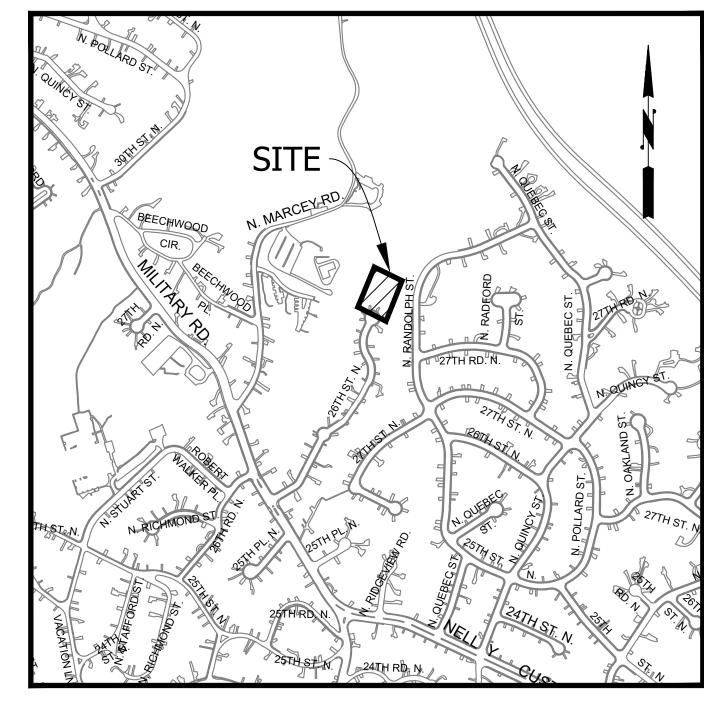
ENGINEER
DEPARTMENT OF
ENVIRONMENTAL SERVICES

FACILITIES & ENGINEERING DIVISION ENGINEERING BUREAU 2100 CLARENDON BOULEVARD, SUITE 813 ARLINGTON, VA 22201 PHONE: 703.228.3629 FAX: 703.228.3606 WWW.ARLINGTONVA.US OWNER DES/OD/WSS

CONTRACTOR
TO BE DETERMINED

# LOCATION MAP



GRAPHIC SCALE

CONSTRUCTION DRAWINGS FOR:

# 26TH STREET N OUTFALL REPAIR 3837 26TH STREET N

PROJECT NUMBER: S59D

# **GENERAL NOTES:**

# **GENERAL CONSTRUCTION NOTES**

- 1. 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.
- 2. ALL CONSTRUCTION AND WORK ACTIVITIES SHALL COMPLY WITH THE VIRGINIA WORK AREA PROTECTION MANUAL AND ALL OTHER RELEVANT WORK SAFETY REQUIREMENTS, LATEST EDITIONS.
- 3. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT OFFICER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS.
- 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, SEWER AND GAS LATERALS WILL NOT BE MARKED BY MISS UTILITY OR THE COUNTY. THE CONTRACTOR SHALL 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 AS DIRECTED BY OFFICER. 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.
- 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
- 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
- 9. ALL SIDEWALK AND CURB AND GUTTER DEMOLITION SHALL BEGIN AND END AT THE CONSTRUCTION JOINT NEAREST TO THE DEPICTED DEMOLITION EXTENTS WITH A NEAT SAWCUT LINE TO FULL DEPTH OF PAVEMENT SECTION.

TIMES AND SHALL ENSURE THE SAFETY OF ALL THOSE PASSING THROUGH OR ADJACENT TO THE SITE.

# STORMWATER AND ENVIRONMENTAL PROTECTION

10. THE CONTRACTOR SHALL CONFINE <u>ALL</u> 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).

# TREE PROTECTION

11. TREES SHALL BE PROTECTED PER THE REQUIREMENTS OF ARLINGTON PARKS & RECREATION STANDARD.

# TRAFFIC CONTROL

- 12. 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
- 13. 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.
- 14. THE CONTRACTOR SHALL SUBMIT ANY REQUESTS FOR TEMPORARY "NO PARKING" RESTRICTIONS TO THE PROJECT OFFICER AT LEAST 5 BUSINESS DAYS PRIOR TO THE DESIRED ONSET OF RESTRICTIONS. PRIOR TO A REQUEST FOR THE REMOVAL OF ACCESS TO ANY ADA PARKING SPACE THE CONTRACTOR MUST HAVE MADE PROVISION FOR ALTERNATIVE ADA PARKING AS INDICATED ON THE APPROVED PLAN OR AS DIRECTED BY THE PROJECT OFFICER.
- 15. WHEN THE APPROVED PLAN CALLS FOR THE REMOVAL OF ANY PARKING METER THE CONTRACTOR MUST MAKE A REQUEST TO THE PROJECT OFFICER AT LEAST ONE WEEK IN ADVANCE OF THE DESIRED REMOVAL. THE PROJECT OFFICER WILL THEN COORDINATE THE PARKING METER REMOVAL WITH TRAFFIC ENGINEERING AND OPERATIONS.
- 16. THE CONTRACTOR SHALL PRESERVE ALL BUS STOPS, INCLUDING MAINTAINING ADEQUATE ACCESSIBILITY 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. ANY RELOCATION OR CLOSURE OF A BUS STOP SHALL REQUIRE AT LEAST FOUR WEEKS ADVANCE NOTICE FOR COORDINATION WITH THE COUNTY'S BUS STOP COORDINATOR 703-228-3049.
- 17. 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

18. 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 1 WEEK IN ADVANCE OF THE REQUIRED OPERATION.
- 19. IN THE EVENT OF A WATER OR SEWER EMERGENCY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY'S WATER CONTROL CENTER AT 703-228-6555 AND THE PROJECT OFFICER.
- 20. THE CONTRACTOR SHALL COORDINATE ALL UTILITY SHUTOFFS, DISCONNECTS, AND/OR ABANDONMENT WITH UTILITY OWNER AND PROJECT OFFICER AT LEAST 1 WEEK IN ADVANCE OF THE REQUIRED INTERRUPTION.

# **FIRE DEPARTMENT NOTES:**

- 21. 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.
- 22. 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.
- 23. 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.

# SHEET LIST

C011.1	EXISTING CONDITIONS PLAN
C021.1	DEMOLITION PLAN
C031.1	EROSION AND SEDIMENT CONTROL PLAN
C032.1	EROSION AND SEDIMENT CONTROL NOTES
<del>-C032.1</del>	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
C032.2	EROSION AND SEDIMENT CONTROL DETAILS - 1
C032.3	EROSION AND SEDIMENT CONTROL DETAILS - 2
C032.4	EROSION AND SEDIMENT CONTROL DETAILS - 3
C035.1	STORMWATER POLLUTION PREVENTION PLAN - 1
<del>- C035.2</del>	STORMWATER POLLUTION PREVENTION PLAN
C035.2	STORMWATER POLLUTION PREVENTION PLAN - 2
C035.3	STORMWATER POLLUTION PREVENTION PLAN - 3
C036.1	WATER QUALITY IMPACT ASSESSMENT
C041.1	PLAN AND PROFILE
C044.1	OUTFALL CROSS SECTIONS AND DETAILS - 1
C044.2	OUTFALL CROSS SECTIONS AND DETAILS - 2
C045.1	GEOMETRIC CONTROL PLAN
C071.1	STORM SEWER DRAINAGE DIVIDE
C075.1	STORM COMPUTATIONS
C091.1	LANDSCAPING PLAN

TREE INVENTORY - SHEET 1 OF 2

TREE INVENTORY - SHEET 2 OF 2

THIS PLAN DOES NOT REQUIRE A MAINTENANCE OF TRAFFIC (MOT) PLAN.

C093.2

**PROJECT NOTE:** 

SHEET ID SHEET TITLES

C000.1 COVER SHEET

LEGEND

C006.1

COVER SHEET

**SWM**#
SWM# SWM 20-0211

**AADT** 

1,500 - 26th Street North (From N George Mason Dr) - 2019 - VDOT

STREET CLASSIFICATION
26TH STREET N - NEIGHBORHOOD MINOR

N RANDOLPH STREET - NEIGHBORHOOD PRINCIPAL

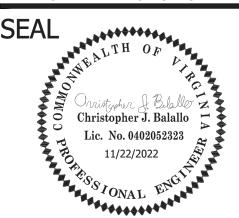
POSTED SPEED
26TH STREET N - 25 MPH

N RANDOLPH STREET - 25 MPH

# ARLINGTON VIRGINIA

DEPARTMENT OF
ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
ARLINGTON, VA 22201
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APPROVALS DA

Amy Pflaum 12/19
QUALITY CONTROL ENGINEER

WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach
TRANSPORTATION DIRECTOR
Clizabeth Thurber
PROJECT MANAGER

2/27/2023

REVISIONS DAT

3837 26TH STREET N

DESIGNED: MM
DRAWN: MM
CHECKED: CB

PLOTTED: MARCH 1 2023

SCALE:

AS SHOWN

C000.1

# PROPOSED FEATURE PROP STRIPING PROP BUS STOP <u>PROPOSED</u> PROPOSED SANITARY SEWER XXXX STRUCTURE NUMBER PROPOSED STORM SEWER $\langle XXXX \rangle$ STRUCTURE NUMBER

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 COPYRIGHT © 2021 ARLINGTON COUNTY

VIRGINIA - ALL RIGHTS RESERVED Christopher J. Balallo Lic. No. 0402052323 11/22/2022

DATE **APPROVALS** Amy Pflaum
QUALITY CONTROL ENGINEER 12/19/22

CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach 1/11/23

TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

**REVISIONS** 

EGEN

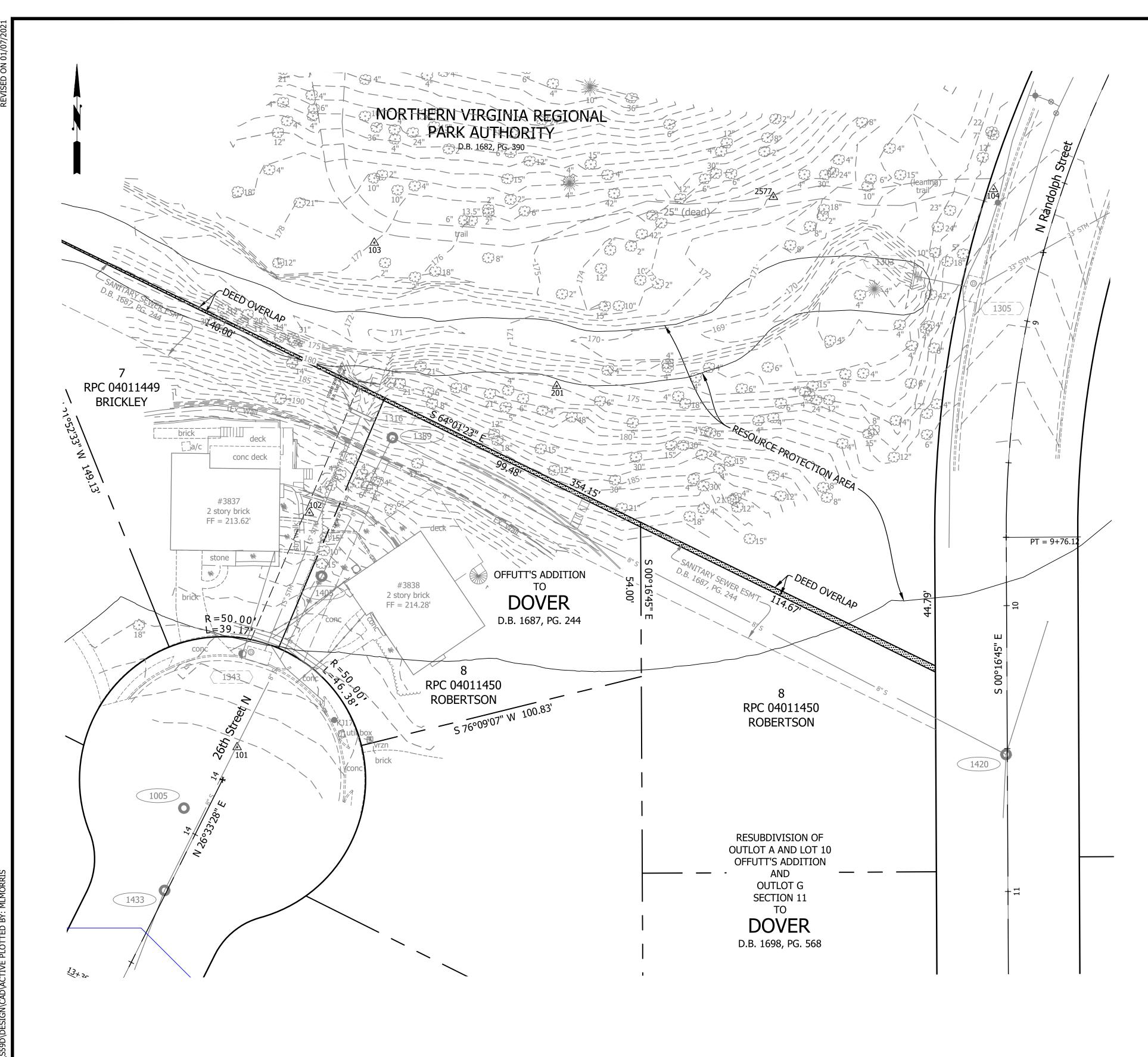
DESIGNED: MM DRAWN: MM CHECKED: NN

PLOTTED: MARCH 1 2023

SCALE:

N/A

C006.1



# NOTES:

# 1. UNDERGROUND UTILITIES WERE DESIGNATED BY

- MID-ATLANTIC UTILITY LOCATING ON 09/16/2019. 2. WATER LINE & SANITARY SEWER PIPE SIZES ARE SHOWN PER ARLINGTON
- 3. THE UNIT OF MEASURE USED FOR THIS SURVEY IS THE U.S. SURVEY FOOT.

C\L INVERT = 224.13

4. THE HORIZONTAL AND VERTICAL CONTROL FOR THIS PROJECT IS REFERENCED TO EXISTING PROJECT SE50 - 7008.

# CONTROL DATA:

	POINT NO.	NORTHING(Y)	EASTING(X)	ELEV(Z)	DESCRIP
	100	7016893.7785	11879096.1686	247.91	PK NAIL
	101	7017146.3489	11879150.1644	217.21	PK NAIL
N	102	7017228.3768	11879175.4190	206.67	PIPE & C
	103	7017322.6993	11879198.3793	177.30	PIPE & C

11879414.8787 174.28 PIPE & CAP 7017338.8228 11879337.6901 172.93

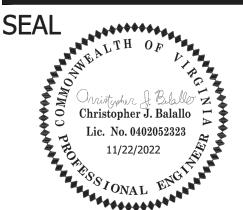
### SANITARY TABLE STORM TABLE

#1005 TOP = 219.53	#1294 TOP = 174.01	
C\L INVERT = 202.96	33" RCP IN = 159.39 48" RCP IN = 163.21	(1305) (1349)
#1389 TOP = 190.56	48" RCP OUT = 159.33	(1256)
C\L INVERT = 181.44	#1303 33" RCP INVERT = 164.76	(1305)
#1405 TOP = 212.38	#1305	
C\L INVERT = 199.06	TOP = 175.94	
#1420 TOP = 184.55	33" RCP IN = 163.14 33" RCP OUT = 162.90	(1303) (1294)
C\L INVERT = 165.28	#1316	(1242)
#1433	15" CMP INVERT = 183.11	(1343)
TOP = 221.87 C\L INVERT = 205.30	#1343 TOP = 214.60	
#1459 TOP = 237.00	15" CMP OUT = 209.98	(1316)

# ARLINGTON VIRGINIA

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APPROVALS

Amy Pflaum
QUALITY CONTROL ENGINEER 12/19/22

CONSTRUCTION MANAGEMENT SUPERVISOR

WATER, SEWER, STREETS BUREAU CHIEF

DATE

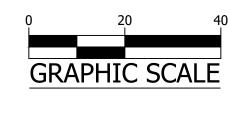
Dennis M. Leach 1/11/23
TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

**REVISIONS** 

DESIGNED: MM DRAWN: MM CHECKED: CB

PLOTTED: MARCH 1 2023

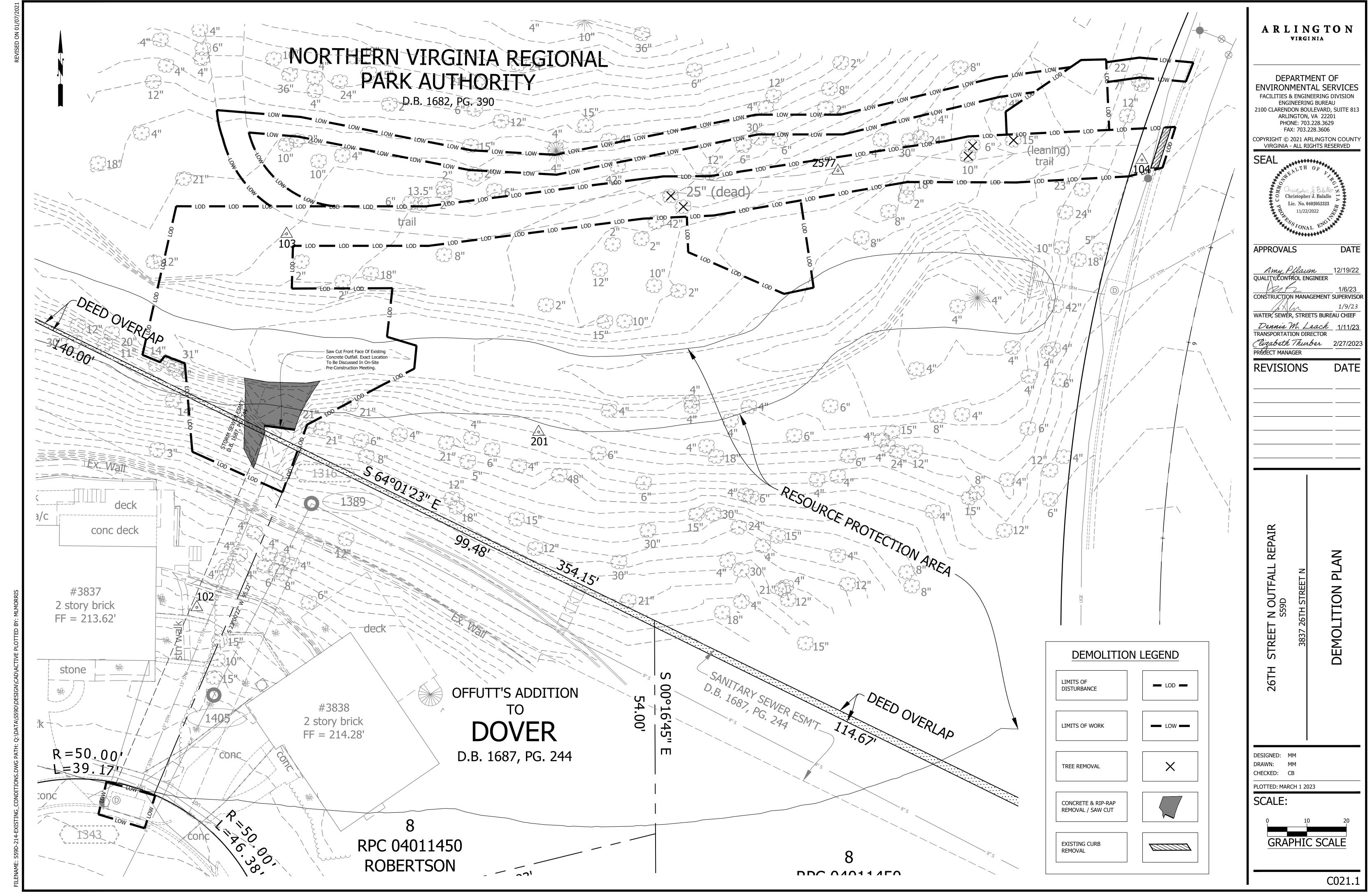
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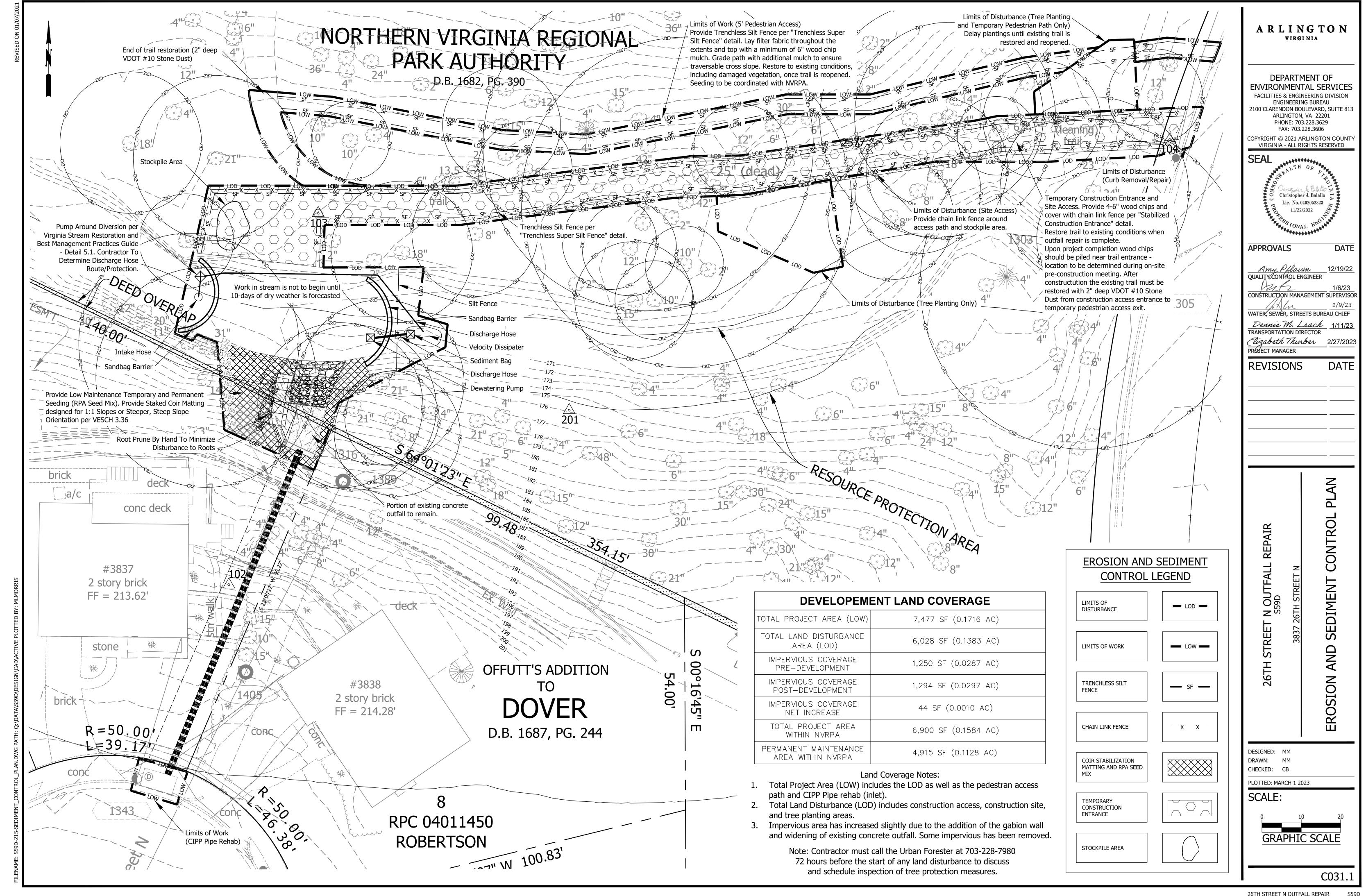


# **GENERAL SURVEY NOTES:**

- 1. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF THE COUNTY SURVEY SECTION FROM AN ACTUAL GROUND SURVEY; THE IMAGE AND/OR ORIGINAL DATA WAS OBTAINED FROM 06/2019 TO 09/2019; AND THIS PLAT, MAP OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
- 2. HORIZONTAL DATUM: VIRGINIA COORDINATE SYSTEM 1983.
- 3. VERTICAL DATUM: NORTH AMERICA VERTICAL DATUM 1988.
- 4. CONTOUR INTERVAL: 1'
- 5. BOUNDARY INFORMATION SHOWN HEREON WAS COMPILED FROM EXISTING LAND RECORDS AND DOES NOT REPRESENT A FIELD RUN BOUNDARY SURVEY.

