City of Rockville
Rockville, Maryland

INVITATION FOR BIDS #25-25

Croydon Creek & Calvin Park Tributary Stream Restoration Project

Bids Due by 2:00 P.M. EST
August 19, 2025

ISSUED BY:

TJ Ellison, CPPB
Principal Buyer
Procurement Department
City of Rockville, City Hall
111 Maryland Avenue, 1st Floor
Rockville, Maryland 20850
Phone: (240) 314-8436
Fax: (240) 314-8439

ISSUED ON:
July 10, 2025

Any individual with a disability who would like to receive the information in this publication in another form may contact the ADA Coordinator at
240-314-8100, TDD 240-314-8137

MFD-V Outreach Program
It is the intent of the City of Rockville to increase opportunities for minority, female, disabled or veteran (MFD-V) owned businesses to compete effectively at supplying goods, equipment, and services to the City, within the constraints of statutory purchasing requirements, departmental needs, availability, and sound economical considerations, including subcontracting or mentoring opportunities. Suggested changes and MFD-V enhancements to this solicitation's requirements for possible consideration and/or inclusion in future solicitations are strongly encouraged. Any questions regarding MFD-V outreach or questions/concerns regarding the City's bidding process should be addressed to procurement@rockvillemd.gov or 240-314-8434.

5% BID BOND REQUIRED

Statement of "No Bid Submittal"

If you do not intend to submit on this requirement, please complete and return this form prior to date shown for receipt of bids to the buyer listed in this IFB by **email only** to tellison@rockvillemd.gov.

I/WE HAVE DECLINED TO BID ON **IFB #25-25**, titled **Croydon Creek & Calvin Park Tributary Stream Restoration Project** for the following reason(s): [Please place a check mark (✓) next to the reason(s) as applicable]

(✓)	Reason
	Proposal requirements too "restrictive".
	Insufficient time to respond to the Invitation for Bids.
	We do not offer this service.
	Our schedule would not permit us to perform.
	Unable to meet requirements.
	Unable to meet insurance or bond requirements.
	Scope of Services unclear (please explain below).
	Other (please specify below).

REMARKS:

_____

_____

_____

Are you a Minority, Female, Disabled, or Veteran-Owned (MFD-V) business? _____ Yes _____ No

Company Name: _____

Mailing Address: _____

Telephone Number: _____ Email Address: _____

_____ _____
Authorized Signatory Printed Name

_____ _____
Title Date

CITY OF ROCKVILLE
ROCKVILLE, MARYLAND

INVITATION FOR BIDS #25-25
Croydon Creek & Calvin Park Tributary Stream Restoration Project

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City of Rockville
IFB 25-25

Submittal Checklist and Signature

THIS PAGE MUST BE SIGNED AND SUBMITTED WITH YOUR BID.
Failure to submit this page shall deem your bid non-responsive.

_____ Responses shall be submitted electronically via the City's Collaboration Portal no later than the due date and time as shown in this solicitation.
Contract Insight - Collaboration Portal (rockvillemd.gov)

_____ Did an authorized company representative sign the bottom portion of this of this page?

_____ Has a copy of a bid bond in the amount of 5% of the total bid been attached to this bid?

_____ Did an authorized representative complete Section V: Bid Pricing?

_____ Did an authorized representative sign the Affidavit form in Attachment A?

_____ Did you complete the reference form in Attachment B?

_____ If you are an entity (limited liability partnerships, corporations, limited partnerships, limited liability companies, limited liability limited partnerships, business trusts, real estate investment trust and trade name filings), is the legal name of your company listed with the State of Maryland Department of Assessments and Taxation and in good standing? You may check by going to
https://dat.maryland.gov/Pages/default.aspx

_____ Did you check the City's website for any addenda and include a signed copy of each with your response?

Note: The City will no longer generate check payments to awarded vendors. Electronic payments will only be issued. If your company is selected, you shall be required to complete and submit an ACH application prior to award of a contract/purchase order.

PAYMENT TERMS: NET 30 DELIVERY: _____ DAYS AFTER RECEIPT OF ORDER

PROMPT PAYMENT DISCOUNT: ____% FOR PAYMENT WITHIN ___ DAYS

COMPANY LEGAL NAME: _____

ADDRESS: _____

SUBMITTED BY: _____
SIGN YOUR NAME DATE

_____
PRINT YOUR NAME

TELEPHONE# _____ FAX # _____

E-MAIL ADDRESS: _____ FEDERAL ID#/OR SS# _____

For informational purposes only *– Is your company certified as a Minority, Female, Disabled, or Veteran-Owned (MFD-V) business: _____ yes _____ no _____ I choose not to respond*

INVITATION FOR BID #25-25
Croydon Creek & Calvin Park Tributary Stream Restoration Project

SECTION I: PROJECT OVERVIEW

1.1 SECURED BIDS will be received electronically via a City designated bid receipt software solution until 2:00 P.M. EST on August 19, 2025. The bidder assumes full responsibility for the timely delivery of a bid via the designated solution. Bids delivered in any other fashion will not be considered. Properly submitted bids will be opened in a virtual environment after the time set for receipt of bids and will be read aloud via a City telepresence software solution at the phone number and/or web address provided by the City and contained within this solicitation.

Submission of a bid electronically is consent by the bidder to conduct any or all elements of the procurement by electronic means, in accordance with the terms of this invitation for bids.

Bids presented after the bid receiving deadline will not be received for any reason. The official time clock for receiving bids will be that of the City's third party software solution provider's computer server system.

ATTENTION: BIDDERS ARE HEREBY NOTIFIED THAT THE CITY'S THIRD PARTY SOFTWARE SOLUTION PROVIDER'S COMPUTER SERVER TIME MAY DIFFER FROM THAT OF OTHER ELECTRONIC DEVICES, COMPUTER SOFTWARE AND COMPUTER HARDWARE THAT MAY BE USED TO ELECTRONICALLY SUBMIT THE BID. BIDDERS ARE RESPONSIBLE FOR ALLOWING ADEQUATE TIME TO SUCCESSFULLY DELIVER THE BID TO THE REQUIRED ELECTRONIC LOCATION BY THE REQUIRED TIME.

1.2 BACKGROUND

IFB #25-25 Croydon Creek & Calvin Park Tributary Stream Restoration Project is a stream restoration and stabilization project located in Rockville, MD. The Project will restore approximately 3,800 LF of heavily impacted urban stream channel, and includes furnishing of all materials, labor, equipment, tools and services, and all other associated work as specified in the contract documents.

1.3 PROJECT DESCRIPTION

The Croydon Creek & Calvin Park Tributary Stream Restoration project (The Project) is located within the Rock Creek Watershed. Rock Creek originates in northern Montgomery County, passes briefly through Rockville, and continues through the District of Columbia to meet the Potomac River. The Rock Creek watershed encompasses 4 square miles of the eastern side of the City. The watershed includes parts of Rockville Town Center and the Rockville Pike/Hungerford Drive corridors, the neighborhoods of Lincoln Park, East Rockville and Twinbrook, and industrial areas along Gude Drive and Southlawn Lane, as well as Redgate Golf Course and the City's Civic Center Park.

The Project is within a recreation park solely owned by the City of Rockville. This project combines discontinuous work on Croydon Creek and the Calvin Park Tributary. The Croydon Creek section begins at a failed dam northwest of the Glenview Mansion and continues easterly to the Rock Creek Regional Park. There are many very tight meander bends and vertical banks with no vegetation. The stream has downcut 2.5 to 3.0 feet on average. The bed and bank erosion has resulted in excessive sediment within the stream, causing large point bars, side bars, and mid-channel bars. Calvin Park Tributary stream corridor, begins at Baltimore Road, flows in a northerly direction toward Croydon Creek. The stream contains sediment deposits, is severely incised, actively eroding, and widening.

The Croydon Creek Stream restoration is designed to improve water quality and restore habitat both in stream and within the forested buffer. The proposed design includes natural channel design techniques, such

as rock wiers and riffle grade control structures, to provide local lifting of the channel invert to increase access to the floodplain during storm flows and to enhance riffle habitat. Additionally, a series of riffle weirs and a boulder cascade with a pedestrian bridge crossing are proposed for the deeply incised and entrenched outfall channel from Norbeck Road. The discontinuity is a result of a stream section previously restored by the Washington Sanitary Sewer Commission.

1.4 PROJECT TIMING/COMPLETION

This contract will begin 10 working days from the date of issuance of a Notice to Proceed. All work associated with this project must be completed within 600 working days after the notice to proceed has been issued. It is possible that the City may issue a Limited Notice to Proceed (LNTP) to allow for mobilization, coordination, field measuring, NNI eradication, shop drawing review/approval, submission of work plan and ordering long lead time components.

1.5 PROPOSED SCHEDULE

A. IFB release date – July 10, 2025
B. Pre-Bid Conference – July 17, 2025, at 2:00 P.M. EST
C. Questions Due – July 24, 2025, at 2:00 P.M. EST
D. IFB closing date – August 19, 2025, at 2:00 P.M. EST

1.6 PRE-BID/SITE VISIT MEETING

A virtual, telepresence pre-bid meeting will be held on July 17, 2025, at 2:00 P.M. EST. Bidders must register below in order to attend the meeting. This meeting is not mandatory; however, bidders are strongly encouraged to attend. Individuals interested in viewing the vicinity of the work are encouraged to do so independently, and in a socially distanced manner, prior to the pre-bid meeting. Bidders shall assume complete responsibility and liability for any and all visits.

Register for Virtual Pre-Bid Meeting Here: **Register**

1.7 DEADLINE FOR QUESTIONS

Questions pertaining to this bid may be directed to TJ Ellison via the City's Collaboration Portal **only** at https://contracts.rockvillemd.gov/gateway/Default.aspx no later than 2:00 P.M. EST on July 24, 2025. Oral answers to questions relative to interpretation of specification or the bid process will not be binding on the City.

1.8 SUBMISSION

All bid forms and documents must be electronically filled out, signed and submitted **via one combined pdf document** using the City's Collaboration Portal **only** at:

https://contracts.rockvillemd.gov/gateway/Default.aspx

At a minimum the file name of the pdf document must contain the Bid Number, Bidders Name and Bid Due Date.

Instructions for uploading bid documents can be found within the Vendor Client User Manual and Quick Reference Guides in the Collaboration Portal under document library

A virtual, telepresence bid opening will be held a few minutes after the bid submittal due date and time. Individuals interested in attending the virtual bid opening must register below:

Register For Virtual Bid Opening Here: **Register**

1.9 ADDENDUM

Oral answers to questions relative to interpretation of specifications or the proposal process will not be binding on the City.

To ensure fair consideration for all bidders, any interpretation made to prospective offerors will be expressed in the form of an addendum to the specifications, if such information is deemed necessary for the preparation of bids or if the lack of such information would be detrimental to the uninformed offeror. Such addendums, if issued, will be posted at the City's Collaboration Portal listed below:

https://contracts.rockvillemd.gov/gateway/Default.aspx

Please note, that it is the bidder's responsibility to check this site frequently for Addendums, which may impact pricing, this documents requirements, terms and/or conditions. Failure to sign and return an Addendum with your response may result in disqualification of proposal.

1.10 ENVIRONMENTAL IMPACT

It is the intent of the City of Rockville to purchase goods, equipment, and services having the least adverse environmental impact, within the constraints of its codified purchasing requirements, departmental needs, availability, and sound economical considerations. Suggested changes and environmental enhancements for possible inclusion in future revisions of this specification are encouraged.

1.11 NOTICE TO BIDDERS

"Pursuant to 7-201 et seq. of the Corporations and Associations, Article of the Annotated Code of Maryland corporations not incorporated in the State, shall be registered with the Department of Assessments and Taxation, 301 West Preston Street, Baltimore, Maryland 21201 before doing any interstate or foreign business in this state. Before doing any intrastate business in this state, a foreign corporation shall qualify with the Department of Assessments and Taxation."

1.12 US TREASURY IDENTIFICATION NUMBER

Bidders must supply with their bids their U.S. Treasury Department Employers' Identification Number as such number is shown on their Employer's quarterly Federal Tax Return (U.S. Treasury Department Form No. 941). This number shall be inserted on the Bid Sheet in the space provided.

1.13 QUALIFICATION TO CONTRACT WITH PUBLIC BODY

Bidders must be qualified to bid in the State in accordance with Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland which ordains that any person convicted of bribery (upon acts committed after July 1, 1997) in furtherance of obtaining a contract from the state or any subdivision of the State of Maryland shall be disqualified from entering into a contract with the City.

1.14 DISABILITY INFORMATION

ANY INDIVIDUALS WITH DISABILITIES WHO WOULD LIKE TO RECEIVE THE INFORMATION IN THIS PUBLICATION IN ANOTHER FORM MAY CONTACT THE ADA COORDINATOR AT 240-314-8100 TDD 240-314-8137.

CITY OF ROCKVILLE, MARYLAND

SECTION II: GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. **TERMS AND CONDITIONS** The terms and conditions of this document govern in event of conflict with any terms of the bidder's proposal,and are not subject to change by reasons of written or verbal statement by the contractor unless accepted in writing. Words and abbreviations which have well known technical or trade meanings are used in accordance with such meanings.

2. **PRE-BID MEETING** A virtual, telepresence pre-bid meeting may be held for the purpose of describing the project and for answering any questions prospective bidders may have. If applicable, time and date will be shown on the bid announcement page.

3. **SUBMISSION OF BID** All bids are to be submitted electronically, in a pdf format file, via a City designated bid receipt software solution. File name of the pdf document must contain the Bid Number, Bidders Name and Bid Due Date. The following forms must be submitted:

   - Bid proposal page(s) in duplicate
   - Non-collusion/non-conviction affidavit
   - Bid Bond
   - Reference sheet
   - Other forms as required in the bid document.

   The bid proposal form must be filled out and submitted electronically. Conditional bids and bids containing escalator clauses will not be accepted. All bids must be regular in every respect and no interlineation, exclusions, or special conditions shall be made or included. Bids must contain an electronic or scanned signature, in the space provided, of an individual authorized to bind the bidder.

4. **LATE BIDS** It is the bidder's responsibility to assure delivery of the bid at the proper time via the designated electronic, software solution. Bids delivered in any other fashion will not be considered. All bids will be publicly opened in a virtual environment after the time set for receipt of bids and read aloud via a City telepresence software solution. Bidders may attend bid openings at the phone number and/or web address provided by the City.

5. **ADDENDUM** In the event that any addenda to this solicitation are issued, all solicitation terms and conditions will retain in effect unless they are specifically changed in the addendum. It is the responsibility of the bidder to make inquiry as to addenda issued. Oral answers to questions relative to interpretation of specifications or the proposal process will not be binding on the City.

   Such addendums, if issued, will posted via the city's designated electronic, software solution

   Please note, that it is the bidder's responsibility to check this site frequently for Addendums, which may impact pricing, this document's requirements, terms and/or conditions. Failure to acknowledge an addendum on the bid proposal form or to sign and return an Addendum with your response may result in disqualification of proposal.

6. **BID OPENING** All bids received in response to an Invitation for Bid will be opened at the date, time and place specified and publicly read via a City telepresence software solution. A tabulation of bids received are posted using the City's designated electronic software solution.

7. **ACCEPTANCE OF BIDS** The City will accept or reject any or all bids or any or all items within ninety (90) days after the date of bid opening. Bids may not be withdrawn during that period.

8. **BID WITHDRAWAL** Bids may be electronically withdrawn (deleted) or modified by deleting the initial file uploaded and replacing it with a modified file using the City's electronic, software solution before the time specified for bid opening. Requests received after bid opening will not be considered.

9. **BID AWARD** Award will be made to lowest responsive and responsible bidder complying with all provisions of the Invitation for Bid, provided the price is reasonable and in the best interest of the City to accept. The City reserves the right to award by individual commodities/services, group, all or none or any combination thereof. When a group is specified, all items in the group must be bid.

   In determining the responsibility of a bidder, the following criteria will be considered:

   a. The ability, capacity and skill of the bidder to perform the contract or provide the services required;

   b. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference;

   c. The character, integrity, reliability, reputation, judgment, experience and efficiency of the bidder;

   d. The quality of performance on previous contracts or services;

   e. The previous and existing compliance by the bidder with laws and ordinance relating to the contract or service;

   f. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;

   g. The quality, availability and adaptability of the goods or services to the particular use required;

   h. The ability of the bidder to provide future maintenance and service for the use of the subject of the contract;

   i. Whether the bidder is in arrears to the City or a debt or contract or is in default on a surety to the City;

   j. Such other information as may be secured by the City having a bearing on the decision to award the contract.

10. ELECTRONIC PAYMENT OPTION

The Vendor ACH Payment Program of the City allows payments to be deposited directly to a designated financial institution account. Funds will be deposited into the account of your choice automatically and on time. All transactions are conducted in a secure environment. The program is totally free as part of the Finance Department's efforts to improve customer services.

11. **SENSITIVE DOCUMENTS**

All project participants needing either electronic or hardcopy documents dealing with critical facilities or sensitive information will be required to make application with, and receive approval from the City prior to receiving this information. Permission to receive said documents (herein referred to as "sensitive") will pertain only to the individual approved. Sensitive documents (either electronic or hardcopy documents dealing with critical facilities or sensitive information) received from the City must be handled consistent with the terms of non-disclosure required for application. Contractor is responsible to restrict use of sensitive documents to project participants only and shall take appropriate measure to prevent distribution of sensitive document to anyone inside or outside of the Contractor's company except Contractor's project participants. After completion of the project, all sensitive documents remaining in the Contractor's possession shall continue to be governed under the terms of non-disclosure and must continue to be stored in a secure manner. After such records are no longer needed for record purposes, the records shall be destroyed or returned to the City.

Where services require the Contractor to access the City's electronic information resources and/or its electronic data assets, the Contractor shall adhere to all requirements, terms and conditions of the City's Contractor/Vendor On-Site and Remote Access Confidentiality Agreement, which can be viewed at the following web address:

https://www.rockvillemd.gov/documentcenter/view/36407

12. **DOCUMENTS, MATERIALS AND DATA** All documents materials or data developed as a result of this contract are the City's property. The City has the right to use and reproduce any documents, materials and data, including confidential information, used in the performance of, or developed as a result of this contract. The City may use this information for its own purposes, including reporting to state and federal agencies. The contractor warrants that it has title to or right to use all documents, materials or data used or developed in connection with this contract. The Contractor must keep confidential all documents, materials and data prepared or developed by the contractor or supplied by the City.

13. **ERRORS IN BIDS** When an error is made in extending total prices, the unit price will govern. Erasures in bids must be initialed by the bidder. Carelessness in quoting prices or in preparation of the bid will not relieve the bidder from performing the contract. Errors discovered after public opening cannot be corrected and the bidder will be required to perform if the bid is accepted.

14. **MISTAKES** Bidders are expected to be thoroughly familiar with all bid documents, including all addenda. No consideration will be granted for any alleged misunderstanding of the intent of the contract documents. In the process of assembling and binding the bid documents individual pages or drawings may have been inadvertently omitted. Each bidder shall carefully and thoroughly examine these bid documents for completeness. No claim of any bidder will be allowed on the basis that these bid documents are incomplete.

15. **PRICES** Bids must be submitted on a firm, fixed price, F.O.B. destination basis only unless otherwise specified herein.

16. **PROMPT PAYMENT DISCOUNTS** All discounts other than prompt payment are to be included in the bid price. Prompt payment discounts will be considered in the evaluation of your bid if the discount on payment is not conditioned on payment being made in less than thirty (30) days from receipt of invoice.

17. **BIDDER'S PAYMENT TERMS** The City will reject as non-responsive a bid under this solicitation, which is conditioned on payment of proper invoices in less than thirty (30) days. However, this does not preclude a bidder from offering a prompt payment discount for payment of proper invoices in less than thirty (30) days.

18. **INTEREST IN MORE THAN ONE BID AND COLLUSION**
Multiple bids uploaded/received in response to a single solicitation from an individual, firm, partnership, corporation, affiliate, or association under the same or different names will be rejected. Reasonable grounds for believing that a bidder is interested in more than one bid for a solicitation both as a bidder and as a subcontractor for another bidder will result in rejection of all bids in which the bidder is interested. However, a firm acting only as a subcontractor may be included as a subcontractor for two or more bidders submitting a bid for the work. Any or all bids may be rejected if reasonable grounds exist for believing that collusion exists among any bidders. Bidders rejected under the above provisions shall be disqualified if they respond to a re-solicitation for the same work.

19. **QUALIFICATION OF THE BIDDER** The City shall have the right to take such steps as it deems necessary to determine the responsibility of the bidder to perform the obligations under the contract and the bidder shall furnish to the City all such information for this purpose as the City may request. The right is reserved to reject any bid where an investigation of available information does not satisfy the City that the bidder is qualified to carry out the terms of the contract.

20. **PLACING OF ORDERS** Orders against contracts will be placed with the Contractor on a Purchase Order (or Procurement Card – currently Mastercard) executed by the Purchasing Agent or designee. Where Master Agreements have been released by the City, orders may be placed directly with the Contractor by authorized personnel in the ordering Department(s). Issuance of all purchase orders will be contingent upon appropriation of

funds by the Mayor and Council and encumbrance of such funds after July 1st of each year, as provided by the City Code.

21. **INSPECTION OF THE WORK SITE** Each bidder shall visit the site of the proposed work and become fully acquainted with the existing conditions and fully informed as to any facility involved, and the difficulties and restrictions attending the performance of this contract. Applicable drawings, technical specifications and contract documents should be thoroughly examined. The successful bidder shall in no way be relieved of any obligation due under the executed contract by the failure to examine any form of legal instrument or to visit the site.

22. **RISK OF LOSS AND CONDITION OF SITE** The City makes no representation and assumes no responsibility for the condition of the site or applicable structures on the site. The contractor shall accept the site and the contents thereon in the condition in which they are represented. Any damages or loss whatsoever while the contract is in effect (whether by reason of fire, theft, breakage or other happenings) shall not relieve the Contractor from any obligations under this contract. The Contractor shall store any materials on site as not to damage the materials and shall maintain such storage areas, as directed by the City, in hazard free condition.

23. **SUBCONTRACTORS** Nothing contained in the contract documents, shall create any contractual relationship between the City and any subcontractor or sub-subcontractor.

Unless otherwise indicated, the successful contractor who will subcontract the delivery, installation, or portion of the work herein described will submit to the Project Manager, prior to the start of work, the following information: 1) A description of the items to be subcontracted, 2) the subcontractor name, address, and telephone number, and 3) the nature and extent of the work utilized during the life of the contract. Subcontractors shall be considered agents of the Contractor, who shall be held fully accountable for all of the subcontractor services, labor, and materials relative to the contract.

24. **BID BOND** Bids must be accompanied by an electronic copy of a certified check or bid bond for five percent (5%) of the total amount of the bid, made payable to the Mayor and Council of Rockville, where the original security instrument must be mailed to City of Rockville, Procurement Division, 111 Maryland Avenue, Rockville, Maryland 20850, referencing the solicitation number. AIA Bond forms are acceptable. Bonds must be issued by a surety licensed to do business in the State of Maryland. The City reserves the right to disqualify any bid, in any instance, where the City cannot locate the mailed, original security instrument. The City shall not be liable for any certified checks it cannot locate, or in any instance where a certified check is cashed by any individual not employed by the City of Rockville. Bid bonds will not be returned.

25. **EXECUTION OF AGREEMENT/BONDS** Subsequent to award and within fifteen (15) calendar days after the prescribed forms are presented to the Contractor, the Contractor shall execute and electronically deliver to the City the required Agreement and Bonds, where two (2) sets of the original agreement and original bonds must be mailed to City of Rockville, Procurement Division, 111 Maryland Avenue, Rockville, Maryland 20850.

Bonds shall be in effect during the original term of the contract and during the guarantee and warranty period required under the Contract, unless otherwise stated therein.

PERFORMANCE BOND The Contractor shall execute and deliver to the City the required Performance Bond for 100% of the bid amount.

PAYMENT BOND For a contract exceeding One Hundred Thousand Dollars ($100,000) the payment bond shall be in an amount equal to 100% of the bid amount. For a contract exceeding Twenty-Five Thousand Dollars ($25,000) but not exceeding One Hundred Thousand Dollars ($100,000) the payment bond shall be in an amount equal to fifty percent (50%) of the bid amount. Bonds shall be executed by a surety company authorized to do business in the State of Maryland.

The successful bidder may request that in lieu of bonds, the City accept the equivalent in the form of a certified check or other security. Such requests will be accepted or rejected by the City Manager. If rejected, the successful bidder will be required to furnish the bonds or forfeit the bid bond. The City shall not be liable for any certified

checks it cannot locate, or in any instance where a certified check is cashed by any individual not employed by the City of Rockville.

Failure of the successful bidder to execute the agreement and supply both the electronic versions and original versions of the required forms within fifteen (15) calendar days shall constitute a default. Any instance where the City cannot locate the mailed versions of the agreement or bonds shall also constitute a default. The successful bidder shall forfeit to the City as liquidated damages for such failure or refusal an amount in cash equal to the security deposited with the bid.

The City may either award the contract to the next low responsive and responsible bidder or re-advertise the bids, and may charge against the original bidder the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed. If a more favorable bid is received by a re-advertising, the defaulting bidder shall have no claim against the City for a refund.

26. **LEGAL REQUIREMENTS** All materials, equipment, supplies and services shall conform to applicable Federal, State, County and City laws, statutes, rules and regulations. The Contractor shall observe and comply with all Federal, State, County and City laws, statutes, rules and regulations that affect the work to be done. The provisions of this contract shall be governed by the laws of the State of Maryland.

27. **INDEMNIFICATION OF THE COUNCIL** The Contractor shall indemnify and save harmless the Mayor and Council from all suits, actions and damages or costs, of every name and description to which the Council may be subjected or put by reason of injury to persons or property as a result of the work, whether caused by negligence or carelessness on the part of the Contractor, or subcontractors or agents thereof.

28. **DELIVERY** Time is of the essence. The Contractor shall expedite the work and achieve substantial completion within the contract time. If time limits are not specified, state the number of days required to make delivery/completion in the space provided. Defective or unsuitable materials or workmanship shall be rejected and shall be made good by the Contractor, not withstanding that such materials/workmanship have been previously been overlooked and accepted.

29. **CHANGES IN QUANTITIES/ITEMS** The City reserves the right to add or delete any item(s) from the bid in whole or in part at the City's discretion as given in the Bid or Proposal wherever it deems it advisable or necessary so to do and such changes shall in no way vitiate the contract nor affect the bid prices for any item or remaining work. Unit prices submitted in the bid shall not be increased or decreased regardless of changes in quantity. The City may waive minor differences in specifications in bids provided these differences do not violate the specifications' intent nor materially affect the operation for which the items or services are being purchased

    The Contractor will be paid for the actual amount of authorized work done or material furnished under any item of the bid at the price bid and stipulated for such item. In case any quantity is increased, the Contractor shall not be entitled to any increased compensation over and above the unit price bid for such item, or any claim for damages on account of loss of anticipated profits should any quantities be decreased. The Contractor shall be responsible for confirming the accuracy of the specified quantities prior to ordering materials or supplies and the City's payment shall be based on the actual quantities incorporated in the work and not the quantities specified in the bid document. The quantities must not exceed the Contract specified quantities without specific written authorization of the Project Manager and it is the Contractor's responsibility to obtain said authorization.

30. **MATERIALS** All materials shall be new and free from defects. They shall be standard products of current manufacture. Unless otherwise noted in the contract documents, the Contractor shall abide by specific manufacturer instructions and recommendations on installation and operation.

31. **BRAND NAME OR EQUAL** Identification of an item by manufacturer's name, trade or brand name, or catalog number is for information and establishment of a quality level desired and is not intended to restrict competition. Bidders may offer any brand which meets or exceeds the specification, unless 'brand name only' is specified. Bids on other makes and/or models will be considered provided the bidder clearly states on the proposal what is being proposed and forwards with the bid complete descriptive literature indicating how the characteristics of the

article being offered will meet the specifications. The City reserves the right to accept or reject items offered as an equal.

32. DEFECTIVE MATERIALS/WORKMANSHIP
Defective or unsuitable materials or workmanship shall be rejected and shall be made good by the Contractor. If the work shall be found to be defective or to have been damaged before final acceptance, the Contractor shall make good such defect in a manner satisfactory to the City, without extra compensation even though said defect or injury may have not been due to any act or negligence of the Contractor.

33. **TIME OF BEGINNING AND COMPLETION** Unless otherwise stipulated in the bid document, the Contractor shall begin work on the Contract within ten (10) working days after the mailing of a purchase order and shall diligently prosecute the same, so that it shall be fully completed within the time as stated in the contract. The Contractor shall not commence any work under the Contract until a written Purchase Order is received from the Purchasing Agent.

34. **FAILURE TO COMPLETE WORK ON TIME/ LIQUIDATED DAMAGES** The Contractor accepts this contract with the understanding and intention to perform fully and in an acceptable manner within the time stated. Should he fail to complete fully, to all intent and purpose, the work specified in the time specified, or within the time as it may have been extended by the City, the Contractor shall pay, for each calendar day that any work shall remain uncompleted, not including Sundays, the sum of $400 per calendar day or such other amount as specified in the Special Provisions. This sum is hereby agreed upon, not as a penalty, but as liquidated damages and the City shall have the right to deduct the amount of such damages from any moneys due the Contractor under this Contract.

    The City shall recover such Liquidated Damages by deducted the amount thereof out of any moneys due or that may become due the Contractor, and if said moneys are insufficient to cover said damages, then the Contractor or the Surety shall pay the amount due upon demand by the City.

35. **AUTHORITY OF THE CITY MANAGER IN DISPUTES** Except as may otherwise be provided by the final agreement, any dispute concerning a question of fact arising under the agreement signed by the City and the Contractor which is not disposed of by the final agreement shall be decided by the City Manager who shall notify the Contractor in writing of his determination. The Contractor shall be afforded the opportunity to be heard and offer evidence in support of the claim. Pending final decision of the dispute herein, the Contractor shall proceed diligently with performance under the agreement signed by the City and the Contractor. The decision of the City Manager shall be final and conclusive unless an appeal is taken pursuant to the City Purchasing Ordinance.

36. **CONTRACT DELAYS/EXTENSION OF TIME** The Contractor shall pursue the contract so as to complete all work within the time allotted in the bid document. The completion date as set in the bid document allows for inclement weather, holidays and coordination with other companies. If the Contractor is delayed in the delivery of the supplies, equipment or services by any act of neglect of the City or by a separate Contractor employed by the City, or by any changes, strikes, lockouts, fires, unusual delays in transportation or delay authorized by the City, the City shall review the cause of such delay and shall make an extension of time if warranted. All claims for extensions must be in written notice sent to the Project Manager within ten (10) calendar days after the date when such alleged cause for extension of time occurred. All such claims shall state specifically the amount of time of the delay the Contractor believes to have suffered. If written notice is not received within the prescribed time the claim shall be forfeited and invalidated.

37. **CONTRACT DELAYS - NO DAMAGE CLAIMS ACCEPTED** The Contractor shall make no claim for extra monetary compensation for delays, whether ordered by the City or not, caused by delays in funding, governmental approvals, private or public companies' actions, inclement weather, site conditions, or from any cause whatsoever. The Contractor shall adjust its operation to continue the work at other locations under the contract, if available, and as directed by the City. If it is necessary to discontinue the work temporarily, the Contractor shall resume work within 48 hours of notice from the City. The City may adjust the completion date to compensate for the lost day(s) on a day-for-day basis, if the City finds that the Contractor could not make up for such lost day(s) by reallocating its forces or rescheduling the work, up to the time remaining on the original schedule at the time of shutdown.

38. PROGRESS SCHEDULE AND SCHEDULE OF OPERATIONS The construction of this project will be planned and recorded with an Activities Chart Project Schedule (AC) and Written Narrative (WN) unless specifically determined to be unnecessary by the Project Manager. The AC Project Schedule and Written Narrative will break down, in detail, the time (working days or completion date) involved in performing major construction activities for the duration of the project. The AC Project Schedule shall be used for the coordination and monitoring of major work under the contact including the activities of subcontractors, vendors and suppliers. The AC Project Schedule shall be prepared in accordance with the requirements of the Maryland State Highway Administration Standard Specifications for Construction and Materials dated January 1982, and the errata and addend thereto, subsequent supplement(s) and the Special Provisions as set forth in this Invitation for Bids, unless otherwise directed or approved by the Project Manager. The schedule shall be consistent with the contract specified completion date(s) and/or working days. The Contractor is responsible for preparing the initial AC Project Schedule and Written Narrative.

Preparation of Initial Schedule - Within 10 calendar days after notification that the Contractor is the apparent successful bidder, the Contractor will complete development of a initial AC Project Schedule and Written Narrative (describing the logical time representations as proposed in the AC Project Schedule), and submit 2 (two) copies of each AC and WN to the Project Manager for review and approval.

Updating Project Schedule**:** At any time that it becomes apparent the schedule, created as above and approved by the Project Manager, is not being implemented, either because the work or service is ahead or behind schedule, the Contractor shall immediately notify the Project Manager and shall submit a revised, written, updated AC and WN for the Project Manager's review, revision and approval The contractor shall make every effort to meet the original completion date and/or working days allowed unless otherwise so directed by the Project Manager.

Payment for Schedule AC/WN**:** No special compensation will be paid for preparing or revising the above project AC/WN as the cost shall be considered incidental to the contract with compensation incorporated into the bid items(s).

39. **SPECIFICATIONS** The Construction Specifications for this contract will be those shown below and additions included in the bid document, if applicable. In the event of conflict, the City determination shall govern. The following specifications and standards, listed below, including all subsequent addenda, amendments and errata are made part of this contract to the extent required by the references thereto:

    1. Maryland Department of Transportation, State Highway Administration, "Standard Specifications for Construction and Materials" (Maryland Department of Transportation, State Highway Administration), dated January 2008 and all errata and addenda thereto. MDSHA Book of Standards for Highway and Incidental Structures.
    2. Montgomery County Department of Transportation "Montgomery County Road Construction Code and Standard Specifications."
    3. Standard Specifications of WSSC dated July 2005.
    4. Montgomery County Department of Transportation "Design Standards" August 1991.
    5. Maryland Dept of the Environment "1994 Standards and Specifications Soil Erosion and Sediment Control"
    6. The U. S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices" latest edition.
    7. Montgomery County Noise Ordinance.

40. **CONTRACT DOCUMENTS** The contract documents are complementary and what is required by any one shall be binding as if required by all. Words and abbreviations that have well known technical or trade meanings are used in the contract documents in accordance with such recognized meanings. On drawings, the figured dimensions shall govern in the case of discrepancy between the scales and figures. Anything shown on the construction plans and not mentioned in the specifications or mentioned in the specifications and not shown on the plans shall have the same effect as if shown or mentioned respectively in both.

Prior to bidding, the Contractor should obtain clarification of all questions which may have arisen as to intent of the contract document, or any actual conflict between items in the contract documents. Should the Contractor have failed to obtain such clarification, then the City may direct that the work proceed by any method indicated, specified or required, in the judgment of the City, by the contract documents. Such direction by the City shall not constitute the basis for a claim for extra costs by the Contractor. The Contractor acknowledges that he had the opportunity to request clarification prior to submitting his bid to the City and that he is not entitled to a claim for extra cost as a result of failure to receive such clarification.

Any discrepancies which may be discovered during the execution of work between actual conditions and those represented by the contract documents shall be reported to the City and work shall not proceed until written instruction has been received by the contractor from the City.

41. **INTERPRETATION** Any questions concerning terms, conditions and definitions of the contract and bidding regulations shall be directed in writing to the Contract Officer. Any questions concerning the technical specifications and drawings shall be directed in writing to the Project Manager. The submission of a bid shall be prima facie evidence that the bidder thoroughly understands the terms of the contract documents. The Contractor shall take no advantage of any error or omission in these contract documents.

42. **PRE-CONSTRUCTION CONFERENCE** A pre-construction conference may be held in person or virtually following contract award. The meeting must be attended by the Contractor. No compensation will be made by the City to the Contractor for meetings.

43. **EMERGENCY CONTACT** The Contractor shall provide at least two local telephone numbers which may be used for contacting an official of the Contractor at all times, 24 hours per day, seven days per week: at which numbers person(s) of responsibility will be available to respond to City directives relative to the contract. The Contractor shall have available sufficient personnel and equipment to immediately respond to emergency needs, as determined by the City. There will be no special compensation paid for this requirement but the cost is to be considered incidental to the other contract pay items.

44. **SUPERVISION AND DIRECTION OF WORK** The work shall be under the general supervision of the Project Manager. While it is intended that the Contractor shall be allowed in general to carry on the contract in accordance with such general plan as may appear to the Contractor most desirable, the Project Manager, at the Project Manager's discretion, may from time to time, direct the order in which, and points at which, the work shall be prosecuted and may exercise such general control over the conduct of the work at a time or place, as shall be required, in the Project Manager's opinion, to safeguard the interests of the City, and the Contractor shall have no claims for damages or extra compensation on account of the fact that it shall have been necessary to carry on the work in different sequence from that which the Contractor may have contemplated. The Contractor shall immediately comply with any and all orders and instructions given by the Project Manager, but nothing herein contained shall be considered such an assumption of control over the work by the City or the Project Manager as to relieve the Contractor of any obligations or liabilities under the contract.

45. **INSPECTION** Work and materials will be inspected promptly to see that the same strictly correspond with the drawings and specifications, but if, for any reason, delay should occur in connection with such inspection, the Contractor shall have thereby no claim for damages or extra compensation. Materials and workmanship shall be always subject to the approval of the Project Manager, but no inspection, approval or acceptance of any part of the work or of the materials used therein, nor any payment on account thereof shall prevent the rejection of said materials or work at any time thereafter, should said work or materials be found to be defective or not in accordance with the requirements of the contract. Any costs for any "re-inspection" of the job shall be the responsibility of the contractor.

46. **TERMINATION FOR DEFAULT** The contract may be cancelled or annulled by the City in whole or in part by written notice of default to the Contractor upon nonperformance or violation of contract terms and an award made to next low Bidder, or, articles specified may be purchased on the open market similar to those so terminated. In either event, the defaulting Contractor (or his surety) shall be liable to the City for costs to the City in excess of the defaulted contract prices: provided, that the Contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

47. **TERMINATION FOR CONVENIENCE** This Contract may be terminated, in whole or in part, upon written notice to the Contractor when the City determines that such termination is in its best interest. The termination is effective 10 days after the notice is issued, unless a different time is given in the notice. The City is liable only for payment for goods and services delivered and accepted or approved by the City prior to the effective date of the termination.

48. **EMPLOYEES** The Contractor shall employ only competent, skillful persons to do the work, and whenever the Project Manager shall notify the Contractor in writing that any person employed on the work is, in his opinion, incompetent, disobedient, disorderly, discourteous or otherwise unsatisfactory, such person shall be discharged from the work and shall not again be employed for this contract except with the consent of the Project Manager.

49. **NON-WORK DAY** The City observes the following holidays: New Year's Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Thanksgiving Friday and Christmas Day, all days of general and congressional elections throughout the State, and a five-day work week.

    The Contractor will not be permitted to do any work which requires the services of the City's inspection, supervisory or line and grade forces on the days on which the above mentioned holidays are observed by the City or on Saturdays or Sundays, unless otherwise authorized by the Project Manager in writing. However, the Contractor, with verbal permission of the Project Manager, may be permitted to perform clean up and such other items for which no specific payment is involved on Saturdays and holidays.

    The normal number of working hours per day on this Contract will be limited to eight, unless otherwise authorized by the Project Manager in writing.

    In case of an emergency, which may require the services of the City on Saturdays, Sundays, holidays or longer than eight hours per day, the Contractor shall request permission of the Project Manager to work. If, in the opinion of the Project Manager the emergency is bona fide, he will grant permission to the Contractor to work such hours as may be necessary. Also, if in the opinion of the Project Manager, a bona fide emergency exists, the Project Manager may direct the Contractor to work such hours as may be necessary whether the Contractor requests permission to do so or not.

50. **LANGUAGE** The Contractor shall appoint one or more crewmembers or supervisors to act as liaison with the City and emergency services personnel. All liaisons shall be fluently bilingual in English and the Contractor's employees' language(s), and at least one liaison shall be present at each work site at all times when any of the Contractor's employees or agents are at the site.

51. IMMIGRATION REFORM AND CONTROL ACT Contractor warrants that it does not and shall not hire, recruit or refer for a fee, for employment under the Contract, an individual knowing the individual is an unauthorized individual and hire any individual without complying with the requirements of the Immigration Reform and Control Act of 1986 ("the Act"), including but not limited to any verification and record keeping requirements. Contractor further assures the City that, in accordance with the Act, it does not and will not discriminate against an individual with respect to hiring, or recruitment or referral for a fee, of the individual for employment or the discharging of the individual from employment because of such individual's national origin or in the case of a citizen or intending citizen, because of such individual's citizenship status.

52. **EQUAL EMPLOYMENT OPPORTUNITY** The Contractor will not discriminate against any employee or applicant for employment because of age (in accordance with applicable law), ancestry, color, national origin, race, ethnicity, religion, disability, genetics, marital status, pregnancy, presence of children, gender, sexual orientation, gender identity or expression, or veteran status. The Contractor will take affirmative action to ensure that applicants are employed, and the employees are treated fairly and equally during employment with regard to the above. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment, layoff or termination, rates of pay or other form of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available

to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Contractors must also include the same nondiscrimination language in all subcontracts.

If the Contractor fails to comply with nondiscrimination clauses of this contract or fails to include such contract provisions in all subcontracts that subcontractors will not discriminate against any employee or applicant for employment in the manner described above, this contract may be declared void AB INITIO, cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further contracts with the City of Rockville. Any employee, applicant for employment, or prospective employee with information concerning any breach of these requirements may communicate such information to the City Manager who shall commence a prompt investigation of the alleged violation. Pursuant to such investigation, the Contractor will permit access to the Contractor's books, records, and accounts. If the City Manager concludes that the Contractor has failed to comply with nondiscrimination clauses, the remedies set out above may be invoked.

53. **ETHICS REQUIREMENTS** In accordance with the City's financial disclosure and ethical conduct policy and/or ordinances a prerequisite for payment pursuant to the terms of this contract is that the Contractor may be required to furnish explicit statements, under oath, that the City Manager, and/or any other officer, agent, and/or employee of the City, and any member of the governing body of the City of Rockville or any member or employee of a Commission, Board, or Corporation controlled or appointed by the City Council, Rockville, Maryland has not received or has not been promised directly or indirectly any financial benefit by way of fee, commission, finder's fee, or in any other manner, remuneration arising from directly or indirectly related to this contract, and that upon request by the City Manager, or other authorized agent, as a prerequisite to payment pursuant to the terms of this contract, the Contractor will furnish to the Mayor and Council of the City of Rockville, under oath, answers to any interrogatories to a possible conflict of interest has herein embodied.

54. **DRAWINGS TO BE FOLLOWED** The approved drawings, profiles and cross sections on file with the City will show the location, details and dimensions of the work contemplated, which shall be performed in strict accordance therewith and in accordance with the specifications. Any deviations from the drawings or specifications as may be required by the exigencies of construction in all cases will be determined by the Project Manager. There shall be no such deviations without the written authorization of the Project Manager. On all drawings, etc., the figured dimensions shall govern in the case of discrepancy between the scales and figures. The Contractor shall take no advantage of any error or omission in the drawings or specifications. The Project Manager shall make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the specifications and of the drawings as construed by the Project Manager whose decision shall be final.

55. **CERTIFICATION** Under no circumstances will Contractors be paid for materials utilized on any City contract unless certified to by the Project Manager. The Contractor must not incorporate any materials into a City project without prior authorization and certification of the Project Manager, unless necessary to eliminate or avoid hazardous conditions. Under these emergency circumstances the responsibility for notification to the Project Manager and quantity/quality confirmation rests with the Contractor and must be obtained within 24 hours of the work.

56. **DECISIONS AND EXPLANATIONS BY PROJECT MANAGER** The Project Manager shall make all necessary explanations as to the meaning and intent of the specifications and drawings, and shall give all orders and directions, either contemplated therein or thereby, or in every case in which a difficult or unforeseen condition arises during the prosecution of the work. Should there be any discrepancies or should any misunderstanding arise as to the intent of anything contained in the drawings and specifications, the decision of the Project Manager shall be final and binding. The Project Manager shall in all cases determine the amount, quality, acceptability and estimates of the work to be paid for under the Contract, and shall decide all questions in relation to the work. In case any questions arise between parties relating to the Contract, such decision and estimate shall be a condition precedent to the right of the Contractor to receive payment under that part of the Contract which is in dispute.

57. **WORK TO BE DONE AND MATERIALS TO BE FURNISHED** The Contractor shall do all the work and furnish all the labor, materials, tools, and equipment necessary or proper for performing the work required by the Contract, in the manner called for by the drawings and specifications and within the Contract time. The Contractor

shall complete the entire work together with such extra work as may be required, at the prices fixed therefore, to the satisfaction of the Project Manager and in accordance with the specifications and drawings.

58. **NOTIFICATION TO OTHER AGENCIES** The Contractor will be responsible for notifying all concerned agencies affected by the work a minimum of 48 hours in advance of any activity, as prescribed by said agencies, including, but not limited to: the Washington Gas, PEPCO, Verizon Comcast Cable, Transcontinental Gas, City of Rockville Utilities Division, Montgomery County Government, State Highway Administration and the Washington Suburban Sanitary Commission. The Contractor must notify MISS UTILITY at 1-800-257-7777 a minimum of 72 hours and no more than 5 working days prior to removal of any pavement or beginning any excavation. There shall be no measurement or direct payment to the Contractor for such notification, working around, the protection of, or repair of damage to such existing utilities caused by the proposed construction activities directly or indirectly.

59. **PERMITS AND REGULATIONS** Unless stipulated elsewhere in these specifications, the Contractor shall be responsible for obtaining and paying for all applicable permits. Where signatures of the City are required in connection with the obtaining of such permits, certificates, etc., the Contractor shall prepare the proper paperwork and present it to the City for signature. City of Rockville Permit fees shall be waived. If the Contractor ascertains at any time that any requirement of this contract is at variance with applicable laws, ordinances, regulations and/or building codes, notification to the Project Manager shall be made immediately and any necessary adjustment to the contract shall be made. Without proper notice to the Project Manager, the Contractor shall bear all costs arising from the performance of work the Contractor knows to be contrary to such laws, ordinances, etc.

60. **EXCAVATION** Unless specifically provided in the specifications, all trench and roadway excavation is hereby unclassified as to the character of materials. The lump sum or unit price, as specified, for or including excavation shall constitute full payment for removal and disposal of all materials, regardless of type, encountered in trenching and roadway excavation, within the limits of this Contract, as necessary and as shown to be removed on the Contract drawings and/or as directed by the Project Manager, except as otherwise provided for under this Contract. All bidders are hereby directed to familiarize themselves with all site conditions including subsurface and the proximity of adjacent features.

61. **SERVICE OF NOTICES** The mailing a written communication, notice or order, addressed to the Contractor at the business address filed with the City, or to his office at the site of the work shall be considered as sufficient service upon the Contractor of such communication, notice or order; and the date of said service shall be the date of such mailing. Written notice shall also be deemed to have been duly served if delivered in person to the individual or member of the firm or to any officer of the corporation for whom it was intended if delivered or sent by registered or certified mail to the last known address.

62. **PATENT RIGHTS** Whenever any article, materials, equipment, process, composition, means, or things called for by these specifications is covered by letters of patent, the successful bidder must secure, before using or employing such article, material etc., the assent in writing of the Owner or Licensee of such Letters of Patent and file the same with the City.

    The said assent is to cover not only the use, employment, and incorporation of said article, material, equipment, process, composition, combination, means, or thing in the construction and completion of the work but also the permanent use of said article, material, etc., thereafter by or on behalf of the City, in the operation and maintenance of the project for the purposes for which it is intended or adapted. The Contractor shall be responsible for any claims made against the City, its agents and employees or any actual or alleged infringement of patents by the use of any such patented articles, etc., in the construction and completion of the work, and shall save harmless and indemnify the City, its agents and employees from all costs, expenses, and damages, including Solicitor's and Attorney's fees which the City may be obligated to pay by reason of any actual or alleged infringement of patents used in the construction and completion of the work herein specified.

63. **CARE AND PROTECTION OF WORK** From the commencement of the Contract until its completion, the Contractor shall be solely responsible for the care of the work and all injury or damage to the same, from whatever cause, shall be made good by the Contractor at the Contractor's own expense, before the final estimate is made.

The Contractor shall provide suitable means of protection for all materials intended to be used in the work and for work in progress, as well as completed work.

64. **ABANDONMENT OF OR DELAY IN WORK** If the work under the Contract shall be abandoned by the Contractor, or if at any time the Project Manager shall be of the opinion and shall so certify, in writing, to the Contractor, that the performance of the Contract is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of the Contract or is executing the same in bad faith or if the work is not fully completed within the time specified for its completion, together with such extension of time as may have been granted, the City by written notice, may order the Contractor to discontinue all work there under, or any part thereof, within the number of days specified on such notice. At the expiration of said time the Contractor shall discontinue the work, or such part thereof, and the City shall have the power, by Contract, or otherwise, to complete said work and deduct the entire cost thereof from any monies due or to become due the Contractor under the Contract. For such completion of work the City may, for itself or its Contractor, take possession of and use or cause to be used any or all materials, tools, and equipment found on the site of said work. When any part of the Contract is being carried on by the City, as herein provided, the Contractor shall continue the remainder of the work in conformity with the terms of the Contract and in such manner as not to interfere with the City's workmen.

65. **SUBLETTING OR ASSIGNING OF CONTRACT** The City and the Contractor each bind themselves, their partners, successors, assigns and legal representatives of such other parties in respect to all covenants, agreements, and obligations contained in the contract documents. Neither party to the contract shall sublet, sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of the work provided for therein, or of his right, title or interest therein to any person, firm or corporation without the written consent of the other party, nor shall the Contractor assign any monies due or to become due hereunder without the previous written consent of the City.

66. **NO WAIVER OF CONTRACT** Neither the acceptance by the City or its Project Manager nor any order, measurement, certificate or payment of money, of the whole or any part of the work, nor any extension of time nor possession taken by the City or its Project Manager shall operate as a waiver of any portion of the Contract, or any right to damage therein provided. The failure of the City to strictly enforce any provision of this contract shall not be a waiver of any subsequent breach of the same or different nature.

67. **DUTIES, OBLIGATIONS, RIGHTS AND REMEDIES** The duties and obligations imposed by the contract documents and the rights and remedies available there under shall be in addition to and not a limitation of the duties, obligations, rights and remedies otherwise imposed or available by law, unless so indicated.

68. **IMPLIED WORK** All incidental work required by the drawings or specifications for which no payment is specifically provided and any work or materials not therein specified which are required to complete the work and which may fairly be implied as included in the Contract, and which the Project Manager shall judge to be so included, shall be done or furnished by the Contractor without extra compensation. The intent is to prescribe a complete work or improvement which the Contractor undertakes to do in full compliance with the contract documents together with any authorized alterations, special provisions and supplemental agreements.

69. **MEASUREMENT OF WORK AND MATERIAL** The work and material to be paid for will be measured and determined by the Project Manager according to the specifications and drawings, and the working lines that may be given. No allowance will be made for any excess above the quantities required by the specifications, drawings and lines on any part of the work, except where such excess material has been supplied or work done by order of the Project Manager and in the absence of default or negligence on the part of the Contractor. Should the dimensions of any part of the work or of the materials be less than those required by the drawings or the directions of the Project Manager, only the actual quantities placed will be allowed in measurement.

70. **EXTRA COSTS** If the contractor claims that any instructions by the contract documents or otherwise involve extra compensation or extension of time, a written protest must be submitted to the Project Manager within ten (10) calendar days after receipt of such instructions and before proceeding to execute the work, stating in detail the basis for objection. No such claim will be considered unless so made.

71. **CONTINGENT ITEMS & QUANTITIES** Items and quantities identified as being contingent are provided in the Contract for use when and as directed by the Project Manager. These items shown on the Plans or in the specifications are established for the purpose of obtaining a bid price. The quantities for these contingent items may be increased or decreased without any adjustment to the Contract unit price bid or the contingent items may be deleted entirely from the Contract by the Project Manager without negotiation. The Contractor shall submit no claim against the City for any adjustment to the Contract unit price bid, should the contingent items be increased, decreased or eliminated entirely. Payment for any contingent items used will be made on the basis of the quantities as actually measured and as specified in the Specifications. Materials, Construction Requirements and Basis of Payment shall be as specified elsewhere in the Specifications, Plans or Special Provisions.

72. **CHANGES IN THE SCOPE OR EXTRA WORK** The City, without invalidating the contract, may issue written changes in the work consisting of additions, deletions, or modifications with the contract sum and completion date being adjusted accordingly. All such changes, or additional work must be authorized in writing by the Purchasing Agent prior to starting such work. Costs shall be limited to the cost of materials, labor, field supervision and field office personnel directly involved in and attributed to the change. All costs and/or credits to the City for a change in the work shall be determined by the unit price bid or by mutual agreement.

    The Contractor shall do all work that may be required to complete the work contemplated at the unit prices bid or at a lump sum price to be mutually agreed upon.

    The Contractor shall perform extra work, for which there is no quantity or price included in the Contract, whenever it is deemed necessary or desirable, to complete fully the work as contemplated, and such work shall be done in accordance with the specifications therefore, or in the best workmanlike manner as directed. Where such a price or sum cannot be agreed upon by both parties, or where this method of payment is impracticable, the Project Manager may order the Contractor to do such work on a force account basis, which will be paid for as follows.

73. **FORCE ACCOUNT WORK** When the Contractor is required to perform work as a result of additions or changes to the contract for which there are no applicable unit prices in the contract, the City and Contractor shall make every effort to come to an agreed upon price for the performance of such work. If an agreement cannot be reached, the City may require the Contractor to do such work on a force account basis to be compensated in accordance with the following:

    A. Labor**.** For all labor and for foremen in direct charge of the specific operations the Contractor shall receive the actual wages for each and every hour that said labor and foremen are actually engaged in such work.

    B. Materials. For materials accepted by the Project Manager and incorporated into the project, the Contractor shall receive the actual cost of such materials, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth). Excess materials delivered to the job site and not incorporated into the project will not be paid for and it is the Contractor's responsibility to remove said excess material from the job site.

    C. Equipment. For any machinery or special equipment (other than small equipment tools, whether rented or owned), the use of which has been authorized in writing, by the Project Manager the Contractor shall receive the rates agreed upon in writing before such work is begun which price shall include fuel, oil and miscellaneous necessities, or the Contractor shall receive those rates which may be specified elsewhere in the Special Provisions. For the purpose of definition, equipment with a new cost of $1000 or less will be considered small tools and equipment.

    D. Materials and Supplies Not Incorporated in the Work. For materials and supplies expended in the performance of the work (excluding those required for rented equipment) and approved by the Project Manager, the Contractor shall receive the actual cost of such materials and supplies used.

    E. Subcontractors**.** The Contractor shall receive the actual cost of work performed by a subcontractor. Subcontractor's cost is to be determined as in A., B., C., and D. above, plus the fixed fee for overhead and profit allowance computed as in G.

F. Superintendence. No additional allowance shall be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided

G. Contractor's Fixed Fee**.** The procurement officer and the Contractor shall negotiate a fixed fee for force account work performed pursuant to this specification by his force and by his subcontractors. The City shall pay 10 percent of A as compensation for overhead and profit for the work performed. The Contractor shall proceed diligently with the performance of the force account work to completion. The Contractor's fixed fee shall include an amount equal to the sum of 65 percent of A, which shall include, but not be limited to the following:

(1) Compensation for all costs paid to, or in behalf of, workmen by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits that may be required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed in the work; and

(2) Bond premiums, property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and Social Security taxes on the force account work.

In addition, the Contractor's fixed fee may include an amount not to exceed 10 percent of B. unless specifically authorized by the Project Manager in advance of the work; 5 percent of D., and 5 percent of E with the exception of that portion chargeable to equipment as defined above.

H. Compensation. The compensation as set forth above shall be received by the Contractor as payment in full for change order work done on a force account basis. At the end of each day, the Contractor's representatives and the Project Manager, shall compare records of the cost of work as ordered on a force account basis. Differences shall be immediately resolved and any unresolved difference shall be brought to the attention of the Project Manager by written notice from the Contractor within two working days of the occurrence.

I. Statements**.** No payment will be made for work performed on a force account basis until the Contractor furnishes the Project Manager duplicate itemized statements of the cost of such force account work detailed as to the following:

(1) Name, classification, date, daily hours, total hours, rate, and extension for such workmen. Contractor shall provide certified payrolls

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment. Contractor shall provide original receipted invoices.

(3) Quantities of materials, prices and extensions. Contractor shall provide original receipted invoices.

(4) Transportation of materials. Contractor shall provide original receipted invoices.

If, however, the materials used in the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the original invoices the statements shall contain or be accompanied by an affidavit of the Contractor which shall certify that such materials were taken from his stock that the quantity claimed was actually used and that the price and transportation of the material as claimed represent actual cost. Any request for payment under this Section should be submitted in the order outlined by the above.

The Contractor shall be responsible for all damages resulting from work done on a force-account basis, the same as if this work had been included in the original Contract.

Work performed without previous written order by the Project Manager will not be paid.

74. **ALLOWANCES** Whenever an allowance is mentioned in the specifications, then the contractor shall include in his contract sum the entire amount of such specified allowances. The expenditure of these allowances is to be at the Purchasing Manager's direction. However, the allowance expenditure is limited to items properly inferable from the title and description of the allowance. Unexpended balances are to be credited to the City. Compensation payable to the contractor for expenditure of allowances directed by the Purchasing Manager shall be based on the cost to the contractor as shown by actual invoices or receipts, and no additional overhead or profit shall be payable to the contractor for such allowances.

75. **PROGRESS PAYMENTS AND RETAINAGE** The Contractor shall submit a detailed application for payment on a monthly basis, preferable on an AIA G702 form. Such application for payment, notarized, if required, must be accompanied by supporting data and documents substantiating the Contractor's right to payment and reflecting a five percent (5%) retainage.

    Applications for payment shall not include payment for equipment or materials delivered to the site but not installed or for materials or equipment properly stored off-site unless specifically approved by the Project Manager. If such approval is granted, the Contractor must submit with the application for payment, bills of sale or other such documentation satisfactory to the City to establish the City's title to such materials or equipment or otherwise to protect the City's interest, including applicable insurance and transportation to the site for materials and equipment stored off site. Such approvals are typically reserved for "big ticket" items that individually would exceed five percent (5%) of the bid total. The Contractor shall promptly pay each subcontractor and supplier for work completed upon receipt of payment from the City the amount to which said subcontractor is entitled, reflecting any percentage retained from payments to the Contractor on account of each subcontractors work. The Contractor shall, by an appropriate agreement with each subcontractor, require each subcontractor to make prompt payments to his subcontractors in a similar manner.

    The City shall be under no obligation to pay or to see to the payment of any moneys to any subcontractor except as may otherwise be required by law.

    No Certificate of Payment or partial or entire use of the facility by the City shall constitute an acceptance of any work which is not in accordance with the Contract Documents.

    Payments Withheld – The City may decline to certify payment or because of subsequently discovered evidence or observations, nullify the whole or any part of any Certification of Payment previously issued, as may be necessary to protect the City from loss because of: (1) defective work not remedied, (2) third party claim filed or evidence indicating probable filing of such claim, (3) failure of the Contractor to make payments properly to subcontractors or suppliers, (4) reasonable evidence that the work can not be completed for the unpaid balance of the contract sum, (5) reasonable evidence that the work will not be completed within the Contract time, (6) persistent failure to carry out the work.

76. **FINAL PAYMENT REQUEST** Upon reaching substantial completion, as defined by receipt of occupancy permit or when all related punch list items have been completed, whichever date is later, the Contractor may submit a written Application for Final Payment. All supporting documentation and data shall be submitted with the Request for Final Payment as is applicable to the monthly Requests for Payment referenced heretofore.

    Out of the amount representing the total of the final payment request the City shall deduct five (5%) percent, which shall be in addition to any and all other amounts which, under the Contract, it is entitled or required to retain and shall hold said sum for a period of one hundred and twenty (120) days after the date of acceptance of the work by the City.

    Within thirty (30) days after the approval of the final payment request, the City will pay to the Contractor the amount remaining after deducting from the total amount of the final estimate all such sums as have hereto before been paid to the Contractor under the provision of the Contract and also such amounts as the City has or may be authorized under the Contract to reserve or retain.

    Neither the final payment nor the remaining retainage shall become due until the Contractor submits to the Project Manager:

1. An affidavit that all payrolls, bills for materials and equipment and other indebtedness connected with the work for which the City or his property might in any way be responsible, have been paid.
2. Consent of surety to final payment, and
3. If requested, data establishing payment or satisfaction of obligations, such as receipt, release and waivers of liens arising out of the Contract;
4. All punch list items are completed to the satisfaction of the Project Manager.

If any subcontractor refuses to furnish a release or waiver of liens required by the City, the Contractor may furnish a bond satisfactory to the City to indemnify him against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the City all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney fees.

Acceptance by the Contractor of final payment shall operate as a release to the Mayor and Council and every officer and agent thereof, from all claims and liabilities to the Contractor for anything done or furnished or relating to the work under the contract.

77. **RELEASE OF RETAINAGE** Upon the expiration of the aforesaid period of one hundred and twenty (120) days succeeding the date of acceptance, the City will pay to the Contractor all sums reserved or retained, less such amount as it may be empowered under the provisions of the Contract to retain.

78. **GUARANTEES / WARRANTIES** All guarantees and warranties required shall be furnished by the Contractor and shall be delivered to the Project Manager before final payment is made. The Contractor guarantees that the items conform to the contract documents.

79. **GUARANTEE PERIOD** The Contractor shall warrant and guarantee the work required under this Contract for a period of twelve (12) months from the date of Final Acceptance. The Contractor warrants and guarantees to the City, that materials and equipment furnished under the Contract shall be of good quality and new unless otherwise required or permitted by the Contract Documents, that all work will be in accordance with the Contract Documents, and that all work will be of good quality, free from faults and defects. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the City, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

The Contractor's obligation to perform and complete the work in a workmanlike manner, free from faults and defects and in accordance with the Contract Documents shall be absolute. The Contractor shall remedy, at his own expense, and without additional cost to the Owner, all defects arising from either workmanship or materials, as determined by the City, or City's representative. The obligations of the Contractor under this Paragraph shall not include normal wear and tear under normal usage.

If the Contractor does not, within ten (10) days after notification from the Project Manager, signify his intention in writing or in action to correct work, as described above, then the Project Manager may proceed with the work and charge the cost thereof to the account of the Contract as herein before provided.

80. **Substantial Completion.** Sufficient completion of the project or the portion thereof to permit utilization of the project, or portion thereof for its intended purpose. Substantial completion requires not only that the work be sufficiently completed to permit utilization, but that the City can effectively utilize the substantially completed work. Determination of substantial completion is solely at the discretion of the City. Substantial completion does not mean complete in accordance with the contract nor shall substantial completion of all or any part of the project entitle the Contractor to acceptance under the contract.

At such time as the Contractor has completed the work and prior to requesting a final inspection, the Contractor shall make written request for an inspection for substantial completion. Such request shall be made no less than seven (7) calendar days prior to the requested date of inspection. An inspection will be made by the City and a determination will be made as to whether or not the work is in fact substantially complete and a "punch list" will be developed. "Punch Lists" containing numerous items or items which may affect the intended use of the work

will be considered cause to delay issuance of a document of Substantial Completion. Operation and Maintenance manuals shall be submitted and approved prior to issuance of any document of Substantial Completion.

81. **TRANSFER OF TITLE** The Contractor warrants that title to all work, materials and equipment covered by the Application for Payment will pass to the City either by incorporation in construction or upon the receipt of payment by the Contractor, free and clear of all liens, claims, interests or encumbrances, and that no work, materials, or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any person performing the work at the site or furnishing materials or equipment for the project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other persons.

82. **USE OF PREMISES** Whenever, in the opinion of the Project Manager, any portion of the work is completed or is in an acceptable condition for use, it shall be used for the purpose it was intended, however, such use shall not be held as acceptance of that portion of the work, or as a waiver of any of the provisions of the Contract.

83. **DETERMINATION OF CITY'S LIABILITY** The acceptance by the Contractor of the final payment made as aforesaid shall operate as and be a release to the City and every officer and agent thereof, from all claims by and liabilities to the Contractor for anything done or furnished for or relating to or affecting the work under the contract.

84. **NO LIMITATION OF LIABILITY** The mention of any specific duty or liability of the Contractor in any part of the specification shall not be construed as a limitation or restriction upon any general liability or duty imposed upon the Contractor.

85. **PRESERVATION OF MONUMENTS AND TREES** The Contractor shall be responsible for the preservation of all public and private property, trees, monuments, highway signs, markers, fences, and curbs or other appurtenances, and shall use every precaution to prevent damage or injury thereto. Any expense necessary to provide adequate protection, whether such designated item be on or off the right-of-way, shall be assumed by the Contractor.

86. **PUBLIC ACCESS** The Contractor shall at all times conduct the work in such a manner as to insure the least obstruction to traffic practicable. The convenience and safety of the general public and the residents along the improvement shall be provided for in an adequate and satisfactory manner. Fire hydrants shall be kept accessible to fire apparatus at all times. Handicap access shall remain accessible.

87. **HAZARDOUS AND TOXIC SUBSTANCES** Manufacturers and distributors are required by Federal "Hazard Communication" provision (29 CFR 1910.1200), and the Maryland "Access to Information About Hazardous and Toxic Substances" law to label each hazardous material or chemical container, and to provide Material Safety Data Sheets to the purchaser. The Contractor must comply with these laws and must provide the City with copies of all relevant documents, including Material Safety Data Sheets, prior to performance of services or contemporaneous with the delivery of goods.

88. **MAINTENANCE OF VEHICULAR TRAFFIC (if applicable)** Unless otherwise directed by the Project Manager, traffic must be maintained on all roadways within the construction area continuously or with the least amount of interruption during the construction period necessary to minimize accidents and accident severity and maintain safety while at the same time minimizing inconvenience to the traveling public and the Contractor. The Project Manager shall have the exclusive right to order a road to be closed or to remain open. No equipment will be stored or permitted to stand within the limits of the roadway right-of-way where traffic must be maintained. Any earth dropped on the surface of the existing road shall be removed immediately to avoid possible hazardous conditions. The Contractor shall prepare and submit a Traffic Control Plan (TCP) for the Project Manager's review, revision, and approval, at least ten days before beginning work, unless otherwise directed.

    All Traffic Control Devices shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition (and all revisions). With the approved TCP implemented, the Contractor will be permitted to work with the following provisions: All traffic lanes must be restored at the end of each day unless specifically authorized otherwise, in advance, by the Project Manager:

The City reserves the right to modify or expand on the methods of traffic control specified and to restrict working hours if, in the opinion of the Project Manager, the Contractor's operations are a detriment to traffic during rush hour periods.

Signs on fixed supports shall be mounted on two posts. Signs mounted on portable supports are suitable for temporary conditions. During periods of partial shutdown, or extended periods when no work is being performed, the Contractor shall remove or adequately cover all construction signs as directed by the Project Manager.

The Contractor shall be responsible for removing, storing, covering, and resetting all existing traffic signs and delineators that become inapplicable and will confuse traffic during the various stages of construction, the cost of which shall be included in the price for Maintenance of Traffic or in the absence of such a pay item it shall be accomplished at no additional compensation, as incidental to the contract. Any signs lost or damaged will be replaced by the Contractor at its expense.

The Contractor shall provide, maintain in new condition, and move when necessary or directed all traffic control devices used for the guidance and protection of vehicles.

The Contractor shall be responsible for providing the appropriate signs to reflect varying traffic patterns prior to the commencement of a new stage of construction.

Traffic must be safely maintained at all times throughout the entire length of the project. No additional compensation shall be paid to the contractor for traffic maintenance, even if the contract time exceeds the contractually specified completion date or working days.

When required lane shifts are implemented, existing painted lane markings no longer applicable shall be removed to the satisfaction of the Project Manager.

Temporary crash cushions are to be installed as shown on the Plans. Unless otherwise specified, sand containers shall be used. The crash cushions shall conform to Subsection 104.10 of the MDSHA Specifications.

Crash cushions shall be reset to reflect changing traffic patterns caused by different stages of Traffic Control. The crash cushions shall be reset at locations shown on the Plans or as directed by the Project Manager.

Should any of the sand container components be damaged during the resetting of the system or during the course of the project, the Contractor shall replace the damaged components at its own expense.

The Contractor shall have flaggers on this Project for the purpose of controlling traffic while maneuvering heavy equipment. This may require a temporary lane closure in any of the specified Traffic Control Phases. These temporary lane shutdowns shall be kept to a minimum and the normal traffic pattern for the Traffic Phase shall be restored as quickly as possible. The Contractor shall comply with Section B-20 of the MUTCD regarding flagger signing.

Prior to stopping work each day the Contractor will be required to reshape all graded areas and eliminate all drop-offs not protected by barriers by filling with compacted stone at maximum of 8:1 slope.

All barriers and barricades shall be adequately illuminated at night, as specified herein, and all lights for this purpose shall be kept operative from sunset to sunrise.

No work shall be commenced in any stage of construction until the barriers and barricades for that stage, indicated on the Plans, or as specified by the Project Manager, are completely in place. The Contractor will be solely responsible for all accidents and damages to any persons and property resulting from its operations. Compliance with prescribed precautions contained herein or in the MDSHA Specifications or Manual On Uniform Traffic and Control shall not relieve the Contractor of its primary responsibility to take all necessary measures to protect and safeguard the work, nor relieve the Contractor from any responsibilities prescribed by GP-7 of the January 2001 MDSHA Standard Specifications for Construction and Materials.

The Contractor shall notify and obtain approval in writing from the Project Manager, at least 48 hours before changing any Traffic Control Phase.

Any construction materials or debris dropped on the roadway surface shall be removed immediately to avoid possible hazardous conditions.

Materials The Contractor shall provide, maintain in first class condition, replace and move when necessary or directed all materials, devices, flagging, etc., required to maintain traffic in accordance with the Traffic Control Plans or as directed by the Project Manager. Reference is made to the latest edition of the MUTCD, wherein all such items are fully described with regard to use, application, warranties, size, color, placement, etc., and wherein typical traffic control device layouts are shown, as all such devices and techniques planned for use on this project shall strictly conform to the Manual's request except as noted on the Plans.

When any of the following items have been established on the Plans or as directed by the Project Manager, the Specifications will be adhered to in accordance with the respective sections.

Lights, Warnings, Etc: - All banners and imitation barrels shall be adequately illuminated at night, and all lights for this purpose shall be kept operative from sunset to sunrise.

Steady burning warning lights shall be used to delineate channelization through and around obstructions in a construction or maintenance area, on detour curves, on lane closures, and in other similar conditions (MUTCD 6E-4, 6E-5). Flashing warning lights shall be the means for identifying a particular and individual hazard and shall not be used in sequence, in clusters, or for delineation (MUTCD: 6E-5, 6E-6).

Where noted on the plans the first two (2) warning signs shall include a "High Level Warning Device." In addition to the flags the signs shall also be equipped with a Type "B" High Intensity Flag Warning Light. This device must meet the requirements of MUTCD 6C-11 and 6E-5. The device shall be incidental to the Temporary Traffic Sign item if provided for, otherwise the costs shall be considered incidental and no special compensation will be paid.

Barriers**:** Temporary concrete barriers shall be installed on the roadway approaches as shown on the plans or as approved in writing.

Any permanent facilities damaged as a result of anchoring temporary concrete barriers (anchor holes. etc.) shall be repaired to the satisfaction of the Project Manager using an epoxy grout or other material as may be specified by the Project Manager. Epoxy grout shall consist of sand and epoxy, mixed by volume according to manufacturer's recommendations.

Method of Measurement and Basis of Payment: All work and materials required under the TCP not covered or specified as a pay item on the price proposal form will be included in the lump sum price bid for Maintenance of Traffic. In the absence of such an item the Contractor agrees that there will be no special compensation paid for maintenance of vehicular traffic as described above and the cost shall be considered incidental to the contract and compensated as part of other contract bid item(s).

89. **PARKING, STORAGE AND STAGING AREAS** Parking, storage and staging areas for the Contractor's use during the Project must have prior approval of the Project Manager. All areas used for storage of equipment or material shall be restored to their original condition, immediately upon completion of the work. No additional compensation will be provided for restoring, re-grading, placement of topsoil, and seed and mulch in these areas.

90. **PEDESTRIAN TRAFFIC** Pedestrians shall be safeguarded by the use of signs lights, barricades and barriers as shown on the traffic control plan and/or directed by the Project Manager. Pedestrian traffic shall be maintained at all times unless specifically authorized otherwise, in advance, by the Project Manager. The Contractor shall submit a pedestrian traffic safety plan in accordance with the MUTCD, incorporating safety measures and other provisions to fully implement the intent of this paragraph. All work and materials required to prepare and implement the pedestrian traffic safety plan shall be considered incidental to the contract and there shall be no special compensation paid for this item unless special pay items are included in the Price Proposal page. No

additional compensation shall be paid for maintenance of vehicular and pedestrian traffic if for whatever reason the project time extends beyond the contract specified completion date or working days.

91. **HANDICAP ACCESS** Where handicap access exists within the line of work under this contract it will be the contractor's responsibility to maintain said access during the life of this contract. This service is considered to be incidental to this contract and no special compensation will be paid for this service unless provided on the Price Proposal page.

92. **TOILET FACILITIES** Toilet facilities meeting MOSHA standards shall be provided at the job site for all projects exceeding $100,000 in value and at all other job sites when directed by the City. No special compensation shall be paid unless specifically provided for in the Price Proposal page of this solicitation.

93. **STAKEOUT-CONSTRUCTION CONTROL** Survey construction control provided by the City shall be limited to the baseline with stations not over 100 feet, and the elevation of the top of each marked point. P.C.s, P.T.s. P.I.s, P.V.T.s, and at least one point on the tangent beyond the end of each curve will be staked. The Contractor shall request baseline stakeout a minimum of five days in advance of construction. Stakeout data other than stated above will be furnished by the construction Contractor per MDSHA Section 815 for structures, otherwise per WSSC specs. section 01000(H) and as described in detail below and in these specifications. The City's responsibility for stakeout for the entire project shall be limited to that data described above and this shall be provided only once. The Contractor shall preserve or otherwise ensure adequate survey controls exist throughout the life of the contract.

    Surveys and stakeout shall be accomplished by the Contractor as outlined above and in conformance with WSSC specifications Section 01000-10-l l(H), entitled "Construction Stakeout By Contractor."

    The provisions therein are primarily for pipeline stakeout. The Contractor's responsibilities under this contract are hereby expanded to include, in addition to pipeline stakeout, similar responsibilities for all phases of stakeout necessary to construct all facilities under this contract including but not limited to clearing and grubbing excavation, pavement, curbs and gutters, storm drainage pipes and facilities, culverts, structures, storm water management facilities, street lights, traffic signal conduits and components, noise walls, retaining walls, ditches and sediment control features.

    The stakeout and survey record data shall be preserved and turned over to the City for filing following completion of specific components of work.

    Method of Measurement and Payment Generally, stakeout shall be considered incidental to the contract and no special compensation shall be paid, unless a specific pay item is included in the contract Price Proposal page of this contract. Where payment is provided, progress payments for stakeout shall be made based on the percentage resulting from the price bid for stakeout divided by the total bid, multiplied by the monthly payment exclusive of the stakeout payment, except the final payment shall be adjusted as necessary to equal the total price bid for stakeout.

    Grade Sheet by Contractor: Grade sheets showing hub and design elevations for roadway, water mains, drainage structures and piping, walks, lights, infiltration facilities clearing/grubbing, excavation, and related components will be provided by the construction Contractor at least 8 hours in advance of construction and will be subject to approval by the Project Manager. Stakeout for curb and gutter in all vertical and horizontal curves is to be at intervals of 25 feet or less unless otherwise specifically authorized by the Project Manager. This work is considered incidental to the contrast and no extra compensation will be paid.

94. **DEBRIS** Under no circumstance will any open fires be permitted within the City of Rockville. All debris will be removed and hauled from site (except when otherwise specifically authorized in the bid document) and disposed in accordance with Local, State and Federal laws in effect at the disposal site. No special compensation will be paid as all costs for off-site disposal shall be included in the applicable bid prices and considered incidental to the contract.

95. **CLEAN UP** In addition to any provisions regarding clean up in the bid document, clean up, including the restoration of areas of construction, shall proceed as quickly as is practicable. The period between construction and final clean up shall normally not exceed one week. If at any time during the course of the work the cleaning operation in any given area becomes delinquent in the opinion of the Project Manager he may order that construction be stopped until such cleaning is completed. Any such order shall not extend the Final Completion date under this contract. Unless otherwise indicated, all materials razed, demolished, or otherwise removed from the work site shall become the property of the Contractor and shall be disposed of legally and properly off site at his expense.

    Upon Final Completion of the work and before acceptance and final payment shall be made, the Contractor shall clean and remove from the street, footways, lawns, and adjacent property, all surplus and discarded materials, rubbish and temporary structures, restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work and shall leave the work area in a neat and presentable condition throughout the entire length of the project under contract.

    If the Contractor fails to clean up at Final Completion of the work, the City may do so and the cost thereof shall be charged to the Contractor.

INVITATION FOR BIDS #25-25
Croydon Creek & Calvin Park Tributary Stream Restoration Project

SECTION III: SPECIAL TERMS AND CONDITIONS

POINT OF CONTACT
To ensure fair consideration for all Bidders, the City prohibits communication to or with any department, elected official or employee during the submission process, other than the Procurement Division, regarding the requirements for this submittal. Any such contact may be considered grounds for disqualification. The City shall not be responsible for oral interpretations given by any City employee or its representative.

All inquiries concerning clarifications of this solicitation or for additional information shall be submitted via the City's Collaboration Portal.

All responses to questions/clarifications will be sent to all prospective Bidders in the form of a written addendum. Material changes, if any, to the scope of work, or bid procedures will also be transmitted by written addendum.

MINIMUM QUALIFICATION REQUIREMENTS
At a minimum, Bidders must provide written evidence (through references) of five (5) years prior experience with the scope of work as detailed in the specifications.

If the bidder intends to subcontract any or part of the work, then the bidder must identify and include references for each qualified subcontractor, together with a description of the proposed subcontract work. This evidence shall be submitted with the bid, or the City, at its discretion, may determine the bid to be unresponsive. The City reserves the right to require references for such subcontractors.

The City shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform the work and reserves the right to request additional information. The right is reserved to reject any bid where an investigation of the evidence or information submitted by such Bidder does not satisfy the City that the Bidder is qualified to properly carry out the terms of the Bid Document.

CONTRACT TERM
This contract will begin 10 working days from the date of issuance of a notice to proceed. All work associated with this project must be completed within 180 calendar days after the notice to proceed has been issued. It is possible that the City may issue a Limited Notice to Proceed (LNTP) to allow for mobilization, coordination, field measuring, shop drawing review/approval, submission of work plan and ordering long lead time components.

ESTIMATED QUANTITIES
No warranty is given or implied by the City as to any components listed in this Bid and are considered to be estimates for the purpose of information only. The City reserves the right to accept all or any part of the bid and to increase or decrease quantities of Bidder's bid to meet additional or reduced requirements of the City.

ADDITIONAL ITEMS/DUTIES
The City may require additional items/duties of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items/duties, and shall provide the City prices on such additional items or duties based upon a formula or method which is the same or similar to that used in establishing the prices in the bid. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to purchase those items from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

NO EXCLUSIVE CONTRACT/ADDITIONAL SERVICES
Contractor agrees and understands that the contract shall not be construed as an exclusive arrangement and further agrees that the City may, at any time, secure similar or identical services at its sole option.

EXCEPTIONS

An exception is any condition, limitation, restriction, term or other deviation from the requirements of the Invitation for Bids that is a condition of the bidder's bid or that the bidder expects to become part of a contract with the City. Bidders are strongly discouraged from taking exceptions to the requirements of the Invitation for Bids. Exceptions may result in the City declaring the bidder's bid to be non-responsive. Any exceptions taken must refer to the specific language of the Invitation for Bids to which the bidder objects and must be included with the bid on a separate page. The City shall be entitled to assume that the absence of any exceptions constitutes the bidder's willingness to comply with all requirements of all parts of the Invitation for Bids.

COMPLETE INFORMATION REQUIRED ON BID FORM

All bids must be submitted on the attached Bid Form with all sections completed. To be considered a valid bid, the bid form pages and required forms must be returned, properly completed, as outlined in the General Conditions.

INSURANCE REQUIREMENTS

Prior to execution of the contract by the City, the Contractor must obtain at their own cost and expense and keep in force and effect during the term of the contract including all extensions, the following insurance with an insurance company/companies licensed to do business in the State of Maryland evidenced by a certificate of insurance and/or copies of the insurance policies. The Contractor's insurance shall be primary.

The Contractor must electronically submit to the Procurement Division a certificate of insurance prior to the start of any work. In no event may the insurance coverage be less than shown below.

Unless otherwise described in this contract the successful contractor and subcontractors will be required to maintain for the life of the contract and to furnish the City evidence of insurance as follows:

Type of Insurance	Amounts of Insurance	Endorsements and Provisions
1. Workers' Compensation 2. ***Employers' Liability***	Bodily Injury by Accident: $100,000 each accident Bodily Injury by Disease: $500,000 policy limits Bodily Injury by Disease: $100,000 each employee	Waiver of Subrogation: *WC 00 03 13 Waiver of Our Rights to* **Recover From Others Endorsement – signed and dated.**
3. Commercial General Liability a. Bodily Injury b. Property Damage c. Contractual Liability d. Premise/Operations e. Independent Contractors f. Products/Completed Operations g. Personal Injury	Each Occurrence: $1,000,000	City to be listed as additional insured and provided 30 day notice of cancellation or material change in coverage. **CG 20 37 07 04 and CG 20 10 07 04 forms to be both signed and dated.**
4. Automobile Liability a. All Owned Autos b. Hired Autos c. Non-Owned Autos	Combined Single Limit for Bodily Injury and Property Damage - (each accident): $1,000,000	City to be listed as additional insured and provided 30 day notice of cancellation or material change in coverage. **Form CA20 48 02 99 form to be both signed and dated.**
5. Excess/Umbrella Liability	Each Occurrence/Aggregate: $1,000,000	City to be listed as additional insured and provided 30 day notice of cancellation or material change in coverage.
6. Professional Liability (if applicable)	Each Occurrence/Aggregate: $1,000,000	

POLICY CANCELLATION

No change, cancellation or non-renewal shall be made in any insurance coverage without thirty (30) days written notice to the City's Procurement Division. The Contractor shall electronically furnish a new certificate prior to any change or cancellation date. The failure of the Contractor to deliver a new and valid certificate will result in

suspension of all payments and cessation of on-site work activities until a new certificate is furnished.

ADDITIONAL INSURED
The Mayor and Council of Rockville, which includes its elected and appointed officials, officers, consultants, agents and employees must be named as an additional insured on the Contractor's Commercial and Excess/Umbrella Insurance for liability arising out of contractor's products, goods, and services provided under the contract. Additionally, the Mayor and Council of Rockville must be named as additional insured on the Contractor's Automobile and General Liability Policies. Endorsements reflecting the Mayor and Council of Rockville as an additional insured are required to be submitted with the insurance certificate.

SUBCONTRACTORS
If applicable, all subcontractors shall meet the requirements of this section before commencing work. In addition, the Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

Example:
Certificate Holder
The Mayor and Council of Rockville
City Hall
111 Maryland Avenue
Rockville, MD. 20850

COOPERATIVE PROCUREMENT
The Contractor may extend all of the terms, conditions, specifications, and unit or other prices of any award resulting from this solicitation to any and all other public bodies, subdivisions, school districts, community colleges, colleges, and universities. The City assumes no authority, liability or obligation, on behalf of any other public entity that may use any contract resulting from this solicitation.

LICENSE AND SUPPORT AGREEMENTS
In the event a bidder or manufacturer requires an agreement to be signed the agreement must be returned with the bid for review prior to any subsequent award. The City reserves the right to refuse consideration of an agreement and may hold the bidder to any agreement entered into as a result of a purchase order being issued as a result of this IFB without prior knowledge that the bidder and/or manufacturer will require an additional document, contract or agreement to be executed.

NOTICE TO PROCEED AND COMPLETION SCHEDULE
The contractually specified completion date and time shown herein below is to be strictly adhered to unless authorized or directed otherwise in writing by the Chief, Construction Management Division, DPW. The completion date, where specified, has an allowance for inclement weather and holidays. Time extensions for unusual conditions causing project delays not covered in these special provisions will be subject to the conditions covered under the GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS; however, no compensation above that indicated herein for specific items shall be paid to the Contractor for any delay, regardless of the source of delay.

The Contractor shall provide a bar-chart schedule at the Project Kick-Off Meeting or at such time as directed by the Chief, Construction Management, DPW but not more than once per month or with any change order. In addition, the contractor shall verbally provide updates to the Project Inspector as requested.

