

NOTES:
1. PROVIDE SHOP DRAWINGS PRIOR TO ANY FABRICATION.
2. SEE LAYOUT PLAN FOR LOCATIONS.
3. FINAL COLORS SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY FABRICATION.
4. SIGNS SHALL BE AS FABRICATED BY ENGRAPHIX ARCHITECTURAL SIGNAGE OR APPROVED EQUAL. SEE SPECIFICATIONS.
5. ENSURE PROPER MOUNTING WITH WELDED BRACKET.
6. WHEN SIGN IS IN POURED-IN-PLACE PLAYGROUND SURFACING, SURFACING SHALL BE ABOVE CONCRETE SIGN FOOTING.

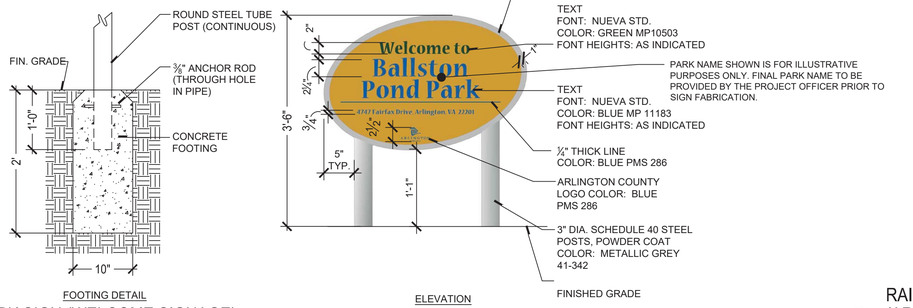


5 PARK RULES SIGN
NTS

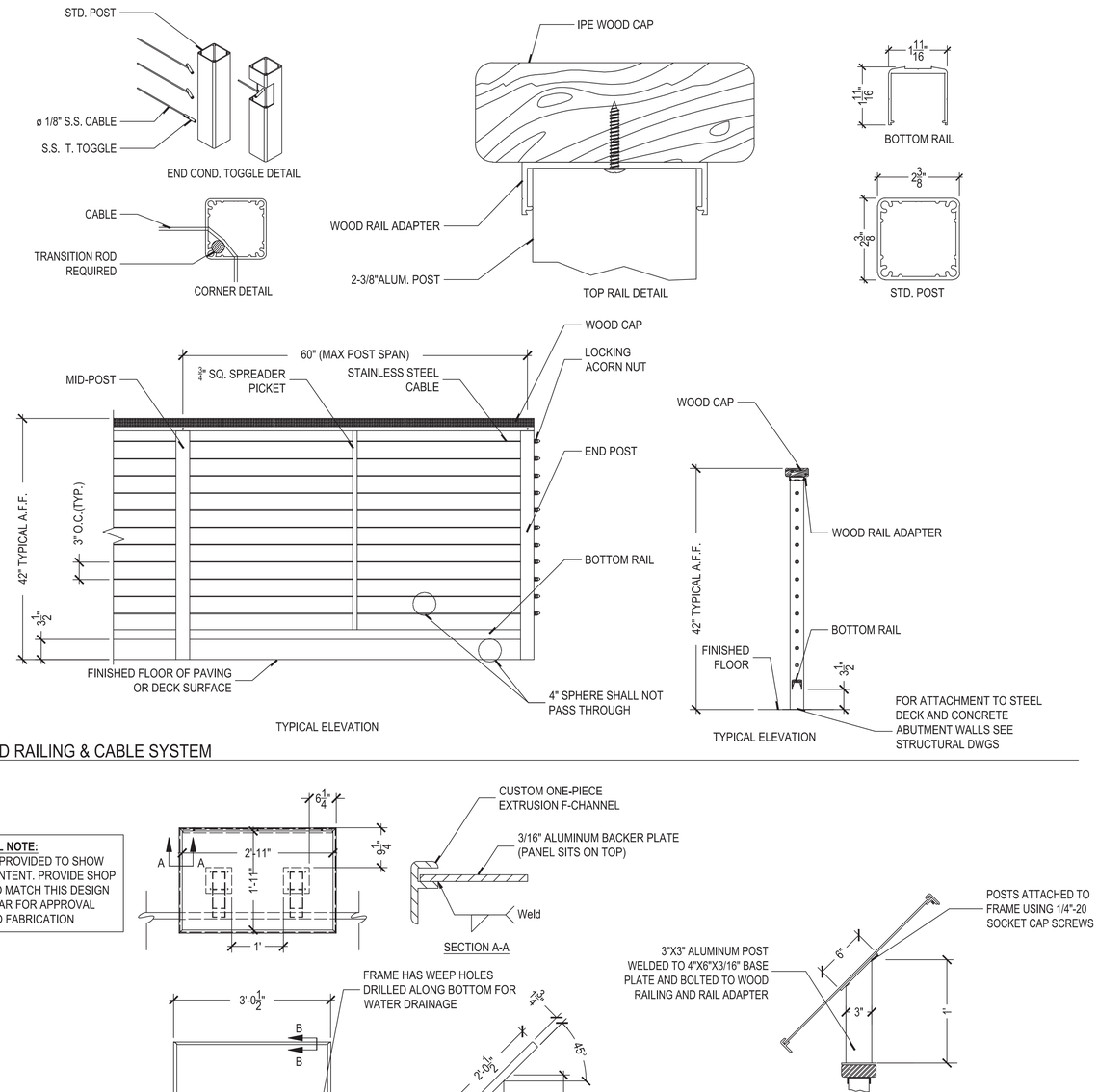


4 SIGN ATTACHMENTS
NTS

NOTES:
1. PROVIDE SHOP DRAWINGS PRIOR TO ANY FABRICATION.
2. COLORS SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY FABRICATION.
3. SEE LAYOUT PLAN FOR LOCATIONS.
4. SIGNS SHALL BE FABRICATED BY BY ENGRAPHIX ARCHITECTURAL SIGNAGE OR APPROVED EQUAL. SEE SPECIFICATIONS.

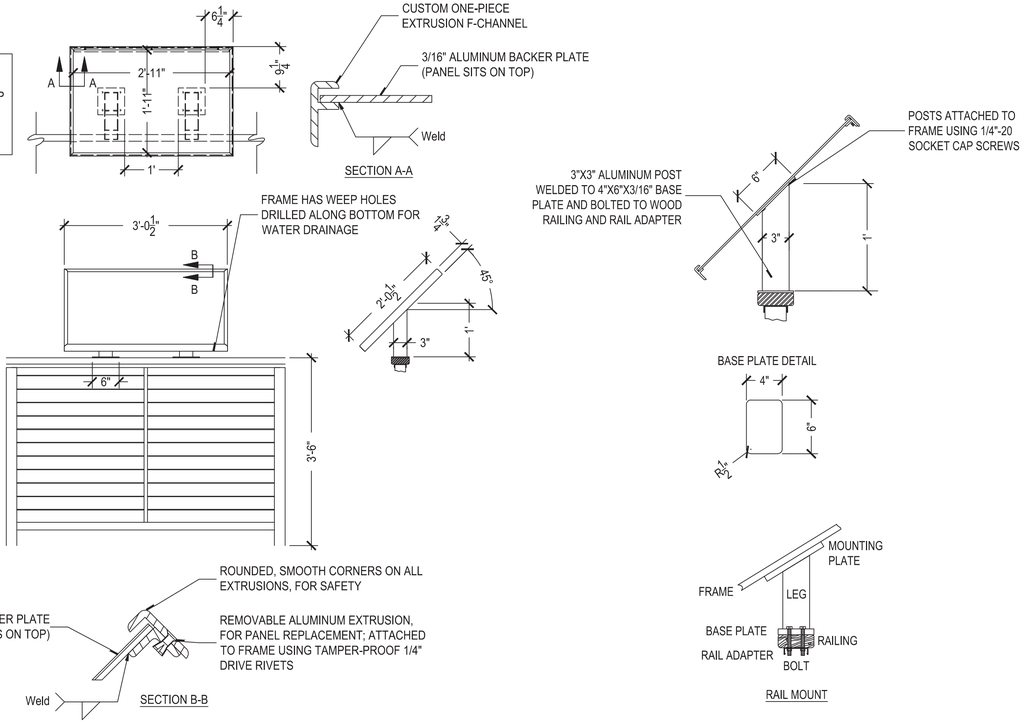


3 PARK SIGN (WELCOME SIGNAGE)
NTS



2 HYBRID RAILING & CABLE SYSTEM
NTS

GENERAL NOTE:
DETAILS PROVIDED TO SHOW DESIGN INTENT. PROVIDE SHOP DWGS TO MATCH THIS DESIGN OR SIMILAR FOR APPROVAL PRIOR TO FABRICATION



1 RAIL MOUNTED SIGNS (ARLINGTON COUNTY DEPT. OF ENVIRONMENT DETAIL)
NTS

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

KEVIN FISHER
COMMONWEALTH OF VIRGINIA
Lic. No. 040601938
LANDSCAPE ARCHITECT
07/20/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR Ramal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

RAILING AND SIGNAGE DETAILS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

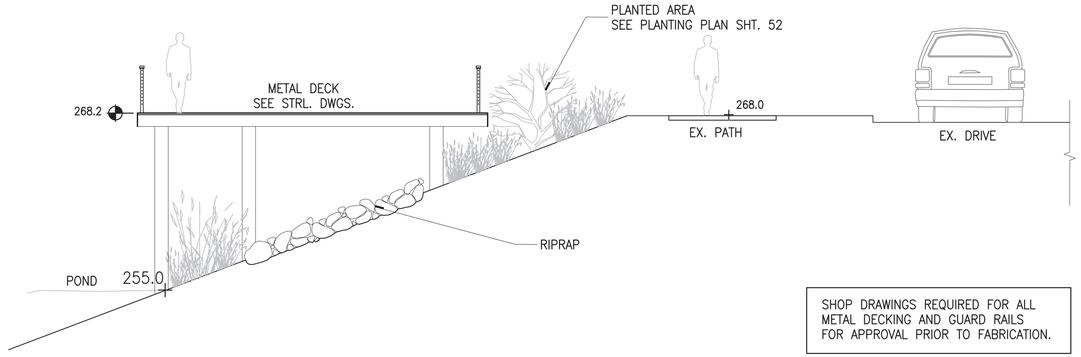
PROJECT NUMBER: BBP

DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: RAILING SIGN DETAILS edited.dwg
PATH:
PLOTTED: March 18, 2020
PLOTTED BY: jcandler

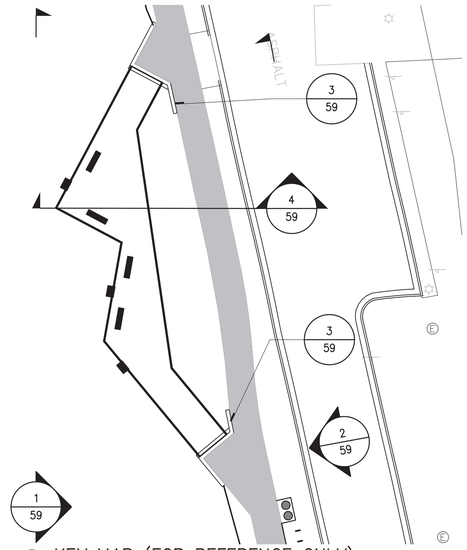
SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET 58 OF 73

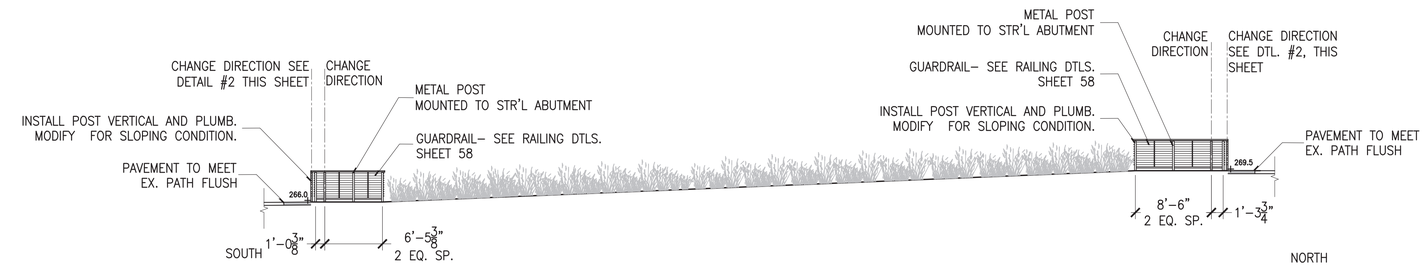


SHOP DRAWINGS REQUIRED FOR ALL METAL DECKING AND GUARD RAILS FOR APPROVAL PRIOR TO FABRICATION.

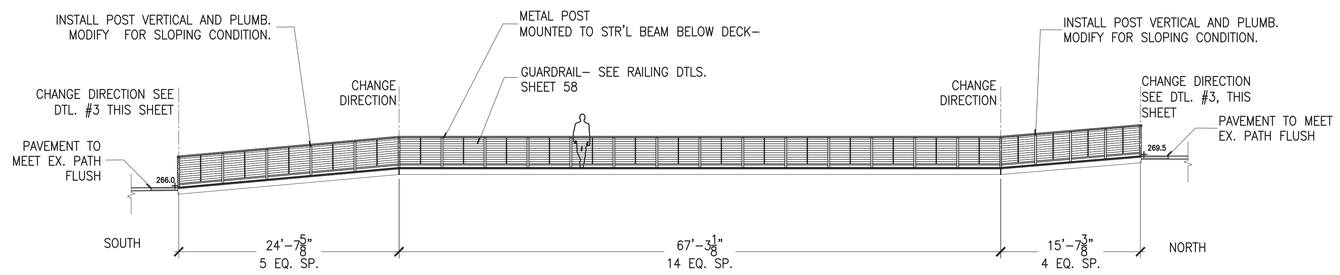


KEY MAP (FOR REFERENCE ONLY)
NTS

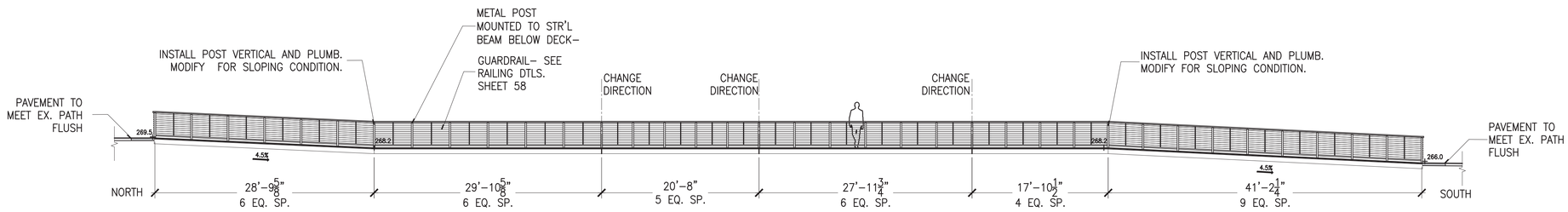
4 SECTION LOOKING NORTH
3/16"=1'



3 ELEVATION VIEW OF ABUTMENT RAILING FROM EX. PATH LOOKING WEST
1/8"=1'



2 ELEVATION VIEW FROM EX. PATH LOOKING WEST
1/8"=1'



1 ELEVATION VIEW FROM POND LOOKING EAST
1/8"=1'

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ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
KEVIN FISHER
Lic. No. 0406001938
LANDSCAPE ARCHITECT
04/20/19

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

DECK DETAILS AND ELEVATIONS

BALLSTON POND RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

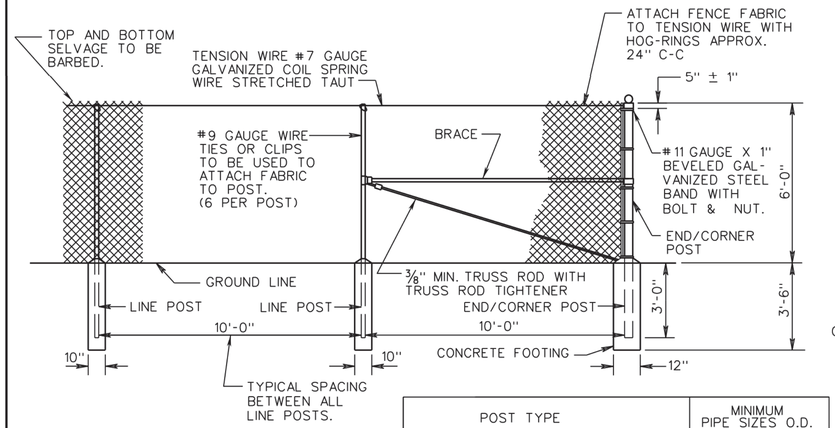
DESIGNED: KF
DRAWN: KJ
CHECKED:
MISS UTILITY TRANSMITTAL #: XXXX
FILENAME: DECK DETAILS-ELEVATIONS.dwg
PATH:
PLOTTED: August 26, 2019
PLOTTED BY: kennyj

SCALE: Hor.: 1"=30'

0' 30' 60'
GRAPHIC SCALE

SHEET
59 OF 73

FE-CL



NOTES:

SEE GENERAL NOTES-FENCING FOR ADDITIONAL DETAILS AND INSTRUCTIONS

A MOISTURE-EXCLUDING CAP IS REQUIRED ON TUBULAR POSTS.