C011.1





# **EROSION AND SEDIMENT CONTROL NARRATIVE**

# PROJECT DESCRIPTION:

IT HAS COME TO THE COUNTIES ATTENTION THAT THE EXISTING OUTFALL IS EXPERIENCING EXTREME EROSION AND NEEDS REPAIRED. UPON INITIAL ANALYSIS IT WAS DETERMINED THAT THE EXISTING 15" CMP IS ALSO APPROACHING FAILURE AND NEEDS TO BE REHABILITATED OR REPLACED. THE PROJECT IS LOCATED WITHIN POTOMAC OVERLOOK REGIONAL PARK, BEHIND 3837 26TH STREET N.

### **EXISTING SITE CONDITIONS:**

THE PROJECT IS LOCATED WITHIN POTOMAC OVERLOOK REGIONAL PARK, BEHIND 3837 26TH STREET N. CONSTRUCTION ACCESS WILL BE FROM THE BLUE JAY WAY TRAIL ENTRANCE OFF OF N RANDOLPH STREET.

### **ADJACENT PROPERTIES:**

TWO PROPERTIES, 3837 AND 3838 26TH STREET N, HAVE EXISTING WALL STRUCTURES LOCATED JUST UPSTREAM OF THE EXISTING OUTFALL. THESE WALLS MUST REMAIN UNDISTURBED THROUGHOUT CONSTRUCTION TO ENSURE REPAIR WILL NOT BE NECESSARY

# **OFF-SITE AREAS:**

THE CONTRACTOR WILL ACCESS THE SITE VIA BLUE JAY WAY TRAIL.

# **CRITICAL AREAS:**

THE SURROUNDING GRADE WITHIN THE LOD IS MADE UP OF 1:1 AND 2:1 SLOPES AND MUST BE STABILIZED DURING AND AFTER CONSTRUCTION. TEMPORARY/PERMANENT SEEDING AS WELL AS STABILIZATION MATTING MUST BE PROVIDED.

## **EROSION AND SEDIMENT CONTROL MEASURES:**

THE EROSION AND SEDIMENT CONTROL MEASURES FOR THIS PROJECT AREA INCLUDE STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, TREE PROTECTION FENCE, TEMPORARY/PERMANENT SEEDING, AND PUMP AROUND DIVERSION.

# **PERMANENT STABILIZATION:**

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH GRASS, MULCH OR SOD. SEE THE PROPOSED PLANS FOR ADDITIONAL

### **STORMWATER RUNOFF CONSIDERATIONS:**

PROJECT AREA (LIMITS OF WORK)... ...= 7,477 SF (0.1716 AC) LIMITS OF DISTURBANCE. ..= 6,027 SF (0.1383 AC) PRE-IMPROVEMENT IMPERVIOUS AREA....... ......= 1,250 SF (0.0287 AC) POST-IMPROVEMENT IMPERVIOUS AREA..... 1,294 SF (0.0287 AC) ....= 44 SF (0.0010 AC) INCREASED IMPERVIOUS AREA....

## **SOILS INFORMATION:**

THE FOLLOWING SOILS ARE FOUND ON SITE (SEE SOILS MAP TO THE RIGHT)

SOIL#: SOIL NAME: **ERODABILITY**: GLENELG-MANOR COMPLEX B

# FLOODPLAIN AND RESOURCE PROTECTION AREA (RPA):

FLOODPLAIN AND RESOURCE PROTECTION AREAS ARE DELINEATED ON THE PLAN.

## FLOOD ZONE AE PER FEMA MAP 51013C0036C EFF. 8/19/2013.

**EROSION & SEDIMENT CONTROL PROJECT PHASING** 

INFORMATION.

- a. PRE-CONSTRUCTION MEETING WITH THE PROJECT OFFICER, CONTRACTOR, AND COUNTY INSPECTOR.
- b. INSTALL THE TEMPORARY CONSTRUCTION ENTRANCE IN THE LOCATION SHOWN ON THE E&S PLAN. MUD AND DEBRIS SHALL BE WASHED FROM ALL TRUCKS EXITING THE SITE.
- c. INSTALL PERIMETER TREE DEMARCATION FENCING NORTH OF EXISTING CREEK IN THE FORM OF CHAIN LINK FENCE AS SHOWN ON E&S PLAN.
- d. PERFORM INITIAL PERIMETER CLEARING TO INSTALL REMAINDER OF PERIMETER CONTROLS NORTH OF CREEK
- e. IF CONSTRUCTION WILL EXTEND INTO POOL SEASON INSTALL TEMPORARY PEDESTRIAN ACCESS PATH AS SHOWN ON E&S PLAN. PRIOR TO PATH INSTALLATION NOTE ALL VEGETATION THAT WILL BE DAMAGED. DAMAGED VEGEATION MUST BE REPLACEMED AT END OF CONSTRUCTION. URBAN FORESTER CAN ASSIST WITH IDENTIFICATION.
- f. INSTALL ACCESS PATH AND PUMP AROUND DIVERSION.
- a, INSTALL REMAINING SEDIMENT CONTROLS SOUTH OF CREEK
- h. CONTACT ARLINGTON COUNTY PROJECT OFFICER FOR A PERIMETER INSPECTION PRIOR TO CLEARING THE REMAINDER OF THE SITE IN ORDER TO OBTAIN PHASE II GRADING PERMIT.
- i. CLEAR THE SITE TO THE LIMITS AS SHOWN ON THE CONSTRUCTION PLANS.

# 2. PHASE II:

- a. DEMOLISH EXISTING CONCRETE AND RIP-RAP AS SHOWN ON DEMOLITION PLAN
- b. BEGIN CONSTRUCTION OF THE PROPOSED CONCRETE END SECTION WIDENING, GABION WALL, AND RIP-RAP CHANNEL.
- c. PERFORM CIPP REHABILITATION ONCE END SECTION AND GABION WALL AND RIP-RAP ARE STABILIZED.
- d. REMOVE SITE ACCESS PATH MULCH AND PILE MULCH NEAR TRAIL TRAIL ENTRANCE.
- e. RESTORE TRAIL WITH 2" DEEP VDOT #10 STONE PER E&S PLAN.
- f. ONCE THE OUTFALL AND TRAIL WORK IS COMPLETE AND HEAVY EQUIPMENT IS HAS VACATED COMMENCE CONSTRUCTION OF CURB & GUTTER.
- g. ONCE ALL EQUIPEMENT AND MATERIALS ARE REMOVED FROM TRAIL, REOPEN TRAIL FOR PEDESTRIANS AND REMOVE TEMPORARY PEDESTRIAN ACCESS PATH. MULCH SHOULD BE PILED AT TRAIL ENTRANCE, AND ALL DAMAGED VEGETATION MUST BE REPLACED.
- h. THE CONTROL MEASURES AND ACCESS PATH MAY NOT BE REMOVED UNTIL ALL OF THE DISTURBED AREAS HAVE BEEN STABILIZED AND ONLY AS APPROVED AND DIRECTED BY THE INSPECTOR. ONCE

# **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 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE ARLINGTON COUNTY EROSION AND SEDIMENT CONTROL ORDINANCE. THE MINIMUM STANDARDS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

# 1. STRUCTURAL PRACTICES

- a. TEMPORARY CONSTRUCTION ENTRANCE SEE PROVIDED DETAIL
- a.a. A TEMPORARY CONSTRUCTION ENTRANCE WITH A WASH RACK SHALL BE INSTALLED AT THE EXISTING ACCESS POINT TO THE SITE. DURING MUDDY CONDITIONS, DRIVERS OF CONSTRUCTION VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE RE-ENTERING THE LOCAL ROADWAYS.
- a.b. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC WASHING OF THE MATS AND/OR REPLACEMENT OF WOOD CHIPS AS NECESSARY.
- a.c. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED
- a.d. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED INTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.
- b. SILT FENCE VESCH 3.05
- b.a. SILT FENCE WILL BE INSTALLED WITH THE E&S PLAN TO FILTER RUNOFF FROM DISTURBED AREAS. RUNOFF SHALL NOT BE DIRECTED PARALLEL TO THE INSTALLATION OF SILT FENCE.
- b.b. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- b.c. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM UNDERCUTTING.
- b.d. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
- b.e. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- b.f. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, THEN PREPARED AND SEEDED.
- c.a. A SYSTEM OF TEMPORARY DIKES, TO DIRECT FLOW INTO PROPOSED & EXISTING STORM SEWER STRUCTURES WILL BE INSTALLED AS
- INDICATED IN EROSION & SEDIMENT CONTROL PLAN.
- c.b. THE STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN EVENT AND REPAIRS SHALL BE MADE AS NECESSARY.
- d. STORM DRAIN INLET PROTECTION VESCH 3.07

c. TEMPORARY DIVERSION DIKE - VESCH 3.09

d.a. ALL EXISTING & PROPOSED STORM SEWER INLETS IN AND AROUND THE PROJECT LIMITS SHALL BE PROTECTED DURING CONSTRUCTION.

SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS.

- d.b. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN EVENT AND REPAIRS SHALL BE MADE AS NECESSARY
- d.c. Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized. e. DEWATERING STRUCTURE - VESCH 3.26
- e.a. SEDIMENT LADEN OR TURBID WATER SHALL BE FILTERED, SETTLED OR SIMILARLY TREATED PRIOR TO DISCHARGE.
- e.b. THE FILTERING DEVICES MUST BE INSPECTED FREQUENTLY AND REPAIRED OR REPLACED ONCE THE SEDIMENT BUILD-UP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED.
- e.c. THE ACCUMULATED SEDIMENT WHICH IS REMOVED FROM A DEWATERING DEVICE MUST BE SPREAD ON-SITE AND STABILIZED OR DISPOSED OF AT AN APPROVED DISPOSAL SITE AS PER THE APPROVED PLAN.

### f. TREE PROTECTION - VESCH 3.38

- f.a. ALL TREES ARE TO BE PROTECTED UNLESS OTHERWISE DIRECTED BY THE COUNTY INSPECTOR AND URBAN FORESTER. THE COUNTY'S URBAN FORESTER (703-228-1863) SHALL INSPECT ALL TREE PROTECTION 72 HOURS PRIOR TO THE START OF CONSTRUCTION. IN SPITE OF PRECAUTIONS, SOME DAMAGE TO PROTECTED TREES MAY OCCUR. IN SUCH CASES, THE FOLLOWING MAINTENANCE GUIDELINES SHALL BE FOLLOWED:
- f.a.a. SOIL AERATION: IF THE SOIL HAS BECOME COMPACTED OVER THE ROOT ZONE OF ANY TREE, THE GROUND SHALL BE AERATED BY PUNCHING HOLES WITH AN IRON BAR. THE BAR SHALL BE DRIVEN 1-FOOT DEEP AND THEN MOVED BACK AND FORTH UNTIL THE SOIL IS LOOSENED. THIS PROCEDURE SHALL BE REPEATED EVERY 18 INCHES UNTIL ALL OF THE COMPACTED SOIL BENEATH THE CROWN OF
- f.a.b. REPAIR OF DAMAGE:
- ANY DAMAGE TO THE CROWN, TRUNK, OR ROOT SYSTEM OF ANY TREE RETAINED ON THE SITE SHALL BE REPAIRED IMMEDIATELY. WHENEVER MAJOR ROOT OR BARK DAMAGE OCCURS, REMOVE SOME FOLIAGE TO REDUCE THE DEMAND FOR WATER AND
- **NUTRIENTS** DAMAGED ROOTS SHALL IMMEDIATELY BE CUT OFF CLEANLY INSIDE THE EXPOSED OR DAMAGED AREA. CUT SURFACES SHALL BE
- PAINTED WITH APPROVED TREE PAINT, AND MOIST PEAT MOSS, BURLAP, OR TOPSOIL SHALL BE SPREAD OVER THE EXPOSED AREA. TO TREAT BARK DAMAGE, CAREFULLY CUT AWAY ALL LOOSENED BARK BACK INTO THE UNDAMAGED AREA, TAPER THE CUT AT THE TOP AND BOTTOM, AND PROVIDE DRAINAGE AT THE BASE OF THE WOUND.
- ALL TREE LIMBS DAMAGED DURING CONSTRUCTION OR REMOVED FOR ANY OTHER REASON SHALL BE CUT OFF ABOVE THE COLLAR AT THE PRECEDING BRANCH JUNCTION.
- CARE FOR SERIOUS INJURIES SHALL BE PRESCRIBED BY A FORESTER OR A TREE SPECIALIST. f.b. FERTILIZATION: BROADLEAF TREES THAT HAVE BEEN STRESSED OR DAMAGED SHALL RECEIVE A HEAVY APPLICATION OF FERTILIZER TO AID
- THEIR RECOVERY TREES SHALL BE FERTILIZED IN THE LATE FALL (AFTER OCTOBER 1) OR THE EARLY SPRING (FROM THE TIME FROST IS OUT OF THE
- GROUND UNTIL MAY 1). FALL APPLICATIONS ARE PREFERRED, AS THE NUTRIENTS WILL BE MADE AVAILABLE OVER A LONGER PERIOD
- f.b.b. FERTILIZER SHALL BE APPLIED TO THE SOIL OVER THE FEEDER ROOTS. IN NO CASE SHALL IT BE APPLIED CLOSER THAN 3 FEET TO THE TRUNK. THE ROOT SYSTEM OF CONIFERS EXTENDS SOME DISTANCE BEYOND THE DRIP LINE. INCREASE THE AREA TO BE FERTILIZED BY ONE FOURTH THE AREA OF THE CROWN.
- FERTILIZER SHALL BE APPLIED USING APPROVED FERTILIZATION METHODS AND EQUIPMENT.
- f.b.d. FORMULATIONS AND APPLICATION RATES SHALL CONFORM TO THE GUIDELINES GIVEN IN TABLE 3.38-A OF VESCH.

### 2. VEGETATIVE PRACTICES

a. TOPSOILING (STOCKPILE) - VESCH 3.30

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- a.a. TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS MAY HAVE TO BE LOCATED OFF-SITE AND ARE TO BE STABILIZED WITH TEMPORARY VEGETATION. PRIOR TO LAND-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY E&S PLAN (IF THE STOCKPILE IS LOCATED OFF-SITE). THIS SUPPLEMENTAL PLAN WOULD HAVE TO BE APPROVED BY THE PLAN APPROVING AUTHORITY BEFORE ANY OFF-SITE ACTIVITY COMMENCES. b. TEMPORARY SEEDING - VESCH 3.31
- b.a. ALL DENUDED AREAS, WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED
- b.b. SEE SHEET III-288 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) FOR ALLOWABLE PLANTING MATERIAL, SEEDING RATES, AND DATES. THE PLANTING REQUIREMENTS OF THE "SOUTH" SHALL BE FOLLOWED. LIMING SHALL BE BASED ON TABLE 3.31-A OF VESCH. 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.
- c. EROSION CONTROL BLANKET AND MULCHING VESCH 3.36 AND 3.35
- c.a. EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND TO ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS AND WILL BE APPLIED AS A SECOND STEP IN SEEDING OPERATION. d. DUST CONTROL - VESCH 3.39
- d.a. DUST SHALL BE CONTROLLED USING A VARIETY OF METHODS SUCH AS VEGETATIVE COVER, MULCH, TILLAGE, IRRIGATION, SPRAY-ON ADHESIVES, STONE BARRIERS, AND CALCIUM CHLORIDE. THE IMPLEMENTATION OF THE DUST CONTROL METHODS SHALL BE INSTALLED PER SECTION 3.39 OF VESCH
- e.a. SINCE THE SUBJECT SITE IS LOCATED WITHIN THE COASTAL PLAIN AREA OF VIRGINIA, SHEET III-304 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK SHALL BE FOLLOWED FOR FINAL SEEDING MATERIAL, SEEDING RATES, AND DATES OF APPLICATION. f. SODDING - VESCH 3.33
- f.a. SODDED AREAS SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLANS. SOIL TESTS SHALL 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, OUALITY OF SOD SHALL BE STATE CERTIFIED TO ENSURE GENETIC PURITY AND HIGH OUALITY, SOD SHALL NOT BE LAID ON FROZEN SOIL SURFACE, OR IN EXCESSIVELY WET OR DRY WEATHER. SOD SHALL BE DELIVERED AND INSTALLED WITHIN 36 HOURS, AND SHALL BE INSTALLED PER PAGE III-339 OF VESCH.
- THE EROSION AND SEDIMENT CONTROL INSPECTOR SHALL HAVE THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS NEEDED IN THE FIELD. IN ADDITION, NO SEDIMENT TRAPS OR BASINS MAY BE REMOVED WITHOUT PRIOR APPROVAL OF THE INSPECTOR.

# **EROSION AND SEDIMENT CONTROL MANAGEMENT MEASURES** LANDSCAPE / TREE PRESERVATION NOTES

PRIOR TO ANY LAND DISTURBING ACTIVITY, THE CONTRACTOR SHALL CONTACT THE ARLINGTON COUNTY ARBORIST TO SCHEDULE AN INSPECTION.

# 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 100 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 AFTER BACKFILLING. 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. 6. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION.
- 7. ANY DISTURBED AREA NOT COVERED BY NOTE 1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOV. 1, OR DISTURBED AFTER THAT DATE, SHALL BE MULCHED IMMEDIATELY WITH HAY OR STRAW MULCH AT THE RATE OF 2 TONS/ACRE AND OVER-SEEDED BY APRIL 15. 8. AT THE COMPLETION OF ANY PROJECT CONSTRUCTION AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED
- AND ALL DENUDED AREAS SHALL BE STABILIZED.

# **EROSION & SEDIMENT CONTROL PROGRAM:**

- 1. THE EROSION CONTROL PLAN IS INTENDED TO ESTABLISH ENTRANCES AND PERIMETER CONTROL MEASURES WHICH INCLUDES SILT FENCE (SF), INLET PROTECTION (IP), AND OTHER CONTROLS SPECIFIED ON THE PLANS.
- 2. 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 7 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.
- 3. ALL PRACTICES AND CONTROL DEVICES DESCRIBED HEREIN SHALL CONFORM TO THE CURRENT VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). IN ADDITION, 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 USE OF HEAVY EQUIPMENT. CONTRACTOR SHALL BRING DISTURBED AREAS TO GRADE (ROUGH OR FINISHED) AND STABILIZE THOSE AREAS WITH TEMPORARY OR PERMANENT VEGETATION. THESE DISTURBED AREAS SHALL BE STABILIZED 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 KEPT ROUGH 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 SLOPES SHALL BE PROTECTED FROM CONCENTRATED FLOW BY BERMS (ABOVE THE SLOPE) AND DIRECTED AROUND THE DISTURBED AREA 4. MEASURES TO CONTROL EROSION AND SILTATION SHALL BE PROVIDED PURSUANT TO AND IN COMPLIANCE WITH CURRENT STATE AND LOCAL
- REGULATIONS. THE INFORMATION CONTAINED IN THE CONSTRUCTION PLANS AND/OR THE APPROVAL OF THE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR OR HIS AGENT OF ANY LEGAL RESPONSIBILITY WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA AND CHAPTER 57 OF THE ARLINGTON COUNTY CODE.