PROJECT DESCRIPTION
This project is for the Croydon Creek and Calvin Park Tributary Stream Restoration; furnishing of all materials, labor, equipment, tools and services for the project, and all other associated work as shown on the Construction Drawings and included in these specifications. The project description for IFB #25-25 is included in Section I. The scope of work includes but is not limited to the following:

- Perform construction stakeout;

- Provide and maintain sediment control and tree protection measures at all times throughout the construction period;
- Provide temporary pedestrian access throughout the construction period;
- Install in-stream and bank stabilization structures;
- Excavate, salvage, haul, place and/or dispose of fill as defined by these contract documents;
- Install cover/nurse crop and native seed mix;
- Remove non-native invasive species;
- Restoration of all disturbed areas;
- Trail restoration to existing conditions or improved;
- Landscaping including the planting of trees, shrubs, and herbaceous plants;
- Follow up maintenance and replacement of landscaping for a period of two years including control of non-natives and invasive plants within the limits of disturbance; and
- Other incidental work as necessary.

CONTRACT TERM
This contract will begin 10 working days from the date of issuance of a notice to proceed. All work associated with this project must be completed within 600 working days after the notice to proceed has been issued. It is possible that the City may issue a Limited Notice to Proceed (LNTP) to allow for mobilization, coordination, field measuring, NNI eradication, shop drawing review/approval, submission of work plan and ordering long lead time components.

Landscaping may be delayed until the subsequent planting season but must be completed no later than 60 days from the start of the subsequent planting season of April 1 or October 1 of any calendar year.

CONTRACT EXTENSIONS
The City reserves the right to extend the contract with the awarded contractor for more than one year which may include additional work, change orders or other services where applicable.

NOTICE TO PROCEED AND COMPLETION SCHEDULE
The specified completion date and time shown herein below is to be strictly adhered to unless authorized or directed otherwise in writing by the Chief of Construction Management. The completion date, where specified, has an allowance for inclement weather and holidays. Time extensions for unusual conditions causing project delays not covered in these special provisions will be subject to the conditions covered under the GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS; however, no compensation above that indicated herein for specific items shall be paid to the Contractor for any delay, regardless of the source of delay.

The Contractor shall provide a bar-chart schedule at the Project Kick-Off Meeting or at such time as directed by the Chief of Construction Management, but not more than once per month or with any change order. In addition, the contractor shall verbally provide updates to the Project Inspector as requested.

CONSTRUCTION WORK HOURS
Work is permitted between 7:00 am to 5:00 pm, Monday through Friday. Working outside of these hours must first be approved in writing by the City. Work on any street, other than secondary residential (generally 26' in width) shall be limited to 9:00 am to 3:00 pm Monday through Friday. No work shall be permitted outside these hours unless written approval is obtained from the Chief of Construction Management or his/her designee. This also applies to construction related activities such as dewatering or pumping where construction crews may not be on site.

Due to the proximity of Historic Rockville Cemetery to Calvin Park Tributary, there is an expectation that the Contractor will observe a “quiet hour” during funeral services while working on Calvin Park Tributary. The definition of quiet is at the discretion of Construction Management but is generally assumed to mean no construction equipment running or idling, and limited work such that nature sounds are the predominate sound heard during funeral services. A quiet hour may be issued without notice, but all attempts will be made to coordinate with the Rockville Cemetery Association on funeral service schedule. Advanced notice will be provided to the Contractor when the City is in possession of such information.

CONTRACT DOCUMENTS

In addition to the requirements of GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS, Item No. 40, in the case of discrepancies in the Contract Documents and need for interpretation, the documents shall be given precedence in the following order:

- Change Orders
- Addenda
- Drawings
- Special Provisions
- Technical Specifications
- General Conditions and Instructions to Bidders (City of Rockville)
- Standard Details by others
- City of Rockville Standard Details for Construction
- Applicable Standards listed below

Any questions, requests for information or revisions to the specifications must first be reviewed and approved by the City of Rockville.

APPLICABLE STANDARDS

As a minimum standard of quality workmanship, all work is to comply with the latest provisions and recommendation of the following documents in the *following order of precedence*. In the event of conflict with the Terms and Conditions or the Specifications of the City of Rockville, the City's determination shall govern.
City of Rockville Code and Charter
City of Rockville Standards and Details, latest edition.
Washington Suburban Sanitary Commission, General Conditions and Standard Specifications, latest edition.
Montgomery County Department of Public Works and Transportation Design Standards, latest edition.
Montgomery County Department of Permitting Services, Water Resources Division, Standard Details, latest edition.
Maryland Department of Transportation, State Highway Administration's (MDSHA) "Standard Specifications for Construction and Materials" including all errata and addenda thereto and additions included in these special provisions, latest edition.
MDSHA Book of Standards and Standard Specifications for Construction and Material, latest edition.
MDSHA Manual on Uniform Traffic Control Devices for Streets and Highway (MD-MUTCD) and Temporary Traffic Control Typical Applications (TTCTA), latest edition.
Maryland Department of the Environment (MDE) Soil Erosion and Sediment Control Regulations, latest edition.
American Society for Testing and Materials, (ASTM) Standards, latest edition.
American Water Works Association Standards (AWWA) Standards, latest edition
American Association of State Highway and Transportation Officials, (AASHTO) Standards, latest edition
American Concrete Institute (ACI) Standards, latest edition.

All references to the State of Maryland, State, S.R.C, State Roads Commission, State Highway Administration or Commission in the Special Provisions, Technical Specifications or Book of Standards shall be interpreted to refer to the City of Rockville Department of Public Works.

PERMITS

The Contractor is responsible for implementation and compliance with all conditions of all permits as listed below:

- Army Corps of Engineers Permit/Authorization- This Army Corps of Engineers permit/authorization is attached in Appendix B; USACE NWP 2023-10-23

- Maryland Department of the Environment (MDE) Authorization- This MDE permit/authorization is attached in Appendix C; MDE LOA 2023-05-23

- MDE National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Associated With Construction Activity- This MDE permit will be formally transferred to the Contractor by the City after

award. Upon final acceptance, the Contractor shall formally transfer the permit back to the City.

- City of Rockville Stormwater Permit- This City permit is issued by the Department of Public Works and is attached in Appendix D; SMP2025-00023

- City of Rockville Sediment Control Permit- This City permit is issued by the Department of Public Works and is attached in Appendix D; SCP2025-00017

- Washington Suburban Sanitary Commission (WSSC) RMS File NO. 19RMS8569A Approval Letter is attached in Appendix E

The Contractor is responsible for all reporting, inspection requests, documentation and notifications associated with these permits. Compensation for implementation of the requirements of the above permits is to be included in appropriate bid items and no special compensation will be made.

PROJECT KICK-OFF AND PRE-CONSTRUCTION CONFERENCE
Upon issuance of the Notice to Proceed, the City may arrange a project kick-off meeting with all appropriate City staff and the Contractor. This will be either a virtual or office-based meeting to review the project requirements. The City will decide which City staff will attend. The Contractor shall arrange any pre-construction meetings required by associated permits and/or approvals (City of Rockville, Montgomery County, State of Maryland). These pre-construction meetings shall be held on the project site among the Contractor, design engineer's representative, and appropriate City staff, including the Chief of Construction Management, Project Inspector, appropriate Permit Inspector, and Department of Engineering Project Manager.

All subsequent notifications for inspection and coordination with the City and all other agencies are the responsibility of the Contractor.

MOBILIZATION/DEMOBILIZATION
Mobilization shall include all activities and costs for transportation of personnel, equipment, and operating supplies to and from the site; establishment of offices, and other necessary facilities for the Contractor's operations at the site; premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable; and other items as specified in this specification. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not included in the contract from the site; including the disassembly, removal and site cleanup/repair of offices, buildings, and other facilities assembled on the site for this contract. This work includes mobilization and any additional mobilization and demobilization activities, and costs as required during the performance of the contract. The Contractor shall provide and pay all the cost for temporary utilities including electricity, telephone and water. All temporary facilities shall be available for the duration of the project. The Contractor shall be responsible for compliance with code ordinances and requirements of local officials for temporary facilities, controls, and related health and safety requirements. It shall be the responsibility of the Contractor to provide all necessary electrical service. In the event electrical power will not be available, it shall be the Contractor's responsibility to provide any necessary generator to continue construction. The Contractor shall provide and pay all the cost for toilet facilities for all workmen, as required by local ordinances for complete and adequate sanitary arrangements. Sanitary facilities and the surrounding area shall be kept clean and neat at all times. They shall be located on the project site as approved by the City.

Payment of the Mobilization item will not be made more than once per site, regardless of the fact that the Contractor may have, for any reason, shut the work down on the project or moved their equipment away from the project and then back again.

GRANTS
State of Maryland Department of Natural Resources Chesapeake & Atlantic Coastal Bays 2010 Trust Fund Grant Agreement; Appendix F

VALUE ENGINEERING
The City will consider value engineering change proposals in accordance with Maryland SHA Standard Specifications for Construction and Materials (2018, or current) Section TC-2.10 VALUE ENGINEERING

CHANGE PROPOSALS.

ALTERNATE/EQUIVALENT EQUIPMENT OR MATERIAL
The Contractor may propose, in writing, to use alternate/equivalent equipment or material. The proposal should include a complete set of product specifications and justification for the substitution. The Contractor is responsible for all costs to review the proposal by the City's Engineer of record. The City will transmit the proposal to the Engineer of record that completed the design. The Engineer of record will submit a cost proposal that consists of a review and recommendation whether or not the substitution is acceptable. If the Contractor approves the Engineer's cost proposal it will be accounted for in an appropriate change order.

EMERGENCY CONTACT INFORMATION
The Contractor shall provide the name(s) and phone number(s) of a representative(s) of the Contractor who can be reached in case of an emergency. This shall be submitted to the City prior to the start of construction.

EMERGENCY INFORMATION
The Contractor shall post information concerning emergency medical, fire, rescue and hazardous waste phone numbers from which personnel on the site can obtain information if needed. The Contractor shall also list the name and number of at least two representatives of the Contractor who can be reached in case of an emergency. The representatives must be fluent in English. The emergency information shall be in a central position, so it is visible and accessible 24 hours a day. The emergency information shall be posted for the entire length of the Contract.

PROJECT SIGN(S)
In promotion of projects funded through the Chesapeake & Atlantic Coastal Bays Trust Fund (Trust Fund), grant recipients will acknowledge the Trust Fund on all signage, publications, videos, and other promotional materials. A State logo shall be present on materials created to promote projects funded through the Trust Fund.

Prior to the start of construction, the Contractor shall provide and erect a project sign at a prominent location at the construction site. The signs shall be prepared in accordance with the instructions below or as shown on the construction plans:

- Submit 8.5"x11" or greater size scaled shop drawings or sketch indicating dimensions, layout, content and materials for each sign, for approval by the Chief of Construction Management.
- Locations to be flagged and approved or otherwise verified with DPW Project Inspector.
- The sign shall be 4' x 8' in size, constructed of 3/4" exterior density overlaid plywood or equal, and shall have a smooth white finish.
- Lettering shall be black latex or adhesive vinyl firmly affixed to the plywood surface, and each letter shall be a minimum of 3" in height. Letters shall be legible graphic type, as approved by the DPW Project Inspector.
- The sign shall be mounted on two 4" x 4" timber posts with adequate bolts and fittings to ensure proper stability. If unacceptable reflection or other viewing or safety issues are identified by the DPW Project Inspector, the sign's positioning shall be adjusted by the Contractor.
- The sign shall be posted at a proper location and erected at a height where the bottom of the sign is a minimum of 5' from the ground or as directed to permit public viewing.
- The appropriate Trust Fund and City of Rockville logos shall be provided by the City.
- Sample language for signage and other promotional materials: "This project was funded in part by the Maryland's Chesapeake & Atlantic Coastal Bays Trust Fund. For more information, visit http://dnr.maryland.gov/ccs/Pages/funding/trust-fund.aspx."
- If peeling or damage occurs due to weather, construction activity or vandalism, it shall be the Contractor's responsibility to restore the sign to its original condition at no cost to the City.
- At the completion of the project, the Contractor shall remove the sign from the project site and restore the area to original condition.

Costs associated with project signs shall be incidental to the work and no specific payments will be made.

PUBLIC UTILITIES
Comply with MDSHA Specifications under Sections GP 5.05, and GP 7.17 regarding public utilities.

It shall be the Contractor's responsibility to cooperate to the fullest extent possible with the utility owners in their work of adjusting the existing utilities to suit the proposed construction under this contract. All utilities, unless provided for on the contract drawings, shall be relocated or constructed by their respective owners.

The location of existing utilities shown on the plans and profiles are approximate only and it shall be the Contractor's responsibility to determine the exact location of the utilities prior to commencing work in all areas of possible conflict. All test pits must be completed in coordination with the City and the affected utility companies. The existence of utilities other than those shown on the plans is not known. If, during construction operations, the Contractor should encounter additional utilities, he shall immediately notify the City and take all necessary and proper steps to protect the continuance of service of such facilities.

The Contractor shall notify the utility owner and City when previously unknown or different utilities are encountered. The Contractor shall support and protect existing utilities whether or not shown on the plans at no additional cost to the City. The Contractor shall not receive compensation for the temporary relocation of or temporary installation of utilities that are constructed for the convenience of the Contractor.

In case of any damage to utilities by the Contractor, either above or below ground, the owner shall be immediately notified. The Contractor shall arrange for restoration of such utilities to a condition equal to that which existed before the damage was done, by repairing, rebuilding, or otherwise restoring as may be directed, and at the Contractor's entire cost and expense.

The Contractor shall take into consideration when preparing his bid, the costs associated with the coordination during construction with various utility companies for any relocation or installation by the utility companies which may be necessary in areas within, or adjacent to, the limits of his contract. No additional compensation or time extensions will be allowed the Contractor for work interruptions, changes in construction sequences, changes in methods of handling excavation and drainage, and changes in types of equipment used, made necessary by others performing work within, or adjacent to, the limits of this contract. The contract time as stated in this contract includes the time needed for utility adjustments and no extension of time will be granted for delays caused by utility adjustments.

All other expenses likely to be incurred by the Contractor as a result of working around and protecting utilities, as well as cooperating with the owners of same during the relocating of such facilities, will not be measured or compensated for under any stipulated pay item.

CONTACTS

The following utility companies and City departments may be affected by this project. It shall be the Contractor's responsibility to notify all utilities and/or City departments and coordinate his construction operations with them to avoid unnecessary delays.

City of Rockville – Forester
Ms. Paula Perez
240-314-8705

City of Rockville – Chief, Construction Management
Mr. Dan Stevens
240-314-8552

City of Rockville – Operations & Maintenance Superintendent
Mr. John Hollida
240 -314-8576

City of Rockville – Principal Construction Inspector
Ms. Mandi Murray
240-314-8547

City of Rockville – Sediment Control Inspector

Mr. George Ugartemendia
240-314-8879

City of Rockville – DPS Forestry Inspector
Ms. Natasha Shangold
240-314-8205

City of Rockville – Engineering Project Manager
Mr. Diron H. Baker
240-314-8553

City of Rockville – Water and Sewer Utilities
240-314-8567

MISS UTILITY
1-800-257-7777 or 811

Transcontinental Gas
410-465-0960

Verizon
1-800-837-4966

Washington Gas Company
844-927-4427

Washington Suburban Sanitary Commission (WSSC)
301-206-4001

For Locations of Utilities, call "MISS UTILITY", at 811, 1-800-257-7777 or http://www.missutility.net/

Before interfering with any utility service, the Contractor shall notify the affected utility companies and affected property owners in advance and coordinate any required service interruption with the owner and City. For any water service shut-down, the Contractor must provide at least 21 calendar days' notice such that the City can provide proper notification. The Contractor shall be responsible for contracting Miss Utility for the location of all utilities prior to the start of work.

PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with this project. All necessary precautions shall be taken: to prevent injury to the Contractor's employees and other persons who may be affected by the project; to prevent damage to or loss of materials or equipment incorporated into the project; and to protect other property at or adjacent to the site including but not limited to trees, shrubs, lawns, walks, fences, pavements, roadways, utilities, structures, buildings, playgrounds and park facilities not designated for removal, relocation, or replacement in the course of construction; to provide warning signs as directed by the City for personnel and the public. Costs associated with this work are incidental to the work and no specific payments will be made.

SITE ACCESS

Access to the site is by public streets and thoroughfares. After the completion of the project, all roads, driveways, parking lots, sidewalks, landscaping, fences, utilities, structures, buildings, lawns and other facilities not designated for removal, relocation or replacement that are damaged by the Contractor's actions shall be restored to the same condition or better. Prior to any construction activities, it is the Contractor's responsibility to document any existing damage or conditions indicative of substandard facilities. Costs associated with this work shall be included with the appropriate Pay Item.

Due to the proximity of public park property, community trails, private property and natural resources, the

Contractor shall exercise extreme care in their construction operations. All work must be kept within these limits and within the "Limits of Disturbance" as shown on the Engineering Drawings.
Access to parks, easements across private property and other City-owned property in wooded areas must be coordinated with the City and the private property owners prior to the Contractor entering the property.

In addition, the community trail closures shall adhere to the Trail Closure Plan during construction. The Contractor shall exercise prudence regarding site security, storage, staging, safety, worker identification/background and other matters that may impact the public. The Contractor must be sensitive to the community and adjacent property owners. The Contractor shall immediately advise the Engineer and/or the City Project Manager of any problems involving the community.

Phase 1 of Croydon Creek construction includes SHA Tributary and bridge 2. During Phase 1, the LOD along Avery Road to bridge 4 shall NOT be installed and Avery Road shall not be used.
Phase 2 of Croydon Creek construction shall not begin prior to September 1, and only after SHA Tributary and bridge 2 are complete. Once Phase 1 is complete, establish the LOD "inside" of Heritage trail. Establish the LOD along Avery Road, allowing room as is available for an unimproved connection from the Overlook trail to bridge 4. All access to bridge 4 will need to be closed at the end of the Overlook trail during outfall construction along Avery Road. This will need to be coordinated with the City. A copy of the Croydon Creek Nature Center Trails Map is attached to these contract documents in Appendix H.

As such, the potential for trespassers is high. The job site will need to be secured every day. The Contractor shall be held responsible for securing their own equipment.

ACCESS TO ADJACENT PROPERTIES
Access must be maintained to all properties abutting this project at all times. All work affecting private properties is to be coordinated with the property owner by the Contractor. The Contractor shall maintain access to private driveways at all times unless specifically approved in advance by the City.

ENTERING PRIVATE PROPERTY TO PERFORM WORK
The Contractor is to carefully examine the plans provided to ensure a clear understanding of the private property limits and work limits. Under no circumstances is the Contractor to enter beyond the specified limits or perform any work that affects private property without advance notice to and permission from the private owner and the City.

PRESERVATION AND RESTORATION OF PROPERTY & MONUMENTS
The Contractor is to carefully examine the plans provided with the contract drawings to ensure a clear understanding of the private property limits and work limits. The Contractor shall not enter upon private property for any purpose without first obtaining permission from the City and written permission from the property owner. The Contractor shall be responsible for the preservation of all public and private property, including but not limited to plants (trees, shrubs, and seasonal vegetation), lawns, walks, fences, pavements, roadways, utilities, structures, buildings, playgrounds and park facilities not designated for removal, relocation, or replacement, along and adjacent to the work areas, and shall use every precaution necessary to prevent damage or injury thereto. The Contractor shall take suitable precaution to prevent damage to underground or overhead public utility structures and must protect carefully from disturbances or damages all land monuments and property markers until the Project Inspector has witnessed or otherwise referenced their locations. All disturbed monuments and markers must be reset to their correct location by the Contractor at no additional compensation.

The Contractor shall be responsible for all damages or injury to public or private property of any character during the prosecution of the work, resulting from any act, omission, neglect or misconduct in his manner or method of executing said work satisfactorily, or due to the non-execution of said work, or at any time due to defective work or materials. When or where any direct or indirect damage or injury is done to public or private property or on account of any act, omission, neglect or misconduct in the execution of the work or in consequence of the non-execution thereof on the part of the Contractor, the Contractor must restore, at its own expense, such property to a condition similar or equal to rebuilding or otherwise restoring as may be directed by the City, or he shall make good such damage or injury in an acceptable manner. In case of the failure on the part of the Contractor to restore such property in a reasonable amount of time, or make good such damage or injury the City may, upon 24 hours'

notice, proceed to repair, rebuild or otherwise restore such property as may be deemed necessary and the cost thereof will be deducted from any monies due or which may become due the Contractor under this Contract. City crews or another Contractor may accomplish said work.

After the completion of the project, all plants (trees, shrubs, and seasonal vegetation), lawns, walks, fences, pavements, roadways, utilities, structures, buildings, playgrounds and park facilities and other facilities not designated for removal, relocation or replacement that are damaged by the Contractor's actions shall be restored to the same condition or better. Prior to any construction activities, it is the Contractor's responsibility to document any existing damage or conditions indicative of substandard facilities. The Contractor shall provide pre-project photographs or videotape of the project work areas to the DPW Project Inspector. Costs associated with this work are incidental to the work and no specific payments will be made.

All of the requirements outlined above shall be considered incidental to this contract and no special compensation shall be paid.

SITE CONDITIONS

The Contractor shall visit each work site prior to performing the work to verify the existing conditions.

The geotechnical data on the Engineering Drawings is provided for the Contractor's information only. The City does not warranty or guarantee the accuracy or completeness of the data. The Contractor should note the date and method(s) of data collection. The interpretation of the data and its applicability to the project is the responsibility of the Contractor and they are responsible for satisfying themselves as to the actual conditions and/or confirming the data provided prior to submitting their bid. There is no warranty or guarantee that geotechnical conditions other than those identified will not be encountered.

The topography shown on the Engineering Drawings represents the existing conditions at the time of the survey. However, the Contractor shall satisfy themselves as to all conditions at the time of bidding this project and include in their proposal any changes necessary to accomplish a complete and functional project. The Contractor will only be permitted to bring discrepancies in earthwork quantities to the attention of the City at the time of bidding. After award of Contract, payment for Earthwork pay items will be considered fixed.

Should there be any discrepancies between Engineering Drawings, specifications and/or field conditions after bidding and prior to the beginning of work, the Contractor shall bring such discrepancies to the attention of the City of Rockville at the pre-construction meeting.

The Contractor shall use the horizontal and vertical survey control points shown on the Engineering Drawings to layout the lines of work, stake out the location of all proposed structures, and test the levels of all construction. No other datum or control points will be accepted.

The Contractor shall create a video record of the project areas prior to beginning work. The City shall be notified 48 hours prior to the scheduled video recording of the site and will have a representative present to identify other areas that may be affected by the proposed construction. The Contractor shall be responsible for the repair, replacement and/or reconstruction of any property destroyed or damaged as a result of this Contract. This shall include all public and/or privately constructed driveways, fences, gates, buildings, landscaping, utility lines and other permanent items. All claims will be verified by the City through the video record of the area. The video record shall be submitted to the City prior to mobilization of any equipment for the Contract.

CONTRACTORS STAGING AND STORAGE

The Contractor will establish temporary staging areas as approved by the City. Cleanup of each staging area shall occur daily. Contractor shall cover topsoil, stone, and aggregate stockpiles with tarps to prevent sedimentation of the street.

Submit a sketch (a marked up set of plans is acceptable) and brief description for approval by the Chief of Construction Management showing the location of equipment and materials, location of portable sanitary toilet, and means and methods to protect pedestrians and existing public facilities (including trees) within the area as shown on the plans. This plan may have to be approved by the City Forester, if any grassed or tree areas will be

utilized.

There shall be no payment for this work. It shall be considered incidental to the contract.

TEMPORARY UTILITIES

The Contractor shall pay all fees, obtain necessary permits, and have meters installed for temporary utilities as may be required for the execution of this contract. As needed, the Contractor through direct local arrangements must obtain temporary electric service for the purpose of this contract with the electric company, PEPCO. The Contractor shall furnish and install all necessary temporary service drops, wiring, connections, etc., necessary for temporary service required by the Contractor. All costs associated with any temporary electric service required by the Contractor are considered incidental to other pertinent pay items. This item shall not be measured for payment. The Contractor shall, at the beginning of the project, provide suitable temporary sanitary toilet facilities on the premises, in accordance with the GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS. The City shall approve the location of the sanitary toilet.

Posting Parking Restriction Signs

The Contractor shall be responsible for furnishing adequate personnel, equipment and sign stakes as necessary to post City furnished parking restriction signs a minimum of 48 hours and no more than 72 hours in advance of the construction operations for that particular portion of that street. The Contractor shall coordinate the schedule in advance with the City and shall mark the signs with the appropriate restriction dates. Parking may not be restricted for more than three consecutive dates without prior written City approval. Towing of parked vehicles shall be the responsibility of the Project Inspector only. Vehicles will not be towed unless the Project Inspector has verified that the proper parking restriction signs were posted a minimum of 48 hours in advance. The Contractor shall be responsible for revising the dates on the signs in the event of delays in the schedule and for the prompt removal of the signs when the construction operation is complete. The signing operation shall be closely coordinated with the Project Inspector and no signs shall be marked, posted, revised, reposted, or removed without the Project Inspectors advanced authorization. Signs and stakes shall be carefully removed and revised and reused until otherwise authorized by the Project Inspector.

Stakes shall be 2-inch x 2-inch, four (4) feet long, driven a minimum of one foot into the ground or until stable. Signs must be spaced no more than forty (40) feet apart. Where street trees exist and it is determined that their use will not damage the tree, the signs shall be placed approximately four (4) feet above the ground. Where no street trees are available, signs must be placed on stakes provided by and installed by the Contractor. Black waterproof indelible markers shall be provided by and used by the Contractor and numbers shall be large and legible.

No special compensation shall be paid to the Contractor for the posting of the no parking signs and shall be considered incidental to the appropriate pay item.

CONSTRUCTION STAKEOUT AND AS-BUILTS

Construction Stakeout shall be in accordance with Section 107 of the Maryland SHA Standard Specifications for Construction and Materials (2018, or current), with the following exceptions:

The Contractor shall be responsible for all construction stakeout.

The Contractor shall complete project as shown on approved plans. The City will not provide any construction stakeout for this project. Contractors are to use benchmark and layout information as shown on the plans.

The Contractor shall provide as-built information. One set of redline as-builts shall be maintained and kept on-site at all times. Any deviations from approved plans shall be marked, in red, on the as-builts. As-built information shall consist of any deviation to the approved plan such as grading limits, slopes, types/length/height of restoration features, and any modifications to typical details. Upon completion of project, submit as-builts for approval. As-builts are considered part of substantial completion and as such, retainage shall not be released until as-builts are approved.

A copy of the Department of Public Works As-built Plan Requirements is attached in Appendix A.

The City will provide an electronic CAD file of the layout information for the Contractor. The Contractor must complete an agreement for receipt of the electronic file.

PRECAST STRUCTURES

The Contractor may substitute comparable pre-cast inlets for those specified herein, if they have been approved for use by the Montgomery County Government, the Washington Suburban Sanitary Commission or the MDSHA. The Contractor shall be responsible for engineering modifications and field stakeout to piping alignments and other components if required to accommodate the pre-cast units. The structures must be channelized per WSSC Standards and Specifications. The Contractor shall submit shop drawings for all precast structures and shall be received by the City at least 10 business days prior to fabrication. Shop drawings shall be sealed by a Professional Engineer licensed in the State of Maryland. Shop drawings must be approved by the Professional Engineer who sealed the Engineering Drawings for conformance to plan requirements. Fabrication shall not occur until such approval is obtained from the design Engineer. Prior approval of the City is required for substitutions.

AERIAL ELECTRIC LINES

The Contractor shall be aware that State law requires that a 10-foot radial clearance shall be maintained for all construction equipment and materials in relation to electric lines carrying 750 volts or more. Because the State law is more stringent than the Federal laws, the State law shall be considered the minimal distance.

NOISE CONTROL MEASURES

All work must comply with the noise ordinance requirements for Montgomery County. A copy of the ordinance enforced by the Department of Environmental Protection (DEP) is attached to these contract documents in Appendix G for observation and compliance. With City approval, the Contractor may request a waiver through Montgomery County. The Contractor is fully responsible to submit the request and comply with any conditions of the waiver approval. The Contractor shall consider the processing time of this request, which includes a public notice element, when scheduling their work.

Due to the proximity of Historic Rockville Cemetery to Calvin Park Tributary, there is an expectation that the Contractor will observe a “quiet hour” during funeral services while working on Calvin Park Tributary. The definition of quiet is at the discretion of Construction Management but is generally assumed to mean no construction equipment running or idling, and limited work such that nature sounds are the predominate sound heard during funeral services. A quiet hour may be issued without notice, but all attempts will be made to coordinate with the Rockville Cemetery Association on funeral service schedule. Advanced notice will be provided to the Contractor when the City is in possession of such information.

WATER POLLUTION CONTROL MEASURES

The Contractor shall not discharge or permit discharge into the waters, canals, ditches, or drainage system any fuels, oil, bitumen, garbage, sewage or other materials which may be harmful to fish, wildlife or vegetation or that may be detrimental to outdoor recreation. The Contractor shall be responsible for investigation and complying with all applicable federal, state and local laws and regulations governing pollution of water. All work under this Contract shall be performed in such a manner that objectionable conditions will not be created in waters through or adjacent to the project areas.

AIR POLLUTION CONTROL MEASURES

All fine-grained, loose materials hauled to or from this project shall be covered to prevent spillage and blowing. Material, which is not covered after notification by the City, will not be accepted for use on this project. This material will not be included in measurement for payment.

Burning will not be permitted.

ENVIRONMENTAL PROTECTION MEASURES

Impervious barriers, (i.e., plastic, metal drip pans, etc.) shall be placed under any compressors, generators, welding machines, etc., to prevent oils, solvents, organic compounds, or other contaminants from leaching into the soil.

Any oils, solvents, organic compounds, or contaminants spilled on the site during the process of the work shall be immediately removed and cleaned up by the Contractor. Any earth contaminated by a spill shall also be removed and replaced with new certified clean material to the satisfaction of the City and the Maryland Department of the Environment (MDE). If the City has to remove the oils, solvents, organic compounds, contaminants, or earth, the City may deduct the costs of removal and clean up from the total contract amount owed the Contractor.

EROSION AND SEDIMENT CONTROLS

The Contractor is responsible for adhering to the City's laws and ordinances regarding sediment control. The Maryland Department of the Environment (MDE) issues the General Permit for Stormwater Associated with Construction Activity, and the City will obtain a Notice of Intent (NOI) authorization to discharge stormwater under this General Permit. This permit will be formally transferred to the Contractor by the City after award. Upon final acceptance, the Contractor shall formally transfer the permit back to the City.

The Contractor shall be responsible for coordinating all work, and for notifying the City:

- Upon installation of all erosion and sediment control devices to schedule a "Notice to Proceed" inspection prior to commencing work.
- Prior to removing sediment control devices; and
- Upon completion of final grading, establishment of ground covers and approved land stabilization.
- During the progression of all work, the Contractor shall make periodic inspections and maintain sediment control devices, including cleaning and routine maintenance as directed or necessary, to ensure that the intended purpose is accomplished. Under no circumstances shall sediment be allowed to enter private properties, stormdrains, or City waterways.

When directed in the field by the Project Inspector, the Contractor shall be required to adjust location and/or increase or decrease quantities of sediment control measures and provide temporary stabilization measures. All sediment control measures shall be installed and maintained as shown on the Contract Documents, City Notes in Section VII, approved plans and details per latest City of Rockville Standards, Maryland Department of the Environment's 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, in compliance with the MDE/WMA Notice of Intent (NOI) General Permit for construction activities, and as directed by the Project Inspector. Please refer to Maryland Department of Transportation, State Highway Administration's Specifications entitled, "Standard Specifications for Construction and Material" dated May 2017, revisions thereof, or additions thereto. Comply with MSHA specifications section 308.02 Material and section 308.03 Construction. Furnish and install temporary erosion and sediment controls. The Contractor is to protect the integrity of the erosion control measures installed. The erosion control measures shall be provided until such times as the temporary ground cover is sufficiently established, and the Project Inspector gives written authorization to remove said measures. The Contractor shall comply with all local, state and federal laws, ordinances, and regulations pertaining to erosion, sediment and pollution control, including those promulgated by the State of Maryland, and shall indemnify and hold harmless the City from and against all claims, damages, losses and expenses resulting from such work.

The Contractor shall have an employee present on site at all times who has met the requirements for certification of the Responsible Personnel training in erosion and sediment control according Maryland State Law. This employee shall have sufficient authority to install, maintain, adjust or otherwise implement approved sediment control measures.

The Contractor shall take all measures to control erosion and sedimentation at construction site, including borrow and waste areas and temporary access roads, and at off-site areas especially vulnerable to damage from erosion and sedimentation. All erosion and sediment control measures will be subject to approval by the City. All erosion and sediment control measures shall be implemented prior to any construction occurring. All temporary erosion and sediment control measures shall be removed within thirty (30) days after completion of construction and establishment of permanent erosion control.

Work shall be scheduled so that areas subject to erosion are exposed for the shortest possible time. Only those trees, shrubs and grasses shall be removed that are necessary for construction as designated by the forest conservation plan and/or approved plans; those remaining shall be protected to preserve their aesthetic and erosion control values. Temporary on-site structures and buildings shall be located to preserve the existing landscape and to minimize erosion, including that from construction traffic. If practicable, work shall be scheduled in seasons when erosion is less of a hazard, particularly for sites with steep slopes and erodible soils.

Temporary protection shall be required for disturbed areas until final grading is completed and permanent vegetation is established; and shall consist of planting temporary grass cover or other vegetation when feasible. Other short-term protection shall include covering disturbed areas, stockpiles, and topsoil piles with a mulch of

hay, straw or wood chips, stabilizing with netting, or covering with plastic sheets. Graded slopes and fills shall be limited to an angle and to lengths that will maintain stability and allow easy maintenance. Construction equipment shall not be operated in a way to make the land more susceptible to erosion, such as leaving tracks up and down slopes. Access roads shall be located and constructed so as to prevent erosion.

Controls for surface water runoff shall be constructed as early as possible to prevent the formation of gullies or rills. These controls shall be maintained during the entire construction period or until permanent storm drains/revetments are completed. Diversion channels or berms, slope drains, flow barriers, dikes or other structures, which retard or spread water flow, shall control runoff. Compacted embankments, ditches, furrows or temporary diversions across slopes shall be provided to intercept runoff before it reaches erodible areas. Diversions and drains shall be directed into stabilized areas where the discharge can be spread out and dissipated. If unusually intense storms cause planned control measures to fail, prompt restoration and cleanup of sediment deposits shall be made, including damage to adjacent property. If construction is delayed or shut down, temporary cover of exposed and disturbed areas shall be provided.

FOREST AND TREE CONSERVATION REQUIREMENTS

The Contractor shall complete all forest and tree conservation requirements according to the approved contract documents. All forestry related work shall be under the direct supervision of someone who is both certified by the International Society of Arboriculture and registered in the State of Maryland as Licensed Tree Expert. Provide proof of both prior to on-site Forestry pre-construction meeting. Promptly replace any existing trees designated to remain that are damaged or destroyed in the course of development. Perform all site preparation, including removal of pavements, structures, and inclusion of soil amendments, PRIOR to installing plantings.

Maintain and monitor all tree plantings in accordance with the contract documents, for a period of two years from the date the plantings are inspected and approved by the City Forester. Such maintenance shall include when appropriate, but not necessarily be limited to:

- Watering, fertilizing and control of competing vegetation during the initial planting and through the two (2) year maintenance period as may be necessary.
- Pruning, mulching, tightening and removal of guys and stakes within six (6) months, resetting of plants to proper grades or upright position, and furnishing and applying such sprays or other items necessary to thwart damage from insects and disease.
- Providing protection measures such as fencing and interpretive signs as necessary, to prevent destruction or degradation of the planting site.
- Eradicate, suppress and control non-native invasive plant species, as approved by the City Forester, in order to maintain the health of the trees planted.
- Guarantee survival of 100% of landscape tree plantings and 85% of forest plantings under 2” caliper in good health and in flourishing condition of active growth for a minimum period of two years from the date that the plantings are inspected and approved by the City Forester.
- Replace, as soon as weather permits, any dead plantings to ensure compliance with the above minimum survival requirements; provided, however, that dead trees and plantings shall be removed immediately.

Special attention must be given the existing landscape features and special care taken to protect the natural surroundings. The roots of such trees or shrubbery will not be cut unnecessarily. The Contractor will be required to root prune the tree roots, which extend into grading limits and/or from trees intended to be left in an undamaged state or otherwise prevent damage to roots of trees. No road machinery of any description, which might throw off gas or smoke in such volume as to damage vegetation, shall be allowed to stand under such trees or shrubbery.

Any tree that in the opinion of the City, may be defaced, bruised, injured or otherwise damaged by the Contractor's equipment or operations must be protected prior to the start of work by means acceptable to the City. Contractor must verify all saved trees prior to construction. Prior to commencing construction, all tree protection techniques must be approved by the City Forester’s office.

Any tree, or landscape features scarred or damaged by the Contractor's operations must be removed, correctively pruned, restored or replaced as nearly as possible to the original conditions, as required by the Project Inspector and at the Contractor's expense. No ropes, cables or guys are to be fastened to or attached to any nearby trees for anchorage or in lieu of placing of dead men.

CARE OF WATER DURING CONSTRUCTION

The Contractor shall furnish, install, test, operate, monitor, and maintain dewatering systems of sufficient scope, size, and capacity to control water flow into excavations and permit construction to proceed on dry, stable sub-grades. Dewatering operations shall be maintained to ensure erosion control, stability of excavations and constructed slopes, prevent excavation from flooding, and prevent damage to sub-grades and permanent structures. The Contractor shall provide a suitable watercourse (i.e. fire hose, etc.) to direct the flow of water so as to have minimal impact upon the environment, private property, roadway and pedestrian traffic. Any damage caused by discharge of water is the responsibility of the Contractor. The Contractor shall not discharge any water so as to cause sediment to reach any storm drain inlet or water course.

The Contractor shall provide shoring, bracing and cofferdams during construction as necessary to protect personnel, structures and equipment. No special payment will be made for shoring, bracing or cofferdams. The Contractor is responsible for ensuring the safety of his employees and sub-contractors, and for complying with all applicable provisions of Maryland Occupational Safety and Health Administration.

The Contractor shall protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations. The Contractor shall provide an adequate system to lower and control water to permit excavation, construction of structures, and placement of fill materials on dry sub-grades. The Contractor shall install sufficient dewatering equipment to drain water-bearing strata above and below bottom of ponds and other excavations.

Work areas shall be dewatered in a manner that avoids endangering public health, property, and portions of work under construction or completed. The Contractor shall provide sumps, sedimentation tanks, dewatering basins or non-woven dewatering bags as required by the Project Inspector. Standby equipment shall be provided on-site, installed, and available for immediate operation, to maintain dewatering on continuous basis if any part of the system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, the Contractor shall restore damaged structures and foundation soils at no additional expense to the City. The Contractor shall remove all dewatering systems from project site on completion of dewatering. All pumps and generators utilized for bypass and dewatering operations shall be “quiet” rated with a full-load noise level of less than 63 dB at a distance of 23 feet or as approved by the Chief of Construction Management. The City may require additional measures, such as the use of straw bale baffle walls, for work approved outside of normal working hours.

Care of water during construction shall be considered incidental to the appropriate pay item.

MAINTENANCE OF STREAM FLOW

Contractor shall provide maintenance of stream flow per the Maryland Waterway Construction Guidelines, Section 308 of the MDSHA standard specifications, and as per the plans. The Contractor shall be responsible for dewatering all areas where necessary to perform work under this contract. All work shall be carried out in areas free from excessive water. The Contractor shall use necessary pumping and other equipment required for removal of water from the work area, and shall maintain the excavations, foundation, and other parts of the work area free from water, as required or directed by the City. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water.

All pumps and generators utilized for bypass and dewatering operations shall be “quiet” rated with a full-load noise level of less than 63 dB at a distance of twenty-three (23) feet or as approved by the Chief of Construction Management. The City may require additional measures, such as the use of straw bale baffle walls, for work approved outside of normal working hours.

Dewatering of sediment laden water shall use a “quiet” pump, as described above for clean water bypass of sufficient size to convey the sediment laden runoff from the area under construction. All sediment laden runoff from the area under construction shall be filtered using a portable sediment tank, filter bag, or other MDE approved control.

Discharges from hoses or pipes shall outfall onto adequately sized rock for the outfall velocities of the pump around. In the event that bedrock is present bypass or treated flows may discharge directly onto the bedrock at that location. Other methods may be approved by the Sediment Control Inspector.

Sandbags shall consist of materials, which are resistant to ultraviolet radiation, tearing and puncture, and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.). Sheeting shall consist of polyethylene plastic, which is impervious and resistant to puncture and tearing.

DAILY CLEAN-UP

The Contractor shall at all times keep the work areas clean and orderly and shall promptly remove all waste and rubbish. The daily debris shall be collected in covered containers and disposed of in proper fashion. All directions from authorized public officials having jurisdiction over health and safety shall be obeyed. The site will be "broom cleaned" at the end of each working shift. Open excavations may not be left unattended. Site must be secured each night.

The Contractor shall clean every street upon which any work has been performed under this contract on a daily basis. The cleanup shall be accomplished by use of a vacuum assisted sweeper truck, manual (push) broom sweeping or other method as directed and or approved by the Project Inspector. Under no circumstance shall the contractor use compressed air or jet water sprays for cleanup purposes.

SAMPLING AND TESTING OF MATERIALS

Unless provided elsewhere in the contract documents, all required sampling and material testing shall be the responsibility of the Contractor. No separate payment will be made, and the costs shall be incidental to the appropriate pay item. Testing shall be in accordance with applicable Notes shown on the Construction Documents.

The City reserves the right to test all materials and construction separate from and in addition to the specific requirements dictated in this contract. Testing shall be generally limited to:

- Taking and/or collecting samples of soil and/or other backfill materials for proctor tests;
- Performing proctor tests in a lab;
- Performing compaction tests on site;
- Taking concrete cylinder samples and testing compression strength;
- Asphalt sampling and compaction testing.

Employment of a testing agency in no way relieves the Contractor of his responsibility and obligation to comply with all aspects of this contract and to perform all work in a proper, acceptable and workman like manner and doing all such work in full compliance with these contract documents.

<u>Sampling and testing of Asphalt materials</u>

A Maryland State Highway (SHA) Certified Asphalt Plant must provide all asphalt supplied for this contract. Mix designs for the various types of material to be supplied must be submitted to the Project Inspector a minimum of fourteen (14) calendar days before beginning work. Under no circumstances will the contractor be allowed to begin supplying asphalt for this contract without the City and the Contractor having received written approval of the mix designs from the City or the City's Asphalt Testing Consultant. The Contractor shall deliver to the City Project Inspector, a box sample of the material to be supplied, each day prior to lay down operations beginning. Any material laid down without having a box sample delivered to the City Project Inspector, will be subject to complete removal and replacement at the Contractors expense. Any box sample failing testing by the City's Asphalt Testing Consultant will cause that days placed asphalt to be completely removed and replaced at the Contractors expense.

SUBMITTALS OF MATERIALS

The Contractor shall submit two (2) copies of all delivery tickets, shop drawings, inspection, testing or certification reports, obtained approvals or permits, and other submittals required for this project to the Chief of Construction Management.

INSPECTION AND CERTIFICATION

All materials shall be subject to inspection or test by the City prior to installation and no previous certification or inspection shall bar rejection if the material is found to be inferior, damaged or defective. The certification requirements may be waived for any or all of the materials at the discretion of the City.

INSPECTION AND REPAIRS
The City reserves the right to inspect any and all work either in progress or completed. All work shall be inspected prior to backfill. Any portion of the work that is backfilled prior to inspection shall be uncovered at the contractor's expense to enable the Project Inspector to adequately inspect. If the work is found to be unsatisfactory or in conflict with the provisions in these specifications the City may hold back payment for work completed. The Chief, Construction Management, DPW will give written notification of the unsatisfactory work to the contractor. The Contractor shall have no more than ten (10) days to correct the condition.

CONTRACTOR'S EMPLOYEES
Contractor's employees are to present a professional appearance, shall be neat, clean, well groomed, courteous, and conduct themselves in a respectable manner while performing duties and while on City and/or private property.

The Contractor's employees shall conduct themselves in a professional manner. They shall minimize their impacts to the surrounding properties, including when they arrive to the site, take breaks, eat lunch and depart the site. Contractor's employees shall be respectful and polite to inquiries from residents or individuals not associated with the project. Any inquiries beyond basic information should be referred to the City. The Contractor shall inform the City of any inquiries that occur that is beyond providing basic information.

The Contractor shall provide the City with a listing of all personnel assigned to the contract. In addition, the Contractor shall provide a listing of names, and emergency telephone numbers of supervisory personnel assigned to the contract. It will be the Contractor's responsibility to keep this list up to date.

The City reserves the right to request that the contractor remove any employee if it is determined that services are not being performed in accordance with the terms and conditions of the contract.

SUB-CONTRACTORS
The Contractor shall have the right to sub-contract but shall be fully responsible and cannot be relieved of any liability under this contract on account of any sub-contractor. All sub-contracting must have prior written City approval. The City reserves the right to approve or reject any sub-contractor.

Nothing contained in the contract documents shall create any contractual relationship between the owner and any subcontractor or sub-subcontractor. Vendors who will subcontract the delivery, installation, or any other portion of the work herein described will submit, prior to construction, the following information:
A description of the items to be subcontracted, and the subcontractor's name, address, and telephone number.
During the life of the contract, the Contractor shall provide the name, nature, and extent of all subcontractors.
Subcontractors shall be considered an agent of the Contractor, who shall be held fully accountable for all of the subcontractor services, labor, and materials relative to the contract.

CHANGES IN WORK
If an event arises which the contractor considers may result in the addition, deletion or modification to the contract, the Contractor shall notify the City prior to commencing work under that change. All such changes, or additional work must be authorized in writing by the City prior to starting such work.

INVOICES AND PAYMENT
The Contractor shall submit a detailed invoice to the Chief, Construction Management Division, DPW for payment at the end of each month for all work completed and accepted by the City during that month. The Contractor shall attach to each monthly invoice, all required documentation of testing results.

LANDSCAPING WARRANTY BOND
The Contractor shall provide a warranty bond for all landscaping provided. Bond shall be in the amount equivalent to the total for all items. The bond shall be posted at the completion and acceptance of the entire project. Bond

shall be in effect for two years. Bond should guarantee 100 percent survival rate on all trees and guarantee 85% percent survival rate on other landscaping. Retainage will not be released until this bond is received and approved by the City Attorney's Office. Cost of bonds will not be paid separately but shall be included with the appropriate bid items.

CONDITIONS FOR APPROVAL FOR ACCESS TO CITY OF ROCKVILLE FACILITIES

All Contractor and subcontractor employees that will work on the job site or who have access to sensitive information are to have initial background checks performed by the City to assure the City information used and generated by this project will not end up in unauthorized hands. The initial background checks are valid for one year and subject to annual renewal for employees continuing to work on the project. The Contractor shall allow 4 weeks, from date of submission of personnel information or from the date of Notice to Proceed, whichever is later, for the City to perform background checks.

"Sensitive" documents and information are defined as those that could reasonably be used to aid in or plan for contaminating or damaging the City's system or City customers. Examples of such documents include, but are not limited to:

- plans/blueprints, as-built drawings, or contract documents of City facilities
- plans/blueprints, as-built drawings, contract documents, or 200-foot sheets of the water distribution system or the wastewater collection system

For any document or information to be provided to the Contractor where there is uncertainty whether it is "sensitive", the City shall have sole discretion to make such determination.

The contractor shall issue contractor's project participants photo identification cards. Identification cards must be worn at all times while on any City property. Contractor employees found on-site without proper identification will be immediately removed from City property. The design of identification cards shall be reviewed and approved by the City prior to issuance. Identification cards for employees who are no longer associated with the project, for any reason, will be immediately recovered by the Contractor. The m Contractor is responsible to control and inventory all identification cards issued so those cards are not obtained or used by unauthorized individuals.

<u>TECHNICAL CONTACT/PROJECT MANAGER</u>

Diron H. Baker – Senior Civil Engineer
City Hall
Department of Public Works
111 Maryland Avenue
Rockville, MD 20850
Telephone 240-314-8533
Email: dbaker@rockvillemd.gov

INVITATION FOR BIDS #25-25
PROJECT TITLE

SECTION IV: TECHNICAL SPECIFICATIONS/SCOPE OF WORK

SEE PROJECT MANUAL ON FOLLOWING PAGES

City of Rockville
Rise Together

City of Rockville
Rockville, Maryland

TECHNICAL SPECIFICATIONS

CROYDON CREEK AND CALVIN PARK TRIBUTARY STREAM RESTORATION

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 26539, Expiration Date: 04/28/2025

The following items shall be performed per the referenced Standard Specification and the Contract Documents. Measurement and Payment shall be as described in the Technical Specifications unless otherwise specified in the Contract Documents. All work items described in the Contract Documents that are not referenced buy a specific pay item shall be considered incidental to all other items in the Contract Documents.

TECHNICAL SPECIFICATIONS FOR
IFB 18-XX CROYDON CREEK STREAM RESTORATION

1. SUMMARY OF WORK

This project is for the completion of stream restoration and other associated work as shown on the Contract Drawings and included in these specifications. The scope of work includes but is not limited to the following:

- Perform clearing, stream diversion, excavation, grading, bank and stream stabilization work, and plantings;
- Provide and maintain erosion and sediment control and tree protection measures at all times throughout the construction period;
- Provide temporary pedestrian and vehicle traffic control throughout the construction period;
- Proper disposal of all debris and excavated materials at an approved site; and
- Restoration of all disturbed areas.

2. PROJECT LOCATION

The project site is located within the City of Rockville's Civic Center Park and includes portions of Croydon Creek, Calvin Park tributary and two additional, unnamed tributaries that drain to Croydon Creek. The project incorporates a large area, generally Park, in an area south of MD 28 and north of Baltimore Road.

3. DESCRIPTION OF PAY ITEMS

A. The Contractor shall provide the labor, materials, tools and equipment necessary for the completion of the following pay items.

B. The City may make adjustments to the location and/or quantity of items without modification to the unit price. The City may direct that the location of a work item be adjusted. The City may also require an additional quantity of a pay item to be completed, whether shown on the Contract Drawings or not. The quantity of a pay item may also be decreased. Payment shall only be made for items of work actually completed and accepted by the City.

C. All lump sum pay items will be prorated for each pay estimate. A percentage of the lump sum item will be paid based upon the amount of work completed and accepted by the City.

D. Items designated as contingent on the bid proposal form are marked with an asterisk (*). The items so marked are to be considered contingent items and the quantity may be increased or decreased, or any or all may be deleted in their entirety from the contract at the discretion of the City. Any increase or decrease in the quantity of these items, or their deletion will not be considered a justifiable claim for compensation in addition to the contract unit bid price in the proposal. Contingent items include silt fence, rock root packing, the replacement of two 10-inch storm drain pipes at the Calvin Tributary, and hot mix asphalt patches.

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PAY ITEM 1 – MOBILIZATION/DEMOBILIZATION

Mobilization includes all activities and costs for transportation of personnel, equipment, and operating supplies to and from the site; establishment of offices, and other necessary facilities for The Contractor's operations at the site; premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable; and other items as specified in this specification. Demobilization includes all activities and costs for transportation of personnel, equipment, and supplies not included in the contract from the site; including the disassembly, removal and site cleanup/repair of offices, buildings, and other facilities assembled on the site for this contract. This work includes mobilization and any additional mobilization and demobilization activities and costs as required during the performance of the contract. The Contractor must provide and pay all the cost for temporary utilities including electricity, telephone, and water. All temporary facilities must be available for the duration of the project. The Contractor is responsible for compliance with code ordinances and requirements of local officials for temporary facilities, controls, and related health and safety requirements. It is the responsibility of The Contractor to provide all necessary electrical service. In the event electrical power will not be available, it is The Contractor's responsibility to provide any necessary generator to continue construction. The Contractor must provide and pay all the cost for toilet facilities for all workmen, as required by local ordinances for complete and adequate sanitary arrangements. The Contractor must keep all sanitary facilities and the surroundings clean and neat at all times. They must be located on the project site as approved by the City.

Furnish all labor and equipment for performing all mobilization within the specified limits and in accordance with the contract documents.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract unit bid price per Lump Sum (LS) for the bid item "Mobilization." Payment will be full compensation for all labor, materials, and equipment, tools, and incidentals necessary to complete the work. Payment of the Mobilization item will not be made more than once, although The Contractor may have, for any reason, shut the work down on the project or moved their equipment away from the project and then back again.

PAY ITEM 2 – CONSTRUCTION STAKEOUT AND AS-BUILTS

Construction Stakeout shall be in accordance with Section 107 of the latest approved Maryland Department of Transportation State Highway Administration "Standard Specifications for Construction and Materials" revisions thereof or additions thereto, as indicated in the Applicable Standards section of the Special Provisions, with the following exceptions:

The Contractor shall complete the stakeout to reflect the allowable limit of disturbance (LOD) as shown on the Contract Drawings. The City will not provide any construction stakeout for this project. The Contractor shall use benchmark and layout information as shown on the Contract Drawings.

All stakeout and demarcation (flags or stakes) must be maintained throughout construction, the exception being stakes and flags placed for grading within the LOD. Upon reaching final grade the stake or flag may be removed and not maintained. The Contractor shall be responsible for any costs incurred if the City or Design Engineer is forced to reflag the area.
The Contractor shall maintain and keep on-site at all times a record of construction in the form of a marked up set of Contract Drawings. Any deviations from Contract Drawings shall be clearly marked in red on this set of plans. The Contractor shall make these redlined plans available for the City's review at progress meetings or when otherwise requested by the City. At the completion of construction, the redlined plans shall become the property of the City.

The Contractor shall provide as-built information. As-built information shall consist of any deviation to the Contract Drawings such as grading limits, slopes, types/length/height of features, and any modifications to profiles or typical details. As-built Contract Drawings require topographic survey for all grading and the location and elevations/inverts of all stabilization structures and inflow and outflow structures within the limit of disturbance and limits of work.

The Contractor shall be responsible for any costs associated with additional as-built survey resulting from project areas discovered to not be in substantial accordance with the Contract Drawings.

Upon completion of project, submit as-builts information to the City Project Manager for approval. Any missing, erroneous or incomplete information shall be re-surveyed within 72 hours at no cost to the City. Retainage shall not be released until as-builts are approved.

The existing elevations and contours shown on the Contract Drawings and profiles were developed by AECOM/URS. Field survey was performed April through June 2017. Additional 2-foot topography for the surrounding areas is from the City of Rockville GIS. Existing elevations and grades may have changed since the original survey was completed, due to erosion, sediment accretion and fill. It is The Contractor’s responsibility to confirm existing grades and adjust earthwork as necessary at no additional cost to the City.

If during or prior to construction, the existing elevations (especially stream or structure invert elevations) shown on the Contract Drawings are found to differ significantly from the elevations in the field, or if bedrock conditions pose issues to the Contract Drawings, The Contractor must notify the City immediately for an adjustment in design elevations.

MEASUREMENT AND PAYMENT

Fifty percent (50%) of the Lump Sum (LS) value of the item will be paid to The Contractor upon completion of construction stake-out within the work area. The remaining 50% will be paid to The Contractor upon final approval of as-builts.

PAY ITEM 3 – TEMPORARY TRAFFIC AND PEDESTRIAN CONTROLS

The Contractor shall provide the necessary temporary traffic controls to maintain pedestrian and vehicular traffic at all times in the City right-of-way and in City Parks as indicated in the Contract Drawings. The Contractor shall provide a temporary traffic control plan (TTCP) in accordance with the latest edition of the Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, and Work Zone Traffic Control. The Contractor should utilize existing Maryland State Highway (SHA) standards and Montgomery County DOT standards for guidance. The Contractor shall provide a sketch of all proposed temporary traffic control devices for City approval prior to the start of construction. The sketch should show the current streets including cross streets and entrances and generally be shown to scale. The TTCP must address the walking trails. Signs shall be provided and installed for pedestrians and bicyclists to indicate where walking trails are closed or to caution where trails remain open at the construction entrance, as indicated on the Contract Drawings. Material deliveries, which only require temporary stoppages of traffic, shall be addressed in the TTCP. One accepted method would consist of a truck ahead sign (W11-10(1) with a W16-9p below) located 800 feet from the construction entrance with a flagger sign (W20-7a) located 500 feet from the construction entrance. The warning signs shall be placed in both directions. The signs shall be orange with black lettering according to the latest SHA standards.

SUBMITTAL

The Contractor shall provide a temporary traffic control plan (TTCP) in accordance with the latest edition of the Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, and Work Zone Traffic Control. The Contractor should utilize existing Maryland State Highway (SHA) standards and Montgomery County DOT standards for guidance.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract unit bid price per Lump Sum (LS) for the bid item "Temporary Traffic and Pedestrian Controls." The Contract bid price will be full compensation for all labor, materials, and equipment necessary to complete this work.

PAY ITEM 4 – CLEARING AND GRUBBING

DESCRIPTION

Contractor shall conduct clearing and grubbing within the Limits of Disturbance (LOD) as specified in the Contract Drawings or as directed by the City, which shall be in accordance with the requirements of the MDOT SHA 2024 Standard Specifications for Construction and Materials Section 101 as summarized below. Limits of Disturbance (LOD) is defined as the maximum allowable limit of earth disturbance as delineated in the Contract Drawings.

Clearing is defined as the removal and disposal of trees, fallen timber and rotten wood, brush, shrubs, vegetation, and rubbish. Trees 6" and greater shall be removed by a Maryland Certified Licensed Tree Expert (LTE). Contractor shall remove trees and stumps only as necessary to obtain proposed grades and install access according to the Contract Drawings and as directed or approved by the City and Design Engineer. Trees to be removed shall be cut in such a way that the tree falls within the limit of disturbance as shown on the Contract Drawings. Damage to existing structures and trees to remain shall be avoided. Cut stumps should be no more than 4 inches above the proposed ground surface.

Grubbing is defined as an earth-disturbing activity, which includes the removing from the ground and disposing of all stumps, roots and stubs, brush, and debris. The Contractor shall remove all embedded stumps and roots that interfere with the limits of grading as shown on the Contract Drawings.

Snags may be left in place where they do not interfere with proposed grades and at locations approved by the City. A snag is defined as a standing dead tree that varies from 10 to 25 feet in height. Snags shall only be left where approved by the City.

Excess tree materials are to be either chipped onsite or removed offsite for legal disposal. Suitable 1-inch wood chippings may be stockpiled and used for mulch material around any proposed planted tree/shrub species.

Trees to remain in place are designated on the Plans. Perform tree branch pruning/limbing by cutting and trimming tree branches as indicated on the Plans to facilitate construction access.

MEASUREMENT AND PAYMENT

Clearing and grubbing will not be measured separately but will be paid for at the Contract Lump Sum (LS) price. This payment shall serve as full compensation for all work associated with clearing and grubbing, including the repair of any damage caused during operations, compensation and restoration for damaged or destroyed protected resources such as trees or habitat, and all materials, labor, equipment, tools, and incidentals necessary to complete the work. Additionally, previously fallen trees, regardless of their size, shall be removed as directed by the City, and this work will also be included under the Lump Sum pay item for Clearing and Grubbing.

PAY ITEM 5 – TRUNK PROTECTION

DESCRIPTION

Install trunk protection around trees vulnerable to damage during construction activities as identified in the Contract Documents or as otherwise directed.

MEASUREMENT AND PAYMENT

Tree Protection Planking will be measured and paid for at the Contract unit price per each tree protected. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 6 – ROOT PRUNING

DESCRIPTION

Root pruning shall be performed by an LTE certified in the state of Maryland. Perform root pruning as identified in the plans or as otherwise directed. Root pruning shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 715 – Tree Root Pruning or as specified.

Prune tree roots in locations where tree protection has been specified and roots may interfere with proposed grading on Avery Road, as specified on the Construction Documents. Root Pruning shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 715 – Tree Root Pruning.

SUBMITTALS

The Contractor is required to provide a copy of LTE certifications.

MEASUREMENT AND PAYMENT

Tree Root Pruning will be measured and paid for at the Contract unit price per linear foot. The payment will be full compensation for all labor, material, equipment, tools, cleanup and restoration, damage repair, disposal fees and incidentals necessary to complete the work.

PAY ITEM 7 – LIMB PRUNING

DESCRIPTION

Limb pruning shall be performed by an LTE certified in the state of Maryland. Perform limb pruning as identified in the plans or as otherwise directed. Limb pruning shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 712 – Tree Branch Pruning or as specified.

SUBMITTALS

The Contractor is required to provide a copy of LTE certifications.

MEASUREMENT AND PAYMENT

Limb Pruning will not be measured but will be paid for at the Contract lump sum price. The payment will be full compensation for all labor, material, equipment, tools, wood disposal and chipping, cleanup and restoration, damage repair, disposal fees and incidentals necessary to complete the work. will not be measured separately but will be paid for at the Contract Lump Sum (LS) price.

PAY ITEM 8 – NON-NATIVE INVASIVE SPECIES REMOVAL AND MONITORING

DESCRIPTION

These provisions shall be used as guidelines and may be modified upon approval of the City of Rockville Forester. This work consists of the eradication and removal of NNI species in the LOD and a 25' offset of the LOD. Areas within the forest canopy that are cleared of Non-Native Invasive (NNI) species may be considered for tree plantings. Consultation with the Forestry Inspector and/or City Forester should take place prior to planting any trees within the forested area. This section covers invasive removal beyond initial clearing and grubbing and includes herbicide application. Invasives removed as part of initial clearing and grubbing will not be paid separately under this item. The Contractor should assume 4 seasonal treatments per year, plus follow-up treatments for two years.

MATERIALS

Materials include mechanical equipment, herbicides and any other incidental material needed to successfully treat NNI species within the Contract. All herbicides shall be EPA registered chemicals that are approved for use in forested areas and adjacent to waterways to control and prevent re-growth of undesirable vegetation. When herbicides are applied, all applications shall utilize a visible marker dye.

SUBMITTALS

A. Qualification Data:

1. Supervisor of the crew must have five (5) or more years documented successful experience identifying, removing and controlling invasive plants in this geographic region. The name and contact information of this superior and their qualifications, including a list of completed projects similar scope, shall be submitted for review. Project information shall include name, location, date, reference names and phone numbers of jurisdictional departments

2. A professional pesticide applicator, licensed by the State of Maryland in the following categories is required for this work so that the chemical treatments conform to accepted Integrated Pest Management (IPM) practices; Forest (2), Ornamental and Turf (3A and 3C), and Aquatic (5). The State of Maryland Pesticide Applicator License and Certification must be submitted for the company, crew supervisor, and personnel working on the project.

B. Manufacturer's Specifications: Product labels and material safety data sheets for all herbicides, wetting agents, basal oil, and dyes.

C. Schedule: The Contractor shall submit an NNI Management Plan for review and approval prior to plant removal or treatment work. The plan must detail the treatment procedure, timing, and frequency through the treatment period. Specific chemical types and quantities for herbicide applications shall be included. A pretreatment meeting shall take place to determine the course of the remaining forest management/NNI species work. At that time, the NNI Management Plan should be revised to reflect management measures for the remaining treatment period.

D. Treatment Logs:

1. The Contractor must submit to the City treatment logs listing the project, area treated, species treated, percent of approximate NNI coverage, overall acreage surveyed versus acreage treated, method of treatment, dates treated and weather during treatment. When herbicide is applied, the type, application rate and total amount of herbicide used must be included in the treatment logs.

2. Treatment logs must be submitted during all treatment efforts.

3. The Contractor must submit a copy of the treatment log to the City within 24 hours after application.

CONTRACTOR RESPONSIBILITIES

A. The Contractor shall be responsible for protection of desirable species that are to remain. Any native plant material that is killed or damaged through any act of negligence by The Contractor in applying and handling of the herbicide on the project will be replaced at no additional expense to the City. Due to the nature of the treatment area and the density of invasive species some collateral damage to desired vegetation may occur.
B. Tree protection fencing may only be removed for purposes of accessing invasive species removal areas. The Contractor is only to remove fencing as required for access and fencing must be reestablished at the end of each workday. Only mowing and spraying equipment may access areas outside of the limit of disturbance, no stockpiling or storage of equipment is to occur in these areas. Do not pull perennial vines from trees.
C. Maintain the labels for all herbicides being used in their possession and material safety data sheets while on site.
D. Conduct all herbicide formulations and applications in strict conformance with the manufacturer's recommendations and per requirements of regulatory agencies and licensure.
E. Maintain a written record of herbicide application, including the formulation, concentration, area treated and date for each application. The City may request the written record at any time

CONSTRUCTION METHODS

A. Removal:

1. Mechanical removal of non-native invasive species will include removal of above ground plant material and excavation of the soils that support them to a minimum of 6 inches below existing grade. Existing topsoil, subsoil, and any other associated material shall be disposed of off-site at a location approved by the City and shall not be salvaged for re-use on site.
2. Initial removal may not require an herbicidal application component. This will be left to the discretion of The Contractor. The City must be notified a minimum of five (5) days prior to herbicidal application.
3. The areas must be immediately stabilized in accordance with the Contract Documents.
4. The Maryland Invasive Species Council lists Invasive Species of Concern in Maryland | Terrestrial Plants considered non-native invasive species by the City of Rockville Forestry Division that shall be treated by The Contractor. http://mdinvasives.org/species-of-concern/terrestrial-plants/ The

Contract Drawings include a list of species which were observed on site in during field assessments.

B. Inspection and Initial Acceptance: After construction is complete, The Contractor shall perform an initial herbicide application and a 2-3 week follow-up application on any nonnative invasive species found within the LOD in accordance with integrated pest management practices. The Contractor shall contact the City for inspection of the area. If the first seasonal treatment and treatment logs are satisfactory, the City will give written notice to The Contractor. The notice will constitute the Certificate of Acceptance, and the two-year post construction treatment period will begin from the date of the written notice. The Certificate of Acceptance will not be issued until the treatment logs have been submitted to the City.

C. Post Construction Treatment:

1. The Contractor shall guarantee for the duration of two years post construction 85 percent eradication of all non-native invasive species. The two-year treatment period shall begin after the date of written notice and must include a minimum of two growing seasons (April 1 to September 30).
2. Monitoring inspections shall occur a minimum of four times a year; including a minimum of three times per growing season. Any regeneration shall be treated with an effective herbicide that is safe for use near aquatic habitats.
3. Treatment shall include all targeted NNI vegetation within the LOD, whether it has regenerated, sprouted from the existing seed bank, or otherwise propagated within the project area.
4. The City will assume monitoring and maintenance responsibilities after The Contractor's two-year post construction treatment period has been completed.

D. Final Inspection: The Contractor and the City Inspector will conduct a final inspection at the end of the two-year post construction treatment period. It is The Contractor's responsibility to notify the City within two weeks of the anticipated meeting. If the treatment does not meet the 85% kill rate, The Contractor must reapply the herbicide at no additional cost. The kill rate will be based on percent cover of non-native invasive species.

MEASUREMENT AND PAYMENT

Non-Native Invasive Species Removal will not be measured and paid for at the Contract's lump sum (LS) price for the pay item "Non-Native Invasive Species Removal and Monitoring". The contract's lump sum price must include full compensation for complete eradication of NNI material by any approved means, proper disposal of NNI material, monitoring, continued removal throughout the post construction treatment period, restoration of any disturbance which occurs during the monitoring period and all materials, labor, equipment, tools, and other incidentals necessary to complete this work. Repairs to damaged vegetation due to The Contractor's negligence as determined by the City shall be made at no additional expense to the City.

PAY ITEM 9 – STABILIZED CONSTRUCTION ENTRANCE (SCE)

DESCRIPTION

The Contractor shall install and maintain Stabilized Construction Entrance (SCE) for ingress and egress during construction to minimize the tracking of sediment onto the roadways according to 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and as shown on the Contract Drawings. SCEs shall be a minimum of 50 feet long and 10 feet wide. A drainage pipe is needed unless located in a high spot and has no drainage to convey. A mountable berm over the drainage pipe is required when pipe is needed. Pipe size must convey the runoff generated by the 2-year, 24-hour frequency storm at minimum. The minimum permissible pipe size is 6 inches. Materials include nonwoven geotextile, 6 inches of 2 to 3-inch aggregate, and pipe. Contractor shall remove only after obtaining approval from the City.

MEASUREMENT AND PAYMENT

This item will be paid for per each (EA) and includes all materials, labor, maintenance, and removal.

PAY ITEMS 10-11 – TEMPORARY CONSTRUCTION MULCH ACCESS ROAD

DESCRIPTION

The Contractor shall furnish, install, maintain, and remove temporary construction mulch access roads as per the Contract Drawings or as directed by the City. The Contractor must use the appropriate access road for the area in which they are constructing. Timber mats in addition to mulch are to be used in high protection areas.

Temporary Construction Mulch Access Roads shall be a minimum of 12 inches deep and 10 to 15 feet wide. Mulch may be imported, used from existing stockpile, or created from clearing and grubbing operations and must be free from deleterious material, including stone, debris, and noxious or invasive seed material. Nonwoven Geotextile fabric shall be placed over the existing ground prior to mulch placement for all existing turf, pedestrian trails, hardscapes, or other maintained areas for easy removal post construction.

Exact location of the access road may be adjusted from the location shown on the Contract Drawings with approval by the City. Upon completion of construction, Temporary Construction Mulch Access Roads will be removed or abandoned in place as directed by the City. Abandoned mulch must be spread to a thickness of 6 inches or less, or as approved by the City.

WITHOUT TIMBER MAT

Temporary Construction Mulch Access Roads shall be used to minimize impacts to less sensitive areas. Materials include nonwoven geotextile fabric, wood chips, and wood mulch. Contractor shall furnish, install, and maintain 12 inches of mulch atop nonwoven geotextile fabric as per the Contract Drawings or as directed by the City.

WITH TIMBER MAT

Temporary Construction Mulch Access Roads with Timber Mats shall be used to minimize impacts to critical root zones, wetlands, and other sensitive areas. Materials include nonwoven geotextile fabric, timber mats, wood chips, and wood mulch. The Contractor shall furnish, install, and maintain 6-inch timber mats atop 6 inches of mulch as per the Contract Drawings or as directed by the City.

MEASUREMENT AND PAYMENT

Temporary Construction Mulch Access Roads will be measured and paid for at the Contract unit price per linear foot (LF). Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion. Any modifications to the access route requested by The Contractor will be considered means and methods and shall be incidental to the contract.

*In the event that the City directs The Contractor to modify the access road due to unexpected conditions, The Contractor will be compensated at the Contract unit price per linear foot (LF) of temporary access road that is not shown on the Contract Drawings.

PAY ITEM 12 – TEMPORARY ACCESS BRIDGE

The Contractor shall install and maintain Temporary Access Bridges to temporarily cross wetlands or stream channels according to 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and as shown on the Contract Drawings. Materials include decking, curb or fender, run planks, and anchor with safety chain or steel cable. Temporary access bridges should be installed at or above the elevation of the stream banks, ensuring they are placed on stable ground banks.

MEASUREMENT AND PAYMENT

Temporary Access Bridge will be paid for at the Contract unit price per each. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion. Any modifications to the access route requested by The Contractor will be considered means and methods and shall be incidental to the Contract.

PAY ITEM 13 – TREE PROTECTION/ HIGH VISIBILITY FENCE

The Contractor is responsible for furnishing, installing, and maintaining Tree Protection/High Visibility Fence (HVF) throughout the construction site. The materials shall consist of standard 72-inch metal T- posts, securely driven 20 inches into the ground. The mesh used shall be international orange, high-density polyethylene diamond mesh, with a 1½-inch mesh opening. The mesh should be 4 feet in height, with a roll weight of 20 pounds per roll and dimensions of 4 feet by 100 feet per roll.

Fence posts are to be spaced 10 feet apart, ensuring that no damage occurs to roots with a maximum spacing of 12 feet. The fencing shall be securely attached to the posts using wire or zip ties. Reforestation Signs must be installed approximately every 100 feet along the HVF, though site conditions affecting visibility may require adjusting the distance between signs, with a maximum separation of 150 feet. The bottom of each sign should be positioned higher than the top of the HVF and attaching signs to trees is strictly prohibited.

The fence shall be removed only after construction is completed and under the direction of the City, while the Reforestation Signs are to remain in place. The City of Rockville will provide the Reforestation Signs.

SUBMITTAL

The Contractor must submit the fence mesh product information prior to installation.

MEASUREMENT AND PAYMENT

HVF will be paid for at the Contract unit price per linear foot (LF). Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes the installation, maintenance, and removal of all related materials from the site upon project completion. Any modifications to the HVF requested by The Contractor will be considered means and methods and shall be incidental to the contract.

PAY ITEM 14 – STAGING AND STOCKPILE AREAS

The Contractor shall install and maintain Staging and Stockpile Areas for the storage of soil and construction materials in accordance with the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* and as shown on the Contract Drawings. A galvanized chain link fence shall be installed around the perimeter of the area, except at designated access points. The minimum height of the Super Silt Fence (SSF) within the Staging and Stockpile Area shall be 40 inches above ground. This dimension (40 inches) is different than MDE's SSF specification as shown on the plan.

A filter log shall be installed and maintained along the downslope side of the Staging and Stockpile Area to control sediment movement. Within the staging area, timber mats shall be placed over a minimum 6-inch-thick layer of mulch to protect the underlying surface. The height of stockpiled materials shall not exceed 15 feet.

The Contractor shall install the staging and stockpile footprints as depicted on the plan set, ensuring side slope do not exceed a 2:1 ratio. Benching shall be implemented in accordance with Section B-3, Land Grading. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement, as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. Staging and Stockpile Areas must be kept free of erosion. Contractor shall remove only after obtaining approval from the City.

MEASUREMENT AND PAYMENT

Staging and Stockpile Areas will be paid for at the Contract unit price per Lump Sum (LS). Payment will be full compensation for all material, labor, equipment, tools, maintenance, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion. Any modifications to the Staging and Stockpile Areas requested by The Contractor will be considered means and methods and shall be incidental to the contract.

PAY ITEM 15 – MANHOLE PROTECTION

DESCRIPTION

Install Manhole Protection as identified in the Contract Documents or as otherwise directed.

MEASUREMENT AND PAYMENT

Manhole Protection will be measured and paid for at the Contract unit price per each manhole protected. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 16 – SUPER SILT FENCE (SSF)

The Contractor shall install and maintain Super Silt Fence (SSF) to intercept, retain, and filter sediment-laden runoff according to 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and as shown on the Contract Drawings. Materials include woven slit film nonwoven geotextile, 9 gauge or heavier galvanized chain link fence, 2 3/8 diameter galvanized steel or aluminum fence posts, and staples. SSF shall consist of 72-inch fence posts driven into the ground a minimum of 36 inches and no more than 10 feet apart. Nonwoven Geotextile and galvanized chain link fence shall be a minimum of 34 inches above ground and 8 inches below the ground surface, backfilled and compacted. Adjoining SSF sections must overlap a minimum of 6 inches and stapled. The Contractor shall remove only after obtaining approval from the City.

MEASUREMENT AND PAYMENT

Super Silt Fence will be measured and paid for at the Contract unit price per linear foot (LF). Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. Price includes the installation, maintenance, and removal of all related materials from the site upon project completion. Any modifications to the Super Silt Fence requested by The Contractor will be considered means and methods and shall be incidental to the Contract.

PAY ITEM 17 – PUMPED SILT CONTROL SYSTEM

DESCRIPTION

This work shall consist of installing and maintaining the Pumped Silt Control System for the purpose of dewatering work areas as specified in the Contract Drawings or as directed by the City, and shall be in accordance with the requirements of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and MDE's 2000 Maryland's Waterway Construction Guidelines.

Water from wet construction areas must be pumped through a filter bag before it is allowed to drain away from the work area; this specification is not intended to cover "clear water" diversion pumping. Dewatering setup must be made in accordance with the Contract Drawings and approved by the City. The dewatering bag must be made of nonwoven geotextile. All structural seams must be sewn with double stitch using a double needle machine with high strength thread. The seam strength must withstand 100 lb/in using ASTM D-4884 test method.

SUBMITTAL

The Contractor must submit the filter bag product information prior to installation.

MATERIALS

The geotextile fabric must be a nonwoven fabric with the following properties:

Weight	ASTM D-3776	12oz/yd.
Grab Tensile	ASTM D-4632	250 lbs.
Puncture	ASTM D-4833	150 lbs.
Flow Rate	ASTM D-4491	70 gal/min/sq. ft.
Permittivity	ASTM D-4491	1.2/sec
UV Resistance	ASTM D-4355	70%
AOS	ASTM D-4751	0.15-0.18 mm

CONSTRUCTION

Install dewatering bag on a gentle slope so incoming water flows downhill through the dewatering bag without creating more erosion. Strap the neck of the dewatering bag tightly to the discharge hose. The neck of the system should be tied off tightly to stop the water from flowing out of the system without going through the walls of the bag. To increase the efficiency of filtration, place the bag on an aggregate or hay bale bed to maximize water flow through the surface area of the bag.

Polyethylene plastic sheeting shall be placed downstream of the filter bag for stabilization of discharge where shown on the Contract Drawings or as directed by the City.

The dewatering bag is full when it no longer can efficiently filter sediment or pass water at a reasonable rate. Flow rates will vary depending on the size of the dewatering bag, the type and

amount of sediment discharged into the dewatering bag, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies. Under most circumstances dewatering bag will accommodate flow rates of 1500 gallons per minute. Use of excessive flow rates or overfilling dewatering bag with sediment will cause ruptures of the bags or failure of the hose attachment straps.

Dispose of contents of dewatering bag offsite. Full or partially full silt bags cannot be left in place and must be removed from site and legally disposed. At the City's and Sediment Control Inspector's option, the bags may be left to dry completely and then be cut open and the silt material graded, seeded or otherwise permanently stabilized with the approval of the City and the direction of the Sediment Control Inspector.

All dewatering installations must be inspected by appropriate permit inspectors and the City before being put into operation. Provide standby equipment on-site, installed and available for immediate operation, to maintain dewatering on a continuous basis if any part of system becomes inadequate or fails. The Contractor shall prevent surface water and subsurface or groundwater from flowing into excavations and from flooding the Project Site and surrounding area. Water shall not be allowed to accumulate in excavations or other areas of the Site. Water must be removed to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of sub-grades and foundations. Any repair to foundations which result from deficient dewatering is the sole responsibility and cost of The Contractor. Remove dewatering system from project site on completion of dewatering.

MEASUREMENT AND PAYMENT

This item will not be measured but will be paid for at the Contract Lump Sum (LS) price for bid item "Pumped Silt Control System." The payment will be full compensation for installation, inspection, maintenance, and removal of Pumped Silt Control System. Payment shall include sumps, sandbags, pump around system, dewatering bags, ESC matting, disposal of excavation and used devices and any other materials, labor, equipment, tools and incidentals necessary to complete the work.

PAY ITEM 18 – STREAM DIVERSION

This work shall consist of maintaining and diverting stream flow for the purpose of isolating work areas when construction activities take place within the stream channel as specified in the Contract Drawings or as directed by the City and shall be in accordance with the requirements of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and MDE's 2000 Maryland's Waterway Construction Guidelines. Stream diversion shall be pumped as specified in the Contract Drawings.

Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing and puncture, and woven tightly enough to prevent leakage of fill material (i.e. sand, fine gravel, etc.).

Sheeting shall consist of polyethylene plastic, which is impervious and resistant to puncture and tearing.

Pump(s) shall be large enough to maintain uninterrupted base flow to areas downstream of the work area. The pump around shall include a hose or a hose or City approved alternative suitable to convey water over land to the downstream areas not in construction. The pump shall be shut off at night and baseflow shall flow through the completed portion of the project into the existing downstream channel. The Contractor shall maintain baseflow through or around the work area and relocate the pipe as necessary. The Contractor shall only disturb an area that can be stabilized at the end of each working day.

Installation of sand bags, sheeting and pump-around, including pipes and associated outfall dissipation pads, shall be installed in accordance with the approved Erosion and Sediment Control Plan in the Contract Drawings or as approved by the City.

The diversion structure shall be installed from upstream to downstream. The height of the sand bag diversion structure shall be a minimum of one half the distances from streambed to top of stream bank plus one foot. Sheeting shall overlap the sandbags such that the upstream portion covers the downstream sandbag face with at least an 18-inch overlap.

The Contractor shall stop work immediately if the stream diversion fails and stabilize the construction site to prevent the loss of sediment downstream at no additional cost to the City. Provide standby equipment on-site, installed, and available for immediate operation, to maintain diversion on a continuous basis if any part of the system becomes inadequate or fails. If diversion requirements are not satisfied due to inadequacy or failure of the diversion system, Contractor shall stop work immediately and restore damaged structures and foundation soils at no additional expense to the City.

MEASUREMENT AND PAYMENT

Maintenance of stream flow will be paid for at the Contract Lump Sum (LS) price for pay item "Stream Diversion." The payment will be full compensation for installing and maintaining stream

flow including sandbags, sheeting, stream pump-around system, and any other materials, labor, equipment, tools and incidentals necessary to complete the work.

PAY ITEM 19 – EXCAVATION (CLASS 1)

DESCRIPTION

Perform Class 1 Excavation for roadways and appurtenances to meet the lines and grades specified in the Contract Documents. Class 1 Excavation shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 201 – Roadway Excavation (Class 1, Class 1-A, Class 2).

MEASUREMENT AND PAYMENT

Excavation will be measured and paid for at the Contract unit price per cubic yard. The payment will be full compensation for all excavation, hauling, salvaging, separating, stockpiling, and placement of suitable materials, disposing of excess or unsuitable materials, undercutting and backfilling of undercuts, and for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

Demolition and disposal of existing structures is not included and is covered by a separate pay item.

Material will be measured in its original position and the volume computed by the Method of Average End Area. The area measured will not include water or other liquids. No cross-sections are provided along Avery Road. This area will need to be calculated using the profile sheet (Sheet 31) and detail (Sheet 61). Temporary Seeding and Mulch are incidental to the contract unit price for Excavation. Excavation required to meet subgrade for placement of any and all structures on the Contract Drawings will not be measured and paid for separately and will be considered incidental to those structures.

PAY ITEM 20 – EXCAVATION (CLASS 5)

DESCRIPTION

The Contractor shall use all suitable materials, including topsoil, subsoil, and stream bed material as specified in the Contract Documents, from excavation in the construction throughout the Contract. This item includes excavation, separation, salvaging, stockpiling and placement of suitable materials including soils that will be used as fill, backfill, and/or grading in areas designated on the plans and as outlined below. Due to the presence of the invasive species, Lesser Celandine (*Ficaria verna*), along the existing streambanks reuse of existing topsoil and subsoil to a depth of 6-inches is not permitted. All concrete and masonry removed from the channel is considered unsuitable material.

Excavation shall include the following:

a) Excavation within the channel, banks, or floodplain for stream restoration activities. This shall include excavation for stream bed material as specified on the plans and in these specifications.
b) Additional rock encountered within the stream channel that may be handled by the same tools and equipment used for stream excavation under this Contract.
c) When excavating for stream restoration indicated on the plans, The Contractor will encounter wet or saturated soils. The Contractor shall be prepared to dewater and transport saturated soil off-site in a manner that prevents discharge or spillage of soils or water onto adjacent properties or roads. Should any discharge occur, The Contractor shall be responsible for immediate and complete cleanup.

SUBMITTAL

The Contractor must submit soil information that will be used prior to installation.

MATERIALS

Borrow Excavation Material: Refer to MD SHA Standard and Specification for Materials, Section 916.01, for requirements.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item.

CONSTRUCTION

Grading Units: Each unit is the surface area of erodible earth that can be exposed to construction operations without undue erosion or sedimentation. Unless otherwise specified or approved, limit the clearing and grubbing area to an area that can be completed or stabilized in a day. Once this first unit is half graded and stabilization measures are in place and approved, the work may proceed. When approved by the City or Design Engineer, the clearing and grubbing area may exceed the one grading unit requirement when necessary to balance earthwork or when grading interchanges. Maintain erosion and sediment controls as specified.

The grading operation will be limited to The Contractor's ability to provide adequate resources to perform the grading in a timely manner and to provide and maintain the proper erosion and sediment control measures. The City or Design Engineer is the final authority in this determination. When wet soil conditions are encountered, the clearing, grubbing, and grading of another unit will be allowed, once stabilization of the initial unit is approved.

Site Cleanup: Prior to stockpiling and undercutting any stream invert, cutting into any stream bank, or excavation, all unsuitable items such as waste concrete, metal, vegetation debris, and rubbish shall be removed. The Contractor shall be responsible for removing as much unnatural or unsuitable material as possible prior to salvaging and stockpiling of the suitable materials. Disposal of unsuitable material shall be the responsibility of The Contractor.

Use of Excavated Material: Refer to Section of 201.03.02 of SHA Specs.

Disposal of Unsuitable Materials: Existing debris, concrete, waste, and other unsuitable materials, as determined by these specifications or by the City and Design Engineer, shall be removed from the site and shall be disposed of at a site with an approved erosion and sediment control permit.

Rock Excavation:

a) Boulders and Rock from the excavation may not be broken and used for any of the proposed in-stream or bank structures unless authorized by the City and Design Engineer.