MATERIAL FOR CAP SHALL CONFORM TO THE ALLOWABLE TYPES FOR OTHER LISTED FITTINGS.

CORNER BRACE - TO BE USED WHEN HORIZONTAL ALIGNMENT CHANGES 15° OR MORE.

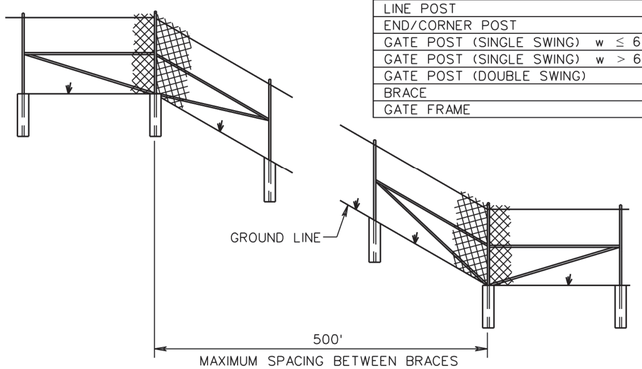
LINE BRACE - TO BE USED WHEN VERTICAL ALIGNMENT CHANGES 15° OR MORE

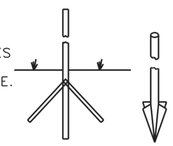
END/ CORNER POSTS SHALL BE USED WITH ALL LINE AND CORNER BRACES

BRACES SHALL BE INSTALLED HALF THE HEIGHT ABOVE THE GROUND LINE OF THE POST WHEN A TOP RAIL IS USED, OR TWO THIRDS THE HEIGHT ABOVE THE GROUND LINE WHEN A TENSION WIRE IS USED IN LIEU OF A TOP RAIL.

CHAIN LINK FENCE GREATER THAN 6 FEET IN HEIGHT SHALL BE SUBMITTED TO THE STANDARDS & SPECIAL DESIGN SECTION FOR APPROVAL.

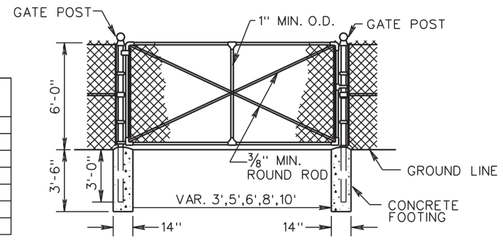
POST TYPE	MINIMUM PIPE SIZES O.D.
LINE POST	2.375"
END/CORNER POST	2.875"
GATE POST (SINGLE SWING) w ≤ 6ft.	2.875"
GATE POST (SINGLE SWING) w > 6ft.	4.00"
GATE POST (DOUBLE SWING)	2.875"
BRACE	1.66"
GATE FRAME	1.90"



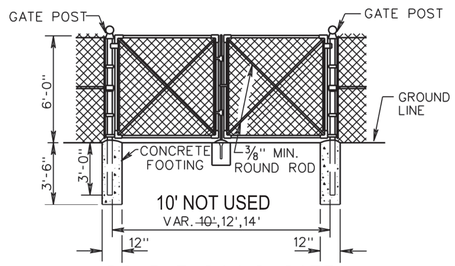


ALTERNATE ANCHOR DEVICES MAY BE USED IN LIEU OF SETTING POST IN CONCRETE. DEVICES SHOWN ARE REPRESENTATIONAL ONLY. SEE GENERAL NOTES.

ALTERNATE ANCHOR DEVICES



~~SINGLE SWING GATE~~
SINGLE SWING
GATE NOT USED



DOUBLE SWING GATE
(TO BE USED WHERE SWINGING CLEARANCE IS LIMITED)

VDOT ROAD AND BRIDGE STANDARDS		STANDARD FENCE CHAIN LINK VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 1 OF 1	REVISION DATE		242 507
503.04	7/11		

2016 ROAD & BRIDGE STANDARDS

CHAIN LINK FENCING AND GATES NOTES

1. FOR THIS PROJECT, PROVIDE COATED FINISH ON ALL FENCE COMPONENTS.
2. FOR THIS PROJECT USE 12' AND 14' SWING GATE. SEE SHEETS 43-44 FOR LOCATIONS.
3. WIRE FABRIC SHALL HAVE A 2" MESH.
4. FOR GATES EXCEEDING 6'-0" IN WIDTH ROLLED FORMED STEEL POST NOT BE ALLOWED.
5. PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT AS REQUIRED TO FABRICATE AND INSTALL COATED CHAIN LINK FENCING AND GATES AS SHOWN.

ARLINGTON
VIRGINIA

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PHONE: 703.228.3629
FAX: 703.228.3606

SEAL

COMMONWEALTH OF VIRGINIA
BRIAN MICHAEL FINERFROCK
Lic. No. 44505
PROFESSIONAL ENGINEER
8/20/19

APPROVALS	DATE
DESIGN TEAM ENGINEER SUPERVISOR	04/07/20
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

FENCE DETAILS

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BRP

DESIGNED: EC
DRAWN: EC
CHECKED: BMF
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: FENCE DETAILS.dwg

PATH: \\ad.rkk.com\fs\Cloud\Projects\2016\16068_ArlCo_MS4\Task5_Ballston 3D\Plan

PLOTTED: November 20, 2019
PLOTTED BY: ecox

SCALE: N.T.S.

SHEET
60 OF 73

STRUCTURAL NOTES

GENERAL:
1. THIS DRAWING AND INFORMATION SHALL BE USED ONLY IN CONJUNCTION WITH THE REMAINDER OF THE CONTRACT DOCUMENTS.
2. ALL DIMENSIONS PROVIDED ARE BASED ON ANTICIPATED FIELD CONDITIONS. CONTRACTOR SHALL MEASURE AND VERIFY ALL DIMENSIONS BEFORE BEGINNING WORK. ADJUST DIMENSIONS AS REQUIRED TO MEET ACTUAL FIELD CONDITIONS.

DESIGN CRITERIA:
1. CODES/SPECIFICATIONS: (USE LATEST EDITIONS U.O.N.)
   a. ARLINGTON COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS, DATED 2012, AND PROJECT SPECIAL PROVISIONS
   b. VIRGINIA STATEWIDE UNIFORM BUILDING CODE 2012
   c. INTERNATIONAL BUILDING CODE (IBC), 2012 - OCCUPANCY/RISK CATEGORY II
2. LOADS:
   a. PLATFORM LIVE LOAD — 100 PSF
   b. RAILING LIVE LOAD — 50 PLF APPLIED IN ANY DIRECTION AT THE TOP OF THE RAILING; 200 POUND POINT LOAD APPLIED AT ANY POINT IN ANY DIRECTION
   c. DEAD LOADS — ACTUAL WEIGHTS
3. WIND LOAD:
   a. BASIC DESIGN WIND SPEED — 115 MPH
   b. RISK CATEGORY — II
   c. EXPOSURE CATEGORY — C
   d. DESIGN WIND PRESSURE — 50 PSF
4. SNOW LOAD:
   a. GROUND SNOW LOAD (Pg) — 25 PSF
   b. FLAT ROOF SNOW LOAD (Pf) — 21 PSF
   c. EXPOSURE FACTOR (Ce) — 1.0
   d. THERMAL FACTOR (Ct) — 1.2
   e. SLOPE FACTOR (Cs) — 1.0
   f. IMPORTANCE FACTOR (Is) — 1.0
5. EARTHQUAKE LOAD:
   a. RISK CATEGORY — II
   b. SITE CLASS — D
   c. SITE COEFFICIENTS — Ss=0.12; S1=0.05 Sms=0.191; Sm1=0.123 Sds=0.127; Sd1=0.082
   d. IMPORTANCE FACTOR (Ie) — 1.0
   e. SEISMIC DESIGN CATEGORY — B

CONCRETE:
1. ALL CONCRETE SHALL BE VDOT CLASS A4 (4,000 PSI NORMAL WEIGHT).
2. ALL CONCRETE SUBJECT TO FREEZE/THAW CYCLES SHALL BE AIR ENTRAINED.
3. CUTTING AND/OR CORING CONCRETE, IF REQUIRED, SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION. NO REINFORCEMENT SHALL BE CUT.
4. CHAMFER ALL EXPOSED EDGES ¾"x¾", UNLESS NOTED OTHERWISE.

REINFORCING STEEL:
1. REINFORCING STEEL SHALL BE DEFORMED BARS IN ACCORDANCE WITH ASTM A615, GRADE 60.
2. MAINTAIN MINIMUM CONCRETE COVERAGE FOR REINFORCING AS SPECIFIED IN ACI-318.
3. DETAILING, FABRICATION, AND INSTALLATION OF REINFORCING BARS SHALL COMPLY WITH THE CRSI DESIGN HANDBOOK AND THE ACI MANUAL OF STANDARD PRACTICE.

STRUCTURAL STEEL:
1. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATIONS: A992, GRADE 50 FOR I-SHAPES; A36 FOR PLATES, ANGLES AND CHANNELS; A500, GRADE B FOR TUBES.
2. FRAMING BOLTS SHALL CONFORM TO ASTM A325N, ¾"Φ MIN. U.O.N.
3. ANCHOR BOLTS, NUT AND WASHERS SHALL CONFORM TO ASTM F1554 (GRADE 55), ¾"Φ MIN. U.O.N.
4. ALL STEEL SHALL BE HOT DIP GALVANIZED, IN ACCORDANCE WITH ASTM A123 OR A153, AS APPLICABLE.
5. STEEL TEMPLATES SHALL BE USED TO SET ANCHOR BOLTS PLUMB WHEN POURING FOUNDATIONS.
6. CONTRACTOR SHALL SUBMIT ERECTION PLANS AND SHOP DRAWINGS FOR APPROVAL, PRIOR TO STEEL FABRICATION.
7. FOR ANY CONNECTIONS NOT SHOWN, DETAILER TO GENERALLY FOLLOW THE TYPICAL CONNECTIONS PROVIDED AND SUBMIT WITH THE STRUCTURAL STEEL SHOP DRAWINGS FOR REVIEW AND APPROVAL.
8. ALL STRUCTURAL STEEL FABRICATION SHALL BE PERFORMED BY AN AISC CERTIFIED FABRICATOR. DOCUMENTATION OF CERTIFICATION SHALL BE SUBMITTED WITH THE STRUCTURAL STEEL SHOP DRAWINGS FOR APPROVAL.

STEEL GRATING:
1. STEEL DECK GRATING SHALL BE GALVANIZED, CARBON STEEL PRESS-LOCKED BAR GRATING WITH 1"x 3/16" BEARING BARS AT 11/16" O.C. AND RECTANGULAR CROSS BARS AT 4" O.C. CAPABLE OF SUPPORTING ALL LOADS NOTED ABOVE.
2. DEFLECTIONS UNDER MAXIMUM DESIGN LOADS SHALL BE LIMITED TO L/360 OR ¼" WHICHEVER IS LESS.
3. GRATING SHALL MEET ALL ADA REQUIREMENTS AND HAVE A SLIP-RESISTANT TOP SURFACE.
4. BAND ALL EDGES AND OPENINGS IN THE STEEL GRATING.
5. PROVIDE VANDAL RESISTANT ATTACHMENT AND HIDDEN HOLD DOWN CLIPS TO SECURE THE GRATING TO THE SUPPORTS.

HELICAL SCREW PILES:
1. HELICAL SCREW PILES SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS AND FOR THE LOADS SPECIFIED HEREIN.

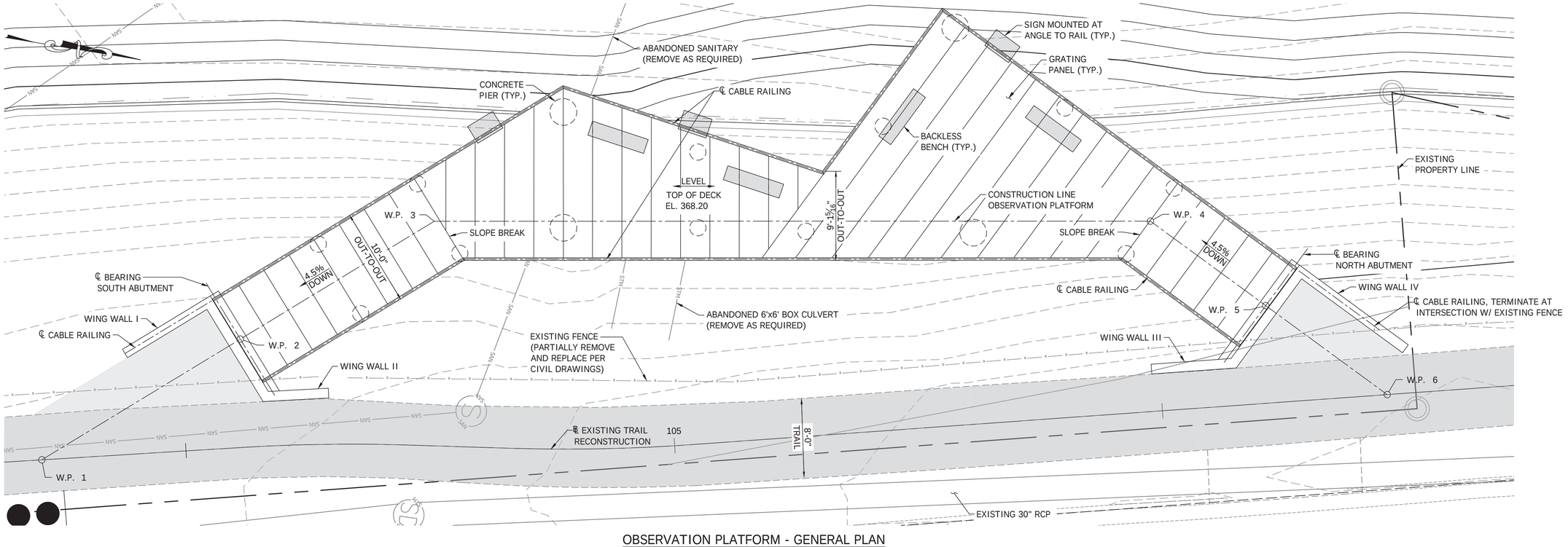
CABLE RAILING:
1. CABLE RAILING SYSTEM SHALL MEET THE REQUIREMENTS IN THE LANDSCAPE DRAWINGS, SECTION 1607.8.1 OF THE 2012 VCC, AND PROJECT SPECIAL PROVISIONS.

BENCHES AND SIGNS:
1. BENCHES AND INFORMATIONAL SIGNS SHALL MEET THE REQUIREMENTS IN THE LANDSCAPE DRAWINGS AND PROJECT SPECIAL PROVISIONS.
2. BENCHES AND INFORMATIONAL SIGNS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. APPROXIMATE BENCH AND SIGN LOCATIONS SHOWN ON GENERAL PLAN. FINAL LOCATIONS TO BE DETERMINED IN THE FIELD WITH THE ENGINEER.

STRUCTURAL TENSION CABLE SYSTEM:
1. ½"Φ GALVANIZED STRUCTURAL STRAND CABLES MEETING THE REQUIREMENTS OF ASTM A586 AND HAVING A MINIMUM WORKING LOAD OF 15 KIPS SHALL BE PROVIDED BETWEEN COLUMNS AS INDICATED IN THE STRUCTURAL CABLE SYSTEM LAYOUT.
2. GALVANIZED JAW TURNBUCKLES SHALL BE IN ACCORDANCE WITH ASTM F1145 AND HAVE AN ADJUSTMENT RANGE LARGE ENOUGH TO ACCOMODATE THAT REQUIRED FOR ERECTION PROCEDURES, CABLE ELONGATION AND CONSTRUCTION TOLERANCES.
3. TURNBUCKLES SHALL BE INSTALLED TO PRETENSION THE CABLES TO A MINIMUM OF 25 POUNDS AND PREVENT SLIP PRIOR TO APPLYING ANY LOADING, INCLUDING CONSTRUCTION LOADING, TO SUPERSTRUCTURE.
4. JAW CONNECTORS SHALL MEET THE REQUIREMENTS OF ASTM A148.

DRAINAGE SYSTEM:
1. MINIMUM INSTALLATION SLOPE OF THE PERFORATED PIPE UNDERDRAIN SHALL BE 0.02 FT/FT.
2. CAP FREE ENDS OF PIPE UNDERDRAIN.
3. THE COST OF PERFORATED PIPE UNDERDRAIN, POROUS BACKFILL AND GEOTEXTILE SHALL BE INCLUDED IN THE COST OF STRUCTURE EXCAVATION. THE BID PRICE SHALL INCLUDE COSTS FOR LABOR, TOOLS, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE SATISFACTORY COMPLETION OF THE WORK SHOWN ON THE PLANS.