- 5. ALL AREAS, ON OR OFF-SITE, THAT ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS SEED MIXTURE OR SOD THAT IS INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. ALL SLOPES 3:1 AND GREATER SHALL BE RECEIVE SOIL STABILIZATION IN ACCORDANCE WITH THE SPECIFICATIONS.
- 6. WHERE STREAM CROSSINGS ARE REQUIRED FOR EQUIPMENT, TEMPORARY CULVERTS SHALL BE PROVIDED.
- 7. FOR FURTHER REQUIREMENTS AND DETAILS OF TREE PRESERVATION, PLANTING, EROSION AND SEDIMENT CONTROL, SEE COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS AND/OR THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

### **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 THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 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 MAINTAINED 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 AND SEDIMENT 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 AND SEDIMENT 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 AND SEDIMENT 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 BIOFILTERS SHALL BE KEPT OFF-LINE UNTIL CONSTRUCTION IS COMPLETED AND ALL AREAS HAVE BEEN PROPERLY STABILIZED. THIS SHALL BE
- 11. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

ACHIEVED BY USING INLET PROTECTION AT THE CURB CUTS AND STORMWATER CATCH BASINS LEADING DIRECTLY INTO THE BIOFILTERS.

### PRE-STORM EROSION & SEDIMENTATION CHECKLIST:

PER GENERAL EROSION AND SEDIMENT CONTROL 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 EROSION AND SEDIMENT CONTROL PLAN. EROSION AND SEDIMENT CONTROL 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.

# 1. PERIMETER CONTROLS

- a. SILT FENCE SHALL BE CHECKED FOR UNDERMINING, HOLES, OR DETERIORATION OF THE FABRIC. FENCING SHALL BE REPLACED IMMEDIATELY II THE FABRIC IS DAMAGED OR WON. SILT FENCE MUST BE TRENCHED INTO THE GROUND PER STATE SPECIFICATIONS (VESCH STD & SPEC 3.09). b. WOODEN STAKES OR STEEL POSTS SHALL BE PROPERLY SECURED UPRIGHT INTO THE GROUND. DAMAGED POSTS OR STAKES MUST BE REPLACED
- c. SEDIMENT THAT HAS ACCUMULATED AGAINST THE SILT FENCE SHALL BE REMOVED. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE LEVEL REACHES ONE-HALF THE HEIGHT OF THE FENCING.
- d. HAY BALES OR A STONE BERM SHALL BE PLACED ACROSS THE CONSTRUCTION ENTRANCE TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.

# 2. EXPOSED SLOPES AND SOIL

- a. 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.
- b. 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. c. 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. d. Seeded areas shall be checked and reseeded as necessary to cover exposed soil. Recently seeded areas shall be protected by
- 3. STOCKPILES a, 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 SHALL BE PLACED ALONG THE PERIMETER OF THE STOCKPILE (DOWNHILL SIDE).
- 4. INLET PROTECTION a. 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.

WATER CONSERVATION BOARD (BOARD), OR ARLINGTON COUNTY DETERMINES THE DISCHARGE TO BE A SIGNIFICANT SOURCE OF POLLUTANTS TO SURFACE WATERS:

- POLLUTION PREVENTION PLAN NOTES (STORMWATER MANUAL SECTION 2.4) 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
- a. 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 PLIMPS: FOOTING DRAINS: LAWN WATERING: INDIVIDIAL 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. 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.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

STRAW OR SOIL STABILIZATION BLANKETS TO PREVENT SEEDING FROM BEING WASHED AWAY.

- 1. NO MORE THAN 100 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. STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS
- 6. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- 9. ANY DISTURBED AREA NOT COVERED BY NOTE #1 ABOVE AND 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.
- 10.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.

# **MAINTENANCE PROGRAM:**

- THE FOLLOWING IS A PROGRAM OF MAINTENANCE FOR THE MECHANICAL CONTROLS SPECIFIED IN THIS NARRATIVE AND ON THE PLAN:
- 1. THE SITE SUPERINTENDENT OR HIS/HER REPRESENTATIVE SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREA (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE 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 OR RE-SODDING 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

- DOWNSTREAM WATER WAYS. SHOULD OFF-SITE AREAS BECOME POLLUTED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE AFFECTED AREAS TO THE SATISFACTION OF THE INSPECTOR. 4. AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ANY REMAINING DENUDED AREAS SHALL BE STABILIZED. CERTAIN DEVICES MAY BE REMOVED PRIOR TO CONSTRUCTION COMPLETION BUT ONLY WITH THE APPROVAL OF THE COUNTY
- 5. AFTER CONSTRUCTION OPERATIONS HAVE ENDED, ALL DISTURBED AREAS SHALL BE STABILIZED. UPON APPROVAL OF THE COUNTY INSPECTOR, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND PERMANENTLY STABILIZED WITH VEGETATION WITHIN 30 DAYS.

ARLINGTON VIRGINIA

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**APPROVALS** DATE 12/19/22 Amy Pflaum QUALITY CONTROL ENGINEER CONSTRUCTION MANAGEMENT SUPERVISO WATER, SEWER, STREETS BUREAU CHIEF

PROJECT MANAGER **REVISIONS** 

TRANSPORTATION DIRECTOR

Dennis M. Leach 1/11/23

Tizabeth Thurber 2/27/2023

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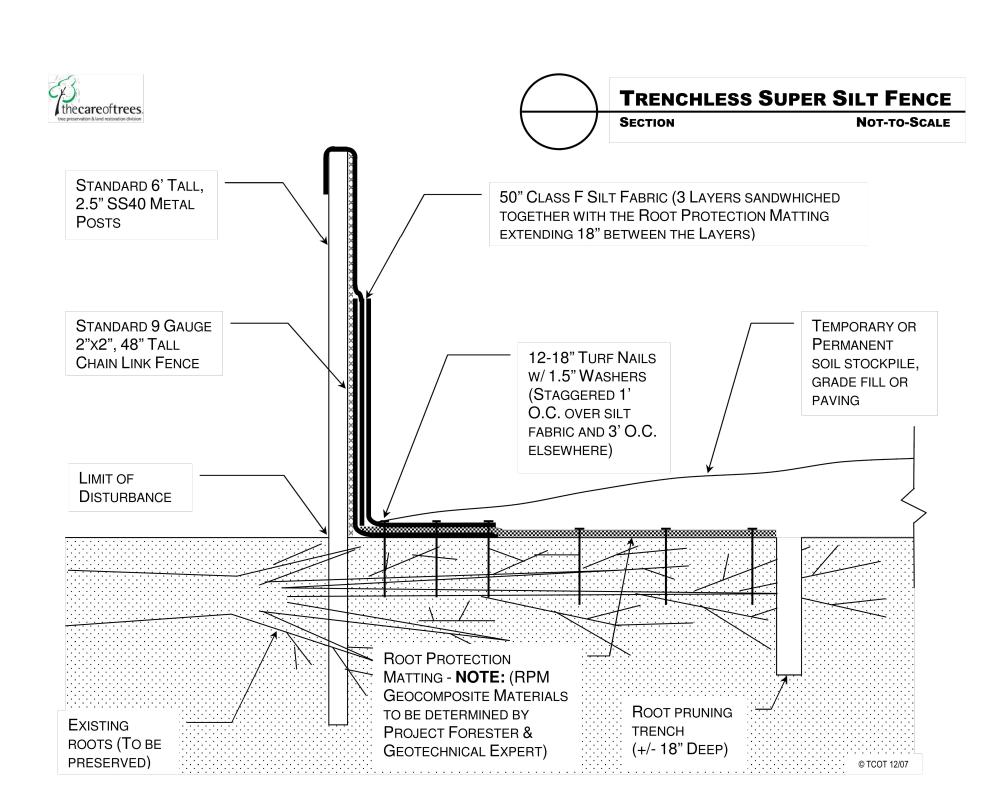
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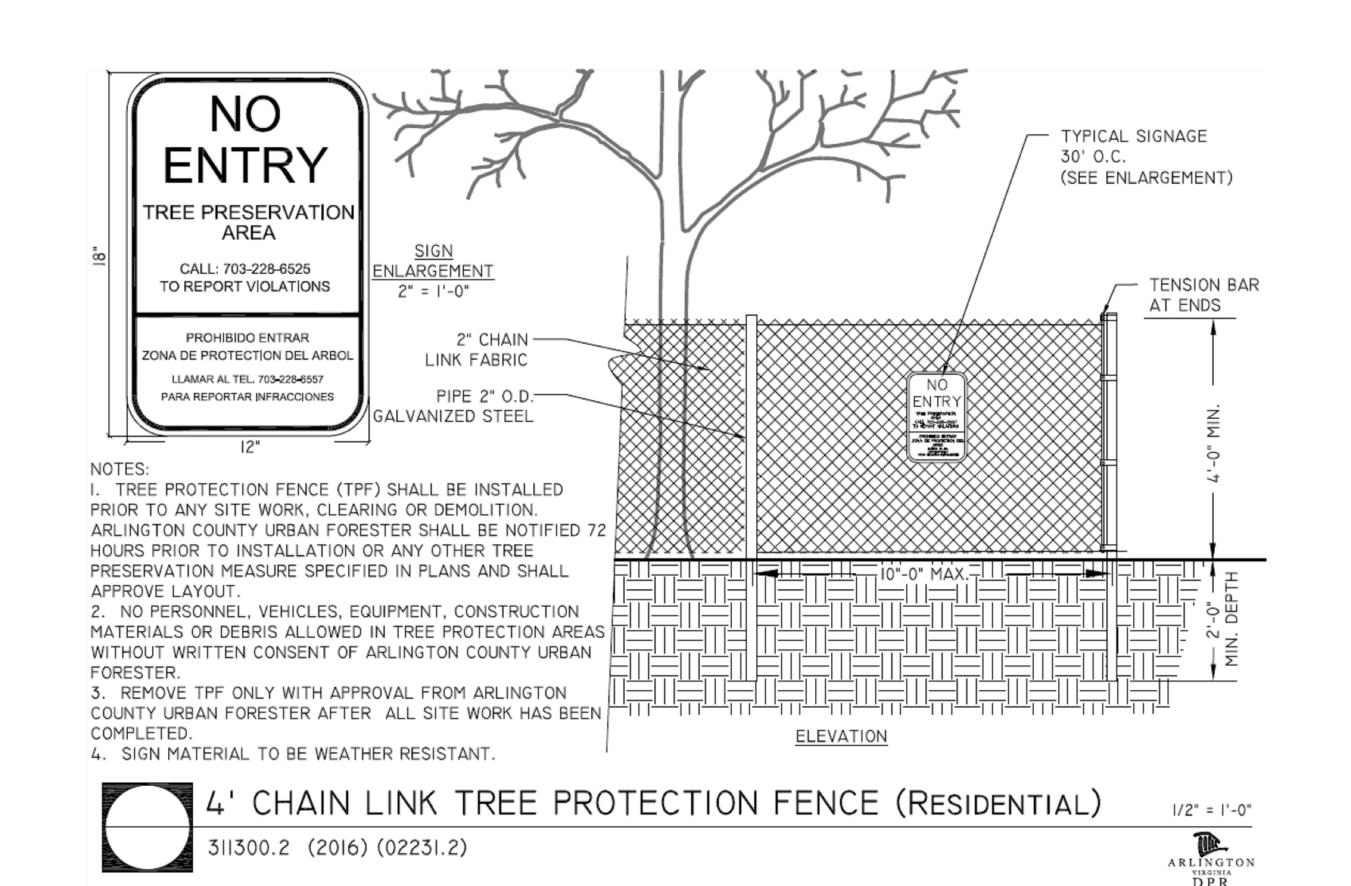
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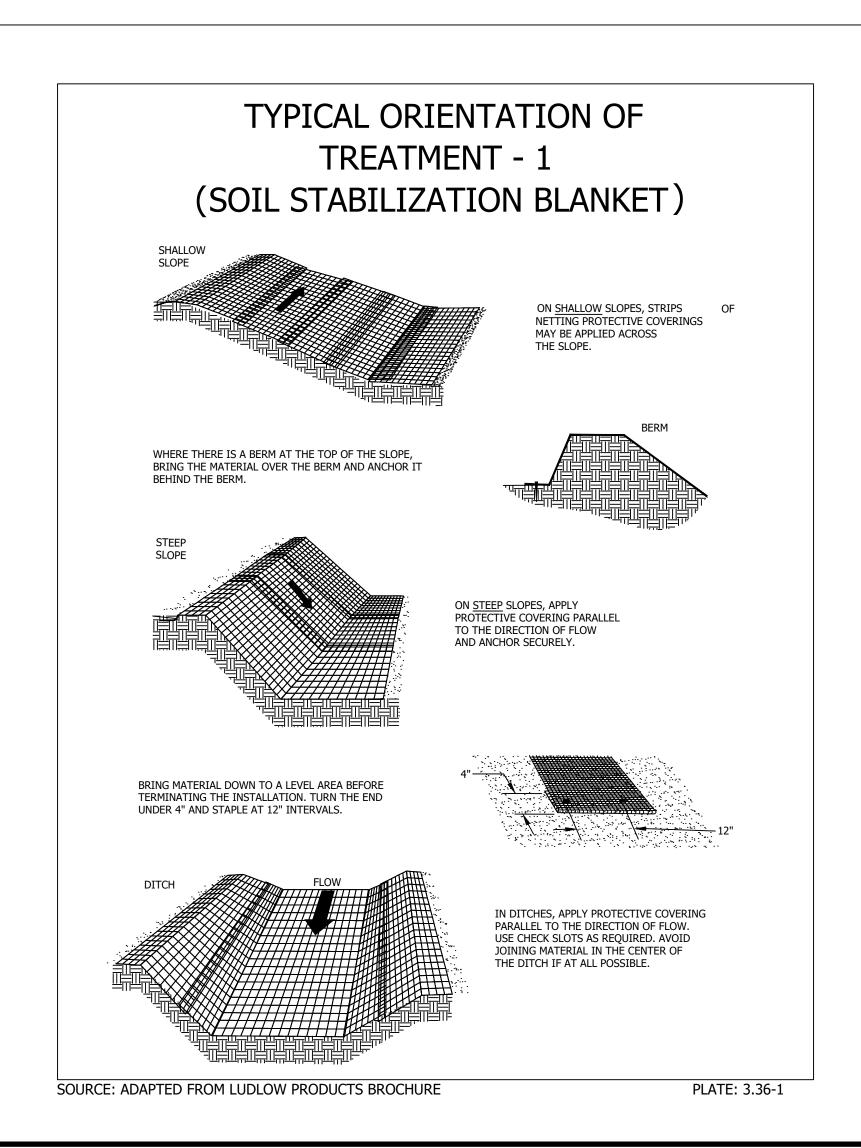
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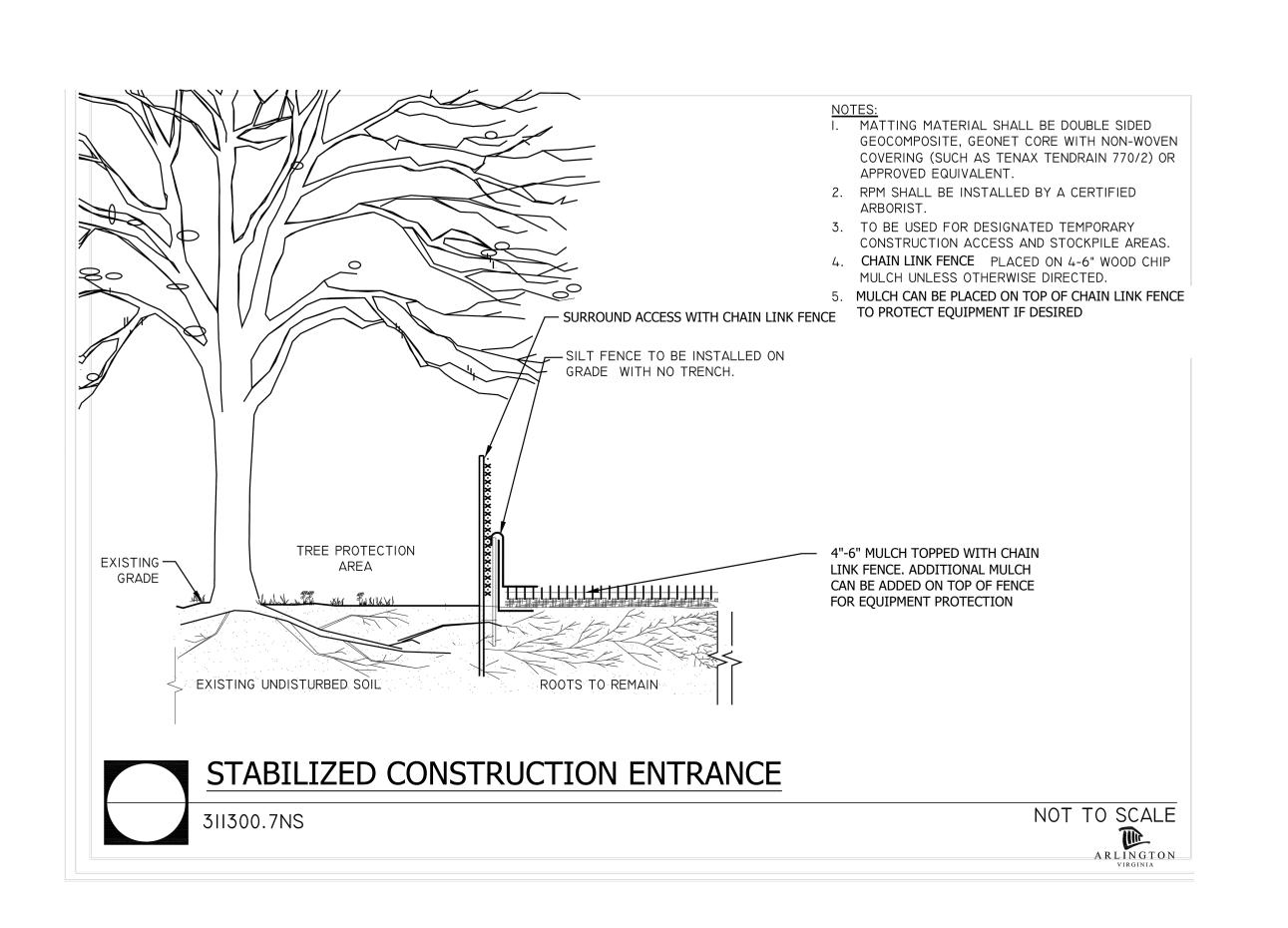
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Lic. No. 0402052323 11/22/2022

**APPROVALS** 

Amy Pflaum QUALITY CONTROL ENGINEER 12/19/22

DATE

CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF

Dennis W. Leach 1/11/23 TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

**REVISIONS** 

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DESIGNED: MM DRAWN: MM CHECKED: CB

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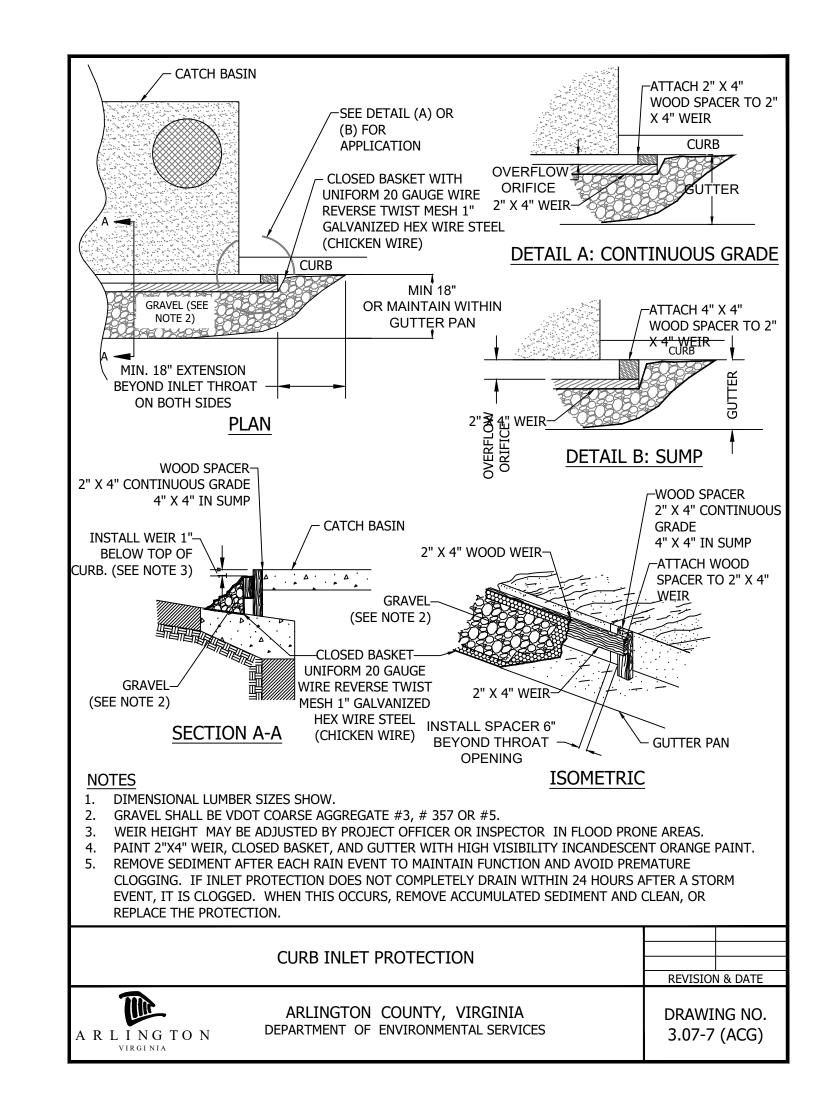
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# **TABLE 3.31-B** (Revised June 2003) **TEMPORARY SEEDING SPECIFICATIONS** QUICK REFERENCE FOR ALL REGIONS

	<u>SEED</u>					
APPLICATION DATES	SPECIES	APPLICATION RATES				
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Iolium multi- florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)				
Feb. 16 - Apr. 30	Annual Ryegrass (Iolium 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.)
- I 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

# **TABLE 3.32-B**

I ADLE 3.	
SITE SPECIFIC SEEDING	G MIXTURES FOR
PIEDMONT	AREA
	Total lbs
Minimum Care Lawn.	Per Acre
- Commercial or Residential	175-200 lbs.
- Kentucky 31 or Turf-Type Tall Fescue	95-100%
- Improved Perennial Ryegrass	0-5%
- Kentucky Bluegrass	0-5%
High-Maintenance Lawn	200-250 lbs.
Kentucky 31 or Turf-Type Tall Fescue	100%
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	<u>20 lbs.</u>
	150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Fescue	108 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Crownvetch **	_20 lbs.
	150 lbs.
*Use seasonal nurse crop in accordance with se	eding dates as stated below:
February 16th through April	Annual Rye
May 1st through August 15th	
August 16th through October	
November through February 15th	
**Substitute Sericea lespedeza for Crownvetch	
(May through September use hulled Sericea, all	
	•

Flatpea is used in lieu of Crownvetch, increase rate to 30 lbs./acre. All legume seed

must be properly inoculated. Weeping Lovegrass may be added to any slope or low-

naintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

# 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

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ARLINGTON

VIRGINIA - ALL RIGHTS RESERVED Christopher J. Balallo Lic. No. 0402052323 11/22/2022

**APPROVALS** DATE

Amy Pflaum QUALITYCONTROL ENGINEER 12/19/22 CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach 1/11/23 TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

**REVISIONS** 

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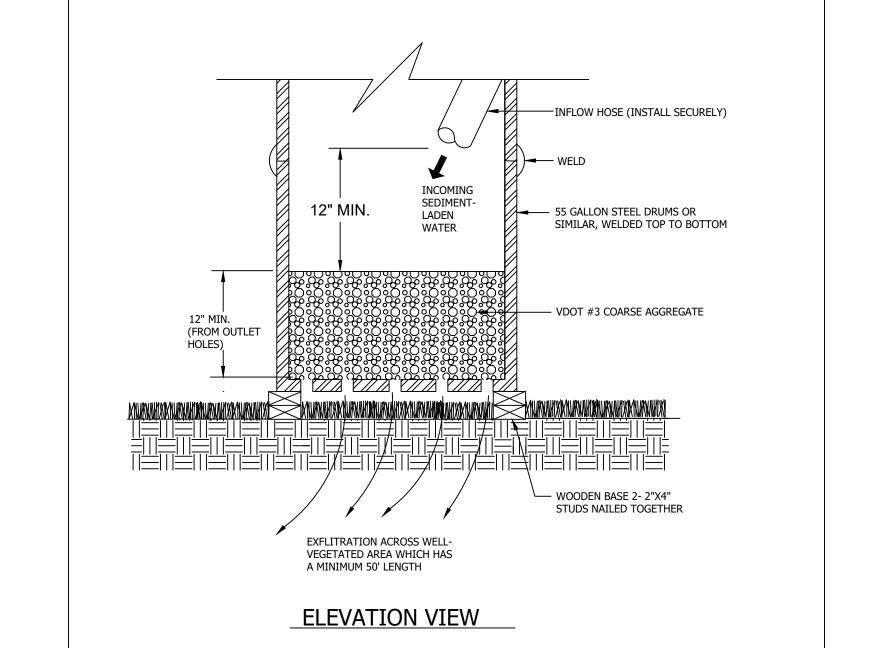
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SOURCE: VA. DSWC

PLATE: 3.26-2

FILTER BOX

# **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

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.