Frozen Material: Refer to Section 201.03.05 of SHA Specs.

Excavation Beyond Specified Limits: Refer to Section 201.03.08 of SHA Specs.

Unsuitable Material: Unstable or other unsuitable material encountered at or below the lowest normal excavation limit, as specified in the Contract Documents, shall be undercut and removed to the extent directed by the City and Design Engineer. The undercutting and removal of unsuitable materials shall be incidental to Class 5 Excavation. In rock areas, the limit of measurement for excavation will be at the bottom of the normal plan section. All voids created by the removal of unsuitable material and undercuts, except when rock is encountered at subgrade, shall be backfilled to the lines and grades specified in the Contract Documents. Backfill material for undercuts shall conform to materials specified and shall be incidental to Class 5 Excavation.

MEASUREMENT AND PAYMENT

Excavation will be measured and paid for at the Contract unit price per cubic yard. The payment will be full compensation for all excavation, hauling, salvaging, separating, stockpiling, and placement of suitable materials, disposing of excess or unsuitable materials, undercutting and backfilling of undercuts, and for all materials, labor, equipment, tools, and incidentals necessary to complete the work. The cost of handling and re-handling wet soils and over-excavation to construct a temporary access bridge, if necessary, shall be considered incidental to the cost of Excavation, as appropriate. Demolition and disposal of existing structures is not

included and is covered by a separate pay item. Material will be measured in its original position and the volume computed by the Method of Average End Area. The cross-sectional area measured will not include water or other liquids. Salvaging, stockpiling, placing, and compacting Salvaged Stream Bed Material, Channel Backfill, Temporary Seeding and Mulch, and are incidental to the contract unit price for Excavation.

Excavation required to meet subgrade for placement of any and all structures on the Contract Drawings will not be measured and paid for separately and will be considered incidental to those structures.

PAY ITEM 21 - DEMOLITION AND DISPOSAL OF EXISTING STRUCTURES AND DEBRIS

DESCRIPTION

This work shall consist of removing and properly disposing of all debris designated for removal on the Contract Drawings, as well as encountered waste and debris not identified on the plans, including but not limited to the existing dam, pedestrian bridge, curb/gutter, fence, riprap, log/debris jams, concrete pipes and structures, building materials, yard debris and miscellaneous litter. The dam removal includes the entire dam and all abutments located within the channel and adjacent banks. This work will be conducted in areas of proposed grading and within the limits of disturbance, as specified in the Contract Drawings, or as directed by the City. This item does not cover work specified in the Clearing and Grubbing pay item.

CONSTRUCTION

All demolition, removal, and disposal shall be performed according to the Contract Drawings and all applicable federal, state and local laws, regulations and guidelines. Demolished materials are to be disposed of legally by The Contractor.

The Contractor shall cut all existing asphalt and/or concrete surfaces in improved paved areas with a power saw in such a manner as to create a tight, neat, straight water sealed joint. No “jack-hammering” or tearing of the existing surfaces will be allowed. The Contractor shall protect all adjacent surfaces as necessary. Saw cut existing asphalt or concrete according to the latest approved Maryland Department of Transportation State Highway Administration "Standard Specifications for Construction and Materials revisions thereof or additions thereto, as indicated in the Applicable Standards section of the Special Provisions, Section 522 Portland Cement Concrete Pavement Repairs and Section 505 Asphalt Patches. All saw cuts shall be to the full depth of the curb and gutter, sidewalk or pavement being cut.

Perform work so adjacent structures, equipment, paving and materials, which are to remain, shall not be damaged. If damage occurs, The Contractor shall repair or replace the adjacent structures, equipment, paving and materials as directed by the City at no additional cost to the City. Existing utilities damaged by demolition shall be replaced with the same material and quality as the existing utilities in accordance with the notes on the Contract Drawings. Before construction begins, The Contractor shall inspect existing structures, equipment and paving that will remain in-place within and adjacent to the work area for existing defects and damage. Existing defects and damage shall be documented. Any new damage shall be repaired at The Contractor’s expense.

Perform the work in a manner that will not damage parts of the structure or facility not intended for removal. If, in the opinion of the City, the method of construction used may endanger or damage parts of the structure or affect the satisfactory operation of the facilities, The Contractor shall promptly change the method when so notified by the City. Perform all cutting required regardless of whether such cutting is specifically indicated. Examine the existing structures and make an estimate of cutting required and other conditions to be encountered in order to accomplish the work. No blasting will be permitted.

All equipment, materials, and piping within the limits of the construction designated for removal shall become the property of The Contractor. The Contractor is responsible for the removal and proper disposal of all debris and structures within the limits of disturbance as shown on the Contract Drawings. Debris shall be removed from areas of proposed grading and all other areas within the limits of disturbance. Large debris may be removed using excavator buckets, cable winch, towing strap, laborers with bags or buckets, or other methods identified by The Contractor and approved by the City.

The Contractor is responsible for the removal and proper disposal of all asphalt paving and sub-base material as shown on the plans. Removal of asphalt paving within the critical root zones of existing trees is to be done under the supervision of the Licensed Tree Expert, who shall consult with the City Forestry Inspector, to minimize root damage.

Provide shoring and bracing during construction as necessary to protect personnel, structures and equipment. No special payment will be made for shoring and bracing. All costs shall be included with the appropriate pay item. Provide warning signs as required, for personnel and the public.

SUBMITTAL

The Contractor must submit Licensed Tree Expert certification prior to any tree excavation.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract Lump Sum (LS) price for item “Removal and Disposal of Existing Structures and Debris”. Payment will be full compensation for removal, disposal, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 22-23 SOIL STABILIZATION MATTING (TYPE A & TYPE D)

DESCRIPTION

This item shall consist of furnishing, placing, and securing Type A Soil Stabilization Matting or Type D Soil Stabilization Matting along and within the project area as specified in the Contract Drawings or as directed by the City. This work will occur on all graded and disturbed areas and within the floodplain within the Limits of Disturbance.

MATERIALS

Type A Soil Stabilization Matting: The matting shall consist of Curlex®NetFree™ 100% Biodegradable Erosion Control Blanket or approved equal. The matting shall be evenly distributed over the entire specified area and 80% of the fibers shall be six inches or longer with consistent thickness. Biodegradable stitching shall be used to form the continuous matrix of fibers. The blanket shall be naturally seed free and not contain any foreign weed seed, chemical additives, tackifiers, or paper products that could hinder grass growth, establish unwanted invasive weed species or shorten necessary erosion protection time periods. The mass per unit area shall be 11.68 OZ/SY based on a dry fiber weight basis.

Type D Soil Stabilization Matting: The matting shall consist of 100% high strength coconut fiber which is twisted and woven in a grid with an open area of 50% (+/- 2%); no synthetic fibers are permissible. The thickness of the matting shall be 0.35 inch with a dry weight of 23 OZ/SY. The product shall be RoLanka BioD-Mat-70 or approved equal.

Wooden Stakes: The stakes may be purchased or prepared by The Contractor. The stakes are constructed from untreated, milled, 2”x4” hardwood lumber. The stakes are constructed by cutting the lumber into 2-foot lengths. Each length shall be cut again diagonally and longitudinally across the entire length to make two triangular (or wedged) shaped stakes from each length. The diagonal cut begins and ends 1/8 inch from the edge of the piece so the finished stake will have a 1/8-inch-wide tip which will be inserted into the substrate or material.

Seed: Refer to the specification and submittal requirements for this material in the Turfgrass and Floodplain Seed Mix pay item.

SUBMITTAL

1. The Contractor shall document the source(s) and composition of all soil stabilization matting.
2. The Contractor shall document the source(s) and characteristics of the wooden stakes.

CONSTRUCTION

Type A Soil Stabilization Matting – The soil stabilization matting shall be installed in accordance with the Sequence of Construction, the Contract Drawings, these specifications, manufacturer specifications, and as directed by the City.

1. The slope to be covered shall be fine graded, topsoiled, tamped, and seeded with no voids or protrusions, including roots, stones and soil clods.
2. Install the Type A SSM in vertical strips and anchored with wooden stakes as noted in the Contract Drawings or biodegradable equivalent. Adjacent strips shall be overlapped to allow for installation of a common row of wooden stakes that anchor through the stitching of both blankets. Horizontal joints between erosion control blankets shall be overlapped sufficiently with the uphill end on top for a common row of staples so that the stakes anchor through the stitching of both blankets.
3. Continue the process until the area shown on the Plans is covered

Type D Soil Stabilization Matting - The soil stabilization matting shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, manufacturer specifications, and as directed by the City.

4. The slope to be covered shall be fine graded, topsoiled, tamped, and seeded with no voids or protrusions, including roots, stones and soil clods.
5. Lay the matting beginning at the toe of the slope at the upstream limit of the matting and fasten the upstream edge of the matting using wooden stakes spaced 3 feet apart.
   Unroll the matting parallel to slope, making sure there is full contact between soil and matting. There shall be no void between the matting and the soil. Consecutive rolls spliced across the slope shall be overlapped 6 inches from upstream to downstream.
6. At the toe of slope, secure matting with stakes placed in a triangular pattern in two rows, with the upper row approximately 18 inches above the toe. The matting shall be properly secured such that it will not be displaced during storm events. The stakes shall not protrude more than 2 inches from the ground. Stakes along the blanket edge shall be spaced at 1.5 to 2 feet. Stakes along overlaps should be spaced at 12 inches. All matting must be keyed-in in swales, channels and slopes where edges are exposed to flow and all edges must be keyed-in/trenched in when the matting is installed in streams in accordance with MDOT SHA 2023 Standard Specifications for Construction and Materials, Section 709.03.05 Keying-in, subsection (a) Soil Stabilization Matting, Table 1-Areas of Matting to Key-In, Type D Matting.
7. Continue the process moving up-slope. Overlap matting edges 6 inches, and shingle such that the up-slope matting overlaps the downslope matting.
8. Continue the process until the area shown on the Plans is covered. At the up-slope limits of the matting, generally in undisturbed soil, cut a 6-inch by 6-inch trench and place the edge of the matting into the trench. If it is not possible to secure the matting in undisturbed soil due to the close proximity of the up-slope limit of matting and the LOD, the matting may be secured into graded soil. Secure with stakes placed 1.5 to 2 feet apart, then backfill with soil and compact.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per square yard (SY) for pay item “Soil Stabilization Matting” Type D or Type A. The payment will be full compensation for all submittals, labor, materials, equipment, tools, and incidentals necessary to complete the work. Payment shall not include topsoil and seeding which will be paid for under separate pay items. Soil Stabilization Matting used for Vernal Pool slopes and Wrapped Soil Lifts are separate pay items.

PAY ITEMS 24-25 – TYPE C ENDWALL

Install a Type C Endwall for erosion protection. The Endwall must comply with the Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard 354.01 for Standard Type C Endwall (metal or concrete round pipe) and adhere to the Standard Specification for Construction and Material 305 for Miscellaneous items. Pay Item 24 is a 36-inch pipe and Pay Item 25 is a 18-inch pipe.

SUBMITTAL

The Contractor shall supply shop drawings or a detail from the precast manufacturer prior to installation.

MEASUREMENT AND PAYMENT

Type C Endwall will be measured and paid for at the Contract unit price per each. The payment will be full compensation for all material, labor, equipment, tools, disposal fee and incidentals necessary to complete the work.

PAY ITEM 26 – SEWER PROTECTION

Install Sewer Protection per Contract Drawings. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. Any damage to the sewer pipe shall be repaired by The Contractor as directed by the City at no additional cost to the City. For the WSSC sewer protection on the Calvin Tributary, The Contractor shall be responsible for scheduling and coordinating all required inspections and submittals with WSSC and obtain approval from WSSC. However, WSSC will not direct The Contractor.

MATERIALS

Class II & III Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

Gravel: Refer to the Stone and Aggregates specification and submittal requirements for No. 57 stone.

Stream Bed Material: shall consist of sand, gravel, and cobble. Refer to the specifications and submittal requirements for Salvaged Stream Bed Material and the pay item for Furnished Stream Bed Material. Streambed material will be used for washing in to fill voids.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

SUBMITTAL

Refer to the submittal requirements in the material specifications referenced above.

CONSTRUCTION

The sewer protection shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Grade and shape the channel as necessary to accommodate the dimensions of the proposed structure. Exercise care when grading in the vicinity of the pipes and hand-dig to partially expose them. Refer to the Pumped Silt Control System specification to ensure that the work area is adequately dewatered.
2. Roll geotextile fabric within the footprint of the structure, such that it is perpendicular to the channel, starting from the downstream limit and working upstream, overlapping the sheets by 1 foot. The fabric shall cover the top of the sewer pipe as well.
3. Place the Class III rip rap at the upstream and downstream limits of the protection structure atop the fabric, minimizing voids between the boulders, as shown on the profile sheets for each structure. Place streambed material atop the Class III rip rap and wash it in with low pressure pumped water to fill voids between the stone.
4. Place gravel atop the fabric around and atop the sewer pipe so that the gravel backfill extends 2.5 feet upstream and downstream of the pipe. The gravel backfill shall extend 6 inches to 1 foot above the sewer pipe (see profiles for specified depths).

5. Atop the gravel place Class II rip rap to achieve the elevations shown on the profile. Place streambed material atop the Class II rip rap and wash it in with low pressure pumped water to fill voids between the stone.

MEASUREMENT AND PAYMENT

This item will not be measured and will be paid for at the Contract Lump Sum (LS) price for bid item "Sewer Protection". The payment will be full compensation for complete installation, including all excavation, backfill, materials, labor, equipment, tools, and other incidentals necessary to complete this work.

PAY ITEM 27 – RIFFLE GRADE CONTROL

DESCRIPTION

This work shall consist of furnishing all material, labor, and equipment, and installing riffle grade control structures within the stream channel as shown on the Contract Drawings or as directed by the City. The purpose of riffle grade controls is to mimic natural stream riffles, raise the channel bed elevation, provide grade control to prevent channel degradation, and improve stream habitat.

MATERIALS

Stone: The riffle grade control shall be composed of approximately 33% Imbricated Boulders and 67% bed stability mix by volume. The bed stability mix shall consist of 30% Class II Rip Rap, 30% Class I Rip Rap, and 40% stream bed material by volume. Refer to the Stone and Aggregates specification and submittal requirements.

Stream Bed Material: shall consist of sand, gravel, and cobble. Refer to the specifications and submittal requirements for Salvaged Stream Bed Material and the pay item for Furnished Stream Bed Material.

Soil Stabilization Matting: Refer to the specification and submittal requirements in the pay item for Soil Stabilization Matting.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

SUBMITTALS

Refer to the submittal requirements in the material specifications referenced above.

CONSTRUCTION

Riffle grade control shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Starting at the downstream limit of the structure, construct the channel subgrade by filling or excavating as needed. Grade banks to accommodate the proposed channel dimensions and shape. The riffle shall extend the full width of the base channel and bed stability mix shall extend a minimum of 1 ft. up the banks.
2. At the upstream and downstream limits of the riffle, place imbricated boulders to form a weir as shown on the detail, so that there is no space between the boulders. The boulders shall be set at the finished grade of the structures.
3. Place imbricated boulders throughout the streambed in the footprint of the structure in a checkerboard pattern. Set in place by applying downward pressure. The boulders shall be set 0.2 ft. above the finished grade of the structures. If necessary, excavate a hole for the bottom stone to facilitate the final elevation of the top boulders.

4. Working in 1-ft. depth increments, place bed stability mix in the voids between the boulders so that it shingles in a downstream direction. Small and large stone shall be mixed to minimize void spaces. Wash each lift using pumped water to compact it.
5. When the structure is at grade, wash in additional stream bed material using pumped water to ensure that all voids are filled and surface flow is achieved.
6. Fine grade the banks and apply 6 inches of loose topsoil, 4 inches settled to achieve final dimensions.
7. Place specified seed mix onto the banks, then install soil stabilization matting as shown on the detail to the up-slope limit of grading. Any protrusions such as roots or lumps in the soil shall be removed prior to securing the matting. Key-in matting per the details on the plans.
8. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the plans and specifications.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract unit price per each (EA) for pay item “Riffle Grade Control”. The payment will be full compensation for all submittals, materials (including all stone types), water, labor, equipment, tools, and other incidentals necessary to complete this work. Seed, topsoil and soil stabilization matting are separate pay items.

PAY ITEM 28 – VERNAL POOL

DESCRIPTION

This work shall consist of creating small, shallow upland pools by excavating depressions and compacting the ground to promote temporary ponding, particularly in the winter and early spring. Salvaged trees/logs will be placed in the pools to provide habitat and promote movement into and out of the pools by reptiles, amphibians and other wildlife.

MATERIALS

Salvaged Trees/Logs: Felled trees and branches from the project site. The logs shall be 6-12 inches in diameter, 10-15 feet in length and shall include fine branches and leaves if possible.

Soil Stabilization Matting: Refer to the specification and submittal requirements in the pay item for Soil Stabilization Matting.

Rebar Stakes: 4' long, 0.5" rebar stakes.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

SUBMITTALS

Salvaged Trees/Logs: Prior to placement, The Contractor shall obtain approval from the City for the Salvaged Trees/Logs to be used.

CONSTRUCTION

Vernal Pools shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Remove, separate, and dispose of topsoil from the footprint of the proposed feature.
2. Excavate the pool to the specified elevation as shown on the grading plan. Remove all roots and rocks that are encountered. If large boulders are encountered, consult with the City or Design Engineer before proceeding.
3. Compact the bottom of the pool using a walk behind or vibrating plate compactor, making two passes atop the entire bottom. No compaction testing will be required. Slight variations (+/- 0.2 feet) in elevation within the pool bottom are desirable.
4. Place 6 inches of loose topsoil along the slopes of the pool. Apply seed mix to the slopes of the pool according to the plans and specifications.
5. Place soil stabilization matting on the slopes of the pool and secure as specified in the pay item for this material.
6. Place three trees/logs of varying lengths and diameters randomly into the pool so they extend

from the pool bottom to the top of the bank, with the cut end extending up the bank and the fine branches (and leaves, if present) extending into the pool.

7. Install rebar stakes every 4 feet along the length of each tree/log, securing them into the existing ground.
8. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the plans and specifications.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract unit price per each for pay item “Vernal Pool”. Payment will be full compensation for all submittals and materials, including but not limited to: soil stabilization matting, seed, topsoil, salvage and placement of trees/logs, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 29 – PARABOLIC RIFFLE WEIRS AND CASCADE

DESCRIPTION

This work shall consist of furnishing all material, labor, and equipment, and installing parabolic riffle weirs and a cascade within the stream channel as shown on the Contract Drawings from stations 62+62 to 60+95 or as directed by the City. The purpose of these structures are to arrest channel erosion, provide grade control to prevent channel degradation, improve floodplain connection, provide stable conveyance of storm flows, and improve stream habitat.

MATERIALS

Class II Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

Imbricated Boulders: Refer to the Stone and Aggregates specification and submittal requirements.

Stream Bed Material: shall consist of sand and gravel. Refer to the specifications and submittal requirements for Salvaged Stream Bed Material and the pay item Furnished Stream Bed Material.

Soil Stabilization Matting: Refer to the specification and submittal requirements in the pay item for Soil Stabilization Matting.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item. Use of salvaged topsoil will not be permitted.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

CONSTRUCTION

The parabolic riffle weirs and cascade shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Starting at the downstream limit of the structure, construct the channel subgrade by excavating to the depth of the boulders and grade banks to accommodate proposed channel dimensions and shape.
2. At locations where a boulder revetment is next to a riffle, the two structures should be constructed concurrently.
3. For both the riffle weirs and the cascade feature, install geotextile fabric across the excavated streambed bottom to cover the entire footprint of the boulder placement. Both the riffles and the cascade shall be constructed directly on native soil. Place boulders on top of the geotextile fabric, ensuring that each boulder is in direct contact with adjacent boulders to form a stable

and continuous foundation. The boulder layout should closely match the proposed dimensions of the riffle or cascade as shown in the plans. All voids between boulders shall be filled with streambed material to ensure stability and a natural appearance.

4. For the cascade, place boulders atop footer boulders to achieve the shape and elevation of the cascade. All boulders shall rest securely on the footer boulders and shall be in direct contact with adjacent boulders such that void spaces between the boulders are minimized.
5. Continue placing boulders and filling voids with stream bed material until the dimensions and elevations of the cascade are achieved.
6. In riffles and transition areas grade and place Class II rip rap to attain proposed channel configuration dimensions and elevations as shown on the cross-sections and profile. Class II rip rap shall be placed to form a smooth transition into the boulders. Wash in stream bed material to fill all voids in the Class II rip rap.
7. In the riffles, use topsoil to choke into voids of the Class II rip rap/stream bed material on the outer one-thirds of the riffle structure.
8. Grade the banks and apply 6 inches of topsoil to achieve final dimensions and such that the boulders and rip rap at the lateral limits of the riffles/cascade transition smoothly into the banks.
9. Place specified seed mix onto the banks, then install soil stabilization matting as shown on the planting plan. Any protrusions such as roots or lumps in the soil shall be removed prior to securing the matting. Key-in matting per the details on the plans.
10. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the plans and specifications.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract Lump Sum (LS) price for pay item “Parabolic Riffle Weirs and Cascade.” The payment will be full compensation for all submittals, materials (including all stone types), earthwork, labor, equipment, tools, and other incidentals to complete this work. Topsoil, seed, and soil stabilization matting are separate pay items.

PAY ITEM 30 – RIFFLE WEIR

DESCRIPTION

This work shall consist of furnishing all materials, labor, and equipment, and installing riffle weir structures within the stream channel as shown on the Contract Drawings or as directed by the City. The purpose of the riffle weirs is to reduce the incision ratio, promote aggradation upstream of the weirs, provide grade control to prevent channel degradation, and create and enhance pools to improve stream habitat.

MATERIALS

Imbricated Boulders: Refer to the Stone and Aggregates specification and submittal requirements.

Class II & III Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements. The Class II & III rip rap mix shall consist of 50% Class II rip rap and 50% Class III rip rap, by volume.

Streambed Material: shall consist of sand, gravel, and cobble. Refer to the specifications and submittal requirements for Salvaged Stream Bed Material and the pay item Furnished Stream Bed Material.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

Sandbags: Sandbags shall consist of high strength polyethylene mesh fabric (or similar) which is resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material. The dimensions of the empty bags shall be approximately 14 inches wide by 26 inches long. Filled with 40 lbs. of sand, the average size shall be 12”x18”x4”. For the Sand, refer to the Stone and Aggregates specification and submittal requirements.

Channel Backfill: Refer to the specification and submittal requirements in the pay item for this material.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item. Use of salvaged topsoil will not be permitted.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

SUBMITTALS

1. Refer to the submittal requirements in the material specifications referenced above.
2. The Contractor shall provide documentation of the sandbag material.

CONSTRUCTION

The riffle weirs shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. At locations where a boulder revetment is next to the riffle weir, the two structures should be constructed concurrently. Grade and shape the channel as necessary to accommodate the dimensions of the proposed structure and stone sills and boulder revetment if applicable.
2. At the location of the crest of the structure, excavate a trench that is 2-3 feet below the existing invert to accommodate the imbricated boulder footer layer.
3. Roll geotextile fabric within the footprint of the structure and adjacent stone sills (and boulder revetment if applicable), such that it is perpendicular to the channel, starting from the downstream limit and working upstream, overlapping the sheets by 1 foot. Continue placing geotextile fabric upstream to the location of the sandbags, leaving enough material so that it may be pulled vertically between the sandbags around the top layer of sandbags as shown on the detail. Sandbags are to be no higher than 2 feet from the crest of the weir. .
4. Build the footer layer by placing a layer of imbricated boulders atop the fabric to form a regular, horizontal surface, minimizing voids between the boulders. Place stream bed material atop the boulders and wash in to fill all voids.
5. Stack additional imbricated boulders to form two parallel, vertical courses of imbricated boulders at the crest of the structure, perpendicular to the channel such that they touch, and void space is minimized. Place boulders such that the seams between adjacent boulders are vertically staggered.
6. With each vertical course of imbricated boulders, place a layer of the Class II and III rip rap mix downstream and perpendicular to the crest to create the dimensions and shape of the structure per the plans. For the stone sills, place a layer of Class II and III rip rap to create the dimensions and shape of the sills. Pull up the geotextile around the stone sills. Cover stone with stream bed material and wash in until all voids are sealed. At Riffle Weir 19 (RW 19), the riffle mix shall be constructed with Class III rap rap only, from stations 41+77 to 41+50 and 41+43 and 41+26. This is to ensure adequate protection of the 18-inch WSSC sewer line.
7. Concurrent with the construction of the structure, place a row of sandbags atop geotextile fabric in a regular pattern along the upstream face of the stacked imbricated boulders to form a wall. Place sandbags such that the seams between adjacent bags are vertically staggered.
8. Continue construction of the structure vertically, covering all stone with stream bed material and washing in with pumped water until all voids are sealed with each course. A minimum of two lifts are required. When the crest elevation is reached and the downstream side of the weir has the required 25% slope, bring sandbags up to no higher than 2 feet from the crest of the weir, and pull the geotextile fabric up vertically against the upstream face of the sandbags and around the sill boulders. Secure geotextile along the weir crest by wrapping it over and under the top layer of sandbags.
9. At the location of the pedestrian bridge crossing, station 41+62, place imbricated boulders within the Class III rip rap. The boulders shall be placed so that the surface of the boulders lies 4 inches above the riffle weir structure. The elevation difference between the imbricated boulders shall not exceed 1 ft., and the distance between the imbricated boulders shall not exceed 1 ft.
10. Place another row of sandbags immediately upstream of the first row, such that the geotextile fabric is tightly sandwiched between the sandbags. Continue stacking the sandbags vertically as shown on the detail. Place sandbags such that the seams between adjacent bags are vertically

staggered.

11. Install Channel Backfill upstream and downstream of the stone sills as shown in the plans, in 6-inch lifts that are compacted using either a jumping jack, plate compactor or sheep's foot roller, making two complete passes atop the entire lift surface.
12. Place Class II rip rap adjacent to and upstream of the sandbags, washing in streambed material until refusal. Continue placing Class II rip rap and washed stream bed material to form a 25-30% slope from existing grade to the finished elevation of the structure. Sandbags and geotextile fabric should not be visible.
13. Cover the entire structure with stream bed material and wash into voids using stream water. Continue placing and washing material until all voids are sealed and final grade is met. Sandbags and geotextile fabric must not be visible.
14. Cease pump diversion and re-establish flow in channel. Check to ensure that flow is on the surface of the structure. If subsurface flow is present, repair or chink structure as needed to seal all voids. Structure will not be accepted for payment until all voids are sealed and flow is conveyed atop the surface of the structure.
15. Grade around the structure and stabilize per the plans. Trim any exposed geotextile. Place 6 inches of topsoil on the banks and apply seed and soil stabilization matting per the details, planting plan, and specifications.
16. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the plans and specifications.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract unit price per each (EA) for pay item "Riffle Weir". The payment will be full compensation for submittals, labor, materials, including equipment, tools, and incidentals necessary to complete the work. Topsoil, Soil Stabilization Matting, and Seed are separate pay items.

PAY ITEM 31 – WRAPPED SOIL LIFT

DESCRIPTION

This work shall consist of the construction of Wrapped Soil Lifts, a deformable bank protection structure that consists of a bioengineering treatment with a boulder foundation.

MATERIALS

Imbricated Boulders: Refer to the Stone and Aggregates specification and submittal requirements.

Soil Lift Matting: The matting shall consist of dual layer biodegradable fabric with a 100% high strength coconut fiber outer layer and a lightweight jute fiber inner layer; no synthetic fibers are permissible. The thickness of the matting shall be 0.35 inch with a dry weight of at least 33 oz/SY. An example of an acceptable product is Nedia KoirWrap 1000 series

Staples: Landscape staples shall be U-shaped steel wire, 12 inches in length and a minimum of 1 inch wide, 4 mm thick.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item. The use of salvaged topsoil will not be permitted.

Channel Backfill: Refer to the specification and submittal requirements in the pay item for this material.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

Tubelings: shall be a minimum of 6 inches in height. Measurement is from the soil surface to the limit of the upper-most stem; container heights are not included. Refer to the Plans for the planting schedule.

1. Tubelings shall conform to the current issue of the American Standard for Nursery Stock published by the American Association of Nurserymen and as specified below.
2. Tubelings shall be nursery-grown within a 100-mile radius of the site. Plant materials collected from the wild will be rejected.
3. Plant material shall be obtained from nurseries that have been inspected and certified by state plant inspectors.
4. The root system of container grown plants shall be white, well-developed, and well-distributed throughout the container with the roots visibly extending to the inside face of the growing container.
5. If in leaf, the plants shall appear healthy with no leaf spots, leaf damage, leaf discoloration, leaf wilting or evidence of insects on the plant.
6. There shall be no change in the quantity, size or species of scheduled plant material without the approval of the City.

SUBMITTALS

1. The Contractor shall document the source(s), species, and sizes of the tubelings. Refer to the Specification for Tree, Shrub and Perennial Installation and Establishment.
2. The Contractor shall document the source(s) and composition of the soil lift matting.
3. The Contractor shall document the source(s) and characteristics of the staples.

CONSTRUCTION

The wrapped soil lifts shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Starting at the upstream limit of the structure, grade the banks and channel as necessary to obtain the proposed dimensions.
2. Cut a trench along the proposed front (stream-ward) edge of the structure. The trench shall be wide enough to accommodate the dimensions of the footer boulders. The bottom of the trench shall be a minimum of 2.0 feet below the proposed invert of the stream.
3. Place a row of footer boulders within trench such that there are no gaps between the boulders. The top surface of the footer boulders should be as flat (horizontal) as possible. Apply downward pressure to set the boulders in place such that the boulders extend a minimum of 2.0 feet below the channel invert, as shown on the Contract Drawings.
4. Place Channel Backfill behind the footers extending to the existing channel bank to create a regular surface that slopes gently towards the bank from the top of the footers at an angle of 10 degrees relative to horizontal, as shown on the Contract Drawings. Compact the soil to remove voids.
5. Begin building the soil lifts by unrolling the Soil Lift Matting parallel to the bank slope, over the footer boulders and Channel Backfill. Make sure there is full contact with no protrusions or voids between the soil and the matting. The length of matting should extend for the length of the structure.
6. Place topsoil atop the matting to a thickness of approximately 1.2 feet and compact the entire area to a depth of 1 foot using a plate compactor or manual tamper to achieve a smooth, uniform surface. Apply specified seed to cover the areas that will be exposed (face and channel-ward edges). Wrap the matting overtop and around the soil layer, and secure with U-shaped metal staples placed at 2-foot intervals. The lift should be slightly skewed downward towards the bank, approximately 10 degrees relative to horizontal.
7. Build the next lift atop the first, in the same manner. The next lift should be off-set from the bottom lift in the direction of the bank, by such a distance as to obtain the proposed channel dimensions and bank slope. Continue building lifts in the same manner to match the limits of the soil lifts as shown on the Plans. Each soil lift shall horizontally overlap the bottom lift by at least 2 feet.
8. For the upper-most lift, apply the specified seed atop the entire surface of the topsoil. Upslope of the lifts, grade banks to a maximum slope of 2:1 to transition to existing grade. Place the specified seed mix onto the upper banks and install soil stabilization matting per the specification for this material. Key-in the matting on the upslope edge per the detail.
9. As specified in the planting schedule, plant tubeling trees and shrubs into each of the lifts. Tubelings may be installed from September 15 to December 15 and from March 1 to April 30. Planting shall not be performed outside of these dates. In addition, planting shall not occur in

sub-freezing temperatures, when the ground is frozen, or when the soil is too dry or wet, or otherwise in a condition not generally accepted as satisfactory for planting.

10. To plant the tubelings, cut into the matting at 3-foot intervals and excavate a planting hole at least 2 inches wider than the width of the tubeling roots.
11. Install tubeling in the center of the hole so that the top of the root mass is at the soil surface.
12. Backfill planting hole with the excavated topsoil.
13. Thoroughly water the tubelings after they are planted, even if it is raining.
14. The Contractor shall ensure a 60 percent survival rate among all tubelings for a period of two full calendar years following the date of project acceptance. Survival of each plant item will be defined as a minimum of 80 percent of the branches of the tree or shrub remaining alive for the duration of the calendar year. If less than 80 percent of the tree or shrub is alive, it will not be counted in the survival rate. The Contractor shall replace at their own expense and to the City's satisfaction.
15. This guarantee shall cover losses due to all damages except vandalism, fire, and flood.
16. Plant material replacements shall be of the same size, type, and variety as the plants specified in the planting schedule or as the approved substitutes for the original planting.

MEASUREMENT AND PAYMENT

This item will be measured along the baseline and paid for at the Contract unit price per linear foot (LF) for pay item "Wrapped Soil Lift". The payment will be full compensation for all submittals, labor, materials including but not limited to: soil lift matting, seed, topsoil, imbricated boulders, staples, water for plants, equipment, tools, replacement of dead plant material below the survival rate, and incidentals necessary to complete the work. Excavation, Soil Stabilization Matting (for the upper bank slopes) and tubelings are separate pay items.

PAY ITEM 32 – BOULDER REVETMENT

DESCRIPTION

This work shall consist of furnishing all materials, labor, and equipment and constructing boulder revetments along the stream bank as shown on the Contract Drawings or as directed by the City. The purpose of the boulder revetments is to provide stream bank protection and/or to serve as an earth retention structure.

MATERIALS

Imbricated Boulders: Refer to the Stone and Aggregates specification and submittal requirements.

Gravel: Refer to the Stone and Aggregates specification and submittal requirements for No. 57 stone for backfilling.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

Soil Stabilization Matting: Refer to the specification and submittal requirements in the pay item for this material.

Channel Backfill: Refer to the specification and submittal requirements in the pay item for this material.

Topsoil: Refer to the specification and submittal requirements for this material in the Topsoil pay item. The use of salvaged topsoil will not be permitted.

Seed: Refer to the specification and submittal requirements for this material in the Floodplain Seed Mix pay item.

SUBMITTALS

Refer to the submittal requirements in the material specifications referenced above.

CONSTRUCTION

The boulder revetment shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Starting at the limit of the revetment, grade banks and channel as necessary to obtain the proposed channel configuration.
2. Cut a trench along the proposed front (stream ward) edge of the revetment. The trench shall be wide enough to accommodate the dimensions of the imbricated boulders used. The bottom of trench shall be a minimum of 4 feet below the channel invert or such that the

finished grade of the top of the revetment can be achieved with two rows of imbricated footer boulders. If bedrock is encountered, confer with the Design Engineer and City. The vertical extent of the structure may be reduced and/or the bedrock may be notched to provide a stable footer on which to place the boulders.

3. Lay geotextile fabric into the trench in a continuous sheet that will extend up the bank to the finished elevation of the structure.
4. Place a row of boulders in the trench atop the geotextile such that there is no space between the boulders. Apply downward pressure to set the boulders in place. Place No. 57 Stone atop and between the boulders to fill voids and to create a stable horizontal surface upon which to place the next course of boulders. Maximize the contact between all adjacent boulders.
5. Place a second layer of boulders atop the first footer layer. Maximize the contact between all adjacent boulders. Boulders shall be placed such that they are stable and slightly skewed toward the bank. Place gravel (No. 57 stone) atop and between the boulders to fill voids. Geotextile should not be visible from the face of the revetment. These layers are the footer boulders.
6. Place a layer of boulders atop the footer layer such that they are stable and slightly skewed toward the bank to achieve a slope of 10 degrees relative to horizontal for all boulders. Add additional stone as necessary to achieve the specified revetment elevation and overall bank slope. Lay soil stabilization matting over the top rock and overlap with geotextile. Chinking between boulders above the footer layers will not be required unless there is a gap between boulders of more than 2 inches, or as directed by the Design Engineer and the City.
7. Where shown on the Contract Drawings, place boulders around the existing 8-inch steel stormdrain pipe, as shown in the detail (Boulder Revetment with Stormdrain Outlet). Backfill the space between the stone and pipe with No. 57 Stone to minimize void space.
8. Where shown on the Contract Drawings, place footer boulders around the existing sewer pipe to avoid damaging the pipe, as shown in the Boulder Revetment at Sewer Pipe detail. Minimize void space around the pipe and backfill voids around with pipe with No. 57 Stone. There shall be a minimum of 1 foot of gravel over the pipe. Place boulders atop the abutment footer boulders to straddle the sewer pipe. Do not rest boulders' weight atop the pipe.
9. Where shown on the Contract Drawings, place Channel Backfill behind the boulders/geotextile fabric as each layer of boulder is completed to obtain the specified grade. Place the backfill in 6-inch lifts and compact. The fabric should be in contact with the boulders and the fill.
10. Where it is shown on the Contract Drawings (station 45+97), place geotextile fabric behind the boulder revetment and place Class II and Class III rip rap to construct the stone sill to obtain the final grade. Pull up the geotextile fabric around the sill.
11. At the upstream and downstream limits of the revetment, grade banks such that the revetment blends seamlessly with the adjacent banks with no protrusions or voids. Trim excess geotextile fabric so that it is not visible.
12. Upslope of the revetment, place 6 inches of topsoil on the bank, then apply seed mixture.
13. Fold the soil stabilization matting back over the seeded bank and secure it per the specification for this material. There shall be complete contact between the matting and the soil. Any protrusions such as roots or lumps in the soil shall be removed prior to securing the matting. Key-in matting at top and lower edge of matting per the detail.
14. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the Contract Drawings and specifications.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per linear foot (LF) for pay item “Boulder Revetment”, measured along the top layer of boulders. Payment will be full compensation for all submittals, labor, materials, equipment, tools, and other incidentals to complete this work. Soil Stabilization Matting, Seed, and Topsoil are separate pay items.

PAY ITEM 33 – RIP RAP SWALE

DESCRIPTION

This work shall consist of furnishing all materials, labor, and equipment and constructing rip rap swales along the stream banks as shown on the Contract Drawings or as directed by the City. The purpose of the rip rap swales is to safely convey overland flows and piped stormwater flow down to the grade of the stream channel.

MATERIALS

Class I Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

Streambed Material: shall consist of sand, gravel, and cobble. Refer to the specifications and submittal requirements for Salvaged Stream Bed Material and the pay item Furnished Stream Bed Material.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

SUBMITTALS

Refer to the submittal requirements in the material specifications referenced above.

CONSTRUCTION

The rip rap swales shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Excavate bank material within the footprint of the rip rap swale location, extending to the stream invert. Remove enough bank material to accommodate the dimensions of the swale and the Class I rip rap.
2. Place geotextile within the excavated area to cover the entire footprint of the rip rap swale.
3. Working in 1-ft. depth increments, place rip rap atop the geotextile. Small and large stone shall be mixed to minimize void spaces.
4. After each depth increment, wash in gravel or streambed material using pumped water to promote compaction and elimination of voids. Continue to add and compact material to attain the specified dimensions of the structure.
5. Fine grade around the swale as necessary to form a smooth transition between the structure and adjacent ground.
6. Trim excess geotextile from around the swale.
7. Permanently stabilize all areas disturbed because of this work (including areas used for access and/or stockpile) according to the Contract Drawings and specifications.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per square yard (SY) for pay item “Rip Rap Swale”. Payment will be full compensation for submittals, labor, materials, equipment, tools, and other incidentals necessary to complete this work.

PAY ITEM 34 – RIP RAP CHANNEL INFLOW PROTECTION

DESCRIPTION

This work shall consist of furnishing all materials, labor, and equipment and constructing the cobble channel along the stream bank as shown on the Contract Drawings or as directed by the City. The purpose of the Rip Rap Channel Inflow Protection is to provide inflow protection and safely convey stormwater and upland overland drainage flowing into the Calvin Tributary via a proposed Standard Type C Endwall.

MATERIALS

Class I Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

Standard Type C Endwall MD-354.01

SUBMITTALS

1. Refer to the submittal requirements in the material specifications referenced above.
2. The Contractor shall document that the endwall meets the above-referenced standard.

CONSTRUCTION

The Rip Rap Channel Inflow Protection shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City.

1. Excavate as needed within the footprint of the Rip Rap Channel Inflow Protection location and install the endwall.
2. Place geotextile within the excavated area to cover the entire footprint of the Rip Rap Channel Inflow Protection.
3. Place rip rap atop the geotextile. Small and large stone shall be mixed to minimize void spaces.
4. Fine grade around the channel as necessary to form a smooth transition between the structure and adjacent ground.
5. Trim excess geotextile from around the channel.
6. Permanently stabilize all areas disturbed as a result of this work (including areas used for access and/or stockpile) according to the Contract Drawings and specifications.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract lump sum (LS) price for pay item “Rip Rap Channel Inflow Protection”. Payment will be full compensation for submittals, labor, materials, equipment, tools, and other incidentals necessary to complete this work. The endwall and its installation is a separate pay item.

PAY ITEM 35 – PEDESTRIAN BRIDGE

DESCRIPTION

These specifications are for a fully engineered clear span bridge of fiber reinforced polymer (FRP) composite construction and shall be regarded as the minimum standards for design and construction.

The FRP bridge manufacturer shall be an ISO9001:2015 accredited company for the design and manufacture of FRP structural components and systems. The company shall have been in the business of design and fabrication of bridges for a minimum of ten years, such as E.T. Techtonics at Creative Composites Group. The company shall provide a list of five successful bridge projects of similar construction, each of which has been in service for at least three years. List the location, bridge size, owner and contact reference for each bridge. The installer shall have been in the business of installing bridge systems for a minimum of seven years and shall provide a list of five successful bridge projects of similar construction, each of which has been in service for at least three years.

GENERAL FEATURES OF DESIGN

- Span
  - Bridge span will be 40 ft. (straight line dimension) and shall be measured from each end of the bridge structure.
- Width
  - Bridge width shall be 4 ft. and shall be measured from the inside face of structural elements at deck level.
- Bridge System Type
  - Bridges must be designed as a FRP composite truss span.
- Member Components
  - All members shall be fabricated from pultruded FRP composite profiles and structural shapes as required. The substructure shall consist of pressure treated lumber.
- Camber
  - Bridges to be precambered to eliminate initial dead load deflection. Structural design of the bridge structure(s) shall be performed by or under the direct supervision of a licensed professional engineer and done in accordance with recognized engineering practices and principles.
- Mounting
  - Bridge mountings, foundations, and footings shall be designed by others under the guidance of a Geotechnical Engineer.
- The design of the bridge footings and foundations will be carried out by others, with support from a Geotechnical Engineer. This responsibility does not lie solely with the manufacturer. A geotechnical investigation, including soil borings, along with a professional engineering review, bridge design calculations, and corresponding drawings, will be required by the designer.

ENGINEERING

- Uniform Live Load
  - All bridge spans to be designed for 85 psf.
- Wind Load
  - All bridges shall be designed for a minimum wind load of 25 psf. The wind is calculated on the entire vertical surface of the bridge as if fully enclosed.
- Seismic Load
  - Seismic loads shall be determined according to the criteria specified in the standard building codes (IBC, ASCE, or UBC) unless otherwise requested. Response spectrum analysis shall be performed in those designs that require complex seismic investigation. All necessary response spectra information will be provided by the client for evaluation.
- Design Approach
  - An allowable stress design (ASD) approach is used for the design of all structural members. Factors of safety used by CPI in the design of FRP bridges are as follows unless otherwise specified: (based on the ultimate strength of the FRP material):
    - Tension 2.5
    - Compression 2.5
    - Shear 2.5
    - Bending 2.5
    - End bearing 2.5
    - Connections 3.0
- Serviceability Criteria
  - Service loads are used for the design of all structural members when addressing deflection and vibration issues. The minimum criteria to be used in the design of FRP bridges are as follows: Deflection:
  - Live load (ll) deflection = l/240
  - Vertical frequency (fn): = 5.0 Hz
  - The fundamental frequency of the pedestrian bridge (in the vertical direction) without live load should be greater than 5.0 hertz (Hz) to avoid any issues with the first and second harmonics.
  - Horizontal frequency (fn): = 3.0 Hz
  - The fundamental frequency of the pedestrian bridge (in the horizontal direction) without live load should be greater than 3.0 hertz (Hz) to avoid any issues due to side to side motion involving the first and second harmonics.
- Snow Load
  - Sustained snow load conditions shall be evaluated for time dependent effects (creep and relaxation) and expected recovery behavior.

MATERIALS

FRP Composites

- FRP bridges shall be fabricated from high-strength e-glass and isophthalic polyester resin unless otherwise specified. Weathering and ultraviolet light protection shall be provided by addition of a veil to the laminate construction. Minimum characteristic design strengths, per ASTM D7290 are as follows:
  - Tension 59,150 psi ASTM D638

- Compression 43,363 psi ASTM D6641
- Shear (in-plane) 9,773 psi ASTM D5379
- Shear (interlaminar) 3,969 psi ASTM D2344
- Yo'ng's modulus 3,870,000 psi ASTM D6641 & D638 (taken as the mean of the lessor of the two)

- The minimum thickness of FRP composite shapes shall be as follows unless otherwise specified:
  - Square tube members (closed type shape) shall be 0.25 in.
  - Wide-flange beams, channel sections, and angles (open type shall be a minimum thickness of 0.25 in.
  - Standard plate shall be a minimum thickness of 0.25 in.

Decking

- The substructure and composite deck framing shall be constructed using pressure-treated lumber.
- Decking shall be treated according to the American Wood Protection Association (AWPA).
- Standard 3 in. X 12 in. (nominal) planks can be provided for equestrian and light vehicle type loading conditions as required. High-strength fiberglass decking can also be provided as required.

Hardware

- Bolted connections shall be ASTM A307 hot-dipped galvanized steel unless otherwise specified.
- Mounting devices shall be galvanized or stainless steel.

SUBMITTAL

Submittal Qualifications

- Installer Qualifications and Manufacturer Qualifications shall be submitted to the City for review.

Submittal Drawings

- Schematic drawings and diagrams shall be submitted to the City for review. As required, all drawings shall be signed and sealed by a licensed professional engineer.

Submittal Calculations

- As required, structural calculations shall be submitted to the City. All calculations will be signed and sealed by a licensed professional engineer.

FABRICATION

- Tolerances
  - All cutting and drilling fabrication to be done by experienced fiberglass workers using carbide or diamond-tipped tooling to a tolerance of 1/16 inch. No material deviations beyond industry standards are accepted. All cut edges to be cleaned and sealed.
- Profile tolerances
  - Pultruded profiles shall be manufactured to the dimensional requirements as set forth in ASTM D3917 and the visual requirements as set forth in ASTM D4385.

RAILINGS

- Railings shall be constructed of 42-inch-high pressure-treated lumber with a fiberglass facing and a handrail in accordance with AASHTO standards, including sloped rail ends.
- Safety rails shall be horizontal.

o Continuous horizontal safety rails of 3-inch channel shall be located on the inside of the trusses. The maximum allowable opening between safety rails shall comply with applicable requirements, including AASHTO guidelines for pedestrian bridges and ADA accessibility standards and shall not exceed 4 inches.

FINISHING

The bridge color shall be brown, as specified by the City. Typically, no painting is required, as the color is integrated during the manufacturing process. However, pressure-treated components may require painting, subject to direction from the City. Sloped rail ends shall be included at both ends of the bridge.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract Lump Sum (LS) price for pay item “Pedestrian Bridge”. Payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 36 – CONCRETE CURB AND GUTTER

DESCRIPTION

Contractor shall furnish all materials and perform all work necessary, including excavation, grading, and disposal of excavated material, to replace or install new concrete curb and gutter. Removal of curb and gutter damaged during construction and as directed by the City is considered incidental to replacing concrete curb and gutter. All construction shall be as specified on the Contract Drawings or as directed by the City. Refer to the latest approved Maryland Department of Transportation State Highway Administration "Standard Specifications for Construction and Materials" revisions thereof or additions thereto, as indicated in the Applicable Standards section of the Special Provisions, Sections 206 for removal of existing curb and gutter and Sections 602.02 and 602.03.01 for materials and construction of curb and gutter. Curb cuts, if applicable, shall be considered incidental to this work.

SUBMITTALS

The Contractor shall document the source and composition of the concrete mix.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per linear foot (LF) for the pay item “Concrete Curb and Gutter”. Work shall include construction of new concrete curb and gutter, curb cuts, materials, labor, equipment, tools, and other incidentals to complete this work. Removal and disposal of existing concrete curb and gutter, as shown on the Contract Drawings and as directed by the City, is considered incidental to the price.

PAY ITEM 37 – SPLIT RAIL FENCE-REPLACE (AT UPPER-MOST SCE)

DESCRIPTION

The Contractor shall furnish all materials and perform all work necessary, including disposal, to replace and install a new wood split rail fence. All work shall be as directed by the City.

SUBMITTALS

The Contractor shall submit fence product for review by the City.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per linear foot (LF) for the pay item "Split Rail Fence-Replace". Work shall include all materials, labor, equipment, tools, and other incidentals to complete this work. Removal and disposal of existing fence, as shown on the Contract Drawings and as directed by the City, is considered incidental to the price.

PAY ITEM 38 – FLOODPLAIN SEED MIX

DESCRIPTION

Establish Floodplain Seed Mix in topsoil to provide permanent vegetation groundcover. Floodplain Seed Mix shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 707 – Meadow Establishment or as specified.

SUBMITTAL

Seed Mix must be submitted for review.

MEASUREMENT AND PAYMENT

Floodplain Seed Mix will be measured and paid for at the Contract unit price per square yard. The payment will be full compensation for applying soil amendments and initial fertilizer, and for all material, labor, equipment, tools, disposal fees and incidentals necessary to complete the work.. The use of other materials in conformance with an approved Modification Request shall be incidental to the Contract unit price and will not be measured or paid for.

PAY ITEM 39 – TURF GRASS SEED MIX

DESCRIPTION

Perform Turfgrass Seed Mix For areas that are at final grade, establish turfgrass in topsoil to provide permanent vegetation groundcover. Turfgrass Seed Mix shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 705 – Turfgrass Establishment or as specified.

SUBMITTAL

Seed Mix must be submitted for review.

MEASUREMENT AND PAYMENT

Turfgrass Seed Mix will be measured and paid for at the Contract unit price per square yard. The payment will be full compensation for all material, labor, equipment, tools, disposal fees and incidentals necessary to complete the work. The Turfgrass Seed Mix pay item includes grade repair, preparing soil, applying soil amendments, seed mixes, seed additives, mulching, securing mulch, watering, overseeding, reseeding, and mowing.

PAY ITEM 40 – PLACING TOPSOIL 4" DEPTH

DESCRIPTION

Prepare and furnish topsoil; and place topsoil in preparation for vegetation establishment. Placing Topsoil shall be placed in a loose lift of 6-inch depth and settle to 4 inches and shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 701 – Subsoil and Topsoil or as specified. The use of existing topsoil will not be permitted.

SUBMITTAL

Source and test data must be submitted for review.

MEASUREMENT AND PAYMENT

Topsoil will be measured and paid for at the Contract unit price per square yard. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

PAY ITEM 41— CLAY PLUG

DESCRIPTION

Clay Plugs are barriers constructed of compacted soil material which will be used at specified locations of existing channel segments. The purpose of the Clay Plug is to prevent flows in the proposed channel from eroding the bank and migrating into the former (existing) channel.

MATERIALS

- Select Fill Material: Material must conform to AASHTO A-4, A-5, A-6, or A-7 specifications (silty or clayey soils). Soil must be free of gravel, cobble, boulders, roots, organic matter, and all waste products. If suitable material cannot be obtained from the material excavated from the Project Site, The Contractor is required to purchase or furnish this material from off-site sources. The Contractor shall be responsible for performing soil tests on the Select Fill to verify that it meets this standard. If soil testing has been previously performed on furnished materials, The Contractor must provide test results which demonstrate conformance of the material with this standard.
- Topsoil: Refer to the specification and submittal requirements for this material in the Placing Topsoil 4" Depth pay item.
- Class I Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

CONSTRUCTION

The Design Engineer or City will inspect the Select Fill for conformance prior to installation. Unacceptable material shall be removed at The Contractor's expense. Clay Plugs shall be installed at the locations and elevations as shown in the Contract Drawings. However, the Design Engineer or City may instruct The Contractor to adjust the location, orientation, and elevation of proposed features based on the stream conditions at the time of construction.

The construction of the Clay Plugs shall be as specified in the Contract Documents and as noted herein:

- Prior to constructing the Clay Plug, shape and/or grade banks of the existing channel to the proposed configuration.

- At the location specified for the structure, excavate existing soil to a depth of 1 foot below the existing grade. Each Plug varies in length horizontally from the proposed bank face.

- Place Select Fill Material into the excavated footprint of the structure in 6-inch lifts to the elevation of the adjacent proposed channel as shown on the Contract Documents. Compact each lift with a walk-behind vibrating plate compactor, making two complete passes atop each lift. Continue filling and compacting lifts to achieve the specified elevation.

- Place (1) layer of Class I Rip Rap, 1-foot thick on top of the Clay Plug to the elevations specified on the Contract Documents to protect the clay from erosion/scour.

- Seed and stabilize atop Clay Plug according to the Contract Documents.

MEASUREMENT AND PAYMENT:

Clay Plugs shall be measured and paid for at the Contract unit price per cubic yard. Payment will be full compensation for all testing, labor, materials, equipment, tools, and incidentals necessary to complete the work.

PAY ITEMS 42-62 – TREE, SHRUB, AND PERENNIAL INSTALLATION AND ESTABLISHMENT

DESCRIPTION

Install and establish trees, shrubs, perennials, vines, and grasses in topsoil. Tree, Shrub and Perennial Installation and Establishment Shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 710 - Tree, Shrub And Perennial Installation And Establishment or as specified. For Forest and Tree Conservation Requirements, see Special Provisions.

SUBMITTALS

Provide Nursery Certificates and Delivery Tickets for all plant material. Landscape Installer Qualifications shall also be submitted. Source of supply for trees and product data for all amendments shall also be submitted.

MEASUREMENT AND PAYMENT

Tree, Shrub, and Perennial Installation and Establishment will be measured and paid for at the Contract unit price per each. The payment will be full compensation for all plants, material, labor, equipment, tools, disposal fees and incidentals necessary to complete the work.

Tree, Shrub, and Perennial Installation and Establishment. Tree, Shrub, and Perennial Installation and Establishment shall include the cost of trees, shrubs, vines, perennials, and grasses of all planting stock sizes and classes, layout, marking, pruning, planting pit excavation and disposal of excavated soil, fertilizer, compost, backfilling, staking, guying, berming, edging, watering, cleanup, relocating plants, abandoned planting pits, pest management, plant maintenance, refertilizing, and all operations related to the Installation and Establishment Phases of each plant, until Final Acceptance.

PAY ITEM 63 – DEER PROTECTION – TREE

DESCRIPTION

Install deer protection around trees as identified in the Contract Documents or as otherwise directed.

SUBMITTAL

Contractor to submit product data of wire fabric.

MEASUREMENT AND PAYMENT

Deer Protection for trees will be measured and paid for at the Contract unit price per each tree protected. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 64 – DEER PROTECTION – SHRUB

DESCRIPTION

Install deer protection around shrubs as identified in the Contract Documents or as otherwise directed.

SUBMITTAL

Contractor to submit product data of wire fabric.

MEASUREMENT AND PAYMENT

Deer Protection for shrubs will be measured and paid for at the Contract unit price per each shrub protected. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 65 – REMOVE AND DISPOSE OF PAVING

DESCRIPTION

Remove to full depth and dispose of existing pavement, sidewalk, paved ditches, curb, or combination curb and gutter where specified on the Construction Documents. Removal and disposal of paving shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 206 – Removal of Existing Pavement, Sidewalk, Paved Ditches, Curb, Or Combination Curb and Gutter.

MEASUREMENT AND PAYMENT

Removal and Disposal of Paving will be measured and paid for at the Contract unit price per square yard. The payment will be full compensation for all labor, material, equipment, tools, cleanup and restoration, damage repair, disposal fees and incidentals necessary to complete the work.

PAY ITEM 66 – GRADED AGGREGATE BASE COURSE

DESCRIPTION

Construct base course to the specified depth and in the specified locations on the Construction Documents. Graded Aggregate Base Course shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 501 – Aggregate Base Courses.

SUBMITTALS

Provide supplier and material data for graded aggregate base course, including gradation and proctor.

MEASUREMENT AND PAYMENT

Graded Aggregate Base Course will be measured and paid for at the Contract unit price per cubic yard. The payment will be full compensation for all aggregate, furnishing, hauling, placing, curing, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

PAY ITEM 67 – TYPE II ROCK OUTLET PROTECTION

DESCRIPTION

This work shall consist of furnishing all materials, labor, and equipment and constructing rock outlet protection below the proposed outfall at Avery Road in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and as shown on the Contract Drawings. The purpose of the rock outlet protection is to minimize the erosive force of stormwater flow from the proposed outfall.

MATERIALS

Class I Rip Rap: Refer to the Stone and Aggregates specification and submittal requirements.

Nonwoven Geotextile Fabric: Refer to the Nonwoven Geotextile Fabric specification and submittal requirements.

CONSTRUCTION

The rock outlet protection shall be installed according to the Sequence of Construction, the Contract Drawings, these specifications, and as directed by the City. Construct the structure in the following order:

1. Prepare the subgrade for geotextile and rip rap to the required lines and grades shown on the Contract Drawings. Compact the subgrade to a density of approximately that of the surrounding undisturbed material.
2. Place geotextile within the excavated area to cover the entire footprint of the stone outlet. Extend geotextile at least 6 inches beyond edges of riprap and embed at least 4 inches at sides of riprap.
3. Construct riprap outlet to full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. Place stone for riprap outlet in a manner that will ensure that it is reasonable homogenous with the smaller stones and spalls filling the voids between the larger stones. Place riprap in a manner to prevent damage to the stone filter blanket of geotextile.
4. Construct the upstream end of the apron so that the width is two times the diameter of the outlet pipe and extend the stone under the outlet by a minimum of 18 inches if an endwall is not used.
5. Construct apron with a 0% slope along its length and without obstructions. Place stone so that it blends in with existing ground.
6. Maintain line, grade, and cross section. Keep outlet free of erosion. Remove accumulated sediment and debris. After high flows, inspect for scour and dislodged riprap. Make necessary repairs immediately.

MEASUREMENT AND PAYMENT

The Type II Rock Outlet Protection item will be measured and paid for at the Contract unit price per cubic yard. Payment will be full compensation for submittals, labor, materials, equipment, tools, and other incidentals necessary to complete this work.

PAY ITEM 68 – REMOVABLE BOLLARD

DESCRIPTION

This work shall consist of furnishing and installing a removable bollard at the location indicated in the Contract Documents. A bollard is a beam set in a permanent or removable base and is used to prohibit vehicle passage to a specified area. The removable design element of the bollard will allow property owners to allow vehicle passage when desired.

MATERIALS

Removable Bollard: 6" diameter steel as per Keystone Ridge Design Inc. Harbor Straight HRR-6 or equivalent, and in hunter green finish. See Construction Documents for more dimensions.

Concrete Foundation: See specification for Miscellaneous Concrete.

SUBMITTALS

Contractor shall provide bollard product and concrete information prior to installation.

CONSTRUCTION

1. Excavate hole deep enough to support removable bollard: approximately 30" deep and 24" wide.
2. Cast concrete in place in accordance with these specifications and details in the Construction Drawings with removable bollard base so that bollard base is inserted 26" into concrete.
3. Once concrete has cured, install removable bollard into the removable bollard base and lock in place according to manufacturer specifications.

MEASUREMENT AND PAYMENT

The Removable Bollard will be measured and paid for at the Contract unit price per each. Payment will be full compensation for submittals, labor, materials, equipment, tools, and other incidentals necessary to complete this work.

PAY ITEM 69 – TRAIL IMPROVEMENTS/MARKERS/SIGNAGE

DESCRIPTION

Close/block pedestrian trails during construction as indicated on the Contract Documents. Provide signage regarding the closures. Provide safe access to trails as indicated on the Contract Documents Remove and replace the existing trail marker at the trailhead of the Overlook Trail as indicated on the Contract Documents. Trail Marker shall be reinstalled as close to the existing location as possible without interfering with the other proposed design elements in the Contract Documents. A monitoring well is located within the grading. The Contractor shall exercise care to avoid the well.

CONSTRUCTION

Excavate around existing trail marker until it can be lifted out of the ground by hand. Demolish any existing structures that may form a foundation for the trail marker. Follow the sequence of construction provided on the Contract Drawings. Once construction of the road and swale are complete, replace the trail marker to the side of the completed work, as close to its original position as possible and in a location that conveys the start of the trail head indicated by the marker. Replace any foundational materials that were included as part of the existing structure, referring to these specifications as needed.

MEASUREMENT AND PAYMENT

This item will be paid for at the Contract lump sum (LS) price for pay item “Trail Improvements/ Marker/Signage”. Payment will be full compensation for submittals, labor, materials, equipment, tools, and other incidentals necessary to complete this work. The Contractor shall replace the trail marker at their own expense if it is damaged during removal or relocation.

PAY ITEM 70 – 1.5” SUPERPAVE ASPHALT MIX FOR SURFACE

DESCRIPTION & MATERIALS

Section 504, 904.04 Asphalt Mixes.

SUBMITTALS

The Contractor shall provide asphalt mix information prior to installation.

MEASUREMENT AND PAYMENT

1.5" Superpave Asphalt Mix For Surface will be measured and paid for at the Contract unit price per ton. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

PAY ITEM 71 – 2.5” SUPERPAVE ASPHALT MIX FOR BASE

DESCRIPTION & MATERIALS

Section 504, 904.04 Asphalt Mixes.

SUBMITTALS

The Contractor shall provide asphalt mix information prior to installation.

MEASUREMENT AND PAYMENT

2.5" Superpave Asphalt Mix For Surface will be measured and paid for at the Contract unit price per ton. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

PAY ITEM 72 – STANDARD SINGLE OPENING TYPE K INLEFT OPEN END GRATE

DESCRIPTION & MATERIALS

Section 305.02, M199.

SUBMITTALS

The Contractor shall provide product information prior to installation.

MEASUREMENT AND PAYMENT

Standard Single Opening Type K Inlet Open End Grate will be measured and paid for at the Contract unit price per each. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

PAY ITEMS 73-74 – CLASS IV RCP (12" AND 15")

DESCRIPTION & MATERIALS

Section 905, M170.

SUBMITTALS

The Contractor shall provide product information prior to installation.

MEASUREMENT AND PAYMENT

Class IV RCP will be measured and paid for at the Contract unit price per linear foot. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

PAY ITEMS 75-76 – STANDARD CONCRETE END SECTION (12" AND 15")

DESCRIPTION & MATERIALS

Section 905, M170.

SUBMITTALS

The Contractor shall provide product information prior to installation.

MEASUREMENT AND PAYMENT

Standard Concrete End Section will be measured and paid for at the Contract unit price per each. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

PAY ITEM 77 – CLASS 0 RIPRAP

DESCRIPTION & MATERIALS

For the drainage channel along Avery Road. 311.02, 901.02 and 901.03.

MEASUREMENT AND PAYMENT

Class 0 Riprap will be measured and paid for at the Contract unit price per cubic yard. No cross-sections are provided for Avery Road. This area will need to be calculated using the profile (Sheet 31) and detail (Sheet 61), or by using stone density to convert tons to cubic yards. Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. The price includes removal of all related materials from the site upon project completion.

CONTINGENT ITEMS:

Items designated as contingent on the bid proposal form are marked with an asterisk (*). The items so marked are to be considered contingent items and the quantity may be increased or decreased, or any or all may be deleted in their entirety from the contract at the discretion of the City. Any increase or decrease in the quantity of these items, or their deletion will not be considered a justifiable claim for compensation in addition to the contract unit bid price in the proposal.

*CONTINGENT PAY ITEM 78 – SILT FENCE (SF)

The Contractor shall install and maintain Silt Fence (SF) to intercept, retain, and filter surface runoff according to 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and as shown on the Contract Drawings. Materials include woven slit film geotextile, fence posts, and staples. Silt Fence shall consist of 36-inch fence posts driven into the ground a minimum of 16 inches and no more than 6 feet apart. Geotextile shall be a minimum of 16 inches above ground and 8 inches below the ground surface, backfilled and compacted. Adjoining SF sections must overlap and stapled. The Contractor shall remove SF only after obtaining approval from the City.

MEASUREMENT AND PAYMENT

Silt Fence will be measured and paid for at the Contract unit price per linear foot (LF). Payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. Price includes the installation, maintenance, and removal of all related materials from the site upon project completion. Any modifications to the Silt Fence requested by The Contractor will be considered means and methods and shall be incidental to the Contract.

*CONTINGENT PAY ITEM 79 – ROCK ROOT PACKING

DESCRIPTION

Install Rock Root Packing as identified in the Contract Documents or as otherwise directed.

MEASUREMENT AND PAYMENT

Rock Root Packing will be measured and paid for at the Contract unit price per linear foot. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

*CONTINGENT PAY ITEM 80– HOT MIX ASPHALT PATCHES

For all project locations, if existing paving is damaged by the construction activity within the LOD or as designated by the City, the full depth patch (surface and base course asphalt) shall extend over the damaged area. Any other replacement area damaged through neglect of The Contractor shall be repaired by The Contractor at no additional cost to the City.

MATERIALS

All materials shall conform to latest approved Maryland Department of Transportation State Highway Administration "Standard Specifications for Construction and Materials" revisions thereof or additions thereto, as indicated in the Applicable Standards section of the Special Provisions (hereafter referred to as SHA Standard Specs.).

- Tack Coat – Section 904.03
- Aggregates for Asphalt Mixes – Section 901.01
- Hot Mix Asphalt (HMA) – Section 904
- Crack Filler – Section 911.01
- Production Plants – Section 915

The base course pavement shall be HMA Superpave 19.0 MM, PG64-22, Level 2 and the surface course asphalt pavement shall be HMA Superpave, 12.5 MM, PG64-22, Level 2.

SUBMITTALS

1. The Contractor shall document the source(s) and composition of the base course pavement--HMA Superpave 19.0 MM, PG64-22, Level 2 and the surface course asphalt pavement--HMA Superpave, 12.5 MM, PG64-22, Level 2.

CONSTRUCTION

The existing asphalt pavement shall be removed to the full depth and the full perimeter of the designated area as marked by the City. The existing paving shall be cut by means of a perpendicular saw cut or other acceptable method as approved by the City. The area removed shall be neatly and squarely removed with no ragged edges or damage done to the surrounding asphalt areas.

- Weather Restrictions: Refer to SHA Standard Specs. Section 504.03.02
- Subgrade Preparation:
    - The City shall evaluate the existing subgrade to determine if it is suitable as a foundation for the patch. If it is determined to be suitable but unstable, it shall be compacted as specified in SHA Standard Spec. Section 501.03.10 to the satisfaction of the City. If it is determined to be unsuitable, it shall be removed and replaced with aggregate base conforming to SHA Standard Spec. Section 501. The replacement aggregate material shall be compacted in layers of 4 inches maximum depth each. The Contractor shall haul the existing asphalt material that is removed away from the repair site immediately.
    - Protection of the subgrade after preparation shall be the responsibility of The Contractor. No payment will be made for removal and replacement of subgrade that was not protected properly.

- Emergency Filler: The Contractor shall have readily available sufficient graded aggregate to completely fill the void of the repair area. The material shall be subject to the approval of the City and shall be placed and compacted in the void. The material shall be removed immediately prior to placement of the HMA.
- Patch Construction: Prior to placing the HMA, the exposed vertical surface of all adjacent pavement shall be thoroughly cleaned and tack coated in conformance with SHA Standard Spec. Section 504.03.04. HMA shall be placed in lifts not exceeding three (3) inches each. The HMA shall be placed and spread by shovel, rake or other method as approved by the City. The finished surface of the HMA patch material shall match the existing grade of the surrounding roadway surface. HMA shall not be placed on frozen subgrade.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract unit price per square yard (SY) for pay item “Hot Mix Asphalt Patches”. Payment will be full compensation for all materials, labor, equipment, tools and incidental items necessary to complete the work.

*CONTINGENT PAY ITEM 81 – REPLACE 10" CULVERTS

DESCRIPTION

Replace 10-inch culverts along the pedestrian trail along the Calvin Tributary as identified in the Contract Documents or as directed by the City.

SUBMITTALS

The Contractor shall provide materials information prior to installation.

MEASUREMENT AND PAYMENT

Replace 10" Culverts will be measured and paid for at the Contract unit price per linear foot. The payment will be full compensation for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

INCIDENTAL ITEMS: No separate payment will be made for the following incidental items.

TEMPORARY SEEDING

DESCRIPTION

Perform Temporary Seed to provide temporary soil erosion protection. Temporary Seed shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 704 Temporary Mulch and Temporary Seed.

MEASUREMENT AND PAYMENT

Temporary Seed will not be measured and is incidental to Excavation.

TEMPORARY MULCH

DESCRIPTION

Perform Temporary Mulch to provide temporary soil erosion protection. Temporary Mulch shall conform to Maryland Department of Transportation (MDOT) State Highway Administration (SHA) Standard Specification for Construction and Materials Section 704 Temporary Mulch and Temporary Seed.

MEASUREMENT AND PAYMENT

Temporary Mulch applied as either temporary straw mulch or temporary mulch will not be measured and is incidental to Excavation.

MISCELLANEOUS CONCRETE

DESCRIPTION

Provide cast-in-place concrete as indicated and in compliance with Contract Documents.

SUBMITALS

1. Provide certificate that cement used complies with ASTM C150 and these specifications.
2. Provide certificates that aggregates comply with ASTM C33.
3. Submit gradation analysis with concrete mix designs.

MATERIALS

Cement: Portland Cement, ASTM C150, Type I or II. Use only one brand of cement in any individual structure. Use no cement that has become damaged, partially set, lumpy, or caked. Reject the entire contents of the sack or container that contains such cement. Use no salvaged or

reclaimed cement. Maximum tricalcium aluminate shall not exceed 8 percent. The maximum percent alkalis shall not exceed 0.6 percent.

Fly Ash: Provide fly ash conforming to the following requirements: Class F fly ash conforming to ASTM C 618 for chemical and physical properties, and maximum loss on ignition equal to 3 percent.

Fine Aggregates: Clean, sharp, natural sand conforming to requirements of ASTM C33 with a fineness modulus between 2.50 and 3.0.

Coarse Aggregate: Well graded crushed stone, natural rock conforming to requirements of ASTM C33. Limit deleterious substances in accordance with ASTM C33, Table 3, Severe Weathering Regions, limit clay lumps not to exceed 1.0 percent by weight, and limit loss when tested for soundness using magnesium sulfate to 12 percent.

Water: Use water free from injurious amounts of oil, acid, alkali, salt, organic matter or other deleterious substances and conforms to requirements of ASTM C94. Water shall not contain more than 500 mg/L of chlorides nor more than 500 mg/L of sulfate.

Concrete Admixtures: Maintain compressive strength and maximum water-cement ratios specified in Table 03 30 00-1 when using admixtures. Include admixtures in solution form in the water-cement ratio calculations. Do not use any admixture that contains chlorides or other corrosive elements in any concrete. Admixtures shall be nontoxic after 30 days. Use admixtures in compliance with the manufacturer's printed instructions. The manufacturer shall certify the compatibility of multiple admixtures used in the same mix. Do not use admixtures in greater dosages than recommended by manufacturer.

Air Entrainment: An air-entraining admixture conforming to ASTM C260.

Water Reducing: A water-reducing admixture conforming to ASTM C494, Type A and compatible with the air-entraining admixtures. The amount of admixture added to the concrete shall be in accordance with the manufacturer's recommendations.

High-Range Water-Reducing Admixture (Superplasticizer): A High-Range water-reducing admixture conforming to ASTM C494, Type F or G.

Burlap Mats: Conform to AASHTO M182and ASTM C171. Use Sisal-Kraft Paper and Polyethylene Sheets for Curing.

Conform to ASTM C94, except as modified by these specifications. Unless otherwise specified, concrete shall be controlled within the following limiting requirements:

Cement Content

At least 526 lbs per cubic yard

Maximum Water-Cement Ratio

The maximum water-cement ratio shall be 0.42 on a weight basis, or, if fly ash is used, the combined mass of cement plus fly ash shall be used to determine the water-cementitious materials ratio.

Fly Ash Content

At the option of Contractor, fly ash may be substituted for up to 25 percent of the Portland cement, on the basis of 1.0 lbs of fly ash added for each lb of cement reduction.

Concrete Strength

4,000 psi minimum compressive strength at 28 days.

Air Content

6 percent ± 1.5 percent

Coarse Aggregate

Maximum nominal coarse aggregate size, 1 inch.

Admixtures

A water-reducing admixture and an air-entraining admixture shall be included in all concrete. No calcium chloride or admixture containing chloride from sources other than impurities in admixture ingredients will be acceptable.

Consistency

Workable, without segregation, with slump not more than 5 inches when concrete is placed.

Mixing

In accordance with ASTM C94.

CONSTRUCTION

1. Compact the subgrade and/or bedding. Saturate the subgrade approximately eight hours before placement and sprinkle ahead of the placement of concrete in areas where vapor barrier is not used. Remove standing water, mud, and foreign matter before concrete is deposited.

2. Do not place concrete until free water has been removed or has been diverted by pipes or other means and carried out of the forms, clear of the work. Do not deposit concrete underwater, and do not allow free water to rise on any concrete until the concrete has attained its initial set. Do not permit free or storm water to flow over surfaces of concrete so as to injure the quality or surface finish.

3. Do not place concrete during inclement weather. Protect concrete placed from inclement weather. Keep sufficient protective covering ready at all times for this purpose.

4. Deposit concrete at or near its final position to avoid segregation caused by rehandling or flowing. Do not deposit concrete in large quantities in one place to be worked along the forms with a vibrator.

5. Do not deposit partially hardened concrete in forms. Retempering of partially hardened concrete is not permitted. Remove partially hardened concrete from site at no additional compensation.

6. Do not allow concrete to fall freely in forms to cause segregation (separation of coarse aggregate from mortar). Limit maximum free fall of concrete to 4 feet. Do not move concrete horizontally more than four feet from point of discharge. Space points of deposit not more than eight feet apart.

7. Conduct vibration to produce concrete of uniform texture and appearance, free of honeycombing, streaking, cold joints or visible lift lines.

8. Protect concrete from premature drying, hot or cold temperatures, and mechanical injury, beginning immediately after placement and maintain concrete with minimal moisture loss at relatively constant temperature.

9. Comply with curing procedures set forth in ACI 308 and as specified herein.

10. Concrete required to be moist cured shall remain moist for the entire duration of the cure. Repeated wetting and drying cycles of the curing process will not be allowed.

Curing Methods:

Use common sealing materials such as plastic film or waterproofing (kraft) paper. Membrane curing compound shall be applied as recommended by the manufacturer. Concrete shall be protected against freezing for at least 7 days following placement.

MEASUREMENT AND PAYMENT

This item is incidental to the structure payment per unit price of the structure and no separate payment will be made.

STONE AND AGGREGATES

DESCRIPTION

This item consists of the stone and aggregate necessary to construct the proposed rock structures for the restoration project work. All stone will meet the gradation requirements as indicated in the Rock Size Tables below.

MATERIALS

The source and a sample of the stone to be used for construction shall be provided by The Contractor and approved for use by the City prior to installation. Stone shall consist of angular rock, and of appropriate color (e.g., natural color of grey, tan, red, yellow, brown, brown/gray, dark gray, and/or dark brown in color) obtained from a commercial quarry operation. All stone shall be free from laminations and weak cleavages. The stone should not disintegrate from the action of air, water, and in handling and placing. Granular sedimentary stone will generally be unacceptable. Concrete will not be considered as an alternative for stone. White stone and blue stone are not acceptable.

If possible, material shall be salvaged from the limits of disturbance of this Contract first. If sufficient material meeting the requirements is not available from within the limits of disturbance, The Contractor shall obtain material meeting the specifications as shown on the Contract Drawings and described herein. The Contractor will not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval or disapproval of material under the requirements of these specifications.

The Contractor will locate potential sources for the material and obtain City approval, as described in the submittals. It will be The Contractor's responsibility to make all necessary arrangements with the source of supply in a timely fashion, so that The Contractor shall maintain an adequate supply of material and that work shall not be unnecessarily delayed due to insufficient supply.

Imbricated Rock. Imbricated rock shall be as specified. The range dimensions of the Imbricated rock will be as shown on the Contract Drawing and the Rock Size Table. Imbricated rock shall be stackable, oblong, and flat in appearance, with a minimum of two parallel faces, and dark brown or dark gray in color. Granite is preferred. Bluestone is unacceptable, unless approved in writing by Construction Management, and agreed upon by the City's Recreation and Parks Department. The minimum dry unit weight will be 160 pounds per cubic foot.

Riprap. All riprap (class 0, I, class II, class III) shall conform to MDSHA Section 901.02 - Stone for Riprap, Channels, Ditches, Slopes and Gabions of the Maryland Department of Transportation, State Highway Administration's (MDSHA) Standard Specifications for Construction and Materials, latest edition and any addenda thereto. All rock shall be free from laminations, weak cleavages and will not disintegrate from the action of air, water and in handling and placing. The minimum dry unit weight of riprap will be 160 pounds per cubic foot. All rock shall be of appropriate color: dark grey, green/brown, dark brown. Concrete will not be considered as an alternative for rock. White rock is not acceptable

Rock Size Tables

Imbricated Boulders shall have the following size requirements:

A Axis (Long)	B Axis (Intermediate)	C Axis (Short)
36-48”	30-36”	24-36”

Riprap shall have the following size requirements:

	D_{50} (in)	D_{100} (in)
Class 0	5.5	7
Class I	9.5	15
Class II	16	24
Class III	23	36

Gravel: Shall be a natural aggregate material with a D_{50} of 1.5 inches and a range from 0.25 to 2 inches. Gravel shall be angular and free of soil and organic material, and the color shall be varying hues of a natural color of grey, tan or brown; blue or white stone will not be accepted. Ideally this should be similar to “streambed” material. AASHTO #56 or #57 stone is acceptable.

Class #56: Class 56 stone shall adhere to the following graduation requirements as per the MDSHA Standard Specifications, Class 56 stone typically adheres to the following gradation:

Gradation Requirements (per ASTM C33 or AASHTO M43):

Sieve Size	Percent Passing
2 ½ inch	100%
2 inch	35–70%
1½ inch	0-15%
¾ inch sieve	0–5%

Class #57 Stone: #57 stone shall be a crushed, angular aggregate typically made from granite, limestone, or occasionally gravel. It shall pass a 1.5" sieve and is retained on a No. 4 sieve. Class No. 57 shall adhere to the following graduation requirements as per the MDSHA Standard Specifications:

Gradation Requirements (per ASTM C33 or AASHTO M43):

Sieve Size	Percent Passing
1 ½ inch	100%
1 inch	95–100%
½ inch	25–60%
No. 4	0–10%

Sieve Size	Percent Passing
No. 8	0–5%

Furnished Stream Bed Material: Furnish and install natural stream bed material in areas where salvaged stream bed material is not of sufficient volume to achieve requirements set forth in Contract Documents. Furnished natural stream bed material shall consist of a homogenous mix comprised of 10% washed sand meeting ASTM D448-86 for size number 9; 15% washed river cobble meeting ASTM D448–86 designations for size number 1; and 75% washed gravel meeting ASTM D448-86 for size number 357, or conforming to the following particle size distribution:

Sieve Size	Average % Passing
2”	100
1.5”	87.8
1”	26.8
0.75”	8.9
0.5”	0.6
0.375”	0.5
#4	0.5

All materials used must have a natural color of grey, tan or brown; blue or white colored stone or sand is not acceptable. Ideally this should be similar to “streambed” material. Placement shall occur in areas where salvaged stream bed material is not of sufficient volume to achieve requirements set forth in Contract Documents and as approved by the City or Design Engineer.

Sand: Shall be a natural product and particle size shall range from 0.3 mm to 2.0 mm, and it shall be double-washed and include less than 1% clay, silt, or fine sand particles, by weight; it shall include less than 5% of any combination of diabase, greystone, calcareous, or dolomitic sand, by weight. Manufactured sand or stone dust is not acceptable.

SUBMITTALS

The Contractor shall provide specification sheets from the supplier(s) detailing the products to be used. This information must include the source(s), color(s), sizes, and composition of the material, as well as a representative photograph or sample. Approval of the material must be obtained prior to stockpiling and use at the project site. Invoices for substrate material including delivery may be required to verify both the size and quantity of substrate material placed during construction. The Contractor shall submit to the City a certificate verifying the following information:

(1) Stone Classification or sieve analysis
(2) Stone Density (i.e., Weight per Cubic Foot)
(3) Weight of Stone Being Supplied.
(4) Stone quality shall meet all of the above specifications.

CONSTRUCTION

N/A

MEASUREMENT AND PAYMENT

This item is incidental to the structure payment per unit price of the structure and no separate payment will be made.

NONWOVEN GEOTEXTILE FABRIC

DESCRIPTION

This item consists of the nonwoven geotextile fabric used to underlay proposed rock structures for the restoration project work.

MATERIALS

Nonwoven Geotextile Fabric: The geotextile fabric shall be ACF N080 nonwoven geotextile fabric or an approved equivalent meeting the following specifications:

Property	Test Method	Min. Avg. Roll Value
Grab Tensile Strength	ASTM D4632	205 pounds
Grab Tensile Elongation	ASTM D4632	50%
CBR Puncture	ASTM D6241	525 pounds
Trapezoid Tear Strength	ASTM D4533	80 pounds
UV Resistance @ 500 Hrs	ASTM D4355	70%
Apparent Opening Size (AOS)	ASTM D4751	80 US Sieve
Permittivity (sec^{-1})	ASTM D4491	1.4 (sec^{-1})
Flow Rate	ASTM D4491	90 gpm/ft^2

SUBMITTALS

The Contractor shall document the source and characteristics of the nonwoven geotextile fabric.

CONSTRUCTION

N/A

MEASUREMENT AND PAYMENT

This item will not be measured and is incidental to the structure payment per unit price of the structure and no separate payment will be made.

SALVAGED STREAM BED MATERIAL

DESCRIPTION

The work shall consist of the harvest and storage of stream bed material from areas where the existing channel is to be disturbed and/or excavated to install proposed structures for the restoration project work.

MATERIALS

Salvaged stream bed material shall consist of cobble, gravel, and sand found with the existing channel. It shall be heterogeneous in composition, with no one size category (sand, gravel, cobble) comprising more than 75% of the material by volume. The material shall contain no observable concentrations of silt, clay, topsoil, organic material, stems, roots, or any other debris or waste material. The material may be stockpiled in approved areas prior to re-installation.

Unsuitable existing channel material may be sieved on-site to produce the heterogeneous mixture that complies with the above sizing requirements.

SUBMITTALS

None.

CONSTRUCTION

The Design Engineer or City will inspect and approve all salvaged materials prior to use/re-installation. Unacceptable material will be sieved, used as general fill, or hauled off at The Contractor's expense. Acceptable material will be salvaged and placed within the LOD. Rubble is not acceptable.

1. All materials will be salvaged and placed during dry conditions while stream flow is being diverted. All work areas are to be fully de-watered prior to construction. Under no circumstances shall any material be salvaged with water in the channel.
2. Where acceptable stream bed material is present in areas to be disturbed or excavated to install proposed structures, The Contractor shall use an excavator to harvest the stream bed materials. All salvaged materials shall be moved to an approved stockpile or transported directly to the designated re-installation area.
3. Excavation for salvaged stream bed material shall not exceed a depth of 3 feet and should not exceed a depth that produces a significant change in material size, either coarser or finer.

MEASUREMENT AND PAYMENT

This item will not be measured and is incidental to the unit rate for Excavation; no separate payment will be made.

CHANNEL BACKFILL

DESCRIPTION

The work shall consist of the placement and compaction of salvaged soil in areas that require fill material.

MATERIALS

Channel Backfill consists of salvaged subsoil generated as a result of grading and excavation associated with this project. This material shall be a heterogenous mixture containing clay, silt and sand, with no single size category comprising more than 80% (by volume) of the mixture. Gravel up to 2 inches is acceptable, but it shall not comprise more than 10% of the mixture. Channel Backfill shall not include visible plant parts including stems and roots, or rubble or waste of any kind. Channel Backfill may be stockpiled in approved areas prior to installation.

Unsuitable backfill that contains more than 80% clay, silt or sand, or more than 10% gravel, may be mixed with other salvaged soil material to produce a heterogeneous mixture that complies with the requirements listed above. Unsuitable material that contains rubble, debris or organic material may be sieved to separate the unsuitable materials, with all waste and debris hauled off at The Contractor's expense.

SUBMITTALS

1. The Design Engineer and City will inspect and approve salvaged Channel Backfill materials prior to use/re-installation. Gradation and proctor compaction testing will be required. Unacceptable material will be hauled off at The Contractor's expense.

CONSTRUCTION

Channel backfill shall not be placed when frozen, or if the material is excessively wet or dry.

1. Channel backfill will be used where unspecified fill is required to facilitate construction of a structure or to achieve a desired slope or elevation.
2. Backfill will be placed during dry conditions in 6-inch lifts that are compacted using either a jumping jack, plate compactor or sheep's foot roller, making two complete passes atop the entire lift surface. Compaction testing is not required.
3. Continue placing backfill in lifts and compacting until the desired elevation is achieved.
4. Provide stabilization of the fill area at the end of each workday.