SPECIAL INSPECTIONS
1. SPECIAL INSPECTIONS AND STRUCTURAL TESTING CONFORMING TO THE ARLINGTON COUNTY PRE-CONSTRUCTION MANUAL, CHAPTER 17 OF THE IBC, AND ANY LOCAL AMENDMENTS WILL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER FOR THE ITEMS IDENTIFIED IN THE STATEMENT OF SPECIAL INSPECTION (SSI), UNLESS WAIVED BY THE BUILDING OFFICIAL.
2. SPECIAL INSPECTIONS ARE APPLICABLE TO THE OBSERVATION PLATFORM ONLY.
3. DUTIES OF THE SPECIAL INSPECTION ENGINEER OF RECORD (SIER):
   a. REVIEW ALL WORK LISTED IN THE SSI FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS.
   b. FURNISH SPECIAL INSPECTION REPORTS TO THE ENGINEER OF RECORD (EOR), CONTRACTOR, OWNER, AND BUILDING OFFICIAL AT THE FREQUENCY SET FORTH IN THE SSI. ALL ITEMS NOT IN COMPLIANCE WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND, IF UNCORRECTED, TO THE EOR AND BUILDING OFFICIAL.
   c. SUBMIT A FINAL REPORT OF SPECIAL INSPECTIONS AND CERTIFICATE OF COMPLETION AFTER THE SPECIAL INSPECTIONS SPECIFIED FOR THE PROJECT HAVE BEEN COMPLETED.
4. DUTIES OF THE GENERAL CONTRACTOR (GC):
   a. REVIEW, ACKNOWLEDGE, AND ACCEPT THE SPECIAL REQUIREMENTS CONTAINED IN THE SSI IN ACCORDANCE WITH SECTION 1704.4 OF THE IBC, PRIOR TO COMMENCEMENT OF THE WORK.
   b. SCHEDULE AND COORDINATE THE WORK SUCH THAT THE REQUIRED INSPECTIONS ARE CONDUCTED AND APPROVED PRIOR TO PROCEEDING WITH THE WORK.
   c. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.
   d. UPON COMPLETION OF THE WORK, PROVIDE A CERTIFICATE OF COMPLETION INDICATING THAT TO THE BEST OF HIS/HER KNOWLEDGE, INFORMATION, AND BELIEF THE WORK HAS BEEN CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS, SPECIFICATIONS, ARLINGTON COUNTY BUILDING CODE, AND THE SSI.
   e. SUBMIT A CERTIFICATE OF COMPLIANCE FROM THE STRUCTURAL STEEL FABRICATOR STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
5. SEE THE TABLES IN THE SSI FOR THE TYPES, EXTENTS, AND FREQUENCY OF SPECIFIC ITEMS REQUIRING SPECIAL INSPECTIONS AND/OR STRUCTURAL TESTS AS PART OF THIS PROJECT.
6. ADDITIONAL SUBSURFACE INVESTIGATION AND HELICAL PILE DESIGN WILL BE PERFORMED BY THE CONTRACTOR'S ENGINEER, PER PROJECT SPECIAL PROVISIONS, WHO WILL THEN BECOME THE GEOTECHNICAL ENGINEER OF RECORD (GER). SPECIAL INSPECTIONS AS DEFINED IN THE SSI SHALL BE PERFORMED, AS A MINIMUM. ADDITIONAL REQUIREMENTS MAY BE REQUIRED BY THE GER.



OBSERVATION PLATFORM - GENERAL PLAN

ARLINGTON
VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

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SEAL

COMMONWEALTH OF VIRGINIA
JOHN LUDSON FARLEY
#053404
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR: Ramal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM GENERAL PLAN AND NOTES

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 61-GNRL PLN & NTS.dwg

PATH: \\ffxsrv01\vol\projects\2016\16068_ArlingtonCo_NS41\Task5_Ballston_3D\Plan

PLOTTED: August 27, 2019

PLOTTED BY: ethompson

SCALE: 3/16" = 1'-0"

SHEET 61 of 73

PIER DETAILS

PIER NO.	DECK EL.	TOP OF PIER EL.	PIER TYPE *
1	267.66	264.50	Y
2	267.66	266.68	X
3	268.20	261.75	Y
4	268.20	264.50	Y
5	268.20	257.60	Z
6	268.20	263.50	Z
7	268.20	259.50	Y
8	268.20	263.50	Y
9	268.20	255.75	Z
10	268.20	258.00	Y
11	268.20	263.50	Y
12	268.20	257.00	Y
13	268.20	263.50	Z
14	268.20	262.00	Y
15	268.20	265.50	Y

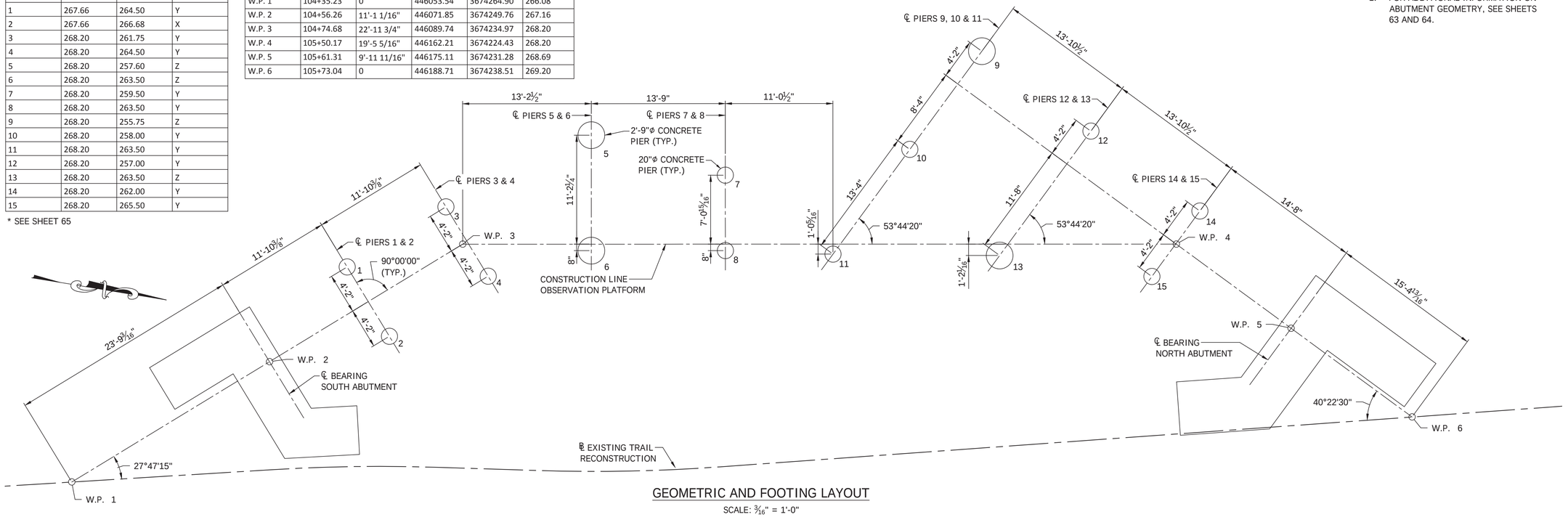
* SEE SHEET 65

PROPOSED PLATFORM WORK POINTS

NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION
W.P. 1	104+35.23	0	446053.54	3674264.90	266.08
W.P. 2	104+56.26	11'-1 1/16"	446071.85	3674249.76	267.16
W.P. 3	104+74.68	22'-11 3/4"	446089.74	3674234.97	268.20
W.P. 4	105+50.17	19'-5 5/16"	446162.21	3674224.43	268.20
W.P. 5	105+61.31	9'-11 11/16"	446175.11	3674231.28	268.69
W.P. 6	105+73.04	0	446188.71	3674238.51	269.20

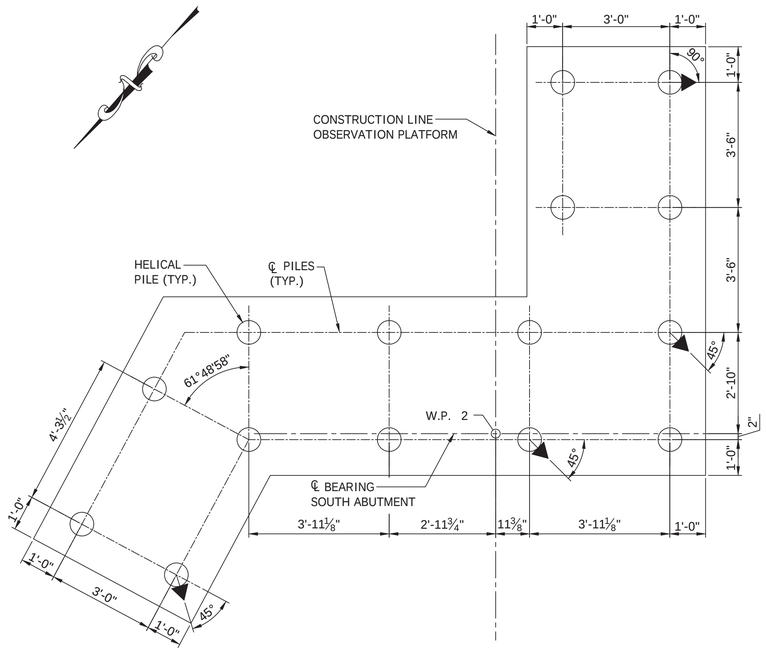
CROSS REFERENCE NOTES:

1. FOR ADDITIONAL INFORMATION ON ABUTMENT GEOMETRY, SEE SHEETS 63 AND 64.



GEOMETRIC AND FOOTING LAYOUT

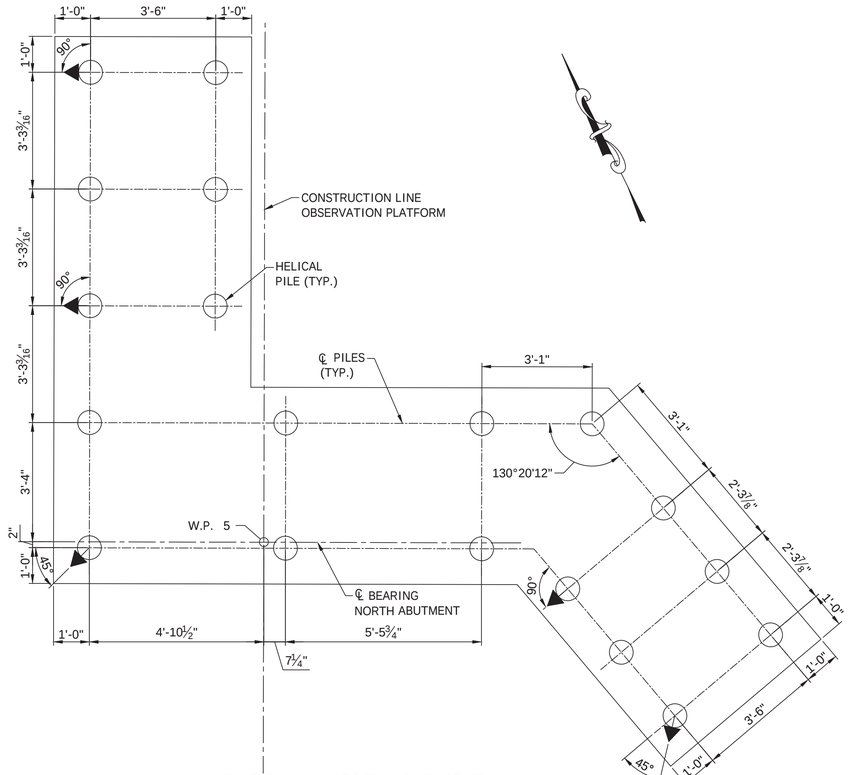
SCALE: 3/16" = 1'-0"



PILE PLAN - SOUTH ABUTMENT

SCALE: ½" = 1'-0"

INDICATES DIRECTION OF BATTER



PILE PLAN - NORTH ABUTMENT

SCALE: ½" = 1'-0"

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JOHN LINDSON FARLEY
#063404
PROFESSIONAL ENGINEER

APPROVALS	DATE
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DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
GEOMETRIC AND FOOTING
LAYOUT

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

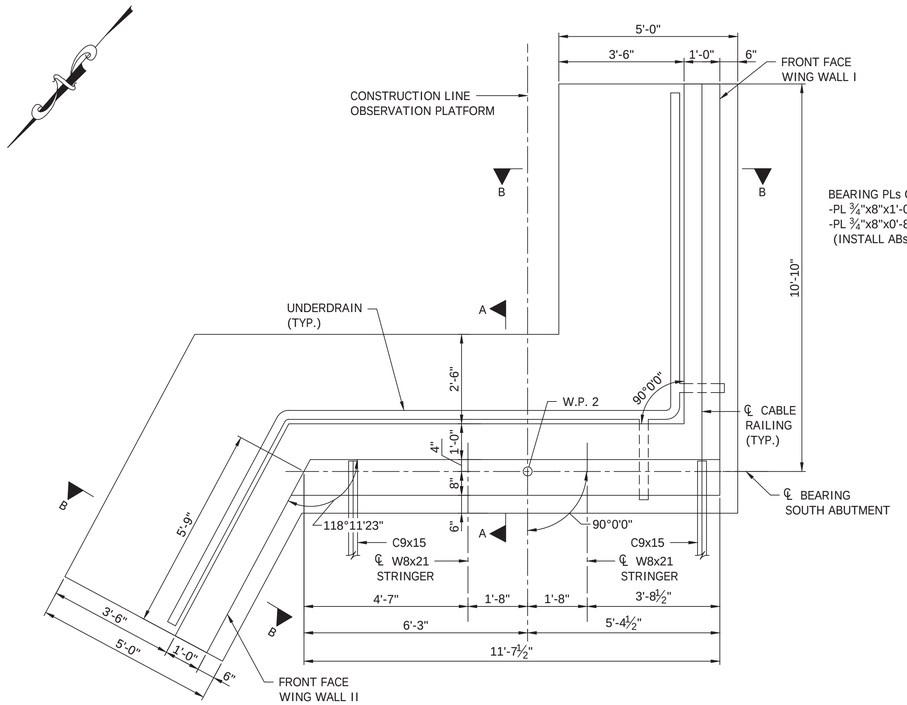
PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 62-GEOMET LYOT & FNDT PLN.dwg
PATH: \\tfsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Tasks5_Ballston_3D\Plan
PLOTTED: July 11, 2019
PLOTTED BY: ethompson

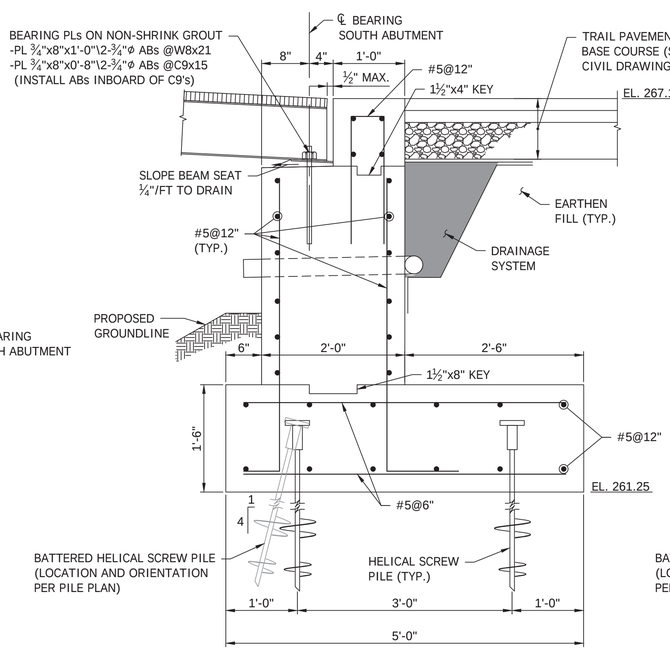
SCALE: AS NOTED

SHEET 62 of 73

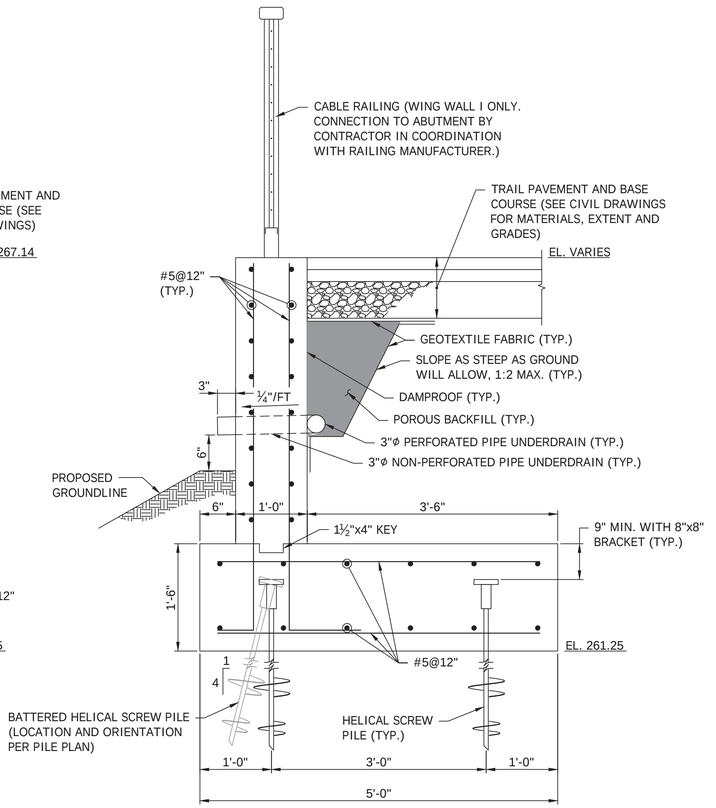


NOTE:
PILES NOT SHOWN FOR CLARITY, SEE SHEET 62 FOR PILE PLAN.