- ☐ 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.

☐ 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.

ARLINGTON
VIRGINIA The Virginia Stream Restoration & Stabilization Best Management Practices Guide DEPARTMENT OF DETAIL 1.5: ROCK TOE REVETMENT **ENVIRONMENTAL SERVICES** (MODIFIED, NOT TO SCALE) FACILITIES & ENGINEERING DIVISION ENGINEERING BUREAU 2100 CLARENDON BOULEVARD, SUITE 813 ARLINGTON, VA 22201 PHONE: 703.228.3629 FAX: 703.228.3606 COPYRIGHT © 2021 ARLINGTON COUNTY VIRGINIA - ALL RIGHTS RESERVED Continue Towards Plunge Pool Christopher J. Balallo 2.0 ft. 2.0 ft. Lic. No. 0402052323 <del>//</del>173.0' 11/22/2022 to End Before Normal High Water — Streambed Invert APPROVALS DATE <sup>"</sup> 172.0' Hand Place Amy Pflaum QUALITY/CONFROL ENGINEER 12/19/22 Smaller Riprap To Minimize Voids CONSTRUCTION MANAGEMENT SUPERVISOR Filter Fabric Recommended — WATER, SEWER, STREETS BUREAU CHIEF Or Granular Filter Riprap Size Per Standard & Spec 3.19 Riprap Dennis M. Leach 1/11/23
TRANSPORTATION DIRECTOR 168.0' Clizabeth Thurber 2/27/2023 PROJECT MANAGER Below Design — Scour Depth **REVISIONS** SECTION Adapted Virgnia Erosion and Sediment Manual Standard and Specification 3.19 BANK PROTECTION GUIDELINES DECEMBER 2003 VIRGINIA DEPARTMENT OF CONSERVATION RECREATION **EROSION** DESIGNED: MM CHECKED: CB PLOTTED: MARCH 1 2023 SCALE: **AS SHOWN** C032.4

### STORMWATER POLLUTION PREVENTION PLAN 26<sup>TH</sup> Street N Outfall Repair

### STORMWATER POLLUTION PREVENTION PLAN (SWPPP) Arlington County Projects (Linear Development / Stormwater Retrofit)

## For Construction Activities At:

26th Street N Outfall Repair Project @ 3837 & 3838 26th Street N

Latitude: 38.905059 N (decimal degrees)

Arlington, VA 22207

Longitude: -77.121758 W (decimal degrees)

## **Construction Activity Operator:**

Sagres Construction 3680 Wheeler Ave, Suite 300 Alexandria, VA, 22304 703-924-7220 Feda@sagresconstruction.com

## **SWPPP Preparation Date:**

May 9, 2022

## 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 Name: \_\_\_\_\_

Arlington County SWPPP 12/2016

### STORMWATER POLLUTION PREVENTION PLAN 26<sup>TH</sup> Street N Outfall Repair

## 1.0 SWPPP Documents Located Onsite & Available for Review

Located Onsite & Available for Review? SWPPP Document Type Registration Statement Notice of Coverage Letter Yes Construction General Permit ] NA Yes Pollution Prevention Plan ] NA Yes
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 Erosion & Sediment Control Plan □ NA Stormwater Management Plan imes NA LDA Permit

Required documents must be kept at a centralized location on the project site (i.e. in a mail box or other container)

## 2.0 Authorized Non-Stormwater Discharges

Type of Authorized Non-Stormwater Discharges Likely Present at Your Project Site? Uncontaminated excavation dewatering Landscape irrigation Others [describe]

# 3.0 Pollution Prevention Awareness

Employees will be given a "walk through" of the 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. A refresher meeting and "walk through" will be conducted on an as needed

## 4.0 Erosion & Sediment Controls

Select all that apply	Erosion & Sediment Control	Estimated Installation Date	Estimated Removal Date	Responsible Party (Name, Contact Phone Number)
$\boxtimes$	Construction Entrance (Std. & Spec. 3.02)			
$\boxtimes$	Silt Fence (Std. & Spec. 3.05)			
	Culvert Inlet Protection (Std. & Spec. 3.08)			
$\boxtimes$	Outlet Protection (Std. & Spec. 3.18)		NA	
$\boxtimes$	Temporary Seeding (Std. & Spec. 3.31)	As required	NA	
$\boxtimes$	Permanent Seeding (Std. & Spec. 3.32)		NA	
	Sodding (Std. & Spec. 3.33)		NA	
	Mulching (Std. & Spec. 3.35)		NA	
	Safety Fence (Std. & Spec 3.01)			
$\boxtimes$	Storm Drain Inlet Protection			

Arlington County SWPPP 12/2016

### STORMWATER POLLUTION PREVENTION PLAN 26<sup>TH</sup> Street N Outfall Repair

	(Std. & Spec 3.08 and/or Arlington		
	County Std. & Spec from approved		
	ESC plan)		
	Dewatering		
$\boxtimes$	(Std. & Spec 3.26 and/or Arlington		
	County Std. & Spec from approved		
	ESC plan)		
	Turbidity Curtain		
П	(Std. & Spec 3.27 and/or Arlington		
Ш	County Std. & Spec from approved		
	ESC plan)		
	Tree Protection		
$\boxtimes$	(Arlington County Std. & Spec from		
	approved ESC plan)		
П	Stream Crossing / Cofferdams		
Ш	(Std. & Spec 3.25 or on plan)		
$\square$	Pump Around System		
$\boxtimes$	(detail on approved plan)		
	Rip Rap		
$\boxtimes$	(Std. & Spec. 3-19)		
	Other(s) [Slope Stabilization,		
$\boxtimes$	Permanent Lining]		

Pre-Storm Erosion and Sediment Control Checklist

The following actions shall be taken <u>prior to storm events with predicted heavy and/or large volume</u> <u>rainfall</u> 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 and repaired/replaced if needed.
- ☑ Sediment that has accumulated against perimeter controls shall be removed if the depth exceeds more than 1/2 of the silt fence height.
- ☐ 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 installed per approved ESC plan, are functioning properly, and maintained as needed.

Arlington County SWPPP 12/2016

# STORMWATER POLLUTION PREVENTION PLAN

# 5.0 Potential Sources of Pollution & Pollution Prevention Practices

			ı	Polluta	ants							
Pollutant-Generating Activity	Likely Present at your Project Site?	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other Toxic Chemicals	Pollution Prevention Practice	Responsible Party (Name, Contact Phone Number)
Clearing, grading, excavating, and un-stabilized areas	⊠ Yes □ No	Х	x						x		(1)	
Paving and saw cutting operations	⊠ Yes □ No	х					Х		х		(2)	
Concrete operations, washout, and cement waste	⊠ Yes □ No			Х	х				Х		(3)	
Washing / cleaning	⊠ Yes □ No	Х	x	Х	х		Х		х	х	(4)	
Dewatering operations	⊠ Yes □ No	х	х						х		(5)	
Material / chemical use and storage	⊠ Yes □ No	х	х	х	Х	х	Х		х	х	(6)	
Equipment and vehicle maintenance	⊠ Yes □ No				Х		X		Х	х	(7)	
Waste management / disposal	☐ Yes ⊠ No								х	х	(8)	
Sanitary waste	⊠ Yes □ No		Х		х			Х			(9)	
Nutrient management	☐ Yes ⊠ No	х	Х						х	х	(10)	

Arlington County SWPPP 11/2016

# STORMWATER POLLUTION PREVENTION PLAN

# **Pollution Prevention Practices:**

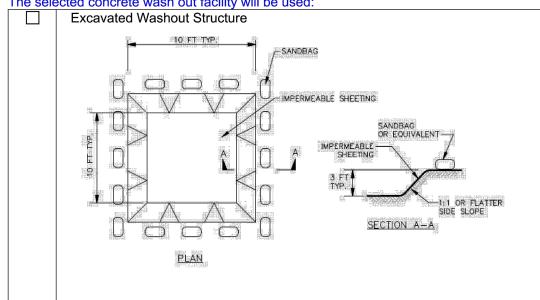
- (1) Clearing, grading, excavating, and un-stabilized areas Maintain as much existing vegetation as practicable. Utilize erosion and sediment controls to prevent sediment from leaving the construction site. Dispose of clearing debris at acceptable disposal sites. Apply permanent or temporary stabilization, 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. Plastic sheeting, tarps, 2" deep straw cover, and/or erosion matting can be used for temporary slope stabilization.
- (2) Paving and saw cutting operations Cover storm drain inlets during paving and saw cutting operations. Use 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. Slurry from saw cutting operations may not enter a storm drain; it must be captured and disposed of properly.

Temporary controls (i.e. tarp and block, sand berms, booms, and/or filter fabric) shall be used to cover storm drains during paving and saw cutting operations to prevent any discharges from entering the storm drain. These temporary controls SHALL BE REMOVED AT THE END OF EACH DAY. Inlet protection specified in the approved ESC plan shall be installed or reinstalled following the completion of paving or saw cutting work.

Method of covering / protecting storm drains: Method for containment, collection, disposal of saw cut slurry:

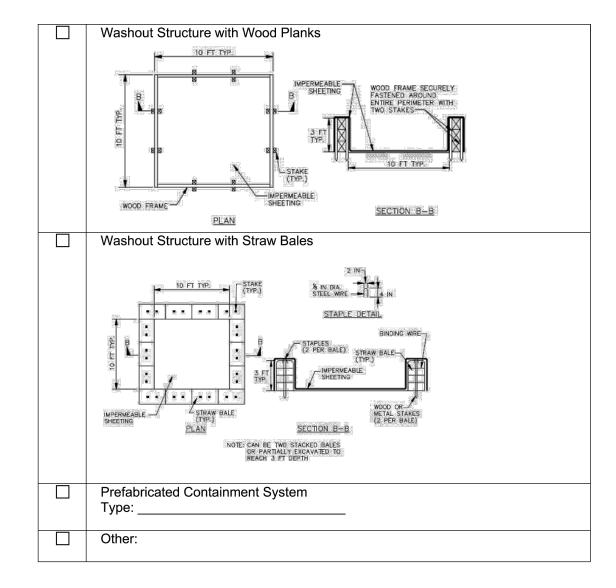
- (3) Concrete operations, washout, and cement waste Direct concrete wash water into a leak-proof container or leak-proof settling basin that is designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the
  - handling of other construction wastes. ☐ Washouts must be sized appropriately for the needs of the project. Do not locate washouts near storm drains. Concrete wash water is not allowed to enter a storm drain. Concrete washout areas cannot be used for the purpose of dewatering. Set up and operate small mixers on top of plywood that is covered by tarps or heavy plastic drop cloths.
  - Wash out mixers and truck chutes in designated contained washout areas ☐ No tracking from washout areas may occur. ☐ Place plastic sheeting, boards, or tarps under concrete truck chutes during pouring

# The selected concrete wash out facility will be used:



Arlington County SWPPP 12/2016

# STORMWATER POLLUTION PREVENTION PLAN



(4) **Washing / cleaning** – Prevent the discharge of wash water to the storm drain system or surface waters.

☐ Provide a suitable containment system for cleaning equipment such as a drum, prefabricated system, lined container, or portable wash pad.

- ☐ The wash / containment area must be sized appropriately for the needs of the project.
- ☐ Locate wash / containment areas away from storm drains.
- 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.

Dewatering detail on approved ESC plan will be used.

 □ Dewatering option from Planning & Field Guide for Pollution Prevention (P2): ☐ Straw Bale/Silt Fence Pit ☐ Portable Sediment Tank

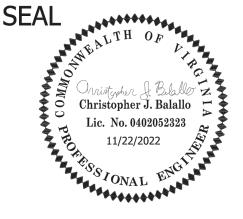
Arlington County SWPPP 12/2016

☐ Filter Bag

# 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

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**APPROVALS** DATE

Amy Pflaum QUALITY CONTROL ENGINEER 12/19/22 CONSTRUCTION MANAGEMENT SUPERVISOR

1/9/23 WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach 1/11/23 TRANSPORTATION DIRECTOR

PROJECT MANAGER **REVISIONS** 

Eizabeth Thurber 2/27/2023

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STORMWATER	POLI LITION	PREVENTION P	ΙΔΝ
SICKIVIVALLI	FOLLUTION	FILEVENTION	

 □ Pump from Settling Pit Manufactured System: \_\_\_\_\_

Material / chemical use and storage -Designate areas of the construction site for material delivery and storage. Locate these areas near construction entrances and away from waterways and storm drains. Enclose, cover or berm construction material storage areas if susceptible to stormwater.

> 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 located on the edge of roadways should not obstruct flow along the curb line (gutter). Leave at least a one (1) foot space away from the curb to allow stormwater to flow along the curb line. Boards with cinder blocks and/or bricks may be used to create the flow through space.

☐ Method used to ensure flow through:

Provide secondary containment for paint, pesticides, cleaners, solvents, and/or other chemicals and keep these items secured and covered when not in use

☐ Regularly inspect containers.

(7) **Equipment and vehicle maintenance** – Use a designated area, away from storm drains and surface waters, to refuel vehicle or equipment or perform maintenance.

Regularly inspect vehicles and equipment for leaks. Clean up all spills and leaks upon discovery. ☐ Use containment measures when conducting fueling (e.g. place spill pad, board, plastic sheeting on

Regularly inspect fuel containers.

☑ Provide secondary containment and secure storage for fuel, oil, and/or lubricants

Keep drip pans, sheeting, and/or absorbent pads under heavy equipment when not in use (i.e. overnight) to capture leaks.

Waste management / 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 waste containers have lids so they can be covered before periods of rain. Schedule waste collection to prevent the containers from overfilling.

A sufficient number of waste containers must be kept on a site to handle the quantity of waste

☐ Keep roll off containers covered and/or dumpster / trash lids closed.

☐ Check waste containers frequently for damage / leaks and clean using DRY methods when necessary. Never clean out a dumpster by power washing or hosing it out.

Replace containers that are leaking, cracked, corroded, or otherwise deteriorating.

Do not bury waste material. Dispose of excess dry concrete, grout and mortar in the trash.

Arlington County SWPPP 12/2016

### STORMWATER POLLUTION PREVENTION PLAN

- (9) **Sanitary waste** Prevent the discharge of sanitary waste by providing convenient and well-maintained
  - □ Locate portable lavatories away from storm drains and surface waters.
  - ⊠ Keep portable lavatories level and provide secondary containment (i.e. trays)
  - Regularly inspect facilities for leaks

(10) **Nutrient management** – Apply nutrients in accordance with manufacturer's recommendations. Do not apply during rainfall events or windy conditions. Provide secondary containment and keep fertilizer properly secured

Additional information and details can be found in the Arlington County Planning & Field Guide for Pollution Prevention (P2).

### 6.0 Stormwater Management Controls

when not being used.

Select all that apply	Stormwater Management Control	Estimated Installation Date	Responsible Party
	Exempted – stormwater management retrofit facility or stream restoration project	NA	NA
	Linear development project per Arlington County Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan <sup>1</sup>	NA	NA
	Post-development Stormwater Management Controls provided by a Larger Common Plan of Development or Sale	NA	Common Plan Construction Activity Operator
	Rooftop Disconnection		Construction Activity Operator

<sup>1</sup> In accordance with Arlington County's Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan, approved by the Virginia Department of Environmental Quality (DEQ) on September 1, 2015, linear development projects conducted by the County are administered and tracked as follows consistent with 9VAC25-870-69.A.4, 9VAC25-870-76, and 9VAC25-870-92:

- Pollutant load changes will be computed as described in Section 3.A of the Action Plan.
- Retrofit opportunities will be evaluated for each project, using the screening and selection criteria applied and
- described in the adopted Stormwater Master Plan. Retrofit projects that meet the screening criteria and are determined by Arlington to be feasible and cost-effective will be implemented with specific linear development projects. Pollutant load reductions from retrofit projects will be
- computed as described in Section 5 of the Action Plan. In cases where retrofit projects are not feasible and cost-effective for a particular linear project, any POC load increases that might occur for that project will be addressed by larger overall POC load reductions in place or added through TMDL action plan implementation.

In the above manner Arlington, as the MS4 operator and the construction site operator for its linear development projects, implements linear projects and retrofit projects in a manner that achieves the most TMDL POC reduction for the least cost, while fully accounting for load changes that occur with linear development project activity consistent with the DEQ Chesapeake Bay TMDL Special Condition Guidance.

Arlington County SWPPP 12/2016

# STORMWATER POLLUTION PREVENTION PLAN

	Sheet flow to Vegetated Filter (1 or 2)	(See Cover Page of this SWPPP)
	Grass Channel	
	Rainwater Harvesting	
	Permeable Pavement (1 or 2)	
	Infiltration (1 or 2)	
	Bio-retention (1 or 2)	
	Others [SWELL]	

Arlington County SWPPP 12/2016

# STORMWATER POLLUTION PREVENTION PLAN

# 7.0 Spill Prevention & Response

Most spills can be cleaned up using a spill kit. Absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be available at the project site.

1st Priority: Protect all people

- 2<sup>nd</sup> Priority: Protect equipment and property 3<sup>rd</sup> Priority: Protect the environment
- 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. LARGE SPILLS
- ARE LIKELY TO PRESENT A HAZARD. 2. Ensure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any
- 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 spreading and/or entering storm drains (use absorbent or other materials as
- 6. If spilled material has entered a storm drain; contact Arlington County Fire Department and project manager. 7. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials
- and do not flush area with water. 8. Properly dispose of cleanup materials and used absorbent material according to manufacturer specifications.