MEASUREMENT AND PAYMENT

This item will not be measured and is incidental to the unit rate for Excavation (Class 5); no separate payment will be made. Seeding and planting are separate pay items.

END OF SECTION IV

INVITATION FOR BIDS #25-25
Croydon Creek & Calvin Park Tributary Stream Restoration Project

SECTION V: BID PRICING FORM

THIS FORM MUST BE COMPLETED AND INCLUDED WITH THE BID SUBMITTAL.
Failure to submit this form shall deem the bidder non-responsive.

IN ACCORDANCE WITH ALL TERMS, SPECIFICATIONS AND REQUIREMENTS, WE PROPOSE TO FURNISH ALL LABOR, EQUIPMENT, MATERIALS AND SERVICES AND THE PERFORMANCE OF ALL WORK NECESSARY FOR THE PROJECT. PROVIDE PRICING BELOW TO INCLUDE OVERHEAD, PROFIT, TAXES, INSURANCE AND OTHER APPLICABLE FEES AND COSTS. ALTERATIONS TO THIS FORM OR BID ALTERNATES (UNLESS OTHERWISE SPECIFIED) ARE NOT ACCEPTABLE. LINE ITEMS LEFT BLANK OR MARKED "$0" SHALL DEEM THIS BID NON-RESPONSIVE.

Item No.	Description	UNIT	EST QTY	UNIT PRICE	EXTENDED PRICE
1	MOBILIZATION/DEMOBILIZATION	LS	1	$_____	$_____
2	CONSTRUCTION STAKEOUT AND AS-BUILTS	LS	1	$_____	$_____
3	TEMPORARY TRAFFIC AND PEDESTRIAN CONTROLS	LS	1	$_____	$_____
4	CLEARING AND GRUBBING	LS	1	$_____	$_____
5	TRUNK PROTECTION	EA	181	$_____	$_____
6	ROOT PRUNING	LF	1902	$_____	$_____
7	LIMB PRUNING	LS	1	$_____	$_____
8	NON-NATIVE INVASIVE SPECIES REMOVAL AND MONITORING	LS	1	$_____	$_____
9	STABILIZED CONSTRUCTION ENTRANCE (SCE)	EA	3	$_____	$_____
10	TEMPORARY CONSTRUCTION MULCH ACCESS ROAD (WITHOUT TIMBER MAT)	LF	662	$_____	$_____
11	TEMPORARY CONSTRUCTION MULCH ACCESS ROAD (WITH TIMBER MAT)	LF	3741	$_____	$_____
12	TEMPORARY ACCESS BRIDGE	EA	4	$_____	$_____
13	TREE PROTECTION/HIGH VISIBILITY FENCE	LF	14,171	$_____	$_____
14	STAGING AND STOCKPILE AREAS	LS	1	$_____	$_____
15	MANHOLE PROTECTION	EA	14	$_____	$_____
16	SUPER SILT FENCE (SSF)	LF	860	$_____	$_____

17	PUMPED SILT CONTROL SYSTEM	LS	1	$_____	$_____
18	STREAM DIVERSION	LS	1	$_____	$_____
19	EXCAVATION (CLASS 1)	CY	202	$_____	$_____
20	EXCAVATION (CLASS 5)	CY	3200	$_____	$_____
21	DEMOLITION AND DISPOSAL OF EXISTING STRUCTURES AND DEBRIS	LS	1	$_____	$_____
22	SOIL STABILIZATION MATTING (TYPE D)	SY	10847	$_____	$_____
23	SOIL STABILIZATION MATTING (TYPE A)	SY	5289	$_____	$_____
24	TYPE C ENDWALL (36-INCH PIPE)	EA	1	$_____	$_____
25	TYPE C ENDWALL (18-INCH PIPE)	EA	1	$_____	$_____
26	SEWER PROTECTION	LS	1	$_____	$_____
27	RIFFLE GRADE CONTROL	EA	14	$_____	$_____
28	VERNAL POOL	EA	4	$_____	$_____
29	PARABOLIC RIFFLE WEIRS AND CASCADE	LS	1	$_____	$_____
30	RIFFLE WEIR	EA	21	$_____	$_____
31	WRAPPED SOIL LIFT	LF	602	$_____	$_____
32	BOULDER REVETMENT	LF	1041	$_____	$_____
33	RIP RAP SWALE	SY	146	$_____	$_____
34	RIP RAP CHANNEL INFLOW PROTECTION	LS	1	$_____	$_____
35	PEDESTRIAN BRIDGE	LS	1	$_____	$_____
36	CONCRETE CURB AND GUTTER	LF	45	$_____	$_____
37	SPLIT RAIL FENCE-REPLACE (AT UPPER-MOST SCE)	LF	35	$_____	$_____
38	FLOODPLAIN SEED MIX	SY	21,513	$_____	$_____
39	TURF GRASS SEED MIX	SY	3,083	$_____	$_____

40	PLACING TOPSOIL 4” DEPTH	SY	12,082	$_____	$_____
41	CLAY PLUG	CY	58	$_____	$_____
42-62	TREE, SHRUB, AND PERENNIAL INSTALLATION AND ESTABLISHMENT				
42-46	**2.5" Caliper Trees**				
42	Liriodendron tulipifera - 2.5" cal.	EA	13	$_____	$_____
43	Platanus occidentalis - 2.5" cal.	EA	14	$_____	$_____
44	Acer rubrum - 2.5" cal.	EA	15	$_____	$_____
45	Nyssa sylvatica - 2.5" cal.	EA	13	$_____	$_____
46	Quercus bicolor - 2.5" cal.	EA	11	$_____	$_____
47-50	**1" Caliper Trees**				
47	Liriodendron tulipifera - 1" cal.	EA	86	$_____	$_____
48	Platanus occidentalis - 1" cal.	EA	86	$_____	$_____
49	Acer rubrum - 1" cal.	EA	85	$_____	$_____
50	Nyssa sylvatica - 1" cal.	EA	88	$_____	$_____
51-54	**18" ht. / #3 Shrubs**				
51	Lindera benzoin - 18" ht. / #3	EA	130	$_____	$_____
52	Cornus amomum - 18" ht. / #3	EA	131	$_____	$_____
53	Viburnum dentatum - 18" ht. / #3	EA	133	$_____	$_____
54	Hammamelis virginiana - 18" ht. / #3	EA	132	$_____	$_____
55	**4' Understory Trees**				
55	Ilex Opaca - 4' ht.	EA	84	$_____	$_____
57-62	**2 x 2 x 9" Shrubs**				
57	Platanus occidentalis - 2 x 2 x 9"	EA	200	$_____	$_____

58	Betula nigra - 2 x 2 x 9"	EA	200	$_____	$_____
59	Lindera benzoin - 2 x 2 x 9"	EA	199	$_____	$_____
60	Cornus amomum - 2 x 2 x 9"	EA	200	$_____	$_____
61	Viburnum dentatum - 2 x 2 x 9"	EA	199	$_____	$_____
62	Hammamelis virginiana - 2 x 2 x 9"	EA	198	$_____	$_____
63	DEER PROTECTION – TREE	EA	411	$_____	$_____
64	DEER PROTECTION – SHRUB	EA	526	$_____	$_____
65	REMOVE AND DISPOSE OF PAVING	SY	626	$_____	$_____
66	GRADED AGGREGATE BASE COURSE	CY	127	$_____	$_____
67	TYPE II ROCK OUTLET PROTECTION	CY	13	$_____	$_____
68	REMOVABLE BOLLARD	EA	1	$_____	$_____
69	TRAIL IMPROVEMENTS/MARKERS/SIGNAGE	LS	1	$_____	$_____
70	1.5” SUPERPAVE ASPHALT MIX FOR SURFACE	TON	70	$_____	$_____
71	2.5” SUPERPAVE ASPHALT MIX FOR BASE	TON	138	$_____	$_____
72	STANDARD SINGLE OPENING TYPE K INLEFT OPEN END GRATE	EA	2	$_____	$_____
73	CLASS IV RCP (12”)	LF	34	$_____	$_____
74	CLASS IV RCP (15”)	LF	15	$_____	$_____
75	STANDARD CONCRETE END SECTION (12”)	EA	1	$_____	$_____
76	STANDARD CONCRETE END SECTION (15”)	EA	1	$_____	$_____
77	CLASS 0 RIPRAP	CY	175	$_____	$_____
78 - 81	CONTINGENT ITEMS				
78*	SILT FENCE (SF)	LF	250	$_____	
79*	ROCK ROOT PACKING	LF	60	$_____	

80*	HOT MIX ASPHALT PATCHES	SY	20	$_____	
81*	REPLACE 10" CULVERTS	LF	45	$_____	
GRAND TOTAL Freight/Shipping Costs included in *Total Cost/Grand Total for Items 1 Through 77					$_____

GRAND TOTAL IN WORDS FOR ITEMS 1 THROUGH 77. _____

_____ ($_____)

*INDICATES CONTIGENT ITEMS. Provide cost per unit for reference. ***Do not include in grand total.***

EXCEPTIONS

All exceptions taken to the specifications contained in this document must be clearly indicated in the space provided below. Unless noted as an exception, the bidder will be held responsible for providing each component or standard called for.

The City Manager for the City of Rockville, Maryland retains the exclusive right to approve or reject any exception taken to the specifications contained in this bid. It is hereby agreed that if this bid is rejected due to an exception taken to a specification by the bidder, the rejection taken will be final and no further action may be taken.

Do you claim an exception to any specification to this bid? If yes, please explain.

_____

_____

COMPLETE AND RETURN WITH BID

BIDDER MUST COMPLETE, SIGN, AND RETURN WITH BID

ATTACHMENT A

AFFIDAVIT

I hereby affirm that: I am the _____ and the duly authorized representative of the firm of _____ whose address is_____

and that I possess the legal authority to make this affidavit on behalf of myself and the firm for which I am acting.

I further affirm:

AFFIDAVIT OF QUALIFICATION TO CONTRACT WITH A PUBLIC BODY

1. Except as described in Paragraph 2 below, neither I nor the above firm no, to the best of my knowledge, any of its controlling stockholders, officers, directors, or partners, performing contracts with any public body (the State or any unit thereof, or any local governmental entity in the state, including any bi-county or multi-county entity), has:

A. been convicted under the laws of the State of Maryland, any other state, or the United States of any of the following:
(1) bribery, attempted bribery, or conspiracy to bribe.
(2) a criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract.
(3) fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property.
(4) a criminal violation of an anti-trust statute.
(5) a violation of the Racketeer Influenced and Corrupt Organization act, or the Mail Fraud Act, for acts in connection with the submission of bids or proposals for a public or private contract.
(6) a violation of Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland.
(7) conspiracy to commit any of the foregoing.

B. pled nolo contendere to, or received probation before verdict for, a charge of any offense set forth in subsection A of this paragraph.

C. been found civilly liable under an anti-trust statute of the State of Maryland, another state, or the United States for acts or omissions in connection with the submission of bids or proposals for a public or private contract.

D. during the course of an official investigation or other proceeding, admitted, in writing or under oath, an act or omission that would constitute grounds for conviction or liability under any law or statute described in subsection A or C of this paragraph.

2. [State "none," or as appropriate, list any conviction, plea or admission as described in Paragraph 1 above, with the date, court, official or administrative body, the individuals involved and their position with the firm, and the sentence or disposition, if any]._____

3. I further affirm that neither I nor the above firm shall knowingly enter into a contract with the Mayor and Council of Rockville under which a person or business debarred or suspended from contracting with a public body under Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland, will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction.

I acknowledge that this Affidavit is to be furnished to the Mayor and Council of Rockville and, where appropriate, to the State Board of Public Works and to the Attorney General. I acknowledge that I am executing this Affidavit in compliance with the provisions of Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland which provides that persons who have engaged in certain prohibited activity may be disqualified, either by operation in law or after a hearing, from entering into contracts with the Mayor and Council of Rockville. I further acknowledge that if the representations set forth in this Affidavit are not true and correct, the Mayor and Council of Rockville may terminate any contract awarded and take any other appropriate action.

NON—COLLUSION AFFIDAVIT

1. Am fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

2. Such bid is genuine and is not a collusive or sham bid

3. Neither the said bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other bidder, or to fix any overhead, profit or cost element of the bid price or the bid price of any other bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Mayor and Council of Rockville, Maryland (Local Public Agency) or any person interested in the proposed Contract; and

4. The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant. I do solemnly declare and affirm under the penalties of perjury that the contents of these affidavits are true and correct.

Signature and

Title_____ **Date**_____

ATTACHMENT B

INVITATION FOR BID 25-25
Croydon Creek & Calvin Park Tributary Stream Restoration Project

BIDDER MUST COMPLETE AND RETURN WITH BID

The City of Rockville reserves the right to reject bids from any company not meeting the minimum qualifications. The Bidder shall be a competent and experienced contractor with an established reputation within the community. The bidder shall have performed similar work for a minimum period of five (5) years. He shall furnish a representative list of five (5) projects involving work as specified, two of which shall be the last jobs completed. The City may make such investigations as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the City all such information and data for this purpose as the City may request.

Bidder Name	

#1 Project Name			
Project Owner's Name			
Project Site Address			
Project Owner's Contact Name			
Project Owner's Contact Telephone			
Project Owner's Contact e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			
Name of your project foreman			

#2 Project Name			
Project Owner's Name			
Project Site Address			
Project Owner's Contact Name			
Project Owner's Contact Telephone			
Project Owner's Contact e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			
Name of your project foreman			

#3 Project Name			
Project Owner's Name			
Project Site Address			
Project Owner's Contact Name			
Project Owner's Contact Telephone			
Project Owner's Contact e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			
Name of your project foreman			

#4 Project Name			
Project Owner's Name			
Project Site Address			
Project Owner's Contact Name			
Project Owner's Contact Telephone			
Project Owner's Contact e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			
Name of your project foreman			

#5 Project Name			
Project Owner's Name			
Project Site Address			
Project Owner's Contact Name			
Project Owner's Contact Telephone			
Project Owner's Contact e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			
Name of your project foreman			

SUBCONTRACTOR REFERENCE FORM

BIDDER MUST COMPLETE AND SUBMIT WITH BID

Submit a Separate Reference Form For Each Proposed Subcontractor

Subcontractor's Name	
Address	
Telephone	
Subcontractor's Contact Name	
Description of Work to be Subcontracted	

#1 Reference Organization Name			
Address			
Contact Name			
Contact Name Telephone			
Contact Name e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			

#2 Reference Organization Name			
Address			
Contact Name			
Contact Name Telephone			
Contact Name e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	
Description of Project Work			

#3 Reference Organization Name			
Address			
Contact Name			
Contact Name Telephone			
Contact Name e-mail			
Contract Value	$		
Scheduled completion date		Percent complete	

BIDDER'S QUESTIONNAIRE

City May Require Completion And Submission After Receipt Of Bids

In order to be considered for award, the Bidder must complete this questionnaire in its entirety and submit it to the Purchasing Manager within the time specified. The bidder must answer all questions. If additional space is required, attach continuation sheets and clearly indicate the question being answered. The City reserves the right to verify any information contained within this report and to request additional information or clarification. The City reserves the right to reject the bid of a bidder who has previously failed to perform properly or to complete in a timely manner contracts of a similar nature, or if investigation shows the bidder unable to perform the requirements of the Contract or if the bidder fails to complete and submit the Bidder's Questionnaire in its entirety. If additional sheets are necessary please attach to this form and reference the applicable number.

Bidder's Name			
Bidder's Address			
City		State / Zip	
Telephone		Fax Number	
Organized under the laws of State of:			
BIDDER'S AUTHORIZED REPRESENTATIVE'S SIGNATURE BELOW		DATE	
Print Name:			
Title:			

1. ORGANIZATION

1.1 How many years has your organization been in business as a Contractor?

1.2 How many years has your organization been in business under its present business name?

1.3 Under what **other** or former names has your organization operated?

1.4 If your organization is a corporation, answer the following:

Date of incorporation:

State of incorporation:

President's name:

Vice-president's name(s):

Secretary's name:

Treasurer's name:

1.5 If your organization is a partnership, answer the following:

Date of organization:

Type of partnership (if applicable):

Name(s) of general partner(s):

1.6 If your organization is individually owned, answer the following:

Date of organization:

Name of owner:

1.7 If the form of your organization is other than those listed above, describe it and name the principals:

2. LICENSING

2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

3. **EXPERIENCE**

3.1 List the categories of work that your organization normally performs with its own forces.

3.2 Has your organization ever failed to complete any work awarded to it? If yes, provide details on a separate sheet. NO: _____ YES: _____

3.3 Are there any judgment, claims, arbitration, proceedings or suits pending or outstanding against your organization or its officers? If yes, provide details. NO: _____ YES: _____

3.4 Within the past five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? If yes, provide details. NO: _____ YES: _____

3.5 Within the last two years, has any owner of any project threatened to impose or imposed liquidated damages against your organization? If yes, provide details. NO: _____ YES: _____

3.6 Within the last two years, has your organization constructed any projects where the date of substantial completion was more than 30 days after the contract completion date as determined by the contract and any changes orders? If yes, provide details. NO: _____ YES: _____

3.7 Within the last 2 years, has your organization constructed any projects where the change orders exceeded 10% of the

contract price? If yes, provide details. NO: _____ YES: _____

3.8 State the total worth of work in progress and under contract:

In Progress	$
Under Contract	$

3.9 State the average annual amount of construction work performed during the past five years:

$

4. **FINANCIAL**

4.1 State that you will provide a copy of your firm's audited financial statements for the past two (2) years, if requested, by the City of Rockville. YES:_____ NO: _____

4.2 Is your firm currently for sale or involved in any transaction to expend or to become acquired by another business entity? If yes, please explain the impact both in organizational and directional terms. NO: _____ YES: _____

4.3 Is your firm currently in default on any loan agreement or financing agreement with any bank, financial institution, or other entity? If yes, specify date(s), details, circumstances, and prospects for resolution. NO: _____ YES: _____

5. SAFETY

5.1 Has your organization been cited by OSHA (or State equivalent) in the past five years? If so, provide a copy of the citation(s). NO: _____ YES: _____

5.2 Has your organization experienced a work-related fatality in the past 10 years? If so, provide details. NO: _____ YES: _____

5.3 Provide copies of the last 3-years OSHA Form 300A or OSHA 300 Log. Please omit any personally identifiable or confidential information.

5.4 Provide a copy of your current Workers' Compensation Experience Rating from the NCCI.

5.5 Does your organization have a written safety program? NO: _____ YES: _____

5.5.1 Describe the safety training programs offered to all employees on the elements of the safety program.

5.6.2 When was the last year the written safety program was audited or updated?

5.6.3 Provide an overview of the elements of your written safety program (i.e., table of contents). (This may be returned to non-awarded bidders.)

5.7 Does your organization hire subcontractors? NO: _____ YES: _____

5.7.1 Does your organization conduct pre-contractor qualification of these subcontractors specifically focusing on their safety performance? NO: _____ YES: _____

5.7.2 Describe how your organization manages the safety performance of subcontractors on the jobsite.

5.7.3 Does your organization have a written policy addressing subcontractor's responsibility for complying with OSHA regulations on jobsites? (i.e., OSHA's multi-employer citation policy).

NO: _____ YES: _____

CERTIFICATION
The above statements are certified to be true and accurate.

BY:_____
Signature Date

_____
Print Signature/Title

SECTION VI: APPENDICES

SEE APPENDICES ON FOLLOWING PAGES

APPENDIX A
Department of Public Works As-built Plan Requirements

Department of Public Works
111 Maryland Avenue, Rockville, MD 20850-2364

As-Built Plan Requirements

1. All entities who construct public water or sewer lines, storm drainage systems, bike paths, sidewalks or streets to be maintained by the City of Rockville must submit an "As-built" set of construction drawings for approval as a part of the City's acceptance process. Additionally, entities constructing any stormwater management or stream restoration facilities must submit an "As-Built" set of construction drawings. The initial submittal shall be three (3) sets of "red-lined" marked up prints, which should be delivered to the Department of Public Works counter at City Hall (Attn: Don Jackson, Engineering Technician). This submittal shall include recorded copies of any public easements required with the project.

2. The As-Built drawings shall clearly show any changes or variations from the approved design. Horizontal variations greater that 1.0 foot should be shown dimensionally or through plus stations. Horizontal variations greater than 10.0 feet should also show the graphic relocation of the object. Vertical elevation variations greater than 0.1feet shall be provided for all shown design elevations. A benchmark elevation and benchmark description and location shall also be provided on each plan sheet.

3. As-Built plans for a surface SWM facility shall include the following additional information.

a) Length, width, slope information and depth or contours (1 foot intervals) of the pond area along with a verification of the original design volume.

b) A benchmark on the riser, inlet headwall, or other approved location.

c) Revised design computations verifying the functionality of the pond. Computations shall be submitted directly to the DPW project engineer, along with an additional paper copy of the As-Built plans.

d) The grading/storage volumes must be approved by DPW prior to landscaping/planting. All plantings must be added to the As-Built plans after plant installation. As-Built plans will not be approved without required plantings.

NOTE: As-Built data, which shows that the constructed facility varies from the original design storage elevations by greater than or equal to 10%, will have to be corrected (regraded) prior to submission for review unless storage is verified. All constructed features not previously approved on the original construction drawings may have to be modified at the City's discretion.

4. All As-Built information shall be blocked in and shown on the original construction drawings and shall be blocked in as thus 386.25.

5. The As-Built Certificate (shown on the following page) shall be signed and sealed by a MD professional engineer or a MD professional land surveyor and shall appear on the cover sheet of the As-Built Plan set. All sheets included in the permit set must be submitted in the final as-built set.

6. The City's inspector and project engineer will review the As-Built information. The design engineer will be notified to submit mylars for As-Built approval once all changes have been satisfactorily shown. The As-Built information shall preferably be shown on the original construction drawings (i.e., the original mylars with the permit approval stamp and original P.E. seal). Placing As-Built information upon a scanned image or other reproduction of the original construction drawings is acceptable so long as the quality, integrity, and legibility of the original drawings are substantially preserved without undue compromise. As-Built drawings will be scanned by the City for archiving, so both the As-Built and original information must be sufficiently discernible. The As Built plan set shall be submitted to Department of Public Works Engineering Division (Attn: Don Jackson, Engineering Technician) for signature and shall contain the same red-lined information as approved in the As-Built review. No paper prints, paper or mylar sepias will be accepted.

AS-BUILT CERTIFICATE

I hereby certify that the information shown on this record drawing is an accurate and complete representation of data established from field information obtained under the direction of a Professional Land Surveyor or a Professional Engineer, and that the physical dimensions or elevations shown thus 37.55' are as-built information and the facility was constructed according to the approved plans, except as otherwise noted hereon.

_____	_____
Name	License #
_____	_____
Title	Date

WebDoc 5/14/04

APPENDIX B
Army Corps of Engineers Permit/Authorization- USACE NWP 2023-10-23

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
CARLISLE FIELD OFFICE
401 EAST LOUTHER STREET, SUITE 205
CARLISLE, PENNSYLVANIA 17013-2657

October 25, 2023

Operations Division

City of Rockville, Department of Public Works
c/o Mr. Craig L. Simoneau
111 Maryland Avenue
Rockville, Maryland 20850

Dear Mr. Simoneau:

This is in reference to your application, identified by this office as NAB-2019-60625-P31 (City of Rockville DPW – Croydon Creek & Calvin Park), dated April 12, 2019 wherein you requested a Department of the Army (DA) authorization to restore approximately 4,325 linear feet within Croydan Creek and the Calvin Park Tributary using natural stream channel design techniques, including grading and stabilization of actively-eroding banks, installation of grade control structures, and channel relocation and reconstruction, to include the removal of the in-stream and failing dam, and installation of an 11-foot-long, 104 square foot stormwater outfall into Croydan Creek, all resulting in permanent impacts of approximately 2,442 linear feet (55,534 square feet) of stream and 62 square feet of wetlands to Croydan Creek, and permanent impacts of approximately 1,883 linear feet and 42,589 square feet of stream to Calvin Park Tributary, for a total approximate area of 98,123 square feet (2.25 acres) along 4,325 linear feet of stream and 62 square feet of wetland impact in Croydan Creek and Calvin Park Tributary at 825 Avery Road, Rockville, Montgomery County, Maryland.

In accordance with Section 404 of the Clean Water Act, a DA authorization is required for the discharge of dredged and/or fill material into waters of the United States, including jurisdictional wetlands. Section 10 of the Rivers and Harbors Act also requires DA authorization for any work or structures in, over, or under a navigable water of the United States.

Our evaluation has determined that the proposed work, if accomplished in accordance with the enclosed plan(s) (Enclosure), is authorized by Nationwide Permit (NWP)s for purposes of Section 404 of the Clean Water Act as published in the January 13, 2021 Federal Register, Final Notice of Issuance, Reissuance, and Modification of NWPs (86 FR 2744) and/or the December 27, 2021 Federal Register, Final Notice of Issuance, Reissuance, and Modification of NWPs (86 FR 73522), NWP number 27, provided all state authorizations are granted. If any of the information contained in the application and/or plan(s) is later found to be in error, this authorization may be subject to modification, suspension, or revocation.

Please note that you must comply with the general conditions and activity-specific impact limits and requirements for NWP 27**,** including Water Quality Certification (WQC) conditions, if appropriate, at the following link: https://www.nab.usace.army.mil/Missions/Regulatory/NWP/. If you are not able to access the conditions, please contact the project manager for a hard copy.

In addition, we have determined that the project-specific special conditions below must also be followed in performing the work to ensure that the project impacts to the aquatic environment are minimal:

1. All authorized work shall be constructed in accordance with project plans prepared by the Department of Public Works City of Rockville, entitled:
"Croydon Creek/Calvin Park Tributary Stream Restoration," dated March 2021, Sheets 1 – 84 of 84.

2. The authorized work shall result in no more than; 4,325 linear feet of permanent impact to the waterway(s); and 62 square feet to wetlands.

3. The permittee shall require its contractors and/or agent to comply with the terms and conditions of this permit in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit.

4. In-stream work must not be conducted during the period from 15 February to June, inclusive of any year, in order to minimize potential impacts to spawning fish.

5. The permittee must maintain the as-built integrity of the authorized stream restoration project by natural channel design method and must ensure that the restoration is functionally mature and self-sustaining. The permittee must provide to the Army Corps of Engineers, Baltimore District (Corps) an as-built survey of the project within 90 days of construction completion. The permittee must notify and provide to the Corps, a detailed description and construction plans for any necessary corrective measures, including maintenance and repair, or alteration in any way, of the permitted stream restoration 15 days prior to performance of such corrective measures for Corps review and approval.

6. The permittee must assume all liability for accomplishing the corrective work should the Corps determine the project has not been fully satisfactory. If the Corps does not find the project satisfactory, the permittee will be required to develop a remediation plan and an extension of monitoring time may be required to cover any necessary remedial work.

7. Monitoring Requirements: The permittee, through their environmental consultant, is required to monitor the stream restoration area for a minimum of five years (full growing seasons) following initial construction and planting of the project. The monitoring reports shall include, at a minimum:

a. Project Name; Applicant/Consultant Contact Information; Corps file number; Directions to restoration site; Coordinates of project.

b. A brief summary of project impacts and restoration.

c. As-built plans of the site documenting any changes to the approved plans.

d. Photos of the restoration site along with location points on the as-built plan.

e. A determination and supporting documentation indicating whether each of the performance standards and success criteria listed in Table 1 have been achieved or progressing to achievement.

f. A corrective action plan to address any success criteria that have not been achieved in the table below.

Table 1. Success Criteria for Stream Restoration and Enhancement

Level and Category	**Parameter**	**Measurement**	**Success Criteria**
1-Hydrology	Flow Classification (Perennial, intermittent)	Visual	Meets or exceeds baseline
2-Hydraulics	NA	NA	NA
3-Geomorphology	Photographs	Every 200 feet	No visual signs of problematic erosion
	Vertical Stability	Bank height Ratio	<1.2
	Vertical Stability	Longpro/riffle crest elevations	<0.5 ft thalweg degradation from as-built
	Lateral Stability	NA	NA
	Habitat Assessment	EPA RBP high gradient	Exceeds Baseline

	Vegetative Cover	% cover	>85% cover in LOD
4-Water Quality	NA	NA	NA
5-Biology	Invasive Plant Reduction	% cover invasive species in LOD	Less than Baseline
	Planted Vegetation survivorship	% Survivorship	>80% Survivorship of woody species

Additional monitoring may be required if performance standards are not met throughout the monitoring period of five years. The permittee shall submit monitoring reports every six months for the first year following construction, and annually thereafter, until the five-year monitoring period is complete. The monitoring reports shall be submitted for review, and approval by this office. All reference to growing seasons are based upon one growing season per year, beginning in spring and ending in autumn of a given calendar year. Year one of the five-year monitoring period shall commence with the first spring season following completion of stream bank stabilization/rehabilitation and fish habitat enhancement work.

8. The permittee must submit reports to the USACE Baltimore District Office-Enforcement and Compliance Section. Please submit to the following link: NAB-Regulatory@usace.army.mil with NAB-2019-60625-P31 in the subject line.

9. In order to minimize fish and wildlife mortality during construction, a good faith effort must be made by the contractor to flush and/or relocate fish and wildlife species from within the limit of disturbance prior to construction.

Please note that as of the date of this authorization, your project is in compliance with Section 7 of the Endangered Species Act. However, new species may be listed, or additional populations found. Therefore, it is your responsibility to ensure that construction of the authorized work does not adversely affect any existing or newly listed federally endangered or threatened species. Information on threatened and endangered species and their critical habitat can be obtained from the offices of the United States Fish and Wildlife Service and National Marine Fisheries Service or their web pages at: https://ecos.fws.gov/ipac and https://www.greateratlantic.fisheries.noaa.gov/protected/section7/guidance/maps/index.html respectively.

Please note that you are required to submit a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. An example of the information that is required is posted on the Baltimore District webpage at: https://www.nab.usace.army.mil/Portals/63/NAB-xxxx-xxxxx_XXXX_Universal_CompCert_Final.pdf. The signed certification should be emailed to the Regulatory Branch email at nab-regulatory@usace.army.mil within 60 days with NAB-2019-60625-P31 in the subject line following completion of the authorized work and any required mitigation. Your signature on the certification verifies your understanding that the work was completed in accordance with the terms and conditions associated with your DA permit.

This verification is valid until the NWP is modified, reissued, or revoked. The NWPs issued in the January 13, 2021, Federal Register, Final Notice of Issuance, Reissuance, and Modification of NWPs (86 FR 2744) and/or the December 27, 2021, Federal Register, Final Notice of Issuance, Reissuance, and Modification of NWPs (86 FR 73522) expire on March 14, 2026. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

After you have obtained all required federal, state, and/or local authorizations, you may proceed with the authorized work.

When the structures or work authorized by this NWP are still in existence at the time the property is transferred, the terms and conditions of this NWP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this NWP and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below. A copy of this NWP verification signed by the transferee must be submitted to the Baltimore District to validate the transfer.

A copy of this letter is being provided to the Maryland Department of the Environment for informational purposes.

If you have any questions concerning this matter, please call or email Mr. Robert Fewster of this office at (410) 962-6144 or Robert.j.fewster@usace.army.mil.

Sincerely,

Michael Danko
Chief, Pennsylvania Section
Regulatory Branch

Enclosure

Transfer Form

NAB-2019-60625 (City of Rockville DPW – Croydon Creek & Calvin Park)

_____

TRANSFEREE SIGNATURE DATE TELEPHONE NO.

_____

PRINTED NAME

_____

ADDRESS

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

APPENDIX C
Maryland Dept. of the Environment Authorization- MDE LOA 2023-05-23

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WETLANDS AND WATERWAYS PROTECTION PROGRAM
LETTER OF AUTHORIZATION

AUTHORIZATION NUMBER: 19-NT-3085/201960625

EFFECTIVE DATE: May 23, 2023

EXPIRATION DATE: May 23, 2028

AUTHORIZED PERSON: City of Rockville, Dept of Public Works
111 Maryland Avenue
Rockville, Maryland 20850
Attn: Judy Ding

IN ACCORDANCE WITH ENVIRONMENT ARTICLE §5-503(a) AND §5-906(b), ANNOTATED CODE OF MARYLAND, COMAR 26.17.04 AND 26.23.01, AND 26.08.02 AND THE ATTACHED CONDITIONS OFAUTHORIZATIONS, **City of Rockville, Dept of Public Works** (AUTHORIZED PERSON"), IS HEREBY AUTHORIZED BY THE WATER AND SCIENCE ADMINISTRATION ("ADMINISTRATION") TO CONDUCT A REGULATED ACTIVITY IN A NONTIDAL WETLAND, BUFFER, OR EXPANDED BUFFER, AND/OR TO CHANGE THE COURSE, CURRENT OR CROSS-SECTION OF WATERS OF THE STATE, IN ACCORDANCE WITH THE ATTACHED PLANS APPROVED BY THE ADMINISTRATION ON **May 23, 2023** ("APPROVED PLAN") AND PREPARED BY **AECOM** AND INCORPORATED HEREIN, AS DESCRIBED BELOW:

To restore stream channel in Croyden Creek and tributaries. This project will temporarily impact 4,270 LF (97,073 SF) of stream channel, 62 SF of nontidal wetlands, and 1,302 SF of 25-foot wetland buffer. This project is located along Avery Road, approximately 0.3 miles north of the intersection with Baltimore Road, Rockville, in Montgomery County.

MD Grid Coordinates

Heather L. Nelson
Program Manager
Wetlands and Waterways Protection Program

Attachments: Conditions of Authorization

cc: MDE Compliance Program

1. **Validity:** Authorization is valid only for use by Authorized Person. Authorization may be transferred only with prior written approval of the Administration. In the event of transfer, transferee agrees to comply with all terms and conditions of Authorization.
2. **Initiation of Work, Modifications and Extension of Term**: Authorized Person shall initiate authorized activities in waterways, including streams and the 100-year floodplain, within two (2) years of the Effective Date of this Authorization or the Authorization shall expire. [Annotated Code of Maryland, Environment Article 5-510(a)-(b) and Code of Maryland Regulations 26.17.04.12]. Authorized Person may submit written requests to the Administration for (a) extension of the period for initiation of work, (b) modification of Authorization, including the Approved Plan, or, (c) not later than 45 days prior to Expiration Date, an extension of term. Requests for modification shall be in accordance with applicable regulations and shall state reasons for changes, and shall indicate the impacts on nontidal wetlands, streams, and the floodplain, as applicable. The Administration may grant a request at its sole discretion. (Annotated Code of Maryland, Environment Article 5-510(c), and Code of Maryland Regulations 26.17.04.12, and Annotated Code of Maryland, Environment Article 5-907 and Code of Maryland Regulations 26.23.02.07).
3. **Responsibility and Compliance**: Authorized Person is fully responsible for all work performed and activities authorized by this Authorization shall be performed in compliance with this Authorization and Approved Plan. Authorized Person agrees that a copy of the Authorization and Approved Plan shall be kept at the construction site and provided to its employees, agents and contractors. A person (including Authorized Person, its employees, agents or contractors) who violates or fails to comply with the terms and conditions of this Authorization, Approved Plan or an administrative order may be subject to penalties in accordance with §5-514 and §5-911, Department of the Environment Article, Annotated Code of Maryland (2007 Replacement Volume).
4. **Failure to Comply**: If Authorized Person, its employees, agents or contractors fail to comply with this Authorization or Approved Plan, the Administration may, in its discretion, issue an administrative order requiring Authorized Person, its employees, agents and contractors to cease and desist any activities which violate this Authorization, or the Administration may take any other enforcement action available to it by law, including filing civil or criminal charges.
5. **Suspension or Revocation**: Authorization may be suspended or revoked by the Administration, after notice of opportunity for a hearing, if Authorized Person: (a) submits false or inaccurate information in Permit application or subsequently required submittals; (b) deviates from the Approved Plan, specifications, terms and conditions; (c) violates, or is about to violate terms and conditions of this Authorization; (d) violates, or is about to violate, any regulation promulgated pursuant to Title 5, Department of the Environment Article, Annotated Code of Maryland as amended; (e) fails to allow authorized representatives of the Administration to enter the site of authorized activities at any reasonable time to conduct inspections and evaluations; (f) fails to comply with the requirements of an administrative action or order issued by the Administration; or (g) does not have vested rights under this Authorization and new information, changes in site conditions, or amended regulatory requirements necessitate revocation or suspension.
6. **Other Approvals**: Authorization does not authorize any injury to private property, any invasion of rights, or any infringement of federal, State or local laws or regulations, nor does it obviate the need to obtain required authorizations or approvals from other State, federal or local agencies as required by law.
7. **Site Access:** Authorized Person shall allow authorized representatives of the Administration access to the site of authorized activities during normal business hours to conduct inspections and evaluations necessary to assure compliance with this Authorization. Authorized Person shall provide necessary assistance to effectively and safely conduct such inspections and evaluations.
8. **Inspection Notification:** Authorized Person shall notify the Administration's Compliance Program at least five (5) days before starting authorized activities and five (5) days after completion. For Allegany, Garrett, and Washington Counties, Authorized Person shall call 301-689-1480. For Carroll, Frederick, Howard, Montgomery and Prince George's Counties, Authorized Person shall call 301-665-2850. For Baltimore City, Anne Arundel, Baltimore, Calvert, Charles, Harford and St. Mary's Counties, Authorized Person shall call 410-537-3510. For Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico and Worcester Counties, Authorized Person shall call 410-901-4020. If Authorization is for a project that is part of a mining site, please contact the Land and Materials Administration's Mining Program at 410-537-3557 at least five (5) days before starting authorized activities and five (5) days after completion.
9. **Sediment Control:** Authorized Person shall obtain approval from the **Montgomery** County Soil Conservation District for a grading and sediment control plan specifying soil erosion control measures. The approved grading and sediment control plan shall be included in the Approved Plan, and shall be available at the construction site.
10. **Best Management Practices During Construction:** Authorized Person, its employees, agents and contractors shall conduct authorized activities in a manner consistent with the Best Management Practices specified by the Administration.
11. **Disposal of Excess:** Unless otherwise shown on the Approved Plan, all excess fill, spoil material, debris, and construction material shall be disposed of outside of nontidal wetlands, nontidal wetlands buffers, and the 100-year floodplain, and in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands.
12. **Temporary Staging Areas:** Temporary construction trailers or structures, staging areas and stockpiles shall not be located within nontidal wetlands, nontidal wetlands buffers, or the 100-year floodplain unless specifically included on the Approved Plan.

13. **Temporary Stream Access Crossings:** Temporary stream access crossings shall not be constructed or utilized unless shown on the Approved Plan. If temporary stream access crossings are determined necessary prior to initiation of work or at any time during construction, Authorized Person, its employees, agents or contractors shall submit a written request to the Administration and secure the necessary permits or approvals for such crossings before installation of the crossings. Temporary stream access crossings shall be removed and the disturbance stabilized prior to completion of authorized activity or within one (1) year of installation.
14. **Discharge:** Runoff or accumulated water containing sediment or other suspended materials shall not be discharged into waters of the State unless treated by an approved sediment control device or structure.
15. **Instream Construction Prohibition:** To protect important aquatic species, motor driven construction equipment shall not be allowed within stream channels unless on authorized ford crossings. Activities within stream channels are prohibited as determined by the classification of the stream (COMAR 26.08.02.08): **Croyden Creek** is a Use **I** waterway; in-stream work may not be conducted from **March 1** through **June 15**, inclusive, of any year.
16. **Instream Blasting:** Authorized Person shall obtain prior written approval from the Administration before blasting or using explosives in the stream channel.
17. **Minimum Disturbance:** Any disturbance of stream banks, channel bottom, wetlands, and wetlands buffer authorized by this Authorization or Approved Plan shall be the minimum necessary to conduct permitted activities. All disturbed areas shall be stabilized vegetatively no later than seven (7) days after construction is completed or in accordance with the approved grading or sediment and erosion control plan.
18. **Restoration of Construction Site:** Authorized Person shall restore the construction site upon completion of authorized activities. Undercutting, meandering or degradation of the stream banks or channel bottom, any deposition of sediment or other materials, and any alteration of wetland vegetation, soils, or hydrology, resulting directly or indirectly from construction or authorized activities, shall be corrected by Authorized Person as directed by the Administration.

FEDERALLY MANDATED STATE AUTHORIZATIONS

The State of Maryland issued a Water Quality Certification to the U.S. Army Corps of Engineers for projects receiving federal authorization under the Maryland State Programmatic General Permit, Regional General Permit for Chesapeake Bay Total Maximum Daily Load (TMDL) Activities and non-suspended Nationwide Permits. In addition, as applicable, this Authorization constitutes the State's concurrence with the Applicant's certification that the activities authorized herein are consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. Activities in the following counties are not subject to the Maryland Coastal Zone Management requirement: Allegany, Carroll, Frederick, Garrett, Howard, Montgomery, and Washington.

U.S. ARMY CORPS OF ENGINEERS AUTHORIZATION

The U.S. Army Corps of Engineers has reviewed this activity and:
___ Granted authorization under the Maryland State Programmatic General Permit (MDSPGP-6), as a Category A __ activity. The terms and conditions of the MDSPGP-6 as outlined in the documents found on the Maryland Department of the Environment's website, https://mde.maryland.gov/programs/Water/WetlandsandWaterways/Pages/MDSPGP6_conditions.aspx , should be followed when performing the authorized work, or
X Will issue a Category B authorization or Individual Permit directly to the Authorized Person

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS AND 100-YEAR FLOODPLAINS

1) No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
2) Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
3) Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
4) Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
5) Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
6) Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
7) All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Barley (Hordeum sp.), Oats (Uniola sp.), and/or Rye (Secale cereale). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. **Kentucky 31 fescue shall not be utilized in wetland or buffer areas.** The area should be seeded and mulched to reduce erosion after construction activities have been completed.
8) After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
9) To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream:

   Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.
   Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.
   Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.

10) Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
11) Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.

APPENDIX D
City of Rockville Stormwater and Sediment Control Permits

Docusign Envelope ID: ACB21D6F-F1D3-4FED-A7C8-835970BDDF37

SEDIMENT CONTROL PERMIT (SCP)

PERMIT#: **SCP2025-00017**

DATE OF ISSUE: **06/04/2025**

DATE OF EXPIRATION: **6/4/2027**

PWK PERMIT:

TYPE OF SEDIMENT CONTROL PERMIT: **SC**

APPLICANT: **CITY OF ROCKVILLE DPW**

ADDRESS: **111 MARYLAND AVENUE**
ROCKVILLE MD 20850

DAYTIME PHONE: **240-314-8533**

SITE ADDRESS: **850 AVERY RD**

SUBDIV: **ROCKY SPRING ETC** LOT: **P830** BLK:

TYPE OF WORK: **Croydon Creek/Calvin Park tributary Stream Restoration Project**

CONDITIONS:

1. **This permit is for sediment control only for Croydon Creek & Calvin Park Tributary Stream Restoration project associated with Contract #25-25. All work must comply with the approved plans dated 03-12-2025 and any subsequent revisions. Plan revisions, including field changes, must be reviewed and approved by the Rockville Department of Public Works.**
2. **The permittee must schedule a pre-construction meeting with a minimum notice of 48 hours prior to meeting. The following representatives must be invited:**

   - City Forester, Paula Perez at 240-314-8705
   - City Principal Construction Inspector, Mandi Murray at 240-314-8547
   - City Sediment and Erosion Control Inspector, George Ugartemendia at 240-314-8879
   - City Forestry Inspector, Natasha Shangold at 240-314-8205
   - City Project Engineer, Diron Baker at 240-314-8533
   - Any Agency Issuing a Permit
   - Utility Companies
   - Permittee, Owner, or Owner's Representative
   - General Contractor
   - Site Engineer

   The following items must be discussed, as needed, during the pre-construction meeting:

   -Elements that require construction inspection, as determined by the City Inspector, must be completed during normal working hours, Monday through Friday, 7:00 am to 3:00 pm.
   -Existing SWM facilities downstream of project
3. **Permittee must contact MISS UTILITY at 811, 1 800 257-7777, or www.missutility.net for marking of existing utilities. MISS UTILITY requires two full business days notice. Existing utilities must be marked prior to the pre-construction meeting.**
4. **A copy of the permit MUST be on the job-site.**
5. **The Maryland Department of the Environment (MDE) issues the General Permit for Stormwater Associated with Construction Activity, and the City will obtain a Notice of Intent (NOI) authorization to discharge stormwater under this General Permit. This permit will be formally transferred to the Contractor by the City after award. Upon final acceptance, the Contractor shall formally transfer the permit back to the City.**
6. **If required, permittee must supply the Chief, Construction Management, with lab results (from a Maryland State Certified Lab) to confirm that all construction work and materials comply with project specifications. This includes acceptable certification for compaction and backfill.**
7. **Any damage to public improvements must be repaired or replaced in accordance with City standards at the direction of the City Project Inspector.**
8. **Contractor is to comply with the Montgomery County Noise Ordinance. Apply for a waiver if needed.**
9. **All work covered by this permit must be completed by the expiration date which is two (2) years from date of permit issuance. Requests for permit extensions must be submitted in writing to the Department of Public Works 30 days prior to the expiration date, justifying the extension in accordance with Chapter 19, Section 29.**

WATER SHED:	**ROC**	TOTAL AREA OF PROPERTY:	**365,054**
FLOODPLAIN VARIANCE REQ'D:	**N**	TOTAL AREA TO BE DISTURBED:	**313,944**
USE PERMIT NUMBER:		TOTAL IMPERVIOUSNESS PROPOSED:	

This permit authorizes the above described construction subject to all applicable laws, regulations, terms and conditions herein and elsewhere.

Approved: Craig Simoneau 06/04/2025
Director of Public Works

rev: fscp2pmt 06/04/2025

LAC 06/04/2025
DHB Staff Contact

Docusign Envelope ID: ACB21D6F-F1D3-4FED-A7C8-835970BDDF37

SEDIMENT CONTROL PERMIT (SCP)

PERMIT#: **SCP2025-00017**

DATE OF ISSUE: **06/04/2025**

DATE OF EXPIRATION: **6/4/2027**

PWK PERMIT:

TYPE OF SEDIMENT CONTROL PERMIT: **SC**

APPLICANT: **CITY OF ROCKVILLE DPW**

ADDRESS: **111 MARYLAND AVENUE**
ROCKVILLE MD 20850

DAYTIME PHONE: **240-314-8533**

SITE ADDRESS: **850 AVERY RD**

SUBDIV: **ROCKY SPRING ETC** LOT: **P830** BLK:

(INCLUDE 30' CONTIGUOUS RIGHTS OF WAY)

ESTIMATED COST OF WORK:	PERMIT FEES:	AMOUNT OF SECURITY:
S/C:	**TOTAL FEES**	S/C: BOND: L OF C: CASH:

OWNER/DEVELOPER: **MAYOR & COUNCIL OF ROCKVILLE**

ADDRESS: **MARYLAND AVE AT VINSON**
ROCKVILLE MD 20850

DAYTIME PHONE:

This permit authorizes the above described construction subject to all applicable laws, regulations, terms and conditions herein and elsewhere.

Approved: Craig Simoneau
Director of Public Works

06/04/2025

rev: fscp2pmt 06/04/2025

LAC 06/04/2025
DHB Staff Contact

Docusign Envelope ID: ACB21D6F-F1D3-4FED-A7C8-835970BDDF37

STORMWATER MANAGEMENT PERMIT (SMP)

PERMIT#: **SMP2025-00023**

DATE OF ISSUE: **06/04/2025**
DATE OF EXPIRATION: **6/4/2027**

PWK PERMIT:
SCP PERMIT:

APPLICANT: **CITY OF ROCKVILLE DPW**
ADDRESS: **111 MARYLAND AVENUE**
ROCKVILLE MD 20850
DAYTIME PHONE: **240-314-8533**

SITE ADDRESS: **AVERY RD**

SUBDIV: **BURGUNDY ETC** LOT: **P108** BLK:

This permit is for the Stormwater Management Facilities checked below:

	Surface Sand Filter		Infiltration
	Underground Sand Filter		MDE - Approved Proprietary
	Perimeter Sand Filter		Filtering System (see notes)
	Bioretention		Shallow Wetland
	Underground Concrete Vault		ED Wetland
	Underground Pipe		Pond/Wetland System
	Micropool ED		Swale (Dry/Wet)
	Wet Pond		Non Structural
	Wet ED Pond		Monetary Contribution
	Multiple Pond	X	Other
	Dry ED Pond		

FACILITIES:

TOTAL AREA OF PROPERTY: **365,054.00**

Facility Type	Drainage Area	Impervious Area	Ownership	Recharge Volume	Quality (WQv)	Quantity (Cpv)	Quantity (Qp)

This permit authorizes the above described construction subject to all applicable laws, regulations, terms and conditions herein and elsewhere.

Approved: Craig Simoneau 06/04/2025
Director of Public Works

rev: fsmpprmt 06/04/2025

LAC 06/04/2025
DHB Staff Contact

Docusign Envelope ID: ACB21D6F-F1D3-4FED-A7C8-835970BDDF37

STORMWATER MANAGEMENT PERMIT (SMP)

PERMIT#: **SMP2025-00023**

DATE OF ISSUE: **06/04/2025**
DATE OF EXPIRATION: **6/4/2027**

PWK PERMIT:
SCP PERMIT:

APPLICANT: **CITY OF ROCKVILLE DPW**
ADDRESS: **111 MARYLAND AVENUE**
ROCKVILLE MD 20850
DAYTIME PHONE: **240-314-8533**

SITE ADDRESS: **AVERY RD**

SUBDIV: **BURGUNDY ETC** LOT: **P108** BLK:

CONDITIONS:

1. **This permit is for the construction of Croydon Creek & Calvin Park Tributary Stream Restoration project associated with Contract #25-25. All work must comply with the approved plans dated 03-12-2025 including any subsequent plan revisions. Plan revisions, including field changes, must be approved by the Rockville Department of Public Works.**
2. **The permittee must schedule a pre-construction meeting with a minimum notice of 48 hours prior to meeting. The following representatives must be invited:**

   - City Forester, Paula Perez at 240-314-8705
   - City Principal Construction Inspector, Mandi Murray at 240-314-8547
   - City Sediment and Erosion Control Inspector, George Ugartemendia at 240-314-8879
   - City Forestry Inspector, Natasha Shangold at 240-314-8205
   - City Project Engineer, Diron Baker at 240-314-8533
   - Any Agency Issuing a Permit
   - Utility Companies
   - Permittee, Owner, or Owner's Representative
   - General Contractor
   - Site Engineer

   The following items must be discussed, as needed, during the pre-construction meeting:

   - Elements that require construction inspection, as determined by the City Inspector, must be completed during normal working hours, Monday through Friday, 7:00 am to 3:00 pm.
   - Existing SWM facilities downstream of project
   - SWM Construction Inspection and As-built process
3. **Permittee must contact MISS UTILITY at 811, 1 800 257-7777, or www.missutility.net for marking of existing utilities. MISS UTILITY requires two full business days notice. Existing utilities must be marked prior to the pre-construction meeting.**
4. **If required, the permittee must supply the Chief, Construction Management with lab results (from a Maryland State Certified Lab) to confirm that all construction work and materials comply with the project specifications. This includes acceptable certification for compaction and backfill.**
5. **Prior to bond release, on-site grading must be approved to demonstrate safe conveyance of stormwater per the approved plan.**
6. **Bonds will not be released until construction has been completed and inspected, and any damage to public right-of-way has been repaired or replaced to the satisfaction of the City Project Inspector and Chief, Construction Management.**
7. **Bonds will not be released until all code violations pertaining to the project have been corrected and all outstanding fines have been paid.**
8. **Contractor is to comply with the Montgomery County Noise Ordinance. Apply for a waiver if needed.**

This permit authorizes the above described construction subject to all applicable laws, regulations, terms and conditions herein and elsewhere.

Approved: Craig Simoneau 06/04/2025
Director of Public Works

rev: fsmpprmt 06/04/2025

LAC 06/04/2025
DHB Staff Contact

Docusign Envelope ID: ACB21D6F-F1D3-4FED-A7C8-835970BDDF37

STORMWATER MANAGEMENT PERMIT (SMP)

PERMIT#: **SMP2025-00023**

DATE OF ISSUE: **06/04/2025**
DATE OF EXPIRATION: **6/4/2027**

PWK PERMIT:
SCP PERMIT:

APPLICANT: **CITY OF ROCKVILLE DPW**
ADDRESS: **111 MARYLAND AVENUE**
ROCKVILLE MD 20850
DAYTIME PHONE: **240-314-8533**

SITE ADDRESS: **AVERY RD**

SUBDIV: **BURGUNDY ETC** LOT: **P108** BLK:

9. **All work covered by this permit must be completed by the expiration date which is two (2) years from date of permit issuance. Requests for extensions must be submitted in writing to the Department of Public Works 30 days prior to the permit expiration date justifying the permit extension in accordance with Chapter 19, Section 29.**
10. **Copy of permit MUST be on job-site.**

WATER SHED: **Rock Creek**
FLOODPLAIN VARIANCE REQ'D: **N**
USE PERMIT NUMBER:
TOTAL DRAINAGE AREA : **7,428,999.00**
TOTAL IMPERVIOUSNESS PROPOSED: **6,410,433.00**

ESTIMATED COST

OF WORK:	PERMIT FEES:	AMOUNT OF SECURITY:
SMP:	**TOTAL FEES:**	SMP: BOND: L OF C: CASH:

PROPERTY OWNER: **MAYOR & COUNCIL OF ROCKVILLE**
ADDRESS: **MARYLAND AVE AT VINSON**
ROCKVILLE MD 20850
DAYTIME PHONE:

This permit authorizes the above described construction subject to all applicable laws, regulations, terms and conditions herein and elsewhere.

Approved: Craig Simoneau 06/04/2025
Director of Public Works

rev: fsmpprmt 06/04/2025

LAC 06/04/2025
DHB Staff Contact

APPENDIX E
WSSC RMS File NO. 19RMS8569A Approval Letter

December 7, 2022

Attn: Ms. Molly Ratz
Environmental Systems Analysis, Inc.
2141 Priest Bridge Drive, Suite 1
Crofton, MD 21114

Re: RMS File NO. 19RMS8569A
Stream Restoration – City of Rockville DPW
Croydon Creek and Calvin Park Tributary

Dear Ms. Molly Ratz,

This letter is regarding your plans submitted December 1, 2022, for the referenced Croydon Creek and Calvin Park Tributary Stream Restoration project in Rockville, MD. A review of your project and our records reveal that the proposed work will have minimal impact on existing WSSC facilities. Therefore, WSSC approves the plans submitted December 1, 2022.

However, care must be taken when working in the immediate vicinity of existing WSSC facilities; any damage created due to the proposed work will be repaired at the Applicant 's expense. Please note the following:

- Only project plans submitted December 1, 2022, are approved; any further revisions to the plans or project limits must be resubmitted for approval.
- This letter and the associated approved plans can be found in the Approved folder in WSSC's ePlan review system ProjectDox.
- Applicant guarantees that construction vehicles or equipment utilized within 10-feet of the existing WSSC sewer/water mains will be limited to loads that are less than or equal to American Association of State Highway and Transportation Officials (AASHTO) H20. Any loading anticipated to exceed AASHTO H20 must be reviewed and approved by WSSC prior to commencement of construction activities.
- The Applicant must ensure that work adheres to the Special Construction Requirements as stated in the WSSC Pipeline Design Manual, Part 3, Section 3, Pipeline Crossings and Clearances.

- Contact Michael Ballantyne, Gaithersburg Depot Section Manager, Pipeline Construction Division (PCD), at (301) 206-7363 between the hours of 7:00 AM – 3:30 PM a minimum of 5 days in advance of beginning work to arrange for a pre-construction inspection. Contacting PCD is required prior to beginning construction activities in the vicinity of WSSC facilities.

- Contact "Miss Utility" at 1-800-257-7777 at least two (2) full business days in advance of beginning any work to locate WSSC facilities in the field. The day of notification is not to be counted as one of the business days. Please provide "Miss Utility" with the above RMS File Number for WSSC job tracking purposes.

Should you have any questions regarding this matter, please do not hesitate to contact me at (301) 206-8322 or by e-mail at Mara.Flores@wsscwater.com.

Sincerely,

Mara Flores
Project Manager
Relocations Section
Pipeline Design Division

APPENDIX F
State of Maryland Department of Natural Resources Chesapeake & Atlantic Coastal Bays 2010 Trust Fund Grant Agreement

State of Maryland
Department of Natural Resources

Chesapeake & Atlantic Coastal Bays 2010 Trust Fund

Grant Agreement

This Grant Agreement, entered into this 2nd day of June, 20 23 by and between the State of Maryland, Department of Natural Resources, Tawes State Office Building, 580 Taylor Avenue, Annapolis, MD 21401 (hereinafter "Department") and

Mayor and Council
City of Rockville
111 Maryland Avenue
Rockville, MD 20850
Federal Tax Identification #: 52-6001573 (hereafter "Grantee").

(hereinafter "Grantee"), (hereinafter, individually, a "Party" and, collectively, the "Parties").

WHEREAS, there is a Chesapeake & Atlantic Coastal Bays 2010 Trust Fund ("Trust Fund"), established with the purpose to provide financial assistance necessary to advance Maryland's progress in meeting the goals established in the Chesapeake Bay Watershed Agreement for the restoration of the Chesapeake Bay and the Atlantic Coastal Bays and their tributaries by focusing limited financial resources on nonpoint source pollution control projects in all regions of the State of Maryland, as set forth in Annotated Code of Maryland, Natural Resources Article §8-2A-01 *et seq.*; and

WHEREAS, the Chesapeake Bay Cabinet administer the Trust Fund in accordance with the Trust Fund final work and expenditure plans, including distribution of funds through grants to counties, bicounty agencies, municipalities, forest conservancy district boards, soil conservation districts, academic institutions, and nonprofit organizations that have a demonstrated ability to implement nonpoint source pollution control projects; and

WHEREAS, funding has been appropriated for the Trust Fund by the General Assembly for Fiscal Year 2023, to be disbursed in grants to certain entities, for the purposes set forth in Code, Natural Resources Article § 8-2A-01 *et seq.*; and

WHEREAS, the Grantee has been selected by the Chesapeake Bay Cabinet to receive such grant assistance from the Trust Fund, and the Grantee has agreed to the provisions contained herein;

NOW, THEREFORE, for and in consideration of the mutual covenants contained herein and the receipt of a Grant in the amount of Two Million Dollars and Zero Cents ($2,000,000.00) the Parties agree to the following provisions:

1. **Term.** This Grant Agreement (hereafter "Agreement") shall be effective as of June 1, 2023 ("Effective Date") and shall expire without notice on December 31, 2025. The Parties agree that this Agreement is valid, binding and enforceable upon the Parties from and including the Effective Date.

2. **Scope of Work.** The Grantee shall conduct the work contained in the Scope of Work in Attachment A: Scope of Work, Budget, and Other Requirements, which is incorporated into and made an integral part of this Agreement.

3. **Notice to Proceed.** No work may be initiated under this Agreement until the Grantee has been instructed in writing to proceed by the Department.

4. **Standard of Performance.** The Grantee is responsible for supervision and inspection of, and the technical accuracy and coordination of all work pursuant to this Agreement as set forth in Attachment A's Scope of Work.

5. **Prosecution of the Work.** The Grantee shall prosecute all work continuously and diligently until the termination of this Agreement.

6. **Amendments.** This Agreement may be amended only by a writing signed by both Parties.

7. **Independent Entity.** Grantee acknowledges that it is neither an agent nor an employee of the Department, but is an independent entity, and cannot commit the Department to any expenditures of funds or enter into any contractual obligation on behalf of the Department.

8. **Supplies and Materials.** The Grantee shall be responsible for identifying and acquiring all supplies and materials necessary for performance of all work,

9. **Taxes.** The Grantee shall be responsible for withholding any taxes and social security payments due in relation to this Agreement.

10. **No Subletting or Assignment.** The Grantee shall not sublet, assign, or transfer this Agreement or any portion thereof without prior written consent of the Department.

11. **Department Property.** Unless otherwise specified in writing, the Grantee agrees that all reports, drawings, studies, estimates, maps, and computations prepared by or for it under the terms of the Agreement shall be delivered upon request to, and become the property of, the Department upon termination or completion of the work.

12. **Billings; Payments.**

A. Funds paid to the Grantee under this Agreement shall be used only for the purposes set forth in this Agreement and Attachment A's Scope of Work. The Grantee shall submit

billings for the expenses authorized for the work under this Agreement in accordance with the payment schedule set forth in Attachment A's Other Requirements. Each billing shall identify the progress made in relation to the schedule, and the amount of payment requested. The Grantee shall submit a final invoice no later than 30 days after the date of expiration of this Agreement set forth in Paragraph 1, above.

B. The Grantee shall follow cost accounting practices acceptable to the Department. Payments will be made only for the costs authorized in Attachment A's Budget. Billings shall be due and payable within 30 days of receipt by the Department. The Grantee agrees that no claims or charges for damages shall be made by it for any delays or hindrances from any cause during the term of this Agreement. Under no circumstances is the Department responsible for payment of any charges due to late payment of invoices.

13. **Status/Progress Reports.** The Grantee shall submit quarterly status/progress reports to the Department at the same time as the billing submissions required under Paragraph 12, above. Each status report shall contain the information required by Annotated Code of Maryland, Natural Resources Article § 8-2A-04(e) for work performed during that quarter. Payment of the costs identified in the billing submissions is contingent on the Department's satisfaction with the Grantee's progress in the work. At the end of the term of the Agreement, the Grantee shall submit a final report, as described in Attachment A's Other Requirements.

14. **Subcontract or Subgrant.** In the case of any subcontract or subgrant, the Grantee agrees to bind the subcontractor or subgrantee and every subcontractor or subgrantee agrees to be bound by all terms of this Agreement, unless the Grantee requests, and the Department agrees in writing, to amend this Agreement to modify or waive one or more provisions.

15. **Inspections.** The Department shall have the right, during normal business hours, to enter upon and inspect the lands, equipment, records, and property owned or used by the Grantee in connection with this Grant, to determine the Grantee's compliance with the terms and conditions of this Agreement.

16. **Audit.** The Department retains the right to audit and inspect the records of the Grantee pertaining to this Grant for a period of 3 years after the conclusion of the Grant, or any applicable statute of limitations, whichever is longer. Should the Department determine that Grant funds have been expended for activities outside the scope of this Agreement, the Grantee, on demand by the Department, shall reimburse the Department for all such funds.

17. **Title to Property.** Subject to the obligations and conditions set forth in this Agreement, title to equipment or personal property acquired with funds under this Agreement by the Grantee or a subgrantee will vest upon acquisition in the Grantee or subgrantee respectively. Title to real property will vest in the State.

18. **Equipment.**

A. The Grantee and subgrantee shall maintain the equipment, and real and personal property, in good order, and shall employ adequate safeguards to prevent loss, damage, or theft of the property.

B. For any item of real or personal property, including equipment, acquired with Grant funds which has an original per-unit fair market value of Five Thousand Dollars ($5,000) or more, the Grantee shall, at its own expense, and for the duration of this Agreement or for 5 years, whichever is less, obtain and maintain insurance. The insurance shall provide full protection for the Grantee and the State against loss, damage, or destruction of or to the property. The Grantee shall, on request, provide the Department with satisfactory evidence of its compliance with this requirement. In case of loss, theft, or damage of the insured property, proceeds of insurance required by this paragraph shall be applied towards replacement of the property or towards the partial or total repayment to the State of the Grant, in the sole discretion of the Department.

C. Equipment shall be used by the Grantee or subgrantee for the project or work for which it was acquired as long as needed, whether or not the project or work continues to be supported by Trust Fund Grant funds.

D. The Grantee or subgrantee may not use equipment acquired with Trust Fund Grant funds to provide services for a fee to compete with private companies that provide equivalent services, unless specifically allowed by federal or state law.

E. When no longer needed for the project or work under this Agreement, the equipment may be used in other work or projects currently or previously supported by a State agency. The Grantee or subgrantee may acquire replacement equipment, and may use the original equipment to be replaced as a trade-in to offset the cost of the replacement equipment, subject to the approval of the Department.

F. When no longer needed for the project or work under this Agreement or any other project currently or previously supported by a State agency, personal property and equipment, including replacement equipment, acquired under this Grant with a current per-unit fair market value of less than five thousand dollars ($5,000.00) may be retained, sold, or otherwise disposed of by the Grantee.

G. When no longer needed for the project or work under this Agreement or any other project currently or previously supported by a State agency, equipment, including replacement equipment, acquired under this Grant with a current per-unit fair market value of five thousand dollars ($5,000.00) or more may be retained or sold, and any proceeds from a disposition shall be applied to repay to the State a percentage of the portion of the Grant allocable to the property disposed of, unless the Grantee and the Department agree to other terms and conditions. The percentage shall be equal to the percentage of the unadjusted bases of the property that would remain if the property had been recover

property placed in service after 1986 and if all allowable deductions had been taken up to the time of disposition under the Accelerated Cost Recovery System (ACRS) specified in the 26 U.S.C. § 168.

19. **Laws of Maryland.** This Agreement shall be governed by the laws of the State of Maryland, and the Parties hereby expressly agree that the courts of the State of Maryland shall have exclusive jurisdiction to decide any questions arising hereunder.

20. **Non-Discrimination in Employment.** The Grantee agrees: (1) to assure all persons equal opportunity in receiving employment and in all labor management-union relations, regardless of race, color, religion, ancestry or national origin, sex, age, marital status, sexual orientation, gender identity, or disability unrelated in nature and extent so as reasonably to preclude the performance of such employment; (2) to include a provision similar to that contained in subsection (1), above, in any subcontract except a subcontract for standard commercial supplies or raw materials; and (3) to post and cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this paragraph.

21. **Compliance with Laws.** The Grantee agrees that it shall: (1) comply with all federal, State, and local laws, regulations and ordinances applicable to its activities and obligations under this Agreement; and (2) obtain, at its expense, all licenses, permits, insurance, and governmental approvals, if any, necessary to the performance of its obligations under this Agreement.

22. **Subcontractor Qualification.** The Grantee hereby represents and warrants that it and any subcontractor it hires is qualified to do business in the State of Maryland and that it will take such action as, from time to time hereafter, may be necessary to remain so qualified.

23. **Indemnification.** To the fullest extent permitted under applicable law, the Grantee shall indemnify and save harmless the State and the Department and defend the Department and all of its representatives from and against all actions, liability, claims, suits, damages, cost or expenses of any kind which may be brought or made against the State or the Department arising out of or as a result of this Agreement. To the fullest extent permitted by law, the Grantee is responsible for all damage to life and property due to its activities, or those of its agents, employees, subgrantees, or subcontractors, arising out of or in connection with its performance under this Agreement until all services under this Agreement are declared accepted by the Department.

24. **Disputes.** Any disputes between the Department and the Grantee related to this Agreement shall be presented in writing by the Party asserting the dispute, to the other Party. The written statement shall set forth the nature and, if applicable, the monetary value of the dispute, and the facts on which the dispute is based. The Parties agree that they will work diligently and in good faith to resolve any dispute, and that, pending the resolution of the dispute, the Grantee will proceed with the work under this Agreement.

25. **Termination.**

A. This Agreement may be terminated in writing by either Party upon thirty (30) days written notice to the other Party. Service of any notice required under this Agreement shall be complete upon mailing of such notice, postage prepaid, to the appropriate representative of the Party at the address listed in the Agreement.

B. The Department may instruct the Grantee to terminate the performance of work under this Agreement in whole, or from time to time in part, whenever the Department determines that such termination is in the best interest of the Department. The Department will pay all reasonable costs associated with the Grantee's work under this Agreement, which the Grantee has incurred and has documented, up to the date of termination.

C. If the Grantee fails to fulfill its obligations under this Agreement, or otherwise violates any provision of the Agreement, the Department may terminate the Agreement for default by issuing written notice to the Grantee. The notice shall specify the acts or omissions relied upon as cause for termination. All finished or unfinished work accomplished by the Grantee shall, at the Department's option, become the Department's property. The Department shall pay the Grantee fair and equitable compensation for any satisfactory work prior to the issuance of the notice of termination, less the amount of any set-off or damage caused by the Grantee's breach of its obligations. The Grantee is liable after termination, and the Department retains the right to collect, any and all monies owed to the Department under this Grant.

26. **Whole Agreement.** This agreement embodies that whole agreement of the Parties. There are no promises, conditions, or obligations referring to the subject matter, other than those contained herein or incorporated by reference.

27. **Key Personnel.** The Parties agree that the following named individuals are considered to be essential to the work being performed under this Agreement, and that they are designated as Key Personnel who shall be made available to the fullest extent required to carry out the work under this Agreement:

Heather Gewandter
240-314-8873; hgewandter@rockvillemd.gov

Gabriel Kosarek
240-314-8513 ; gkosarek@rockvillemd.gov

Should any of these individuals become unavailable during the term of this Agreement, the Grantee shall assign personnel of equivalent capability to the work. Prior written approval of the Department is required for any substitution of key personnel, which approval may be denied at the Department's sole discretion. If the Grantee is unable to provide substitute personnel acceptable to the Department, the Department may, at its option, terminate this

Agreement, or require an equitable adjustment in the Grant to account for the loss of key personnel.

28. **Agreement Representatives.** The Parties designate the following named individuals as Agreement Representatives for the purpose of any notices required under this Agreement. The Parties agree that each will promptly notify the other, in case of substitution of an Agreement Representative, or change in the Representative's contact information.

Ari Engelberg,
(410) 260-8734; ari.engelberg@maryland.gov

Heather Gewandter
240-314-8873; hgewandter@rockvillemd.gov

29. **Severability.** If any of these provisions shall contravene, or be invalid under, the laws of a particular state, county or jurisdiction where used, such contravention or invalidity shall not invalidate the whole Agreement, but the Agreement shall be construed as if not containing the particular provision or provisions held to be invalid in the particular state, county, or jurisdiction, and the rights and obligations of the Parties shall be construed and enforced accordingly.

30. **Electronic Signatures.** Signatures provided by electronic means including, by way of example and not of limitation, facsimile, Adobe, PDF, and sent by electronic mail or by an electronic signature program, shall be deemed to be original signatures.

IN WITNESS THEREOF, the Parties have executed this Agreement by causing the same to be signed on the day and year first above written.

Reviewed for Legal Sufficiency by
the Office of the City Attorney

Ashley E McFarland

Ashley McFarland — Sr. Asst. City Attorney

MAYOR AND COUNCIL
CITY OF ROCKVILLE

Sara Taylor-Ferrell

Witness

Sara Taylor Ferrell — City Clerk Director of Council Operations

Robert DiSpirito,
City Manager City of Rockville

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES

Witness

Christine Conn, Acting Unit Director
Chesapeake & Coastal Service

THIS CHESAPEAKE AND ATLANTIC COASTAL BAYS 2010 TRUST FUND GRANT AGREEMENT FORM HAS BEEN APPROVED FOR FORM AND LEGAL SUFFICIENCY BY THE OFFICE OF THE ATTORNEY GENERAL FOR THE DEPARTMENT OF NATURAL RESOURCES. ANY ADDITION OR MODIFICATIONS TO, OR DELETIONS FROM, THIS FORM MUST BE APPROVED BY THE ATTORNEY GENERAL'S OFFICE BEFORE SIGNATURE OR PERFORMANCE OF ANY WORK.

Talley H-S. Kovacs
Assistant Attorney General
Office of the Attorney General
Department of Natural Resources

Approved by Talley: 12/5/22

Attachment A

SCOPE OF WORK, BUDGET, AND OTHER REQUIREMENTS

Section I. Scope of Work

Project Title:	Croydon Creek/Calvin Park Stream Restoration	
Budget:	State (Trust Fund):	$ 2,000,000.00
	Leveraged Funds:	$ 2,225,487.00
	Total:	$ 4,225,487.00
Funding Period:	June 1, 2023 - December 31, 2025	
Funding Recipient:	City of Rockville	

1. Abstract

The Croydon Creek/Calvin Park project restoration is designed to improve water quality and restore habitat within the stream and the forested buffer. The project will also reconnect the stream to its floodplain resulting in some flood mitigation impacts downstream as well. The Croydon Creek Stream Restoration will restore approximately 3,800 LF of heavily impacted urban stream channel.

2. Background

In 2013, the City of Rockville commissioned the development of the Rock Creek Watershed Assessment and Management Plan. The City's goals for this management plan included identifying additional stormwater management (SWM) opportunities and stream restoration projects, Environmental Site Design (ESD) opportunities, constraints for small-scale SWM features, and operational strategies that would complement the City's ongoing watershed projects and operations. The Croydon Creek/Calvin Park Tributary Restoration project was identified as a priority in this management plan.

The Croydon Creek/Calvin Park project is located within the Rock Creek Watershed. Rock Creek originates in northern Montgomery County, passes briefly through Rockville, and continues through the District of Columbia to meet the Potomac River. The Rock Creek watershed encompasses 4 square miles of the eastern side of the City. The watershed includes parts of Rockville Town Center and the Rockville Pike/Hungerford Drive corridors, the neighborhoods of Lincoln Park, East Rockville and Twinbrook, and industrial areas along Gude Drive and Southlawn Lane, as well as Redgate Golf Course and the City's Civic Center Park.

The Croydon Creek/Calvin Park Tributary Restoration project is within a recreation park solely owned by the City of Rockville. This project combines work on Croydon Creek and the Calvin Park Tributary. The Croydon Creek section begins at a failed dam

northwest of the Glenview Mansion and continues easterly to the Rock Creek Regional Park. There are many very tight meander bends and vertical banks with no vegetation. The stream has downcut 2.5 to 3.0 feet on average. The bed and bank erosion has resulted in excessive sediment within the stream, causing large point bars, side bars, and mid-channel bars. Calvin Park Tributary stream corridor, begins at Baltimore Road, flows in a northerly direction toward Croydon Creek. The stream contains sediment deposits, is severely incised, actively eroding, and widening.

The Croydon Creek Stream restoration is designed to improve water quality and restore habitat both in stream and within the forested buffer. The proposed design includes natural channel design techniques like riffle grade control structures to provide local lifting of the channel invert to increase access to the floodplain during storm flows and to enhance riffle habitat. Additionally, a regenerative step-pool storm conveyance (RSC) is proposed to restore the deeply incised and entrenched outfall channel and approximately 450 square yards of vernal pools are proposed throughout the project area. A section of this stream was previously restored by the Washington Sanitary Sewer Commission as well.

3. Objectives, Responsibilities, and Deliverables

The City of Rockville is solely responsible for implementing this project and the objectives are as follows:

- Help meet TMDL goals for the Chesapeake Bay and Rock Creek Watershed (local sediment TMDL)
- Restore 3800 linear feet of stream channel.

The City of Rockville will be claiming the reduction credits generated by this stream restoration. The City of Rockville reports all progress towards achieving TMDL goals via the Montgomery County WIP two-year milestone submissions. The City will also report implementation of these projects to MDE via its NPDES phase II annual report. This project furthers the following Chesapeake Watershed Agreement goals:

Vital Habitat – The Croydon Creek stream restoration will:

- Create 450 square yards of vernal pools.
- Plant 895 trees
- Plant 1,322 shrubs

Water Quality – The Croydon Creek stream restoration is specifically designed to help meet Bay TMDL water quality goals.

4. Performance & Compliance Monitoring Strategy

The City does not plan to perform before and after water quality monitoring. The City will get as-built plans for the project, and calculate pollutant load reductions in Field Doc upon project completion. As described in the long-term protection plan below, the City will carry-out five years of maintenance after construction to ensure there are no

major stability issues.

5. Maintenance & Inspection Plan

Metrics of project success include proper installation of design, maintained function of the design long-term (stable stream), and survival of trees in stream buffer area. The City of Rockville assigns a dedicated construction management inspector to these projects during construction. Additionally, the City hires the design- engineering firm to be on-site and inspect during construction. The project is located on City-owned parkland that provides long-term protection of the site.

The City has stringent environmental regulations to protect stream valley buffers and forests in the long-term. The City will carry out five years of maintenance after construction that incorporates plant augmentation and invasive plant control for both projects. If issues are identified, they will be address via the City's established SWM facility maintenance program. The programs current funding is almost $830,000 annually.

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6. Project List

Project Title	***Description***	***Location (lat/long) Decimal degrees***	***2012 Leg district***	***8-digit watershed***	***Status (Design/Planning, Permit, Construction)***	***Estimated Cost***	****Est. Reductions***	***Deliverables (linear feet stream, acres wetland, treated impervious, etc.)***
Croydon Creek/Calvin Park Stream Restoration	The Croydon Creek Stream Restoration will restore approximately 3,800 LF of heavily impacted urban stream channel.	39.08737, -77.12651	17	02140206 -Rock Creek	65-90% designed	TF: $2,000,000.00 Leveraged: $2,225,487.00 Total: $4,225,487.00	2517.33 lbs N; 1159.29 lbs P; 1811.45 tons Sed/TSS	3800 Linear ft of stream restoration , 450 square yards vernal pools created, 895 trees and 1,322 shrubs planted

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7. Timeline (*include design, permitting, construction)*

	2022							2023					
Project	6	7	8	9	10	11	12	1	2	3	4	5	6
Permitting/Design/Procurement	x	x	x	x	x	x	x	x	x	x	x	x	
Construction													x
Planting													
Final Reporting													

	2023						2024					
Project	7	8	9	10	11	12	1	2	3	4	5	6
Permitting/Design												
Construction	x	x	x	x	x	x	x	x				x
Planting												
Final Reporting												

	2024						2025					
Project	7	8	9	10	11	12	1	2	3	4	5	6
Permitting/Design												
Construction	x	x	x	x	x	x	x	x				x
Planting												
Final Reporting												

	2025					
Project	7	8	9	10	11	12
Permitting/Design						
Construction	x					
Planting		x	x	x		
Final Reporting					x	x

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Progress reports shall be submitted through the DNR CCS Grants Gateway management portal (https://webportalapp.com/sp/home/grants_gateway) to assure that projects are on task to meet milestone target dates. Each report must document project and budget status and identify any problems or other concerns. The reports will be submitted in line with the following schedule:

Time Frame	Due Date
June 1, 2023 – June 30, 2023	July 15, 2023
July 1, 2023-September 30, 2023	October 15, 2023
October 1, 2023 – December 31, 2023	January 15, 2024
January 1, 2024 – March 31, 2024	April 15, 2024
April 1, 2024– June 30, 2024	July 15, 2024
July 1, 2024 – September 30, 2024	October 15, 2024
October 1, 2024 – December 31, 2024	January 15, 2025
January 1, 2025 – March 31, 2025	April 15, 2025
April 1, 2025– June 30, 2025	July 15, 2025
July 1, 2025 – September 30, 2025	October 15, 2025
October 1, 2025– December 31, 2025	December 31, 2025 (FINAL)

Invoices with appropriate back-up documentation shall be submitted for the same time frames noted above unless prepaid expenses are approved.

2. **Prepaid Expenses**

Prepayment of expenses will be considered based on documentation of immediate need by the Grantee. All requests must be accompanied by a detailed list of proposed expenditures and shall include original correspondence from contractors to document requested prepayment. If provision of prepaid expenses is approved by the Department, receipts and back-up documentation must be submitted on a calendar-month basis. With exception of the final report and final invoice, calendar-month reports and prepayment back-up documentation is due by the 15th of the following month. (e.g. March 1, 2021-March 31, 2021 information is due April 15, 2021.) The Grantee will certify in the monthly report what work has been completed in relation to the approved scope of work. If contractor invoices do not include a term of work, the Grantee will certify the term of work. The Grantee will provide proof of payment to include date paid and check number (or voucher number).

Documentation and all proof of payment for the prepaid expenses must be submitted prior to submitting any further requests for prepayment or reimbursement. Failure to provide adequate back-up documentation for a prepayment will result in delays/reductions to future reimbursements.

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A **final report** will be required at the end of the project period to provide a detailed summary of the outcomes/results, lessons learned, impact of the funding and next steps. This report should cover activities conducted over the entire project period and should be suitable for printing and sharing through media outlets (i.e. success story). **Photo documentation is required.**

The funding recipient shall not incur costs or obligate funds for any purpose pertaining to the operation of the project beyond the end date stipulated in the grant. The final invoice with appropriate back-up documentation shall be submitted to the Chesapeake and Coastal Service no later than **thirty days** after the end date of the grant.

3. **Signage, Publications, Videos and Acknowledgment of Grant Funding**

In promotion of projects funded through the Chesapeake & Atlantic Coastal Bays Trust Fund (Trust Fund), grant recipients will acknowledge the Trust Fund on all signage, publications, videos, and other promotional materials. A State logo shall be present on materials created to promote projects funded through the Trust Fund. The appropriate logo can be obtained through the Ari Engelberg (ari.engelberg@maryland.gov).

Sample language for signage and other promotional materials: "This project was funded completely or in part by the Maryland's Chesapeake & Atlantic Coastal Bays Trust Fund. For more information, visit http://dnr.maryland.gov/ccs/Pages/funding/trust-fund.aspx."

4. **Guidelines for Proper Invoicing**

Grantees shall submit, generally on a quarterly basis, all invoices and match (if applicable) to the Chesapeake and Coastal Service. **Time period on each invoice shall coincide with time period on backup documentation.** The format of the invoice shall mimic the format of the budget in this scope of work to the greatest extent possible. Each invoice shall include a summary sheet that breaks down expenditures by budget category. The summary sheet should include a salary and fringe breakdown to include grade/step, position, and number of hours worked multiplied by the appropriate hourly pay rate. Also, include all necessary backup documentation that will serve as verification for all expenditures listed on the summary sheet. The grant tracking number will be noted on all invoices. Examples of acceptable documentation for expenditures are listed below.

Appeals for advancement of funds, for the purpose of mobilizing implementation of the project components, will be considered on a project by project basis when need is determined by the Department. All requests must be accompanied by a detailed list of proposed expenditures as well as documented need by contractor to have funding "upfront". If provision of upfront funds is approved, receipts for all purchases are required within 60 days of purchase. Failure to provide adequate back-up documentation for funding advancement will result in delays/reductions to future reimbursement

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requests. Examples of acceptable back-up documentation include but are not limited to the following:

Category	Backup Documentation Needed
Salaries	Copies of signed time sheets with project hours associated with the work under the Grant and **proof of payment** (e.g., pay statements) for each individual in the Budget supported by the Grant.
Communication (telephone bills, postage)	Copies of phone bills. Documentation for postage should include copies of receipts.
Travel	Copies of validated bills, invoices and receipts that are related to your travel must be provided along with proof of payment.
Supplies/Equipment	Copies of canceled checks or check numbers, receiving reports showing that merchandise was received, cash register receipts, or FS18 signed by a Fiscal Officer.

For corporate card purchases, each cardholder shall provide the standard DNR "Activity Log," bank memo statement and receipts for recording each transaction (purchase and/or credit) made with each corporate purchasing card which must include the following: *transaction date, merchant name, description of item purchased (including quantity), account (PCA code) to be charged if different from that assigned to the card, and amount of purchase.*

Contractual Services	Copies of bills or invoices with receipts or FS18 signed by a Fiscal Officer. Also, copies of cleared checks or copies of check numbers and/or credit card transactions.
Administration	No backup documentation is required for administrative expenses, but should be calculated at 1.5% of direct costs per invoice period.
Match	Match, if applicable, shall be labeled as match and shall be documented in the same format as direct charges. Match shall be paid out at the same general rate as the Grant share. Match information shall be provided with each invoice submission for direct charges.

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5. Modifications to the Scope of Work, Budget, or Schedule

The budget, scope of work, or schedule can be modified using the following guidelines and conditions:

1. Project managers should submit modification requests to the DNR Agreement Representative at least 60 days prior to the requested approval date of the modification.

2. Project managers may shift up to ten percent (10%) of their total project funds from one existing line-item (e.g. supplies, travel, etc.) to another, as long as it doesn't substantively modify the project's goals, objective, milestones or deliverables.

3. Prior approval from the DNR Agreement Representative is required to:
(a) Modify the project budget by more than ten percent (10%); OR
(b) Add a new line-item to the existing budget (e.g., add equipment or subcontractor to the budget); OR
(c) Provide a no-cost extension; OR
(d) Change the project's goals, objectives, milestones or deliverables.

APPENDIX G
Montgomery County Noise Control Ordinance

Chapter 31B – Noise Control

§ 31B-2. Definitions.
§ 31B-3. Regulations.
§ 31B-4. Noise control advisory board.
§ 31B-5. Noise level and noise disturbance violations.
§ 31B-6. Noise level and noise disturbance standards for construction.
§ 31B-7. Measurement of sound.
§ 31B-8. Noise sensitive areas.
§ 31B-9. Leafblowers.
§ 31B-10. Exemptions.
§ 31B-11. Waivers.
§ 31B-12. Enforcement and penalties.

Sec. 31B-1. Declaration of policy.

(a) The County Council finds that excessive noise harms public health and welfare and impairs enjoyment of property. The intent of this Chapter is to control noise sources to protect public health and welfare and to allow the peaceful enjoyment of property. This Chapter must be liberally construed to carry out this intent.