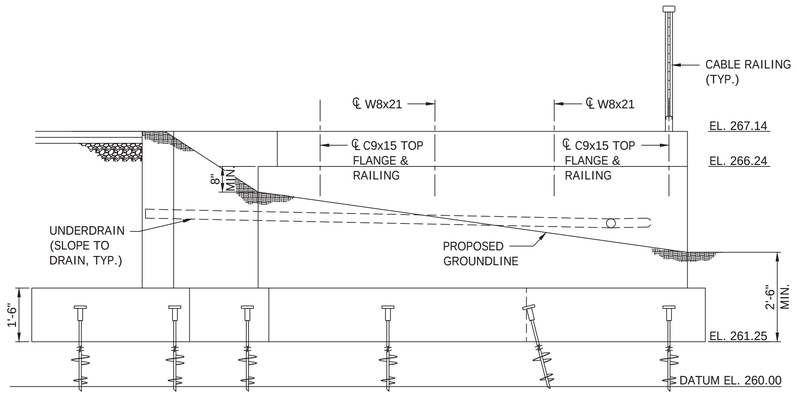
PLAN
SCALE: ½" = 1'-0"



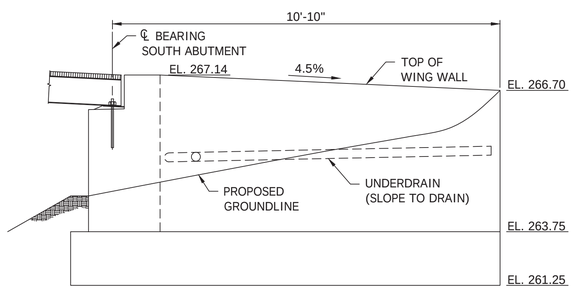
SECTION A-A
SCALE: 1" = 1'-0"



SECTION B-B
SCALE: 1" = 1'-0"

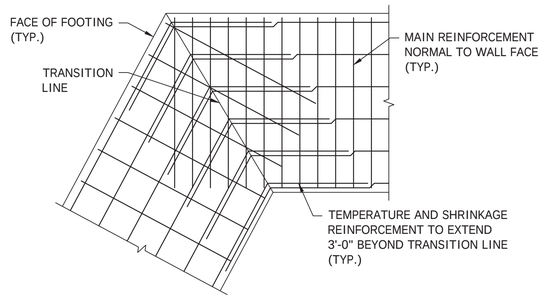


ELEVATION
SCALE: ½" = 1'-0"



WING WALL I ELEVATION
SCALE: ½" = 1'-0"

NOTE:
RAILING EXTENDS FULL LENGTH OF WING WALL. NOT SHOWN FOR CLARITY.



CONCEPTUAL FOOTING REBAR LAYOUT
SCALE: N.T.S.

NOTES:
1. BACKWALL SHALL NOT BE PLACED UNTIL PLATFORM DECK HAS BEEN SET. TOP OF BACKWALL SHALL BE PLACED TO ALLOW A SMOOTH TRANSITION BETWEEN STEEL GRATING & CONCRETE.
2. HELICAL SCREW PILES SHALL BE INSTALLED TO DEPTH REQUIRED TO PROVIDE DESIGN CAPACITY = 32 K EACH. MINIMUM DEPTH = 15 FT.
3. BEAM SEAT ELEVATION GIVEN AT CENTERLINE OF BEARING.
4. ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 12".
5. WALL CORNER REINFORCEMENT SHALL BE PER DETAIL IN ACI 315.1R FIG. 5.4.3.2a.

CROSS REFERENCE NOTES:
1. FOR GENERAL NOTES, SEE SHEET 61.
2. FOR GEOMETRIC LAYOUT AND PILE PLAN, SEE SHEET 62.
3. FOR PROPOSED GRADING, SEE CIVIL DRAWINGS.
4. FOR BEARING DETAILS, SEE SHEET 64.

ARLINGTON
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JOHN JUDSON FINLEY
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PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
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CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
SOUTH ABUTMENT
PLAN AND DETAILS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: EMT
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

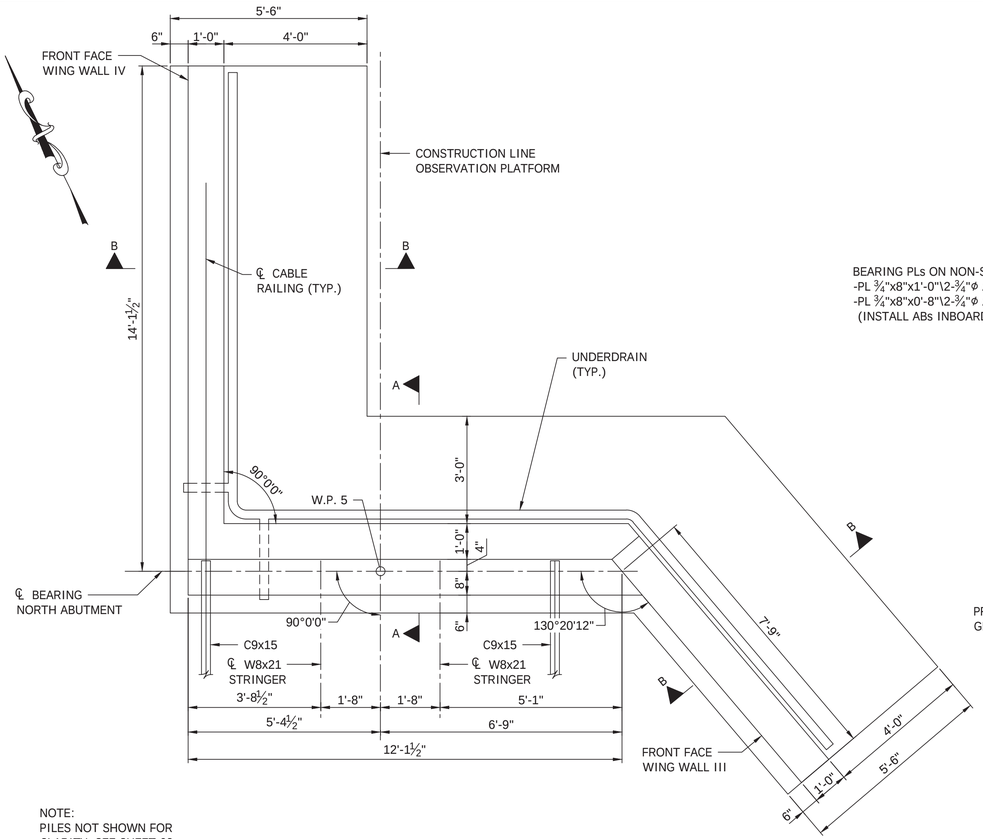
FILENAME: 63-STH ABTMT PLN & DETS.dwg

PATH: \\fhxsrv01\vol\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: August 19, 2019
PLOTTED BY: ethompson

SCALE: AS NOTED

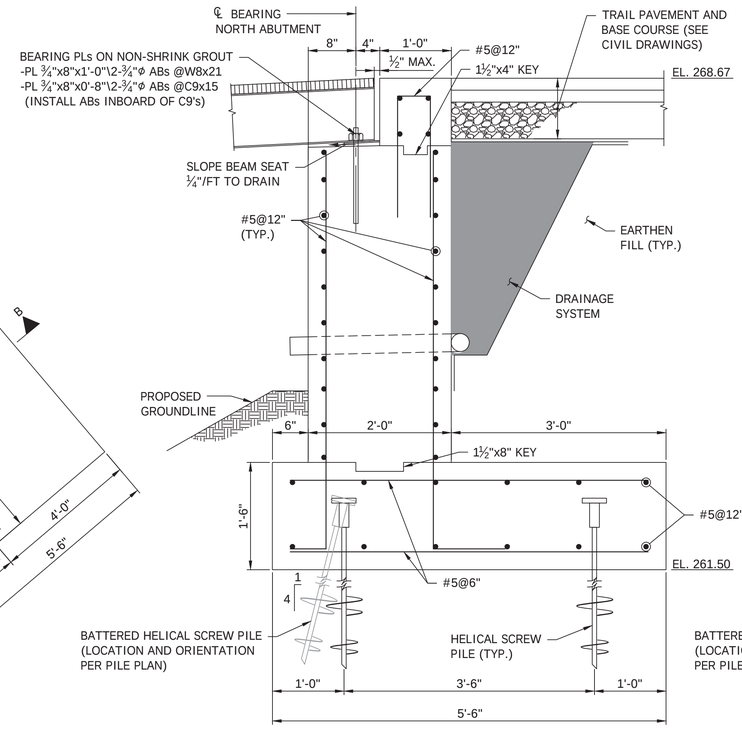
SHEET 63 of 73



NOTE:
PILES NOT SHOWN FOR CLARITY, SEE SHEET 62 FOR PILE PLAN.

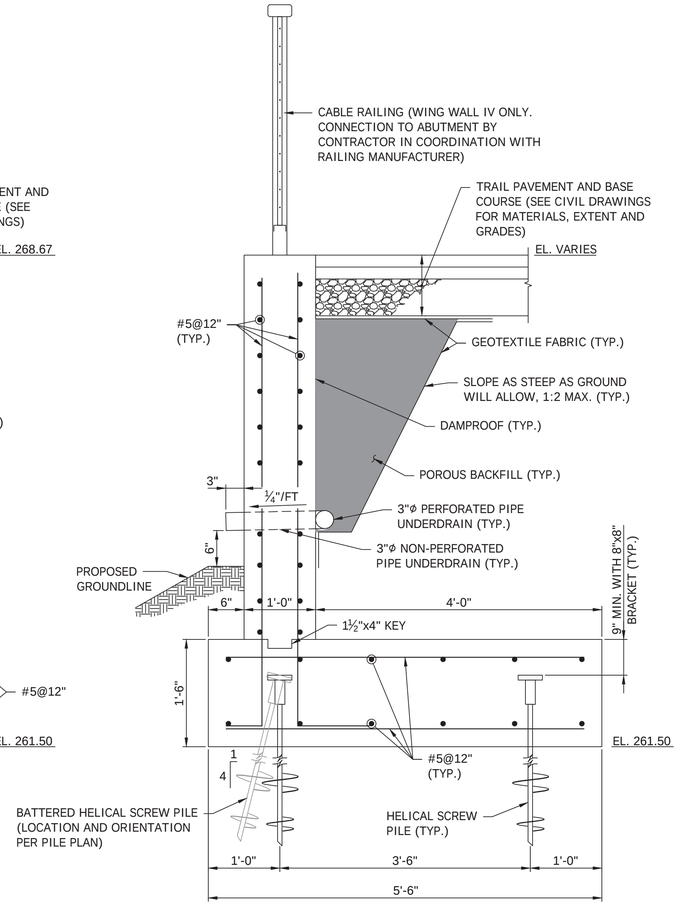
PLAN

SCALE: ½" = 1'-0"



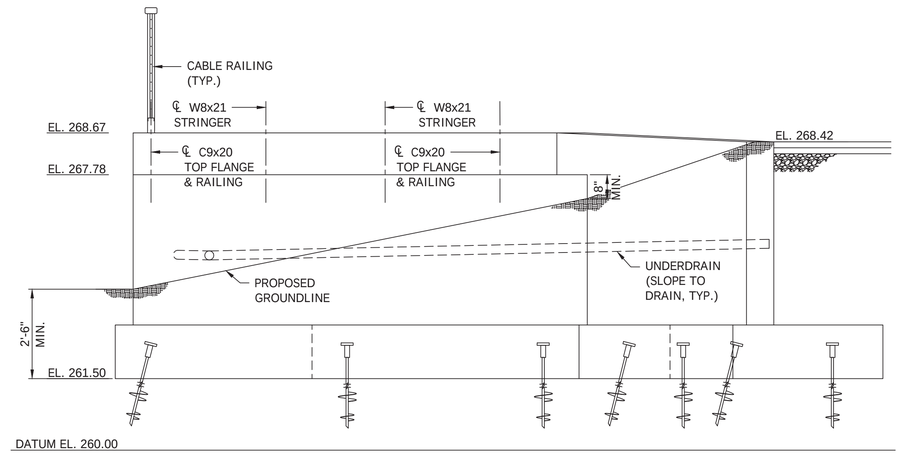
SECTION A-A

SCALE: 1" = 1'-0"



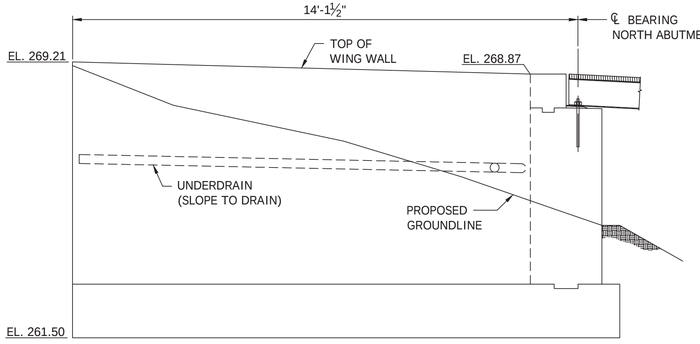
SECTION B-B

SCALE: 1" = 1'-0"



ELEVATION

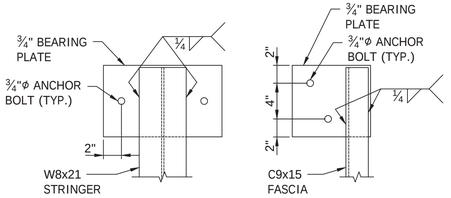
SCALE: ½" = 1'-0"



WING WALL IV ELEVATION

SCALE: ½" = 1'-0"

NOTE:
RAILING EXTENDS FULL LENGTH OF WING WALL. NOT SHOWN FOR CLARITY.



AT STRINGERS AT FASCIA

BEARING PLATE DETAILS

SCALE: 1½" = 1'-0"

NOTES:
1. BACKWALL SHALL NOT BE PLACED UNTIL PLATFORM DECK HAS BEEN SET. TOP OF BACKWALL SHALL BE PLACED TO ALLOW A SMOOTH TRANSITION BETWEEN STEEL GRATING & CONCRETE.
2. HELICAL SCREW PILES SHALL BE INSTALLED TO DEPTH REQUIRED TO PROVIDE DESIGN CAPACITY = 32 K EACH. MINIMUM DEPTH = 15 FT.
3. BEAM SEAT ELEVATION GIVEN AT CENTERLINE OF BEARING.
4. ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 12".
5. WALL CORNER REINFORCEMENT SHALL BE PER DETAIL IN ACI 315.1R FIG. 5.4.3.2a.

CROSS REFERENCE NOTES:
1. FOR GENERAL NOTES, SEE SHEET 61.
2. FOR GEOMETRIC LAYOUT AND PILE PLAN, SEE SHEET 62.
3. FOR PROPOSED GRADING, SEE CIVIL DRAWINGS.
4. FOR CONCEPTUAL FOOTING REBAR LAYOUT, SEE SHEET 63.