# Emergency Contacts:

**Local Contacts** Arlington County Fire & Police

DES Water, Sewer, Streets 24-Hour Emergency Washington Gas Emergency

703-558-2222 703-228-6555 703-750-1400

804-674-2400

Nights, Holidays & Weekends

Arlington County SWPPP 12/2016

VA Dept. of Emergency Management 24 Hour Reporting Service

Spill kit on site: Yes No

Location(s) of spill kit:

# STORMWATER POLLUTION PREVENTION PLAN

# 8.0 Self Inspection Report & Corrective Action Log (make additional copies as necessary)

Company/Organization: Name of Inspector: Telephone Number: Qualifications:

Inspection Schedule

Discharges to impaired waters, surface waters within a TMDL watershed, or exceptional waters:

Once every 4 business days

Inspection Date: \_\_\_\_\_

Describe phase of construction:

Erosion & Sediment Controls/ Pollution Prevention Practices	In Compliance?	Corrective Action Needed & Notes	Date Corrective Action Taken
Are controls in place to prevent sediment from being tracked off site or onto the street?	☐ Yes ☐ No ☐ NA		
Are perimeter controls adequately installed and properly maintained?	☐ Yes ☐ No ☐ NA		
Are storm drains properly protected / approved inlet protection is in place?	☐ Yes ☐ No ☐ NA		
Are all slopes and disturbed areas, including stockpiles, not actively being worked properly stabilized?	☐ Yes ☐ No ☐ NA		
Are dewatering operations working properly?	☐ Yes ☐ No ☐ NA		
Is construction dust properly controlled?	☐ Yes ☐ No ☐ NA		
Are mature trees and/or natural areas properly protected?	☐ Yes ☐ No ☐ NA		

Arlington County SWPPP 12/2016

# STORMWATER POLLUTION PREVENTION PLAN

Are washout facilities (concrete, paint) available, labeled, and properly maintained?	☐ Yes ☐ No ☐ NA	
Are trash and waste materials properly managed and disposed of?	☐ Yes ☐ No ☐ NA	
Are trash receptacles covered and not leaking?	☐ Yes ☐ No ☐ NA	
Are non-stormwater discharges (i.e. wash water, saw cut slurry) properly managed?	☐ Yes ☐ No ☐ NA	
Are vehicle and equipment fueling, maintenance, and/or staging areas free of spills and leaks?	☐ Yes ☐ No ☐ NA	
Are materials that are potential stormwater contaminants stored properly (covered / have secondary containment)?	☐ Yes ☐ No ☐ NA	
Are portable lavatories level, in good condition, and located away from storm drains?	☐ Yes ☐ No ☐ NA	
Is a spill kit accessible onsite?	☐ Yes ☐ No ☐ NA	

Are there any unauthorized discharges at the time of this inspection?  $\square$  Yes  $\square$  No If yes, describe:

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

Describe any incidents of non-compliance not described above (use another page if necessary)

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:

Arlington County SWPPP 12/2016

PHONE: 703.228.3629 FAX: 703.228.3606 COPYRIGHT © 2021 ARLINGTON COUNTY VIRGINIA - ALL RIGHTS RESERVED Christopher J. Balallo Lic. No. 0402052323 11/22/2022 **APPROVALS** Amy Pflaum QUALITY CONTROL ENGINEER CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach 1/11/23 TRANSPORTATION DIRECTOR Pizabeth Thurber 2/27/2023 PROJECT MANAGER **REVISIONS**  $\boldsymbol{\simeq}$ DESIGNED: MM DRAWN: MM CHECKED: CB PLOTTED: MARCH 1 2023 SCALE:

ARLINGTON

VIRGINIA

DEPARTMENT OF

**ENVIRONMENTAL SERVICES** 

**FACILITIES & ENGINEERING DIVISION** 

ENGINEERING BUREAU 2100 CLARENDON BOULEVARD, SUITE 813

ARLINGTON, VA 22201

DATE

12/19/22

0

PR

RMW,

0

26TH STREET N OUTFALL REPAIR S59D

C035.2

# Pollution Prevention Plan Notes:

- Only the following non-stormwater discharges are authorized by Arlington County's MS4 permit, unless the State Water Control Board or Arlington County determines the discharge to be a significant source or pollutants to surface waters: water line flushing (managed in a manner to avoid an instream impact); 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; street wash water; discharges or flows from emergency firefighting activities; discharges or flows of potable water used in firefighting training activities managed in a manner to avoid an instream impact; 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, wash water containing detergents and/or chemicals, slurry/wash water from saw cutting operations, etc.) from being discharged into Arlington County's Municipal Separate Storm Sewer System (MS4) or stream network.
- Per Chapter 26-5. C 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. Only the following non-stormwater discharges are authorized by Arlington County's MS4 permit, unless the State Water Control Board or Arlington County determines the discharge to be a significant source of pollutants to surface waters: water line flushing(managed in a manner to avoid an instream impact); 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; street wash

firefighting activities; discharges or flows of potable water used in firefighting training activities managed in a manner to avoid an instream impact; 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, wash water containing detergents and/or chemicals, slurry/wash water from saw cutting operations, etc.) from being discharged into Arlington County's Municipal Separate Storm Sewer System (MS4) or stream network.

Per Chapter 26-5. C 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.

2011 BMP Standards and Specificati	ons	☐ 2013 Draft B	MP Standards and S	pecifications						
Project Name:		26th Stree	et N Outfall Repair			CLEAR	ALL	data input cells		
Date:		6	/13/2022	./.		CLLAN	ALL	constant values		
Site Information		Linear Dev	elopment Project?	No				calculation cells final results		
	-	_								
Post-Development Project	(Treatmer		•							
		Ent	er Total Disturbe	d Area <i>(acres)</i> →	0.1383		BMP Design Spo	Check: ecifications List:	2011 St	ds & Specs
		The cite's net		reduction required: ous cover (acres) is:	10% 0.0010		Land cover areas en	Linear project?		
				tion for Site (lb/yr):	0.0087			d area entered?	Ž	
Pre-ReDevelopment Land Cover (acre	s) A Soils	B Soils	C Soils	D Soils	Totals					
Forest/Open Space (acres) undisturbed forest/open space		0.1096			0.1096					
Managed Turf (acres) disturbed, graded for vards or other turf to be mowed/managed					0.0000					
mpervious Cover (acres)		0.0287			0.0287					
					0.1383					
Post-Development Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals					
Forest/Open Space (acres) — undisturbed, protected forest/open space or reforested land	A John	0.1086	e sons	D 30H3	0.1086	*				
Vanaged Turf (acres) disturbed, graded for vards or other turf to be mowed/managed		0.1000			0.0000					
Impervious Cover (acres)		0.0297			0.0297					
Area Check * Forest/Open Space areas must be protected	100000000	OK.	OK.	OK.	0.1383					
* Forest/Open Space areas must be protected	in accordance with	tne virginia kunojj i	teauction ivietnoa							
Constants Annual Rainfall (inches)	43		Runoff Coefficient	s (Rv) A Solls	B Solls	C Solls	D Solls			
Target Rainfall Event (inches)  Total Phosphorus (TP) EMC (mg/L)	1.00 0.26		Forest/Open Space Managed Turf	0.02 0.15	0.03 0.20	0.04 0.22	0.05 0.25			
Total Nitrogen (TN) EMC (mg/L) Target TP Load (lb/acre/yr)	1.86 0.41		Impervious Cover	0.95	0.95	0.95	0.95			
Pj (unitless correction factor)	0.90									
LAND COVER SUMMARY P	RE-REDEVE	LOPMENT				LAND COVE	R SUMMARY P	OST DEVELO	PMEN	T
Land Cover Sumn				Land Cover Summa	, , ,		Land Cover Sun			Land Co
Pre-ReDevelopment	0.1096	Adjusted <sup>1</sup> 0.1086		Post ReDev. & Ne Forest/Open Space Cover	w Impervious 0.1086		Post-ReDeve Forest/Open Space			Post-Devel
Forest/Open Space Cover (acres) Weighted Rv(forest)	0.1096	0.1086		(acres) Weighted Rv(forest)	0.0300		Cover (acres) Weighted Rv(forest)	0.1086		
% Forest	79%	79%		% Forest Managed Turf Cover	79%		% Forest Managed Turf Cover	79%		
Managed Turf Cover (acres)	0.0000	0.0000		(acres)	0.0000		(acres)	0.0000		
Weighted Rv(turf)	0.0000	0.0000		Weighted Rv (turf)	0.0000		Weighted Rv (turf)	0.0000		
% Managed Turf	0%	0%		% Managed Turf	0%		% Managed Turf	0%		New Importion
Impervious Cover (acres)	0.0287	0.0287		Impervious Cover (acres)	0.0297		ReDev. Impervious Cover (acres)	0.0287		New Imperviou (acres)
Rv(impervious) % Impervious	0.9500 21%	0.9500 21%		Rv(impervious) % Impervious	0.9500 21%		Rv(impervious) % Impervious	0.9500 21%		Rv(impervi
Total Site Area (acres)	0.1383	0.1373		Final Site Area (acres)	0.1383		Total ReDev. Site Area	0.1373		
Site Rv	0.2209	0.2223		Final Post Dev Site Rv	0.2276		(acres) ReDev Site Rv	0.2223		
Treatment Volume and	d Nutrient Lo	ad			\	Trea	tment Volume and	Nutrient Loa	d	
Pre-ReDevelopment Treatment Volume (acre-ft)	0.0025	0.0025		Final Post-Development Treatment Volume (acre-ft)	0.0026		Post-ReDevelopment Treatment Volume (acre-ft)	0.0025		Post-Develop Treatment Vo (acre-ft)
Pre-ReDevelopment Treatment Volume (cubic feet)	110.9074	110.7985		Final Post-Development Treatment Volume (cubic feet)	114.2470		Post-ReDevelopment Treatment Volume (cubic feet)	110.7985		Post-Develop Treatment Volur feet)
Pre-ReDevelopment TP Load (lb/yr)	0.0697	0.0696		Final Post- Development TP Load (lb/yr)	0.0718		Post-ReDevelopment Load (TP) (lb/yr)*	0.0696		Post-Developme (lb/yr)
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.5000	0.5100		Final Post-Development TP Load per acre (lb/acre/yr)	0.5200		Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.5100		
Baseline TP Load (lb/yr)  [0.41 lbs/acre/yr applied to pre-redevelopment area ex proposed for new impervious cover		0.0563					Max. Reduction Required (Below Pre- ReDevelopment Load)	10%		
Adjusted Land Cover Summary: Pre ReDevelopment land cover minus pervious lan urf) acreage proposed for new impervious cover. Adjusted total acreage is consistent with Post-ReDi							TP Load Reduction Required for Redeveloped Area (lb/yr)	0.0070		TP Load Red Required for Impervious Are
new impervious cover).  Column I shows load reduction requriement for new fevelopment load limit, 0.41 lbs/acre/year).										
			Post-Dev	/elopment Requ	irement for !	Site Area				
			TP Load	Reduction Required	(lb/yr)	0.0087				
			Ni	trogen Loads (Info	rmational Purp		molecus and This is a			
	Dec Dio	ent TN Load (lb/vr)	0.4985				evelopment TN Load	0.5135		

9/23/2021 Qianqian Li, P.E. ESC Program Administrator Department of Environmental Sevices 2100 Clarendon Boulevard, Suite 813 Arlington, Virginia 22201 Re: Erosion and Sediment Control Permit Application for: 3837 26TH STREET N street address LOT 7 OFFUTTS ADDN TO DOVER 10022 SQ FT lot, block, section subdivision LDA-17711 *permit numb*er 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. 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 \_\_\_\_\_703-228-3474 \_\_\_\_ with questions about this plan or my execution of the duties of telephone number Responsible Land Disturber. Christopher Balallo name printed P.E. 0402052323 professional registration (type and number)

# Runoff Reduction Notes:

- THE RUNOFF REDUCTION SPREADSHEET ON THIS PLAN IS FOR DATA TRACKING PURPOSES TO DOCUMENT THE AREA OF LAND DISTURBANCE AND TO CHARACTERIZE PRE- AND POST- DEVELOPMENT LAND USE CONDITIONS.
- IN ACCORDANCE WITH ARLINGTON COUNTY'S CHESAPEAKE BAY TOTAL MAXIMUM DAILY LOAD (TMDL) ACTION PLAN, APPROVED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEG) ON SEPTEMBER 1, 2015. LINEAR DEVELOPMENT PROJECTS CONDUCTED BY THE COUNTY ARE ADMINISTERED AND TRACKS AS FOLLOWS CONSISTENT WITH 9VAC25-870-69.a.4, 9VAC25-870-76, AND 9VAC25-870-92.
- 3. POLLUTANT LOAD CHANGES WILL BE COMPUTED AS DESCRIBED IN SECTION 3.A OF THE ACTION PLAN.
- 4. RETROFIT OPPORTUNITIES WILL BE EVALUATED FOR EACH PROJECT, USING THE SCREENING AND SELECTION CRITERIA APPLIED AND DESCRIBED IN THE ADOPTED STORMWATER MASTER PLAN.
- 5. RETROFIT PROJECTS THAT MEET THE SCREENING CRITERIA AND ARE DETERMINED BY ARLINGTON TO BE FEASIBLE AND COST-EFFECTIVE WILL BE IMPLEMENTED WITH SPECIFIED LINEAR DEVELOPMENT PROJECTS. POLLUTANT LOAD REDUCTIONS FROM RETROFIT PROJECTS WILL BE COMPUTED AS DESCRIBED IN SECTION 5 OF THE ACTION PLAN.
- 6. IN CASES WHERE RETROFIT PROJECTS ARE NOT FEASIBLE AND COST-EFFECTIVE FOR A PARTICULAR LINEAR PROJECT, ANY POC LOAD INCREASES THAT MIGHT OCCUR FOR THAT PROJECT WILL BE ADDRESSED BY LARGER OVERALL POC LOAD REDUCTIONS IN PLACE OR ADDED THROUGH TMDL ACTION PLAN IMPLEMENTATION.
- 7. IN THE ABOVE MANNER ARLINGTON, AS THE MS4 OPERATOR AND THE CONSTRUCTION SITE OPERATOR FOR ITS LINEAR DEVELOPMENT PROJECTS, IMPLEMENTS LINEAR PROJECTS AND RETROFIT PROJECTS IN A MANNER THAT ACHIEVED THE MOST TMDL POC REDUCTION FOR THE LEAST COST, WHILE FULLY ACCOUNTING FOR LOAD CHANGES THAT OCCUR WITH LINEAR DEVELOPMENT PROJECT ACTIVITY CONSISTENT WITH THE DEQ CHESAPEAKE BAY TMDL SPECIAL CONDITION GUIDANCE.

### STORMWATER POLLUTION PREVENTION PLAN

### 9.0 Grading & Stabilization Activities Log

Date Grading Activity Initiated	Description of the Grading Activity (including 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)

Arlington County SWPPP 12/2016

# INSTRUCTIONS for COMPLETING the SINGLE FAMILY RESIDENCE, COMMON PLAN of DEVELOPMENT or SALE STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

General
A Stormwater Pollution Prevention Plan (SWPPP) must be developed prior to obtaining locality (e.g., City, County, Town) authorization to commence land disturbance

<u>SWPPP Cover Page</u>
For a construction activity, enter the project/site name and physical address (if available), including city (or town), state and zip code.

Enter the Construction Activity Operator's company/organization name, the Operator's name and mailing address, including city (or town), state, and zip code, telephone number, email address (if available), and a 24-hour emergency contact.

town), state, and zip code, telephone number, email address (if available), and a 24-nour emergency contact.

Enter the SWPPP preparation date.

The Construction Activity Operator identified on the cover page of the SWPPP is responsible for certifying the information contained therein. Please sign the certification in INK. Please note that state statues require the SWPPP to be signed as follows:

(1) For a corporation: by a responsible corporate officer:

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
(3) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

Section 1.0 SWPPP Documents Located Onsite & Available for Review

Enter the latitude and longitude in decimal degrees of the construction activity.

discharge is likely to be present at the project site, provide it here.

Utilize the provided checklist to ensure that the required SWPPP documents are located onsite and are available for review, if

Section 2.0 Authorized Non-Stormwater Discharges
Identify the authorized non-stormwater discharges likely to be present at the project site. If an unlisted authorized non-stormwater

Section 3.0 Pollution Prevention Awareness

Provide employees with a "walk through" of the project site and identify areas of possible pollution, erosion and sediment controls, and pollution prevention practices which are applicable to their assigned job duties. Conduct refresher meetings and perform

additional "walk throughs" on an as needed basis.

Section 4.0 Erosion & Sediment Controls
Identify the erosion and sediment controls to be implemented at the project site. For each erosion and sediment control, enter the

estimated installation date and estimated removal date. If an unlisted erosion and sediment control will be implemented at the project site, provide the applicable information here.

Section 5.0 Potential Sources of Pollution & Pollution Prevention Practices

Identify the pollutant-generating activities likely to be present at the project site; implement and maintain the corresponding pollution prevention practices. If an unlisted pollutant-generating activity is likely to be present at the project site, describe it, identify the associated pollutant(s), and provide the corresponding pollution prevention practice(s) to be implemented and maintained.

<u>Section 6.0</u> Stormwater Management Controls
Identify the stormwater management controls to be implemented at the project site, if applicable. For each stormwater management control, enter the estimated installation date. If an unlisted stormwater management control will be implemented at the project site, provide the applicable information here.

Section 7.0 Spill Prevention & Response

Most spills can be cleaned up following manufacturer specifications. The priority should be to protect all people, equipment, property, and the environment. Enter the telephone number of your local fire and police departments.

Section 8.0 Inspections & Corrective Action Log
Enter the qualified inspector's company/organization name, the inspector's name, telephone number, and qualifications. Select the applicable inspection schedule, enter the construction activity inspection date, and enter the date and rainfall amount of the last measurable storm event (if applicable). Identify if the implemented best management practices are in compliance with the SWPPP. Enter corrective actions needed; the party responsible for implementing the corrective actions, and the date corrective actions were

Section 9.0 Grading & Stabilization Activities Log

Enter the date grading activities were initiated, a description of the grading activities including location, the date grading activities

taken, if applicable. Make additional copies of the inspection and corrective action log as necessary.

Enter the date grading activities were initiated, a description of the grading activities including location, the date grading activities ceased, the date stabilization measures were initiated, and a description of the stabilization measures including location.

<u>Section 10.0</u> SWPPP Modification & Update Log
Enter the SWPPP modification date, description of the SWPPP modification/update, and the name and title of the SWPPP modification preparer, if applicable.

Arlington County SWPPP 12/2016

# 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

Oriotator J. Balallo

Christopher J. Balallo

Lic. No. 0402052323

Christopher J. Balallo Lic. No. 0402052323
11/22/2022

APPROVALS

DATE

QUALITY CONTROL ENGINEER

1/6/23

CONSTRUCTION MANAGEMENT SUPERVISOR

1/9/23

WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach 1/11/23

TRANSPORTATION DIRECTOR

Clizabeth Thurber 2/27/2023

PROJECT MANAGER

REVISIONS DATE

N PREVENTION

 $\simeq$ 

S59D
3837 26TH STREET N
RMWATER POLLUTION PR

0

DESIGNED: MM
DRAWN: MM
CHECKED: CB

PLOTTED: MARCH 1 2023

SCALE:

N/A

C035.3

# Appendix C. Water Quality Impact Assessment Data Sheet

Project Address	Date:
3837 & 3838 26th St. North	November 22, 2022
Applicant Name/Affiliation:	Applicant Contact Information (phone and email):
Christopher Balallo / Arlington County DES	703-228-3632 nnaikare@arlingtonva.us
Owner/Client Name:	Owner/Client Contact Information (phone and email):
Arlington County	
Section 1: Type of activity proposed	

Section 1. Type of activity proposed	
Activity type (check all that apply):	☐ Deck, patio, or retaining wall
☐ New construction (residential, commercial, public, etc.)	Landscaping (includes tree removal)
Alteration of non-residential structure	Utility work
□ Residential addition	□ Fence
□ Detached residential structure	Other (please describe): Existing Outfall Repair

# Section 2: Key details of the proposed activity

Complete all that apply	Complete all that apply						
Total area of disturbance on parcel (sf)	6,027 SF	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)	6,027 SF	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 SF	Does not apply to RPA parcels along Chain Bridge Road (15 percent and greater slopes are included as part of RPA)					

Complete all fie	lds	Existing condition	Proposed condition	Explanation
RPA	Left third of parcel or site	0 SF	0 SF	The <b>distance</b> (in feet) from the existing or
encroachment	Middle third of parcel or site	0 SF	0 SF	proposed structure to the designated RPA feature (edge of stream or open channel, wetland, etc.).
(ft)	Right third of parcel or site	0 SF	0 SF	Encroachments of zero (0) indicate the project will impact the stream or other RPA feature.
Total developme	nt footprint in RPA (sf)	1,361 SF	1,424 SF	The existing footprint includes the <b>area</b> of any existing structures, patios, decks, walkways, etc. Proposed foorprint is the anticipated post-project area of all structures, additions, decks, walkways, regraded area behind a retaining wall, etc.
Impervious footp	rint in RPA (sf)	1,250 SF	1,294 SF	Total <b>area</b> of impervious surfaces within the RPA (rooftops, pavement, etc.)

(OVER)

# STAFF USE ONLY

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 in 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.

# WATER QUALITY IMPACT ASSESSMENT (WQIA) NARRATIVE

IT HAS COME TO THE COUNTIES ATTENTION THAT THE EXISTING OUTFALL IS APPROACHING FAILURE AND NEEDS TO BE REPAIRED. UPON INITIAL ANALYSIS IT WAS DETERMINED THAT THE EXISTING 15" CMP IS ALSO APPROACHING FAILURE AND NEEDS TO BE REHABILITATED.

THE HIGHEST POINT OF THE PROJECT AREA IS THE CURB INLET IN THE CUL-DE-SAC OF 26TH STREET N. THE SITE IS LOCATED WITHIN THE RIXEY BRANCH WATERSHED. THE HYDROLOGIC SOIL GROUP IS 6D, THE SOIL TYPE IS "GLENELG-MANOR COMPLEX", AND THE SITE HAS STEEP SLOPES 15%-35%.

A NEW GABION WALL WILL BE INSTALLED TO HELP COMBAT EROSION ON THE EASTERN SIDE OF THE OUTFALL. THE EXISTING HEAD WALL WILL BE CONTINUED NORTH EAST TO MEET THE GABION WALL, AND CONCRETE WILL FILL THE REMAINING ERODED AREA. THE CONCRETE FILL WILL APPEAR AS A CONTINUATION OF THE EXISTING OUTFALL. A CURED IN PLACE PIPE WILL BE USED TO REHABILITATE THE EXISTING 15" CMP WHILE MAINTAINING MINIMAL DISTURBANCE TO THE EXISTING SLOPE AND RESIDENTIAL PROPERTIES. THE EXISTING ROCKS AT THE OUTFALL WILL BE REMOVED, AND A NEW RIP-RAP CHANNEL WILL BE INSTALLED. THE SITE AREA FOR THIS WATER QUALITY IMPACT ASSESSMENT IS DEFINED BY THE LIMITS OF DISTURBANCE AND THE LIMITS OF WORK.