(b) The Department of Environmental Protection administers this Chapter.
   (1) The Department must coordinate noise abatement programs of all County agencies, municipalities, and regional agencies.
   (2) A County agency, municipality in which this Chapter applies, or regional authority subject to County law must not adopt a standard or regulation that is less stringent than this Chapter or any regulation adopted under this Chapter.
   (3) The Director may form an Interagency Coordinating Committee to assist the Director in coordinating noise control policy. If the Director forms the Committee, the Director must designate an individual to chair the Committee. The members of the Committee should be designated by County, local, and regional agencies that the Director invites to participate.
   (4) The Department must establish procedures to identify and reduce noise sources when the County plans and issues permits, variances, exemptions, or approvals.
   (5) The Department should make recommendations to the County Executive, County Council, and Planning Board regarding noise control policy, regulations, enforcement, and noise sensitive areas. (1996 L.M.C., ch. 32, § 1.)

Editor's note—See County Attorney Opinion dated 3/16/92 explaining that the Washington Metropolitan Area Transportation Authority (esp. Metrorail) is subject to the County's noise control law, although an exemption may be obtained if it is in the public interest.

Sec. 31B-2. Definitions.

In this Chapter, the following words and phrases have the following meanings:

(a) *Construction* means temporary activities directly associated with site preparation, assembly, erection, repair, alteration, or demolition of structures or roadways.

(b) d*BA* means decibels of sound, as determined by the A-weighting network of a sound level meter or by calculation from octave band or one-third octave band data.

(c) *Daytime* means the hours from 7 a.m. to 9 p.m. on weekdays and 9 a.m. to 9 p.m. on weekends and holidays.

(d) Decibel means a unit of measure equal to 10 times the logarithm to the base 10 of the ratio of a particular sound pressure squared to the standard reference pressure squared. For this Chapter, the standard reference pressure is 20 micropascals.

(e) *Department* means the Department of Environmental Protection.

(f) *Director* means the Director of the Department of Environmental Protection or the Director's authorized designee.

(g) *Enforcement officer* means:
  (1) for a noise originating from any source:
    (A) an employee or agent of the Department designated by the Director to enforce this Chapter;
    (B) a police officer; or
    (C) a person authorized under Section 31B-12(a) to enforce this Chapter;
    (D) a person authorized by a municipality to enforce this Chapter; or
  (2) for a noise originating from an animal source, the Director of the Animal Services Division in the Police Department or the Director's authorized designee.

(h) *Impulsive noise* means short bursts of a acoustical energy, measured at a receiving property line, characterized by a rapid rise to a maximum pressure followed by a somewhat slower decay, having a duration not greater than one second and a field crest factor of 10 dBA or more. Impulsive noise may include, for example, noise from weapons fire, pile drivers, or punch presses.

(i) *Leaf blower* means any portable device designed or intended to blow, vacuum, or move leaves or any other type of unattached debris or material by generating a concentrated stream of air. Leafblower includes devices or machines that accept vacuum attachments.

(j) *Nighttime* means the hours from 9 p.m. to 7 a.m. weekdays and 9 p.m. to 9 a.m. weekends and holidays.

(k) *Noise* means sound, created or controlled by human activity, from one or more sources, heard by an individual.

(l) *Noise area* means a residential or non-residential noise area:
  (1) *Residential noise area* means land in a zone established under Section 59-C-1.1, Section 59-C-2.1, Division 59-C-3, Section 59-C-6.1, Section 59-C-7.0, Section 59-C-8.1, Section 59-C-9.1 for which the owner has not transferred the development rights, or Section 59-C-10.1, or land within similar zones established in the future or by a political subdivision where Chapter 59 does not apply.
  (2) *Non-residential noise area* means land within a zone established under Section 59-C-4.1, Section 59-C-5.1, Section 59-C-9.1 for which the owner has transferred the development rights, or Division 59-C-12, or land in similar zones established in the future or by a political subdivision where Chapter 59 does not apply.

(m) *Noise disturbance* means any noise that is:
  (1) unpleasant, annoying, offensive, loud, or obnoxious;
  (2) unusual for the time of day or location where it is produced or heard; or
  (3) detrimental to the health, comfort, or safety of any individual or to the reasonable enjoyment of property or the lawful conduct of business because of the loudness, duration, or character of the noise.

(n) *Noise sensitive area* means land designated by the County Executive as a noise sensitive area under Section 31B-8.

(o) *Noise-suppression plan* means a written plan to use the most effective noise-suppression equipment, materials, and methods appropriate and reasonably available for a particular type of construction.

(p) *Person* means an individual, group of individuals, corporation, firm, partnership, or voluntary association; or a department, bureau, agency, or instrument of the County or any municipality, or of any other government to the extent allowed by law.

(q) *Prominent discrete tone* means a sound, often perceived as a whine or hum, that can be heard distinctly as a single pitch or a set of pitches. A prominent discrete tone exists if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the sound pressure levels of the 2 contiguous one-third octave bands by:
    (1) 5 dB for center frequencies of 500 Hz and above;
    (2) 8 dB for center frequencies between 160 and 400 Hz; or
    (3) 15 dB for center frequencies less than or equal to 125 Hz.

(r) *Qualifying performing arts facility* means the outdoor area of a building, outdoor seasonal, temporary, or permanent stage, or other clearly defined outdoor area or space, which is:
    (1) used for an outdoor arts and entertainment activity; and
    (2) owned or operated by the County; and
    (3) so designated by the County Executive in an Executive Order published in the County Register. The Executive may revoke a designation at any time by publishing an Executive Order revoking the designation in the County Register.

(s) *Receiving property* means any real property where people live or work and where noise is heard, including an apartment, condominium unit, or cooperative building unit.

(t) *Sound* means an auditory sensation evoked by the oscillation of air pressure.

(u) *Source* means any person, installation, device, or animal causing or contributing to noise. (1996 L.M.C., ch. 32, § 1; 2001 L.M.C., ch. 2, § 1.)

Editor's note—See County Attorney Opinion dated 10/6/00 indicating that long-term parking on public streets is prohibited in certain circumstances, but not based on the size of the vehicle. See County Attorney Opinion dated 3/16/92 explaining that the Washington Metropolitan Area Transportation Authority (esp. Metrorail) is subject to the County's noise control law, although an exemption may be obtained if it is in the public interest.

Sec. 31B-3. Regulations.

The County Executive may establish noise control regulations and standards as necessary to accomplish the purposes and intent of this Chapter. Any regulation must be at least as stringent as this Chapter. The Executive by regulation may set fees that are sufficient to offset the costs of Department reviews or other actions required or authorized by this Chapter. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-4. Noise control advisory board.

(a) A Noise Control Advisory Board must advise the County Executive, Director, County Council, and Planning Board on noise control issues, including administration and enforcement of this Chapter.

(b) The Board consists of 11 members appointed by the Executive and confirmed by the Council.

(c) The Board must elect one member as Chair and another member as Vice-Chair to serve at the pleasure of the Board. The Board must meet at the call of the chairperson as required to perform its duties, but not less than once each quarter. A majority of the members of the

Board constitutes a quorum for transacting business. The Board may act by a majority vote of those present.

(d) At least every third year, the Board must evaluate the effectiveness of the County's noise control program and recommend any improvements to the Director, County Executive, County Council, and Planning Board.

(e) No later than March 1 each year, the Chair of the Board must report to the Director, County Executive, County Council, and Planning Board on activities and actions the Noise Control Advisory Board took during the previous calendar year. (1996 L.M.C., ch. 32, § 1; 1999 L.M.C., ch. 2, § 1.)

Editor's note-1999 L.M.C., ch. 2, § 1, increased the number of Board members from 7 to 11. 1999 L.M.C., ch. 2, § 2, states:

Sec. 2. Transition.

(a) The terms of the 4 members of the Noise Control Advisory Board added by this Act end:
  (1) for 1 member, on September 30, 1999, and every third year thereafter;
  (2) for 2 members, on September 30, 2000, and every third year thereafter; and
  (3) for 1 member, on September 30, 2001, and every third year thereafter.

(b) When appointing the first individual to serve in one of the 4 new positions, the County Executive must designate the term in subsection (a) for which the Executive is appointing the individual.

(c) This Act does not affect the term of any current member of the Board.
Cross reference-Boards and commissions generally, § 2-141 et seq.

Sec. 31B-5. Noise level and noise disturbance violations.

(a) *Maximum allowable noise levels.*
  (1) Except as otherwise provided in Sections 31B-6(a) and 31B-8, a person must not cause or permit noise levels that exceed the following levels:

Maximum Allowable Noise Levels (dBA) for Receiving Noise Areas		
	Daytime	*Nighttime*
Non-residential noise area	67	62
Residential noise area	65	55

  (2) A person must not cause or permit the emission of a prominent discrete tone or impulsive noise that exceeds a level, at the location on a receiving property where noise from the source is greatest, that is 5 dBA lower than the level set in paragraph (1) for the applicable noise area and time.
  (3) Sound that crosses between residential and non-residential noise areas must not exceed the levels set in paragraph (1) for residential noise areas.

(b) *Noise disturbance.* A person must not cause or permit noise that creates a noise disturbance.

(c) *Examples.* The following examples illustrate common noise-producing acts that violate this section if they exceed the noise level standards set in subsection (a) or create a noise

disturbance. The examples are illustrative only and do not limit or expand the noise level or noise disturbance standards of this section:

(1) Sounding a horn or other signaling device on any motor vehicle on private property except:
    (A) in an emergency; or
    (B) as a danger warning signal during daytime hours if the device complies with noise level limits.
(2) Operating a sound-producing device on public streets for commercial advertising or to attract public attention.
(3) Selling anything by outcry.
(4) Loading, unloading, opening, closing or otherwise handling containers, building materials, construction equipment, or similar objects.
(5) Operating a device that produces, reproduces, or amplifies sound.
(6) Allowing an animal to create a noise disturbance.
(7) Operating power equipment mounted on a motor vehicle or operating other devices powered by a generator or a motor vehicle. (1996 L.M.C., ch. 32, § 1.)

Editor's note—See County Attorney Opinion dated 10/6/00 indicating that long-term parking on public streets is prohibited in certain circumstances, but not based on the size of the vehicle. See County Attorney Opinion dated 3/16/92 explaining that the Washington Metropolitan Area Transportation Authority (esp. Metrorail) is subject to the County's noise control law, although an exemption may be obtained if it is in the public interest.

Sec. 31B-6. Noise level and noise disturbance standards for construction.

(a) *Maximum allowable noise levels for construction.*
    (1) A person must not cause or permit noise levels from construction activity that exceed the following levels:
        (A) From 7 a.m. to 5 p.m. weekdays:
            (i) 75 dBA if the Department has not approved a noise-suppression plan for the activity; or
            (ii) 85 dBA if the Department has approved a noise-suppression plan for the activity.
        (B) The level specified in Section 31B-5 at all other times.
    (2) Construction noise levels must be measured at the location, at least 50 feet from the source, on a receiving property where noise from the source is greatest.
    (3) The Department must by regulation establish requirements for noise-suppression plans and adopt procedures for evaluating and approving plans. The regulations must provide that, at least 10 days before approving a noise-suppression plan, the Director must provide public notice reasonably calculated to reach at least a majority of households that might be affected by the construction activity noise levels above 75 dBA.

(b) *Construction noise disturbance.* The prohibition on noise disturbance in Section 31B- 5(b) applies to construction activities, notwithstanding subsection (a).

(c) *Examples.* The following examples illustrate common construction noise-producing acts that violate this section if they exceed the noise level standards set in subsection (a) or create a noise disturbance. The examples are illustrative only and do not limit or expand the construction noise level or noise disturbance standards of this section:
    (1) Delivering materials or equipment, or loading or unloading during nighttime hours in a residential noise area.
    (2) Operating construction equipment with audible back-up warning devices during nighttime hours. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-6A. Seasonal noise level standard for qualifying outdoor arts and entertainment activities.

(a) Each outdoor arts and entertainment activity held at a qualifying performing arts facility must not exceed the following noise decibel limits:
    (1) from 11 a.m. to 11 p.m. during April 1 through October 31, 75 dBA, as measured on the receiving property; and
    (2) at all other times, the maximum allowable noise level set in Section 31B-5.

(b) A qualifying performing arts facility which has complied with this Section must not cause or permit noise levels from an outdoor arts and entertainment activity to exceed the standards in subsection (a).

(c) Any outdoor arts and entertainment activity conducted at a qualifying performing arts facility which has complied with this Section must not be cited as causing a noise disturbance.

(d) The Department must annually advise the Executive and Council, and the operator of each qualifying performing arts facility, whether the noise levels specified in this Section remain appropriate for that facility and the extent of compliance with those levels. (2011 L.M.C., ch. 7, § 1)

Sec. 31B-7. Measurement of sound.

(a) The Department must issue regulations establishing the equipment and techniques it will use to measure sound levels. The Department may rely on currently accepted standards of recognized organizations, including the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), and the United States Environmental Protection Agency.

(b) For multiple sources of sound, the Department may measure sound levels at any point to determine the source of a noise. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-8. Noise sensitive areas.

(a) The County Executive may designate by regulation land within any geographical area as a noise sensitive area to protect public health, safety, and welfare. The regulation may prohibit certain noise producing activities in the noise sensitive area.

(b) A regulation under subsection (a) must:
    (1) describe the area by reference to named streets or other geographic features;
    (2) explain the reasons for the designation;
    (3) establish specific noise limits or requirements that apply in the noise sensitive area; and
    (4) describe by example or enumeration activities or sources that violate the limits or requirements.

(c) A regulation under subsection (a) may establish limits or requirements for a noise sensitive area that are more stringent than those that otherwise would apply to the area under this Chapter. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-9. Leafblowers.

(a) Except as provided in this section, a person must not sell, buy, offer for sale, or use a leafblower at any time that has an average sound level exceeding 70 dBA at a distance of 50

feet. This requirement is in addition to any other noise level or noise disturbance standard that applies under this Chapter.

(b) An individual who owns or occupies a residence in a residential noise area may use at the individual's residence a leafblower bought or manufactured before July 1, 1990, until July 1, 1998, even if it exceeds the standard in subsection (a). After July 1, 1998, a person must not use any leafblower that violates the standard in subsection (a).

(c) The Department must apply the standard in subsection (a) in accordance with the most current leaf-blower testing standard of the American National Standards Institute (ANSI).

(d) The Department may inspect, and on its request a person must produce, any leafblower that is sold, offered for sale, or used in the County, to determine whether the leafblower complies with this section. A person who relies in good faith on a manufacturer's written representation of the sound level of a leafblower that has not been modified is not subject to a penalty for violating this section. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-10. Exemptions.

(a) This Chapter does not apply to:
  (1) agricultural field machinery used and maintained in accordance with the manufacturer's specifications;
  (2) emergency operations by fire and rescue services, police agencies, or public utilities and their contractors;
  (3) a source or condition expressly subject to any State or federal noise-control law or regulation that is more stringent than this Chapter;
  (4) sound, not electronically amplified, created between 7 a.m. and 11 p.m. by sports, amusements, or entertainment events or other public gatherings operating according to the requirements of the appropriate permit or licensing authority. This includes athletic contests, carnivals, fairgrounds, parades, band and orchestra activities, and public celebrations.

(b) The County Executive may issue regulations exempting from Section 31B-5 sources associated with routine residential living during daytime hours, such as home workshops, power tools, and power lawn and garden equipment, when used in accordance with manufacturer specifications. This exception does not apply to repairs or maintenance on a motor vehicle that is not registered for use on public roads. (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-11. Waivers.

(a) *Temporary waiver.*
  (1) The Director may waive any part of this Chapter for a temporary event if the noise the event will create or cause in excess of the limits established under this Chapter is offset by the benefits of the event to the public.
  (2) When the Director receives an application under this subsection, the Director must provide public notice of the application reasonably calculated to reach at least a majority of households that might be affected by noise levels anticipated for the event. The Director must not approve an application under this subsection less than 10 days after the public notice.

(b) *General waiver.*
  (1) The Director may waive any part of this Chapter if the Director determines that compliance in a particular case is not practical and would impose undue hardship.
  (2) When the Director receives an application under this subsection, the Director must schedule a hearing on the application within 60 days.
  (3) At least 30 days before the hearing, the applicant must advertise the hearing by:

(A) placing a display advertisement in a newspaper of general circulation in the community where the source that is the subject of the application is located; and
(B) posting a sign at the location of the source.

(4) Based on evidence presented at the hearing, the Director may grant a waiver for up to 3 years, under terms and conditions appropriate to reduce the impact of the exception.

(5) The Director may renew a waiver granted under this subsection if the applicant shows that the circumstances supporting the original waiver have not changed.

(c) *Violation of waiver.* The Director may suspend, modify, or revoke a waiver granted under this section if a person violates the terms or conditions of the waiver.

(d) *Regulations and fees.* The County Executive must issue regulations implementing this section that:

(1) set the procedures and fees to apply for a waiver under subsections (a) or (b);

(2) require the applicant to use the best technology and strategy reasonably available to mitigate noise, as determined by the Director;

(3) allow temporary waivers under subsection (a) of no more than 30 days, renewable at the discretion of the Director no more than twice; and

(4) specify the requirements for the hearing advertisement and sign required under subsection (b)(3). (1996 L.M.C., ch. 32, § 1.)

Sec. 31B-12. Enforcement and penalties.

(a) The Department must enforce this Chapter. The County Executive may delegate in writing the authority to enforce parts of this Chapter to the Police Department or any other Executive agency.

(b) A violation of this Chapter is a Class A violation. Each day a violation continues is a separate offense. A violation of Section 31B-6 is a separate offense in addition to any other violation of this Chapter arising from the same act or occurrence.

(c) The Department may seek injunctive or other appropriate judicial relief to stop or prevent continuing violations of this Chapter.

(d) If the Director finds that a person has violated this Chapter, the Director may issue a notice of violation and corrective order to the person. The notice must contain the following information:

(1) the section of this Chapter that the person violated;

(2) the date, nature, and extent of the violation;

(3) the action required to correct the violation;

(4) if the Director requires a compliance plan, the deadline for submitting the plan to the Director; and

(5) the deadline for compliance.

(e) The compliance plan referred to in subsection (d)(4) must establish a schedule for achieving compliance with this Chapter, as specified in the corrective order. A compliance plan, and amendments to a plan, are not effective until the Director approves the plan or amendment. An action allowed under an approved compliance plan does not violate this Chapter.

(f) An enforcement officer may issue a civil citation for any violation of this Chapter if the enforcement officer:

(1) witnesses the violation; or

(2) receives complaints from at least 2 witnesses of a noise disturbance. Complaints by 2 witnesses are required to issue a citation under paragraph (2), but are not required to prove that a person violated this Chapter.

(g) The Director of the Animal Services Division may initiate administrative action before the Animal Matters Hearing Board instead of an enforcement officer issuing a citation under subsection (f) for a violation of this Chapter originating from an animal source.

(h) A person aggrieved by any action or order of the Director under Sections 31B-9 and 31B-11 may seek reconsideration within 10 days after the date of the action or order. A request for reconsideration must be in writing to the Director, and must specify the date and nature of the action or order, the injury sustained, the remedy requested, and the legal basis for the remedy. If the Director finds that there are material facts in dispute, the Director may refer the matter to a hearing officer under the procedures specified in Chapter 2A. If the Director finds that there are no material facts in dispute, the Director must make a final decision on the request for reconsideration in writing within 45 days after receiving the request. The aggrieved person may appeal from the Director's final decision within 30 days after the Director issues the decision, as provided in Section 2A-11.

(i) (1) A person responsible for a violation of Section 31B-6 and the person responsible for the management or supervision of the construction site where the source of the violation is located are jointly and severally liable for the violation.

(2) For recurring violations of Section 31B-6 on the same construction site, in addition to any other penalty under this Chapter, the Director may issue a stop work order, as provided in Section 8-20, for up to:

(A) 3 consecutive working days for a second violation within 30 days after the first violation;

(B) 5 consecutive working days for a third violation within 60 days after the first violation; and

(C) 7 working days per offense for the fourth and subsequent violations within a 120-day period.

(3) This Chapter does not limit the Director's authority under Chapter 8 to revoke a permit or approval issued under that Chapter.

(j) Any person aggrieved by a violation of this Chapter may file a civil action in any court with jurisdiction against a person responsible for the alleged violation. The aggrieved person must notify the alleged violator and the Director of the alleged violation at least 60 days before filing the action. A person must not file an action under this subsection if the County Attorney has filed a civil action against the same alleged violator regarding the same violation. (1996 L.M.C., ch. 32, § 1; 2001 L.M.C., ch. 2, § 1.)

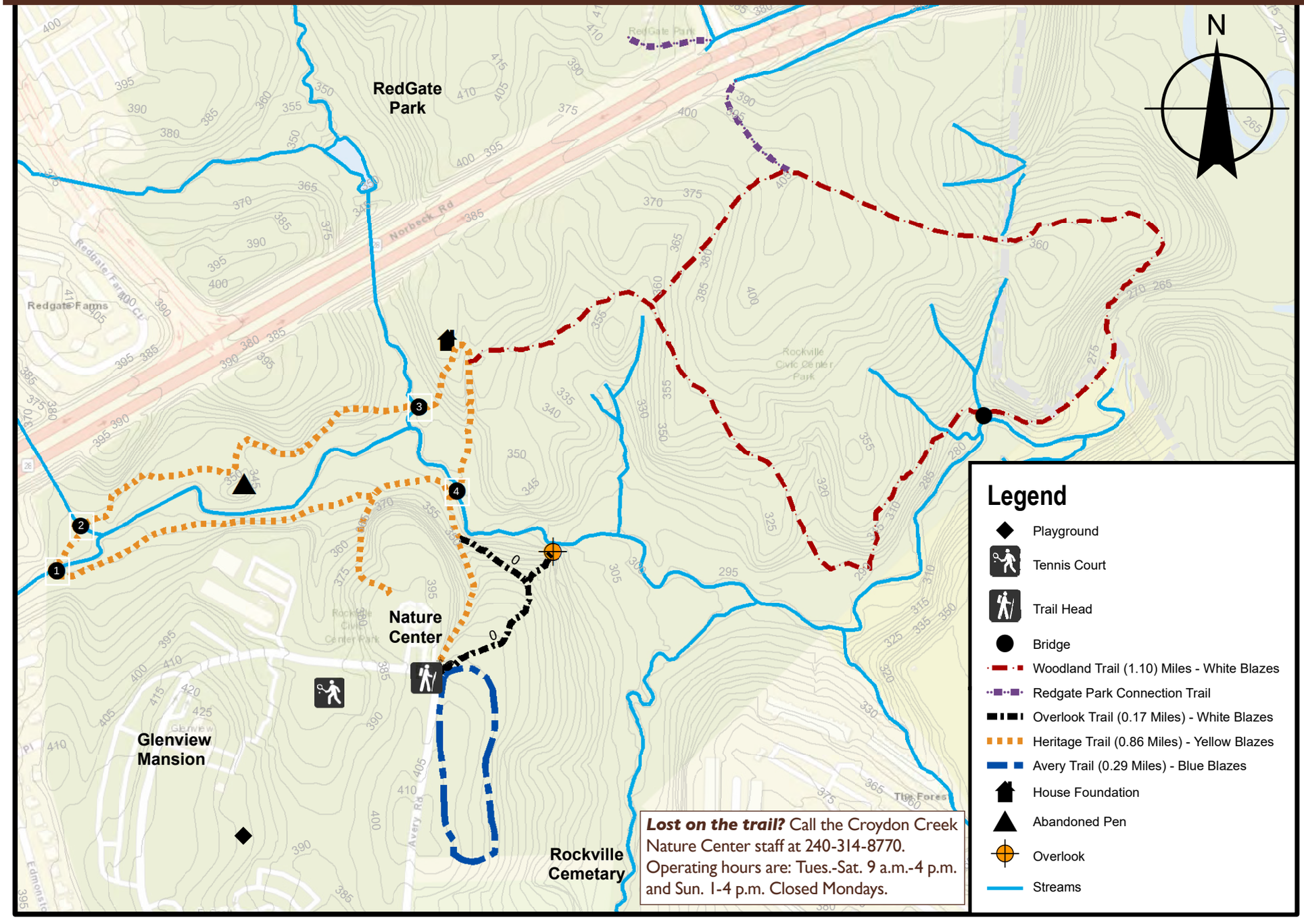
Endnotes

[Note] Editor's note—In Burrows v. United States, 2004 U.S. Dist. LEXIS 1104 (2004), the Court interpreted Montgomery County Code Chapter 31B neither to permit a private cause of action for noise control, nor to permit suit against the federal government. Chapter 31B is discussed in Miller v. Maloney Concrete Company, 63 Md.App. 38, 491 A.2d 1218 (1985). *Cross references-Noise from quarries, § 38-14; radio, etc., without earphones prohibited in public transit facilities, § 54A-2; industrial area noise regulations, § 59-A-5.7.

APPENDIX H
Croydon Creek Nature Center Tails Map

THE JOHN G. HAYES FOREST PRESERVE AT ROCKVILLE CIVIC CENTER PARK

Named in memory of John G. Hayes, former superintendent of parks and facilities at the City of Rockville. His contributions to Rockville spanned 30 years and included many special events that are still enjoyed today because of his vision for, and commitment to, the City and it's citizens. Mr. Hayes is remembered for his energy and enthusiasm, his love for family, friends and the great outdoors and his dedication to the field of recreation.



Croydon Creek Nature Center Trails Map

0 145 290 580 870 1,160 Feet

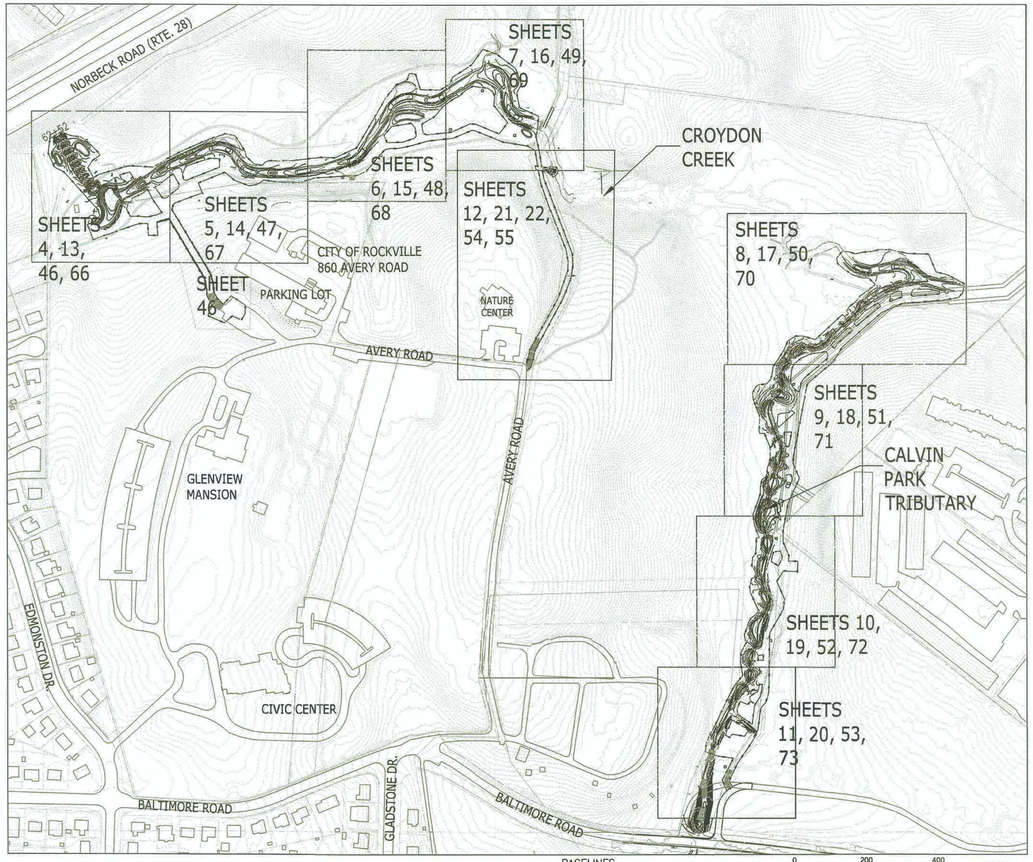
END OF SECTION VI

SECTION VII: PROJECT DRAWINGS

SEE PROJECT DRAWINGS ON FOLLOWING PAGES

CROYDON CREEK AND CALVIN PARK TRIBUTARY
STREAM RESTORATION
CITY OF ROCKVILLE
MONTGOMERY COUNTY, MARYLAND

CONTRACT # 12-12



BENCHMARK DATA

PRIMARY HORIZONTAL CONTROL IS BASED ON INFORMATION PROVIDED BY THE CITY OF ROCKVILLE FOR THE FOLLOWING CONTROL STATIONS: FWA903, FWA916, & FWA941

FWA903 N 517,682.158 E 1,275,189.298 REBAR W/TRAV CAP FD	GPS1903 N 516,016.686 E 1,276,894.457 ELEV 325.91'(NAVD88) REBAR W/CAP FD	AEC100 N 1,276,581.67 E 517,966.77 ELEV. 327.15	URS103 N 1,277,341.29 E 517,599.67 ELEV. 297.73
FWA916 N 516,637.353 E 1,277,048.898 REBAR W/TRAV CAP FD	GPS9 N 517,711.684 E 1,275,320.015 ELEV 350.46'(NAVD88) REBAR W/CAP SET	AEC101 N 1,276,620.23 E 517,611.38 ELEV. 364.25	
FW941 N 517,709.284 E 1,276,601.280 MAG NAIL FD	GPS8 N 1,275,579.35 E 517,817.79 ELEV. 347.33	AEC102 N 1,276, 491.90 E 517,376.81 ELEV. 393.04	
AEC104 N 517,643.029 E 1,275,820.551 ELEV. 371.24	AEC104A N 517,732.309 E 1,275,895.441 ELEV. 368.94	AEC105 N 517,703.350 E 1,275,688.967 ELEV. 371.00	

BASELINES

0+00 – 00+95	CROYDON CREEK REACH 5
0+95 – 3+79	CROYDON CREEK REACH 4
3+65 – 15+25	CROYDON CREEK WSSC REACH (NOT PART OF PROJECT AREA)
15+25 – 17+09	CROYDON CREEK REACH 3
17+09 – 28+97	CROYDON CREEK REACH 2
28+97 – 31+71	CROYDON CREEK REACH 1
40+00 – 58+68	CALVIN PARK TRIBUTARY REACH 6
60+00 – 62+75	SHA TRIBUTARY REACH 7
70+00 – 71+54	CROYDON CREEK UNNAMED TRIBUTARY REACH 8

APPROVAL FOR WORK IN CITY PARKS

DIRECTOR OF RECREATION AND PARKS — DATE: 6/30/25

PROFESSIONAL CERTIFICATION:

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 26539 Expiration Date: 8-31-2025

NAME

CITY OF ROCKVILLE GENERAL NOTES (NOVEMBER 2016)

1. THE APPLICANT IS THE ENTITY FOR WHICH THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) HAS ISSUED A PERMIT. FOR DPW PROJECTS WHERE A PERMIT IS NOT APPLICABLE, THE ENTITY FOR WHICH THE CITY CONTRACT IS ISSUED SHALL BE CONSIDERED THE APPLICANT IN THESE NOTES. THE APPLICANT IS RESPONSIBLE FOR ALL CONTRACTORS, AGENTS, SUBCONTRACTORS, OR OTHER ENTITIES COMPLETING WORK UNDER THIS PERMIT AND/OR APPROVED PLAN.
2. THE APPLICANT MUST ARRANGE A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCING ANY WORK. PROVIDE AT LEAST 48 HOURS OF NOTICE TO THE FOLLOWING: CITY PROJECT INSPECTOR LISTED IN THE PERMIT, CITY FORESTRY INSPECTOR AT 240-314-8713, IF REQUIRED BY EITHER A DPW AND/OR FORESTRY PERMIT, OR DPW SEDIMENT CONTROL INSPECTOR AT 240-314-8879, IF REQUIRED BY PERMIT.
3. THE APPLICANT MUST CONTACT MISS UTILITY AT 1-800-257-7777 OR #811 OR MISSUTILITY.NET SO THAT UTILITIES ARE MARKED PRIOR TO HOLDING ANY PRE-CONSTRUCTION MEETING.
4. INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES BY DIGGING TEST PITS AT THE UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCE IS LESS THAN SHOWN ON THIS PLAN, CONTACT THE PROFESSIONAL ENGINEER WHO STAMPED THE DESIGN PLANS BEFORE PROCEEDING WITH CONSTRUCTION.
5. MAINTAIN A MINIMUM ONE-FOOT VERTICAL CLEARANCE BETWEEN ALL CITY UTILITIES CROSSING ANY OTHER UTILITY. UNLESS OTHERWISE NOTED, MAINTAIN A FIVE-FOOT HORIZONTAL CLEARANCE WITH BETWEEN A CITY UTILITY WITH ANY OTHER UTILITY OR STRUCTURE. THE ONLY EXCEPTION IS THAT THERE SHALL BE A TEN-FOOT HORIZONTAL CLEARANCE BETWEEN CITY WATER AND SEWER MAINS.
6. AT THE END OF EACH DAY, ALL TRENCHES SHALL BE BACKFILLED, ALL EQUIPMENT SECURED, AND THE AREA LEFT IN A SAFE CONDITION. STEEL PLATES ARE ALLOWED TO REMAIN NO LONGER THAN SEVEN DAYS. PLATES ARE TO BE NOTCHED (RECESSED) AND PINNED TO THE ROADWAY. PLATES MUST BE LARGE ENOUGH TO ALLOW A MINIMUM OF ONE-FOOT BEARING ON ALL FOUR SIDES OF THE PAVEMENT SURROUNDING THE EXCAVATION. THE STEEL PLATE REQUIREMENTS ONLY APPLY TO PUBLIC STREETS.
7. THE PUBLIC ROAD UTILITY PATCH SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAIL #60, OR AS SHOWN ON THE PLANS. ALL TRENCHES IN PUBLIC STREETS SHALL BE FILLED WITH COMPACTED GRADED AGGREGATE BASE (GAB) FROM BELOW THE PAVEMENT TO THE TOP OF THE PIPE EMBEDMENT ZONE OR TO A DEPTH OF FIVE-FEET, WHICHEVER IS LESS.
8. DPW NORMAL WORKING HOURS ARE MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS, FROM 7 A.M. TO 5 P.M. THE CITY OBSERVES THE FOLLOWING HOLIDAYS: NEW YEAR'S DAY, MARTIN LUTHER KING'S BIRTHDAY, PRESIDENT'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY, THANKSGIVING FRIDAY, AND CHRISTMAS DAY, AND ALL DAYS OF GENERAL AND CONGRESSIONAL ELECTIONS THROUGHOUT THE STATE. THE CONTRACTOR WILL NOT BE PERMITTED TO CLOSE LANES OR DO ANY WORK THAT REQUIRES THE SERVICES OF THE CITY FORCES, OUTSIDE OF THE NORMAL WORKING HOURS, UNLESS LISTED IN THE PERMIT OR AUTHORIZED BY DPW IN WRITING. HOWEVER, THE CONTRACTOR, WITH VERBAL PERMISSION OF DPW MAY BE PERMITTED TO WORK OUTSIDE OF THE NORMAL WORK HOURS FOR CLEAN-UP ACTIVITIES OR OTHER SUCH ITEMS THAT DO NOT ADVERSELY IMPACT TRAFFIC, RESIDENTS OR CITY SERVICES.
9. TRAFFIC MUST BE MAINTAINED ON ALL ROADWAYS WITHIN THE CONSTRUCTION AREA AS DIRECTED BY DPW. NO LANE CLOSURE SHALL BE PERMITTED BETWEEN 7:00-9:00 A.M. OR 3:30-6:00 P.M. MONDAY THROUGH FRIDAY. AN EXCEPTION IS THAT LANE CLOSURES ARE PERMITTED ON SECONDARY RESIDENTIAL STREETS AT ANY TIME DURING NORMAL WORKING HOURS. DEPLOYMENT AND DESIGN OF ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES (MUTCD). IF REQUIRED, TRAFFIC CONTROL PLANS SHALL BE REVIEWED AND APPROVED BY THE CHIEF OF THE TRAFFIC AND TRANSPORTATION DIVISION. DPW MAY SUSPEND LANE CLOSURE OR OTHER TRAFFIC CONTROLS AT ANY TIME DURING, OR IN ADVANCE OF, INCLEMENT WEATHER EVENTS.
10. SHEETING AND SHORING IS THE TOTAL RESPONSIBILITY OF THE APPLICANT. A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND SHALL SEAL THESE DRAWINGS. PROVIDE THREE COPIES TO DPW FOR INFORMATIONAL PROPOSES ONLY.
11. IN ADDITION TO ALL CITY PERMITS, THE APPLICANT IS RESPONSIBLE TO ENSURE THAT ALL NECESSARY FEDERAL, STATE AND/OR MONTGOMERY COUNTY APPROVALS AND/OR PERMITS HAVE BEEN OBTAINED IN ASSOCIATION WITH THIS APPROVED PLAN.
12. SHOP DRAWINGS MUST BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND PRIOR TO FABRICATION. THE PROFESSIONAL ENGINEER WHO SEALED THE DESIGN PLANS (BUT NOT THE SHOP DRAWINGS) MUST APPROVE THE SHOP DRAWINGS FOR CONFORMANCE TO THE APPROVED DESIGN. PROVIDE THREE COPIES OF APPROVED SHOP DRAWINGS TO DPW PRIOR TO CONSTRUCTION. STANDARD PRE-CAST STRUCTURES PREVIOUSLY APPROVED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION, MONTGOMERY COUNTY AND WASHINGTON SUBURBAN SANITATION COMMISSION DO NOT REQUIRE A SHOP DRAWING SUBMISSION. USE ACTUAL FIELD SOILS DATA FOR DESIGN OF PIPES AND STRUCTURES. ALL PIPES AND STRUCTURES IN PAVED AREAS SHALL BE DESIGNED FOR HS-20 VEHICLE LOADING.
13. UPON COMPLETION OF CONSTRUCTION, THE APPLICANT SHALL PROVIDE THREE SETS OF RED LINED AS-BUILT PRINTS (24" X 36") FOR REVIEW AND APPROVAL BY DPW. THE DRAWINGS MUST CONTAIN THE ORIGINAL APPROVAL SIGNATURES AND PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE (A SCANNED IMAGE OF THE ORIGINAL MYLAR IS ACCEPTABLE). THE AS-BUILT SHALL BE SEALED BY A PROFESSIONAL ENGINEER OR PROFESSIONAL SURVEYOR, AS APPROPRIATE AND MUST BE LICENSED BY THE STATE OF MARYLAND. THE SEAL SHALL NOTE THAT IT IS ONLY FOR THE AS-BUILT AND SHALL INCLUDE AN AS-BUILT CERTIFICATION ACCEPTABLE TO DPW. UPON RECEIPT OF WRITTEN APPROVAL, THE APPLICANT SHALL PROVIDE APPROVED AS-BUILT MYLAR DRAWINGS ALONG WITH THE ORIGINAL MYLARS (WITH ALL ORIGINAL SIGNATURES) TO DPW PRIOR TO THE RELEASE OF THE PERMIT.
14. THE APPLICANT MUST COMPLY WITH THE MONTGOMERY COUNTY NOISE CONTROL ORDINANCE. PLEASE REFER TO THE MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AT 240-777-7770, ASKDEP@MONTGOMERYCOUNTYMD.GOV, OR WWW.MONTGOMERYCOUNTYMD.GOV/DEP.

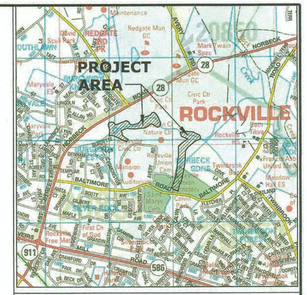
INFORMATION STATEMENT

OWNER	CITY OF ROCKVILLE DPW 111 MARYLAND AVE ROCKVILLE, MD 20850
CONSULTANT	ESA, INC., 2141 PRIEST BRIDGE DRIVE, SUITE 1 CROFTON, MD 21114, (410) 267-0495
ENGINEER	AECOM, 12420 MILESTONE CENTER DRIVE, SUITE 150 GERMANTOWN, MD 20876 (301)--250-2934
PLAT REFERENCE	TAX MAP: GR62 PARCEL: P108, P125, P181, P195, P711, & P830
TAX ACCOUNT ID	00149914, 00149993, 00155618, 00150786, 00150183
ASSESSMENT DISTRICT	4
COUNCIL DISTRICT	3
ZONING	PARK, HISTORIC (GLENVIEW AT ROCKVILLE CIVIC CENTER)
STREAM USE DESIGNATION	CLASS I
FLOODPLAIN	YES
CRITICAL AREA (BUFFER)	NO
WETLANDS	WETLAND F: 0.027-ACRE PALUSTRINE EMERGENT WETLAND G: 0.018-ACRE PALUSTRINE EMERGENT
WATERSHED/SUBWATERSHED	ROCK CREEK
WSSC	WSSC 200-FT, SHEETS 219NW06 AND 218NW06 WSSC ROCK CREEK BASINS 05136 AND 05000

INDEX OF SHEETS

SHEET 1	COVER SHEET
SHEETS 2-3	DRAINAGE AREA MAPS
SHEETS 4-12	EXISTING CONDITIONS & DEMOLITION PLAN
SHEETS 13-22	GRADING PLAN
SHEETS 23-27	GEOMETRY PLAN
SHEETS 28-32	PROFILES
SHEETS 33-36	CROSS SECTIONS
SHEETS 37-42	CONSTRUCTION DETAILS
SHEETS 43-44	OVERALL EROSION & SEDIMENT CONTROL PLAN
SHEET 45	TREE SAVE PLAN COVER SHEET
SHEETS 46-55	TREE SAVE & EROSION & SEDIMENT CONTROL PLAN
SHEETS 56-60	EROSION & SEDIMENT CONTROL DETAILS
SHEET 61	STORMWATER MANAGEMENT DETAILS
SHEET 62	TYPICAL CROSS-SECTIONS
SHEETS 63-64	OVERALL TRAIL PLAN
SHEETS 65-73	PLANTING PLAN
SHEETS 74-84	CROSS-SECTIONS, 25-FT.

NOTE: SHEET 60 CONTAINS THE SEQUENCE OF CONSTRUCTION AND SITE & ESC ANALYSIS TABULATIONS.



VICINITY MAP
SCALE: 1"=2,000'

NORTH

COPYRIGHT ADC, THE MAP PEOPLE
PERMITTED USE NO. 20100746

GENERAL CONSTRUCTION NOTES

1. TOPOGRAPHIC SURVEY WAS PERFORMED BY AECOM/URS APRIL THROUGH JUNE 2017 AND JANUARY 2023. HORIZONTAL DATUM IS NAD83/91, VERTICAL DATUM IS NAVD88.
2. THE TREES SHOWN WERE IDENTIFIED AND SURVEYED BY AECOM/URS DURING THE SPRING OF 2017, FALL OF 2018, AND JANUARY 2023. ONLY TREES WITH A 6-INCH DIAMETER OR GREATER THAT ARE WITHIN THE LIMIT OF WORK WERE FIELD LOCATED.
3. THE PLANIMETRIC DATA SHOWN (I.E. PROPERTY LINES, BUILDINGS, ROADS) SHOWN OUTSIDE THE LIMIT OF WORK ARE BASED ON GIS DATA FROM http://www.montgomeryplanning.org/gis/data_downloads.shtm
4. THE EXISTING UTILITIES, GRADES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS AND ANY DAMAGE TO THEM SHALL BE REPAIRED IMMEDIATELY AT HIS OWN EXPENSE.
5. IT SHALL BE DISTINCTLY UNDERSTOOD THAT THE FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NATURALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
6. THE CONTRACTOR SHALL CALL "MISS UTILITY" (1-800-257-7777) A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION, BORING, DRIVING AND/OR DIGGING FOR THE LOCATION OF UNDERGROUND UTILITY LINES.
7. THE CONTRACTOR / APPLICANT SHALL NOTIFY THE WSSC CONSTRUCTION INSPECTOR IDENTIFIED AT THE PRE-CONSTRUCTION MEETING AT LEAST 5 DAYS IN ADVANCE OF ANY GRADING OR WORK IN THE VICINITY OF THE EXISTING MAINS, ALL GRADING AND WORK OVER THE MAINS SHALL BE COORDINATED AND PERFORMED UNDER THE SUPERVISION OF THE WSSC CONSTRUCTION INSPECTOR.
8. CONSTRUCTION ACCESS MUST BE ASSESSED DURING PRE-CONSTRUCTION MEETING WITH FORESTRY INSPECTOR PRESENT.
9. ALL DISTURBED AREAS WITH SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH TEMPORARY SOIL STABILIZATION MATTING THAT HAS SUFFICIENT DESIGN SHEAR STRESS FOR THE APPLICATION OR AS SHOWN ON THE APPROVED SEDIMENT AND EROSION CONTROL PLANS.
10. CONTRACTOR MUST ENSURE THAT COPIES OF FEDERAL, STATE, AND CITY PERMITS ARE POSTED ON SITE PRIOR TO THE START OF ANY WORK.
11. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT / U.S. ARMY CORPS OF ENGINEERS PERMIT TRACKING NUMBER IS 19-NT-3085 / 201960625.
12. THE FEMA 100-YEAR FLOODPLAIN SHOWN FOR CROYDON CREEK IS FROM FEMA FIRM MAP NUMBER 24031C0334D. THE MONTGOMERY COUNTY 100-YR FLOODPLAIN IS FROM http://www.montgomeryplanning.org/gis/data_downloads.shtm.
13. STREAM USE CLASS IS USE I. NO IN-STREAM CONSTRUCTION WORK SHALL OCCUR FROM MARCH 1 THROUGH JUNE 15.
14. THE PROJECT SITE IS FOUND ON WSSC 200-FT. SHEETS 219NW06 AND 218NW06.
15. THE PROJECT SITE LIES WITHIN THE WSSC ROCK CREEK BASINS 05136 AND 05000.
16. THE CONTRACTOR / APPLICANT SHALL USE SPECIAL CARE WHILE PERFORMING WORK IN THE VICINITY OF THE EXISTING WSSC MAINS AND MANHOLES. THE CONTRACTOR / APPLICANT IS RESPONSIBLE FOR ANY DAMAGE AND/OR REPLACEMENT AS A RESULT OF THE WORK. REPAIRS SHALL BE COMPLETED AS DIRECTED BY WSSC AT THE EXPENSE OF THE CONTRACTOR / APPLICANT.
17. THE CONTRACTOR / APPLICANT SHALL LOCATE AND STAKE OUT THE EXISTING WSSC MAINS AND MANHOLES PRIOR TO STARTING CONSTRUCTION AND MAINTAIN THE MARKERS DURING CONSTRUCTION.
18. CONTACT SPECIAL EVENTS (240-314-8620) TO TIME TURF INSTALL WITH ANNUAL CAR SHOW.
19. CONTACT CITY OF ROCKVILLE RECREATION AND PARKS CITY FORESTER TO WALK LOD PRIOR TO ANY TREE REMOVAL.

DESIGN AND QUANTITIES CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND THE ORDINANCE OF THE ROCKVILLE CITY CODE. THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL HAS BEEN COMPUTED TO BE 4,691 CUBIC YARDS OF EXCAVATION AND 8,137 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 7.21 ACRES, ALL OF WHICH IS ON-SITE. THE IMPERVIOUS AREA SUBJECT TO STORMWATER MANAGEMENT SHOWN ON THIS PLAN IS N/A.

SIGNATURE — DATE: 4-28-2025

PRINT: Melissa Diane Hess — MD P.E. REGISTRATION NO.: 26539

OWNER/DEVELOPER CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, OR ALL OF THESE, WILL BE DONE PURSUANT TO THIS PLAN AND THAT RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT AND THAT THE APPLICABLE SEDIMENT CONTROL CONDITIONS AND REQUIREMENTS OF THE CITY OF ROCKVILLE AND THE STATE OF MARYLAND AND ITS AGENCIES ARE HEREBY PART OF THIS PLAN.

Craig L. Simoneau 2025.05.05 17:45:49-04'00'

OWNER/DEVELOPER SIGNATURE — DATE

USDA- NRCS MARYLAND POND CODE 378 APPROVAL

MISS UTILITY NOTE

CONTACT "MISS UTILITY" 1-800-257-7777 AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION FOR LOCATION OF UNDERGROUND UTILITIES.

WSSC PROJECT NO. 19RMS8569A

STATE OF MARYLAND — MELISSA DIANE HESS — No. 26539 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:45:48-04'00'
DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION
COVER SHEET

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE AS SHOWN

SHEET NO. 1 OF 84

FILE # G-134

LEGEND

- DRAINAGE AREA BOUNDARY LINE
- (1) DRAINAGE AREA DESIGNATION

DRAINAGE AREA SUMMARY TABLE

D.A. ID	ACREAGE	RCN	TOC (HR)
1	605.07	82	0.62
2	31.78	69	0.305
3	8.22	63	0.432
4	42.74	62	0.33
5	11.28	65	0.516
6A	138.63	72	0.322
6B	44.01	70	0.24
7	48.59	77	0.337
8	158.5	75	0.333

0 500 1000 Feet

SCALE: 1" = 500'

STATE OF MARYLAND · MELISSA DIANE WEES · No. 28539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:51-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

DRAINAGE AREA MAP

CROYDON CREEK AND CALVIN TRIBUTARY

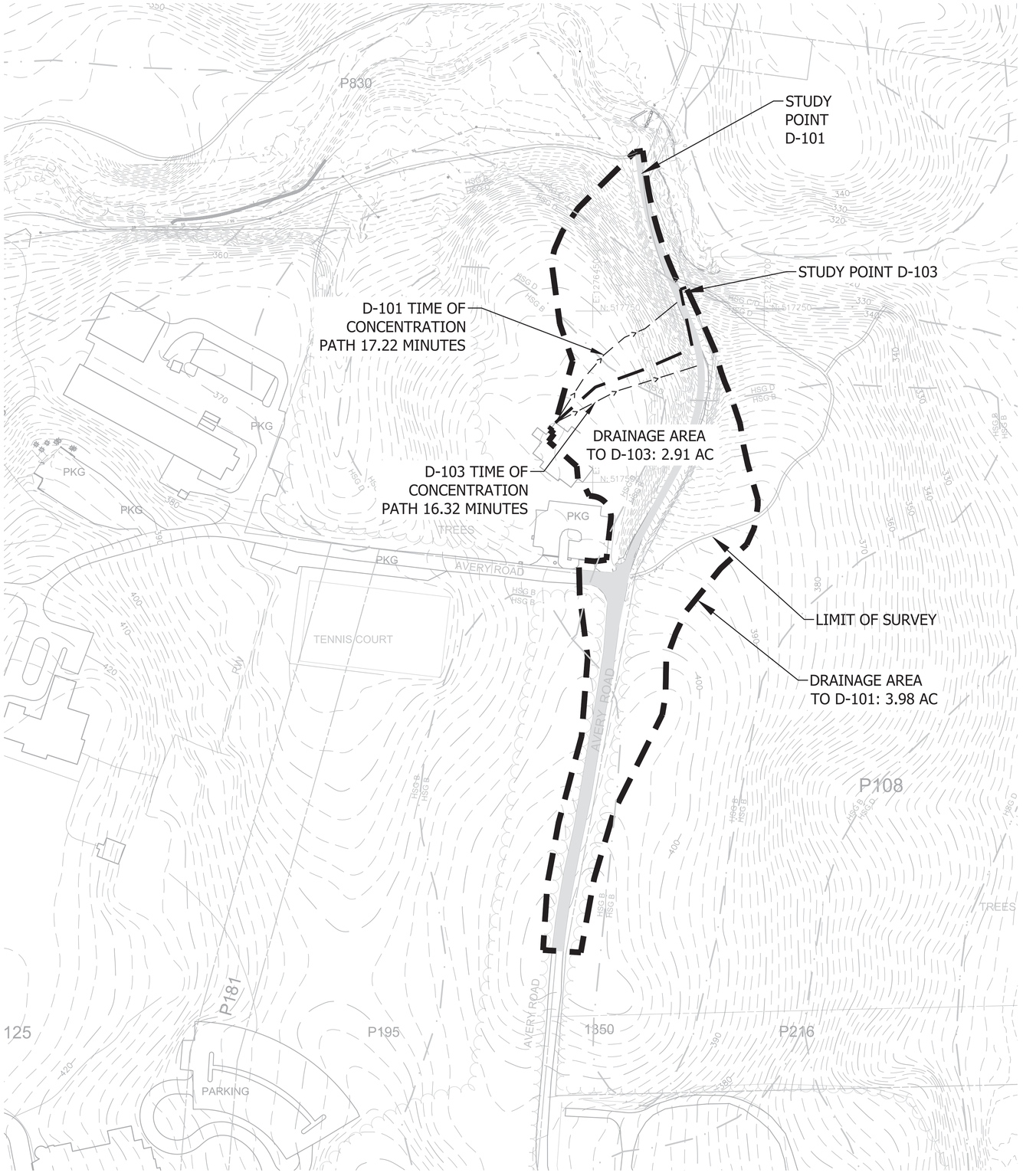
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=500'

SHEET NO. 2 OF 84

FILE # G-134



LEGEND

- PROPERTY LINE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- HYDROLOGIC SOIL BOUNDARY
- EXISTING TREELINE
- EXISTING CONCRETE ROAD & PATH
- TIME OF CONCENTRATION PATH
- DRAINAGE DIVIDE TO D-101
- SUB-DIVIDE TO D-103
- IMPERVIOUS AREA

DRAINAGE AREA SUMMARY

STUDY POINT	LANDUSE	DRAINAGE AREA (ACRES) HSG A	HSG B	HSG C	HSG D	WCN	TC (HOURS)	10-YEAR PEAK FLOWRATE (CFS)
D-101	OPEN	0	0.731	0.17	0	67	0.287	**7.47**
	WOODS	0	1.609	0.7	0.218			
	IMPERVIOUS	0.55						
	TOTAL	3.98						
D-103	OPEN	0	0.615	0.023	0	65	0.272	**5.05**
	WOODS	0	1.609	0.166	0			
	IMPERVIOUS	0.5						
	TOTAL	2.91						

HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

80 0 80 160
SCALE: 1" = 80'

STATE OF MARYLAND · MELISSA DIANE HESS · No. 28539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:45:52-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD DRAINAGE AREA MAP

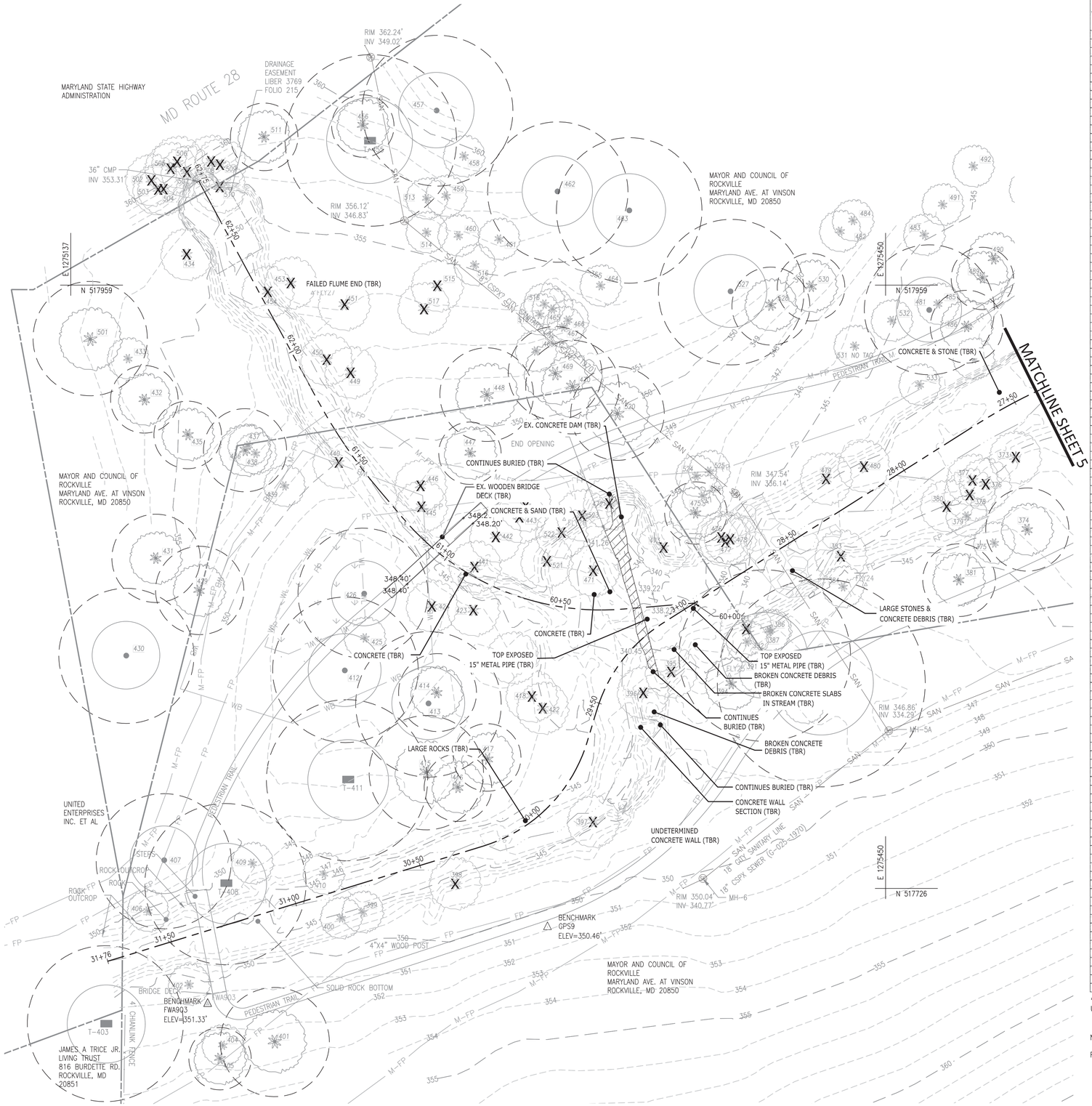
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=80'

SHEET NO. 3 OF 84

FILE # DPW TO PROVIDE



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
373**	Platanus occidentalis	28	28	TBR
374**	Liriodendron tulipifera	16	16	
375**	Platanus occidentalis	6	6	
376**	Acer negundo	7	7	TBR
377**	Juglans nigra	14	14	TBR
378**	Acer negundo	8	8	TBR
379**	Juglans nigra	10	10	
380**	Platanus occidentalis	21	21	TBR
381**	Juglans nigra	14	14	
383**	Acer negundo	17	17	TBR
384**	Morus alba	10	10	
385**	Platanus occidentalis	40	40	
386**	Acer negundo	9	9	TBR
387**	Acer negundo	9	9	TBR
388**	Juglans nigra	33	33	
389**	Robinia pseudoacacia	11	11	
390**	Acer negundo	6	6	
391	Prunus serotina	7	7	
392**	Robinia pseudoacacia	9	9	TBR
393**	Acer negundo	8	8	TBR
394**	Robinia pseudoacacia	14	14	
395**	Acer negundo	7	7	TBR
396**	Acer negundo	6	6	TBR
397**	Salix nigra	10	10	TBR
398**	Fraxinus pennsylvanica	8	8	TBR
399**	Fraxinus pennsylvanica	7	7	
400**	Ulmus americana	6	6	
401	Nyssa sylvatica	21	21	
402	Fraxinus pennsylvanica	11	11	
403	Quercus alba	30	30	
404	Prunus avium	6	6	
405	Prunus serotina	12	12	
406	Morus alba	6	6	
407	Quercus alba	26	26	
408	Quercus alba	31	31	
409	Prunus serotina	6	6	
410**	Betula nigra	8	8	
411**	Acer saccharinum	31	31	
412**	Acer saccharinum	28	28	
413**	Acer saccharinum	28	28	
414**	Acer negundo	15	15	
415**	Platanus occidentalis	22	22	
416**	Robinia pseudoacacia	13	13	
417**	Robinia pseudoacacia	13	13	
418**	Acer saccharinum	15	15	TBR
419**	Acer negundo	10	10	TBR
422**	Robinia pseudoacacia	8	8	TBR
423**	Acer saccharinum	11	11	TBR
424**	Acer negundo	16	16	TBR
425**	Acer saccharinum	10	10	
426**	Acer saccharinum	25	25	
429	Robinia pseudoacacia	17	17	
430	Platanus occidentalis	26	26	
431	Acer negundo	17	17	
432**	Juglans nigra	13	13	
433**	Juglans nigra	8	8	
434**	Acer rubrum	13	13	TBR
435**	Robinia pseudoacacia	13	13	
436**	Robinia pseudoacacia	16	16	
437**	Robinia pseudoacacia	11	11	
438**	Robinia pseudoacacia	9	9	
439**	Acer negundo	11	11	
440**	Robinia pseudoacacia	7	7	TBR
441**	Juglans nigra	11	11	TBR
442**	Juglans nigra	16	16	TBR
443	Juglans nigra	7	7	TBR
444**	Acer negundo	18	18	TBR
445**	Juglans nigra	20	20	TBR
446**	Acer negundo	10	10	TBR
447**	Juglans nigra	12	12	
448**	Liriodendron tulipifera	18	18	
449**	Juglans nigra	29	29	TBR
450**	Robinia pseudoacacia	6	6	TBR
451**	Robinia pseudoacacia	7	7	TBR
453**	Robinia pseudoacacia	7	7	TBR
454**	Acer negundo	10	10	TBR
455**	Quercus coccinea	33	33	
456**	Acer rubrum	12	12	
457	Quercus coccinea	29	29	
458	Liriodendron tulipifera	10	10	
459**	Acer rubrum	9	9	
460**	Prunus serotina	11	11	
461**	Acer rubrum	7	7	
462	Quercus rubra	27	27	
463	Quercus velutina	28	28	
464	Nyssa sylvatica	11	11	
465**	Nyssa sylvatica	7	7	
467**	Prunus avium	6	6	
468**	Prunus serotina	8	8	
469**	Robinia pseudoacacia	18	18	
470**	Quercus coccinea	18	18	
471**	Acer rubrum	12	12	TBR
472**	Juglans nigra	9	9	TBR
473	Juglans nigra	14	14	TBR
475**	Acer negundo	12	12	
476**	Platanus occidentalis	20	20	TBR
477**	Platanus occidentalis	16	16	TBR
478**	Platanus occidentalis	20	20	TBR
479**	Juglans nigra	13	13	TBR
480**	Platanus occidentalis	22	22	TBR
481**	Liriodendron tulipifera	25	25	
482	Liriodendron tulipifera	10	10	
483	Liriodendron tulipifera	11	11	
484	Liriodendron tulipifera	8	8	
485**	Acer rubrum	8	8	
486**	Liriodendron tulipifera	14	14	
487**	Liriodendron tulipifera	11	11	
488**	Robinia pseudoacacia	12	12	TBR
489**	Liriodendron tulipifera	12	12	
490	Liriodendron tulipifera	20	20	
491	Prunus avium	8	8	
492	Prunus serotina	8	8	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
501**	Platanus occidentalis	22	22	
502**	Prunus serotina	8	8	TBR
503**	Liriodendron tulipifera	12	12	TBR
504**	Liriodendron tulipifera	15	15	TBR
505**	Liriodendron tulipifera	7	7	TBR
506**	Robinia pseudoacacia	11	11	TBR
507**	Prunus serotina	7	7	TBR
508**	Acer rubrum	8	8	TBR
509**	Prunus serotina	18	18	TBR
510**	Platanus occidentalis	10	10	TBR
511**	Acer rubrum	13	13	
512**	Acer rubrum	9	9	
513**	Prunus serotina	8	8	
514**	Robinia pseudoacacia	10	10	
515	Prunus serotina	7	7	TBR
516**	Acer rubrum	6	6	
517**	Robinia pseudoacacia	19	19	TBR
518**	Acer rubrum	9	9	
519**	Robinia pseudoacacia	11	11	
520**	Liriodendron tulipifera	18	18	
521**	Acer negundo	9	9	TBR
522**	Juglans nigra	17	17	TBR
523**	Acer negundo	13	13	TBR
524**	Robinia pseudoacacia	6	6	
525**	Robinia pseudoacacia	8	8	
526**	Robinia pseudoacacia	11	11	
527	Quercus coccinea	28	28	
528	Acer rubrum	15	15	
530	Juglans nigra	13	13	
531**	Acer rubrum	7	7	
532**	Prunus serotina	7	7	
533**	Liriodendron tulipifera	11	11	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

NOTE: TAG NOT USED FOR TREES 420-421

FEMA FLOODPLAIN ONLY PRESENT ON THIS SHEET

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

LEGEND

- FEMA 100 YEAR FLOODPLAIN (FP)
- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED BASELINE (STA. 1+50.00)
- EXISTING STREAM
- EXISTING SANITARY LINE W/ MANHOLE (SAN)
- EXISTING STORMDRAIN (SD)
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- MO COUNTY 100 YEAR FLOODPLAIN (M-FP)
- EXISTING WETLANDS (WL, WM)
- EXISTING 25-FT WETLAND BUFFER (WB)
- UNIQUE HABITATS TO BE REMOVED (FERN / HOLLY HABITAT)
- CONTROL POINTS (TBR) BENCHMARK FWA903 ELEV=351.33'
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

0 20 40 Feet SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:53-04'00'

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
SHA TRIBUTARY REACH 7/CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 4 OF 84

FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
323**	*Platanus occidentalis*	24	24	
324**	*Robinia pseudoacacia*	13	13	
325**	*Acer negundo*	13	13	
326**	*Acer negundo*	10	10	
327**	*Acer negundo*	7	7	
328**	*Robinia pseudoacacia*	25	25	
329	*Acer negundo*	17	17	
330	*Acer negundo*	13	13	
331**	*Acer negundo*	20	20	
332***	*Acer negundo*	11	11	
333**	*Acer negundo*	7	7	
334	*Acer negundo*	24	24	
335**	*Acer negundo*	11	11	
336	*Acer negundo*	9	9	
337	*Robinia pseudoacacia*	12	12	
338	*Robinia pseudoacacia*	11	11	
339	*Acer negundo*	13	13	
340	*Acer negundo*	10	10	
341	*Acer negundo*	7	7	
342**	*Acer negundo*	9	9	
343**	*Acer negundo*	9	9	
344**	*Acer negundo*	13	13	
345**	*Acer negundo*	19	19	
346**	*Acer negundo*	10	10	
347**	*Acer negundo*	22	22	
348**	*Acer negundo*	11	11	
349**	*Acer rubrum*	8	8	
350**	*Liriodendron tulipifera*	18	18	
351	*Quercus alba*	39	39	
352	*Liriodendron tulipifera*	9	9	
353**	*Morus alba*	10	10	DEAD
354**	*Acer negundo*	11	11	
355**	*Prunus serotina*	12	12	
356**	*Acer negundo*	7	7	
357**	*Liriodendron tulipifera*	21	21	
358**	*Quercus alba*	8	8	
359**	*Acer negundo*	24	24	
361**	*Prunus avium*	10	10	TBR
362**	*Acer negundo*	8	8	TBR
363**	*Acer negundo*	11	11	
364**	*Platanus occidentalis*	17	17	TBR
365**	*Liriodendron tulipifera*	19	19	TBR
366**	*Ulmus americana*	6	6	TBR
367**	*Morus alba*	13	13	
371**	*Liriodendron tulipifera*	16	16	
372**	*Liriodendron tulipifera*	27	27	
373**	*Platanus occidentalis*	28	28	TBR
374**	*Liriodendron tulipifera*	16	16	
493	*Prunus serotina*	9	9	
494**	*Robinia pseudoacacia*	9	9	
495**	*Liriodendron tulipifera*	20	20	
496**	*Juglans nigra*	10	10	TBR
497	*Liriodendron tulipifera*	17	17	
498**	*Liriodendron tulipifera*	11	11	
499**	*Liriodendron tulipifera*	7	7	
500**	*Liriodendron tulipifera*	20	20	
534**	*Platanus occidentalis*	13	13	TBR
535**	*Liriodendron tulipifera*	18	18	TBR
536**	*Platanus occidentalis*	9	9	TBR
537**	*Liriodendron tulipifera*	12	12	
538**	*Liriodendron tulipifera*	14	14	
539	*Liriodendron tulipifera*	13	13	
540	*Liriodendron tulipifera*	19	19	
541	*Liriodendron tulipifera*	9	9	
542	*Acer rubrum*	7	7	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
543	*Liriodendron tulipifera*	14	14	
544	*Acer rubrum*	13	13	
545**	*Liriodendron tulipifera*	13	13	
546**	*Platanus occidentalis*	10	10	TBR
547**	*Acer rubrum*	7	7	TBR
548**	*Liriodendron tulipifera*	14	14	TBR
549**	*Liriodendron tulipifera*	13	13	TBR
550**	*Liriodendron tulipifera*	9	9	TBR
551**	*Acer rubrum*	45	45	
552	*Liriodendron tulipifera*	11	11	
553	*Liriodendron tulipifera*	7	7	
554	*Liriodendron tulipifera*	12	12	
555	*Liriodendron tulipifera*	11	11	
556	*Liriodendron tulipifera*	9	9	
557	*Liriodendron tulipifera*	13	13	
558	*Liriodendron tulipifera*	12	12	
559	*Liriodendron tulipifera*	13	13	
560	*Liriodendron tulipifera*	13	13	
561	*Liriodendron tulipifera*	11	11	
562	*Liriodendron tulipifera*	12	12	
563	*Liriodendron tulipifera*	12	12	
564**	*Liriodendron tulipifera*	12	12	
565**	*Liriodendron tulipifera*	10	10	
566**	*Liriodendron tulipifera*	9	9	TBR
567**	*Liriodendron tulipifera*	9	9	TBR
568**	*Liriodendron tulipifera*	8	8	
569**	*Liriodendron tulipifera*	7	7	
570	*Liriodendron tulipifera*	6	6	
571	*Liriodendron tulipifera*	9	9	
572	*Liriodendron tulipifera*	10	10	
573	*Liriodendron tulipifera*	11	11	
574**	*Liriodendron tulipifera*	9	9	
575**	*Liriodendron tulipifera*	13	13	
576**	*Acer rubrum*	11	11	TBR
577**	*Acer rubrum*	11	11	
579	*Quercus alba*	23	23	
580	*Juglans nigra*	8	8	
581	*Acer rubrum*	10	10	
582**	*Acer rubrum*	7	7	TBR
584**	*Liriodendron tulipifera*	27	27	
585	*Acer rubrum*	10	10	
586	*Quercus rubra*	28	28	
587	*Liriodendron tulipifera*	27	27	
588**	*Nyssa sylvatica*	7	7	
589**	*Nyssa sylvatica*	8	8	
590**	*Quercus rubra*	9	9	TBR
591**	*Ulmus americana*	10	10	TBR
592**	*Ulmus americana*	9	9	TBR
593**	*Acer rubrum*	6	6	
594**	*Acer rubrum*	6	6	TBR
595**	*Nyssa sylvatica*	7	7	TBR
596**	*Acer rubrum*	9	9	
597**	*Quercus rubra*	32	32	
598**	*Nyssa sylvatica*	10	10	
599**	*Nyssa sylvatica*	21	21	
600	*Liriodendron tulipifera*	27	27	
601**	*Liriodendron tulipifera*	9	9	
602**	*Quercus rubra*	9	9	
603**	*Quercus rubra*	29	29	
604**	*Carya glabra*	13	13	
605**	*Nyssa sylvatica*	19	19	
606	*Liriodendron tulipifera*	14	14	TBR
607**	*Quercus alba*	16	16	
609**	*Quercus rubra*	27	27	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL WM EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT (TBR) UNIQUE HABITATS TO BE REMOVED
- BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

0 20 40 Feet
SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE HESS · No. 28539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

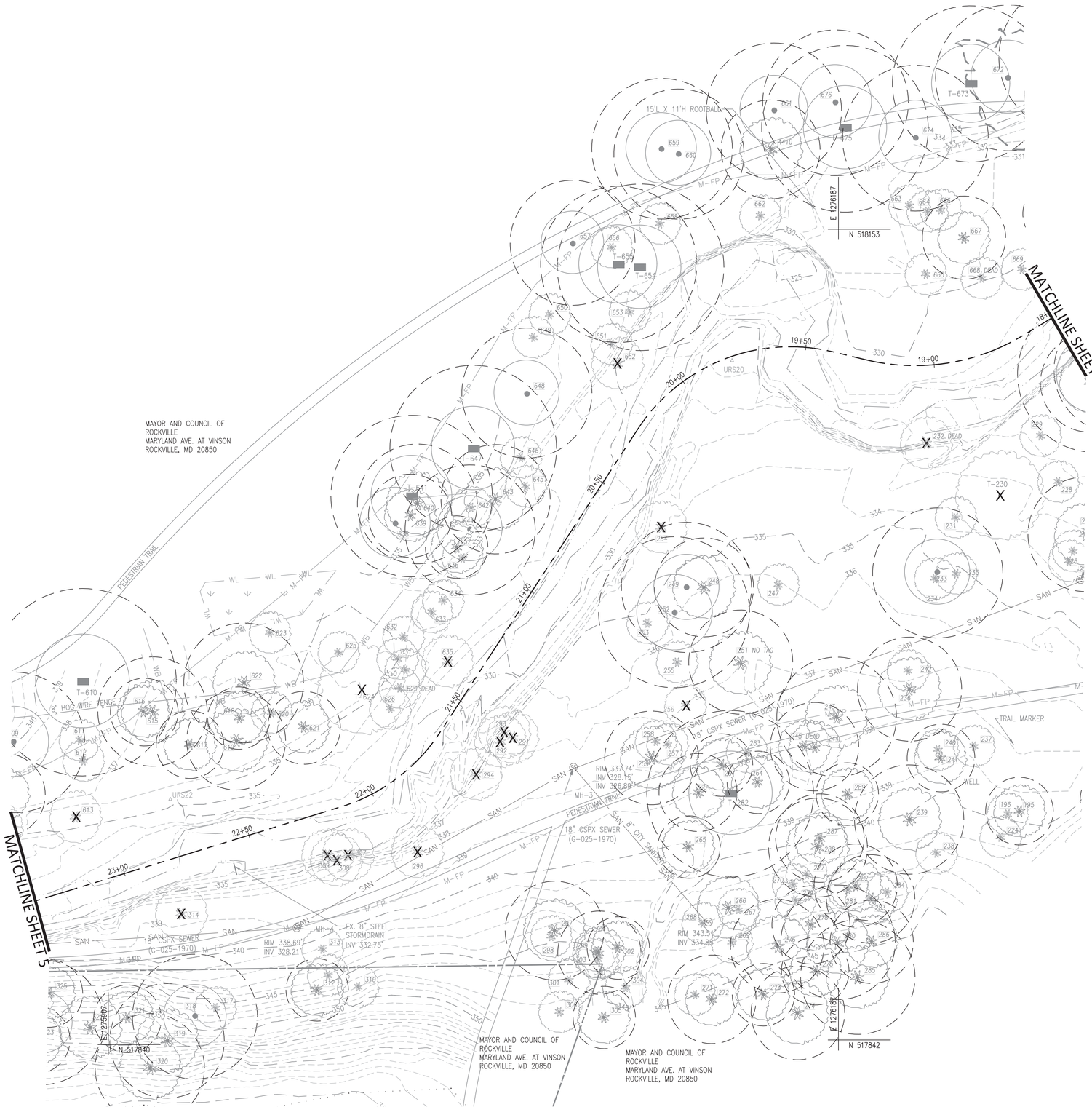
DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:45:54-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 5 OF 84
FILE # G-134



MAYOR AND COUNCIL OF
ROCKVILLE
MARYLAND AVE. AT VINSON
ROCKVILLE, MD 20850

MAYOR AND COUNCIL OF
ROCKVILLE
MARYLAND AVE. AT VINSON
ROCKVILLE, MD 20850

0 20 40 Feet

SCALE: 1" = 20'

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
195	*Platanus occidentalis*	13	13	
196	*Platanus occidentalis*	11	11	
224	*Platanus occidentalis*	8	8	
225**	*Juglans nigra*	22	22	
226**	*Liriodendron tulipifera*	9	9	
227**	*Liriodendron tulipifera*	11	11	
228**	*Acer negundo*	11	11	
229**	*Acer negundo*	9	9	
230**	*Liriodendron tulipifera*	44	44	TBR
231**	*Juglans nigra*	9	9	
232***	*Liriodendron tulipifera*	10	10	DEAD
233**	*Juglans nigra*	25	25	
234**	*Acer negundo*	11	11	
235**	*Acer negundo*	10	10	
236**	*Liriodendron tulipifera*	20	20	
237	*Ulmus americana*	7	7	
238	*Acer negundo*	7	7	
239	*Juglans nigra*	21	21	
240	*Juglans nigra*	8	8	
241	*Liriodendron tulipifera*	13	13	
242**	*Acer negundo*	8	8	
243**	*Liriodendron tulipifera*	23	23	
244**	*Liriodendron tulipifera*	17	17	
245**	*Acer negundo*	15	15	
247**	*Acer negundo*	11	11	
248**	*Liriodendron tulipifera*	19	19	
249**	*Liriodendron tulipifera*	25	25	
251**	*Liriodendron tulipifera*	20	20	
252**	*Liriodendron tulipifera*	29	29	
253**	*Juglans nigra*	8	8	
254**	*Prunus serotina*	7	7	TBR
255**	*Juglans nigra*	9	9	
256**	*Acer negundo*	11	11	TBR
257**	*Acer negundo*	8	8	
258**	*Liriodendron tulipifera*	8	8	
260**	*Acer negundo*	15	15	
261**	*Liriodendron tulipifera*	12	12	
262	*Liriodendron tulipifera*	32	32	
265	*Acer negundo*	12	12	
266	*Quercus rubra*	20	20	
267	*Acer rubrum*	9	9	
268	*Liriodendron tulipifera*	7	7	
269	*Acer rubrum*	8	8	
270	*Nyssa sylvatica*	8	8	
271	*Liriodendron tulipifera*	7	7	
272	*Liriodendron tulipifera*	17	17	
273	*Acer rubrum*	12	12	
274	*Liquidambar styraciflua*	18	18	
275	*Liquidambar styraciflua*	13	13	
276	*Liquidambar styraciflua*	18	18	
277	*Juglans nigra*	8	8	
278	*Liquidambar styraciflua*	15	15	
279	*Liquidambar styraciflua*	10	10	
280	*Liriodendron tulipifera*	22	22	
281	*Liriodendron tulipifera*	11	11	
282	*Liriodendron tulipifera*	16	16	
283	*Liriodendron tulipifera*	17	17	
284	*Liriodendron tulipifera*	8	8	
285	*Liriodendron tulipifera*	22	22	
286	*Liriodendron tulipifera*	16	16	
287	*Acer rubrum*	17	17	
288	*Liriodendron tulipifera*	19	19	
289	*Juglans nigra*	12	12	
291**	*Liriodendron tulipifera*	13	13	TBR
292**	*Liriodendron tulipifera*	7	7	TBR
293**	*Liriodendron tulipifera*	8	8	TBR
294**	*Acer negundo*	8	8	TBR
296**	*Juglans nigra*	12	12	TBR
297	*Acer negundo*	19	19	
298	*Juglans nigra*	8	8	
299	*Acer negundo*	10	10	
300	*Robinia pseudoacacia*	16	16	
301	*Acer negundo*	6	6	
302	*Ailanthus altissima*	12	12	
303	*Ailanthus altissima*	6	6	
304	*Acer negundo*	11	11	
305	*Acer negundo*	12	12	
306	*Acer negundo*	11	11	
307**	*Acer negundo*	16	16	TBR
308**	*Acer negundo*	12	12	TBR
309**	*Prunus avium*	13	13	TBR
310	*Paulownia tomentosa*	11	11	
311**	*Paulownia tomentosa*	9	9	
312	*Paulownia tomentosa*	12	12	
313**	*Acer negundo*	7	7	
314**	*Acer negundo*	6	6	TBR
317	*Liriodendron tulipifera*	8	8	
318	*Platanus occidentalis*	24	24	
319	*Platanus occidentalis*	22	22	
320	*Platanus occidentalis*	21	21	
321	*Acer negundo*	13	13	
322	*Platanus occidentalis*	18	18	
323**	*Platanus occidentalis*	24	24	
324**	*Robinia pseudoacacia*	13	13	
325**	*Acer negundo*	13	13	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
610	*Quercus rubra*	36	36	
611**	*Liriodendron tulipifera*	9	9	
612**	*Acer rubrum*	7	7	
613	*Liriodendron tulipifera*	13	13	TBR
615**	*Liriodendron tulipifera*	21	21	
616**	*Liriodendron tulipifera*	13	13	
617**	*Liriodendron tulipifera*	13	13	
618**	*Juglans nigra*	12	12	
619**	*Liriodendron tulipifera*	19	19	
620**	*Juglans nigra*	11	11	
621**	*Juglans nigra*	14	14	
622	*Liriodendron tulipifera*	23	23	
623	*Acer platanoides*	7	7	
624**	*Liriodendron tulipifera*	36	36	TBR
625	*Prunus serotina*	6	6	
626**	*Juglans nigra*	8	8	
628**	*Ulmus americana*	12	12	TBR
629**	*Prunus serotina*	9	9	DEAD
630**	*Acer negundo*	7	7	
631**	*Juglans nigra*	11	11	
632**	*Ailanthus altissima*	10	10	
633**	*Ulmus americana*	8	8	
634**	*Ulmus americana*	7	7	
635**	*Ulmus americana*	7	7	TBR
636**	*Acer rubrum*	9	9	
637**	*Acer rubrum*	12	12	
638	*Liriodendron tulipifera*	27	27	
639	*Liriodendron tulipifera*	16	16	
640	*Liriodendron tulipifera*	23	23	
641	*Liriodendron tulipifera*	31	31	
642**	*Liriodendron tulipifera*	11	11	
643**	*Quercus alba*	21	21	
644**	*Quercus alba*	25	25	
645**	*Acer negundo*	10	10	
646**	*Acer rubrum*	7	7	
647	*Liriodendron tulipifera*	32	32	
648**	*Liriodendron tulipifera*	25	25	
649	*Acer rubrum*	7	7	
650	*Prunus serotina*	8	8	
651**	*Prunus serotina*	10	10	
652**	*Acer rubrum*	6	6	TBR
653**	*Ilex opaca*	6	6	
654**	*Liriodendron tulipifera*	32	32	
655**	*Liriodendron tulipifera*	30	30	
656	*Liriodendron tulipifera*	10	10	
657	*Liriodendron tulipifera*	24	24	
658**	*Ilex opaca*	7	7	
659	*Liriodendron tulipifera*	27	27	
660	*Liriodendron tulipifera*	25	25	
661**	*Liriodendron tulipifera*	26	26	
662**	*Acer rubrum*	6	6	
663**	*Acer rubrum*	10	10	
664	*Acer rubrum*	11	11	
665**	*Acer rubrum*	6	6	
666	*Robinia pseudoacacia*	8	8	
667**	*Liriodendron tulipifera*	16	16	
668**	*Prunus serotina*	7	7	DEAD
669**	*Acer negundo*	11	11	
671**	*Liriodendron tulipifera*	13	13	
672	*Liriodendron tulipifera*	28	28	
673	*Liriodendron tulipifera*	30	30	
674	*Liriodendron tulipifera*	28	28	
675**	*Liriodendron tulipifera*	32	32	
676	*Liriodendron tulipifera*	28	28	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED BASELINE — STA. 1+50.00
- EXISTING STREAM
- EXISTING SANITARY LINE W/ MANHOLE
- EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- MO COUNTY 100 YEAR FLOODPLAIN
- EXISTING WETLANDS
- EXISTING 25-FT WETLAND BUFFER
- UNIQUE HABITATS
- (TBR) TO BE REMOVED
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

STATE OF MARYLAND
MELISSA DIANE HESS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:55-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