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VIRGINIA

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SEAL

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JOHN LUDSON FARLEY
#063404
PROFESSIONAL ENGINEER

APPROVALS	DATE
	04/07/20
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CONSTRUCTION MANAGEMENT SUPERVISOR: David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF: Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
NORTH ABUTMENT
PLAN AND DETAILS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

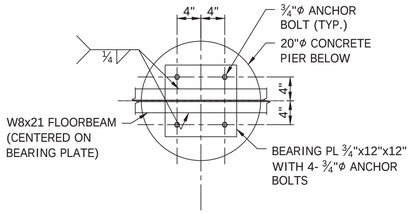
PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: EMT
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

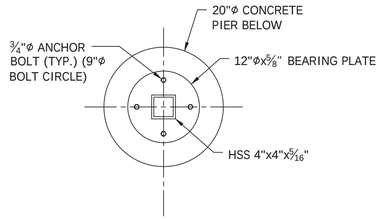
FILENAME: 64-NRTH ABTMT PLN & DETS.dwg
PATH: \\tfxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: August 19, 2019
PLOTTED BY: ethompson

SCALE: AS NOTED

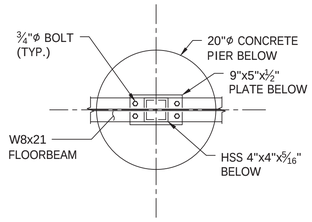
SHEET 64 of 73



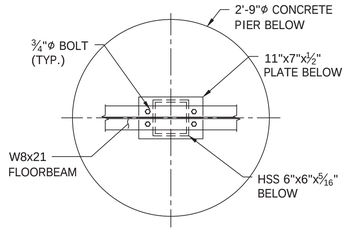
SECTION A-A
SCALE : 1" = 1'-0"



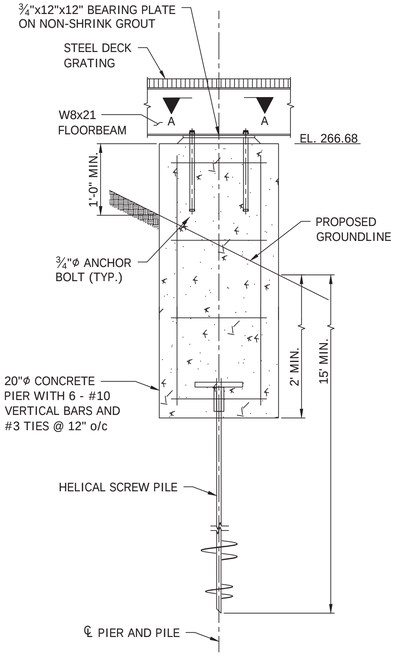
SECTION B-B
SCALE : 1" = 1'-0"



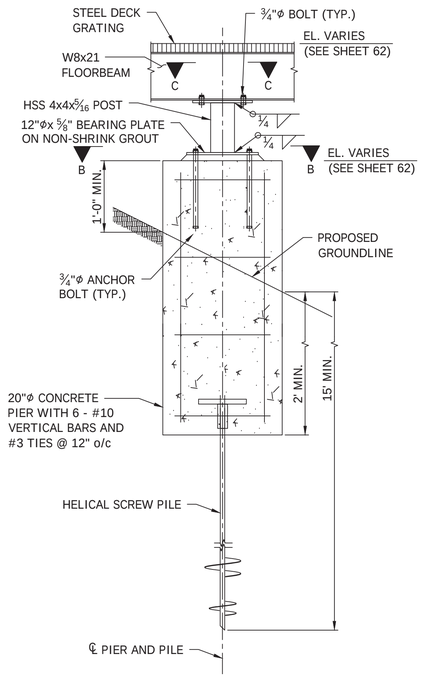
SECTION C-C
SCALE : 1" = 1'-0"



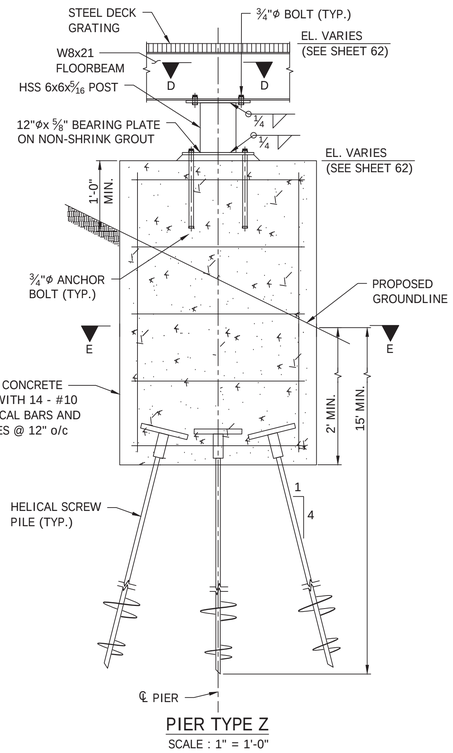
SECTION D-D
SCALE : 1" = 1'-0"



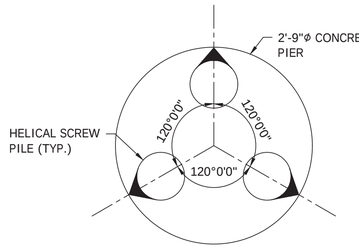
PIER TYPE X
SCALE : 1" = 1'-0"



PIER TYPE Y
SCALE : 1" = 1'-0"



PIER TYPE Z
SCALE : 1" = 1'-0"



SECTION E-E
SCALE : 1" = 1'-0"

NOTES:
1. HELICAL SCREW PILES SHALL BE INSTALLED TO DEPTH REQUIRED TO PROVIDE DESIGN CAPACITY = 30 K COMPRESSION EACH. MINIMUM DEPTH = 15 FT.
2. SLOPE TOP OF CONCRETE PIERS TO EDGES, TO ALLOW PROPER DRAINAGE.

CROSS REFERENCE NOTES:
1. FOR GENERAL NOTES, SEE SHEET 61.
2. FOR GEOMETRIC LAYOUT, SEE SHEET 62.

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SEAL

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CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
PIER DETAILS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

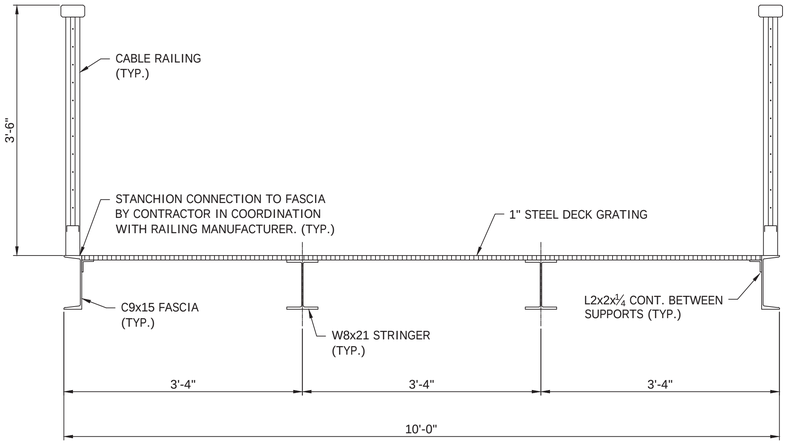
FILENAME: 65-PIER DETS.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: July 11, 2019
PLOTTED BY: ethompson

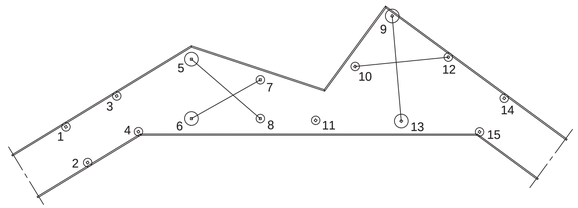
SCALE: AS NOTED

SHEET 65 of 73



SECTION A-A

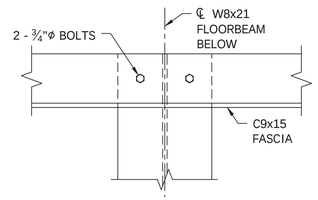
SCALE : 1" = 1'-0"



NOTE:
CABLE SYSTEM SHALL BE LEVEL AND LOCATED A MAX. OF 12" BENEATH TOP OF COLUMNS.

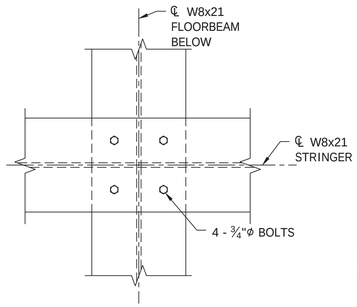
STRUCTURAL CABLE SYSTEM LAYOUT

SCALE : N.T.S.



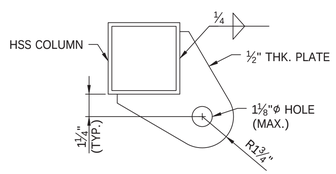
DETAIL A - SEATED FASCIA CONNECTION (PLAN)

SCALE : 3" = 1'-0"



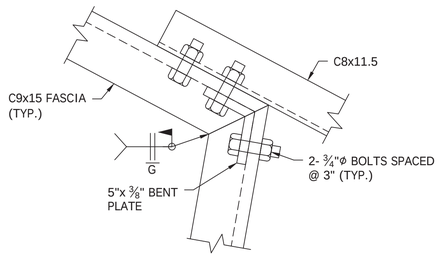
DETAIL B - TYPICAL SEATED STRINGER TO FLOORBEAM CONNECTION (PLAN)

SCALE : 3" = 1'-0"



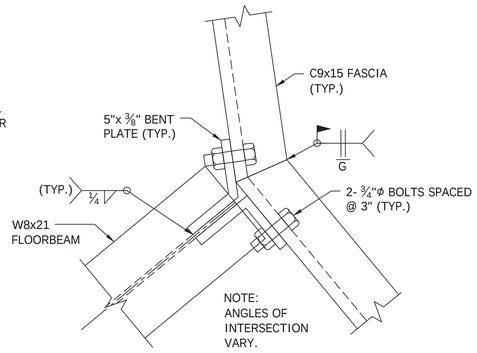
STRUCTURAL CABLE SYSTEM - CONNECTION PLATE DETAIL

SCALE : 3" = 1'-0"



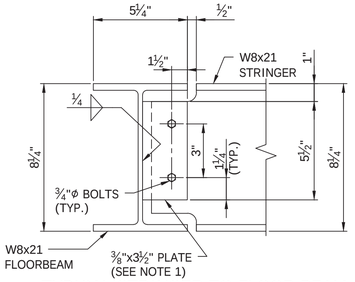
DETAIL C

SCALE : 3" = 1'-0"



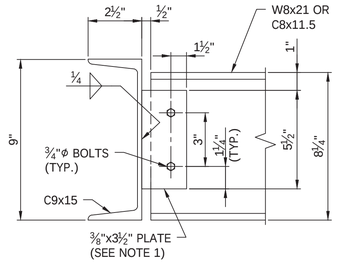
DETAIL D - TYPICAL FASCIA TO FASCIA CONNECTION AT FLOOR BEAM

SCALE : 3" = 1'-0"



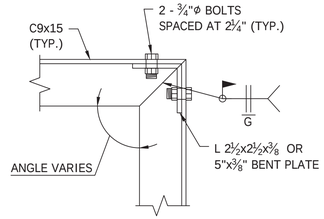
TYPICAL STRINGER TO FLOOR BEAM CONNECTION

SCALE : 3" = 1'-0"



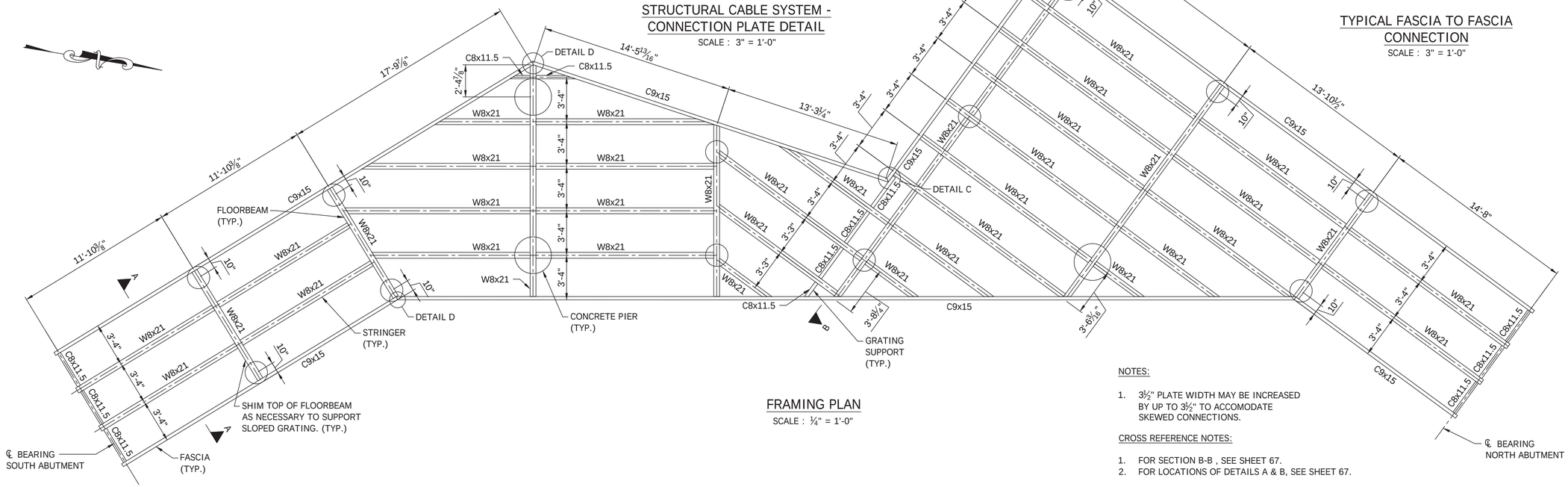
TYPICAL FASCIA TO FLOOR BEAM, STRINGER, GRATING SUPPORT CONNECTION

SCALE : 3" = 1'-0"



TYPICAL FASCIA TO FASCIA CONNECTION

SCALE : 3" = 1'-0"



FRAMING PLAN

SCALE : ¼" = 1'-0"

NOTES:

1. 3½" PLATE WIDTH MAY BE INCREASED BY UP TO 3½" TO ACCOMODATE SKEWED CONNECTIONS.

CROSS REFERENCE NOTES:

1. FOR SECTION B-B , SEE SHEET 67.
2. FOR LOCATIONS OF DETAILS A & B, SEE SHEET 67.

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WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
FRAMING PLAN AND DETAILS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 66-FRAMING PLN & DETS.dwg

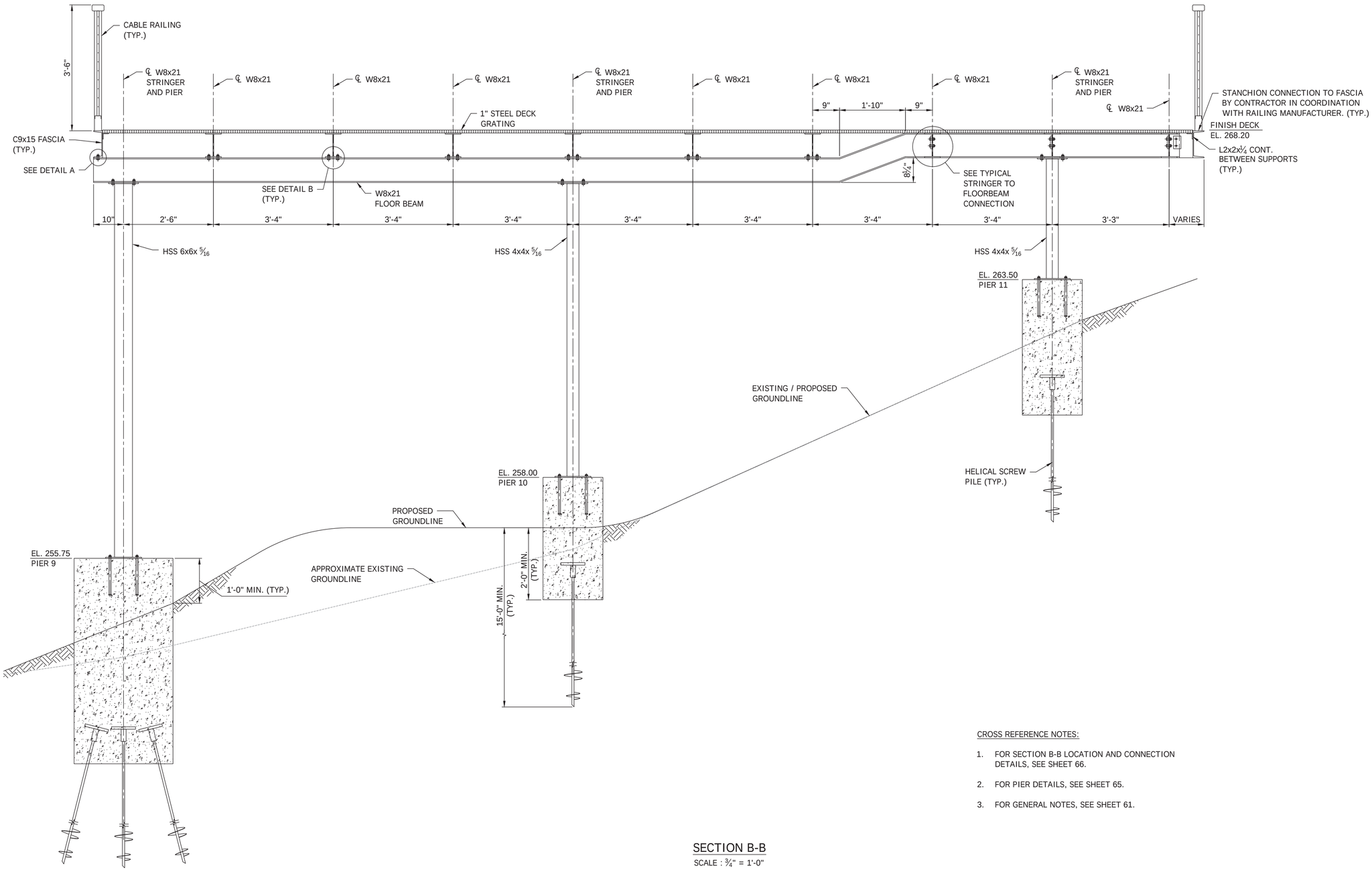
PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_WS4\Task5_Ballston_3D\Plan

PLOTTED: July 11, 2019

PLOTTED BY: ethompson

SCALE: AS NOTED

SHEET 66 of 73



SECTION B-B

SCALE : ¾" = 1'-0"

CROSS REFERENCE NOTES:

1. FOR SECTION B-B LOCATION AND CONNECTION DETAILS, SEE SHEET 66.
2. FOR PIER DETAILS, SEE SHEET 65.
3. FOR GENERAL NOTES, SEE SHEET 61.