THE CONTRACTOR WILL RESTORE DISTURBED AREAS TO THEIR ORIGINAL CONDITION, UNLESS OTHERWISE INDICATED IN THE LANDSCAPE PLAN. IN ORDER TO MAINTAIN CLEAR ZONE AND LINE OF SIGHT, THE MAJORITY OF THE VEGETATION CONSISTS OF TREES. IMPACTED TREES WILL BE REMOVED FROM THE SITE AREA, AND WILL BE REPLACED AS PER REQUIREMENTS OF ARLINGTON COUNTY TREE REPLACEMENT CRITERIA. EXISTING TREES TO REMAIN WILL REQUIRE ROOT PRUNING AND/OR STANDARD TREE PROTECTION. TREE PROTECTION, REMOVAL, AND PRUNING AS WELL AS EXISTING TREE SURVEY AND TREE REPLACEMENT TABLES ARE SHOWN ON SEDIMENT CONTROL PLAN, TREE REMOVAL AND PRUNING PLAN, AND THE PROPOSED LANDSCAPING PLAN.

EXISTING AND PROPOSED STORM SEWER WILL BE USED TO DRAIN THE STORMWATER RUNOFF. DUE TO THE 32 SQUARE FOOT INCREASE IN IMPERVIOUS AREA, THERE WILL BE A VERY MINOR INCREASE IN STORM WATER QUANTITY RESULTING FROM THIS PROJECT.

THE EROSION AND SEDIMENT CONTROL MEASURES FOR THIS PROJECT AREA IS LIMITED TO SILT FENCE WITH WIRE SUPPORT, PUMP AROUND DIVERSION WITH DEWATERING STRUCTURE, SOIL STABILIZATION BLANKETS AND MATTING, CONSTRUCTION ENTRANCE, TREE PROTECTION, AND CURB INLET PROTECTION.

CURB INLET PROTECTION: VESCH 3.07 TREE PROTECTION FENCE: DEWATERING STRUCTURE: VESCH 3.26 SILT FENCE WITH WIRE SUPPORT: VESCH 3.05 CONSTRUCTION ENTRANCE: AC MODIFIED SOIL STABILIZATION BLANKETS & MATTING VESCH 3.36

MITIGATION MEASURES
THE LIMITS OF WORK HAS BEEN DRAWN TO MINIMIZE DISTURBED AREA. A SMALL PORTION OF THE SITE AREA IS CURRENTLY COVERED IN IMPERVIOUS SURFACE, FOR WHICH THE SUBGRADE WILL NOT BE DISTURBED. SCHEDULED E&S INSPECTION AS DICTATED BY THE STORMWATER POLLUTION PREVENTION PLAN.

THE LANDSCAPE PLAN CONSERVES AS MUCH OF THE EXISTING VEGETATION AS PRACTICAL. WHERE VEGETATION IS REPLACED, THERE ARE GREATER NUMBER OF PLANTS AND MORE OF A VARIETY OF SPECIES COMPARED TO THE EXISTING CONDITION. THE CONTRACTOR IS REQUIRED TO CONTACT THE ARLINGTON COUNTY FORESTER TO SCHEDULE PRE-CONSTRUCTION INSPECTION OF TREE PROTECTION MEASURES PRIOR TO ANY WORK NEAR THE CRITICAL ROOT ZONES OF EXISTING TREES.

# REQUIRED PERMITS

• LAND DISTURBING ACTIVITY PERMIT-ARLINGTON COUNTY DES

# 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.

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

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Christopher J. Balallo Lic. No. 0402052323 11/22/2022

**APPROVALS** 

Amy Pflaum QUALITY CONTROL ENGINEER 12/19/22

DATE

CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach
TRANSPORTATION DIRECTOR

1/11/23 Clizabeth Thurber 2/27/2023

**REVISIONS** 

PROJECT MANAGER

SSMEN.

SSE N OUTFAL S59D **IMPAC** 

QUALIT ËR

DESIGNED: MM DRAWN: MM CHECKED: CB

ST

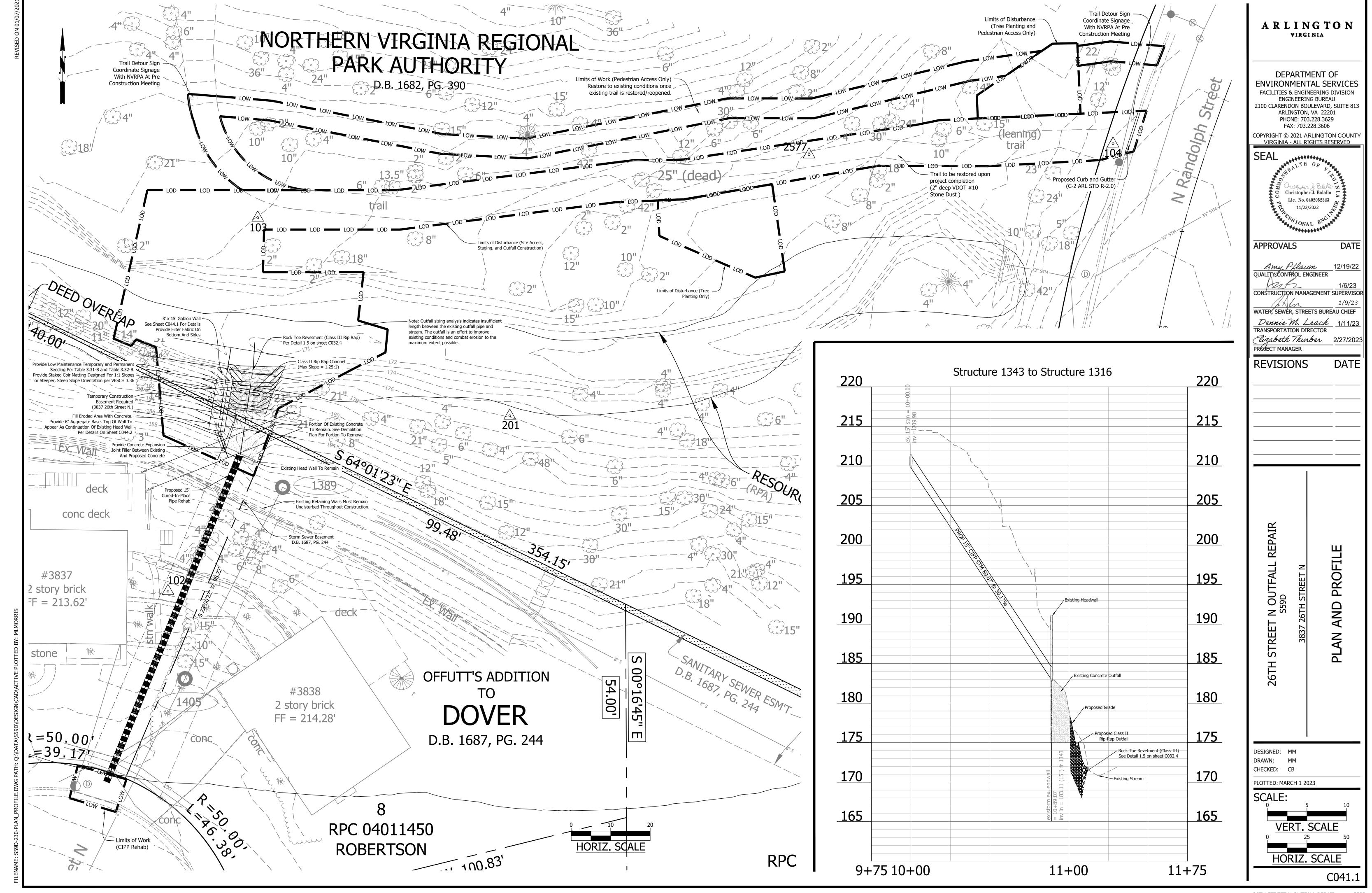
26TH

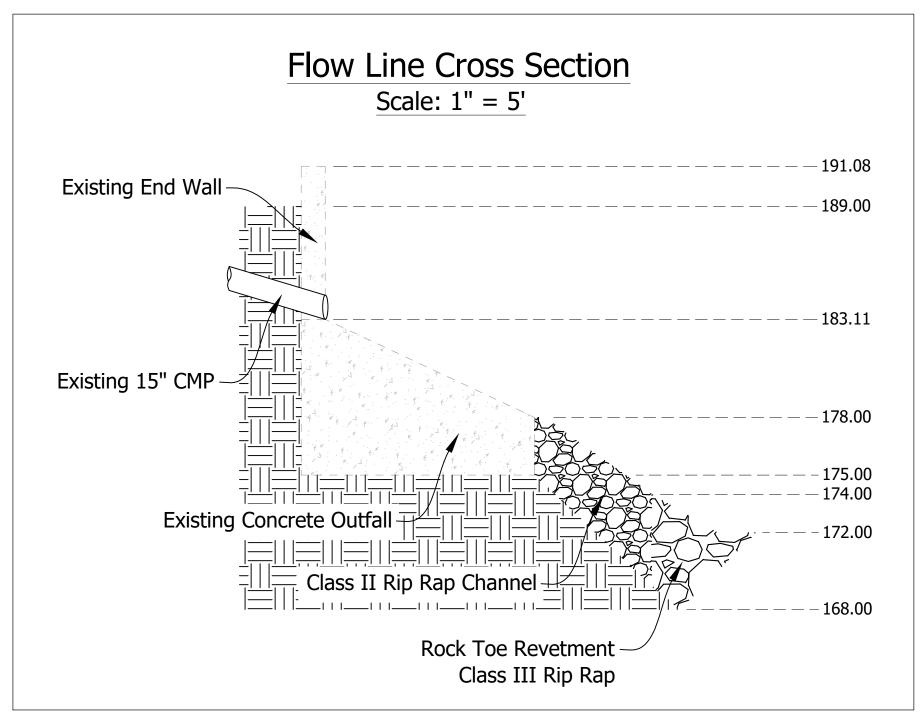
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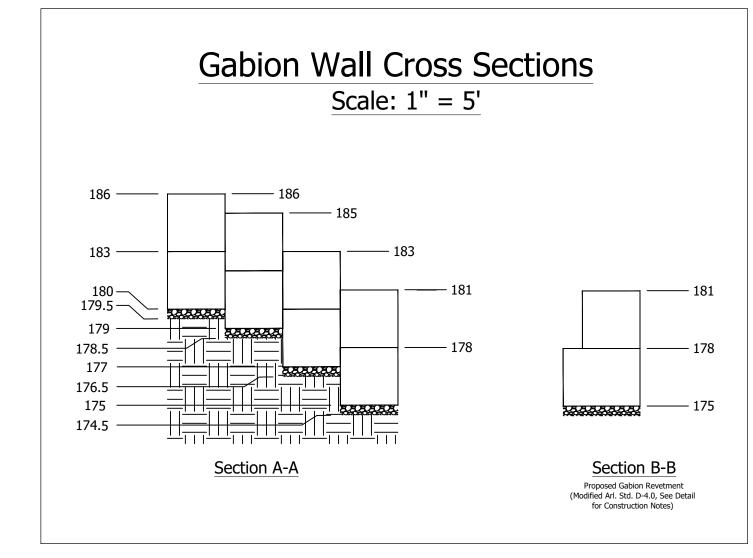
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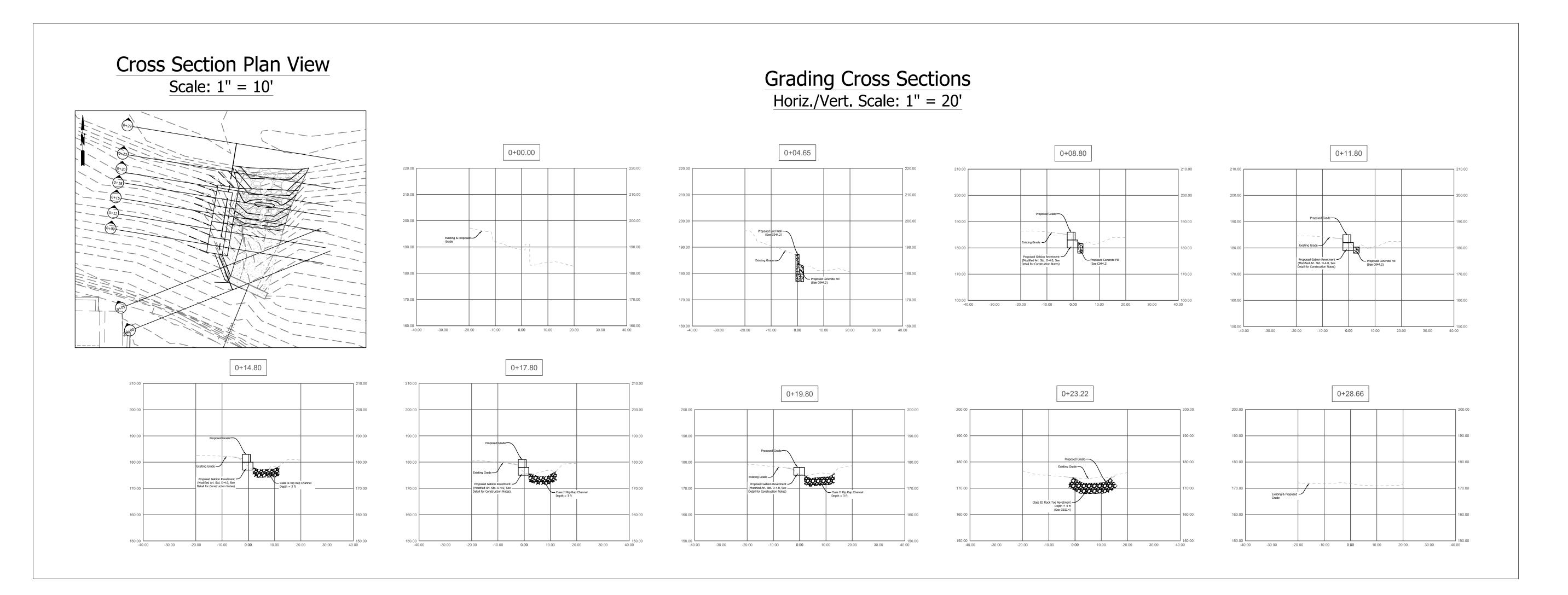
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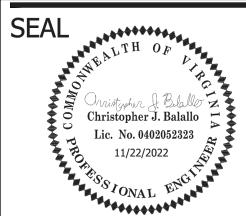




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APPROVALS DATE

Amy Pflaum QUALITY CONFROL ENGINEER 12/19/22

CONSTRUCTION MANAGEMENT SUPERVISOR

DATE

WATER, SEWER, STREETS BUREAU CHIEF

Dennis W. Leach 1/11/23
TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

REVISIONS

OUTFALL CROSS SEC AND DETAILS -

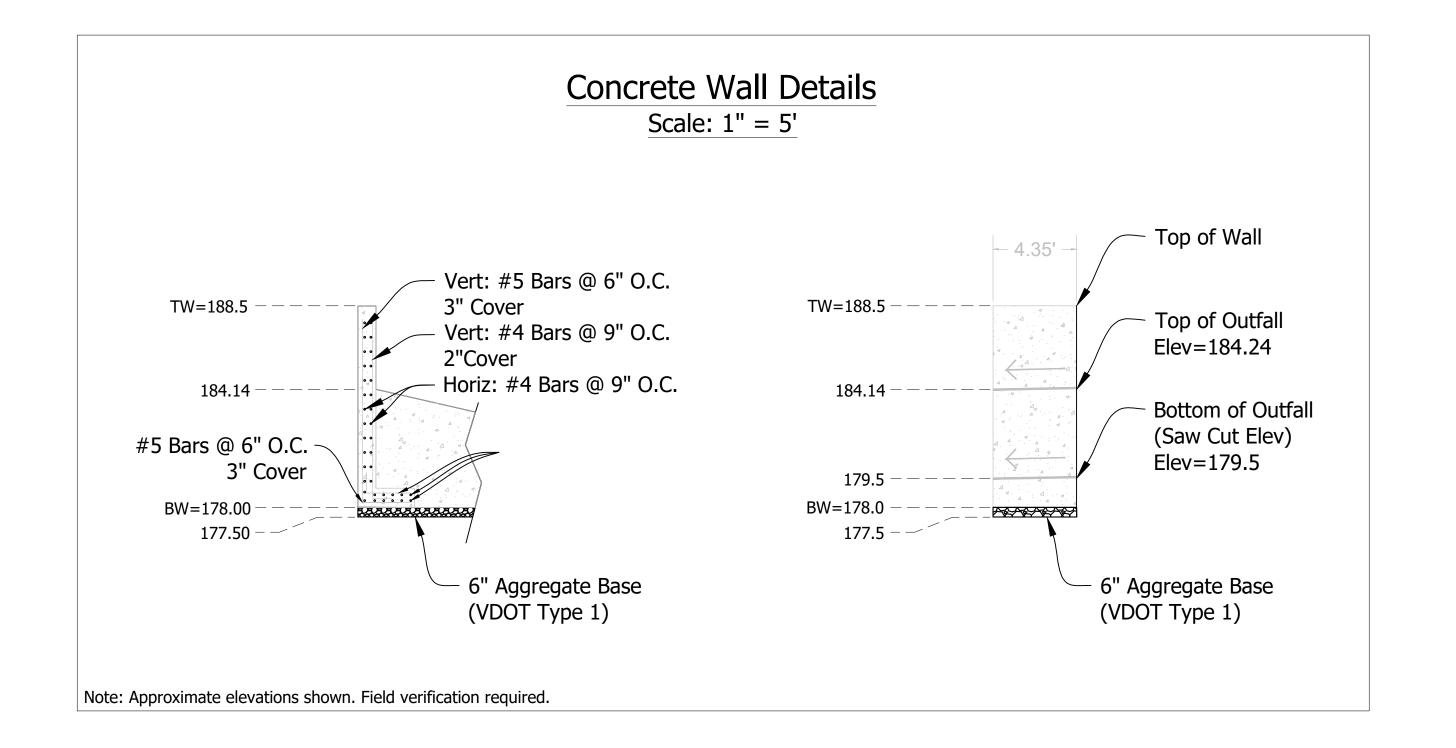
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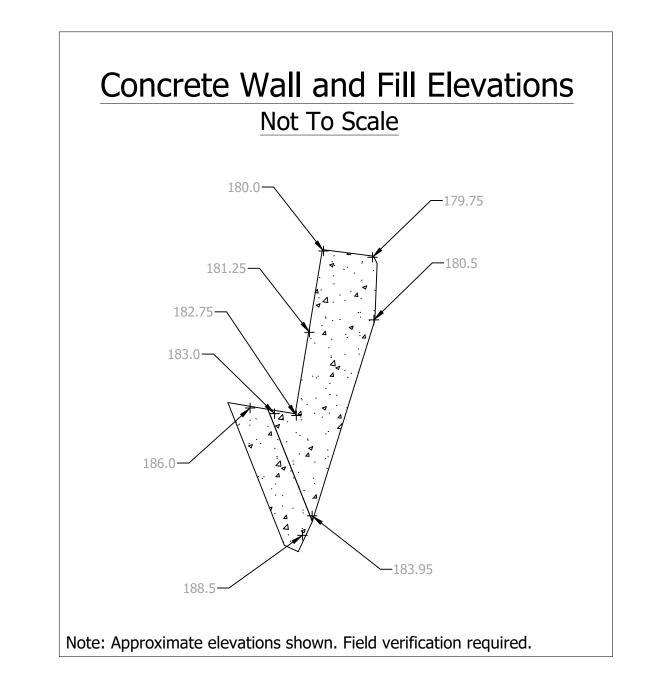
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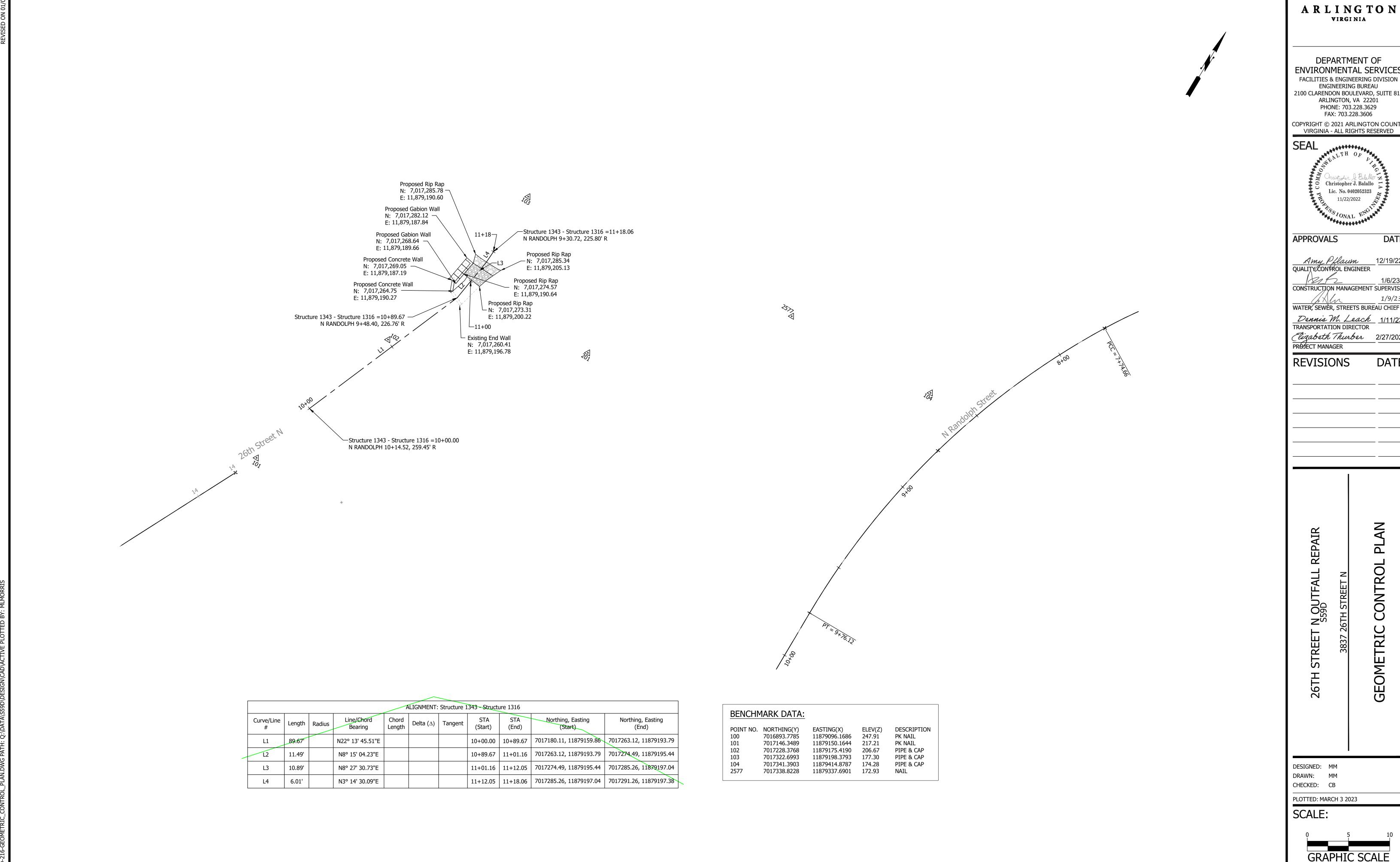
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ARLINGTON VIRGINIA DEPARTMENT OF **ENVIRONMENTAL SERVICES** FACILITIES & ENGINEERING DIVISION ENGINEERING BUREAU 2100 CLARENDON BOULEVARD, SUITE 813 ARLINGTON, VA 22201 PHONE: 703.228.3629 FAX: 703.228.3606 COPYRIGHT © 2021 ARLINGTON COUNTY VIRGINIA - ALL RIGHTS RESERVED Lic. No. 0402052323 APPROVALS DATE Amy Pflaum QUALITY CONTROL ENGINEER 12/19/22 CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF Dennis M. Leach 1/11/23
TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER **REVISIONS** DATE STREET DESIGNED: MM CHECKED: CB PLOTTED: MARCH 1 2023 SCALE: C044.2