EXISTING CONDITIONS/DEMOLITION PLAN

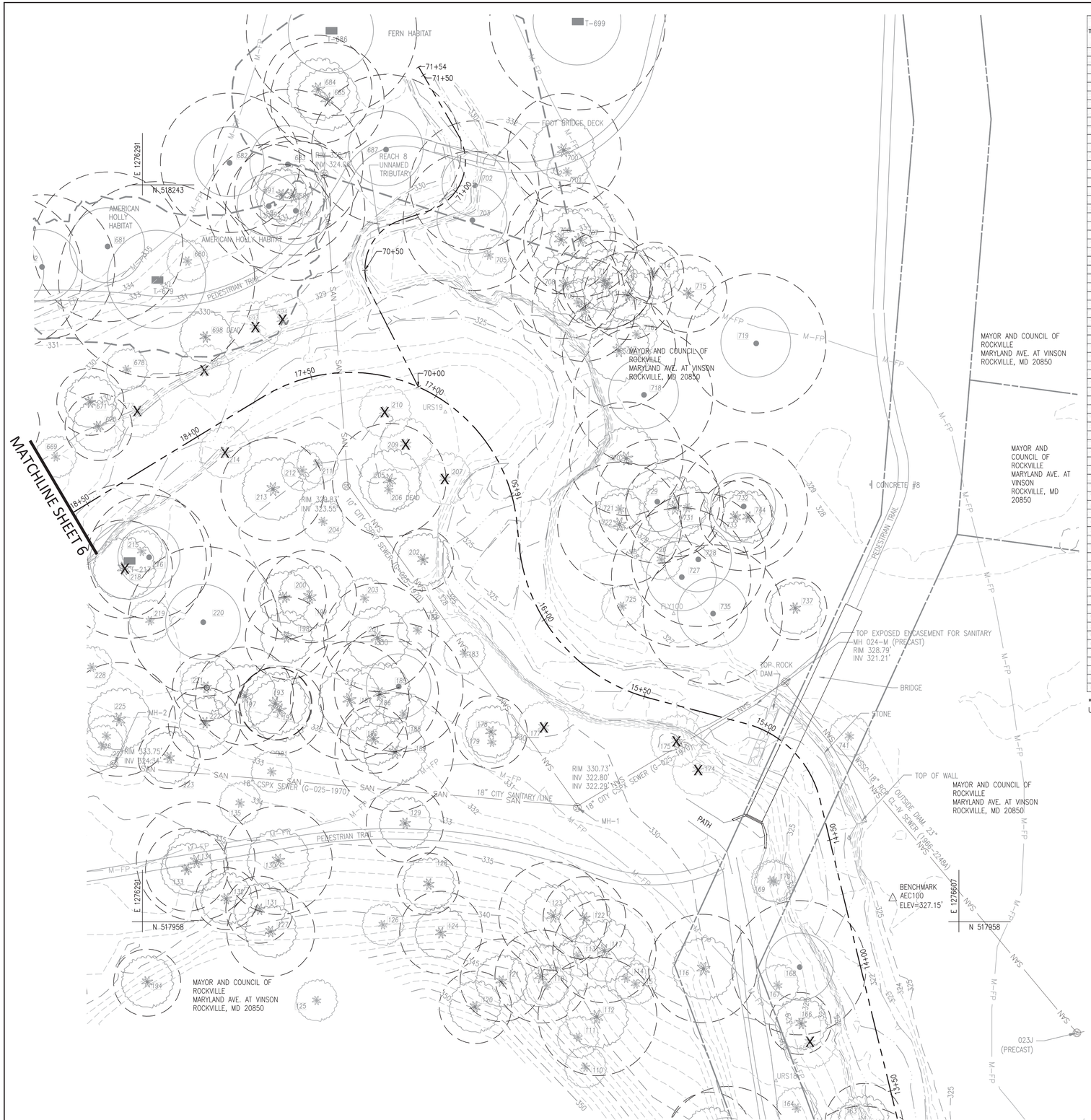
CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACH 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 6 OF 84

FILE # G-134



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
111	*Liriodendron tulipifera*	6	6	
112	*Liriodendron tulipifera*	23	23	
113	*Liriodendron tulipifera*	8	8	
114	*Liriodendron tulipifera*	8	8	
115	*Liriodendron tulipifera*	9	9	
116**	*Liriodendron tulipifera*	21	21	
117	*Liriodendron tulipifera*	20	20	
118	*Liriodendron tulipifera*	18	18	
119	*Acer negundo*	7	7	
120	*Acer negundo*	14	14	
121	*Acer negundo*	16	16	
122**	*Fagus grandifolia*	16	16	
123**	*Quercus laurifolia*	21	21	
124	*Acer negundo*	16	16	
125	*Acer negundo*	7	7	
126	*Acer negundo*	7	7	
127	*Acer negundo*	17	17	
128**	*Acer negundo*	12	12	
129**	*Acer negundo*	15	15	
130**	*Juglans nigra*	21	21	
131	*Acer negundo*	13	13	
132	*Acer negundo*	12	12	
133**	*Juglans nigra*	16	16	
134**	*Acer negundo*	23	23	
135**	*Acer negundo*	11	11	
165**	*Acer negundo*	8	8	TBR
166**	*Nyssa sylvatica*	12	12	
167**	*Acer negundo*	9	9	
168	*Quercus alba*	26	26	
169**	*Acer negundo*	9	9	
170**	*Acer negundo*	8	8	
174**	*Juglans nigra*	14	14	TBR
175**	*Juglans nigra*	15	15	TBR
177**	*Liriodendron tulipifera*	15	15	TBR
178**	*Liriodendron tulipifera*	14	14	
179**	*Morus alba*	6	6	
183**	*Ulmus americana*	9	9	
184**	*Gymnocladus dioicus*	8	8	
185**	*Liriodendron tulipifera*	25	25	
186**	*Juglans nigra*	23	23	
187**	*Gymnocladus dioicus*	23	23	
188**	*Acer negundo*	9	9	
189**	*Liriodendron tulipifera*	23	23	
190**	*Acer negundo*	13	13	
191**	*Gymnocladus dioicus*	7	7	
192**	*Gymnocladus dioicus*	17	17	
193**	*Gymnocladus dioicus*	14	14	
194	*Acer negundo*	13	13	
197**	*Juglans nigra*	19	19	
198**	*Juglans nigra*	16	16	
199**	*Celtis occidentalis*	18	18	
200**	*Juglans nigra*	16	16	
201**	*Gymnocladus dioicus*	21	21	
202**	*Juglans nigra*	12	12	
203**	*Acer negundo*	7	7	
204**	*Acer negundo*	6	6	
205**	*Juglans nigra*	22	22	
206**	*Morus alba*	9	9	DEAD
207**	*Juglans nigra*	16	16	TBR
209**	*Liriodendron tulipifera*	15	15	TBR
210**	*Juglans nigra*	18	18	TBR
211**	*Ulmus americana*	7	7	
212**	*Liriodendron tulipifera*	8	8	
213**	*Liriodendron tulipifera*	20	20	
214**	*Juglans nigra*	26	26	TBR
215**	*Liriodendron tulipifera*	10	10	
216**	*Liriodendron tulipifera*	24	24	
217**	*Liriodendron tulipifera*	30	30	
218**	*Liriodendron tulipifera*	19	19	TBR
219**	*Juglans nigra*	11	11	
220**	*Liriodendron tulipifera*	29	29	
221**	*Juglans nigra*	13	13	
222**	*Acer negundo*	14	14	
223**	*Acer negundo*	12	12	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
225**	*Juglans nigra*	22	22	
226**	*Liriodendron tulipifera*	9	9	
227**	*Liriodendron tulipifera*	11	11	
228**	*Acer negundo*	11	11	
668**	*Prunus serotina*	7	7	DEAD
669**	*Acer negundo*	11	11	
677**	*Liriodendron tulipifera*	17	17	TBR
678**	*Liriodendron tulipifera*	7	7	
679	*Liriodendron tulipifera*	38	38	
680	*Acer rubrum*	9	9	
681	*Liriodendron tulipifera*	29	29	
682	*Liriodendron tulipifera*	27	27	
683	*Liriodendron tulipifera*	29	29	
684	*Liriodendron tulipifera*	21	21	
685	*Liriodendron tulipifera*	22	22	
686	*Liriodendron tulipifera*	33	33	
687**	*Liriodendron tulipifera*	29	29	
689**	*Liriodendron tulipifera*	23	23	
690**	*Liriodendron tulipifera*	27	27	
691**	*Liriodendron tulipifera*	12	12	
692**	*Liriodendron tulipifera*	24	24	
693**	*Ailanthus altissima*	9	9	TBR
694**	*Acer negundo*	7	7	TBR
697**	*Acer negundo*	8	8	TBR
698**	*Acer negundo*	8	8	
699	*Liriodendron tulipifera*	34	34	
700	*Liriodendron tulipifera*	22	22	
701	*Liriodendron tulipifera*	8	8	
702**	*Liriodendron tulipifera*	25	25	
703**	*Liriodendron tulipifera*	27	27	
705**	*Ilex opaca*	6	6	
706**	*Liriodendron tulipifera*	21	21	
707**	*Liriodendron tulipifera*	22	22	
708**	*Liriodendron tulipifera*	21	21	
709**	*Acer rubrum*	10	10	
710**	*Liriodendron tulipifera*	20	20	
711**	*Liriodendron tulipifera*	19	19	
712**	*Liriodendron tulipifera*	17	17	
713	*Liriodendron tulipifera*	17	17	
714	*Liriodendron tulipifera*	12	12	
715	*Liriodendron tulipifera*	15	15	
716**	*Acer rubrum*	8	8	
717**	*Liriodendron tulipifera*	22	22	
718**	*Acer rubrum*	27	27	
719	*Liriodendron tulipifera*	27	27	
720**	*Liriodendron tulipifera*	22	22	
721**	*Ulmus americana*	8	8	
722**	*Liriodendron tulipifera*	24	24	
725**	*Acer negundo*	11	11	
726**	*Ulmus americana*	6	6	
727**	*Liriodendron tulipifera*	27	27	
728**	*Liriodendron tulipifera*	26	26	
729**	*Liriodendron tulipifera*	24	24	
730**	*Liriodendron tulipifera*	19	19	
731	*Ulmus americana*	7	7	
732	*Liriodendron tulipifera*	25	25	
733	*Liriodendron tulipifera*	14	14	
734	*Liriodendron tulipifera*	15	15	
735**	*Acer rubrum*	27	27	
737	*Robinia pseudoacacia*	12	12	
741**	*Liriodendron tulipifera*	11	11	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
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Fagus grandifolia	American Beech
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Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

0 20 40 Feet

SCALE: 1" = 20'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
7	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:56-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

226 of 304

STREAM RESTORATION

EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 2, 3 & 8
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 7 OF 84

FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
744	*Liriodendron tulipifera*	32	32	
745	*Liriodendron tulipifera*	18	18	
746	*Liriodendron tulipifera*	28	28	
747	*Liriodendron tulipifera*	8	8	
748	*Liriodendron tulipifera*	18	18	
749	*Liriodendron tulipifera*	13	13	
750	*Liriodendron tulipifera*	6	6	
751	*Liriodendron tulipifera*	17	17	
752	*Liriodendron tulipifera*	35	35	
753	*Liriodendron tulipifera*	7	7	
754	*Liriodendron tulipifera*	13	13	
755	*Liriodendron tulipifera*	21	21	
756	*Liriodendron tulipifera*	7	7	
757	*Liriodendron tulipifera*	23	23	
758	*Liriodendron tulipifera*	10	10	
759**	*Liriodendron tulipifera*	21	21	
760	*Liriodendron tulipifera*	20	20	
761	*Platanus occidentalis*	20	20	
762	*Liriodendron tulipifera*	27	27	
763	*Liriodendron tulipifera*	29	29	
764	*Liriodendron tulipifera*	25	25	
765	*Liriodendron tulipifera*	30	30	
766	*Liriodendron tulipifera*	14	14	
767	*Liriodendron tulipifera*	26	26	
768	*Liriodendron tulipifera*	17	17	
769	*Liriodendron tulipifera*	24	24	
770	*Liriodendron tulipifera*	14	14	
771	*Juglans nigra*	9	9	
772	*Liriodendron tulipifera*	22	22	
773	*Liriodendron tulipifera*	20	20	
774	*Liriodendron tulipifera*	32	32	
775	*Liriodendron tulipifera*	32	32	
776	*Liriodendron tulipifera*	16	16	
777**	*Liriodendron tulipifera*	25	25	
778**	*Juglans nigra*	14	14	
779**	*Juglans nigra*	10	10	
780**	*Juglans nigra*	10	10	
781**	*Liriodendron tulipifera*	35	35	
782	*Liriodendron tulipifera*	15	15	
783	*Liriodendron tulipifera*	29	29	
784	*Liriodendron tulipifera*	21	21	
785	*Carya glabra*	16	16	
786	*Acer rubrum*	15	15	
787**	*Liriodendron tulipifera*	28	28	
788**	*Liriodendron tulipifera*	24	24	
789**	*Carya glabra*	10	10	
790**	*Acer negundo*	11	11	
791**	*Platanus occidentalis*	26	26	
792**	*Liriodendron tulipifera*	8	8	
793**	*Liriodendron tulipifera*	9	9	
794**	*Liriodendron tulipifera*	21	21	
795**	*Liriodendron tulipifera*	6	6	
796**	*Liriodendron tulipifera*	12	12	
797**	*Liriodendron tulipifera*	8	8	
798**	*Liriodendron tulipifera*	8	8	
799**	*Carya glabra*	20	20	
800**	*Nyssa sylvatica*	7	7	
801**	*Robinia pseudoacacia*	13	13	
802**	*Liriodendron tulipifera*	18	18	TBR
803**	*Liriodendron tulipifera*	26	26	TBR
804**	*Platanus occidentalis*	21	21	TBR
805	*Liriodendron tulipifera*	29	29	TBR
806**	*Platanus occidentalis*	24	24	
808**	*Liriodendron tulipifera*	23	23	TBR
810**	*Juglans nigra*	17	17	
811**	*Liriodendron tulipifera*	25	25	
812**	*Liriodendron tulipifera*	16	16	
813**	*Liriodendron tulipifera*	6	6	
814**	*Liriodendron tulipifera*	20	20	TBR
817**	*Liriodendron tulipifera*	27	27	
818**	*Liriodendron tulipifera*	25	25	
819	*Quercus coccinea*	24	24	
820**	*Liriodendron tulipifera*	7	7	
821**	*Nyssa sylvatica*	9	9	
822**	*Platanus occidentalis*	19	19	
825**	*Acer negundo*	9	9	
826**	*Acer negundo*	7	7	
827**	*Acer negundo*	11	11	TBR
828**	*Acer negundo*	10	10	
829**	*Quercus rubra*	8	8	
830**	*Quercus alba*	19	19	
831	*Nyssa sylvatica*	8	8	
832	*Fagus grandifolia*	28	28	
833	*Nyssa sylvatica*	14	14	
834**	*Liriodendron tulipifera*	16	16	
836	*Liriodendron tulipifera*	8	8	
837**	*Acer negundo*	9	9	TBR
838	*Liriodendron tulipifera*	21	21	
839**	*Platanus occidentalis*	17	17	TBR

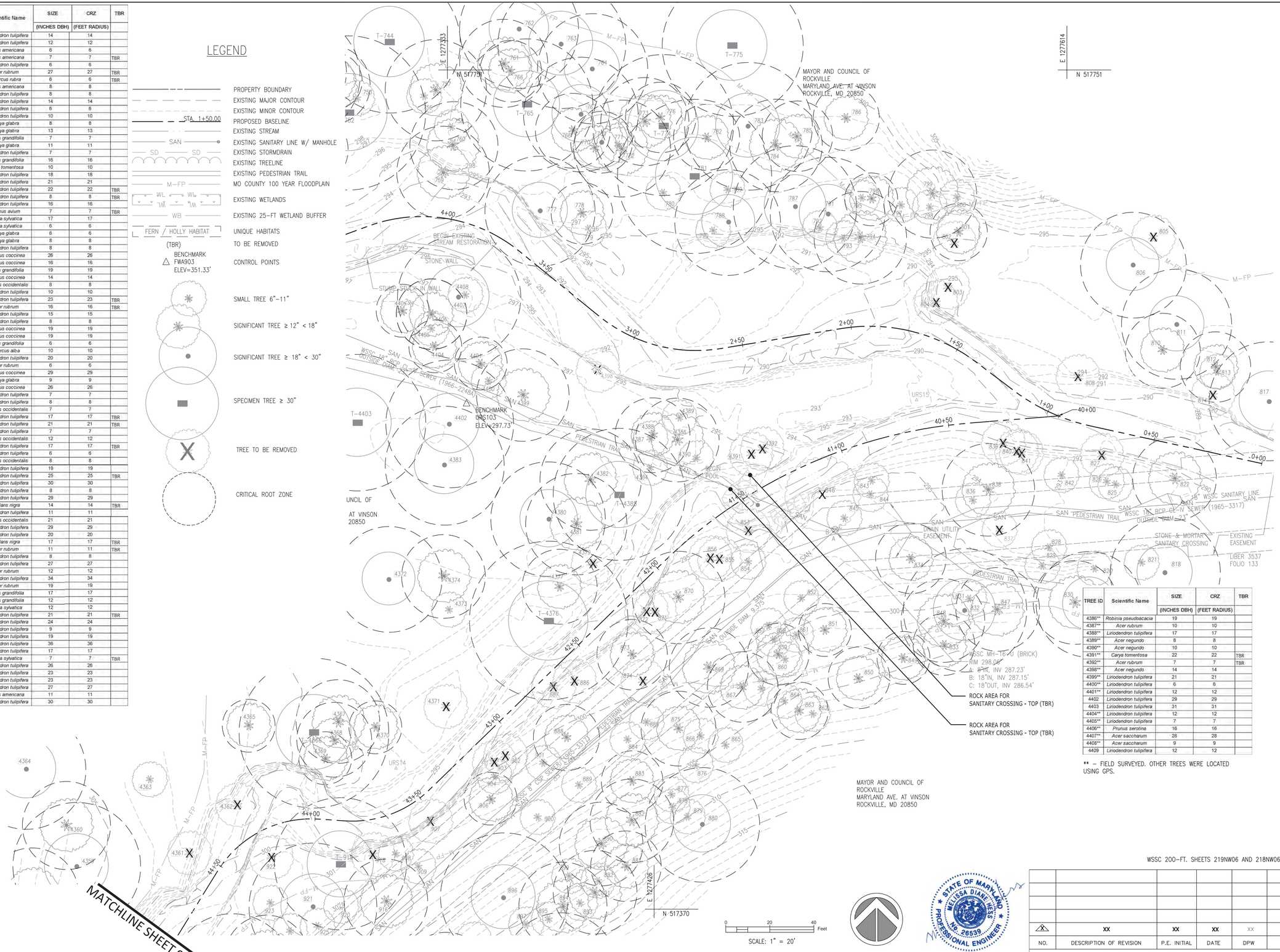
TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
850	*Liriodendron tulipifera*	14	14	
851**	*Liriodendron tulipifera*	12	12	
852	*Ulmus americana*	6	6	
853**	*Ulmus americana*	7	7	TBR
854**	*Liriodendron tulipifera*	6	6	
855**	*Acer rubrum*	27	27	TBR
856**	*Quercus rubra*	6	6	TBR
857	*Ulmus americana*	8	8	
858	*Liriodendron tulipifera*	8	8	
859**	*Liriodendron tulipifera*	14	14	
860**	*Liriodendron tulipifera*	6	6	
861**	*Liriodendron tulipifera*	10	10	
862	*Carya glabra*	8	8	
863	*Carya glabra*	13	13	
864	*Fagus grandifolia*	7	7	
865	*Carya glabra*	11	11	
866**	*Liriodendron tulipifera*	7	7	
867**	*Fagus grandifolia*	16	16	
868**	*Carya tomentosa*	10	10	
869**	*Liriodendron tulipifera*	18	18	
870**	*Liriodendron tulipifera*	21	21	
871**	*Liriodendron tulipifera*	22	22	TBR
872**	*Liriodendron tulipifera*	8	8	TBR
873**	*Liriodendron tulipifera*	16	16	
874**	*Prunus avium*	7	7	TBR
875**	*Nyssa sylvatica*	17	17	
876**	*Nyssa sylvatica*	6	6	
877	*Carya glabra*	6	6	
878	*Carya glabra*	8	8	
879	*Liriodendron tulipifera*	8	8	
880	*Quercus coccinea*	26	26	
881	*Quercus coccinea*	16	16	
882**	*Fagus grandifolia*	19	19	
883**	*Quercus coccinea*	14	14	
884**	*Platanus occidentalis*	8	8	
885**	*Liriodendron tulipifera*	10	10	
886**	*Liriodendron tulipifera*	23	23	TBR
887**	*Acer rubrum*	16	16	TBR
888**	*Liriodendron tulipifera*	15	15	
889**	*Liriodendron tulipifera*	8	8	
890**	*Quercus coccinea*	19	19	
891	*Quercus coccinea*	19	19	
892	*Fagus grandifolia*	6	6	
893	*Quercus alba*	10	10	
894**	*Liriodendron tulipifera*	20	20	
895**	*Acer rubrum*	6	6	
896**	*Quercus coccinea*	29	29	
897**	*Carya glabra*	9	9	
898	*Quercus coccinea*	26	26	
899**	*Liriodendron tulipifera*	7	7	
900**	*Liriodendron tulipifera*	8	8	
901**	*Platanus occidentalis*	7	7	
902**	*Liriodendron tulipifera*	17	17	TBR
903**	*Liriodendron tulipifera*	21	21	TBR
904**	*Liriodendron tulipifera*	7	7	
906**	*Platanus occidentalis*	12	12	
907**	*Liriodendron tulipifera*	17	17	TBR
908**	*Liriodendron tulipifera*	6	6	
909**	*Platanus occidentalis*	8	8	
916**	*Liriodendron tulipifera*	19	19	
918**	*Liriodendron tulipifera*	25	25	TBR
919**	*Liriodendron tulipifera*	30	30	
920**	*Liriodendron tulipifera*	8	8	
921**	*Liriodendron tulipifera*	29	29	
922**	*Juglans nigra*	14	14	TBR
925**	*Liriodendron tulipifera*	11	11	
4358	*Platanus occidentalis*	21	21	
4359	*Liriodendron tulipifera*	29	29	
4360	*Liriodendron tulipifera*	20	20	
4361**	*Juglans nigra*	17	17	TBR
4362**	*Acer rubrum*	11	11	TBR
4363**	*Liriodendron tulipifera*	8	8	
4364	*Liriodendron tulipifera*	27	27	
4365**	*Acer rubrum*	12	12	
4366**	*Liriodendron tulipifera*	34	34	
4367**	*Acer rubrum*	19	19	
4368**	*Fagus grandifolia*	17	17	
4369**	*Fagus grandifolia*	12	12	
4370**	*Nyssa sylvatica*	12	12	
4371**	*Liriodendron tulipifera*	21	21	TBR
4372	*Liriodendron tulipifera*	24	24	
4373	*Liriodendron tulipifera*	9	9	
4374	*Liriodendron tulipifera*	19	19	
4376**	*Liriodendron tulipifera*	36	36	
4377**	*Liriodendron tulipifera*	17	17	
4379**	*Nyssa sylvatica*	7	7	TBR
4380	*Liriodendron tulipifera*	26	26	
4381**	*Liriodendron tulipifera*	23	23	
4382	*Liriodendron tulipifera*	23	23	
4383	*Liriodendron tulipifera*	27	27	
4384**	*Ulmus americana*	11	11	
4385**	*Liriodendron tulipifera*	30	30	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

NOTE:
SEE SECTIONS 41+47 AND 41+50 ON SHEET 36 FOR DEPTH OF ROCK TO TOP OF SEWER.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL / WB — EXISTING WETLANDS
- EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- (TBR) — TO BE REMOVED
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4386**	*Robinia pseudoacacia*	19	19	
4387**	*Acer rubrum*	10	10	
4388**	*Liriodendron tulipifera*	17	17	
4389**	*Acer negundo*	8	8	
4390**	*Acer negundo*	10	10	
4391**	*Carya tomentosa*	22	22	TBR
4392**	*Acer rubrum*	7	7	TBR
4398**	*Acer negundo*	14	14	
4399**	*Liriodendron tulipifera*	21	21	
4400**	*Liriodendron tulipifera*	6	6	
4401**	*Liriodendron tulipifera*	12	12	
4402	*Liriodendron tulipifera*	29	29	
4403	*Liriodendron tulipifera*	31	31	
4404**	*Liriodendron tulipifera*	12	12	
4405**	*Liriodendron tulipifera*	7	7	
4406**	*Prunus serotina*	16	16	
4407**	*Acer saccharum*	28	28	
4408**	*Acer saccharum*	9	9	
4409	*Liriodendron tulipifera*	12	12	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE HESS · No. 28539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:57-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION

EXISTING CONDITIONS/DEMOLITION PLAN

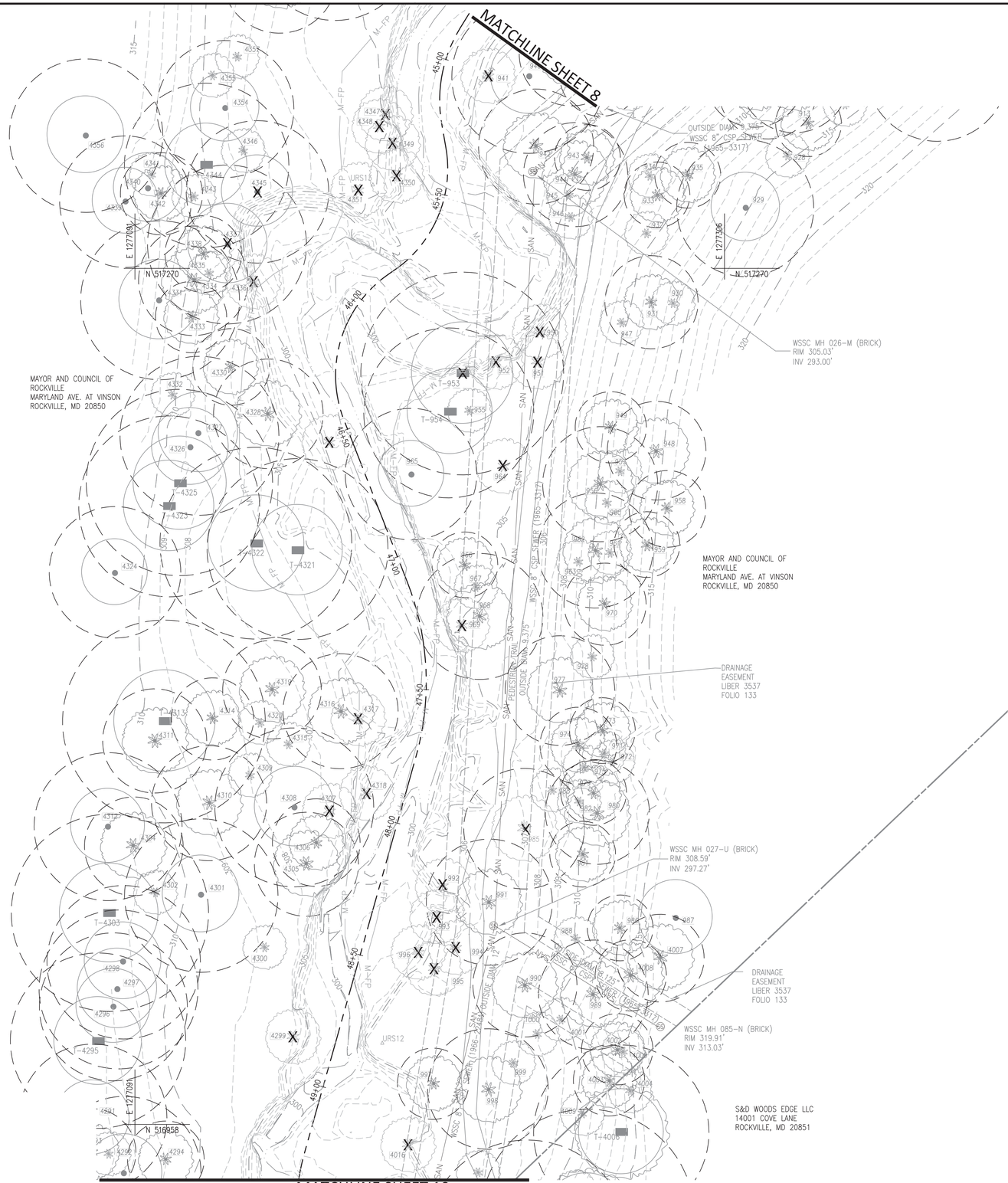
CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 4 & 5 AND CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 8 OF 84

FILE # G-134



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
898	*Quercus coccinea*	26	26	
910**	*Acer rubrum*	10	10	
911**	*Fagus grandifolia*	20	20	
912	*Fagus grandifolia*	11	11	
913**	*Fagus grandifolia*	12	12	
914**	*Liriodendron tulipifera*	18	18	
915**	*Liriodendron tulipifera*	18	18	
924**	*Liriodendron tulipifera*	6	6	
926**	*Liriodendron tulipifera*	8	8	
927**	*Liriodendron tulipifera*	6	6	
928	*Fagus grandifolia*	9	9	
929	*Fagus grandifolia*	25	25	
930**	*Carya glabra*	6	6	
931**	*Fagus grandifolia*	17	17	
932**	*Fagus grandifolia*	8	8	
933**	*Nyssa sylvatica*	12	12	
934**	*Fagus grandifolia*	10	10	
935**	*Fagus grandifolia*	12	12	
936**	*Liriodendron tulipifera*	7	7	
937**	*Liriodendron tulipifera*	11	11	
938**	*Liriodendron tulipifera*	15	15	
939**	*Liriodendron tulipifera*	19	19	
940**	*Platanus occidentalis*	28	28	
941**	*Liriodendron tulipifera*	15	15	TBR
942**	*Liriodendron tulipifera*	21	21	
943**	*Liriodendron tulipifera*	12	12	
944**	*Liriodendron tulipifera*	19	19	
945**	*Liriodendron tulipifera*	8	8	
946**	*Robinia pseudoacacia*	11	11	
947**	*Fagus grandifolia*	11	11	
948	*Acer rubrum*	18	18	
949**	*Fagus grandifolia*	13	13	
950**	*Liriodendron tulipifera*	16	16	TBR
951**	*Platanus occidentalis*	13	13	TBR
952**	*Liriodendron tulipifera*	10	10	TBR
953**	*Liriodendron tulipifera*	37	37	TBR
954**	*Liriodendron tulipifera*	31	31	
955**	*Liriodendron tulipifera*	11	11	
956**	*Acer rubrum*	21	21	
957**	*Fagus grandifolia*	8	8	
958	*Quercus rubra*	14	14	
959	*Carya glabra*	12	12	
960**	*Fagus grandifolia*	11	11	
961**	*Fagus grandifolia*	11	11	
962**	*Fagus grandifolia*	21	21	
963**	*Fagus grandifolia*	7	7	
964**	*Platanus occidentalis*	15	15	TBR
965**	*Liriodendron tulipifera*	24	24	
966**	*Liriodendron tulipifera*	12	12	
967**	*Platanus occidentalis*	10	10	
968**	*Liriodendron tulipifera*	23	23	
969**	*Liriodendron tulipifera*	23	23	TBR
970**	*Quercus coccinea*	15	15	
971	*Carya tomentosa*	8	8	
972	*Acer rubrum*	10	10	
973**	*Carya tomentosa*	12	12	
974**	*Carya tomentosa*	14	14	
975**	*Liriodendron tulipifera*	6	6	
977**	*Fagus grandifolia*	20	20	
978**	*Carya tomentosa*	8	8	
979**	*Liriodendron tulipifera*	12	12	
980**	*Quercus coccinea*	19	19	
981**	*Liriodendron tulipifera*	12	12	
982**	*Acer rubrum*	7	7	
983**	*Liriodendron tulipifera*	6	6	
985**	*Liriodendron tulipifera*	22	22	
986	*Fagus grandifolia*	12	12	
987	*Quercus velutina*	27	27	
988**	*Fagus grandifolia*	8	8	
989**	*Liriodendron tulipifera*	20	20	
990**	*Liriodendron tulipifera*	19	19	
991**	*Platanus occidentalis*	23	23	
992**	*Acer negundo*	8	8	TBR
993**	*Acer rubrum*	7	7	TBR
994**	*Acer negundo*	9	9	TBR
995**	*Acer rubrum*	7	7	TBR
996**	*Platanus occidentalis*	22	22	TBR
997**	*Acer negundo*	13	13	
998**	*Liriodendron tulipifera*	22	22	
999**	*Acer negundo*	6	6	
1000**	*Platanus occidentalis*	11	11	
4001**	*Liriodendron tulipifera*	6	6	
4002	*Platanus occidentalis*	13	13	
4003	*Liriodendron tulipifera*	13	13	
4004	*Acer rubrum*	7	7	
4005	*Acer negundo*	8	8	
4006	*Carya glabra*	32	32	
4007	*Liriodendron tulipifera*	16	16	
4008	*Carya tomentosa*	13	13	
4009**	*Acer rubrum*	6	6	
4016**	*Acer negundo*	11	11	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4291	*Acer rubrum*	27	27	
4292	*Acer rubrum*	10	10	
4293	*Acer rubrum*	16	16	
4294**	*Liriodendron tulipifera*	14	14	
4295	*Liriodendron tulipifera*	32	32	
4296	*Acer rubrum*	27	27	
4297	*Liriodendron tulipifera*	29	29	
4298	*Platanus occidentalis*	28	28	
4299**	*Acer rubrum*	28	28	TBR
4300**	*Juglans nigra*	8	8	
4301	*Liriodendron tulipifera*	28	28	
4302	*Acer rubrum*	11	11	
4303	*Liriodendron tulipifera*	36	36	
4304	*Platanus occidentalis*	18	18	
4305**	*Acer rubrum*	19	19	
4306**	*Acer rubrum*	16	16	
4307**	*Acer rubrum*	20	20	TBR
4308**	*Platanus occidentalis*	29	29	
4309	*Prunus serotina*	11	11	
4310	*Prunus serotina*	21	21	
4311	*Acer rubrum*	19	19	
4312	*Liriodendron tulipifera*	27	27	
4313	*Liriodendron tulipifera*	37	37	
4314	*Prunus serotina*	15	15	
4315*	*Platanus occidentalis*	10	10	
4316**	*Liriodendron tulipifera*	21	21	
4317**	*Acer rubrum*	8	8	TBR
4318**	*Prunus avium*	6	6	TBR
4319**	*Liriodendron tulipifera*	18	18	
4320	*Liriodendron tulipifera*	6	6	
4321**	*Platanus occidentalis*	33	33	
4322**	*Liriodendron tulipifera*	35	35	
4323	*Liriodendron tulipifera*	33	33	
4324	*Liriodendron tulipifera*	24	24	
4325	*Liriodendron tulipifera*	34	34	
4326	*Liriodendron tulipifera*	28	28	
4327	*Liriodendron tulipifera*	29	29	
4328**	*Platanus occidentalis*	20	20	
4329**	*Morus alba*	7	7	TBR
4330**	*Platanus occidentalis*	14	14	
4331	*Liriodendron tulipifera*	29	29	
4332**	*Acer rubrum*	6	6	
4333**	*Platanus occidentalis*	13	13	
4334**	*Liriodendron tulipifera*	20	20	
4335**	*Liriodendron tulipifera*	7	7	
4336**	*Liriodendron tulipifera*	21	21	TBR
4337**	*Liriodendron tulipifera*	29	29	TBR
4338**	*Liriodendron tulipifera*	14	14	
4339	*Liriodendron tulipifera*	24	24	
4340**	*Liriodendron tulipifera*	25	25	
4341**	*Acer rubrum*	8	8	
4342**	*Liriodendron tulipifera*	15	15	
4343**	*Acer saccharum*	6	6	
4344**	*Liriodendron tulipifera*	30	30	
4345**	*Liriodendron tulipifera*	26	26	TBR
4346**	*Acer saccharum*	7	7	
4347**	*Liriodendron tulipifera*	21	21	TBR
4348**	*Platanus occidentalis*	15	15	TBR
4349**	*Acer rubrum*	8	8	TBR
4350**	*Acer rubrum*	22	22	TBR
4351**	*Platanus occidentalis*	11	11	TBR
4354	*Liriodendron tulipifera*	25	25	
4355	*Acer rubrum*	7	7	
4356	*Liriodendron tulipifera*	28	28	
4357	*Acer rubrum*	10	10	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Wainut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidombar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL WL WL EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT UNIQUE HABITATS
- (TBR) TO BE REMOVED
- BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

0 20 40 Feet

SCALE: 1" = 20'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:45:58-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 9 OF 84

FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4010**	Quercus velutina	36	39	
4011	Carya glabra	10	10	
4012**	Carya glabra	7	7	
4013**	Liriodendron tulipifera	37	37	
4014**	Liriodendron tulipifera	8	8	
4015**	Liriodendron tulipifera	8	8	
4016**	Acer negundo	11	11	TBR
4018**	Liriodendron tulipifera	6	6	
4019**	Liriodendron tulipifera	6	6	
4020	Fagus grandifolia	16	16	
4021	Liriodendron tulipifera	11	11	
4022**	Liriodendron tulipifera	12	12	
4023**	Liriodendron tulipifera	15	15	
4024**	Liriodendron tulipifera	14	14	
4025**	Acer negundo	8	8	TBR
4026**	Prunus avium	7	7	
4027**	Liriodendron tulipifera	14	14	
4028**	Carya glabra	14	14	
4029**	Juglans nigra	9	9	
4030	Carya glabra	7	7	
4031**	Carya tomentosa	13	13	
4032**	Liriodendron tulipifera	10	10	TBR
4033**	Acer negundo	9	9	TBR
4034**	Liriodendron tulipifera	9	9	
4035	Platanus occidentalis	33	33	
4036**	Liriodendron tulipifera	6	6	
4037**	Platanus occidentalis	12	12	
4038**	Acer rubrum	16	16	
4039	Quercus coccinea	38	38	
4040**	Juglans nigra	17	17	TBR
4041**	Liriodendron tulipifera	10	10	TBR
4042**	Acer rubrum	7	7	TBR
4043	Acer saccharum	7	7	
4044	Platanus occidentalis	28	28	
4045**	Acer saccharum	6	6	
4046**	Acer rubrum	37	37	
4047**	Pinus virginiana	16	16	TBR
4048**	Acer negundo	7	7	TBR
4049**	Platanus occidentalis	13	13	TBR
4050**	Morus alba	7	7	TBR
4053**	Platanus occidentalis	24	24	
4054**	Liriodendron tulipifera	18	18	
4055	Platanus occidentalis	29	29	
4056	Juglans nigra	7	7	
4057**	Acer rubrum	9	9	
4058**	Liriodendron tulipifera	11	11	
4059	Prunus serotina	7	7	TBR
4060**	Juglans nigra	14	14	
4061**	Platanus occidentalis	>12	>12	
4062**	Liriodendron tulipifera	28	28	
4063**	Acer rubrum	7	7	
4064**	Platanus occidentalis	32	32	
4065**	Liriodendron tulipifera	14	14	
4066**	Liriodendron tulipifera	11	11	
4067**	Liriodendron tulipifera	18	18	TBR
4068**	Liriodendron tulipifera	15	15	TBR
4069**	Acer rubrum	9	9	TBR
4070**	Liriodendron tulipifera	8	8	
4071**	Liriodendron tulipifera	6	6	
4072	Liriodendron tulipifera	17	17	
4073	Liriodendron tulipifera	27	27	
4074	Liriodendron tulipifera	27	27	
4075	Prunus avium	6	6	
4076	Acer rubrum	26	26	
4077	Liriodendron tulipifera	28	28	
4078	Acer rubrum	13	13	
4079	Liriodendron tulipifera	20	20	
4080**	Platanus occidentalis	22	22	
4081**	Platanus occidentalis	26	26	
4082	Liriodendron tulipifera	8	8	
4083	Liriodendron tulipifera	36	36	
4084	Platanus occidentalis	28	28	
4085**	Acer negundo	6	6	
4086**	Acer negundo	20	20	TBR
4087	Acer rubrum	25	25	
4088**	Acer rubrum	6	6	TBR
4089**	Prunus serotina	12	12	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4222	Platanus occidentalis	38	36	
4223**	Acer rubrum	9	9	
4224**	Acer saccharum	6	6	
4225**	Acer saccharum	7	7	TBR
4226**	Liriodendron tulipifera	29	29	
4227**	Acer negundo	9	9	
4228**	Acer rubrum	13	13	TBR
4229**	Platanus occidentalis	20	20	
4230**	Platanus occidentalis	20	20	
4231**	Acer rubrum	9	9	
4232**	Acer negundo	14	14	TBR
4233**	Acer saccharum	7	7	
4234	Juglans nigra	17	17	
4235	Acer negundo	8	8	
4236**	Platanus occidentalis	22	22	
4237	Acer saccharum	6	6	
4238	Juglans nigra	10	10	
4239	Juglans nigra	16	16	
4240	Juglans nigra	24	24	
4242	Platanus occidentalis	10	10	
4244**	Platanus occidentalis	25	25	
4245**	Acer negundo	10	10	
4246**	Platanus occidentalis	21	21	
4247**	Platanus occidentalis	11	11	
4248	Acer negundo	6	6	
4249	Platanus occidentalis	7	7	
4250	Platanus occidentalis	10	10	
4251**	Prunus serotina	15	15	
4252	Acer negundo	7	7	
4253	Platanus occidentalis	9	9	
4254**	Platanus occidentalis	22	22	
4255**	Juglans nigra	6	6	
4256**	Platanus occidentalis	15	15	
4257**	Acer saccharum	12	12	TBR
4258**	Platanus occidentalis	25	25	
4259**	Acer saccharum	7	7	TBR
4260**	Platanus occidentalis	16	16	
4261	Platanus occidentalis	21	21	
4262	Juglans nigra	15	15	
4263	Acer saccharum	14	14	
4264	Platanus occidentalis	23	23	
4265**	Acer rubrum	24	24	
4266**	Acer negundo	6	6	TBR
4267**	Morus alba	8	8	TBR
4268**	Juglans nigra	15	15	
4269**	Acer negundo	11	11	
4270**	Platanus occidentalis	21	21	
4271**	Platanus occidentalis	22	22	
4272	Acer negundo	9	9	
4273**	Juglans nigra	20	20	
4277**	Fagus grandifolia	7	7	
4278**	Juglans nigra	12	12	TBR
4279**	Juglans nigra	17	17	TBR
4280**	Acer negundo	7	7	TBR
4281**	Juglans nigra	14	14	TBR
4282**	Platanus occidentalis	57	57	
4283	Acer rubrum	30	30	
4284	Liriodendron tulipifera	18	18	
4285	Acer platanoides	6	6	
4286**	Liriodendron tulipifera	19	19	
4287	Platanus occidentalis	12	12	
4288	Acer saccharum	10	10	
4289	Platanus occidentalis	7	7	
4290	Platanus occidentalis	28	28	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tomentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL WL WL WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- (TBR) — TO BE REMOVED
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- X — TREE TO BE REMOVED
- CRITICAL ROOT ZONE

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

0 20 40 Feet

SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE REES · No. 28539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:45:59-04'00'

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

CALVIN TRIBUTARY REACH 6

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

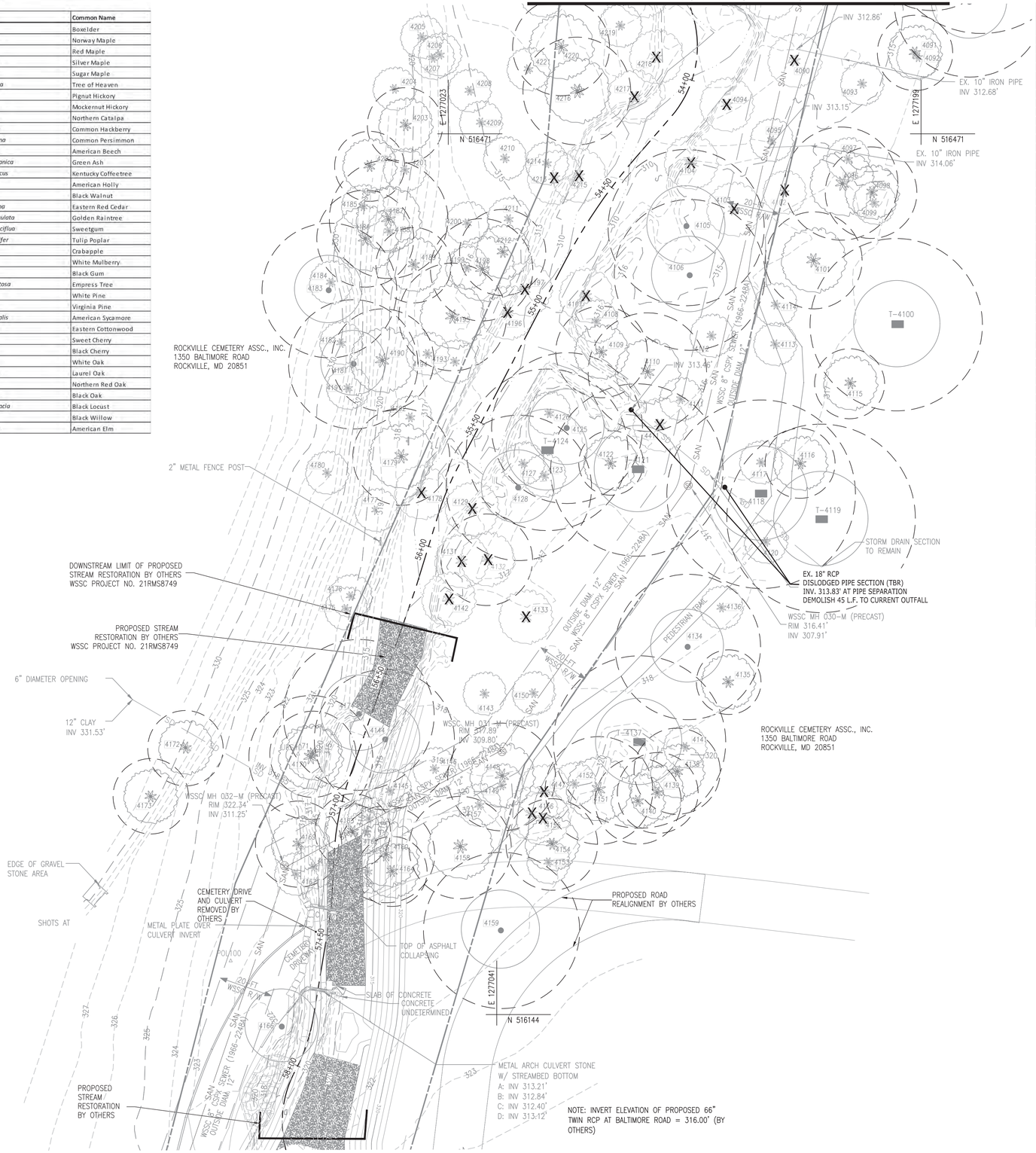
SCALE 1"=20'

SHEET NO. 10 OF 84

FILE # G-134

Tree Species Key

Scientific Name	Common Name
Acer negundo	Boxelder
Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
Ailanthus altissima	Tree of Heaven
Carya glabra	Pignut Hickory
Carya tomentosa	Mockernut Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Common Hackberry
Diospyros virginiana	Common Persimmon
Fagus grandifolia	American Beech
Fraxinus pennsylvanica	Green Ash
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juglans nigra	Black Walnut
Juniperus virginiana	Eastern Red Cedar
Koelreuteria paniculata	Golden Raintree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifer	Tulip Poplar
Malus sp.	Crabapple
Morus alba	White Mulberry
Nyssa sylvatica	Black Gum
Paulownia tamentosa	Empress Tree
Pinus strobus	White Pine
Pinus virginiana	Virginia Pine
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Prunus avium	Sweet Cherry
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus laurifolia	Laurel Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Robinia pseudoacacia	Black Locust
Salix nigra	Black Willow
Ulmus americana	American Elm



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4090**	*Acer negundo*	10	10	TBR
4091	*Liriodendron tulipifera*	14	14	
4092	*Prunus serotina*	6	6	
4093**	*Malus sp.*	6	6	
4094**	*Prunus serotina*	21	21	TBR
4095**	*Acer negundo*	8	8	
4096**	*Platanus occidentalis*	21	21	
4097**	*Acer rubrum*	10	10	
4098**	*Platanus occidentalis*	17	17	
4099**	*Acer saccharum*	7	7	
4100**	*Liriodendron tulipifera*	32	32	
4101**	*Acer rubrum*	18	18	
4102**	*Liriodendron tulipifera*	7	7	TBR
4103**	*Acer negundo*	7	7	TBR
4104**	*Platanus occidentalis*	27	27	TBR
4105**	*Liriodendron tulipifera*	29	29	
4106**	*Liriodendron tulipifera*	28	28	
4107**	*Acer saccharum*	7	7	TBR
4108**	*Acer saccharum*	9	9	
4109**	*Platanus occidentalis*	17	17	
4110**	*Platanus occidentalis*	22	22	
4111**	*Acer negundo*	7	7	
4112**	*Acer negundo*	9	9	
4113**	*Acer negundo*	7	7	
4114**	*Acer negundo*	7	7	
4115**	*Liriodendron tulipifera*	13	13	
4116**	*Acer negundo*	13	13	
4117**	*Acer negundo*	6	6	
4118**	*Acer rubrum*	35	35	
4119**	*Quercus coccinea*	35	35	
4120**	*Liriodendron tulipifera*	6	6	
4121**	*Liriodendron tulipifera*	32	32	
4122**	*Carya glabra*	12	12	
4123	*Acer saccharum*	8	8	
4124**	*Platanus occidentalis*	30	30	
4125**	*Platanus occidentalis*	28	28	
4126**	*Acer saccharum*	11	11	
4127**	*Acer saccharum*	11	11	
4128**	*Platanus occidentalis*	27	27	
4129**	*Acer saccharum*	8	8	TBR
4131**	*Acer saccharum*	12	12	TBR
4132**	*Acer saccharum*	17	17	TBR
4133	*Acer rubrum*	10	10	TBR
4134**	*Liriodendron tulipifera*	27	27	
4135	*Liriodendron tulipifera*	12	12	
4136**	*Acer rubrum*	7	7	
4137**	*Acer rubrum*	32	32	
4138	*Liriodendron tulipifera*	16	16	
4139	*Robinia pseudoacacia*	15	15	
4140	*Acer negundo*	16	16	
4141	*Acer rubrum*	6	6	
4142**	*Acer saccharum*	6	6	TBR
4143**	*Platanus occidentalis*	8	8	
4144**	*Platanus occidentalis*	26	26	
4145	*Acer negundo*	6	6	
4146	*Liriodendron tulipifera*	11	11	
4147**	*Platanus occidentalis*	17	17	TBR
4148**	*Platanus occidentalis*	20	20	
4149**	*Platanus occidentalis*	9	9	
4150**	*Morus alba*	7	7	
4151**	*Populus deltoides*	20	20	
4152**	*Acer negundo*	8	8	
4153	*Robinia pseudoacacia*	6	6	
4154**	*Platanus occidentalis*	17	17	
4155	*Acer negundo*	12	12	TBR
4156	*Acer negundo*	8	8	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4157**	*Acer negundo*	7	7	
4158**	*Acer negundo*	19	19	
4159**	*Acer rubrum*	29	29	
4160	*Catalpa speciosa*	18	18	
4161	*Acer negundo*	7	7	
4162	*Acer negundo*	7	7	
4163	*Salix nigra*	14	14	
4164	*Paulownia tomentosa*	13	13	
4165	*Robinia pseudoacacia*	7	7	
4166	*Platanus occidentalis*	27	27	
4167	*Acer negundo*	10	10	
4168	*Ulmus americana*	11	11	
4169	*Acer negundo*	16	16	
4170**	*Platanus occidentalis*	23	23	
4171**	*Acer negundo*	16	16	
4172	*Juniperus virginiana*	14	14	
4173	*Acer rubrum*	14	14	
4174**	*Platanus occidentalis*	28	28	
4175**	*Acer negundo*	6	6	
4176**	*Acer negundo*	9	9	
4177**	*Acer saccharum*	7	7	
4178**	*Acer saccharum*	18	18	TBR
4179**	*Acer saccharum*	18	18	
4180	*Acer saccharum*	9	9	
4181	*Platanus occidentalis*	24	24	
4182	*Acer saccharum*	9	9	
4183	*Juglans nigra*	25	25	
4184	*Acer saccharum*	6	6	
4185	*Acer saccharum*	8	8	
4186	*Juglans nigra*	18	18	
4187	*Platanus occidentalis*	22	22	
4188	*Acer saccharum*	10	10	
4189	*Acer saccharum*	14	14	
4190	*Acer saccharum*	19	19	
4191	*Juglans nigra*	11	11	
4192**	*Acer saccharum*	11	11	
4193**	*Acer saccharum*	7	7	
4194**	*Acer saccharum*	10	10	
4195**	*Catalpa speciosa*	20	20	
4196**	*Acer saccharum*	6	6	TBR
4197**	*Platanus occidentalis*	21	21	TBR
4198**	*Prunus serotina*	19	19	
4199**	*Acer saccharum*	6	6	
4200	*Acer saccharum*	8	8	
4201	*Acer saccharum*	10	10	
4202	*Acer saccharum*	13	13	
4203	*Acer saccharum*	14	14	
4204	*Acer saccharum*	6	6	
4205	*Acer saccharum*	8	8	
4206	*Acer saccharum*	6	6	
4207	*Acer saccharum*	7	7	
4208	*Acer saccharum*	11	11	
4209	*Acer saccharum*	7	7	
4210**	*Acer saccharum*	6	6	
4211**	*Acer saccharum*	7	7	
4212**	*Juglans nigra*	16	16	
4213**	*Acer saccharum*	14	14	TBR
4214**	*Nyssa sylvatica*	9	9	
4215**	*Acer saccharum*	9	9	TBR
4216**	*Acer saccharum*	20	20	
4217**	*Acer saccharum*	8	8	TBR
4218**	*Paulownia tomentosa*	9	9	TBR
4219**	*Acer saccharum*	7	7	
4220**	*Juglans nigra*	18	18	
4221	*Acer saccharum*	9	9	
4225**	*Acer saccharum*	7	7	TBR
4411**	*Liriodendron tulipifera*	7	7	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL WL / WM WM — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS TO BE REMOVED
- (TBR)
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA D'AMELIO · NO. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:00-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

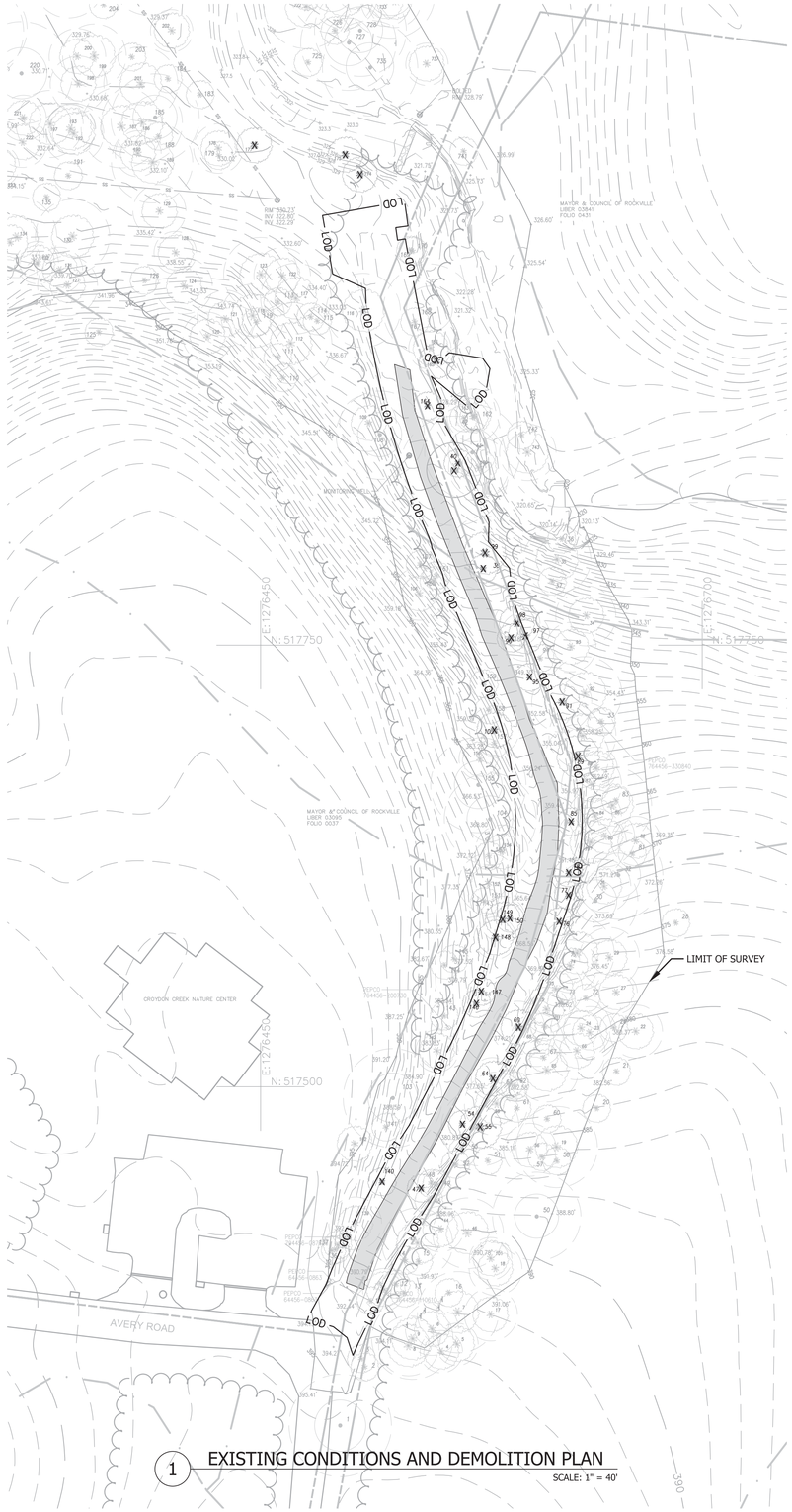
STREAM RESTORATION
EXISTING CONDITIONS/DEMOLITION PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 11 OF 84
FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
1	*Quercus alba*	29	29	
2	*Quercus velutina*	8	8	
3	*Prunus avium*	11	11	
4	*Fagus grandifolia*	12	12	
5	*Acer rubrum*	12	12	
6	*Fagus grandifolia*	15	15	
7	*Quercus velutina*	23	23	
8	*Fagus grandifolia*	17	17	
9	*Quercus alba*	23	23	
10	*Acer negundo*	6	6	
11	*Juglans nigra*	12	12	
12	*Quercus alba*	9	9	
13	*Prunus serotina*	6	6	
14	*Carya glabra*	6	6	
15	*Diospyros virginiana*	7	7	
16	*Prunus serotina*	7	7	
17	*Nyssa sylvatica*	15	15	
18	*Nyssa sylvatica*	15	15	
19	*Carya glabra*	23	23	
20	*Fagus grandifolia*	10	10	
21	*Carya glabra*	9	9	
22	*Quercus velutina*	15	15	
23	*Nyssa sylvatica*	15	15	
24	*Quercus alba*	17	17	
25	*Quercus alba*	13	13	
26	*Quercus alba*	8	8	
27	*Liriodendron tulipifera*	12	12	
28	*Nyssa sylvatica*	10	10	
29	*Carya tomentosa*	17	17	
30	*Quercus alba*	24	24	
31	*Quercus alba*	15	15	
32	*Quercus coccinea*	25	25	
33	*Quercus alba*	9	9	
34	*Quercus alba*	17	17	
35	*Carya glabra*	19	19	
36	*Acer rubrum*	6	6	
37	*Quercus alba*	6	6	
38	*Prunus avium*	6	6	TBR
39	*Quercus rubra*	31	31	TBR
40	*Carya tomentosa*	8	8	TBR
41	*Quercus rubra*	27	27	
42	*Carya tomentosa*	6	6	
43	*Quercus velutina*	20	20	
44	*Carya tomentosa*	13	13	
45	*Prunus avium*	10	10	
46	*Quercus alba*	20	20	
47	*Morus alba*	8	8	TBR
48	*Morus alba*	6	6	
49	*Robinia pseudoacacia*	11	11	
50	*Quercus alba*	25	25	
51	*Quercus alba*	10	10	
52	*Acer rubrum*	8	8	
53	*Quercus velutina*	9	9	
54	*Morus alba*	7	7	TBR
55	*Quercus alba*	22	22	TBR
56	*Fagus grandifolia*	17	17	
57	*Carya glabra*	10	10	
58	*Acer rubrum*	6	6	
59	*Quercus alba*	18	18	
60	*Liriodendron tulipifera*	6	6	
61	*Quercus alba*	11	11	
62	*Quercus alba*	8	8	
63	*Quercus alba*	8	8	
64	*Liriodendron tulipifera*	12	12	TBR
65	*Quercus alba*	18	18	
66	*Quercus coccinea*	16	16	
67	*Fagus grandifolia*	7	7	
68	*Quercus alba*	15	15	
69	*Liriodendron tulipifera*	15	15	TBR
70	*Quercus alba*	7	7	
71	*Quercus alba*	7	7	
72	*Quercus alba*	10	10	
73	*Quercus alba*	15	15	
74	*Quercus alba*	15	15	
75	*Quercus alba*	21	21	
76	*Liriodendron tulipifera*	10	10	TBR
77	*Liriodendron tulipifera*	8	8	TBR
78	*Liriodendron tulipifera*	8	8	TBR
79	*Quercus coccinea*	20	20	
80	*Quercus coccinea*	17	17	
81	*Quercus alba*	7	7	
82	*Quercus alba*	14	14	
83	*Quercus alba*	8	8	
84	*Quercus alba*	15	15	
85	*Liriodendron tulipifera*	8	8	TBR
86	*Quercus alba*	22	22	
87	*Quercus velutina*	17	17	
88	*Quercus alba*	12	12	
89	*Quercus alba*	18	18	TBR
90	*Quercus alba*	19	19	

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
91	*Quercus coccinea*	17	17	TBR
92	*Quercus rubra*	21	21	
93	*Quercus alba*	14	14	
94	*Quercus alba*	11	11	
95	*Morus alba*	6	6	TBR
96	*Morus alba*	8	8	TBR
97	*Quercus alba*	14	14	
98	*Carya glabra*	13	13	TBR
99	*Quercus alba*	21	21	TBR
100	*Quercus rubra*	17	17	
101	*Carya glabra*	12	12	
102	*Juglans nigra*	15	15	
103	*Acer negundo*	36	36	
104	*Liriodendron tulipifera*	26	26	
105	*Robinia pseudoacacia*	14	14	TBR
106	*Acer negundo*	15	15	
107	*Acer negundo*	7	7	
108	*Liriodendron tulipifera*	25	25	
109	*Juglans nigra*	16	16	
110	*Liriodendron tulipifera*	11	11	
111	*Liriodendron tulipifera*	6	6	
112	*Liriodendron tulipifera*	23	23	
113	*Liriodendron tulipifera*	8	8	
114	*Liriodendron tulipifera*	8	8	
115	*Liriodendron tulipifera*	9	9	
116	*Liriodendron tulipifera*	25	25	
117	*Liriodendron tulipifera*	20	20	
118	*Liriodendron tulipifera*	18	18	
119	*Acer negundo*	7	7	
120	*Acer negundo*	14	14	
121	*Acer negundo*	16	16	
122	*Fagus grandifolia*	16	16	
123	*Quercus laurifolia*	21	21	
124	*Acer negundo*	16	16	
125	*Acer negundo*	7	7	
126	*Acer negundo*	7	7	
127	*Acer negundo*	17	17	
128	*Acer negundo*	12	12	
129	*Acer negundo*	15	15	
130	*Juglans nigra*	21	21	
131	*Acer negundo*	13	13	
132	*Acer negundo*	12	12	
133	*Juglans nigra*	16	16	
134	*Acer negundo*	23	23	
135	*Acer negundo*	11	11	
136	*Koelreuteria paniculata*	8	8	
137	*Diospyros virginiana*	8	8	
138	*Acer negundo*	7	7	
139	*Juglans nigra*	15	15	
140	*Acer negundo*	9	9	TBR
141	*Acer negundo*	11	11	
142	*Acer negundo*	16	16	
143	*Acer negundo*	9	9	
144	*Acer negundo*	11	11	
145	*Ailanthus altissima*	8	8	
146	*Acer negundo*	10	10	TBR
147	*Robinia pseudoacacia*	11	11	TBR
148	*Juglans nigra*	12	12	TBR
149	*Juglans nigra*	14	14	TBR
150	*Acer negundo*	9	9	TBR
151	*Acer negundo*	9	9	
152	*Acer negundo*	17	17	
153	*Acer negundo*	6	6	
154	*Prunus serotina*	15	15	
155	*Platanus occidentalis*	27	27	
156	*Juglans nigra*	12	12	
157	*Liriodendron tulipifera*	10	10	
158	*Robinia pseudoacacia*	10	10	
159	*Prunus serotina*	6	6	
160	*Robinia pseudoacacia*	8	8	
161	*Robinia pseudoacacia*	11	11	
162	*Liriodendron tulipifera*	11	11	
163	*Liriodendron tulipifera*	15	15	
164	*Acer negundo*	7	7	TBR
165	*Acer negundo*	8	8	TBR
166	*Nyssa sylvatica*	12	12	
167	*Acer negundo*	9	9	
168	*Quercus alba*	26	26	
169	*Acer negundo*	11	11	
170	*Acer negundo*	8	8	



1 EXISTING CONDITIONS AND DEMOLITION PLAN
SCALE: 1" = 40'

LEGEND

- PROPERTY LINE
- 340 EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- HYDROLOGIC SOIL BOUNDARY
- EXISTING TREELINE
- EXISTING CONCRETE ROAD & PATH
- LOD LIMITS OF DISTURBANCE
- DEMOLITION AREA
- SMALL TREE 6-11"
- SIGNIFICANT TREE 12-18"
- SIGNIFICANT TREE 18-29"
- SPECIMEN TREE 30"+
- X TREE TO BE REMOVED
- CRITICAL ROOT ZONE

DEMOLITION NOTES

1. IF CONTRACTOR DAMAGES EXISTING ITEMS NOT INDICATED TO BE DEMOLISHED, THE CONTRACTOR SHALL REPLACE THE DAMAGED ITEMS TO THE SATISFACTION OF THE CITY AT NO ADDITIONAL COST TO THE CITY.
2. ALL DEMOLISHED ROCK SHALL REMAIN ON SITE TO BE REUSED DURING CONSTRUCTION IF IT MEETS PROJECT SPECIFICATIONS.

HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

40 0 40 80
SCALE: 1" = 40'

STATE OF MARYLAND
MELISSA DIANE KESS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	xx	xx	xx	xx	xx

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:01-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY
XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD EXISTING CONDITIONS & DEMOLITION PLAN

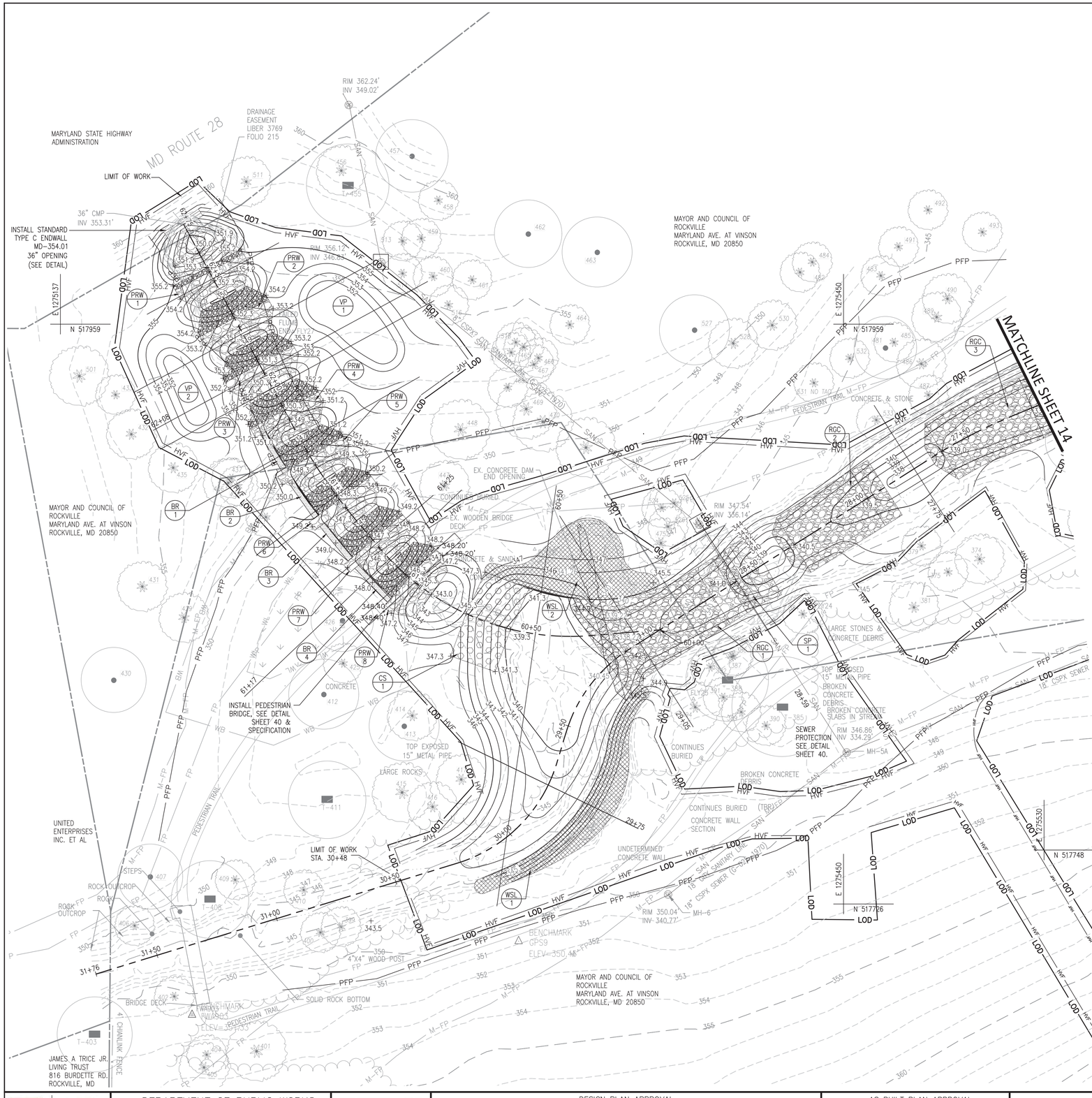
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=40'

SHEET NO. 12 OF 84

FILE # DPW TO PROVIDE



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
373**	*Platanus occidentalis*	28	28	TBR
374**	*Liriodendron tulipifera*	16	16	
375**	*Platanus occidentalis*	6	6	
376**	*Acer negundo*	7	7	TBR
377**	*Juglans nigra*	14	14	TBR
378**	*Acer negundo*	8	8	TBR
379**	*Juglans nigra*	10	10	
380**	*Platanus occidentalis*	21	21	TBR
381**	*Juglans nigra*	14	14	
383**	*Acer negundo*	17	17	TBR
384**	*Morus alba*	10	10	
385**	*Platanus occidentalis*	40	40	
386**	*Acer negundo*	9	9	TBR
387**	*Acer negundo*	9	9	TBR
388**	*Juglans nigra*	33	33	
389**	*Robinia pseudoacacia*	11	11	
390**	*Acer negundo*	6	6	
391	*Prunus serotina*	7	7	
392**	*Robinia pseudoacacia*	9	9	TBR
393**	*Acer negundo*	8	8	TBR
394**	*Robinia pseudoacacia*	14	14	
395**	*Acer negundo*	7	7	TBR
396**	*Acer negundo*	6	6	TBR
397**	*Salix nigra*	10	10	TBR
398**	*Fraxinus pennsylvanica*	8	8	TBR
399**	*Fraxinus pennsylvanica*	7	7	
400**	*Ulmus americana*	6	6	
401	*Nyssa sylvatica*	21	21	
402	*Fraxinus pennsylvanica*	11	11	
403	*Quercus alba*	30	30	
404	*Prunus avium*	6	6	
405	*Prunus serotina*	12	12	
406	*Morus alba*	6	6	
407	*Quercus alba*	26	26	
408	*Quercus alba*	31	31	
409	*Prunus serotina*	6	6	
410**	*Betula nigra*	8	8	
411**	*Acer saccharinum*	31	31	
412**	*Acer saccharinum*	28	28	
413**	*Acer saccharinum*	28	28	
414**	*Acer negundo*	15	15	
415**	*Platanus occidentalis*	22	22	
416**	*Robinia pseudoacacia*	13	13	
417**	*Robinia pseudoacacia*	13	13	
418**	*Acer saccharinum*	15	15	TBR
419**	*Acer negundo*	10	10	TBR
422**	*Robinia pseudoacacia*	8	8	TBR
423**	*Acer saccharinum*	11	11	TBR
424**	*Acer negundo*	16	16	TBR
425**	*Acer saccharinum*	10	10	
426**	*Acer saccharinum*	25	25	
429	*Robinia pseudoacacia*	17	17	
430	*Platanus occidentalis*	26	26	
431	*Acer negundo*	17	17	
432**	*Juglans nigra*	13	13	
433**	*Juglans nigra*	8	8	
434**	*Acer rubrum*	13	13	TBR
435**	*Robinia pseudoacacia*	13	13	
436**	*Robinia pseudoacacia*	16	16	
437**	*Robinia pseudoacacia*	11	11	
438**	*Robinia pseudoacacia*	9	9	
439**	*Acer negundo*	11	11	
440**	*Robinia pseudoacacia*	7	7	TBR
441**	*Juglans nigra*	11	11	TBR
442**	*Juglans nigra*	16	16	TBR
443	*Juglans nigra*	7	7	TBR
444**	*Acer negundo*	18	18	TBR
445**	*Juglans nigra*	20	20	TBR
446**	*Acer negundo*	10	10	TBR
447**	*Juglans nigra*	12	12	
448**	*Liriodendron tulipifera*	18	18	
449**	*Juglans nigra*	29	29	TBR
450**	*Robinia pseudoacacia*	6	6	TBR
451**	*Robinia pseudoacacia*	7	7	TBR
453**	*Robinia pseudoacacia*	7	7	TBR
454**	*Acer negundo*	10	10	TBR
455**	*Quercus coccinea*	33	33	
456**	*Acer rubrum*	12	12	
457	*Quercus coccinea*	29	29	
458	*Liriodendron tulipifera*	10	10	
459**	*Acer rubrum*	9	9	
460**	*Prunus serotina*	11	11	
461**	*Acer rubrum*	7	7	
462	*Quercus rubra*	27	27	
463	*Quercus velutina*	28	28	
464	*Nyssa sylvatica*	11	11	
465**	*Nyssa sylvatica*	7	7	
467**	*Prunus avium*	6	6	
468**	*Prunus serotina*	8	8	
469**	*Robinia pseudoacacia*	18	18	
470**	*Quercus coccinea*	18	18	
471**	*Acer rubrum*	12	12	TBR
472**	*Juglans nigra*	9	9	TBR
473	*Juglans nigra*	14	14	TBR
475**	*Acer negundo*	12	12	
476**	*Platanus occidentalis*	20	20	TBR
477**	*Platanus occidentalis*	16	16	TBR
478**	*Platanus occidentalis*	20	20	TBR
479**	*Juglans nigra*	13	13	TBR
480**	*Platanus occidentalis*	22	22	TBR
481**	*Liriodendron tulipifera*	25	25	
482	*Liriodendron tulipifera*	10	10	
483	*Liriodendron tulipifera*	11	11	
484	*Liriodendron tulipifera*	8	8	
485**	*Acer rubrum*	8	8	
486**	*Liriodendron tulipifera*	14	14	
487**	*Liriodendron tulipifera*	11	11	
488**	*Robinia pseudoacacia*	12	12	TBR
489**	*Liriodendron tulipifera*	12	12	
490	*Liriodendron tulipifera*	20	20	
491	*Prunus avium*	8	8	
492	*Prunus serotina*	8	8	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

NOTE: TAG NOT USED FOR TREES 420-421

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
501**	*Platanus occidentalis*	22	22	
502**	*Prunus serotina*	8	8	TBR
503**	*Liriodendron tulipifera*	12	12	TBR
504**	*Liriodendron tulipifera*	15	15	TBR
505**	*Liriodendron tulipifera*	7	7	TBR
506**	*Robinia pseudoacacia*	11	11	TBR
507**	*Prunus serotina*	7	7	TBR
508**	*Acer rubrum*	8	8	TBR
509**	*Prunus serotina*	18	18	TBR
510**	*Platanus occidentalis*	10	10	TBR
511**	*Acer rubrum*	13	13	
512**	*Acer rubrum*	9	9	
513**	*Prunus serotina*	8	8	
514**	*Robinia pseudoacacia*	10	10	
515	*Prunus serotina*	7	7	TBR*
516**	*Acer rubrum*	6	6	
517**	*Robinia pseudoacacia*	19	19	TBR*
518**	*Acer rubrum*	9	9	
519**	*Robinia pseudoacacia*	11	11	
520**	*Liriodendron tulipifera*	18	18	
521**	*Acer negundo*	9	9	TBR
522**	*Juglans nigra*	17	17	TBR
523**	*Acer negundo*	13	13	TBR
524**	*Robinia pseudoacacia*	6	6	
525**	*Robinia pseudoacacia*	8	8	
526**	*Robinia pseudoacacia*	11	11	
527	*Quercus coccinea*	28	28	
528	*Acer rubrum*	15	15	
530	*Juglans nigra*	13	13	
531**	*Acer rubrum*	7	7	
532**	*Prunus serotina*	7	7	
533**	*Liriodendron tulipifera*	11	11	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
4	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

STATE OF MARYLAND
MELISSA DIANE RIDES
No. 26539
PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

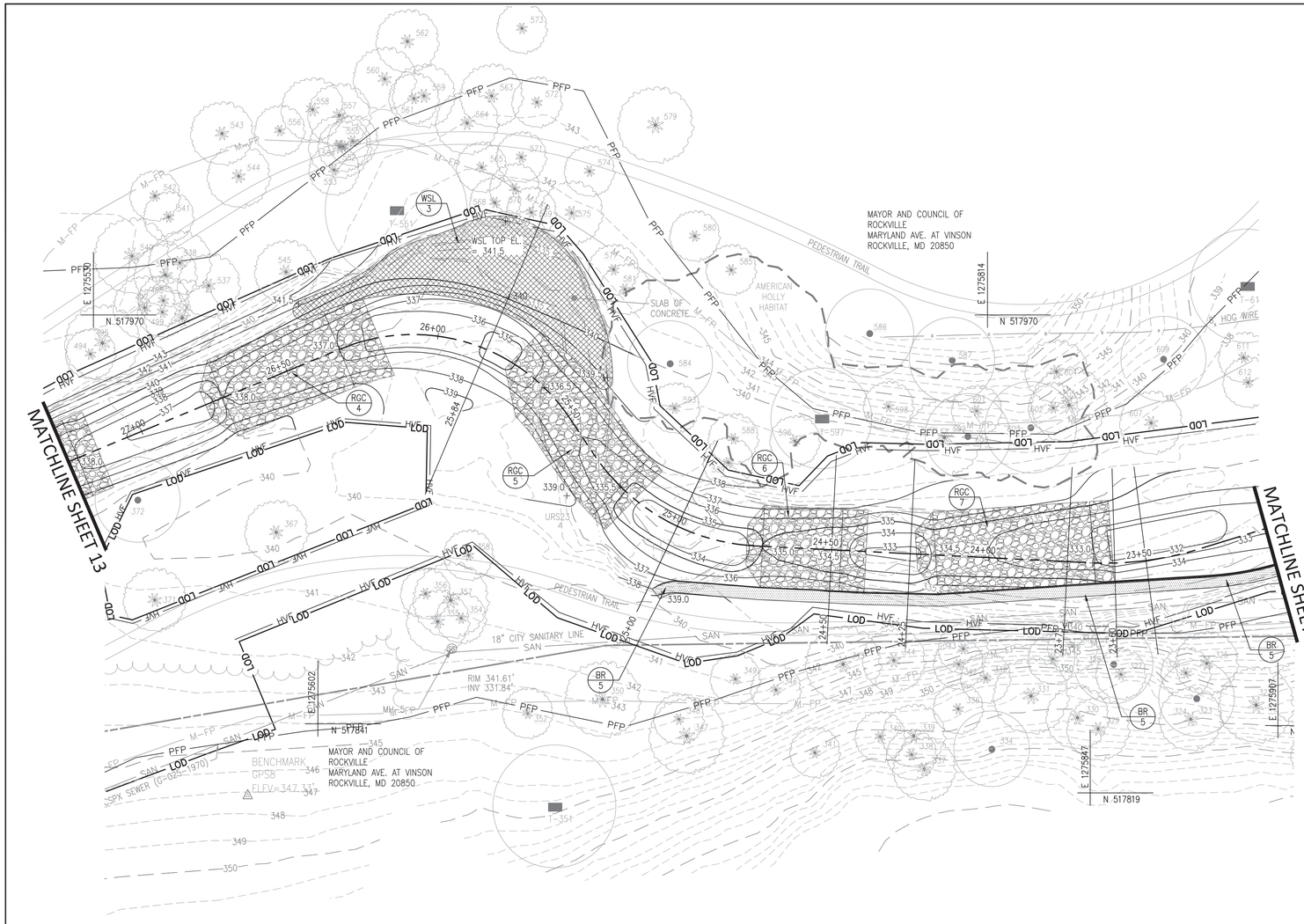
DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:02-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
SHA TRIBUTARY REACH 7/CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 13 OF 84
FILE # G-134



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
323**	*Platanus occidentalis*	24	24	
324**	*Robinia pseudoacacia*	13	13	
325**	*Acer negundo*	13	13	
326**	*Acer negundo*	10	10	
327**	*Acer negundo*	7	7	
328**	*Robinia pseudoacacia*	25	25	
329	*Acer negundo*	17	17	
330	*Acer negundo*	13	13	
331**	*Acer negundo*	20	20	
332***	*Acer negundo*	11	11	
333**	*Acer negundo*	7	7	
334	*Acer negundo*	24	24	
335**	*Acer negundo*	11	11	
336	*Acer negundo*	9	9	
337	*Robinia pseudoacacia*	12	12	
338	*Robinia pseudoacacia*	11	11	
339	*Acer negundo*	13	13	
340	*Acer negundo*	10	10	
341	*Acer negundo*	7	7	
342**	*Acer negundo*	9	9	
343**	*Acer negundo*	9	9	
344**	*Acer negundo*	13	13	
345**	*Acer negundo*	19	19	
346**	*Acer negundo*	10	10	
347**	*Acer negundo*	22	22	
348**	*Acer negundo*	11	11	
349**	*Acer rubrum*	8	8	
350**	*Liriodendron tulipifera*	18	18	
351	*Quercus alba*	39	39	
352	*Liriodendron tulipifera*	9	9	
353**	*Morus alba*	10	10	DEAD
354**	*Acer negundo*	11	11	
355**	*Prunus serotina*	12	12	
356**	*Acer negundo*	7	7	
357**	*Liriodendron tulipifera*	21	21	
358**	*Quercus rubra*	8	8	
361**	*Prunus avium*	10	10	TBR
362**	*Acer negundo*	8	8	TBR
364**	*Platanus occidentalis*	17	17	TBR
365**	*Liriodendron tulipifera*	19	19	TBR
366**	*Ulmus americana*	6	6	TBR
367**	*Morus alba*	13	13	
371**	*Liriodendron tulipifera*	16	16	
372**	*Liriodendron tulipifera*	27	27	
373**	*Platanus occidentalis*	28	28	TBR
374**	*Liriodendron tulipifera*	16	16	
375**	*Platanus occidentalis*	6	6	
376**	*Acer negundo*	7	7	TBR
493	*Prunus serotina*	9	9	
494**	*Robinia pseudoacacia*	9	9	
495**	*Liriodendron tulipifera*	20	20	
496**	*Juglans nigra*	10	10	TBR
497	*Liriodendron tulipifera*	17	17	
498**	*Liriodendron tulipifera*	11	11	
499**	*Liriodendron tulipifera*	7	7	
500**	*Liriodendron tulipifera*	20	20	
534**	*Platanus occidentalis*	13	13	TBR
535**	*Liriodendron tulipifera*	18	18	TBR
536**	*Platanus occidentalis*	9	9	TBR
537**	*Liriodendron tulipifera*	12	12	
538**	*Liriodendron tulipifera*	14	14	
539	*Liriodendron tulipifera*	13	13	
540	*Liriodendron tulipifera*	19	19	
541	*Liriodendron tulipifera*	9	9	
542	*Acer rubrum*	7	7	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
543	*Liriodendron tulipifera*	14	14	
544	*Acer rubrum*	13	13	
545**	*Liriodendron tulipifera*	13	13	
546**	*Platanus occidentalis*	10	10	TBR
547**	*Acer rubrum*	7	7	TBR
548**	*Liriodendron tulipifera*	14	14	TBR
549**	*Liriodendron tulipifera*	13	13	TBR
550**	*Liriodendron tulipifera*	9	9	TBR
551**	*Acer rubrum*	45	45	
552	*Liriodendron tulipifera*	11	11	
553	*Liriodendron tulipifera*	7	7	
554	*Liriodendron tulipifera*	12	12	
555	*Liriodendron tulipifera*	11	11	
556	*Liriodendron tulipifera*	9	9	
557	*Liriodendron tulipifera*	13	13	
558	*Liriodendron tulipifera*	12	12	
559	*Liriodendron tulipifera*	13	13	
560	*Liriodendron tulipifera*	13	13	
561	*Liriodendron tulipifera*	11	11	
562	*Liriodendron tulipifera*	12	12	
563	*Liriodendron tulipifera*	12	12	
564**	*Liriodendron tulipifera*	12	12	
565**	*Liriodendron tulipifera*	10	10	
566**	*Liriodendron tulipifera*	9	9	TBR
567**	*Liriodendron tulipifera*	9	9	TBR
568**	*Liriodendron tulipifera*	8	8	
569**	*Liriodendron tulipifera*	7	7	
570	*Liriodendron tulipifera*	6	6	
571	*Liriodendron tulipifera*	9	9	
572	*Liriodendron tulipifera*	10	10	
573	*Liriodendron tulipifera*	11	11	
574**	*Liriodendron tulipifera*	9	9	
575**	*Liriodendron tulipifera*	13	13	
576**	*Acer rubrum*	11	11	TBR
577**	*Acer rubrum*	11	11	
579	*Quercus alba*	23	23	
580	*Juglans nigra*	8	8	
581	*Acer rubrum*	10	10	
582**	*Acer rubrum*	7	7	TBR
584**	*Liriodendron tulipifera*	27	27	
585	*Acer rubrum*	10	10	
586	*Quercus rubra*	28	28	
587	*Liriodendron tulipifera*	27	27	
588**	*Nyssa sylvatica*	7	7	
589**	*Nyssa sylvatica*	8	8	
590**	*Quercus rubra*	9	9	TBR
591**	*Ulmus americana*	10	10	TBR
592**	*Ulmus americana*	9	9	TBR
593**	*Acer rubrum*	6	6	
594**	*Acer rubrum*	6	6	TBR
595**	*Nyssa sylvatica*	7	7	TBR
596**	*Acer rubrum*	9	9	
597**	*Quercus rubra*	32	32	
598**	*Nyssa sylvatica*	10	10	
599**	*Nyssa sylvatica*	21	21	
600	*Liriodendron tulipifera*	27	27	
601**	*Liriodendron tulipifera*	9	9	
602**	*Quercus rubra*	9	9	
603**	*Quercus rubra*	29	29	
604**	*Carya glabra*	13	13	
605**	*Nyssa sylvatica*	19	19	
606	*Liriodendron tulipifera*	14	14	TBR
607**	*Quercus alba*	16	16	
609**	*Quercus rubra*	27	27	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 / 19+60 — PROPOSED BASELINE / CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL / WL / WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