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JOHN LINDSON FARLEY
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APPROVALS	DATE
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Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
TYPICAL SECTIONS

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

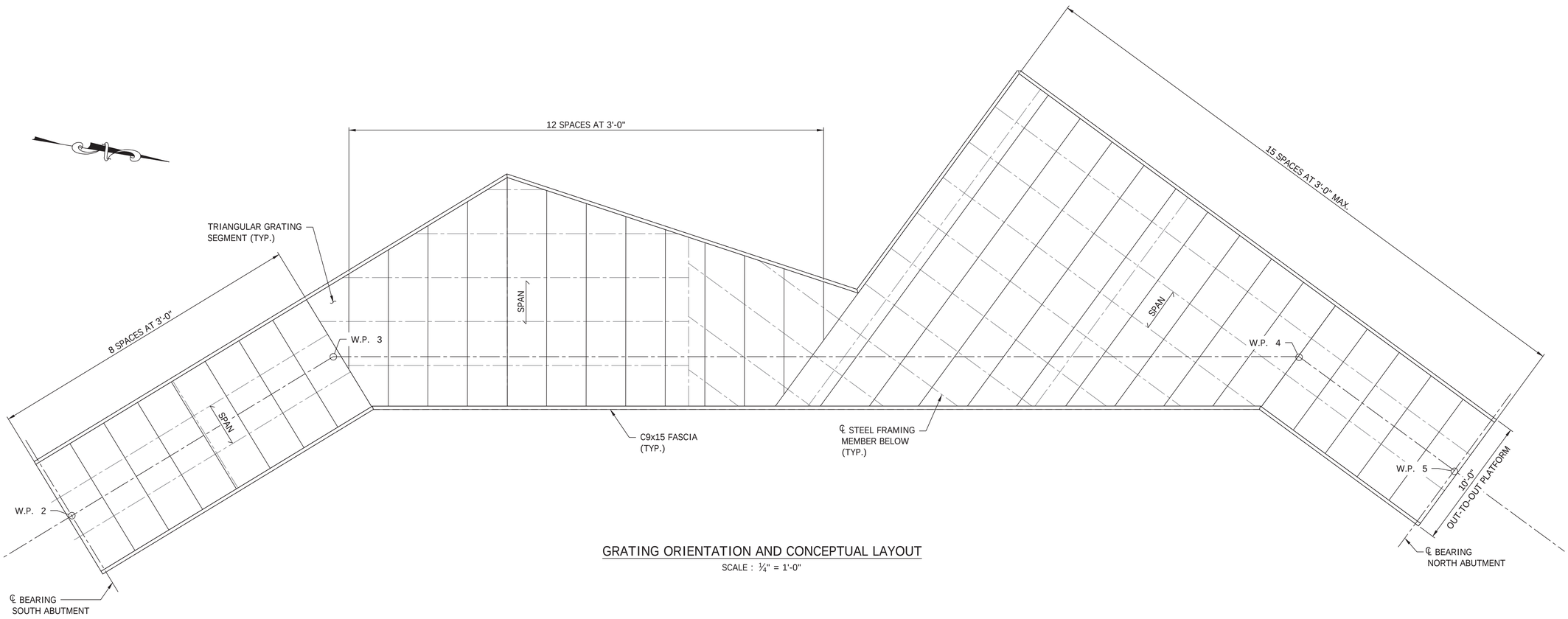
FILENAME: 67-TYP SEC.dwg

PATH: \\fhxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: July 11, 2019
PLOTTED BY: ethompson

SCALE: AS NOTED

SHEET 67 of 73



GRATING ORIENTATION AND CONCEPTUAL LAYOUT

SCALE : ¼" = 1'-0"

CROSS REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE SHEET 61.
2. FOR STEEL FRAMING, SEE SHEET 66.
3. FOR GEOMETRIC LAYOUT, SEE SHEET 62.

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JOHN LUDSON FARLEY
#063404
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CONSTRUCTION MANAGEMENT SUPERVISOR	
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Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

OBSERVATION PLATFORM
GRATING LAYOUT

BALLSTON POND
RETROFIT PROJECT
BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: KMD
DRAWN: MHB
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

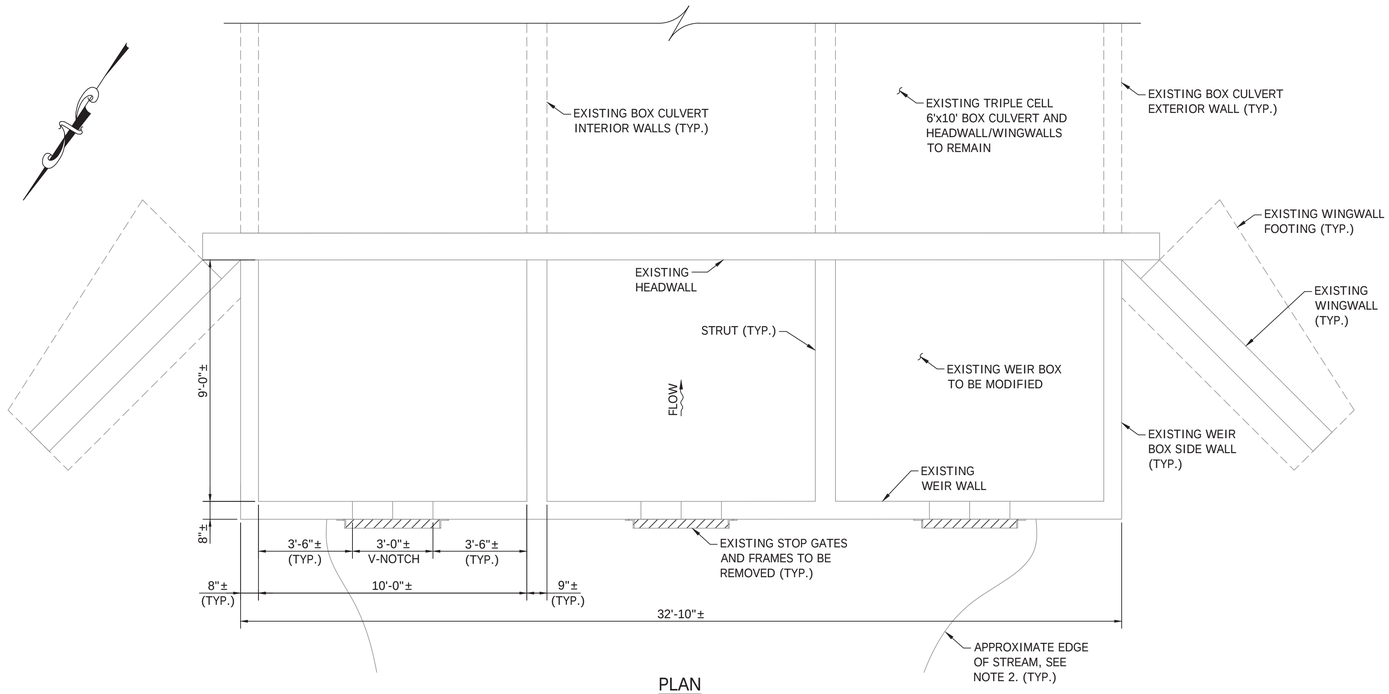
FILENAME: 68-GRATING LYOT.dwg

PATH: \\ffxsrv01\v0\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: July 11, 2019
PLOTTED BY: ethompson

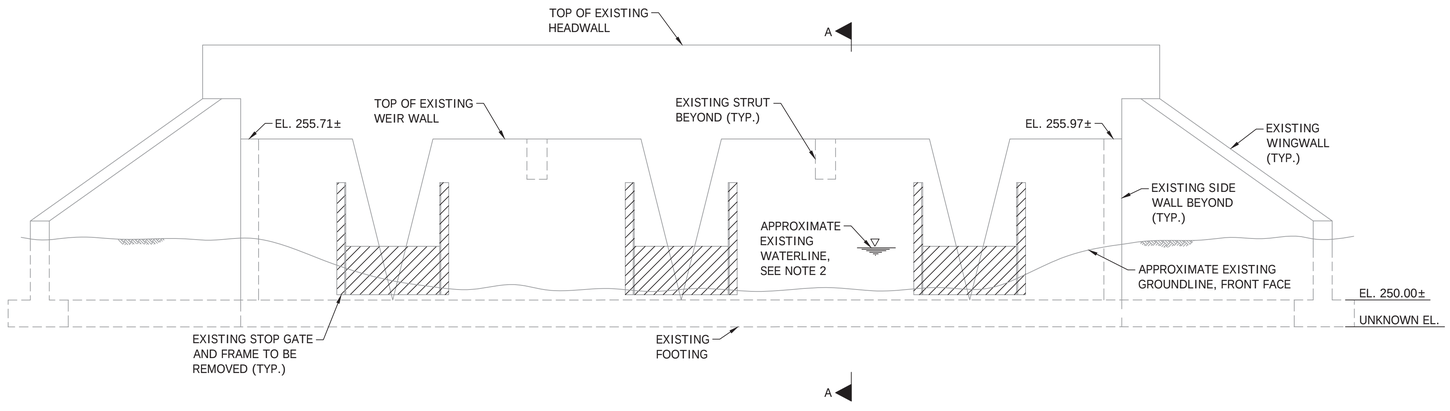
SCALE: AS NOTED

SHEET 68 of 73



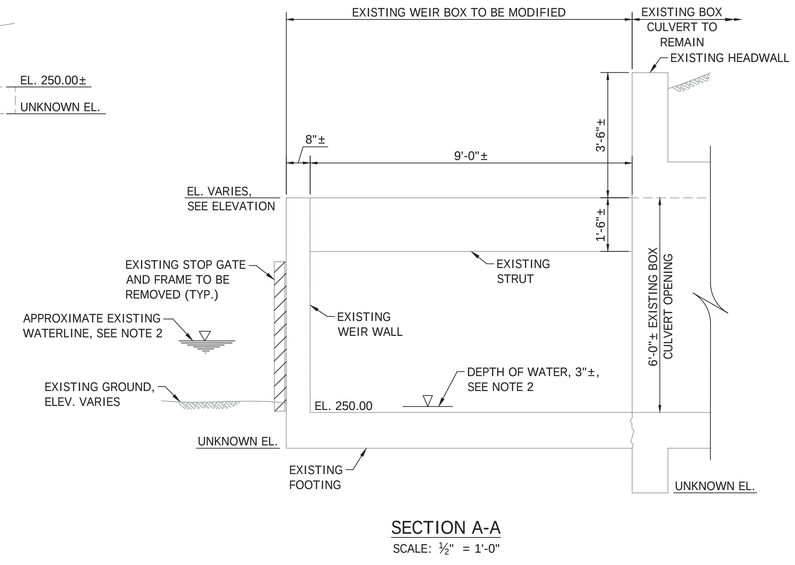
PLAN

SCALE: ⅜" = 1'-0"



ELEVATION

SCALE: ⅜" = 1'-0"



SECTION A-A

SCALE: ½" = 1'-0"

NOTES:

1. REINFORCEMENT DETAILS ARE UNKNOWN FOR THE EXISTING WEIR WALL AND FOOTING.
2. WATERLINE ELEVATION AND EDGE OF STREAM ARE AS OBSERVED ON OCTOBER 4, 2018.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING STRUCTURES TO REMAIN AND PORTIONS OF EXISTING STRUCTURES TO REMAIN FROM DAMAGE DUE TO THE CONTRACTOR'S ACTIVITIES. ANY DAMAGE CAUSED TO EXISTING STRUCTURES OR PORTIONS OF EXISTING STRUCTURES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN A MANNER APPROVED BY THE ENGINEER.

LEGEND:

▨ = PORTION OF EXISTING STRUCTURE TO BE REMOVED

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JOHN JUDSON FINLEY #063404
PROFESSIONAL ENGINEER

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CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WEIR BOX EXISTING CONDITIONS AND DEMOLITION PLAN

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

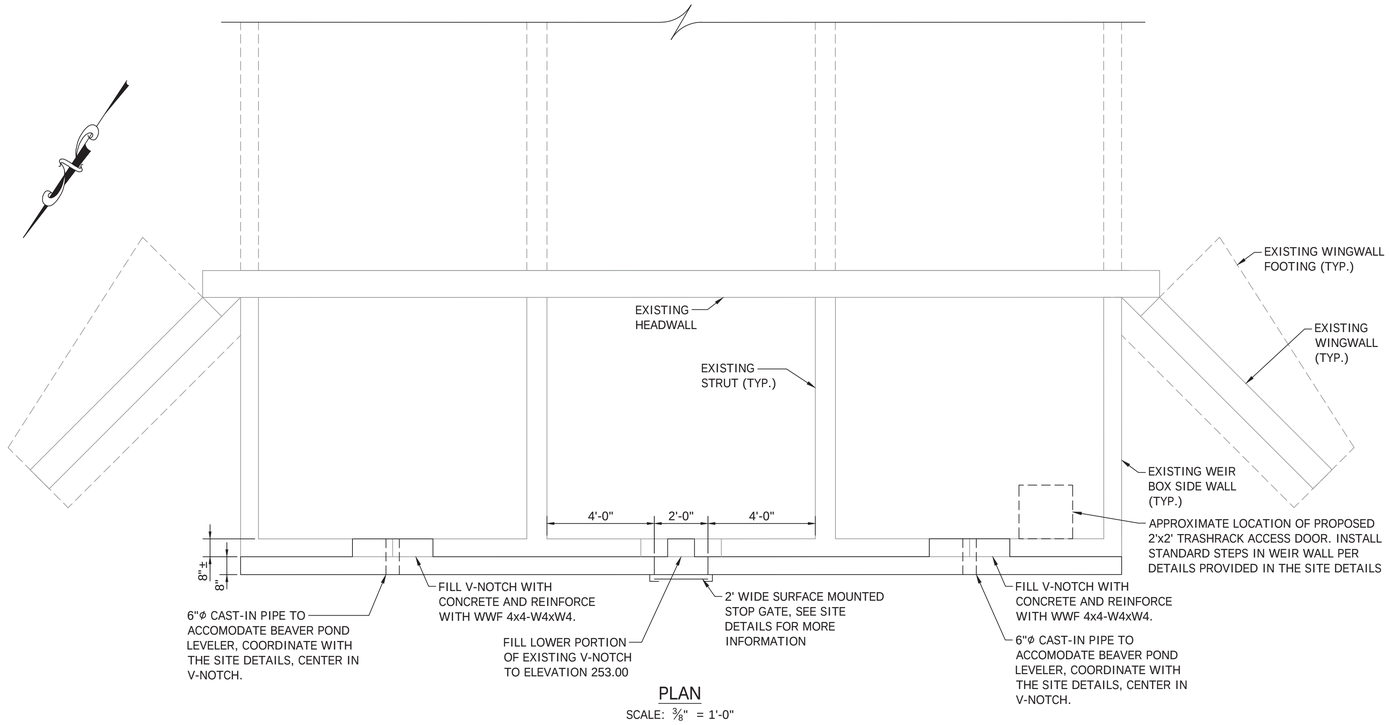
PROJECT NUMBER: BBP

DESIGNED: XXX
DRAWN: EMT
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

FILENAME: 69-EXISTING WEIR BOX.dwg
PATH: \\ffxsrv01\vol\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan
PLOTTED: July 11, 2019
PLOTTED BY: ethompson

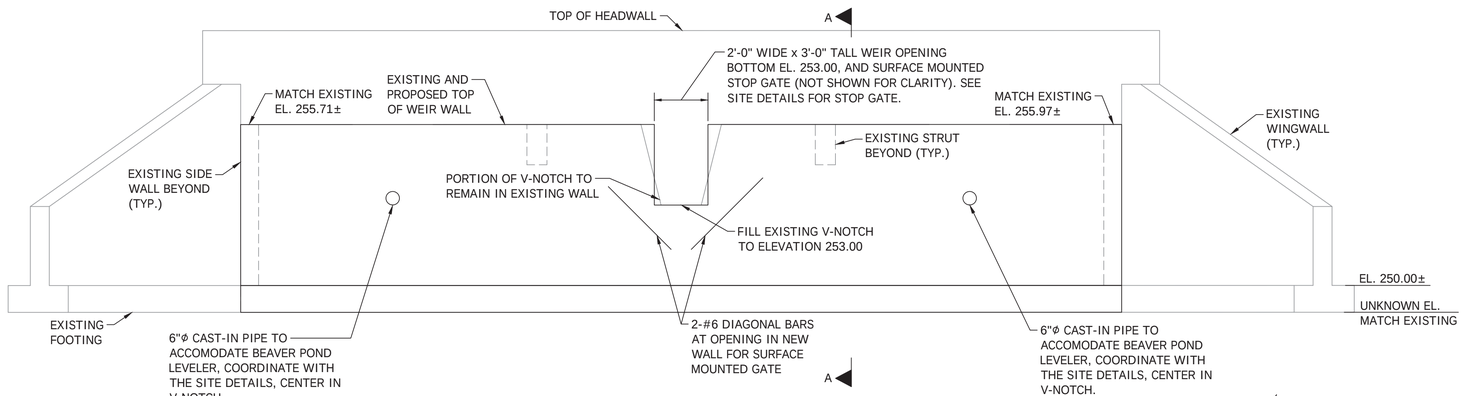
SCALE: AS NOTED

SHEET 69 of 73



PLAN

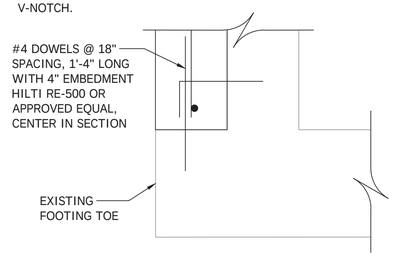
SCALE: $\frac{3}{8}$" = 1'-0"



ELEVATION

SCALE: $\frac{3}{8}$" = 1'-0"

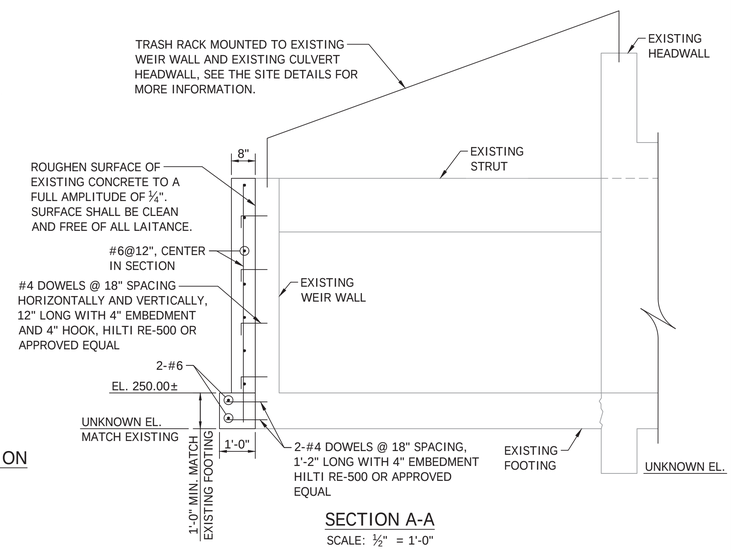
NOTE:
EXISTING AND PROPOSED GROUNDLINE AND WATERLINE NOT SHOWN FOR CLARITY.