**VIRGINIA** 

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

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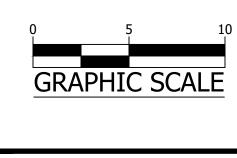
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Amy Pflaum QUALITYCONTROL ENGINEER 12/19/22

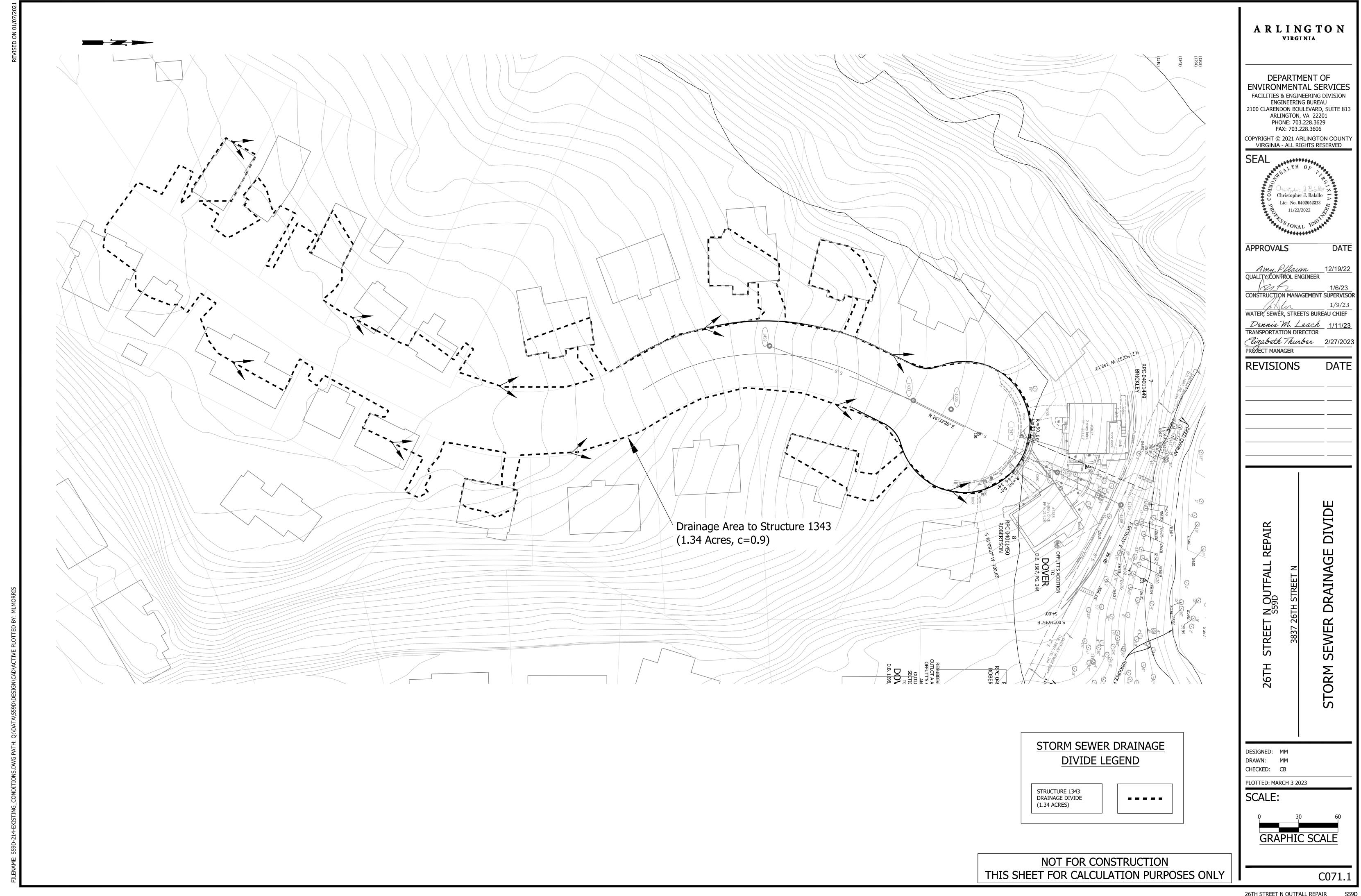
CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach 1/11/23
TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023

GEOMETRIC



C045.1



Runoff Summary Table													
Structure ID	Rim Elev	Area (ac)	С	Known CA	Q <sub>10</sub> (cfs)	Q <sub>100</sub> (cfs)	Remarks						
1343	214.61	1.340	0.900		8.19	10.97							
					0.00	0.00							
					0.00	0.00							
					0.00	0.00							
					0.00	0.00							
					0.00	0.00							
					0.00	0.00							
					0.00	0.00							

י <sub>100</sub> (in/hr	i <sub>10</sub> (in/hr)
9.10	6.79
9.10	6.79

# EXISTING 15" CMP CALCULATIONS

# ARLINGTON

							Sto	orm Dr	ain D	esign	Comp	outati	ons						
From	То	Drainage Area	Runoff Coefficient		CA		Inlet Time	Time of Conc.	Rainfall	Runoff Q		ert itions	Length	Slope	Diameter	Capacity	Velocity	Flow Time	Domarka
Point	Point	Acres	С	Incr.	Piped In	Accum.	min	min	in/hr	cfs	Upper End	Lower End	ft	%	in	cfs	fps	min	Remarks
1343	1316	1.34	0.90	1.21	0.00	1.21	5.00	5.00	6.79	8.19	210.01	183.11	89.67	30.00%	12	19.51	-	0.00	

# ARLINGTON

														St	torm I	nlet Co	omput	ations													
		Inle						Flow							Curb Inlet									Operation	Sag Inlets Only						
Numi	ber	Туре	Length (ft)	Station	Drainage Area (acres)	С	CA	i (in/hr)	Q Incr (ft³/s)	Q Carryover (ft <sup>3</sup> /s)	Q <sub>T</sub> (ft³/s)	S Gutter Slope (ft/ft)	Sx Crossslope (ft/ft)	T Spread (ft)	W (ft)	W/T	Sw (ft/ft)	Sw/Sx	E <sub>0</sub>	a (in)	S'w	Se (ft/ft)	L <sub>T</sub> Computed Length (ft)	L/L <sub>T</sub>	E (%)	Q <sub>i</sub> Intercepted (ft³/s)	Q <sub>b</sub> Carryover (ft³/s)	d (ft)	h (ft)	d/h	T Spread @ Sag (ft)
134	13 C	3-2A	8		1.34	0.90	1.206	4.00	4.82	0.00	4.824		0.02083		1.50		0.0833											0.34	0.42	0.00	11.70

### ARLINGTON VERGINIA

								Hyd	raulic (	Grade I	Line Coı	mputat	ions									
													Junction L	LOSS								
		Outlet			'	1														·	1	
		Water			'	1			ĺ			<b>'</b>	w <sup>2</sup> /2-		'			'		· '	Inlet Water	
Inlet	Upstream	Surface		, ,	1 '	Sfo		1	1			1	V <sub>i</sub> <sup>2</sup> /2g	1	Angle			1.3 H <sub>t</sub>	0.5 H <sub>t</sub>	Final H	Surface	Rim
Structure	Structure	Elev. (ft)	D <sub>o</sub> (in)	Q <sub>o</sub> (cfs)	L <sub>o</sub> (ft)	(%)	H <sub>f</sub> (Ft)	V <sub>o</sub> (ft/s)	H <sub>o</sub> (ft)	Qi	V <sub>i</sub> (ft/s)	$\mathbf{Q_iV_i}$	(ft)	H <sub>i</sub> (ft)	(°)	H <sub>∆</sub> (ft)	H <sub>t</sub> (ft)	(ft)	(ft)	(ft)	Elev. (ft)	Elev. (ft)
1316					Ου	ıtlet Pipe Dia. =	12.00	Outle	t Pipe Inv. =	183.11	0.8xDia +	+ Pipe Inv. =	183.91	Out	let WSEL =				Starti	ng WSEL =		
1343		183.91	12	8.19	89.67	5.2815%	4.74	10.43	0.51						<u>'</u>		0.51	0.66		5.39	210.01	214.61

# PROPOSED 12" CIPP CALCULATIONS

NOTE: 12" IS A CONSERVATIVE SIZE USED FOR CALCULATION PURPOSES ONLY. ACTUAL SIZE DEPENDS ON THICKNESS OF CIPP.

# ARLINGTON

							Sto	orm Dr	ain D	esign	Comp	outati	ons						
From	То	Drainage Area	Runoff Coefficient		CA		Inlet Time	Time of Conc.	Rainfall	Runoff Q	l	ert tions	Length	Slope	Diameter	Capacity	Velocity	Flow Time	Domonico
Point	Point	Acres	С	Incr.	Piped In	Accum.	min	min	in/hr	cfs	Upper End	Lower End	ft	%	in	cfs	fps	min	Remarks
1343	1316	1.34	0.90	1.21	0.00	1.21	5.00	5.00	6.79	8.19	210.01	183.11	89.67	30.00%	12	19.51	-	0.00	

# ARLINGTON

L														S	torm I	nlet Co	omput	ations													
		Ir	ılet					Flow										Curb Inle	t						Оре	eration			Sag Inlet	ts Only	
r	lumber	Туре	Length (ft)	Station	Drainage Area (acres)	С	CA	i (in/hr)	Q Incr (ft³/s)	Q Carryover (ft³/s)	Q <sub>T</sub> (ft <sup>3</sup> /s)	S Gutter Slope (ft/ft)	Sx Crossslope (ft/ft)	T Spread (ft)	W (ft)	W/T	Sw (ft/ft)	Sw/Sx	E <sub>0</sub>	a (in)	S'w	Se (ft/ft)	L <sub>T</sub> Computed Length (ft)	L/L <sub>T</sub>	I ` ′	Q <sub>i</sub> rcepted it <sup>3</sup> /s)	Q <sub>b</sub> Carryover (ft³/s)	d (ft)	h (ft)	d/h	T Spread @ Sag (ft)
	1343	CB-2A	8		1.34	0.90	1.206	4.00	4.82	0.00	4.824		0.02083		1.50		0.0833											0.34	0.42	0.00	11.70
E	ID OF TA	BLE - DO	NOT DELET	TE THIS LIN	VE.																										

### ARLINGTON VERGINIA

								Hyd	raulic	Grade	Line Co	mputat	ions									
													Junction L	oss.								
		Outlet																				
		Water											W <sup>2</sup> /2=					1 2 11	0.511		<b>Inlet Water</b>	
Inlet	Upstream	Surface				Sf <sub>o</sub>							V <sub>i</sub> <sup>2</sup> /2g		Angle			1.3 H <sub>t</sub>	0.5 H <sub>t</sub>	Final H	Surface	Rim
Structure	Structure	Elev. (ft)	D <sub>o</sub> (in)	Q <sub>o</sub> (cfs)	$L_o$ (ft)	(%)	H <sub>f</sub> (Ft)	V <sub>o</sub> (ft/s)	$H_o$ (ft)	$\mathbf{Q_{i}}$	V <sub>i</sub> (ft/s)	$\mathbf{Q_iV_i}$	(ft)	H <sub>i</sub> (ft)	(°)	H <sub>∆</sub> (ft)	H <sub>t</sub> (ft)	(ft)	(ft)	(ft)	Elev. (ft)	Elev. (ft)
1316					Οι	ıtlet Pipe Dia. =	12.00	Outle	t Pipe Inv. =	183.11	0.8xDia +	- Pipe Inv. =	183.91	Out	let WSEL =				Starti	ng WSEL =	183.91	
1343		183.91	12	8.19	89.67	5.2815%	4.74	10.43	0.51			•					0.51	0.66		5.39	210.01	214.61
<b>END OF TABLE</b>	- DO NOT DEL	ETE THIS LIN	E																			

# **Channel Report**

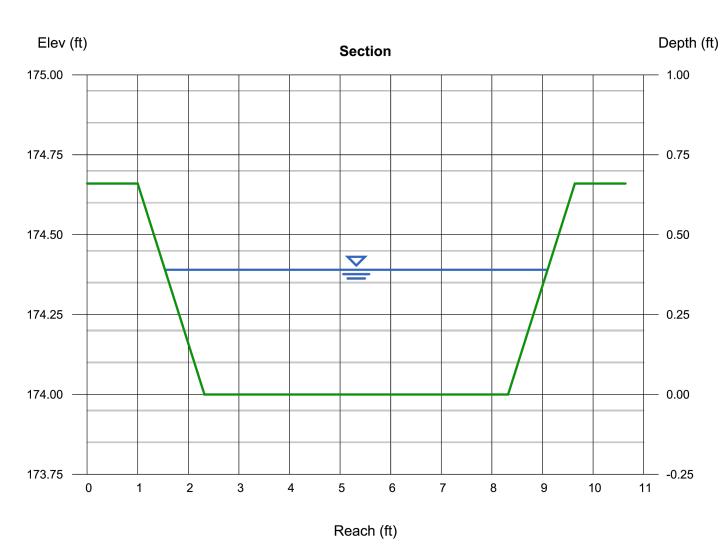
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Monday, May 9 2022

# <Name>

Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 0.39
Side Slopes (z:1)	= 2.00, 2.00	Q (cfs)	= 35.38
Total Depth (ft)	= 0.66	Area (sqft)	= 2.64
Invert Elev (ft)	= 174.00	Velocity (ft/s)	= 13.38
Slope (%)	= 71.44	Wetted Perim (ft)	= 7.74
N-Value	= 0.044	Crit Depth, Yc (ft)	= 0.66
		Top Width (ft)	= 7.56
Calculations		EGL (ft)	= 3.17

Compute by: Known Q Known Q (cfs) = 35.38



Notes:

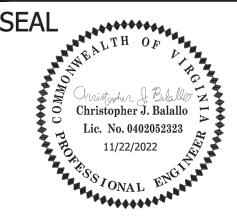
- Maximum pipe capacity used to demonstrate channel adequacy.
- Portion of channel with the least capacity was modeled.

- Manning's n for Class II rip rap was used. Class III Rock Toe Revetment provided.

ARLINGTON
VIRGINIA

DEPARTMENT OF
ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
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APPROVALS DATE

Amy Pflaum 12/19/2
QUALITY CONTROL ENGINEER

CONSTRUCTION MANAGEMENT SUPERVISOR

1/9/23

WATER, SEWER, STREETS BUREAU CHIEF

TRANSPORTATION DIRECTOR

Clizabeth Thurber 2/27/2023

PROJECT MANAGER

REVISIONS DA

S59D 6TH STREET N

SH2 26TH S

DESIGNED: MM
DRAWN: MM

DESIGNED: MM

DRAWN: MM

CHECKED: CB

PLOTTED: MARCH 3 2023

SCALE:

JCALL.

<u>N/A</u>

C075.1

		NOVA PAI	RKS - TREE REPLACE	MENT (Potor	nac Over	look Regional Pa	ark)	
TREE #	DBH	COMMON NAME	LATIN NAME	CONDITION	SPECIES	REPLACEMENT	REPLACEMENT	NOTES
INCC #	ВВП	COMMON NAME	LATIN NAIVIE	CONDITION	RATING	VALUE	QUANTITY	NOTES
2569	14	Red Maple	Acer rubrum	0.40	0.95	5.32	5	
2570	7.5	Red Maple	Acer rubrum	0.20	0.95	1.43	1	
2571	6	Red Maple	Acer rubrum	0.60	0.95	3.42	3	
2586	13	Silver Maple	Acer saccharinum	0.00	0.70	0.00	1	Dead
		·	-			·		

_		
	RPA SEED MIX	(
AREA#	SQUARE FOOTAGE	NOTES
1	1087	
2	353	055 554
3	397	SEE RPA SEED MIX
4	55	SPECS
5	383	00
6	202	
	2,477	

Percent of Mix (%)	Latin Name	Common Name
20	Lolium multiflorum	Annual rye
30	Elymus virginicus	Virginia wild rye
25	Panicum clandestinum	Deer-tongue grass
15	Elymus riparius	Riverbank wild rye
5	Elymus hystrix	Bottlebrush grass
2	Chamaecrista fasciculata	Partridge pea
1	Solidago rugosa	Rough-stemmed goldenrod
1	Asclepias syriaca	Common milkweed
1	Euthamia graminifolia	Grass-leaved goldenrod

# 26th STREET OUTFALL REPAIR (Potomac Overlook Regional Park)

COMMON NAME QUANTITY SIZE TYPE SPECIES NAME B&B AR ACER RUBRUM RED MAPLE 1 2-2.5" CAL SWEET BAY MAGNOLIA MV MAGNOLIA VIRGINIANA 1 2-2.5" CAL B&B Multi-trunked IO ILEX OPACA AMERICAN HOLLY 2 2-2.5" CAL PO PLATANUS OCCIDENTALIS AMERICAN SYCAMORE 1 2-2.5" CAL QA QUERCUS ALBA WHITE OAK 1 2-2.5" CAL QC QUERCUS COCCINEA SCARLET OAK 1 2-2.5" CAL B&B QR QUERCUS RUBRA 1 2-2.5" CAL B&B 8

COMMON NAME | QUANTITY | SIZE

3 GAL

B&B

2.00

6 3 GAL

SHRUBS - 3 shrubs are equivalent to 1 tree

CO CEPHALANTUS OCCIDENTALIS

SPECIES NAME

RP RHODODENDRON PERICLYMENOIDES PINXTERBLOOM AZALEA

HAMAMELIS VIRGINIANA	WITCH HAZEL	3	3 GAL	B&B	1.00
VIBURNUM ACERIFOLIUM	MAPLE-LEAF VIBURNUM	3	3 GAL	B&B	1.00
		19			6.33
ES - 10 live stakes are equivalent to 1 tree					
SPECIES NAME	COMMON NAME	QUANTITY	SIZE	TYPE	Equals x of Trees
SALIX NIGRA	BLACK WILLOW	30	1"	LIVE STAKES	3
SALIX NIGRA	BLACK WILLOW	13	1"	LIVE STAKES	1.3
		43			4.3
					·
	VIBURNUM ACERIFOLIUM  ES - 10 live stakes are equivalent to 1 tree  SPECIES NAME  SALIX NIGRA	VIBURNUM ACERIFOLIUM  MAPLE-LEAF VIBURNUM  ES - 10 live stakes are equivalent to 1 tree  SPECIES NAME  SALIX NIGRA  BLACK WILLOW	VIBURNUM ACERIFOLIUM         MAPLE-LEAF VIBURNUM         3           ES - 10 live stakes are equivalent to 1 tree         COMMON NAME         QUANTITY           SALIX NIGRA         BLACK WILLOW         30           SALIX NIGRA         BLACK WILLOW         13	VIBURNUM ACERIFOLIUM         MAPLE-LEAF VIBURNUM         3         3 GAL           ES - 10 live stakes are equivalent to 1 tree         COMMON NAME         QUANTITY         SIZE           SALIX NIGRA         BLACK WILLOW         30         1"           SALIX NIGRA         BLACK WILLOW         13         1"	VIBURNUM ACERIFOLIUM         MAPLE-LEAF VIBURNUM         3         3 GAL         B&B           ES - 10 live stakes are equivalent to 1 tree           SPECIES NAME         COMMON NAME         QUANTITY         SIZE         TYPE           SALIX NIGRA         BLACK WILLOW         30         1"         LIVE STAKES           SALIX NIGRA         BLACK WILLOW         13         1"         LIVE STAKES

BUTTONBUSH

NOTE: EVERY 3 SHRUBS ARE EQUIVALENT TO 1 TREE. EVERY 10 LIVE STAKES ARE EQUIVALENT TO 1 TREE

# TREE PLANTING

- PLANTS SHALL BE FURNISHED AND INSTALLED AS INDICATED ON THE LANDSCAPE PLAN.
   PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, AND COMPLY WITH MOST RECENT ANSI Z60.1 STANDARDS.
- 3. PLANTS SHALL BE PLANTED ON THE DAY OF DELIVERY. IF THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE-DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD SHALL BE REJECTED. ALL PLANTS KEPT ON SITE FOR ANY PERIOD SHOULD BE WATERED AND
- 4. NO STAKES SHALL BE USED TO STABILIZE TREES, UNLESS DIRECTED BY THE ARLINGTON COUNTY URBAN FORESTER.
- 5. TREES PLANTED SHALL RECEIVE A 3 INCH THICK LAYER OF SHREDDED HARDWOOD MULCH, IN A 6 FOOT RING SURROUNDING THE TREE, WITH A 6 INCH CLEAR AREA NEAR THE TRUNK.
- 6. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY.
- 7. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOP SOIL THAT IS IN MUDDY OR FROZEN CONDITION. TREES AND SHRUBS SHALL BE INSTALLED BETWEEN SEPTEMBER 15TH AND DECEMBER 15TH OR BETWEEN MARCH 15TH AND JUNE 15TH. CONTACT THE ARLINGTON COUNTY URBAN FORESTER TO OBTAIN A DEFERRAL OR APPROVAL FOR PLANTING OUT OF SEASON.
- 8. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED WITHIN TWO FEET OF A SIDEWALK, 5 FEET FROM A FENCE, 10 FEET FROM A BUILDING, OR 15 FEET FROM OVERHEAD UTILITY LINES.
- 9. TREES AND SHRUBS SHALL BE PLANTED IN HOLES TWO TO THREE TIMES AS WIDE AND TO THE DEPTH OF THE ROOT BALL.
- 10. PLANTS SHALL BE PLANTED IN HEALTHY, UNCOMPACTED SOIL. SEE THE PLANTING DETAIL FOR SOIL SPECIFICATIONS.
- 11. SET ALL PLANTS PLUMB AND STRAIGHT AT SUCH LEVEL THAT NORMAL OR NATURAL RELATIONSHIP BETWEEN THE PLANT AND THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE THE PLANT IN THE CENTER OF THE PIT.
- 12. INJURED ROOTS SHALL BE PRUNED TO CLEAN ENDS BEFORE PLANTING WITH CLEAN, SHARP TOOLS. THE LEADER OF TREES SHALL NOT BE CUT BACK.
- 13. AT THE END OF THE PROJECT, PRESERVED AND PLANTED TREES MUST BE INSPECTED AND APPROVED BY AN ARLINGTON COUNTY URBAN FORESTER.
- 14. ROOT PRUNE BY HAND AROUND GABION EXCAVATION TO MINIMIZE IMPACT TO TREES. ROOT PRUNING MUST BE COORDINATED WITH THE ARLINGTON COUNTY URBAN FORESTER AT THE PRE CONSTRUCTION MEETING.
- 15. ALL NEW PLANTING AREAS MUST BE WATERED FOR TWO YEARS USING WATER BLADDERS OR EQUIVALENT PRACTICE.
- EQUIVALENT PRACTICE MUST BE APPROVED BY THE DEPARTMENT OF PARKS AND RECREATION'S URBAN FORESTER.
- 16. ALL PLANTINGS MUST COME WITH A 1-YEAR WARRANTY.