0 20 40 Feet

SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:03-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 14 OF 84

FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
195	*Platanus occidentalis*	13	13	
196	*Platanus occidentalis*	11	11	
224	*Platanus occidentalis*	8	8	
225**	*Juglans nigra*	22	22	
226**	*Liriodendron tulipifera*	9	9	
227**	*Liriodendron tulipifera*	11	11	
228**	*Acer negundo*	11	11	
229**	*Acer negundo*	9	9	
230**	*Liriodendron tulipifera*	44	44	TBR*
231**	*Juglans nigra*	9	9	
232**	*Liriodendron tulipifera*	10	10	DEAD
233**	*Juglans nigra*	25	25	
234**	*Acer negundo*	11	11	
235**	*Acer negundo*	10	10	
236**	*Liriodendron tulipifera*	20	20	
237	*Ulmus americana*	7	7	
238	*Acer negundo*	7	7	
239	*Juglans nigra*	21	21	
240	*Juglans nigra*	8	8	
241	*Liriodendron tulipifera*	13	13	
242**	*Acer negundo*	8	8	
243**	*Liriodendron tulipifera*	23	23	
244**	*Liriodendron tulipifera*	17	17	
245**	*Acer negundo*	15	15	
247**	*Acer negundo*	11	11	
248**	*Liriodendron tulipifera*	19	19	
249**	*Liriodendron tulipifera*	25	25	
251**	*Liriodendron tulipifera*	20	20	
252**	*Liriodendron tulipifera*	29	29	
253**	*Juglans nigra*	8	8	
254**	*Prunus serotina*	7	7	TBR
255**	*Juglans nigra*	9	9	
256**	*Acer negundo*	11	11	TBR
257**	*Acer negundo*	8	8	
258**	*Liriodendron tulipifera*	8	8	
260**	*Acer negundo*	15	15	
261**	*Liriodendron tulipifera*	12	12	
262	*Liriodendron tulipifera*	32	32	
265	*Acer negundo*	12	12	
266	*Quercus rubra*	20	20	
267	*Acer rubrum*	9	9	
268	*Liriodendron tulipifera*	7	7	
269	*Acer rubrum*	8	8	
270	*Nyssa sylvatica*	8	8	
271	*Liriodendron tulipifera*	7	7	
272	*Liriodendron tulipifera*	17	17	
273	*Acer rubrum*	12	12	
274	*Liquidambar styraciflua*	18	18	
275	*Liquidambar styraciflua*	13	13	
276	*Liquidambar styraciflua*	18	18	
277	*Juglans nigra*	8	8	
278	*Liquidambar styraciflua*	15	15	
279	*Liquidambar styraciflua*	10	10	
280	*Liriodendron tulipifera*	22	22	
281	*Liriodendron tulipifera*	11	11	
282	*Liriodendron tulipifera*	16	16	
283	*Liriodendron tulipifera*	17	17	
284	*Liriodendron tulipifera*	8	8	
285	*Liriodendron tulipifera*	22	22	
286	*Liriodendron tulipifera*	16	16	
287	*Acer rubrum*	17	17	
288	*Liriodendron tulipifera*	19	19	
289	*Juglans nigra*	12	12	
291**	*Liriodendron tulipifera*	13	13	TBR
292**	*Liriodendron tulipifera*	7	7	TBR
293**	*Liriodendron tulipifera*	8	8	TBR
294**	*Acer negundo*	8	8	TBR
296**	*Juglans nigra*	12	12	TBR
297	*Acer negundo*	19	19	
298	*Juglans nigra*	8	8	
299	*Acer negundo*	10	10	
300	*Robinia pseudoacacia*	16	16	
301	*Acer negundo*	6	6	
302	*Ailanthus altissima*	12	12	
303	*Ailanthus altissima*	6	6	
304	*Acer negundo*	11	11	
305	*Acer negundo*	12	12	
306	*Acer negundo*	11	11	
307**	*Acer negundo*	16	16	TBR
308**	*Acer negundo*	12	12	TBR
309**	*Prunus avium*	13	13	TBR
310	*Paulownia tomentosa*	11	11	
311**	*Paulownia tomentosa*	9	9	
312	*Paulownia tomentosa*	12	12	
313**	*Acer negundo*	7	7	
314**	*Acer negundo*	6	6	TBR
317	*Liriodendron tulipifera*	8	8	
318	*Platanus occidentalis*	24	24	
319	*Platanus occidentalis*	22	22	
320	*Platanus occidentalis*	21	21	
321	*Acer negundo*	13	13	
322	*Platanus occidentalis*	18	18	
323**	*Platanus occidentalis*	24	24	
324**	*Robinia pseudoacacia*	13	13	
325**	*Acer negundo*	13	13	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
610	*Quercus rubra*	36	36	
611**	*Liriodendron tulipifera*	9	9	
612**	*Acer rubrum*	7	7	
613	*Liriodendron tulipifera*	13	13	TBR
615**	*Liriodendron tulipifera*	21	21	
616**	*Liriodendron tulipifera*	13	13	
617**	*Liriodendron tulipifera*	13	13	
618**	*Juglans nigra*	12	12	
619**	*Liriodendron tulipifera*	19	19	
620**	*Juglans nigra*	11	11	
621**	*Juglans nigra*	14	14	
622	*Liriodendron tulipifera*	23	23	
623	*Acer platanoides*	7	7	
624**	*Liriodendron tulipifera*	36	36	TBR*
625	*Prunus serotina*	6	6	
626**	*Juglans nigra*	8	8	
628**	*Ulmus americana*	12	12	TBR
629**	*Prunus serotina*	9	9	DEAD
630**	*Acer negundo*	7	7	
631**	*Juglans nigra*	11	11	
632**	*Ailanthus altissima*	10	10	
633**	*Ulmus americana*	8	8	
634**	*Ulmus americana*	7	7	
635**	*Ulmus americana*	7	7	TBR
636**	*Acer rubrum*	9	9	
637**	*Acer rubrum*	12	12	
638	*Liriodendron tulipifera*	27	27	
639	*Liriodendron tulipifera*	16	16	
640	*Liriodendron tulipifera*	23	23	
641	*Liriodendron tulipifera*	31	31	
642**	*Liriodendron tulipifera*	11	11	
643**	*Quercus alba*	21	21	
644**	*Quercus alba*	25	25	
645**	*Acer negundo*	10	10	
646**	*Acer rubrum*	7	7	
647	*Liriodendron tulipifera*	32	32	
648**	*Liriodendron tulipifera*	25	25	
649	*Acer rubrum*	7	7	
650	*Prunus serotina*	8	8	
651**	*Prunus serotina*	10	10	
652**	*Acer rubrum*	6	6	TBR
653**	*Ilex opaca*	6	6	
654**	*Liriodendron tulipifera*	32	32	
655**	*Liriodendron tulipifera*	30	30	
656	*Liriodendron tulipifera*	10	10	
657	*Liriodendron tulipifera*	24	24	
658**	*Ilex opaca*	7	7	
659	*Liriodendron tulipifera*	27	27	
660	*Liriodendron tulipifera*	25	25	
661**	*Liriodendron tulipifera*	26	26	
662**	*Acer rubrum*	6	6	
663**	*Acer rubrum*	10	10	
664	*Acer rubrum*	11	11	
665**	*Acer rubrum*	6	6	
666	*Robinia pseudoacacia*	8	8	
667**	*Liriodendron tulipifera*	16	16	
668**	*Prunus serotina*	7	7	DEAD
669**	*Acer negundo*	11	11	
671**	*Liriodendron tulipifera*	13	13	
672	*Liriodendron tulipifera*	28	28	
673	*Liriodendron tulipifera*	30	30	
674	*Liriodendron tulipifera*	28	26	
675**	*Liriodendron tulipifera*	32	32	
676	*Liriodendron tulipifera*	28	28	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL WL WL WL WB — EXISTING WETLANDS
- EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

STATE OF MARYLAND
MELISSA DIANE WEES
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
4	XX	XX	XX	XX	XX
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL				

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

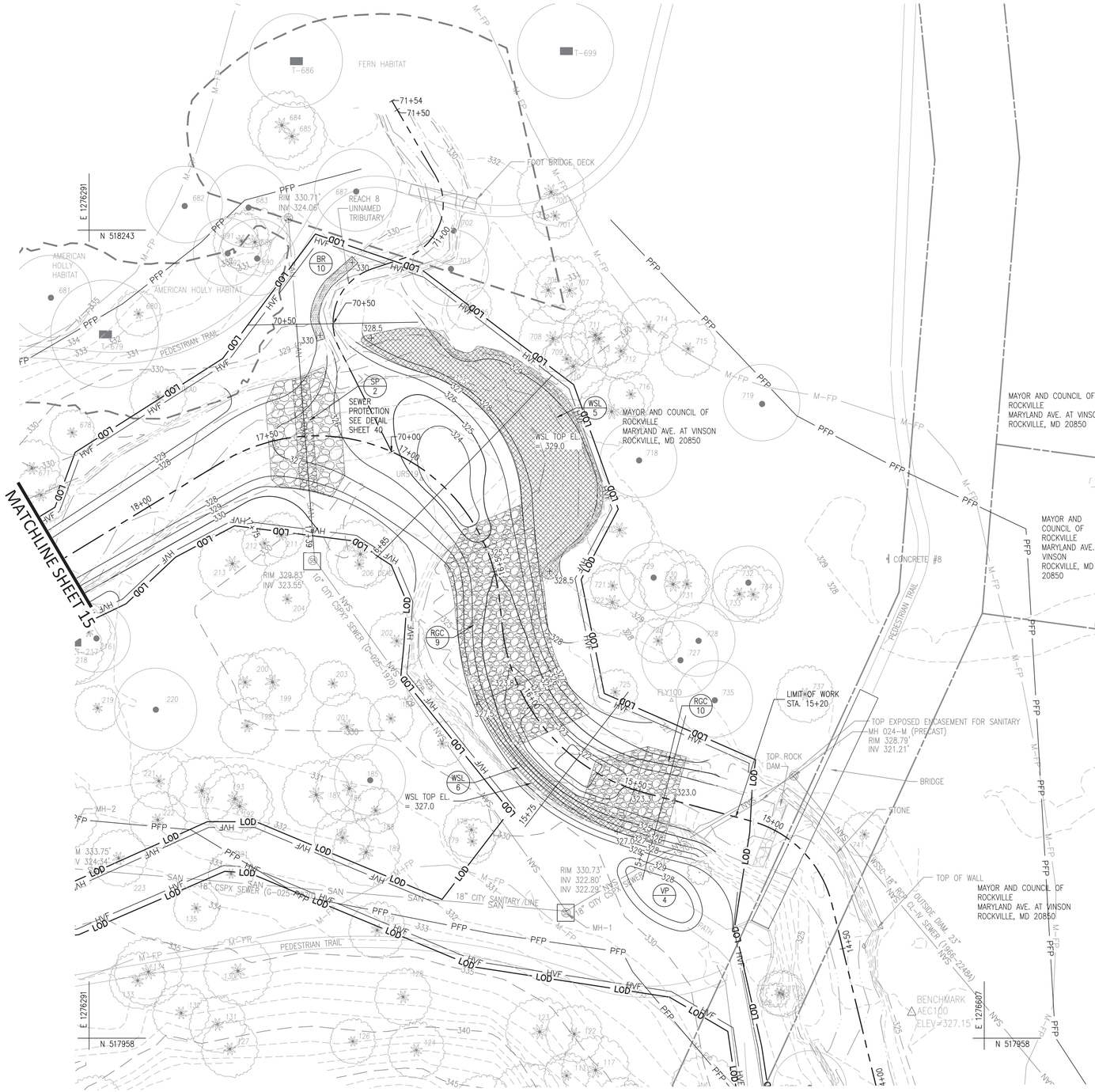
DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:04-04'00'
DIRECTOR OF PUBLIC WORKS — APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION
GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACH 2
Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 15 OF 84
FILE # G-134



TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
111	*Liriodendron tulipifera*	6	6	
112	*Liriodendron tulipifera*	23	23	
113	*Liriodendron tulipifera*	8	8	
114	*Liriodendron tulipifera*	8	8	
115	*Liriodendron tulipifera*	9	9	
116**	*Liriodendron tulipifera*	21	21	
117	*Liriodendron tulipifera*	20	20	
118	*Liriodendron tulipifera*	18	18	
119	*Acer negundo*	7	7	
120	*Acer negundo*	14	14	
121	*Acer negundo*	16	16	
122**	*Fagus grandifolia*	16	16	
123**	*Quercus laurifolia*	21	21	
124	*Acer negundo*	16	16	
125	*Acer negundo*	7	7	
126	*Acer negundo*	7	7	
127	*Acer negundo*	17	17	
128**	*Acer negundo*	12	12	
129**	*Acer negundo*	15	15	
130**	*Juglans nigra*	21	21	
131	*Acer negundo*	13	13	
132	*Acer negundo*	12	12	
133**	*Juglans nigra*	16	16	
134**	*Acer negundo*	23	23	
135**	*Acer negundo*	11	11	
165**	*Acer negundo*	8	8	TBR
166**	*Nyssa sylvatica*	12	12	
167**	*Acer negundo*	9	9	
168	*Quercus alba*	26	26	
169**	*Acer negundo*	9	9	
170**	*Acer negundo*	8	8	
174**	*Juglans nigra*	14	14	TBR
175**	*Juglans nigra*	15	15	TBR
177**	*Liriodendron tulipifera*	15	15	TBR*
178**	*Liriodendron tulipifera*	14	14	
179**	*Morus alba*	6	6	
183**	*Ulmus americana*	9	9	
184**	*Gymnocladus dioicus*	8	8	
185**	*Liriodendron tulipifera*	25	25	
186**	*Juglans nigra*	23	23	
187**	*Gymnocladus dioicus*	23	23	
188**	*Acer negundo*	9	9	
189**	*Liriodendron tulipifera*	23	23	
190**	*Acer negundo*	13	13	
191**	*Gymnocladus dioicus*	7	7	
192**	*Gymnocladus dioicus*	17	17	
193**	*Gymnocladus dioicus*	14	14	
194	*Acer negundo*	13	13	
197**	*Juglans nigra*	19	19	
198**	*Juglans nigra*	16	16	
199**	*Celtis occidentalis*	18	18	
200**	*Juglans nigra*	16	16	
201**	*Gymnocladus dioicus*	21	21	
202**	*Juglans nigra*	12	12	
203**	*Acer negundo*	7	7	
204**	*Acer negundo*	6	6	
205**	*Juglans nigra*	22	22	
206**	*Morus alba*	9	9	DEAD
207**	*Juglans nigra*	16	16	TBR
209**	*Liriodendron tulipifera*	15	15	TBR
210**	*Juglans nigra*	18	18	TBR
211**	*Ulmus americana*	7	7	
212**	*Liriodendron tulipifera*	8	8	
213**	*Liriodendron tulipifera*	20	20	
214**	*Juglans nigra*	26	26	TBR
215**	*Liriodendron tulipifera*	10	10	
216**	*Liriodendron tulipifera*	24	24	
217**	*Liriodendron tulipifera*	30	30	
218**	*Liriodendron tulipifera*	19	19	TBR
219**	*Juglans nigra*	11	11	
220**	*Liriodendron tulipifera*	29	29	
221**	*Juglans nigra*	13	13	
222**	*Acer negundo*	14	14	
223**	*Acer negundo*	12	12	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
225**	*Juglans nigra*	22	22	
226**	*Liriodendron tulipifera*	9	9	
227**	*Liriodendron tulipifera*	11	11	
228**	*Acer negundo*	11	11	
668**	*Prunus serotina*	7	7	DEAD
669**	*Acer negundo*	11	11	
677**	*Liriodendron tulipifera*	17	17	TBR
678**	*Liriodendron tulipifera*	7	7	
679	*Liriodendron tulipifera*	38	38	
680	*Acer rubrum*	9	9	
681	*Liriodendron tulipifera*	29	29	
682	*Liriodendron tulipifera*	27	27	
683	*Liriodendron tulipifera*	29	29	
684	*Liriodendron tulipifera*	21	21	
685	*Liriodendron tulipifera*	22	22	
686	*Liriodendron tulipifera*	33	33	
687**	*Liriodendron tulipifera*	29	29	
689**	*Liriodendron tulipifera*	23	23	
690**	*Liriodendron tulipifera*	27	27	
691**	*Liriodendron tulipifera*	12	12	
692**	*Liriodendron tulipifera*	24	24	
693**	*Ailanthus altissima*	9	9	TBR
694**	*Acer negundo*	7	7	TBR
697**	*Acer negundo*	8	8	TBR
698**	*Acer negundo*	8	8	
699	*Liriodendron tulipifera*	34	34	
700	*Liriodendron tulipifera*	22	22	
701	*Liriodendron tulipifera*	8	8	
702**	*Liriodendron tulipifera*	25	25	
703**	*Liriodendron tulipifera*	27	27	
705**	*Ilex opaca*	6	6	
706**	*Liriodendron tulipifera*	21	21	
707**	*Liriodendron tulipifera*	22	22	
708**	*Liriodendron tulipifera*	21	21	
709**	*Acer rubrum*	10	10	
710**	*Liriodendron tulipifera*	20	20	
711**	*Liriodendron tulipifera*	19	19	
712**	*Liriodendron tulipifera*	17	17	
713	*Liriodendron tulipifera*	17	17	
714	*Liriodendron tulipifera*	12	12	
715	*Liriodendron tulipifera*	15	15	
716**	*Acer rubrum*	8	8	
717**	*Liriodendron tulipifera*	22	22	
718**	*Acer rubrum*	27	27	
719	*Liriodendron tulipifera*	27	27	
720**	*Liriodendron tulipifera*	22	22	
721**	*Ulmus americana*	8	8	
722**	*Liriodendron tulipifera*	24	24	
725**	*Acer negundo*	11	11	
726**	*Ulmus americana*	6	6	
727**	*Liriodendron tulipifera*	27	27	
728**	*Liriodendron tulipifera*	26	26	
729**	*Liriodendron tulipifera*	24	24	
730**	*Liriodendron tulipifera*	19	19	
731	*Ulmus americana*	7	7	
732	*Liriodendron tulipifera*	25	25	
733	*Liriodendron tulipifera*	14	14	
734	*Liriodendron tulipifera*	15	15	
735**	*Acer rubrum*	27	27	
737	*Robinia pseudoacacia*	12	12	
741**	*Liriodendron tulipifera*	11	11	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL — WL — WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- BENCHMARK FWA90.3 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE KESS · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:06-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 2, 3 & 8
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 16 OF 84

FILE # G-134

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOL
- SD SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL WL WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

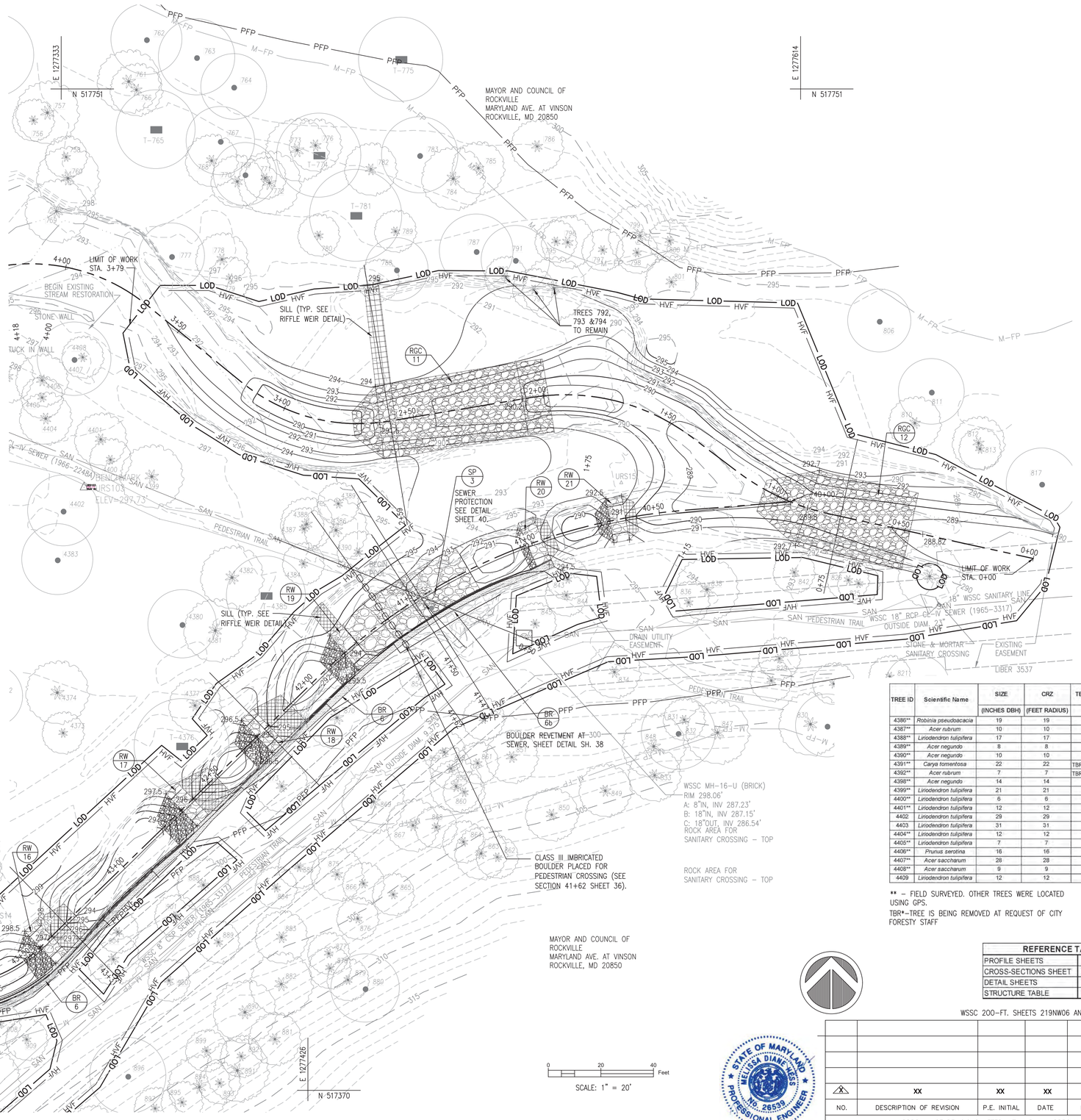
TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
744	*Liriodendron tulipifera*	32	32	
745	*Liriodendron tulipifera*	18	18	
746	*Liriodendron tulipifera*	28	28	
747	*Liriodendron tulipifera*	8	8	
748	*Liriodendron tulipifera*	18	18	
749	*Liriodendron tulipifera*	13	13	
750	*Liriodendron tulipifera*	6	6	
751	*Liriodendron tulipifera*	17	17	
752	*Liriodendron tulipifera*	35	35	
753	*Liriodendron tulipifera*	7	7	
754	*Liriodendron tulipifera*	13	13	
755	*Liriodendron tulipifera*	21	21	
756	*Liriodendron tulipifera*	7	7	
757	*Liriodendron tulipifera*	23	23	
758	*Liriodendron tulipifera*	10	10	
759**	*Liriodendron tulipifera*	21	21	
760	*Liriodendron tulipifera*	20	20	
761	*Platanus occidentalis*	20	20	
762	*Liriodendron tulipifera*	27	27	
763	*Liriodendron tulipifera*	29	29	
764	*Liriodendron tulipifera*	25	25	
765	*Liriodendron tulipifera*	30	30	
766	*Liriodendron tulipifera*	14	14	
767	*Liriodendron tulipifera*	26	26	
768	*Liriodendron tulipifera*	17	17	
769	*Liriodendron tulipifera*	24	24	
770	*Liriodendron tulipifera*	14	14	
771	*Juglans nigra*	9	9	
772	*Liriodendron tulipifera*	22	22	
773	*Liriodendron tulipifera*	20	20	
774	*Liriodendron tulipifera*	32	32	
775	*Liriodendron tulipifera*	32	32	
776	*Liriodendron tulipifera*	16	16	
777**	*Liriodendron tulipifera*	25	25	
778**	*Juglans nigra*	14	14	
779**	*Juglans nigra*	10	10	
780**	*Juglans nigra*	10	10	
781**	*Liriodendron tulipifera*	35	35	
782	*Liriodendron tulipifera*	15	15	
783	*Liriodendron tulipifera*	29	29	
784	*Liriodendron tulipifera*	21	21	
785	*Carya glabra*	16	16	
786	*Acer rubrum*	15	15	
787**	*Liriodendron tulipifera*	28	28	
788**	*Liriodendron tulipifera*	24	24	
789**	*Carya glabra*	10	10	
790**	*Acer negundo*	11	11	
791**	*Platanus occidentalis*	26	26	
792**	*Liriodendron tulipifera*	8	8	
793**	*Liriodendron tulipifera*	9	9	
794**	*Liriodendron tulipifera*	21	21	
795**	*Liriodendron tulipifera*	6	6	
796**	*Liriodendron tulipifera*	12	12	
797**	*Liriodendron tulipifera*	8	8	
798**	*Liriodendron tulipifera*	8	8	
799**	*Carya glabra*	20	20	
800**	*Nyssa sylvatica*	7	7	
801**	*Robinia pseudoacacia*	13	13	
802**	*Liriodendron tulipifera*	18	18	TBR
803**	*Liriodendron tulipifera*	26	26	TBR
804**	*Platanus occidentalis*	21	21	TBR
805	*Liriodendron tulipifera*	29	29	TBR*
806**	*Platanus occidentalis*	24	24	
808**	*Liriodendron tulipifera*	23	23	TBR
810**	*Juglans nigra*	17	17	
811**	*Liriodendron tulipifera*	25	25	
812**	*Liriodendron tulipifera*	16	16	
813**	*Liriodendron tulipifera*	6	6	
814**	*Liriodendron tulipifera*	20	20	TBR
817**	*Liriodendron tulipifera*	27	27	
818**	*Liriodendron tulipifera*	25	25	
819	*Quercus coccinea*	24	24	
820**	*Liriodendron tulipifera*	7	7	
821**	*Nyssa sylvatica*	9	9	
822**	*Platanus occidentalis*	19	19	
825**	*Acer negundo*	9	9	
826**	*Acer negundo*	7	7	
827**	*Acer negundo*	11	11	TBR
828**	*Acer negundo*	10	10	
829**	*Quercus rubra*	8	8	
830**	*Quercus alba*	19	19	
831	*Nyssa sylvatica*	8	8	
832	*Fagus grandifolia*	28	28	
833	*Nyssa sylvatica*	14	14	
834**	*Liriodendron tulipifera*	16	16	
836	*Liriodendron tulipifera*	8	8	
837**	*Acer negundo*	9	9	TBR
838	*Liriodendron tulipifera*	21	21	
839**	*Platanus occidentalis*	17	17	TBR

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
850	*Liriodendron tulipifera*	14	14	
851**	*Liriodendron tulipifera*	12	12	
852	*Ulmus americana*	6	6	
853**	*Ulmus americana*	7	7	TBR
854**	*Liriodendron tulipifera*	6	6	
855**	*Acer rubrum*	27	27	TBR
856**	*Quercus rubra*	6	6	TBR
857	*Ulmus americana*	8	8	
858	*Liriodendron tulipifera*	8	8	
859**	*Liriodendron tulipifera*	14	14	
860**	*Liriodendron tulipifera*	6	6	
861**	*Liriodendron tulipifera*	10	10	
862	*Carya glabra*	8	8	
863	*Carya glabra*	13	13	
864	*Fagus grandifolia*	7	7	
865	*Carya glabra*	11	11	
866**	*Liriodendron tulipifera*	7	7	
867**	*Fagus grandifolia*	16	16	
868**	*Carya tomentosa*	10	10	
869**	*Liriodendron tulipifera*	18	18	
870**	*Liriodendron tulipifera*	21	21	
871**	*Liriodendron tulipifera*	22	22	TBR
872**	*Liriodendron tulipifera*	8	8	TBR
873**	*Liriodendron tulipifera*	16	16	
874**	*Prunus avium*	7	7	TBR
875**	*Nyssa sylvatica*	17	17	
876**	*Nyssa sylvatica*	6	6	
877	*Carya glabra*	6	6	
878	*Carya glabra*	8	8	
879	*Liriodendron tulipifera*	8	8	
880	*Quercus coccinea*	26	26	
881	*Quercus coccinea*	16	16	
882**	*Fagus grandifolia*	19	19	
883**	*Quercus coccinea*	14	14	
884**	*Platanus occidentalis*	8	8	
885**	*Liriodendron tulipifera*	10	10	
886**	*Liriodendron tulipifera*	23	23	TBR
887**	*Acer rubrum*	16	16	TBR
888**	*Liriodendron tulipifera*	15	15	
889**	*Liriodendron tulipifera*	8	8	
890**	*Quercus coccinea*	19	19	
891	*Quercus coccinea*	19	19	
892	*Fagus grandifolia*	6	6	
893	*Quercus alba*	10	10	
894**	*Liriodendron tulipifera*	20	20	
895**	*Acer rubrum*	6	6	
896**	*Quercus coccinea*	29	29	
897**	*Carya glabra*	9	9	
898	*Quercus coccinea*	26	26	
899**	*Liriodendron tulipifera*	7	7	
900**	*Liriodendron tulipifera*	8	8	
901**	*Platanus occidentalis*	7	7	
902**	*Liriodendron tulipifera*	17	17	TBR
903**	*Liriodendron tulipifera*	21	21	TBR
904**	*Liriodendron tulipifera*	7	7	
906**	*Platanus occidentalis*	12	12	
907**	*Liriodendron tulipifera*	17	17	TBR*
908**	*Liriodendron tulipifera*	6	6	
909**	*Platanus occidentalis*	8	8	
916**	*Liriodendron tulipifera*	19	19	
918**	*Liriodendron tulipifera*	25	25	TBR
919**	*Liriodendron tulipifera*	30	30	
920**	*Liriodendron tulipifera*	8	8	
921**	*Liriodendron tulipifera*	29	29	
922**	*Juglans nigra*	14	14	TBR
925**	*Liriodendron tulipifera*	11	11	
4358	*Platanus occidentalis*	21	21	
4359	*Liriodendron tulipifera*	29	29	
4360	*Liriodendron tulipifera*	20	20	
4361**	*Juglans nigra*	17	17	TBR
4362**	*Acer rubrum*	11	11	TBR
4363**	*Liriodendron tulipifera*	8	8	
4364	*Liriodendron tulipifera*	27	27	
4365**	*Acer rubrum*	12	12	
4366**	*Liriodendron tulipifera*	34	34	
4367**	*Acer rubrum*	19	19	
4368**	*Fagus grandifolia*	17	17	
4369**	*Fagus grandifolia*	12	12	
4370**	*Nyssa sylvatica*	12	12	
4371**	*Liriodendron tulipifera*	21	21	TBR*
4372	*Liriodendron tulipifera*	24	24	
4373	*Liriodendron tulipifera*	9	9	
4374	*Liriodendron tulipifera*	19	19	
4376**	*Liriodendron tulipifera*	36	36	
4377**	*Liriodendron tulipifera*	17	17	
4379**	*Nyssa sylvatica*	7	7	TBR
4380	*Liriodendron tulipifera*	26	26	
4381**	*Liriodendron tulipifera*	23	23	
4382	*Liriodendron tulipifera*	23	23	
4383	*Liriodendron tulipifera*	27	27	
4384**	*Ulmus americana*	11	11	
4385**	*Liriodendron tulipifera*	30	30	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4386**	*Robinia pseudoacacia*	19	19	
4387**	*Acer rubrum*	10	10	
4388**	*Liriodendron tulipifera*	17	17	
4389**	*Acer negundo*	8	8	
4390**	*Acer negundo*	10	10	
4391**	*Carya tomentosa*	22	22	TBR
4392**	*Acer rubrum*	7	7	TBR
4398**	*Acer negundo*	14	14	
4399**	*Liriodendron tulipifera*	21	21	
4400**	*Liriodendron tulipifera*	6	6	
4401**	*Liriodendron tulipifera*	12	12	
4402	*Liriodendron tulipifera*	29	29	
4403	*Liriodendron tulipifera*	31	31	
4404**	*Liriodendron tulipifera*	12	12	
4405**	*Liriodendron tulipifera*	7	7	
4406**	*Prunus serotina*	16	16	
4407**	*Acer saccharum*	28	28	
4408**	*Acer saccharum*	9	9	
4409	*Liriodendron tulipifera*	12	12	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.
TBR*–TREE IS BEING REMOVED AT REQUEST OF CITY FORESTY STAFF



REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE WEST · No. 28539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:07-04'00'
DIRECTOR OF PUBLIC WORKS — APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

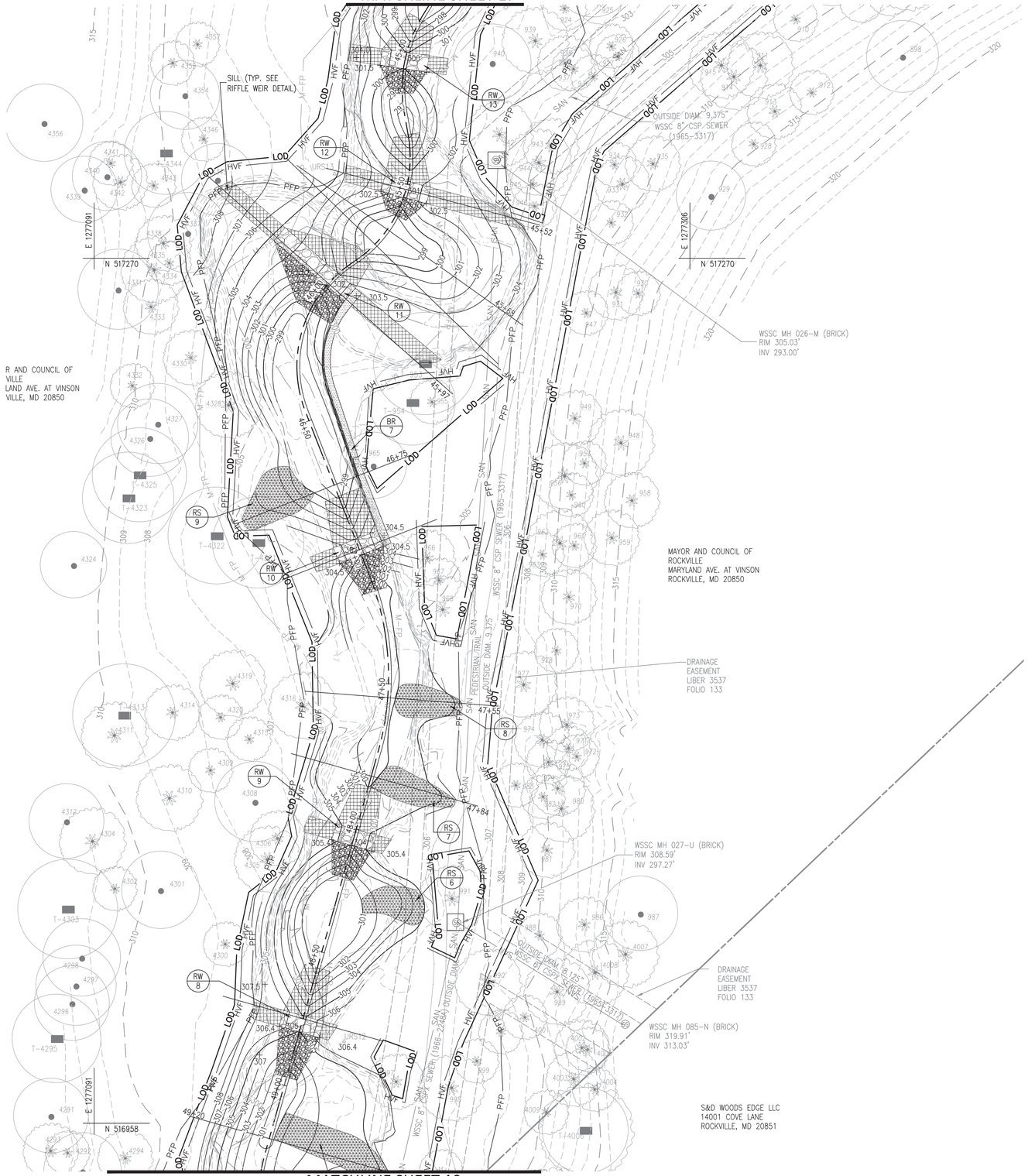
AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION
GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 4 & 5
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 17 OF 84
FILE # G-134

MATCHLINE SHEET 17



MATCHLINE SHEET 19

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
898	*Quercus coccinea*	26	26	
910**	*Acer rubrum*	10	10	
911**	*Fagus grandifolia*	20	20	
912	*Fagus grandifolia*	11	11	
913**	*Fagus grandifolia*	12	12	
914**	*Liriodendron tulipifera*	18	18	
915**	*Liriodendron tulipifera*	18	18	
924**	*Liriodendron tulipifera*	6	6	
926**	*Liriodendron tulipifera*	8	8	
927**	*Liriodendron tulipifera*	6	6	
928	*Fagus grandifolia*	9	9	
929	*Fagus grandifolia*	25	25	
930**	*Carya glabra*	6	6	
931**	*Fagus grandifolia*	17	17	
932**	*Fagus grandifolia*	8	8	
933**	*Nyssia sylvatica*	12	12	
934**	*Fagus grandifolia*	10	10	
935**	*Fagus grandifolia*	12	12	
936**	*Liriodendron tulipifera*	7	7	
937**	*Liriodendron tulipifera*	11	11	
938**	*Liriodendron tulipifera*	15	15	
939**	*Liriodendron tulipifera*	19	19	
940**	*Platanus occidentalis*	28	28	
941**	*Liriodendron tulipifera*	15	15	TBR
942**	*Liriodendron tulipifera*	21	21	
943**	*Liriodendron tulipifera*	12	12	
944**	*Liriodendron tulipifera*	19	19	
945**	*Liriodendron tulipifera*	8	8	
946**	*Robinia pseudoacacia*	11	11	
947**	*Fagus grandifolia*	11	11	
948	*Acer rubrum*	18	18	
949**	*Fagus grandifolia*	13	13	
950**	*Liriodendron tulipifera*	16	16	TBR
951**	*Platanus occidentalis*	13	13	TBR
952**	*Liriodendron tulipifera*	10	10	TBR
953**	*Liriodendron tulipifera*	37	37	TBR
954**	*Liriodendron tulipifera*	31	31	
955**	*Liriodendron tulipifera*	11	11	
956**	*Acer rubrum*	21	21	
957**	*Fagus grandifolia*	8	8	
958	*Quercus nigra*	14	14	
959	*Carya glabra*	12	12	
960**	*Fagus grandifolia*	11	11	
961**	*Fagus grandifolia*	11	11	
962**	*Fagus grandifolia*	21	21	
963**	*Fagus grandifolia*	7	7	
964**	*Platanus occidentalis*	15	15	TBR
965**	*Liriodendron tulipifera*	24	24	
966**	*Liriodendron tulipifera*	12	12	
967**	*Platanus occidentalis*	10	10	
968**	*Liriodendron tulipifera*	23	23	
969**	*Liriodendron tulipifera*	23	23	TBR
970**	*Quercus coccinea*	15	15	
971	*Carya tomentosa*	8	8	
972	*Acer rubrum*	10	10	
973**	*Carya tomentosa*	12	12	
974**	*Carya tomentosa*	14	14	
975**	*Liriodendron tulipifera*	6	6	
977**	*Fagus grandifolia*	20	20	
978**	*Carya tomentosa*	8	8	
979**	*Liriodendron tulipifera*	12	12	
980**	*Quercus coccinea*	19	19	
981**	*Liriodendron tulipifera*	12	12	
982**	*Acer rubrum*	7	7	
983**	*Liriodendron tulipifera*	6	6	
985**	*Liriodendron tulipifera*	22	22	
986	*Fagus grandifolia*	12	12	
987	*Quercus velutina*	27	27	
988**	*Fagus grandifolia*	8	8	
989**	*Liriodendron tulipifera*	20	20	
990**	*Liriodendron tulipifera*	19	19	
991**	*Platanus occidentalis*	23	23	
992**	*Acer negundo*	8	8	TBR
993**	*Acer rubrum*	7	7	TBR
994**	*Acer negundo*	9	9	TBR
995**	*Acer rubrum*	7	7	TBR
996**	*Platanus occidentalis*	22	22	TBR
997**	*Acer negundo*	13	13	
998**	*Liriodendron tulipifera*	22	22	
999**	*Acer negundo*	6	6	
1000**	*Platanus occidentalis*	11	11	
4001**	*Liriodendron tulipifera*	6	6	
4002	*Platanus occidentalis*	13	13	
4003	*Liriodendron tulipifera*	13	13	
4004	*Acer rubrum*	7	7	
4005	*Acer negundo*	8	8	
4006	*Carya glabra*	32	32	
4007	*Liriodendron tulipifera*	16	16	
4008	*Carya tomentosa*	13	13	
4009**	*Acer rubrum*	6	6	
4016**	*Acer negundo*	11	11	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4291	*Acer rubrum*	27	27	
4292	*Acer rubrum*	10	10	
4293	*Acer rubrum*	16	16	
4294**	*Liriodendron tulipifera*	14	14	
4295	*Liriodendron tulipifera*	32	32	
4296	*Acer rubrum*	27	27	
4297	*Liriodendron tulipifera*	29	29	
4298	*Platanus occidentalis*	28	28	
4299**	*Acer rubrum*	28	28	TBR*
4300**	*Juglans nigra*	8	8	
4301	*Liriodendron tulipifera*	28	28	
4302	*Acer rubrum*	11	11	
4303	*Liriodendron tulipifera*	36	36	
4304	*Platanus occidentalis*	18	18	
4305**	*Acer rubrum*	19	19	
4306**	*Acer rubrum*	16	16	
4307**	*Acer rubrum*	20	20	TBR*
4308**	*Platanus occidentalis*	29	29	
4309	*Prunus serotina*	11	11	
4310	*Prunus serotina*	21	21	
4311	*Acer rubrum*	19	19	
4312	*Liriodendron tulipifera*	27	27	
4313	*Liriodendron tulipifera*	37	37	
4314	*Prunus serotina*	15	15	
4315*	*Platanus occidentalis*	10	10	
4316**	*Liriodendron tulipifera*	21	21	
4317**	*Acer rubrum*	8	8	TBR
4318**	*Prunus avium*	6	6	TBR
4319**	*Liriodendron tulipifera*	18	18	
4320	*Liriodendron tulipifera*	6	6	
4321**	*Platanus occidentalis*	33	33	
4322**	*Liriodendron tulipifera*	35	35	
4323	*Liriodendron tulipifera*	33	33	
4324	*Liriodendron tulipifera*	24	24	
4325	*Liriodendron tulipifera*	34	34	
4326	*Liriodendron tulipifera*	28	28	
4327	*Liriodendron tulipifera*	29	29	
4328**	*Platanus occidentalis*	20	20	
4329**	*Morus alba*	7	7	TBR
4330**	*Platanus occidentalis*	14	14	
4331	*Liriodendron tulipifera*	29	29	
4332**	*Acer rubrum*	6	6	
4333**	*Platanus occidentalis*	13	13	
4334**	*Liriodendron tulipifera*	20	20	
4335**	*Liriodendron tulipifera*	7	7	
4336**	*Liriodendron tulipifera*	21	21	TBR
4337**	*Liriodendron tulipifera*	29	29	TBR
4338**	*Liriodendron tulipifera*	14	14	
4339	*Liriodendron tulipifera*	24	24	
4340**	*Liriodendron tulipifera*	25	25	
4341**	*Acer rubrum*	8	8	
4342**	*Liriodendron tulipifera*	15	15	
4343**	*Acer saccharum*	6	6	
4344**	*Liriodendron tulipifera*	30	30	
4345**	*Liriodendron tulipifera*	26	26	TBR
4346**	*Acer saccharum*	7	7	
4347**	*Liriodendron tulipifera*	21	21	TBR
4348**	*Platanus occidentalis*	15	15	TBR
4349**	*Acer rubrum*	8	8	TBR
4350**	*Acer rubrum*	22	22	TBR
4351**	*Platanus occidentalis*	11	11	TBR
4354	*Liriodendron tulipifera*	25	25	
4355	*Acer rubrum*	7	7	
4356	*Liriodendron tulipifera*	28	28	
4357	*Acer rubrum*	10	10	

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 / 19+60 — PROPOSED BASELINE CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL / WL / WB — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP 1 — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE REED · NO. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

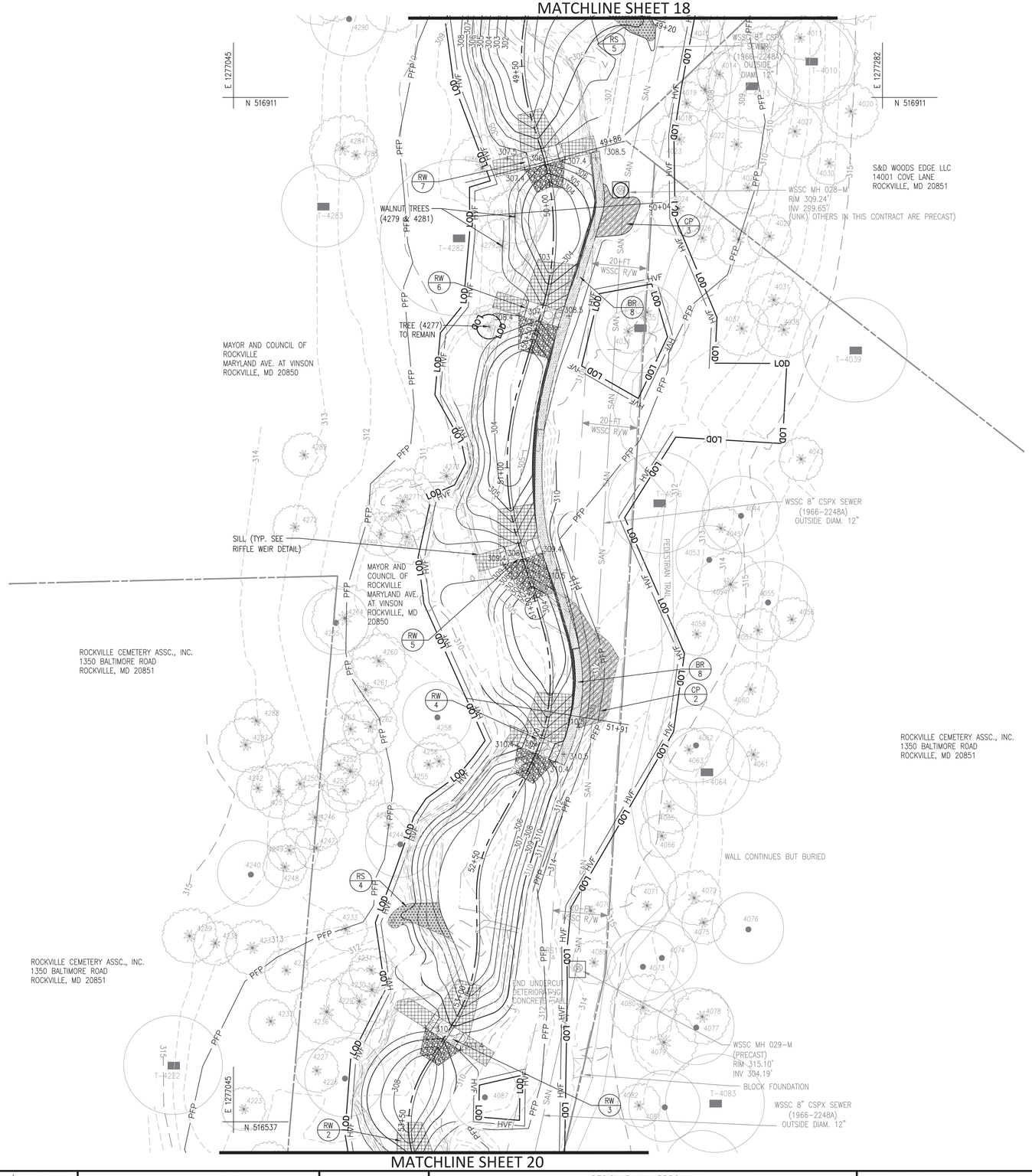
DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:08-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 18 OF 84
FILE # G-134



ROCKVILLE CEMETERY ASSC., INC.
1350 BALTIMORE ROAD
ROCKVILLE, MD 20851

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4010**	*Quercus velutina*	39	39	
4011	*Carya glabra*	10	10	
4012**	*Carya glabra*	7	7	
4013**	*Liriodendron tulipifera*	37	37	
4014**	*Liriodendron tulipifera*	8	8	
4015**	*Liriodendron tulipifera*	8	8	
4016**	*Acer negundo*	11	11	TBR
4018**	*Liriodendron tulipifera*	6	6	
4019**	*Liriodendron tulipifera*	6	6	
4020	*Fagus grandifolia*	16	16	
4021	*Liriodendron tulipifera*	11	11	
4022**	*Liriodendron tulipifera*	12	12	
4023**	*Liriodendron tulipifera*	15	15	
4024**	*Liriodendron tulipifera*	14	14	
4025**	*Acer negundo*	8	8	TBR
4026**	*Prunus avium*	7	7	
4027**	*Liriodendron tulipifera*	14	14	
4028**	*Carya glabra*	14	14	
4029**	*Juglans nigra*	9	9	
4030	*Carya glabra*	7	7	
4031**	*Carya tomentosa*	13	13	
4032**	*Liriodendron tulipifera*	10	10	TBR
4033**	*Acer negundo*	9	9	TBR
4034**	*Liriodendron tulipifera*	9	9	
4035	*Platanus occidentalis*	33	33	
4036**	*Liriodendron tulipifera*	6	6	
4037**	*Platanus occidentalis*	12	12	
4038**	*Acer rubrum*	16	16	
4039	*Quercus coccinea*	38	38	
4040**	*Juglans nigra*	17	17	TBR
4041**	*Liriodendron tulipifera*	10	10	TBR
4042**	*Acer rubrum*	7	7	TBR
4043	*Acer saccharum*	7	7	
4044	*Platanus occidentalis*	28	28	
4045**	*Acer saccharum*	6	6	
4046**	*Acer rubrum*	37	37	
4047**	*Pinus virginiana*	16	16	TBR
4048**	*Acer negundo*	7	7	TBR
4049**	*Platanus occidentalis*	13	13	TBR
4050**	*Morus alba*	7	7	TBR
4053**	*Platanus occidentalis*	24	24	
4054**	*Liriodendron tulipifera*	18	18	
4055	*Platanus occidentalis*	29	29	
4056	*Juglans nigra*	7	7	
4057**	*Acer rubrum*	9	9	
4058**	*Liriodendron tulipifera*	11	11	
4059	*Prunus serotina*	7	7	TBR
4060**	*Juglans nigra*	14	14	
4061**	*Platanus occidentalis*	>12	>12	
4062**	*Liriodendron tulipifera*	28	28	
4063**	*Acer rubrum*	7	7	
4064**	*Platanus occidentalis*	32	32	
4065**	*Liriodendron tulipifera*	14	14	
4066**	*Liriodendron tulipifera*	11	11	
4067**	*Liriodendron tulipifera*	18	18	TBR
4068**	*Liriodendron tulipifera*	15	15	TBR
4069**	*Acer rubrum*	9	9	TBR
4070**	*Liriodendron tulipifera*	8	8	
4071**	*Liriodendron tulipifera*	6	6	
4072	*Liriodendron tulipifera*	17	17	
4073	*Liriodendron tulipifera*	27	27	
4074	*Liriodendron tulipifera*	27	27	
4075	*Prunus avium*	6	6	
4076	*Acer rubrum*	26	26	
4077	*Liriodendron tulipifera*	28	28	
4078	*Acer rubrum*	13	13	
4079	*Liriodendron tulipifera*	20	20	
4080**	*Platanus occidentalis*	22	22	
4081**	*Platanus occidentalis*	26	26	
4082	*Liriodendron tulipifera*	8	8	
4083	*Liriodendron tulipifera*	36	36	
4084	*Platanus occidentalis*	28	28	
4085**	*Acer negundo*	6	6	
4086**	*Acer negundo*	20	20	TBR
4087	*Acer rubrum*	25	25	
4088**	*Acer rubrum*	6	6	TBR
4089**	*Prunus serotina*	12	12	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

ROCKVILLE CEMETERY ASSC., INC.
1350 BALTIMORE ROAD
ROCKVILLE, MD 20851

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4222	*Platanus occidentalis*	36	36	
4223**	*Acer rubrum*	9	9	
4224**	*Acer saccharum*	6	6	
4225**	*Acer saccharum*	7	7	TBR
4226**	*Liriodendron tulipifera*	29	29	
4227**	*Acer negundo*	9	9	
4228**	*Acer rubrum*	13	13	TBR
4229**	*Platanus occidentalis*	20	20	
4230**	*Platanus occidentalis*	20	20	
4231**	*Acer rubrum*	9	9	
4232**	*Acer negundo*	14	14	TBR
4233**	*Acer saccharum*	7	7	
4234	*Juglans nigra*	17	17	
4235	*Acer negundo*	8	8	
4236**	*Platanus occidentalis*	22	22	
4237	*Acer saccharum*	6	6	
4238	*Juglans nigra*	10	10	
4239	*Juglans nigra*	16	16	
4240	*Juglans nigra*	24	24	
4242	*Platanus occidentalis*	10	10	
4244**	*Platanus occidentalis*	25	25	
4245**	*Acer negundo*	10	10	
4246**	*Platanus occidentalis*	21	21	
4247**	*Platanus occidentalis*	11	11	
4248	*Acer negundo*	6	6	
4249	*Platanus occidentalis*	7	7	
4250	*Platanus occidentalis*	10	10	
4251**	*Prunus serotina*	15	15	
4252	*Acer negundo*	7	7	
4253	*Platanus occidentalis*	9	9	
4254**	*Platanus occidentalis*	22	22	
4255**	*Juglans nigra*	6	6	
4256**	*Platanus occidentalis*	15	15	
4257**	*Acer saccharum*	12	12	TBR
4258**	*Platanus occidentalis*	25	25	
4259**	*Acer saccharum*	7	7	TBR
4260**	*Platanus occidentalis*	16	16	
4261	*Platanus occidentalis*	21	21	
4262	*Juglans nigra*	15	15	
4263	*Acer saccharum*	14	14	
4264	*Platanus occidentalis*	23	23	
4265**	*Acer rubrum*	24	24	
4266**	*Acer negundo*	6	6	TBR
4267**	*Morus alba*	8	8	TBR
4268**	*Juglans nigra*	15	15	
4269**	*Acer negundo*	11	11	
4270**	*Platanus occidentalis*	21	21	
4271**	*Platanus occidentalis*	22	22	
4272	*Acer negundo*	9	9	
4273**	*Juglans nigra*	20	20	
4277**	*Fagus grandifolia*	7	7	
4278**	*Juglans nigra*	12	12	TBR
4279**	*Juglans nigra*	17	17	TBR
4280**	*Acer negundo*	7	7	TBR
4281**	*Juglans nigra*	14	14	TBR
4282**	*Platanus occidentalis*	57	57	
4283	*Acer rubrum*	30	30	
4284	*Liriodendron tulipifera*	18	18	
4285	*Acer platanoides*	6	6	
4286**	*Liriodendron tulipifera*	19	19	
4287	*Platanus occidentalis*	12	12	
4288	*Acer saccharum*	10	10	
4289	*Platanus occidentalis*	7	7	
4290	*Platanus occidentalis*	28	28	

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 / 19+60 — PROPOSED BASELINE CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL WL / WM WM — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
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CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:09-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION

GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 19 OF 84

FILE # G-134

MATCHLINE SHEET 19

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4090**	*Acer negundo*	10	10	TBR
4091	*Liriodendron tulipifera*	14	14	
4092	*Prunus serotina*	6	6	
4093**	*Malus sp.*	6	6	
4094**	*Prunus serotina*	21	21	TBR
4095**	*Acer negundo*	8	8	
4096**	*Platanus occidentalis*	21	21	
4097**	*Acer rubrum*	10	10	
4098**	*Platanus occidentalis*	17	17	
4099**	*Acer saccharum*	7	7	
4100**	*Liriodendron tulipifera*	32	32	
4101**	*Acer rubrum*	18	18	
4102**	*Liriodendron tulipifera*	7	7	TBR
4103**	*Acer negundo*	7	7	TBR
4104**	*Platanus occidentalis*	27	27	TBR
4105**	*Liriodendron tulipifera*	29	29	
4106**	*Liriodendron tulipifera*	28	28	
4107**	*Acer saccharum*	7	7	TBR
4108**	*Acer saccharum*	9	9	
4109**	*Platanus occidentalis*	17	17	
4110**	*Platanus occidentalis*	22	22	
4111**	*Acer negundo*	7	7	
4112**	*Acer negundo*	9	9	
4113**	*Acer negundo*	7	7	
4114**	*Acer negundo*	7	7	
4115**	*Liriodendron tulipifera*	13	13	
4116**	*Acer negundo*	13	13	
4117**	*Acer negundo*	6	6	
4118**	*Acer rubrum*	35	35	
4119**	*Quercus coccinea*	35	35	
4120**	*Liriodendron tulipifera*	6	6	
4121**	*Liriodendron tulipifera*	32	32	
4122**	*Carya glabra*	12	12	
4123	*Acer saccharum*	8	8	
4124**	*Platanus occidentalis*	30	30	
4125**	*Platanus occidentalis*	28	28	
4126**	*Acer saccharum*	11	11	
4127**	*Acer saccharum*	11	11	
4128**	*Platanus occidentalis*	27	27	
4129**	*Acer saccharum*	8	8	TBR
4131**	*Acer saccharum*	12	12	TBR
4132**	*Acer saccharum*	17	17	TBR
4133	*Acer rubrum*	10	10	TBR
4134**	*Liriodendron tulipifera*	27	27	
4135	*Liriodendron tulipifera*	12	12	
4136**	*Acer rubrum*	7	7	
4137**	*Acer rubrum*	32	32	
4138	*Liriodendron tulipifera*	16	16	
4139	*Robinia pseudoacacia*	15	15	
4140	*Acer negundo*	16	16	
4141	*Acer rubrum*	6	6	
4142**	*Acer saccharum*	6	6	TBR
4143**	*Platanus occidentalis*	8	8	
4144**	*Platanus occidentalis*	26	26	
4145	*Acer negundo*	6	6	
4146	*Liriodendron tulipifera*	11	11	
4147**	*Platanus occidentalis*	17	17	TBR
4148**	*Platanus occidentalis*	20	20	
4149**	*Platanus occidentalis*	9	9	
4150**	*Morus alba*	7	7	
4151**	*Populus deltoides*	20	20	
4152**	*Acer negundo*	8	8	
4153	*Robinia pseudoacacia*	6	6	
4154**	*Platanus occidentalis*	17	17	
4155	*Acer negundo*	12	12	TBR
4156	*Acer negundo*	8	8	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
4157**	*Acer negundo*	7	7	
4158**	*Acer negundo*	19	19	
4159**	*Acer rubrum*	29	29	
4160	*Catalpa speciosa*	18	18	
4161	*Acer negundo*	7	7	
4162	*Acer negundo*	7	7	
4163	*Salix nigra*	14	14	
4164	*Paulownia tomentosa*	13	13	
4165	*Robinia pseudoacacia*	7	7	
4166	*Platanus occidentalis*	27	27	
4167	*Acer negundo*	10	10	
4168	*Ulmus americana*	11	11	
4169	*Acer negundo*	16	16	
4170**	*Platanus occidentalis*	23	23	
4171**	*Acer negundo*	16	16	
4172	*Juniperus virginiana*	14	14	
4173	*Acer rubrum*	14	14	
4174**	*Platanus occidentalis*	28	28	
4175**	*Acer negundo*	6	6	
4176**	*Acer negundo*	9	9	
4177**	*Acer saccharum*	7	7	
4178**	*Acer saccharum*	18	18	TBR
4179**	*Acer saccharum*	18	18	
4180	*Acer saccharum*	9	9	
4181	*Platanus occidentalis*	24	24	
4182	*Acer saccharum*	9	9	
4183	*Juglans nigra*	25	25	
4184	*Acer saccharum*	6	6	
4185	*Acer saccharum*	8	8	
4186	*Juglans nigra*	18	18	
4187	*Platanus occidentalis*	22	22	
4188	*Acer saccharum*	10	10	
4189	*Acer saccharum*	14	14	
4190	*Acer saccharum*	19	19	
4191	*Juglans nigra*	11	11	
4192**	*Acer saccharum*	11	11	
4193**	*Acer saccharum*	7	7	
4194**	*Acer saccharum*	10	10	
4195**	*Catalpa speciosa*	20	20	
4196**	*Acer saccharum*	6	6	TBR
4197**	*Platanus occidentalis*	21	21	TBR
4198**	*Prunus serotina*	19	19	
4199**	*Acer saccharum*	6	6	
4200	*Acer saccharum*	8	8	
4201	*Acer saccharum*	10	10	
4202	*Acer saccharum*	13	13	
4203	*Acer saccharum*	14	14	
4204	*Acer saccharum*	6	6	
4205	*Acer saccharum*	8	8	
4206	*Acer saccharum*	6	6	
4207	*Acer saccharum*	7	7	
4208	*Acer saccharum*	11	11	
4209	*Acer saccharum*	7	7	
4210**	*Acer saccharum*	6	6	
4211**	*Acer saccharum*	7	7	
4212**	*Juglans nigra*	16	16	
4213**	*Acer saccharum*	14	14	TBR
4214**	*Nyssa sylvatica*	9	9	
4215**	*Acer saccharum*	9	9	TBR
4216**	*Acer saccharum*	20	20	
4217**	*Acer saccharum*	8	8	TBR
4218**	*Paulownia tomentosa*	9	9	TBR
4219**	*Acer saccharum*	7	7	
4220**	*Juglans nigra*	18	18	
4221	*Acer saccharum*	9	9	
4225**	*Acer saccharum*	7	7	TBR
4411**	*Liriodendron tulipifera*	7	7	TBR

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- PFP — PROPOSED 100 YEAR FLOODPLAIN
- WL — WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- SP 1 — PROPOSED SEWER PROTECTION
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- RC 1 — RIP RAP CHANNEL INFLOW PROTECTION
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- CP 1 — PROPOSED CLAY PLUG
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

REFERENCE TABLE	
PROFILE SHEETS	SHEETS 28-32
CROSS-SECTIONS SHEET	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

0 20 40 Feet

SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE REES · No. 26539 · PROFESSIONAL ENGINEER

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:10-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

239 of 304

STREAM RESTORATION

GRADING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

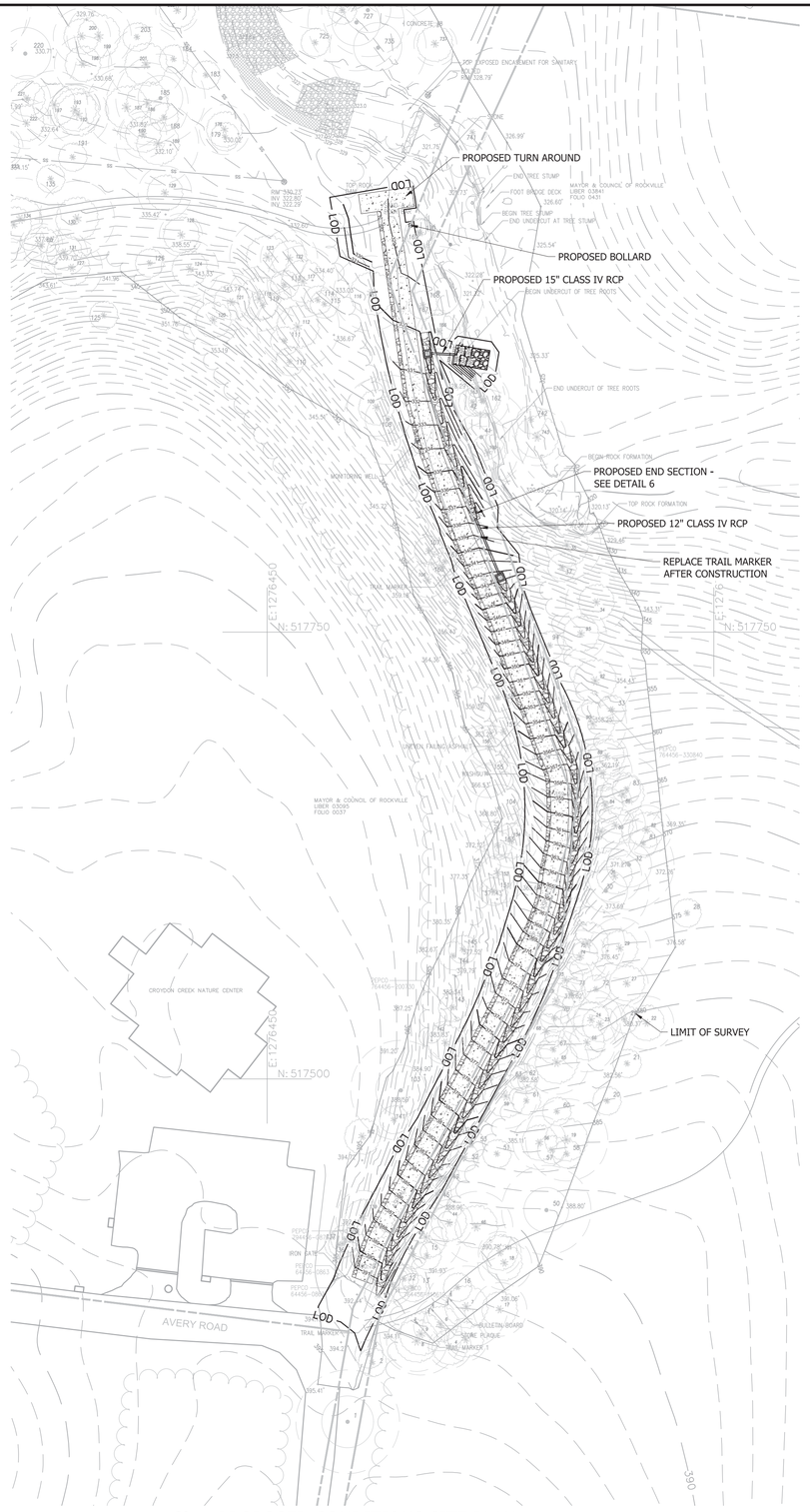
SCALE 1"=20'

SHEET NO. 20 OF 84

FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
1	*Quercus alba*	29	29	
2	*Quercus velutina*	8	8	
3	*Prunus avium*	11	11	
4	*Fagus grandifolia*	12	12	
5	*Acer rubrum*	12	12	
6	*Fagus grandifolia*	15	15	
7	*Quercus velutina*	23	23	
8	*Fagus grandifolia*	17	17	
9	*Quercus alba*	23	23	
10	*Acer negundo*	6	6	
11	*Juglans nigra*	12	12	
12	*Quercus alba*	9	9	
13	*Prunus serotina*	6	6	
14	*Carya glabra*	6	6	
15	*Diospyros virginiana*	7	7	
16	*Prunus serotina*	7	7	
17	*Nyssa sylvatica*	15	15	
18	*Nyssa sylvatica*	15	15	
19	*Carya glabra*	23	23	
20	*Fagus grandifolia*	10	10	
21	*Carya glabra*	9	9	
22	*Quercus velutina*	15	15	
23	*Nyssa sylvatica*	15	15	
24	*Quercus alba*	17	17	
25	*Quercus alba*	13	13	
26	*Quercus alba*	8	8	
27	*Liriodendron tulipifera*	12	12	
28	*Nyssa sylvatica*	10	10	
29	*Carya tomentosa*	17	17	
30	*Quercus alba*	24	24	
31	*Quercus alba*	15	15	
32	*Quercus coccinea*	25	25	
33	*Quercus alba*	9	9	
34	*Quercus alba*	17	17	
35	*Carya glabra*	19	19	
36	*Acer rubrum*	6	6	
37	*Quercus alba*	6	6	
38	*Prunus avium*	6	6	TBR
39	*Quercus rubra*	31	31	TBR
40	*Carya tomentosa*	8	8	TBR
41	*Quercus rubra*	27	27	
42	*Carya tomentosa*	6	6	
43	*Quercus velutina*	20	20	
44	*Carya tomentosa*	13	13	
45	*Prunus avium*	10	10	
46	*Quercus alba*	20	20	
47	*Morus alba*	8	8	TBR
48	*Morus alba*	6	6	
49	*Robinia pseudoacacia*	11	11	
50	*Quercus alba*	25	25	
51	*Quercus alba*	10	10	
52	*Acer rubrum*	8	8	
53	*Quercus velutina*	9	9	
54	*Morus alba*	7	7	TBR
55	*Quercus alba*	22	22	TBR
56	*Fagus grandifolia*	17	17	
57	*Carya glabra*	10	10	
58	*Acer rubrum*	6	6	
59	*Quercus alba*	18	18	
60	*Liriodendron tulipifera*	6	6	
61	*Quercus alba*	11	11	
62	*Quercus alba*	8	8	
63	*Quercus alba*	8	8	
64	*Liriodendron tulipifera*	12	12	TBR
65	*Quercus alba*	18	18	
66	*Quercus coccinea*	16	16	
67	*Fagus grandifolia*	7	7	
68	*Quercus alba*	15	15	
69	*Liriodendron tulipifera*	15	15	TBR
70	*Quercus alba*	7	7	
71	*Quercus alba*	7	7	
72	*Quercus alba*	10	10	
73	*Quercus alba*	15	15	
74	*Quercus alba*	15	15	
75	*Quercus alba*	21	21	
76	*Liriodendron tulipifera*	10	10	TBR
77	*Liriodendron tulipifera*	8	8	TBR
78	*Liriodendron tulipifera*	8	8	TBR
79	*Quercus coccinea*	20	20	
80	*Quercus coccinea*	17	17	
81	*Quercus alba*	7	7	
82	*Quercus alba*	14	14	
83	*Quercus alba*	8	8	
84	*Quercus alba*	15	15	
85	*Liriodendron tulipifera*	8	8	TBR
86	*Quercus alba*	22	22	
87	*Quercus velutina*	17	17	
88	*Quercus alba*	12	12	
89	*Quercus alba*	18	18	TBR
90	*Quercus alba*	19	19	

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR
91	*Quercus coccinea*	17	17	TBR
92	*Quercus rubra*	21	21	
93	*Quercus alba*	14	14	
94	*Quercus alba*	11	11	
95	*Morus alba*	6	6	TBR
96	*Morus alba*	8	8	TBR
97	*Quercus alba*	14	14	
98	*Carya glabra*	13	13	TBR
99	*Quercus alba*	21	21	TBR
100	*Quercus rubra*	17	17	
101	*Carya glabra*	12	12	
102	*Juglans nigra*	15	15	
103	*Acer negundo*	36	36	
104	*Liriodendron tulipifera*	26	26	
105	*Robinia pseudoacacia*	14	14	TBR
106	*Acer negundo*	15	15	
107	*Acer negundo*	7	7	
108	*Liriodendron tulipifera*	25	25	
109	*Juglans nigra*	16	16	
110	*Liriodendron tulipifera*	11	11	
111	*Liriodendron tulipifera*	6	6	
112	*Liriodendron tulipifera*	23	23	
113	*Liriodendron tulipifera*	8	8	
114	*Liriodendron tulipifera*	8	8	
115	*Liriodendron tulipifera*	9	9	
116	*Liriodendron tulipifera*	25	25	
117	*Liriodendron tulipifera*	20	20	
118	*Liriodendron tulipifera*	18	18	
119	*Acer negundo*	7	7	
120	*Acer negundo*	14	14	
121	*Acer negundo*	16	16	
122	*Fagus grandifolia*	16	16	
123	*Quercus laurifolia*	21	21	
124	*Acer negundo*	16	16	
125	*Acer negundo*	7	7	
126	*Acer negundo*	7	7	
127	*Acer negundo*	17	17	
128	*Acer negundo*	12	12	
129	*Acer negundo*	15	15	
130	*Juglans nigra*	21	21	
131	*Acer negundo*	13	13	
132	*Acer negundo*	12	12	
133	*Juglans nigra*	16	16	
134	*Acer negundo*	23	23	
135	*Acer negundo*	11	11	
136	*Koelreuteria paniculata*	8	8	
137	*Diospyros virginiana*	8	8	
138	*Acer negundo*	7	7	
139	*Juglans nigra*	15	15	
140	*Acer negundo*	9	9	TBR
141	*Acer negundo*	11	11	
142	*Acer negundo*	16	16	
143	*Acer negundo*	9	9	
144	*Acer negundo*	11	11	
145	*Ailanthus altissima*	8	8	
146	*Acer negundo*	10	10	TBR
147	*Robinia pseudoacacia*	11	11	TBR
148	*Juglans nigra*	12	12	TBR
149	*Juglans nigra*	14	14	TBR
150	*Acer negundo*	9	9	TBR
151	*Acer negundo*	9	9	
152	*Acer negundo*	17	17	
153	*Acer negundo*	6	6	
154	*Prunus serotina*	15	15	
155	*Platanus occidentalis*	27	27	
156	*Juglans nigra*	12	12	
157	*Liriodendron tulipifera*	10	10	
158	*Robinia pseudoacacia*	10	10	
159	*Prunus serotina*	6	6	
160	*Robinia pseudoacacia*	8	8	
161	*Robinia pseudoacacia*	11	11	
162	*Liriodendron tulipifera*	11	11	
163	*Liriodendron tulipifera*	15	15	
164	*Acer negundo*	7	7	TBR
165	*Acer negundo*	8	8	TBR
166	*Nyssa sylvatica*	12	12	
167	*Acer negundo*	9	9	
168	*Quercus alba*	26	26	
169	*Acer negundo*	11	11	
170	*Acer negundo*	8	8	



1 PROPOSED CONDITIONS SITE PLAN
SCALE: 1" = 40'

LEGEND

- PROPERTY LINE
- 340 EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- HYDROLOGIC SOIL BOUNDARY
- EXISTING TREELINE
- EXISTING CONCRETE ROAD & PATH
- LOD LIMITS OF DISTURBANCE
- PROPOSED STONE
- PROPOSED PAVEMENT
- PROPOSED STORM DRAIN PIPE
- EXISTING PEDESTRIAN TRAIL
- SMALL TREE 6-11"
- SIGNIFICANT TREE 12-18"
- SIGNIFICANT TREE 18-29"
- SPECIMEN TREE 30"+
- X TREE TO BE REMOVED
- CRITICAL ROOT ZONE

HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

40 0 40 80
SCALE: 1" = 40'

STATE OF MARYLAND
MELISSA DIANE NEES
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	xx	xx	xx	xx	xx

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:11-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# xxxx-xxxxx SCP# xxxx-xxxxx
SMP# xxxx-xxxxx REVIEWED BY xx

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD SITE PLAN

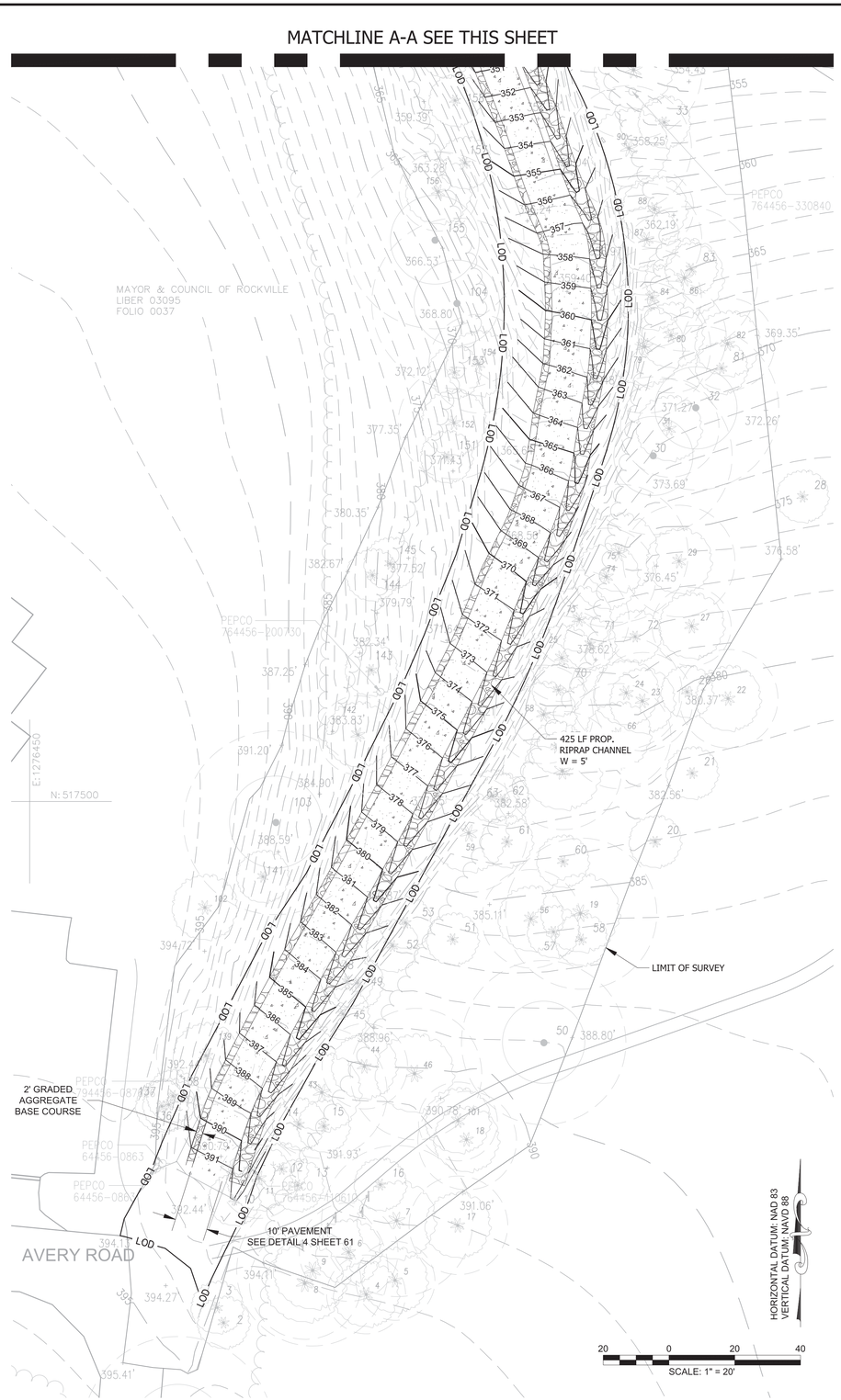
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

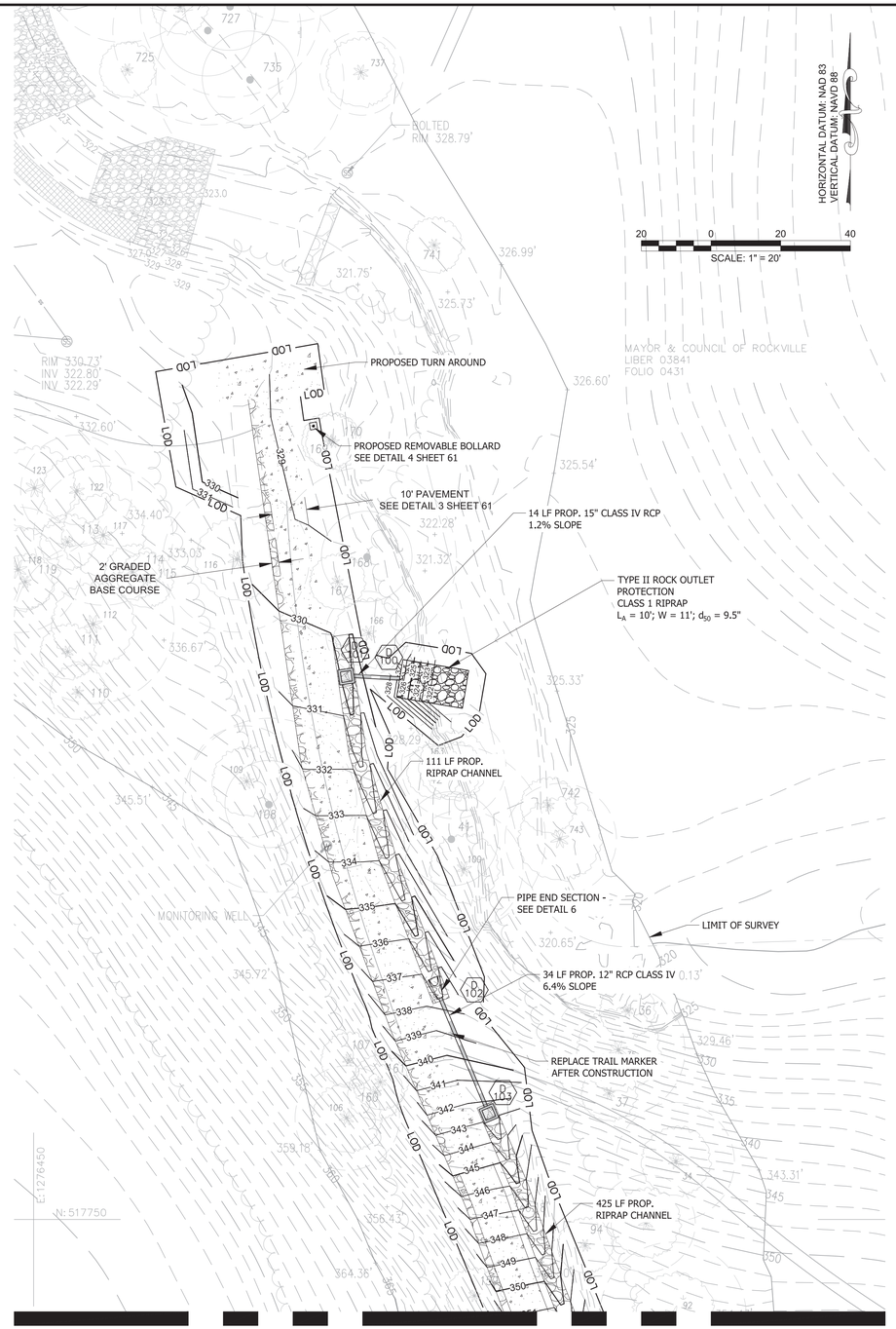
DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=40'

SHEET NO. 21 OF 84

FILE # DPW TO PROVIDE





MATCHLINE A-A SEE THIS SHEET

2 PROPOSED CONDITIONS SITE PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- 340 EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- HYDROLOGIC SOIL BOUNDARY
- EX. TREELINE
- EX. CONCRETE ROAD & PATH
- LOD LIMITS OF DISTURBANCE
- PROPOSED STONE
- PROPOSED ASPHALT PATH
- EXISTING PEDESTRIAN TRAIL
- SMALL TREE 6-11"
- SIGNIFICANT TREE 12-18"
- SIGNIFICANT TREE 18-29"
- SPECIMEN TREE 30"+
- X TREE TO BE REMOVED
- CRITICAL ROOT ZONE

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	xx	xx	xx	xx	xx

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE KISS · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:12-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# xxxx-xxxxx SCP# xxxx-xxxxx
SMP# xxxx-xxxxx REVIEWED BY xx