DETAIL A - ALTERNATE FOOTING CONFIGURATION

SCALE: $1\frac{1}{2}$" = 1'-0"

NOTE:
CONTRACTOR SHALL FIELD INVESTIGATE TO DETERMINE IF THE EXISTING WEIR BOX FOOTING HAS A TOE ON THE FRONT FACE. IF A TOE IS PRESENT, UTILIZE DETAIL A.



SECTION A-A

SCALE: ½" = 1'-0"

NOTES:

CONCRETE:

1. ALL CONCRETE SHALL BE VDOT CLASS A4 (4000 PSI NORMAL WEIGHT).
2. ALL CONCRETE SUBJECT TO FREEZE/THAW CYCLES SHALL BE AIR ENTRAINED.
3. CUTTING AND/OR CORING CONCRETE, IF REQUIRED, SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION. NO REINFORCEMENT SHALL BE CUT.
4. CHAMFER ALL EXPOSED EDGES ¾"x¾" UNLESS NOTED OTHERWISE.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE DEFORMED BARS IN ACCORDANCE WITH ASTM A615 SPECIFICATIONS, GRADE 60.
2. MAINTAIN MINIMUM CONCRETE COVERAGE FOR REINFORCING AS SPECIFIED IN ACI-318.
3. DETAILING, FABRICATION, AND INSTALLATION OF REINFORCING BARS SHALL COMPLY WITH THE "DESIGN HANDBOOK OF THE CRSI" AND THE MANUAL OF STANDARD PRACTICE OF THE ACI.

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SEAL

COMMONWEALTH OF VIRGINIA
JOHN JUDSON FARLEY
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PROFESSIONAL ENGINEER

APPROVALS	DATE
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DESIGN TEAM ENGINEER SUPERVISOR	
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

WEIR BOX PROPOSED MODIFICATION

BALLSTON POND RETROFIT PROJECT BETWEEN I-66 & FAIRFAX DR

PROJECT NUMBER: BBP

DESIGNED: XXX
DRAWN: EMT
CHECKED: DMA
MISS UTILITY TRANSMITTAL #: XXXX

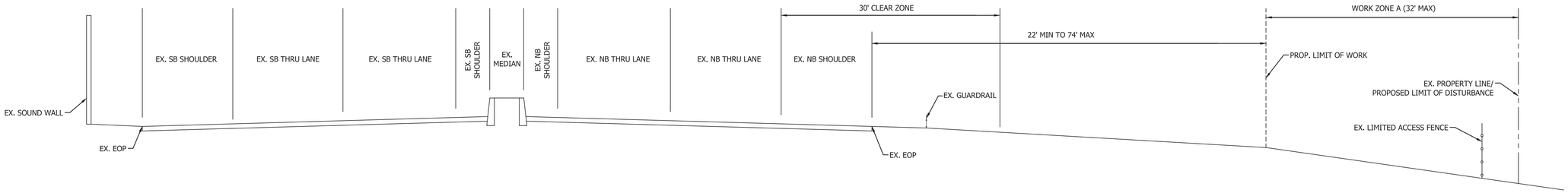
FILENAME: 70-PROPOSED WEIR BOX.dwg

PATH: \\tfxsrv01\vol\projects\2016\16068_ArlingtonCo_NS4\Task5_Ballston_3D\Plan

PLOTTED: July 11, 2019
PLOTTED BY: ethompson

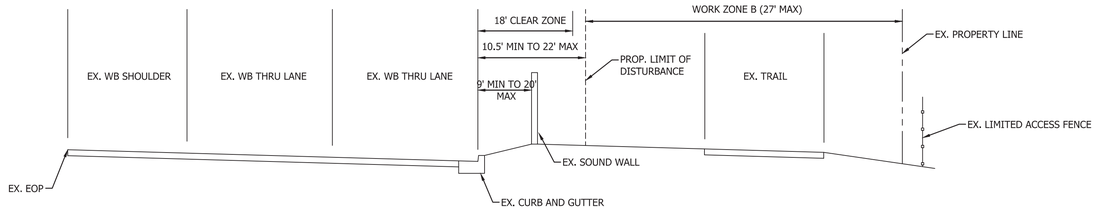
SCALE: AS NOTED

SHEET 70 of 73



SECTION A-A: INTERSTATE 66

N.T.S



SECTION B-B: FAIRFAX DRIVE

N.T.S

TRAFFIC MANAGEMENT PLAN SUMMARY		
WORK ZONE ID	A	B
LOCATION	INTERSTATE 66 (REFER TO SHTS 72 & 73)	FAIRFAX DRIVE (REFER TO SHT 72)
TMP TYPE	A	A
LENGTH	1,010 FEET	606 FEET
WIDTH	32 FEET MAX	27 FEET MAX
LANES AFFECTED	NONE	NONE
HOURS ACTIVE	9: 30AM–3: 00PM (MON–THURS) 9: 30AM–2: 00PM (FRI)	9: 30AM–3: 00PM (MON–THURS) 9: 30AM–2: 00PM (FRI)
LOCATION OF EQUIPMENT/STORAGE	WITHIN VDOT ROW	OUTSIDE VDOT ROW
TTC	1.1	1.1
ENTRANCES/ACCESS POINTS AFFECTED	NONE	CUSTIS TRAIL SPUR (INTERMITTENTLY) – PEDESTRIAN ONLY
TYPE OF TRAVELER	COMMUTER	COMMUTER

Commonwealth of Virginia
Virginia Department of Transportation
VDOT

VERIFICATION OF COMPLETION OF
ADVANCED WORK ZONE TRAFFIC CONTROL TRAINING

This is to verify that **Ankur B. Patel** has successfully completed training and an examination by the Department on the proper practices and methods for the installation, maintenance and removal of temporary traffic control devices.

Date: 5/18/2018

State Traffic Engineer

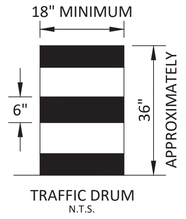
Verification No.: 05181861B

Expiration Date: 5/31/2022

PUBLIC COMMUNICATIONS PLAN

THE PROJECT MANAGER WILL ATTEND ALL CONSTRUCTION MEETINGS, INCLUDING THE PRE-CONSTRUCTION MEETING AND BIWEEKLY PROGRESS MEETINGS. THE PROJECT MANAGER WILL RECEIVE THE PROJECT CONSTRUCTION SCHEDULE FROM THE CONSTRUCTION MANAGER AND WILL BE UPDATED WEEKLY BY THE CONSTRUCTION MANAGER REGARDING CONSTRUCTION PROGRESS, WORK PLANS AND TRAFFIC CONSIDERATIONS. DAILY REPORTS FROM THE ON-SITE CONSTRUCTION INSPECTOR WILL KEEP THE PROJECT MANAGER ADDITIONALLY UPDATED AS TO THE STATUS OF THE WORK AND POTENTIAL UPCOMING TRAFFIC CONCERNS. TRAFFIC ADVISORIES WILL BE POSTED ON THE PROJECT WEB SITE (HTTPS://PROJECTS.ARLINGTONVA.US/PROJECTS/BALLSTON-BEAVER-POND-RESTORATION/), ON THE DEPARTMENT OF ENVIRONMENTAL SERVICES' FACEBOOK PAGE AND SOCIAL MEDIA ACCOUNTS, AND SHARED VIA DIRECT COMMUNICATION TO NEARBY CIVIC ASSOCIATIONS, THE BALLSTON BID, AND MANAGERS OF ADJACENT PROPERTIES.

THE PROJECT MANAGER AND PUBLIC AFFAIRS TEAM WILL BE NOTIFIED IMMEDIATELY BY PHONE OR EMAIL BY THE CONSTRUCTION MANAGER OR ON-SITE CONSTRUCTION INSPECTOR IN THE LIKELIHOOD OF UNPLANNED TRAFFIC DELAYS. THE PUBLIC AFFAIRS TEAM WILL FOLLOW THE COUNTY'S COMMUNICATIONS PROTOCOL APPROPRIATE FOR THE SITUATION, WHICH COULD INCLUDE DISTRIBUTION OF TRAFFIC ADVISORIES VIA ARLINGTON ALERT, COMMUNICATIONS VIA SOCIAL MEDIA, OR POSTINGS ON LISTSERVES APPROPRIATE FOR THE AFFECTED USER GROUP (I.E. BICYCLISTS).



TRAFFIC DRUM

N.T.S.

GENERAL TRAFFIC MANAGEMENT PLAN NOTES

THE PROJECT IS A 'TYPE A' TMP PROJECT. THE PROJECT INVOLVES RETROFITTING OF THE EXISTING BALLSTON POND TO A CONSTRUCTED WETLAND. THE PROJECT SITE IS BORDERED BY WASHINGTON BOULEVARD (STATE ROUTE 237) TO THE NORTH, INTERSTATE 66 TO THE WEST, FAIRFAX DRIVE TO THE SOUTH, AND A PRIVATELY-OWNED ACCESS ROAD TO THE EAST.

THE VDOT ROADWAYS ADJACENT TO THE WORK AREA ARE PRIMARILY USED BY COMMUTERS, AND PEDESTRIANS ACCESSING NEARBY PUBLIC TRANSPORTATION ROUTES. ALL LANES AND SHOULDERS OF ALL ROADWAYS WILL REMAIN OPERATIONAL FOR VEHICULAR TRAFFIC DURING CONSTRUCTION. THE TRAFFIC INTRRUPTION ON VDOT OWNED ROADS WILL BE LIMITED TO WORK AREA ACCESS FROM THE WASHINGTON BOULEVARD. THE WORK AREA WILL BE ACCESSSED FROM THE ENTRANCE TO THE PRIVATE ACCESS ROAD FROM WASHINGTON BOULEVARD. THE ENTRANCE WILL BE INTERMITTENTLY CLOSED (VIA FLAGGERS) DURING CONSTRUCTION OF THE PROJECT. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE PLACED SUCH AS TO AVOID BLOCKING EXISTING ENTRANCES.

THE WORK ZONES AND WORK HOURS ARE IDENTIFIED IN THE TABLE ABOVE AND SHOWN GRAPHICALLY ON SHEETS 72 AND 73. BELOW IS THE DESCRIPTION OF THE WORK IN EACH OF THE WORKZONES.

WORKZONE A:

WORKZONE A IS LOCATED ALONG THE INTERSTATE 66. LIMITS OF WORK ALONG THE INTERSTATE IS OUTSIDE THE 30' CLEARZONE AND APPROXIMATELY 22'-74' AWAY FROM THE EDGE OF THE SHOULDER. THE WORK WITHIN THE RIGHT-OF-WAY INVOLVES GRADING, TREE AND VEGETATION REMOVAL, FENCE REMOVAL/REPLACEMENT, EQUIPMENT/MATERIAL STORAGE, AND LANDSCAPING/TREE PLANTING. EQUIPMENT/MATERIAL STORAGE AREA IS AT LEAST 65' AWAY FROM THE TRAVEL LANES AS INDICATED ON SHEET#73. TTC-1.1 - WORK BEYOND THE SHOULDER OPERATION - WILL BE USED FOR TRAFFIC CONTROL ALONG THE INTERSTATE. NO VEHICULAR ACCESS TO THE WORKZONE IS PERMITTED FROM THE INTERSTATE.

WORKZONE B:

WORKZONE B IS LOCATED ALONG FAIRFAX DRIVE RAMP TO THE INTERSTATE 66. LIMITS OF WORK ALONG THE RAMP IS BEHIND THE LIMITED ACCESS FENCE/SOUND BARRIER. THE WORK WITHIN THE RIGHT-OF-WAY INVOLVES TREE AND VEGETATION REMOVAL, FENCE REMOVAL/REPLACEMENT, AND LANDSCAPING/TREE PLANTING. TTC-1.1 - WORK BEYOND THE SHOULDER OPERATION - WILL BE USED FOR TRAFFIC CONTROL ALONG THE FAIRFAX DRIVE RAMP. NO VEHICULAR ACCESS TO THE WORKZONE IS PERMITTED FROM FAIRFAX DRIVE.

PEDESTRIAN FACILITIES WILL BE AFFECTED BY THE WORK ZONE. THE BALLSTON POND PARK TRAIL TO THE EAST OF THE PROJECT SITE WILL BE CLOSED FOR THE DURATION OF CONSTRUCTION. THE CUSTIS SPUR TRAIL TO THE SOUTH OF THE PROJECT WILL BE CLOSED (VIA FLAGGERS) INTERMITTENTLY DURING LANDSCAPING WORK (TREE REMOVAL AND PLANTING) IN THE VICINITY. AT THE NORTH SIDE OF THE PROJECT, THE CROSSWALK ALONG WASHINGTON BLVD (AT THE PRIVATE ENTRANCE) WILL BE INTERMITTENTLY CLOSED (VIA FLAGGERS) WHEN CONSTRUCTION VEHICLES ARE ENTERING AND EXITING THE PROJECT SITE. AT ALL OTHER TIMES, PEDESTRIAN TRAVEL ALONG THE SOUTH SIDE OF WASHINGTON BOULEVARD WILL BE UNINTERRUPTED.