CARED FOR USING ANSI A300 STANDARDS.

ARLINGTON
VIRGINIA

DEPARTMENT OF
ENVIRONMENTAL SERVICES
FACILITIES & ENGINEERING DIVISION
ENGINEERING BUREAU
2100 CLARENDON BOULEVARD, SUITE 813
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Christopher J. Balallo Lic. No. 0402052323
11/22/2022

APPROVALS

Amy Pflaum 12/19/22 QUALITY CONTROL ENGINEER

DATE

CONSTRUCTION MANAGEMENT SUPERVISOR

1/9/23

WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach 1/11/23
TRANSPORTATION DIRECTOR
Clizabeth Thurber 2/27/2023
PROJECT MANAGER

REVISIONS

3837 26TH STREET N

AND

DESIGNED: AG DRAWN: AG

CHECKED: CB

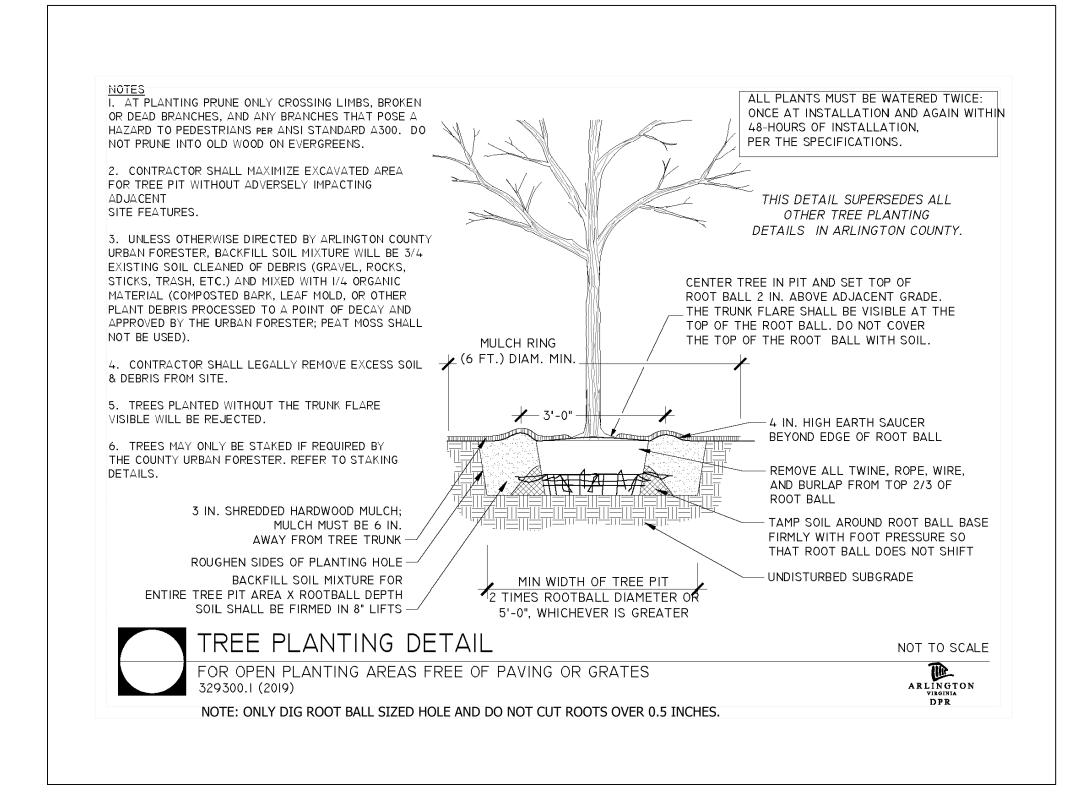
PLOTTED: MARCH 3 2023

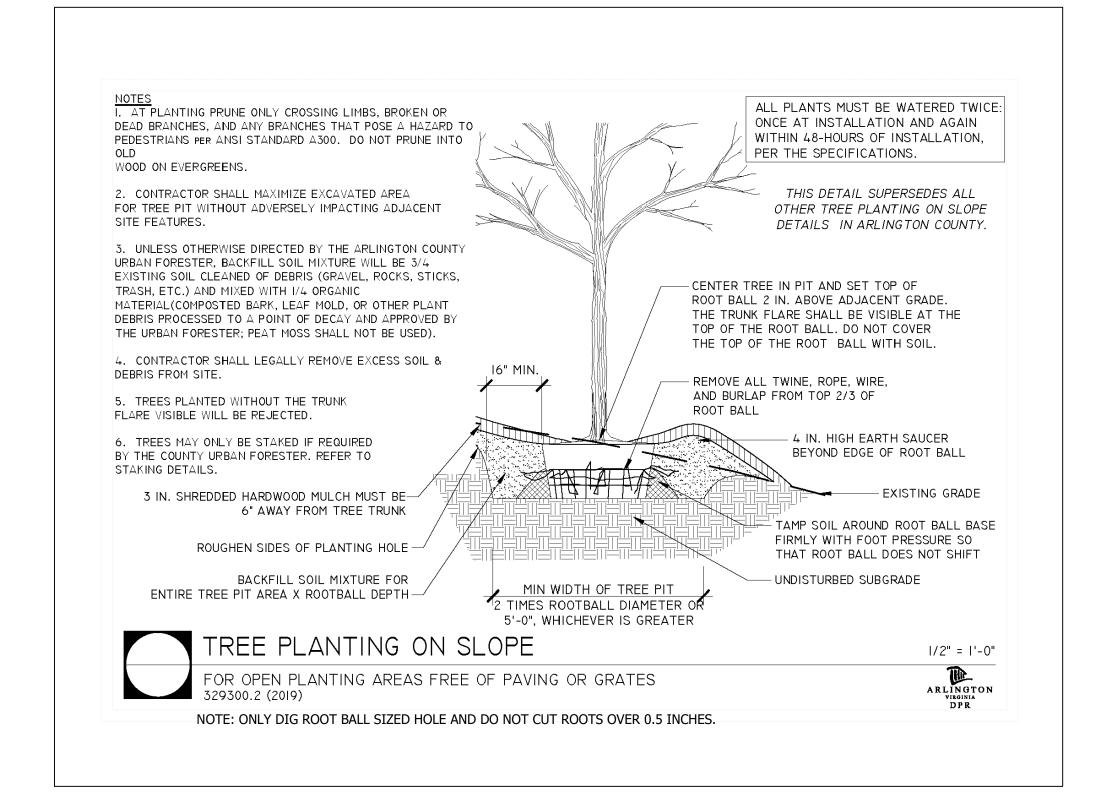
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GRAPHIC SCALE

C091.2

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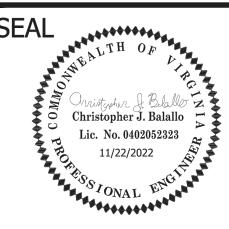




ARLINGTON VIRGINIA

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

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**APPROVALS** 

Amy Pflaum QUALITY/CONTROL ENGINEER 12/19/22

DATE

CONSTRUCTION MANAGEMENT SUPERVISOR WATER, SEWER, STREETS BUREAU CHIEF

Dennis M. Leach 1/11/23 TRANSPORTATION DIRECTOR Clizabeth Thurber 2/27/2023 PROJECT MANAGER

**REVISIONS** 

OUTFALL 559D **Z** 30

ANDSCAPING

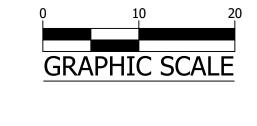
DESIGNED: MM DRAWN: MM CHECKED: CB

STREET

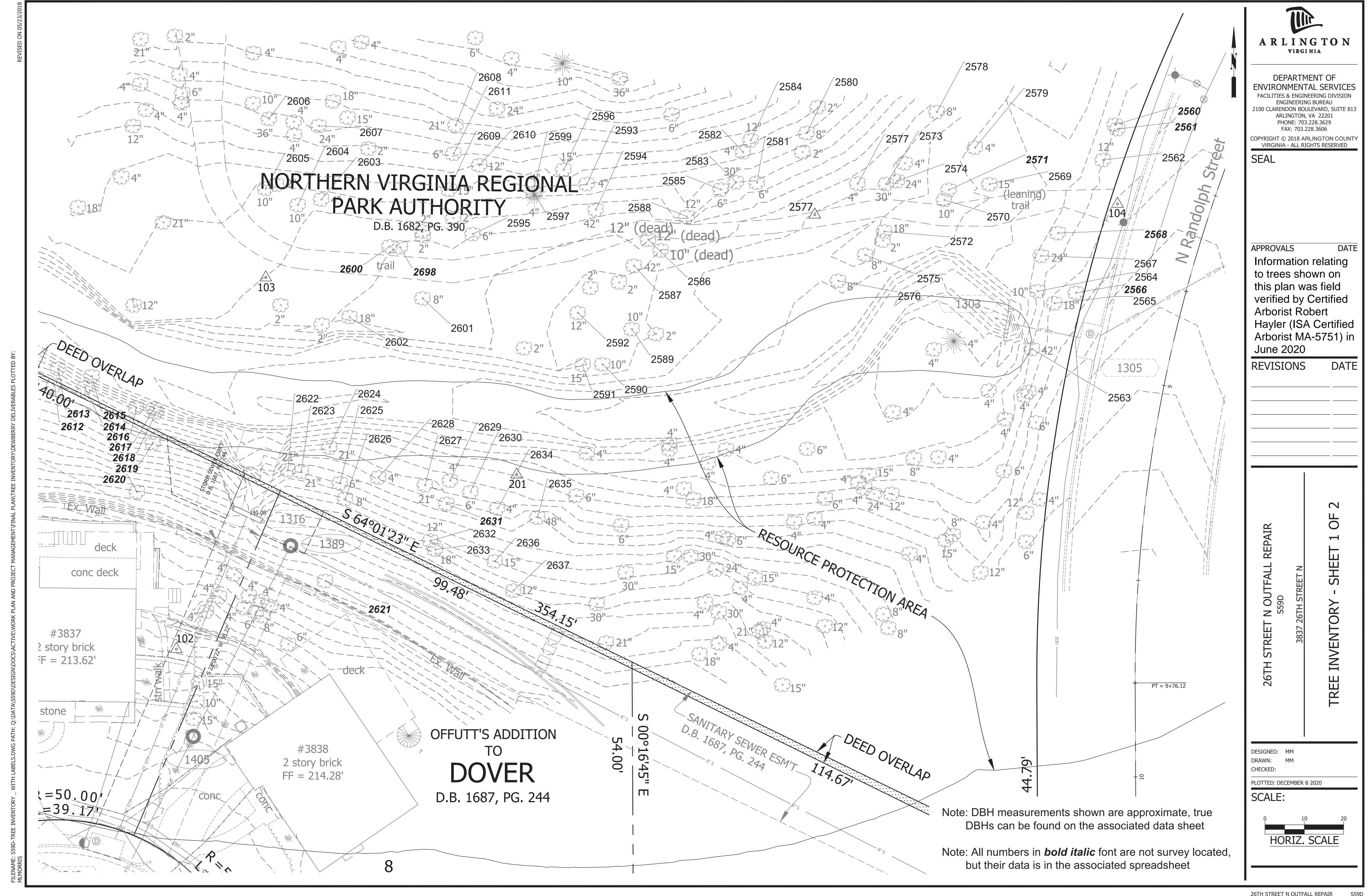
26TH

PLOTTED: MARCH 3 2023

SCALE:



C092.1



Pignut Hickory

Carya glabra

vey Conducted	. 0/ 13/ 2020									
ree Number	DBH (inches)	Tree Species (common name)	Tree Species (scientific name)	Tree Height (ft)	Canopy Radius (ft)	Condition Rating (	1- Priority for Preservatio Rating (1-4)	Notes of defects/issues	CRZ (sf)	CRZ Disturbed (%
2560	22	Yellow Poplar	Liriodendron tulipifera	60	25	5	2		1521	25%
2561	7	Yellow Poplar	Liriodendron tulipifera	35	8	4	1		154	N/A
2562	5	Elm sp.	Ulmus sp.	22	8	5	2 4		79 2290	50% N/A
2563 2564	6	Sycamore  Red Maple	Platanus occidentalis  Acer rubrum	70 25	25 8	5 4	2		113	N/A
2565	8	Red Maple	Acer rubrum	25	8	4	2		201	N/A
2566	5	Eastern Redbud	Cercis canadensis	15	3	2	1		79	N/A
2567	6	Red Maple	Acer rubrum	35	8	4	2		113	25%
2568	23	Yellow Poplar	Liriodendron tulipifera	85	20	4	2	Leaning	1662 616	35% N/A
2569 2570	7.5	Red Maple  Red Maple	Acer rubrum  Acer rubrum	30 20	10 5	2 1	1	Leaning	177	N/A
2571	6	Red Maple	Acer rubrum	33	15	3	2		113	N/A
2572	14	Yellow Poplar	Liriodendron tulipifera	70	10	4	2		616	35%
2573	22	Yellow Poplar	Liriodendron tulipifera	80	8	4	2		1521	25%
2574	26	Yellow Poplar	Liriodendron tulipifera	85	15	4	2		2124	25%
2575 2576	7	Red Maple	Acer rubrum  Acer rubrum	36 23	6	4 3	2 2		154 154	30% N/A
2576	3.5	Red Maple Pignut Hickory	Carya glabra	35	8	3 5	2		38	N/A
2578	22	White Oak	Quercus alba	100	16	5	3		1521	N/A
2579	6	Pignut Hickory	Carya glabra	40	5	4	2		113	N/A
2580	11	Red Maple	Acer rubrum	30	7	3	2		380	N/A
2581	4	Pin Cherry	Prunus pensylvanica	20	6	5	3		50 1810	N/A N/A
2582 2583	24 5	Silver Maple Pin Cherry	Acer saccharinum  Prunus pensylvanica	120 25	12 8	4	2		79	30%
2584	32	Red Oak	Quercus rubra	125	25	5	4		3217	N/A
2585	12	Yellow Poplar	Liriodendron tulipifera	40	6	4	1		452	N/A
2586	13	Silver Maple	Acer saccharinum	25	0	1	1	Dead	531	N/A
2587	30	Yellow Poplar	Liriodendron tulipifera	90	25	5	3		2827	25%
2588 2589	13	Yellow Poplar Red Maple	Liriodendron tulipifera Acer rubrum	75 42	30 7	5 4	3 2		5542 531	45% N/A
2599	11	Red Maple	Acer rubrum  Acer rubrum	30	10	1	1	Dying	380	N/A
2591	12	Red Maple	Acer rubrum	55	18	4	2		452	N/A
2592	12	Red Maple	Acer rubrum	40	12	5	2		452	< 5%
2593	14	Yellow Poplar	Liriodendron tulipifera	70	15	3	2		616	N/A
2594	3	Pin Cherry	Prunus pensylvanica	15	6	4	1 1	Dying	28 64	35%
2595 2596	4.5	Pin Cherry Yellow Poplar	Prunus pensylvanica Liriodendron tulipifera	20 80	15 12	4	2	Dying	1257	N/A
2597	21	Yellow Poplar	Liriodendron tulipifera	80	9	3	1		1385	N/A
2598	13.5	Red Maple	Acer rubrum	40	10	4	1		573	40%
2599	18	Silver Maple	Acer saccharinum	50	0	1	1	Dead	1018	N/A
2600	6	Pin Cherry	Prunus pensylvanica	35	8	5	2		113 154	30%
2601 2602	7 17	Red Maple  Black Locust	Acer rubrum Robinia pseudoacacia	45 75	12	5 2	2	Covered in Poison Ivy	908	50%
2603	10	Yellow Poplar	Liriodendron tulipifera	40	7	3	2	,	314	N/A
2604	3	American Beech	Fagus grandifolia	20	6	5	2		28	N/A
2605	13	Yellow Poplar	Liriodendron tulipifera	65	10	4	2		531	N/A
2606	3	Pin Cherry	Prunus pensylvanica	20	2	4	1		28	< 5%
2607	37	Yellow Poplar	Liriodendron tulipifera	130	15	5	3		4301 2290	N/A N/A
2608 2609	27	Yellow Poplar Yellow Poplar	Liriodendron tulipifera Liriodendron tulipifera	11 11	15 15	4	3		1810	< 5%
2610	14	Yellow Poplar	Liriodendron tulipifera	100	12	4	2		616	N/A
2611	4.5	Red Maple	Acer rubrum	22	7	4	1		64	N/A
2612	30	Yellow Poplar	Liriodendron tulipifera	75	30	4	3		2827	5%
2613	12	Pignut Hickory	Carya glabra	40	5	3	2 2		452 380	N/A < 5%
2614 2615	20	Yellow Poplar Yellow Poplar	Liriodendron tulipifera Liriodendron tulipifera	60	12 8	4 2	2	Tree is leaning	1257	15%
2616	14	Yellow Poplar	Liriodendron tulipifera	90	20	4	2		616	35%
2617	31	Yellow Poplar	Liriodendron tulipifera	25	0	1	1	Dead	3019	50%
2618	6	Pignut Hickory	Carya glabra	35	6	4	1		113	40%
2619	14	Pignut Hickory	Carya glabra	65	8	4	2		616	40%
2620	3	Red Oak	Quercus rubra	10	10	5	2		28 452	N/A N/A
2621 2622	12 17	Norway Spruce  Red Oak	Picea abies Quercus rubra	50 80	10	4 4	3		908	55%
2623	21	Red Oak	Quercus rubra	80	14	4	3		1385	50%
2624	18	Pignut Hickory	Carya glabra	100	15	4	3		1018	50%
2625	5	American Beech	Fagus grandifolia	40	15	4	1		79	N/A
2626	6	Red Maple	Acer rubrum	37	8	4	1		50 50	N/A
2627	3	American Beech	Fagus grandifolia	25	10	4	1		28	N/A N/A
2628 2629	3 17	Pin Cherry Pignut Hickory	Prunus pensylvanica Carya glabra	20 80	20	4 4	3		908	N/A
2630	3	American Beech	Fagus grandifolia	12	5	5	2		28	N/A
2631	5	Pignut Hickory	Carya glabra	35	7	4	2		79	N/A
2632	11	Pignut Hickory	Carya glabra	60	13	3	2		380	N/A
2633	18	American Beech	Fagus grandifolia	75	10	5	3		1018	N/A
2634	4.5	Pin Cherry	Prunus pensylvanica	35	6	5	2		5281	N/A N/A
2635 2636	14	Red Oak Pignut Hickory	Quercus rubra Carya glabra	90 85	30 12	4 5	3		616	N/A
<b>2030</b>	1 14	rigitut MickofV	cui yu yiubi ü	ا ده ا	14	Э	1 3	1		1

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SEAL

APPROVALS DATE Information relating to trees shown on this plan was field verified by Certified Arborist Robert Hayler (ISA Certified Arborist MA-5751) in June 2020 REVISIONS DATE

N OUTFALL I

DESIGNED: MM DRAWN: MM CHECKED:

PLOTTED: JANUARY 27 2022

SCALE:

