PROJECT DESCRIPTION

The proposed project includes the restoration of approximately 100 linear feet of stream bed and banks downstream of an existing 36 inch reinforced concrete pipe (RCP) outfall.

EXISTING CONDITIONS

Flow exiting the existing 36" RCP has undermined the concrete outfall apron, removed soil, and created a large scour hole. The existing outfall is directed towards the existing outside bank and has begun to undermine the toe of slope. The stream channel appears stable downstream of the project location where bank height decreases.

Construction access to the site will most likely occur from Raleigh Avenue via Holmes Run Park property. Based on the preliminary concept, the approximate limits of disturbance (LOD) are 0.2 acres. It should be noted this is approximate and will require revision once a survey is completed. Wood staff identified 3 headcuts downstream of the proposed project location. These headcuts are outside the scope of this project, however they have been shown on this plan for reference.
In addition to the outfalls/stream degradations identified above, Wood staff identified three headcuts in the stream downstream of the proposed project area. See inset below for approximate locations of the headcuts.

**PHOTO 1** PHOTO 2
PHOTO 3 PHOTO 4
PHOTO 5 PHOTO 6

**LEGEND**
- LOCATION AND PHOTO DIRECTION
- EXISTING STREAM CENTRLINE
- PROPERTY LINE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD ELECTRIC

**EXISTING CONDITIONS - PHOTO LOCATION MAP**

**EXISTING CONDITIONS - PHOTO S**

**NOT FOR CONSTRUCTION**

---

**CITY OF ALEXANDRIA**
301 WASHINGTON ST
ALEXANDRIA, VA 22314

**PHASE 3 ASSESSMENTS**
CONCEPTUAL OUTFALL RESTORATION
VOLUMES RUN OUTFALL #000166

**HEADCUT #1**
**HEADCUT #2**
**HEADCUT #3**
PHASE III ASSESSMENTS
CONCEPTUAL OUTFALL RESTORATION
HOLMES RUN OUTFALL #000166

NOTE:
Concept layout is preliminary and based on field reconnaissance and the City of Alexandria's GIS topographic data. As such, the number of structures and planimetric layout is subject to change and will be refined upon completion of a field survey.

1 inch = 10 feet

Arm inside bank with toe wood
Riffle with log rollers (typ.)
Proposed thalweg
Vegetated bench

Log vane (typ.)

Replace structure and re-align outfall
Create plunge pool
Re-grade banks and stabilize with vegetation

8 LF of 36" RCP
DEPENDING ON THE AVAILABILITY OF WOOD MATERIAL AND DROUGHT PRONE NATURE OF THE OUTFALL, ROCK TOE MAY BE REQUIRED FOR SUBSTITUTION OF THE TOE WOOD.

RESTORE DISTURBED AREA WITH SALVAGED EARTH, SEEDING, MULCHING, AND PLANTINGS.

FINISH GRADE WITH LIVE STAKES & EROSION CONTROL FABRIC PER TYPICAL DETAILS.

ROOT WAD AND STEM SIZE.

NORMAL FLOW ___ FT

SOD MATS

EXCAVATION ___ FT

LIMITS

NON-WOVEN GEOTEXTILE TOE WOOD (SEE NOTE 2)

BACKFILL FOUNDATION LOG (8 TO 24 INCHES TOP OF STRUCTURE)

ROOT WAD AND STEM SIZE.

7. SEED, MULCH, AND RESTORE DISTURBED AREAS TO PRE-EXISTING CONDITIONS OR BETTER. PROVIDE PLANTINGS AS REQUIRED BY PLANTING

1. FILTER FABRIC SHALL BE PLACED ON THE UPSTREAM SIDE OF THE STRUCTURE TO PREVENT WASHOUT OF SEDIMENT THROUGH BOULDER GAPS.

2. A TRENCH SHALL BE DUG IN SUCH A MANNER THAT THE ANCHOR ROCK, TYPICAL (FOR QUANTITIES, ASSUME REPRESENTATIVE).

4. HEADER AND FOOTER LOGS SHALL BE A MINIMUM OF 18-24 IN. IN DIAMETER FROM THE TOP OF THE LOG. THE NAILS SHALL THUMB SHALL BE USED TO PLACE BOULDERS AND LOGS WITH THE SUPERVISION OF THE ENGINEER.

6. EXCAVATE POOL TO A MINIMUM DEPTH OF 3 FEET BELOW EXISTING STRUCTURE.

8. SELECT GRAVE MATERIAL CAN BE HARVESTED FROM SPOIL PILES ON SITE BUT OF THE CHANNEL AND SHALL BE PLACED THE ENTIRE LENGTH OF THE HEADER LOG PRIOR TO BACKFILLING THE TRENCH.


12. SELECT GRAVE MATERIAL CAN BE HARVESTED FROM SPOIL PILES ON SITE BUT.

TOE WOOD STRUCTURE NOTES:

1. EXCAVATION TRENCH SHALL BE DUG IN SUCH A MANNER THAT THE ANCHOR ROCK, TYPICAL (FOR QUANTITIES, ASSUME REPRESENTATIVE).

2. MIX LAYERS OF TOPSOIL ON TOP OF COARSE WOODY DEBRIS.

3. FOR THE BOTTOM LAYER INSTALL LIVE STAKES ON TOP OF COARSE WOODY DEBRIS AND COVER WITH A LAYER OF TOPSOIL. THIS SHALL BE 8 FT DISTANT FROM THE VANE AND THE BOTTOM OF TRENCH.

4. WOODY DEBRIS SHALL NOT EXTEND INTO THE CHANNEL MORE THAN INCHES.

5. ON STRAIGHT POOL SECTIONS, THE WOOD SHALL NOT EXTEND FROM END OF VANE AHNS TO HEAD OF ARP.
RIFFLE STRUCTURE DETAILS

PHASE 2 ASSESSMENTS
CONCEPTUAL OUTFALL RESTORATION
HOLMES RUN OUTFALL #000166

CITY OF ALEXANDRIA
Avenue of the Arts

WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4795 Meadow Wood Lane, Suite 310 East
Chantilly, VA 20151-1678
Tel. (703) 488-3700
www.woodplc.com

NOT FOR CONSTRUCTION