MAINTENANCE OF TRAFFIC NOTES

A. TRAFFIC CONTROL DEVICES AND SAFETY MEASURES SHALL COMPLY WITH THE VIRGINIA WORK AREA PROTECTION MANUAL, VDOT'S GUIDELINES FOR TEMPORARY TRAFFIC CONTROL, FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, ARLINGTON COUNTY STANDARDS, THE TRAFFIC CONTROL PLANS INCLUDED IN THE CONSTRUCTION DRAWINGS, AND/OR AS DIRECTED BY THE PROJECT OFFICER.
B. THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE WHICH INDICATES START AND FINISH DATES FOR EACH SEGMENT OF THE WORK. THE SCHEDULE SHALL INDICATE THE DURATION OF ALL LANE OR SHOULDER CLOSURES.
C. DURING CONSTRUCTION, THE CONTRACTOR SHALL EITHER MAINTAIN APPROPRIATE SIGHT DISTANCE TO ALL TRAFFIC SIGNS OR PROVIDE FOR TEMPORARY SIGNAGE OR FLAGGERS TO GUIDE TRAFFIC THROUGH WORK ZONES.
D. THE CONTRACTOR SHALL MINIMIZE THE DURATION OF ANY BLOCKAGE TO PRIVATE ENTRANCES AND DRIVEWAYS. THE AFFECTED PROPERTY OWNER SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF THE SUCH ACTIVITIES, AND THE CONTRACTOR SHALL MAKE ALL PRIVATE ENTRANCES AND DRIVEWAYS ACCESSIBLE AT THE CONCLUSION OF THE WORKDAY.
E. ANY EXCAVATIONS WHICH ARE SPECIFICALLY APPROVED BY THE ENGINEER TO REMAIN OPEN PAST NORMAL WORKING HOURS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PROTECTED IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL AND AS APPROVED BY THE ENGINEER.
F. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE RETRROREFLECTIVE OR ILLUMINATED DURING NIGHT TIME HOURS.
G. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, INCLUDING ACCESS TO BUS STOP SHELTERS, UNLESS OTHERWISE APPROVED IN THE PLANS.
H. PEDESTRIAN TRAFFIC SHALL BE SEPARATED FROM WORK ZONES WITH APPROPRIATE MEASURES IN ACCORDANCE WITH MUTCD.
I. ADEQUATE PROVISIONS FOR PERSONS WITH DISABILITIES SHALL BE PROVIDED AT ALL TIMES PER ADA REQUIREMENTS.
J. WHEN NECESSARY, PEDESTRIANS SHALL BE APPROPRIATELY DIRECTED WITH ADVANCED WARNING SIGNS PLACED AT INTERSECTIONS, TO CROSS TO THE OPPOSITE SIDE OF THE ROADWAY IN ORDER TO PREVENT CONFLICT WITH MIDBLOCK WORK SITES.
K. PEDESTRIANS SHALL NOT BE LED INTO CONFLICT WITH WORK SITE EQUIPMENT, OPERATIONS, AND/OR VEHICLES MOVING THROUGH OR AROUND THE WORK SITE.
L. ALL EXISTING FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS SHALL BE MAINTAINED UNOBSTRUCTED AND ACCESSIBLE AT ALL TIMES IN ACCORDANCE WITH SECTIONS 508.5.4 AND 508.5.5 OF THE ARLINGTON COUNTY FIRE PREVENTION CODE.
M. ACCESS TO BUILDINGS FOR FIREFIGHTING SHALL BE MAINTAINED AT ALL TIMES. EXISTING FIRE APPARATUS ACCESS ROADS (FIRE LANES) SHALL BE KEPT CLEAR OF OBSTRUCTIONS IN ACCORDANCE WITH SECTION 503.4 OF THE ARLINGTON COUNTY FIRE PREVENTION CODE. ACCESS TO CONSTRUCTION SITES SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH SECTION 1410 OF THE ARLINGTON COUNTY FIRE PREVENTION CODE.
N. IN THE EVENT THAT EXISTING FIRE DEPARTMENT CONNECTIONS OR FIRE APPARATUS ACCESS ROADS (FIRE LANES) MUST BE OBSTRUCTED TO FACILITATE CONSTRUCTION ACTIVITIES, CONTACT THE ARLINGTON COUNTY FIRE DEPARTMENT FIRE PREVENTION OFFICE AT 703-228-4644 TO COORDINATE REVIEW AND APPROVAL OF TEMPORARY FIRE DEPARTMENT CONNECTIONS AND/OR FIRE APPARATUS ACCESS ROADS PRIOR TO CREATING THE OBSTRUCTION.
O. CONTRACTOR SHALL COVER ANY EXISTING SIGNS WHICH ARE NOT APPLICABLE OR ARE IN CONFLICT WITH THIS MOT PLAN.
P. CONTRACTOR SHALL ERADICATE AND RE-STRIPE AS NECESSARY ANY EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH OR DO NOT ALIGN WITH THE TEMPORARY PAVEMENT MARKINGS OR NEW TRAFFIC PATTERNS□
Q. CONTRACTOR SHALL ERADICATE ALL TEMPORARY PAVEMENT MARKING, INCLUDING TEMPORARY MARKED CROSSWALKS ONCE THE WORK AREA(S) ASSOCIATED WITH THE MARKINGS HAS BEEN COMPLETED.
R. COORDINATE WITH DES - TRANSIT BUREAU AT 703-228-3049 AT LEAST FOUR □4□ WEE□S PRIOR TO COMMENCEMENT OF WOR□ IF TRANSIT IS AFFECTED OR IF THERE ARE ANY IMPACTS TO TRANSIT STOPS OR ROUTES. NOTE□ALL TEMPORARY AND FINAL BUS TRAVEL LANES MUST BE MINIMUM 11-FEET WIDE.
S. CONSTRUCTION DURATION IS EXPECTED TO BE MORE THAN 6 MONTHS.
T. CONTRACTOR SHALL NOT ACCESS THE SITE FROM EXISTING LIMITED ACCESS ROADWAYS.

REVISED ON 11/08/2016

ARLINGTON
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ENGINEERING BUREAU
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PHONE: 703.228.3629
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SEAL

COMMONWEALTH OF VIRGINIA
ANKUR B. PATEL
Lic. No. 57048
09/06/2019
PROFESSIONAL ENGINEER

APPROVALS	DATE
DESIGN TEAM ENGINEER SUPERVISOR	04/07/20
Kamal N. Taktak	4.13.20
CONSTRUCTION MANAGEMENT SUPERVISOR	
David W. Hundelt	04.20.2020
WATER, SEWER, STREETS BUREAU CHIEF	
Dennis M. Leach	4/22/20
TRANSPORTATION DIRECTOR	
Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

MAINTENANCE OF TRAFFIC PLAN-NOTES, DETAILS AND SECTIONS

BALLSTON POND RETROFIT PROJECT
BBP

DESIGNED: JTASTAD
DRAWN: JTASTAD
CHECKED: APATEL
MISS UTILITY TRANSMITTAL #: N/A

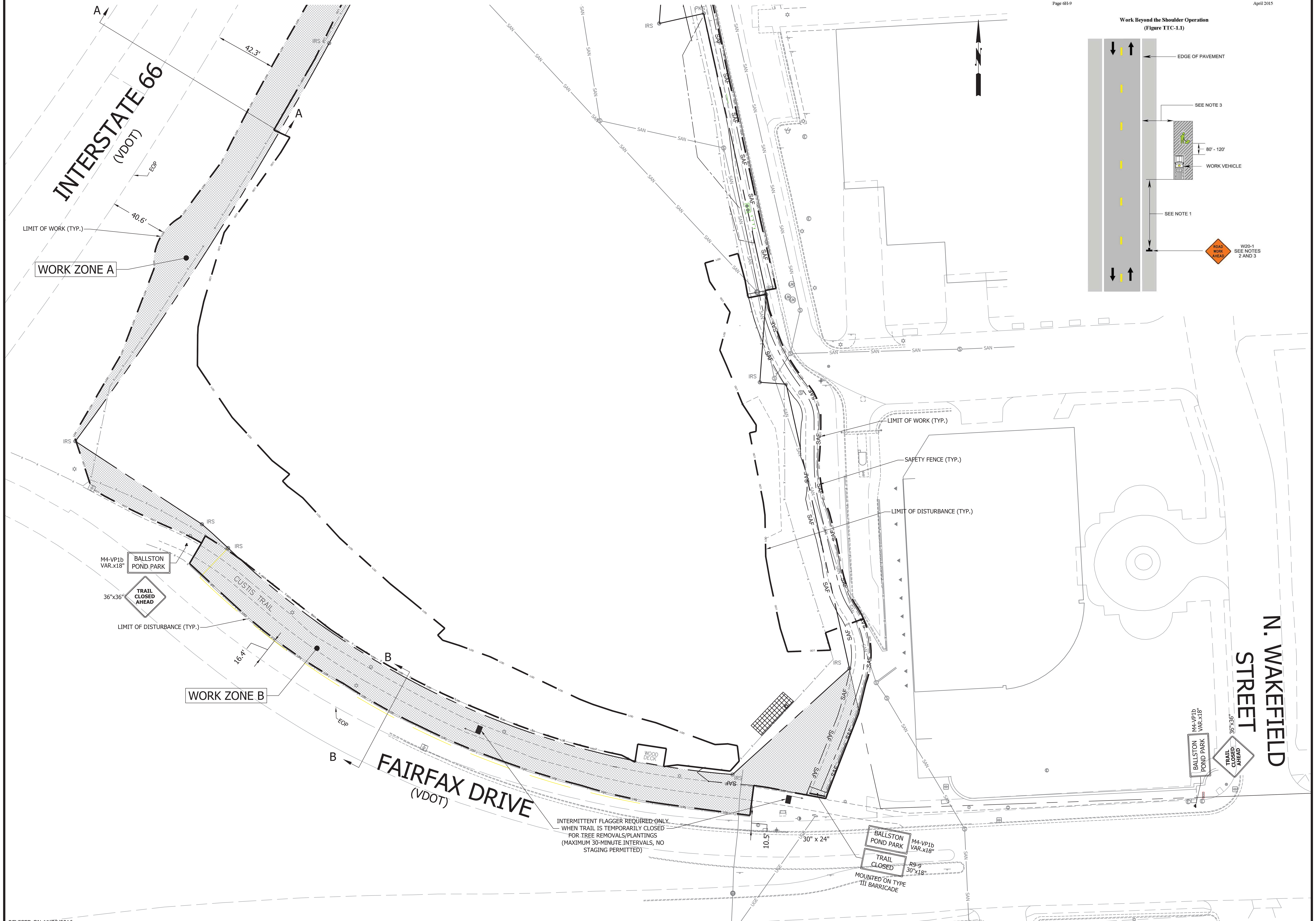
FILENAME:
BBP-286-MOT.DWG
PATH: Q:\DATA\BBP\DESIGN\DRAWINGS

PLOTTED: MARCH 20 2020
PLOTTED BY: JCANDLER

SCALE: N.T.S.

SHEET 71 OF 73

MATHCLINE - SEE SHEET MOT-2



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APPROVALS	DATE
[signature]	04/07/20
DESIGN TEAM ENGINEER SUPERVISOR	
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Christin C. Jolicoeur	04.22.2020
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REVISIONS	DATE

MAINTENANCE OF TRAFFIC PLAN

BALLSTON POND
RETROFIT PROJECT
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DESIGNED: JTASTAD
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CHECKED: APATEL
MISS UTILITY TRANSMITTAL #: N/A

FILENAME:
BBP-286-MOT.DWG
PATH:Q:\DATA\BBP\DESIGN\DRAWINGS

PLOTTED:MARCH 20 2020
PLOTTED BY:JCANDLER

SCALE:
GRAPHIC SCALE
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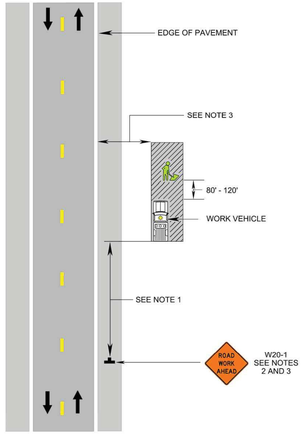
SCALE: 1" = 30'

SHEET 72 OF 73

Work Beyond the Shoulder Operation
(Figure TTC-1.1)



WASHINGTON BOULEVARD
(VDOT)

INTERSTATE 66
(VDOT)

(PRIVATE ROAD)

BALLSTON POND PARK M4-VP1b VAR.x18"
TRAIL CLOSED R9-9 30"x18"
MOUNTED ON TYPE III BARRICADE

WORK AREA ACCESS WILL BE FROM WASHINGTON BLVD

FLAGGER REQUIRED ONLY WHEN CONSTRUCTION VEHICLES ARE ENTERING AND EXITING WORK SITE (MAXIMUM 30-MINUTE INTERVALS)

BALLSTON POND PARK M4-VP1b VAR.x18"
TRAIL CLOSED AHEAD 36"x36"

LIMIT OF DISTURBANCE (TYP.)
LIMIT OF WORK (TYP.)
66.4'
74.4'
22.3'
43.2'
STOCKPILE AREA WITHIN VDOT ROW
WORK ZONE A

ROAD WORK AHEAD W20-1 48"x48"
CONSTRUCTION ENTRANCE W11-CA2 48"x48"
END ROAD WORK G20-2 48"x24"

LIMIT OF DISTURBANCE (TYP.)
SAFETY FENCE (TYP.)

TRIPLE 10.0' W x 6.0' H BOX CULVERT
24" RCP
18" RCP
15" RCP
5' CIP
6" CPC
3" PVC
IPP
PKS
IRS
SAN
HUB ELEV=254.89
TOP 20" WATER MAIN=248.24

MATHCLINE - SEE SHEET MOT-1

REVISED ON 11/08/2016

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Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS DATE

MAINTENANCE OF TRAFFIC PLAN

BALLSTON POND RETROFIT PROJECT
BBP

DESIGNED: JTASTAD
DRAWN: JTASTAD
CHECKED: APATEL
MISS UTILITY TRANSMITTAL #: N/A

FILENAME:
BBP-286-MOT.DWG
PATH: Q:\DATA\BBP\DESIGN\DRAWINGS

PLOTTED: MARCH 20 2020
PLOTTED BY: JCANDLER

SCALE:
GRAPHIC SCALE
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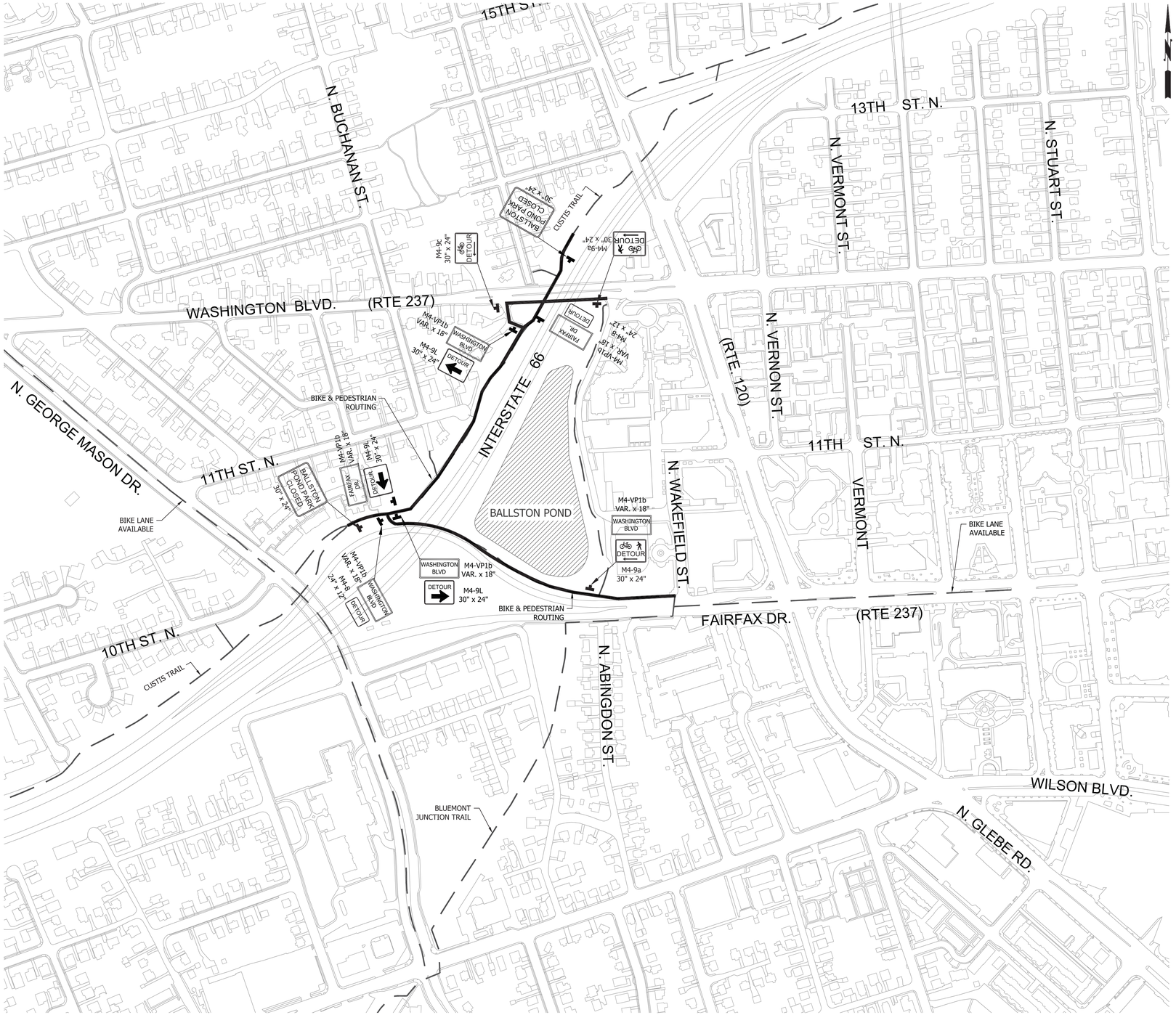
SCALE: 1" = 30'

SHEET 73 OF 73

REVISED ON 01/24/2020



BICYCLIST & PEDESTRIAN MAINTENANCE OF TRANSPORTATION PLAN

GENERAL NOTE:
ALL SIGNS TO BE MOUNTED ON TYPE III BARRICADE

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SEAL

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TRANSPORTATION DIRECTOR: Christin C. Jolicoeur	04.22.2020
PROJECT MANAGER	

REVISIONS	DATE

BALLSTON POND RETROFIT PROJECT
BBP
BALLSTON POND

BIKE & PEDESTRIAN MOT

DESIGNED: JM
DRAWN: JM
CHECKED: AP

PLOTTED: FEBRUARY 21 2020

SCALE:

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GRAPHIC SCALE

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FILENAME: BBP-286-MOT-BIKE AND PEDESTRIAN.DWG PATH: Q:\DATA\BBP\DESIGN\DRAWINGS\TRAILS DETOUR MOT PLOTTED BY: JJMILLER

BALLSTON POND ####