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD SITE PLAN 20-SCALE

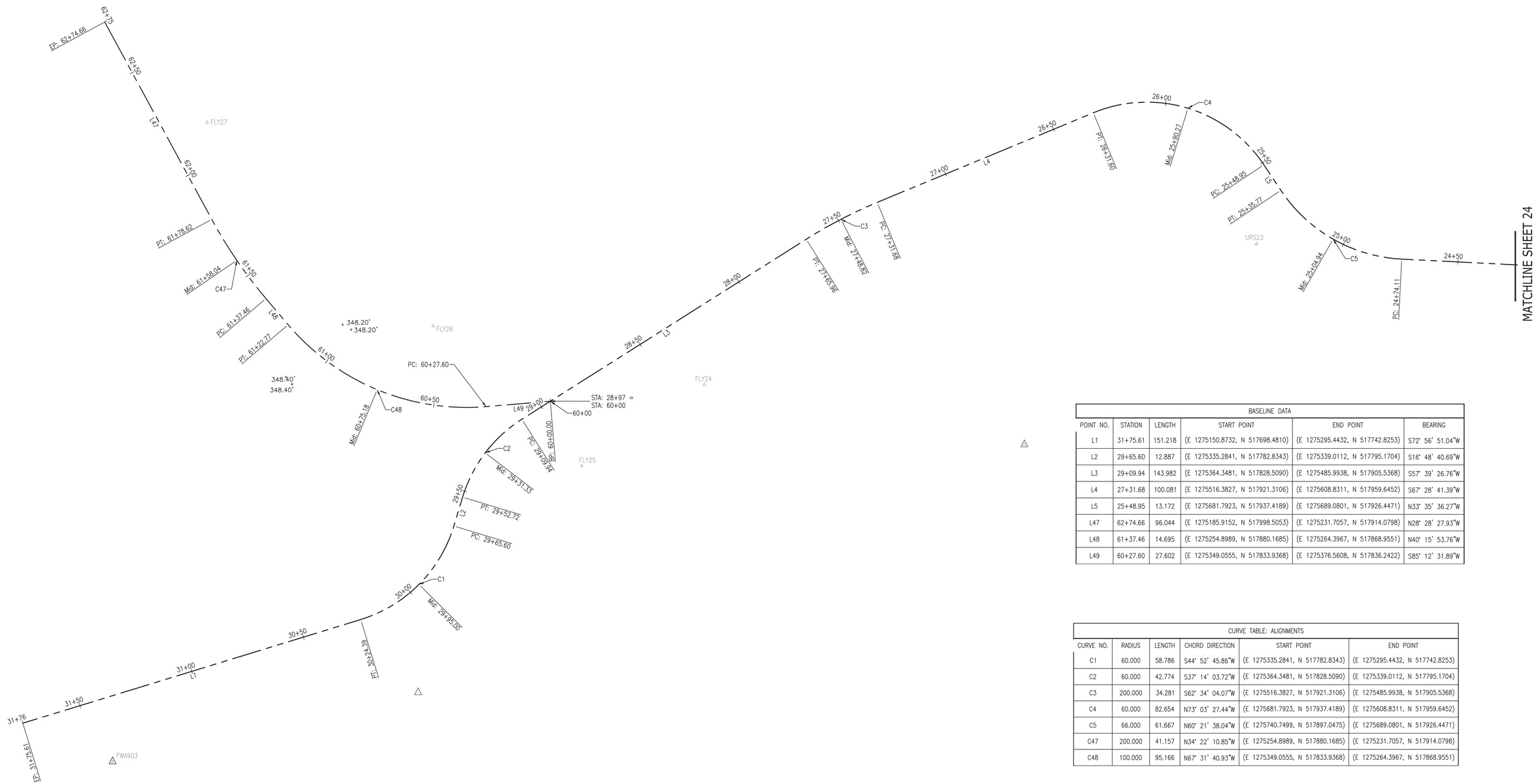
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 22 OF 84

FILE # DPW TO PROVIDE



BASELINE DATA					
POINT NO.	STATION	LENGTH	START POINT	END POINT	BEARING
L1	31+75.61	151.218	(E 1275150.8732, N 517698.4810)	(E 1275295.4432, N 517742.8253)	S72° 56' 51.04"W
L2	29+65.60	12.887	(E 1275335.2841, N 517782.8343)	(E 1275339.0112, N 517795.1704)	S16° 48' 40.69"W
L3	29+09.94	143.982	(E 1275364.3481, N 517828.5090)	(E 1275485.9938, N 517905.5368)	S57° 39' 26.76"W
L4	27+31.68	100.081	(E 1275516.3827, N 517921.3106)	(E 1275608.8311, N 517959.6452)	S67° 28' 41.39"W
L5	25+48.95	13.172	(E 1275681.7923, N 517937.4189)	(E 1275689.0801, N 517926.4471)	N33° 35' 36.27"W
L47	62+74.66	96.044	(E 1275185.9152, N 517998.5053)	(E 1275231.7057, N 517914.0798)	N28° 28' 27.93"W
L48	61+37.46	14.695	(E 1275254.8989, N 517880.1685)	(E 1275264.3967, N 517868.9551)	N40° 15' 53.76"W
L49	60+27.60	27.602	(E 1275349.0555, N 517833.9368)	(E 1275376.5608, N 517836.2422)	S85° 12' 31.89"W

CURVE TABLE: ALIGNMENTS					
CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C1	60.000	58.786	S44° 52' 45.86"W	(E 1275335.2841, N 517782.8343)	(E 1275295.4432, N 517742.8253)
C2	60.000	42.774	S37° 14' 03.72"W	(E 1275364.3481, N 517828.5090)	(E 1275339.0112, N 517795.1704)
C3	200.000	34.281	S62° 34' 04.07"W	(E 1275516.3827, N 517921.3106)	(E 1275485.9938, N 517905.5368)
C4	60.000	82.654	N73° 03' 27.44"W	(E 1275681.7923, N 517937.4189)	(E 1275608.8311, N 517959.6452)
C5	66.000	61.667	N60° 21' 38.04"W	(E 1275740.7499, N 517897.0475)	(E 1275689.0801, N 517926.4471)
C47	200.000	41.157	N34° 22' 10.85"W	(E 1275254.8989, N 517880.1685)	(E 1275231.7057, N 517914.0798)
C48	100.000	95.166	N67° 31' 40.93"W	(E 1275349.0555, N 517833.9368)	(E 1275264.3967, N 517868.9551)

0 20 40 Feet

SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND
MELISSA DIANE WEST
No. 28539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:13-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GEOMETRY PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

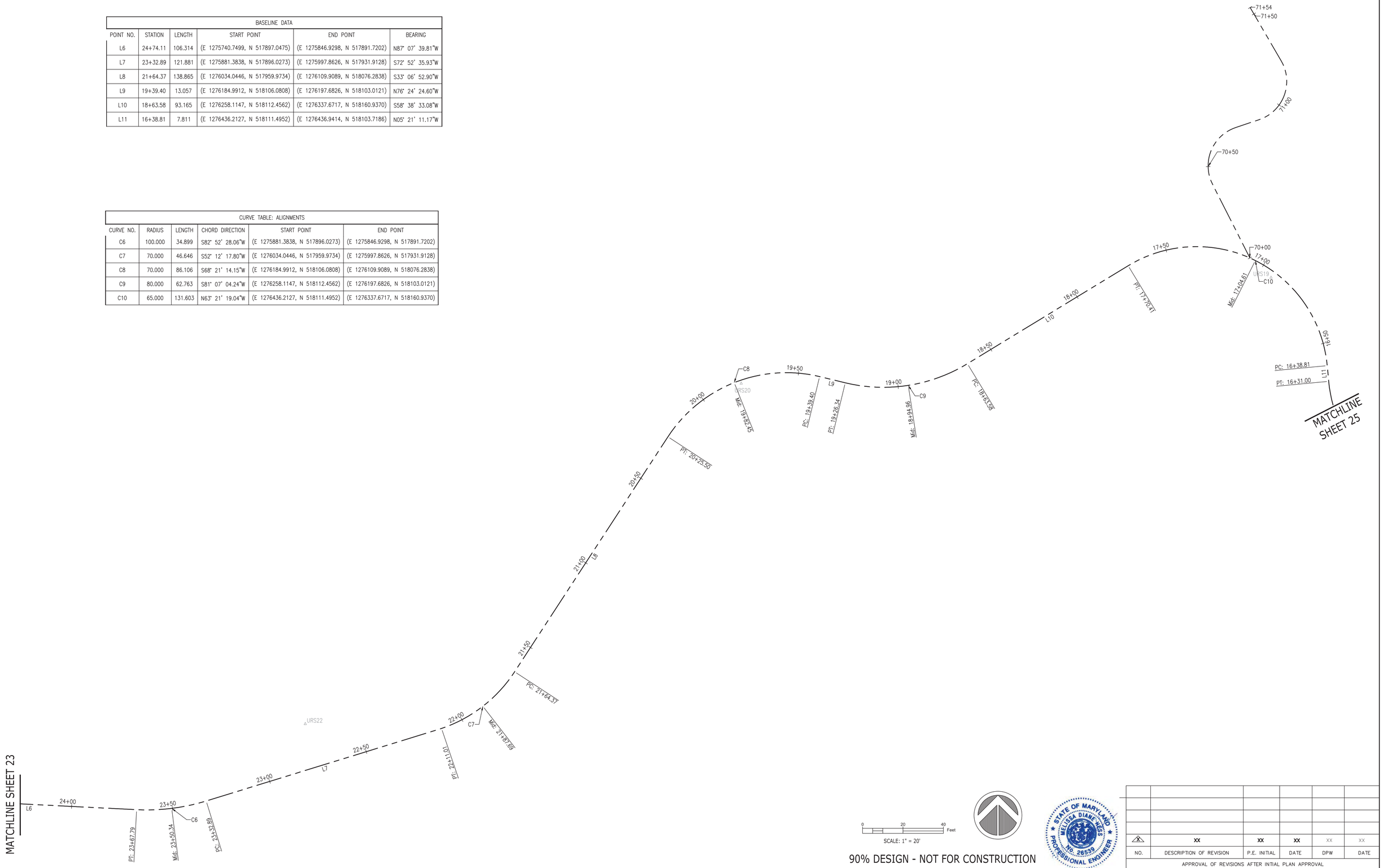
SCALE 1"=20'

SHEET NO. 23 OF 84

FILE # G-134

BASELINE DATA					
POINT NO.	STATION	LENGTH	START POINT	END POINT	BEARING
L6	24+74.11	106.314	(E 1275740.7499, N 517897.0475)	(E 1275846.9298, N 517891.7202)	N87° 07' 39.81"W
L7	23+32.89	121.881	(E 1275881.3838, N 517896.0273)	(E 1275997.8626, N 517931.9128)	S72° 52' 35.93"W
L8	21+64.37	138.865	(E 1276034.0446, N 517959.9734)	(E 1276109.9089, N 518076.2838)	S33° 06' 52.90"W
L9	19+39.40	13.057	(E 1276184.9912, N 518106.0808)	(E 1276197.6826, N 518103.0121)	N76° 24' 24.60"W
L10	18+63.58	93.165	(E 1276258.1147, N 518112.4562)	(E 1276337.6717, N 518160.9370)	S58° 38' 33.08"W
L11	16+38.81	7.811	(E 1276436.2127, N 518111.4952)	(E 1276436.9414, N 518103.7186)	N05° 21' 11.17"W

CURVE TABLE: ALIGNMENTS					
CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C6	100.000	34.899	S82° 52' 28.06"W	(E 1275881.3838, N 517896.0273)	(E 1275846.9298, N 517891.7202)
C7	70.000	46.646	S52° 12' 17.80"W	(E 1276034.0446, N 517959.9734)	(E 1275997.8626, N 517931.9128)
C8	70.000	86.106	S68° 21' 14.15"W	(E 1276184.9912, N 518106.0808)	(E 1276109.9089, N 518076.2838)
C9	80.000	62.763	S81° 07' 04.24"W	(E 1276258.1147, N 518112.4562)	(E 1276197.6826, N 518103.0121)
C10	65.000	131.603	N63° 21' 19.04"W	(E 1276436.2127, N 518111.4952)	(E 1276337.6717, N 518160.9370)



SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:14-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GEOMETRY PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

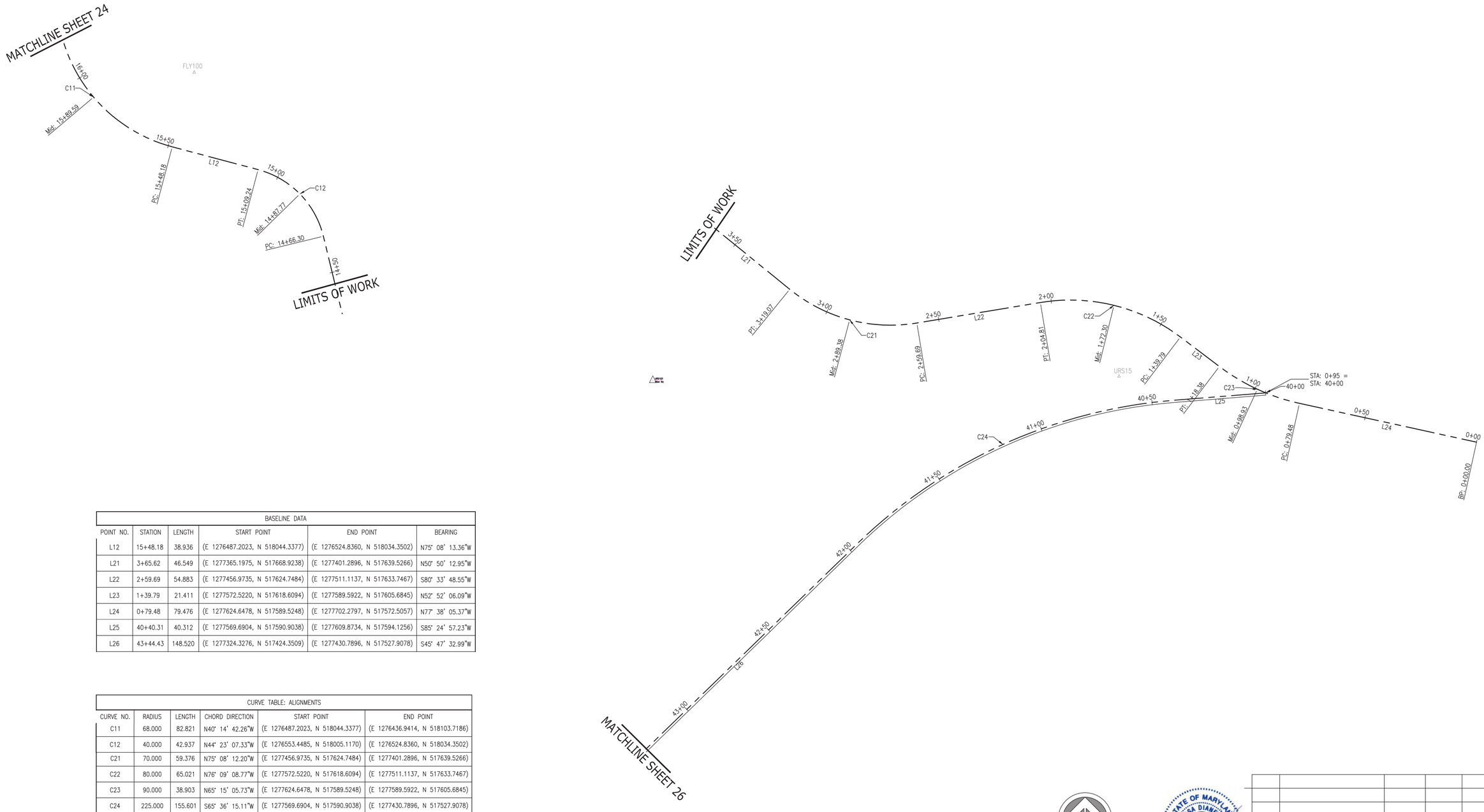
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 24 OF 84

FILE # G-134



BASELINE DATA					
POINT NO.	STATION	LENGTH	START POINT	END POINT	BEARING
L12	15+48.18	38.936	(E 1276487.2023, N 518044.3377)	(E 1276524.8360, N 518034.3502)	N75° 08' 13.36"W
L21	3+65.62	46.549	(E 1277365.1975, N 517668.9238)	(E 1277401.2896, N 517639.5266)	N50° 50' 12.95"W
L22	2+59.69	54.883	(E 1277456.9735, N 517624.7484)	(E 1277511.1137, N 517633.7467)	S80° 33' 48.55"W
L23	1+39.79	21.411	(E 1277572.5220, N 517618.6094)	(E 1277589.5922, N 517605.6845)	N52° 52' 06.09"W
L24	0+79.48	79.476	(E 1277624.6478, N 517589.5248)	(E 1277702.2797, N 517572.5057)	N77° 38' 05.37"W
L25	40+40.31	40.312	(E 1277569.6904, N 517590.9038)	(E 1277609.8734, N 517594.1256)	S85° 24' 57.23"W
L26	43+44.43	148.520	(E 1277324.3276, N 517424.3509)	(E 1277430.7896, N 517527.9078)	S45° 47' 32.99"W

CURVE TABLE: ALIGNMENTS					
CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C11	68.000	82.821	N40° 14' 42.26"W	(E 1276487.2023, N 518044.3377)	(E 1276436.9414, N 518103.7186)
C12	40.000	42.937	N44° 23' 07.33"W	(E 1276553.4485, N 518005.1170)	(E 1276524.8360, N 518034.3502)
C21	70.000	59.376	N75° 08' 12.20"W	(E 1277456.9735, N 517624.7484)	(E 1277401.2896, N 517639.5266)
C22	80.000	65.021	N76° 09' 08.77"W	(E 1277572.5220, N 517618.6094)	(E 1277511.1137, N 517633.7467)
C23	90.000	38.903	N65° 15' 05.73"W	(E 1277624.6478, N 517589.5248)	(E 1277589.5922, N 517605.6845)
C24	225.000	155.601	S65° 36' 15.11"W	(E 1277569.6904, N 517590.9038)	(E 1277430.7896, N 517527.9078)

SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:15-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GEOMETRY PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

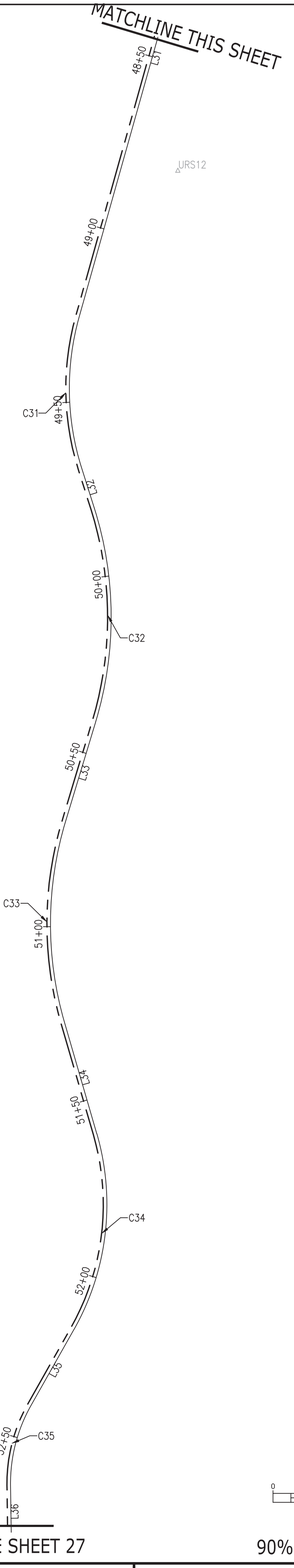
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 25 OF 84

FILE # G-134



BASELINE DATA					
POINT NO.	STATION	LENGTH	START POINT	END POINT	BEARING
L27	43+98.34	11.963	(E 1277274.1630, N 517411.1105)	(E 1277286.0991, N 517410.3052)	N86° 08' 25.86"W
L28	44+87.43	34.839	(E 1277209.9506, N 517357.8501)	(E 1277228.2542, N 517387.4930)	S31° 41' 38.59"W
L29	45+32.40	8.556	(E 1277204.7506, N 517314.4408)	(E 1277203.2593, N 517322.8657)	S10° 02' 17.49"E
L30	47+10.04	63.515	(E 1277190.7455, N 517155.6154)	(E 1277167.6113, N 517214.7673)	S21° 21' 37.45"E
L31	49+25.52	150.776	(E 1277153.0429, N 516946.9684)	(E 1277193.8775, N 517092.1091)	S15° 42' 49.18"W
L32	49+80.81	11.741	(E 1277157.2723, N 516892.8441)	(E 1277153.7316, N 516904.0386)	S17° 33' 06.34"E
L33	50+69.83	29.009	(E 1277149.2440, N 516805.9649)	(E 1277157.6439, N 516833.7317)	S16° 49' 53.30"W
L34	51+59.80	32.344	(E 1277157.9437, N 516718.0660)	(E 1277148.9256, N 516749.1274)	S16° 11' 22.84"E
L35	52+40.07	24.488	(E 1277139.6234, N 516642.7986)	(E 1277151.6676, N 516664.1198)	S29° 27' 42.02"W
L36	52+78.45	14.625	(E 1277134.0103, N 516605.4216)	(E 1277133.8085, N 516620.0450)	S00° 47' 25.18"E

CURVE TABLE: ALIGNMENTS					
CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C25	50.000	41.946	S69° 49' 33.57"W	(E 1277324.3276, N 517424.3509)	(E 1277286.0991, N 517410.3052)
C26	50.000	54.250	S62° 46' 36.37"W	(E 1277274.1630, N 517411.1105)	(E 1277228.2542, N 517387.4930)
C27	50.000	36.418	S10° 49' 40.55"W	(E 1277209.9506, N 517357.8501)	(E 1277203.2593, N 517322.8657)
C28	45.000	52.614	S23° 27' 24.92"W	(E 1277204.7506, N 517314.4408)	(E 1277184.9798, N 517268.8775)
C29	45.000	61.506	S17° 47' 44.94"W	(E 1277184.9798, N 517268.8775)	(E 1277167.6113, N 517214.7673)
C30	100.000	64.706	S02° 49' 24.13"E	(E 1277190.7455, N 517155.6154)	(E 1277193.8775, N 517092.1091)
C31	75.000	43.544	S00° 55' 08.58"E	(E 1277153.0429, N 516946.9684)	(E 1277153.7316, N 516904.0386)
C32	100.000	60.010	S00° 21' 36.52"E	(E 1277157.2723, N 516892.8441)	(E 1277157.6439, N 516833.7317)
C33	100.000	57.633	S00° 19' 15.23"W	(E 1277149.2440, N 516805.9649)	(E 1277148.9256, N 516749.1274)
C34	70.000	55.774	S06° 38' 09.59"W	(E 1277157.9437, N 516718.0660)	(E 1277151.6676, N 516664.1198)
C35	45.000	23.760	S14° 20' 08.42"W	(E 1277139.6234, N 516642.7986)	(E 1277133.8085, N 516620.0450)

SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:16-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GEOMETRY PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

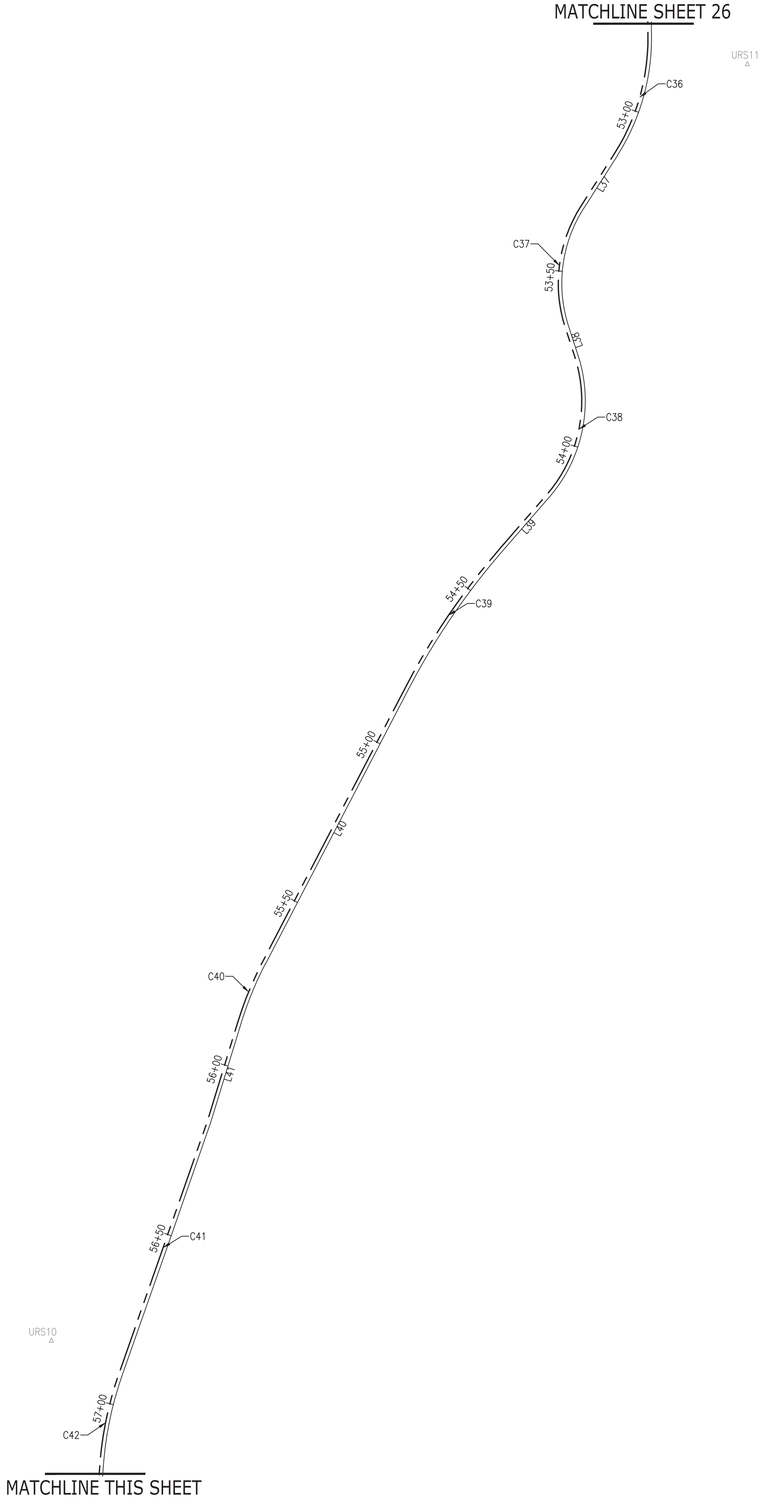
Election District No. 4 City of Rockville, Maryland

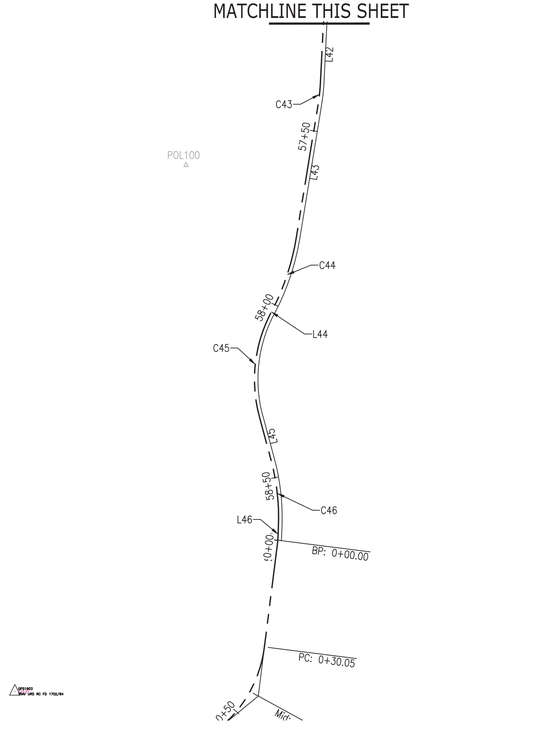
DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 26 OF 84

FILE # G-134





BASELINE DATA					
POINT NO.	STATION	LENGTH	START POINT	END POINT	BEARING
L37	53+30.80	17.490	(E 1277115.2198, N 516557.6030)	(E 1277124.6179, N 516572.3536)	S32° 30' 09.80"W
L38	53+74.52	8.384	(E 1277113.5382, N 516515.7135)	(E 1277110.9336, N 516523.6830)	S18° 05' 56.38"E
L39	54+35.75	20.000	(E 1277092.6136, N 516461.9624)	(E 1277105.7242, N 516477.0659)	S40° 57' 35.04"W
L40	55+69.43	86.666	(E 1277026.2248, N 516346.2956)	(E 1277066.2298, N 516423.1763)	S27° 29' 24.95"W
L41	56+16.69	29.069	(E 1277010.8060, N 516301.7006)	(E 1277019.3390, N 516329.4895)	S17° 04' 11.22"W
L42	57+36.86	16.999	(E 1276979.7962, N 516186.3751)	(E 1276980.6598, N 516203.3519)	S02° 54' 43.54"W
L43	57+80.30	37.857	(E 1276973.0742, N 516143.4647)	(E 1276979.2015, N 516180.8227)	S09° 18' 52.00"W
L44	58+02.92	1.415	(E 1276965.8178, N 516122.1544)	(E 1276966.4643, N 516123.4136)	S27° 10' 32.53"W
L45	58+44.76	12.348	(E 1276965.9869, N 516081.5649)	(E 1276962.7773, N 516093.4880)	S15° 03' 59.22"E
L46	58+67.59	3.446	(E 1276967.9353, N 516058.9285)	(E 1276968.0894, N 516062.3710)	S02° 33' 48.60"W

CURVE TABLE: ALIGNMENTS					
CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C36	60.000	34.864	S15° 51' 22.31"W	(E 1277134.0103, N 516605.4216)	(E 1277124.6179, N 516572.3536)
C37	40.000	35.327	S07° 12' 06.71"W	(E 1277115.2198, N 516557.6030)	(E 1277110.9336, N 516523.6830)
C38	40.000	41.231	S11° 25' 49.33"W	(E 1277113.5382, N 516515.7135)	(E 1277105.7242, N 516477.0659)
C39	200.000	47.017	S34° 13' 30.00"W	(E 1277092.6136, N 516461.9624)	(E 1277066.2298, N 516423.1763)
C40	100.000	18.187	S22° 16' 48.09"W	(E 1277026.2248, N 516346.2956)	(E 1277019.3390, N 516329.4895)
C41	17299.918	74.345	S19° 18' 24.34"W	(E 1277010.8060, N 516301.7006)	(E 1276986.2257, N 516231.5368)
C42	100.000	28.829	S11° 10' 15.54"W	(E 1276986.2257, N 516231.5368)	(E 1276980.6598, N 516203.3519)
C43	50.000	5.587	S06° 06' 47.77"W	(E 1276979.7962, N 516186.3751)	(E 1276979.2015, N 516180.8227)
C44	68.000	21.198	S18° 14' 42.27"W	(E 1276973.0742, N 516143.4647)	(E 1276966.4643, N 516123.4136)
C45	40.000	29.491	S06° 03' 16.65"W	(E 1276965.8178, N 516122.1544)	(E 1276962.7773, N 516093.4880)
C46	63.000	19.385	S06° 15' 05.31"E	(E 1276965.9869, N 516081.5649)	(E 1276968.0894, N 516062.3710)

0 20 40 Feet

SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND MELISSA DIANE WILLIS No. 26539 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:17-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

GEOMETRY PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

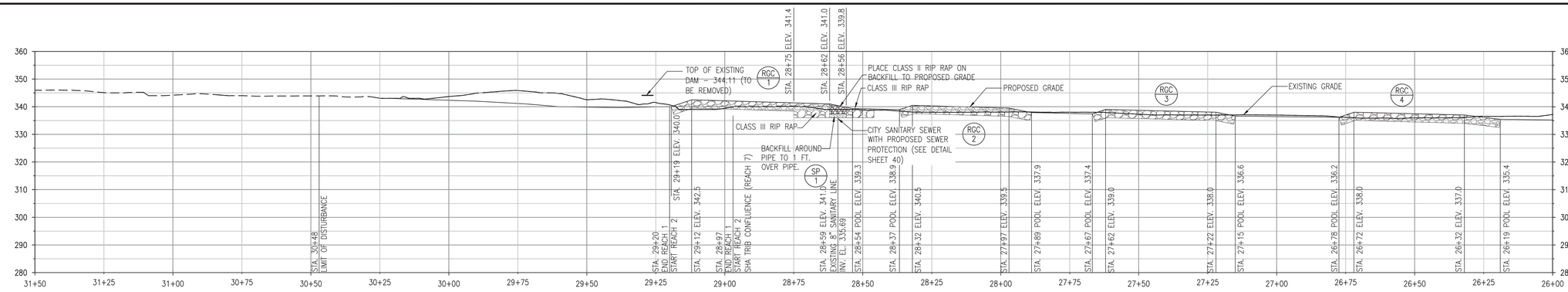
Election District No. 4 City of Rockville, Maryland

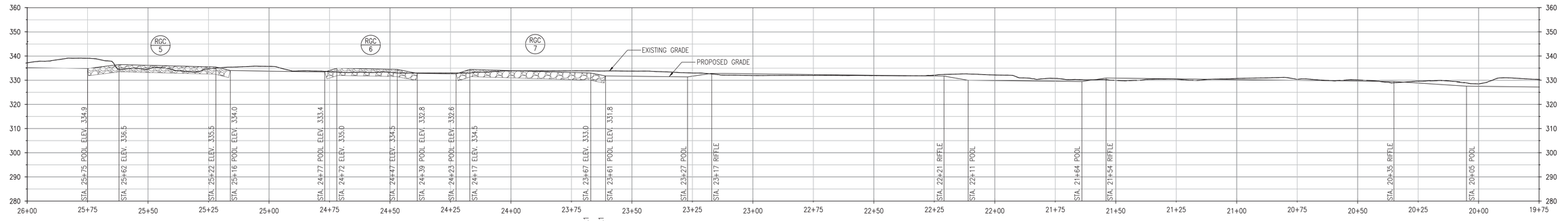
DATE SUBMITTED: 03/12/2025

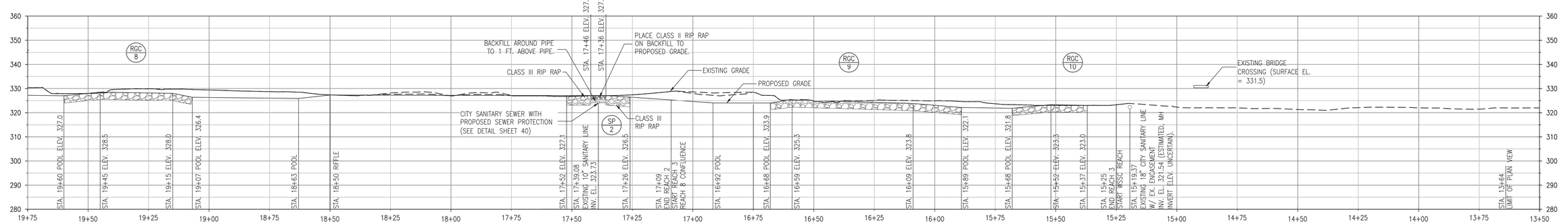
SCALE 1"=20'

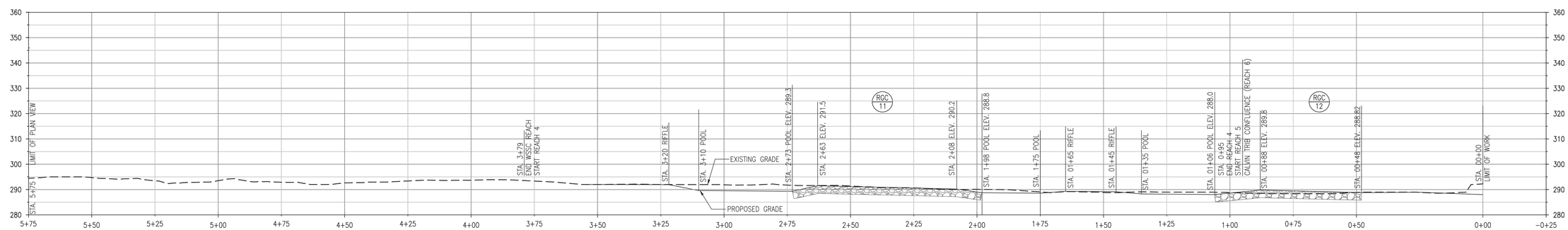
SHEET NO. 27 OF 84

FILE # G-134









STATION 0+00 TO 31+50
REACHES 1 TO 5, CROYDON CREEK

REFERENCE TABLE	
GRADING SHEETS	SHEETS 13-22
CROSS-SECTIONS SHEETS	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

VERTICAL / HORIZONTAL
0 20 40 Feet
SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND MELISSA DIANE WEST No. 26539 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:18-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
PROFILE SHEET

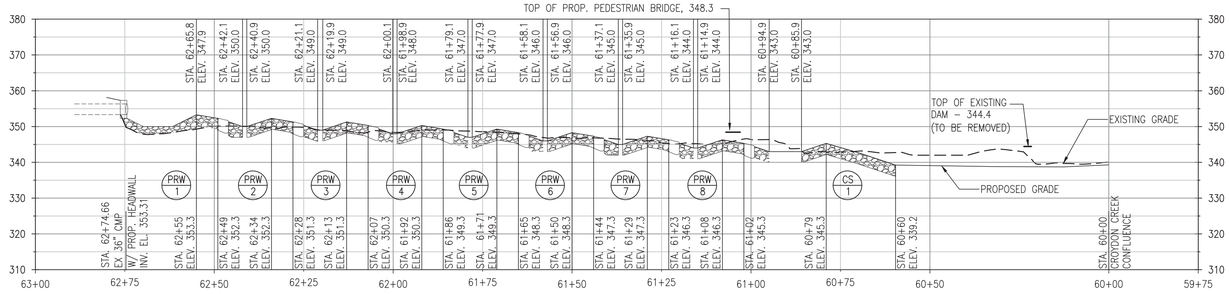
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

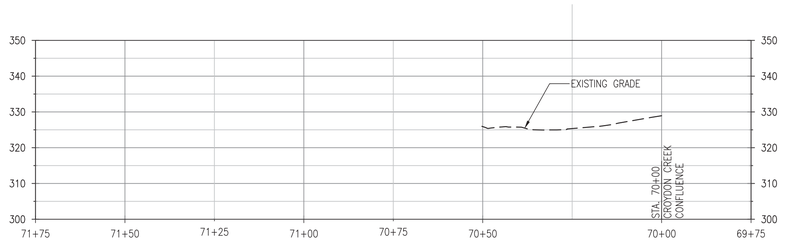
SCALE H: 1"=20' V: 1"=20'

SHEET NO. 28 OF 84

FILE # G-134



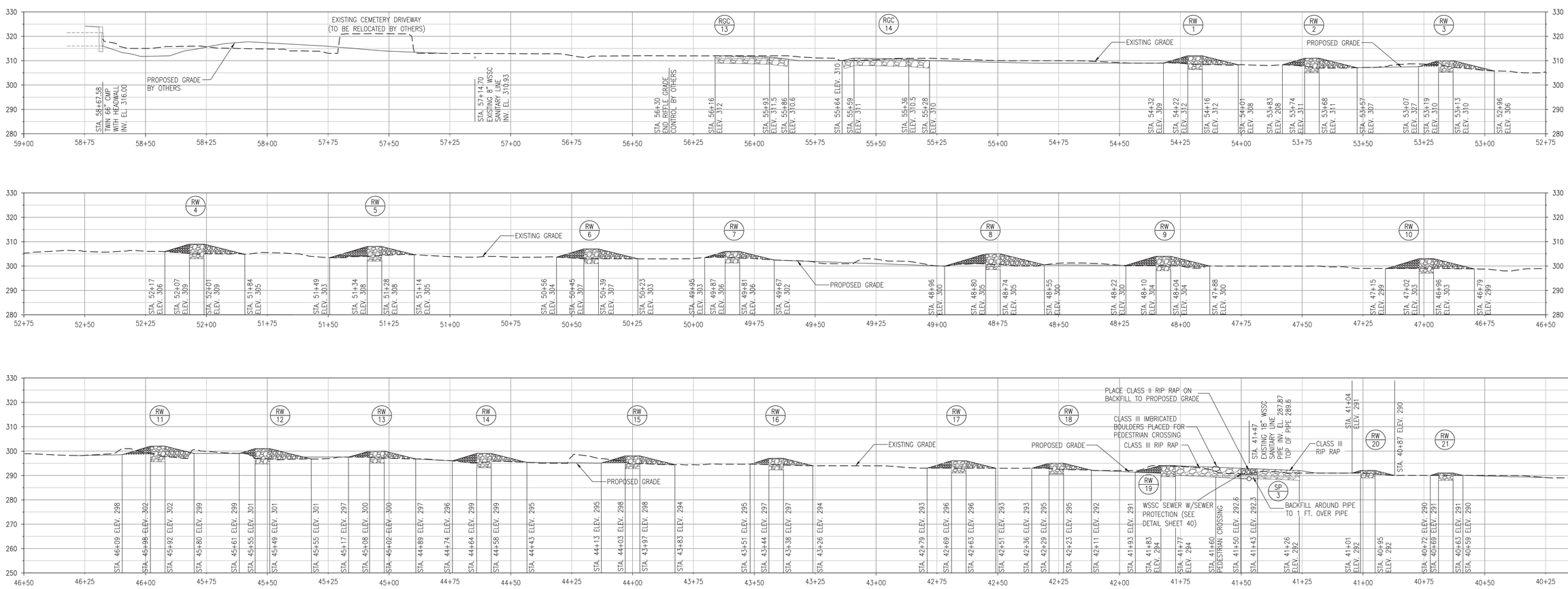
STATION 60+00 TO 62+75
REACH 7, SHA TRIBUTARY



STATION 70+00 TO 71+50
REACH 8

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- RW 1 — PROPOSED RIFFLE WEIR STRUCTURE
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED REGENERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- CS 1 — PROPOSED CASCADE



STATIONS 40+00 TO 58+69.08
REACH 6, CALVIN PARK TRIBUTARY

REFERENCE TABLE	
GRADING SHEETS	SHEETS 13-22
CROSS-SECTIONS SHEETS	SHEETS 33-36
DETAIL SHEETS	SHEETS 37-42
STRUCTURE TABLE	SHEET 41

VERTICAL / HORIZONTAL
0 20 40 Feet
SCALE: 1" = 20' AND AS SHOWN

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:19-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
PROFILE SHEET

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

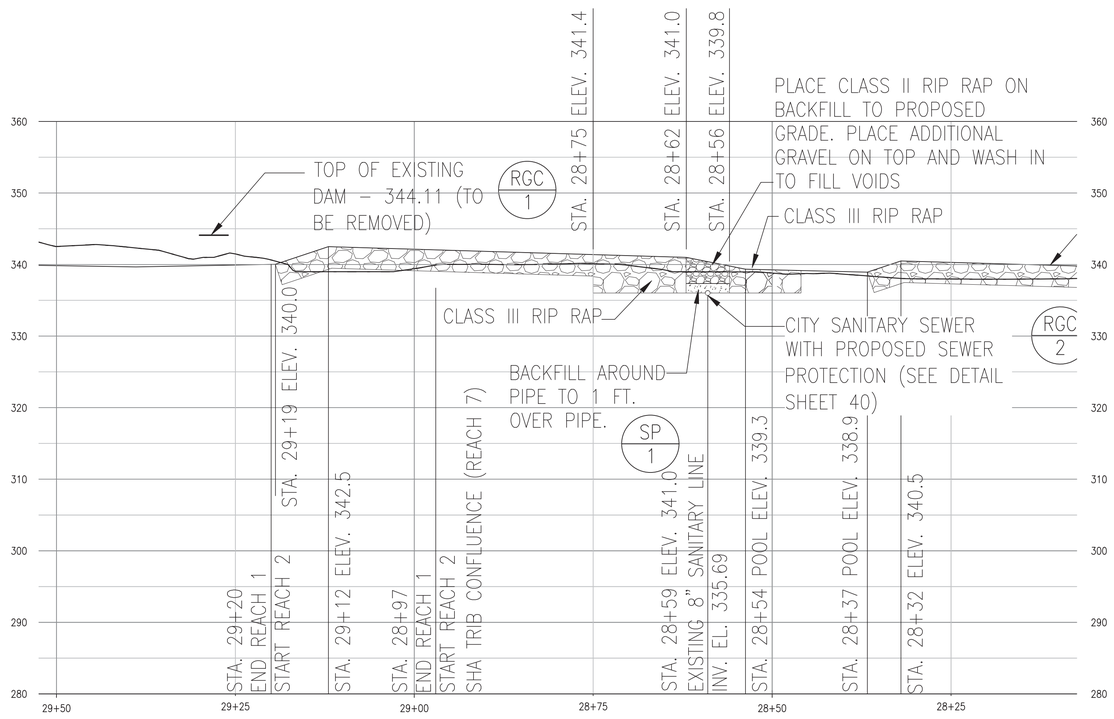
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=20' V: 1"=20'

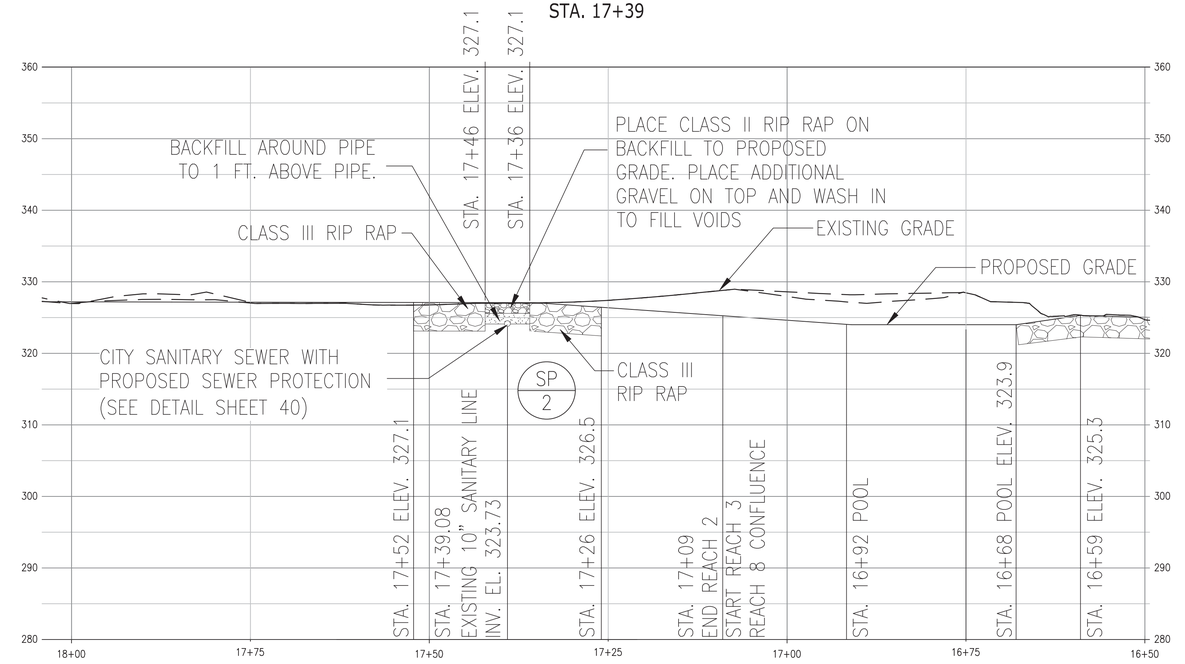
SHEET NO. 29 OF 84

FILE # G-134

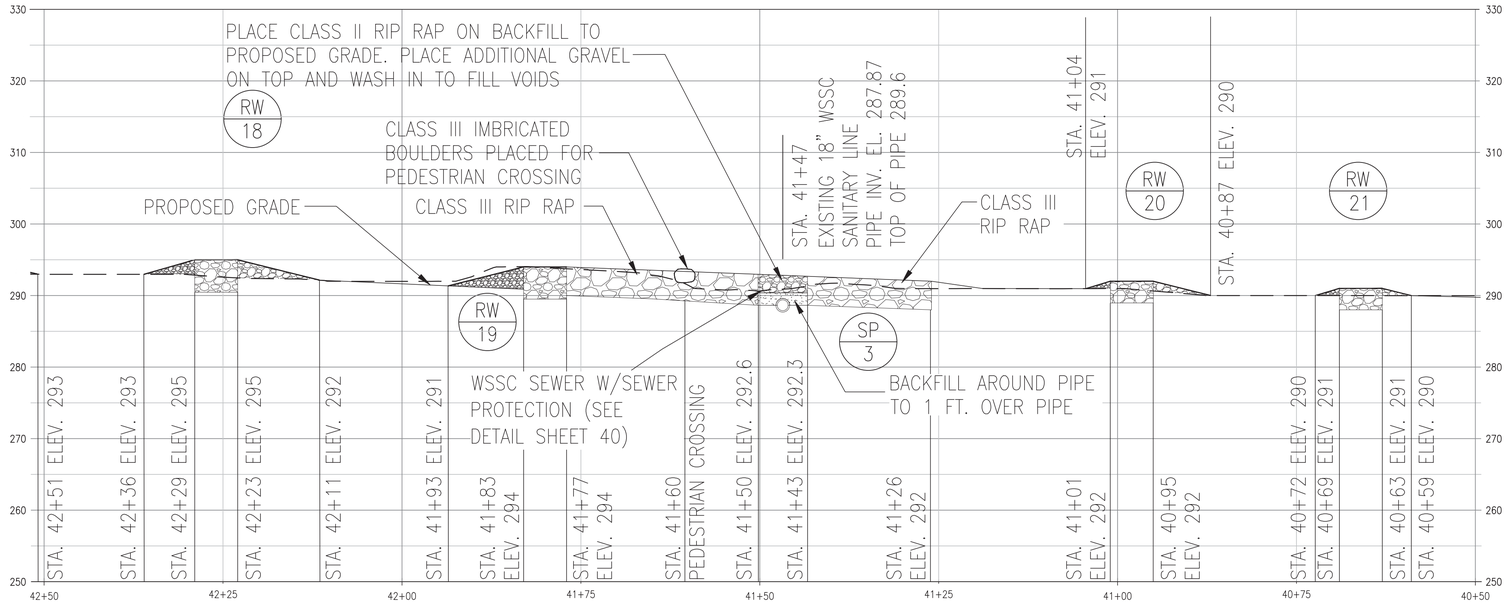
CROYDON CREEK SEWER PROTECTION 1
STA. 28+59



CROYDON CREEK SEWER PROTECTION 2
STA. 17+39



CALVIN TRIBUTARY SEWER PROTECTION
STA. 41+47



LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- RW 1 — PROPOSED RIFFLE WEIR STRUCTURE
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED REGENERATIVI STEP POOL STORM CONVEYANCE RIFFLE
- CS 1 — PROPOSED CASCADE

REFERENCE TABLE	
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STRUCTURE TABLE	SHEET 41

VERTICAL / HORIZONTAL
0 10 20 Feet
SCALE: 1" = 10'

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:20-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION PROFILE SHEET

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

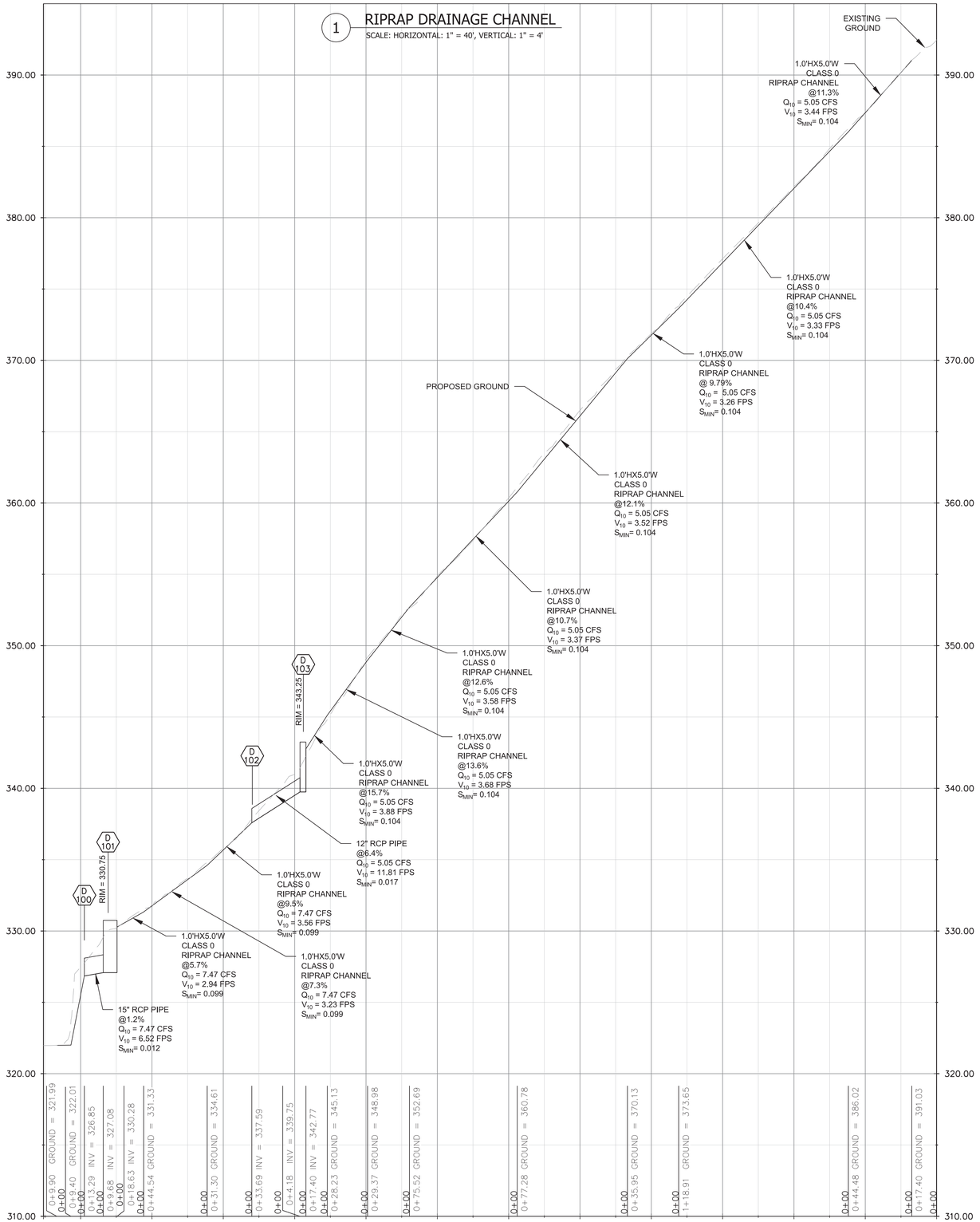
SHEET NO. 30 OF 84

FILE # G-134

248 of 304

1 RIPRAP DRAINAGE CHANNEL

SCALE: HORIZONTAL: 1" = 40', VERTICAL: 1" = 4'

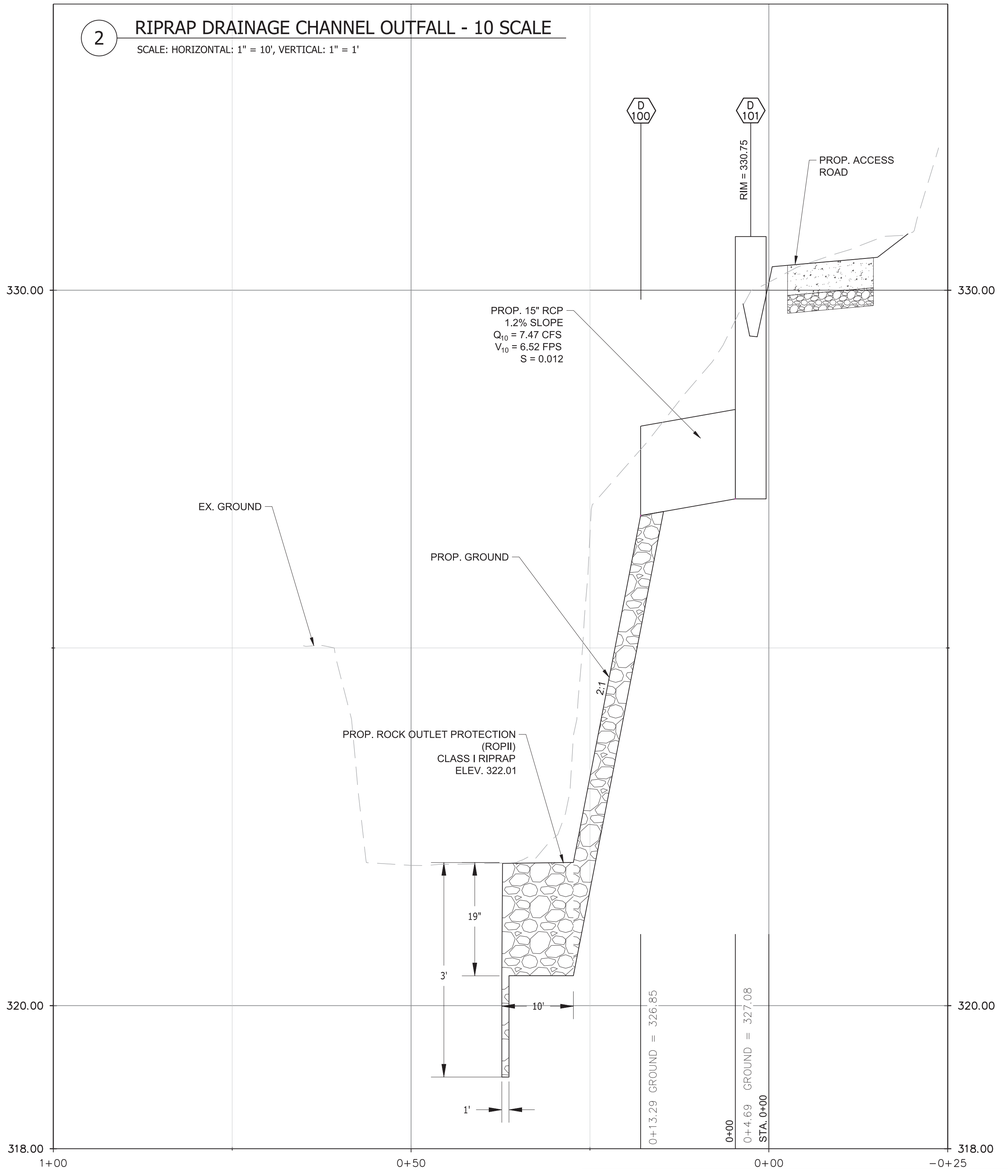


STORM DRAIN STRUCTURE SCHEDULE								
Inspected By	No.	Type	Width/ Diam.	Top Elev. (ft)	Inv. Elev. (ft)	Standard Detail	Norting	Easting	Remarks
Rockville	D100	Standard Concrete End Section	15"	328.10	326.85	Drawing No 61 Detail 6-7	517905.2423	1276555.0740	Reference MD368.02 or MD368.02
Rockville	D101	Type K Inlet Open-End grate Non-Traffic Areas	-	330.75	327.08	Drawing No 61 Detail 1	517905.7903	1276539.7174	Reference 378.03 and 378.06
Rockville	D102	Standard Concrete End Section	12"	338.59	337.59	Drawing No 61 Detail 6-7	517813.5593	1276566.7899	Reference MD368.02 or MD368.02
Rockville	D103	Type K Inlet Open-End grate Non-Traffic Areas	-	343.25	339.75	Drawing No 61 Detail 1	517780.4444	1276580.6196	Reference 378.03 and 378.06

STORM DRAIN PIPE SCHEDULE					
Inspected By	Size	Type	Class	Length	Remarks
Rockville	12"	RCP	IV	34	
Rockville	15"	RCP	IV	14	

2 RIPRAP DRAINAGE CHANNEL OUTFALL - 10 SCALE

SCALE: HORIZONTAL: 1" = 10', VERTICAL: 1" = 1'



NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	xx	xx	xx	xx	xx

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND — MELISSA DIANNE KESS — No. 26539 — PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:21-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# xxxx-xxxxx SCP# xxxx-xxxxx
SMP# xxxx-xxxxx REVIEWED BY xx

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

AVERY ROAD DRAINAGE CHANNEL PROFILE

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

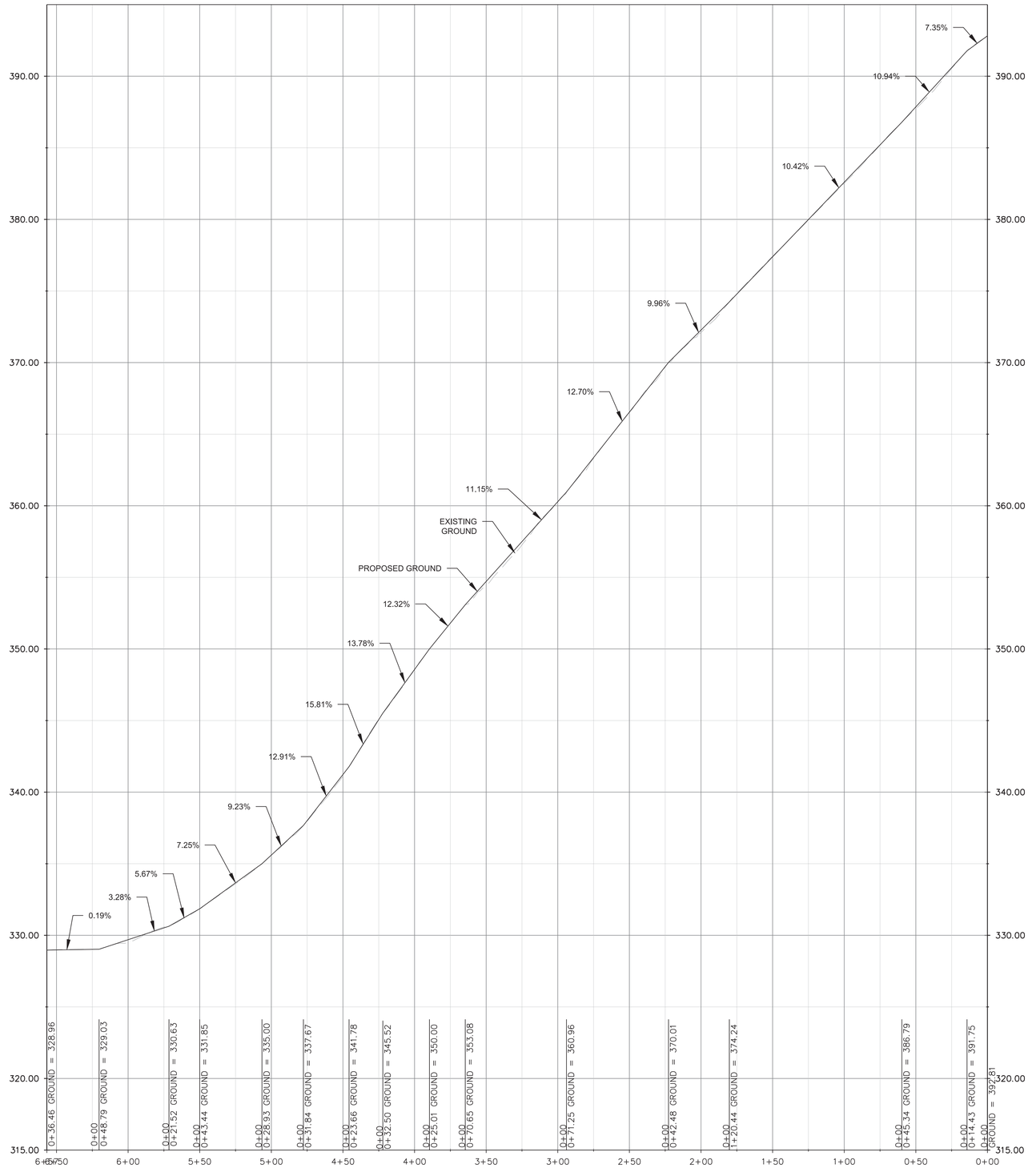
DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE SEE DWG

SHEET NO. 31 OF 84

FILE # DPW TO PROVIDE



3 ACCESS ROAD
SCALE: HORIZONTAL: 1" = 40', VERTICAL: 1" = 4'

STATE OF MARYLAND
MELISSA DIANE KESS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	xx	xx	xx	xx	xx

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:22-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# xxxx-xxxxx
SMP# xxxx-xxxxx
SCP# xxxx-xxxxx
REVIEWED BY xx

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD ACCESS ROAD
PROFILE

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

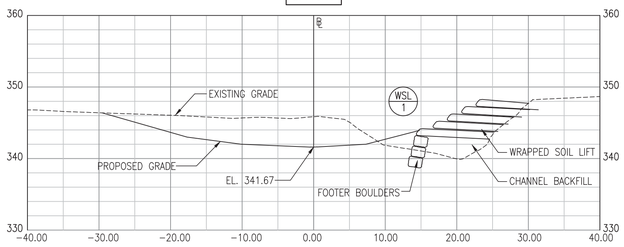
SCALE
H: 1"=40'
V: 1"=4'

SHEET NO. 32 OF 84

FILE # DPW TO PROVIDE

CROYDON CREEK

29+75.00



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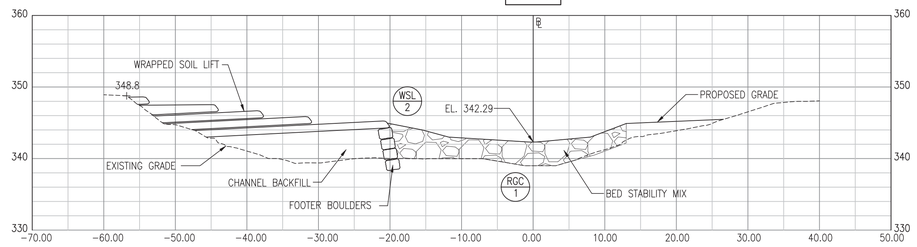
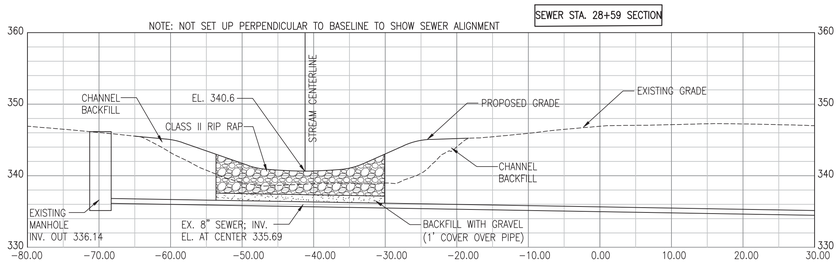
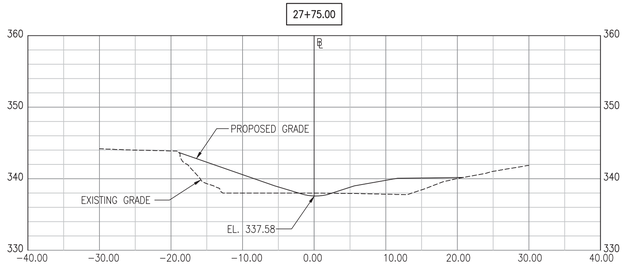


SEWER STA. 28+59 SECTION

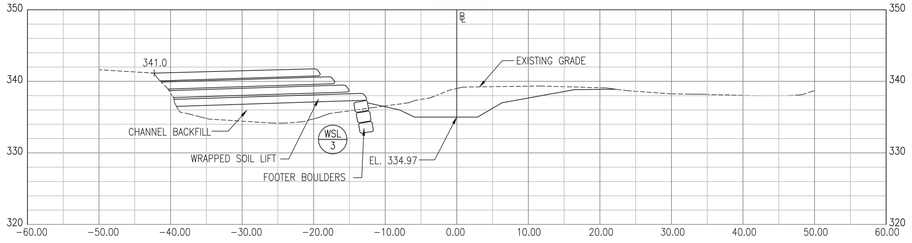
NOTE: NOT SET UP PERPENDICULAR TO BASELINE TO SHOW SEWER ALIGNMENT



27+75.00



25+84.00



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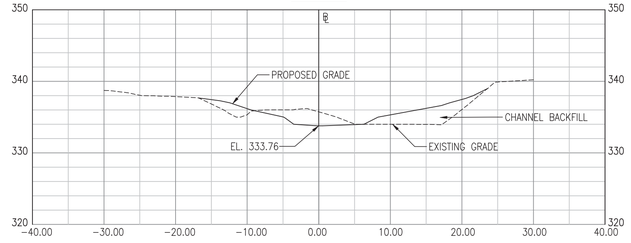
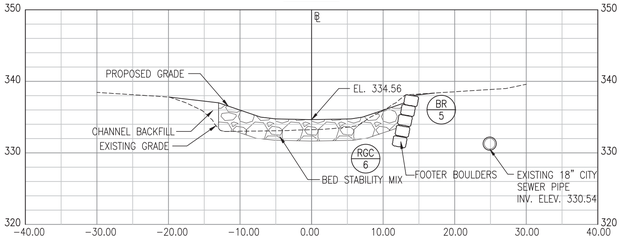


24+50.00



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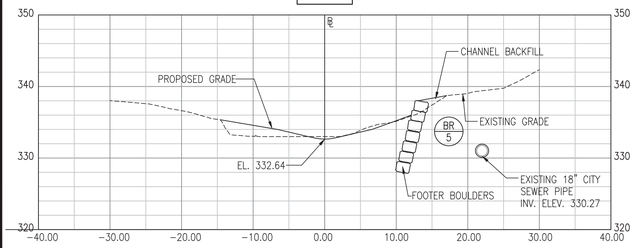

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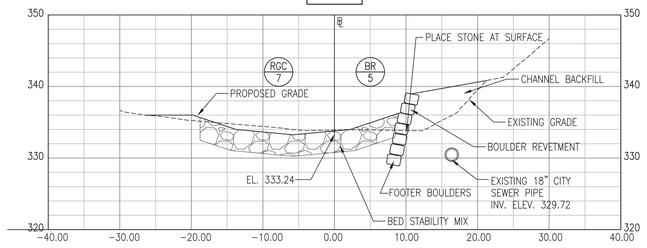

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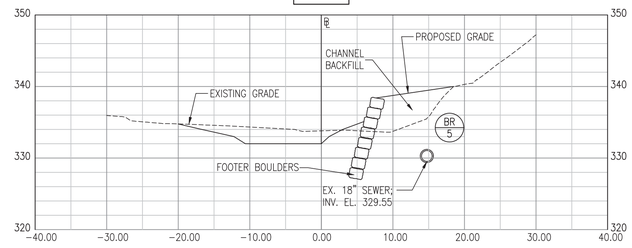
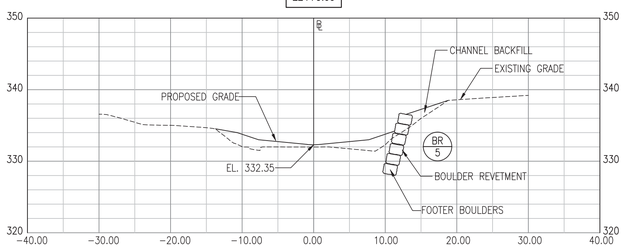
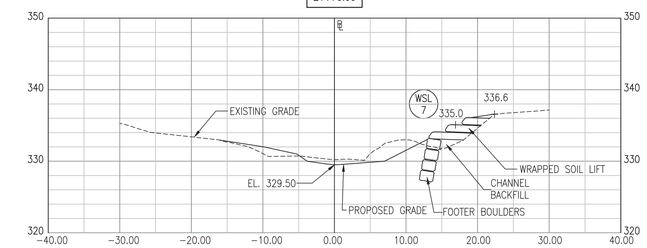


22+75.00



21+70.00



SCALE: 1" = 10'

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- RW 1 — PROPOSED RIFFLE WEIR STRUCTURE
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED REGENERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- RS 1 — PROPOSED RIP RAP SWALE

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND — MELISSA DIANE WEBB — NO. 26539 — PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:23-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PW#: XXXX-XXXXX
SMP#: 2025-00023
SCP#: 2025-00017
REVIEWED BY: XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

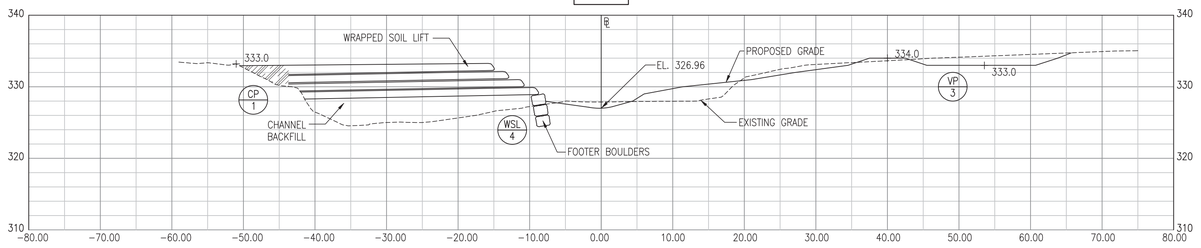
SCALE H: 1"=10' V: 1"=10'

SHEET NO. 33 OF 84

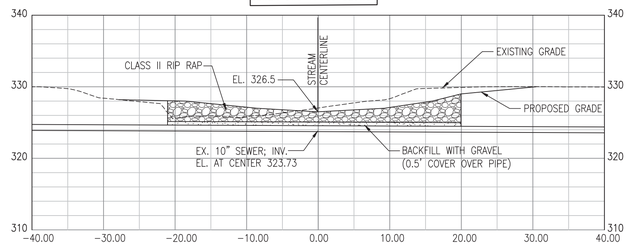
FILE # G-134

CROYDON CREEK (CONT.)

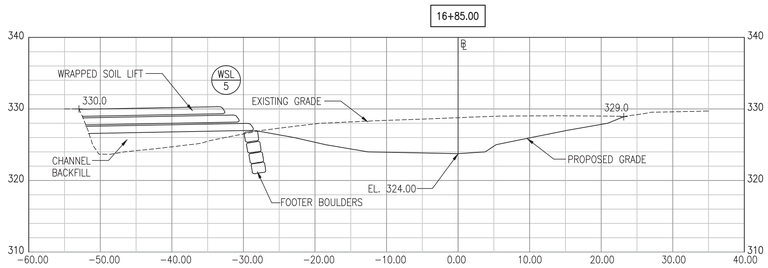
19+60.00



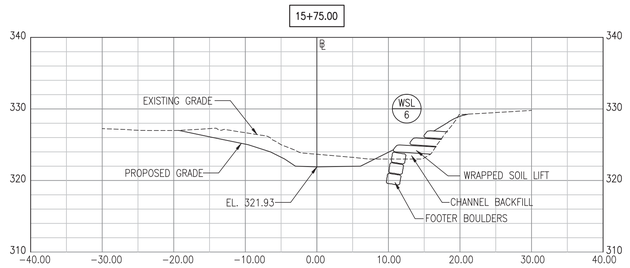
SEWER STA. 17+39 SECTION



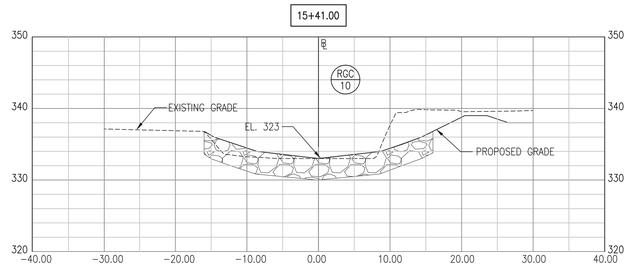
16+85.00



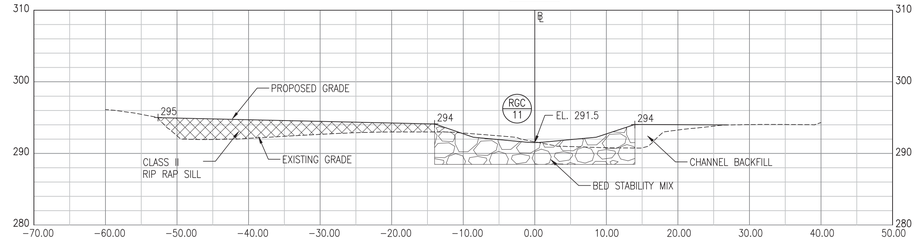
15+75.00



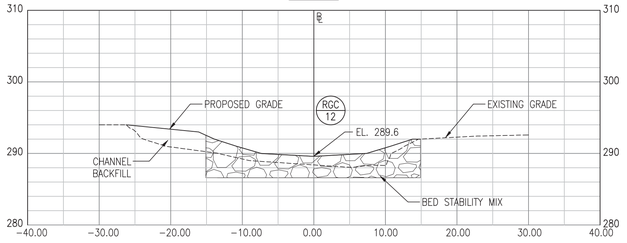
15+41.00



2+59.00

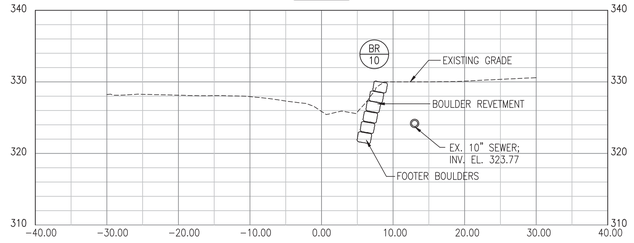


0+75.00



REACH 8 UNNAMED TRIBUTARY

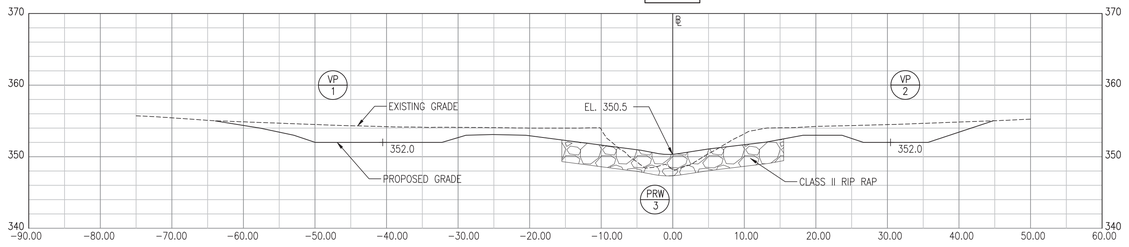
70+50.00



SCALE: 1" = 10'

SHA TRIBUTARY

62+08.00



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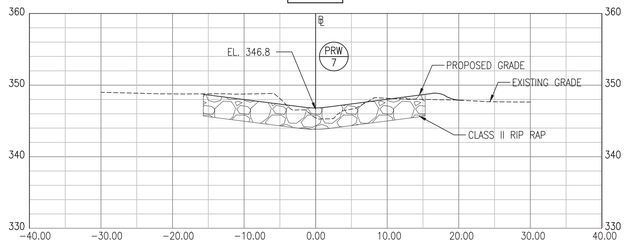

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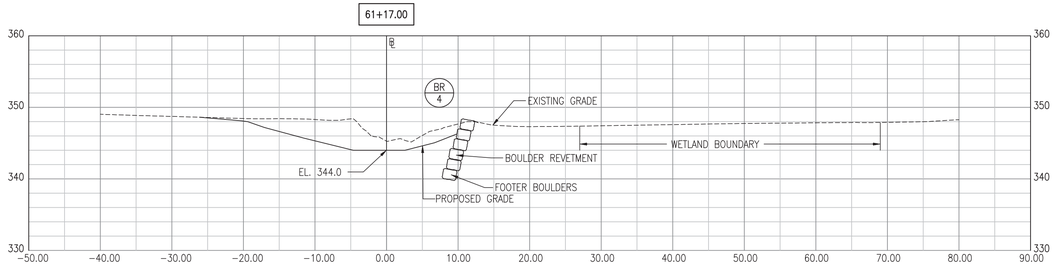

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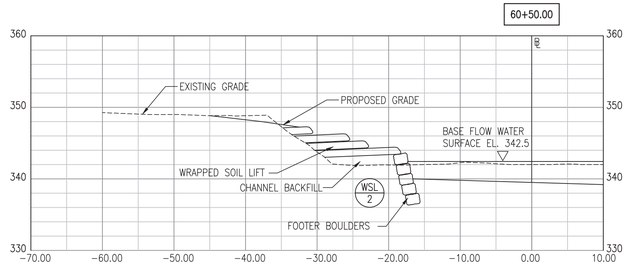

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- RW 1 — PROPOSED RIFFLE WEIR STRUCTURE
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
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- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- RS 1 — PROPOSED RIP RAP SWALE

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE NEES · No. 26599 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:24-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

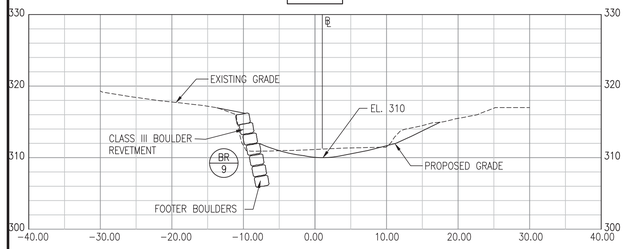
SCALE H: 1"=10' V: 1"=10'

SHEET NO. 34 OF 84

FILE # G-134

CALVIN TRIBUTARY

55+75.00



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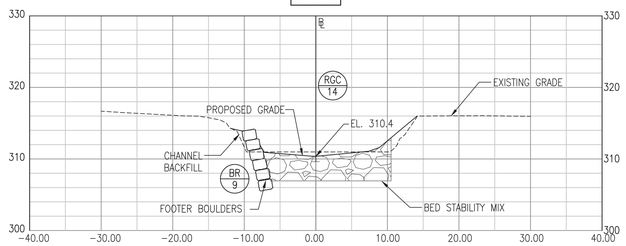

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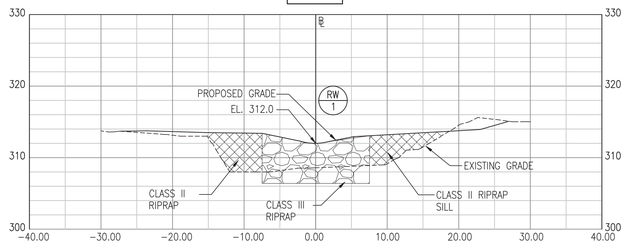

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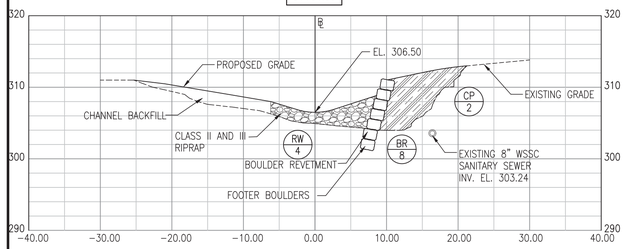
51+91.00



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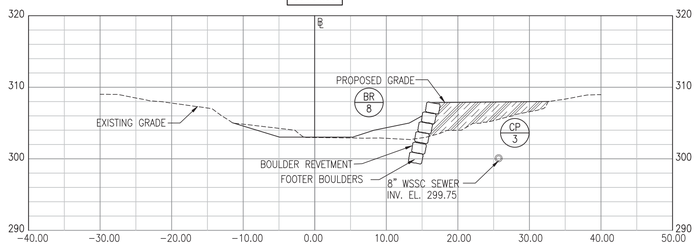

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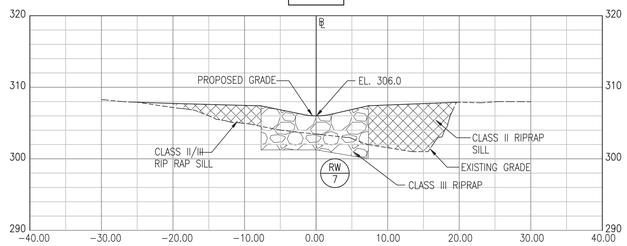

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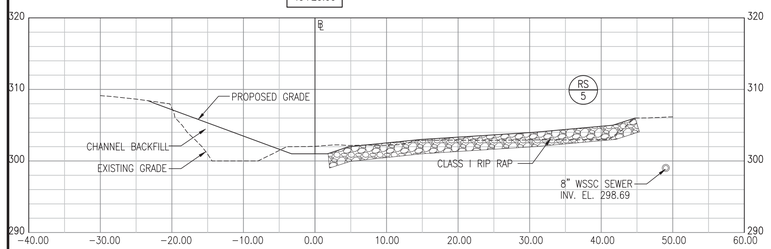

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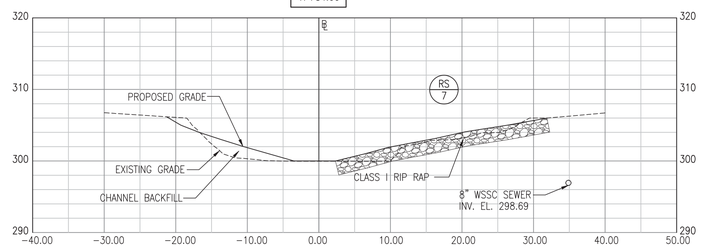

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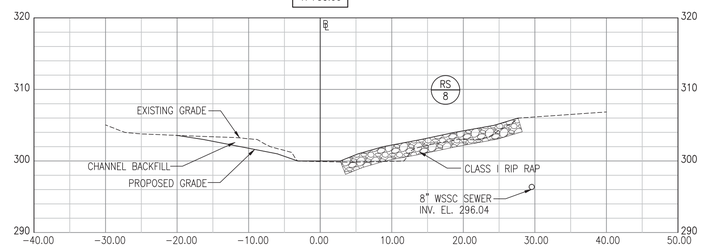

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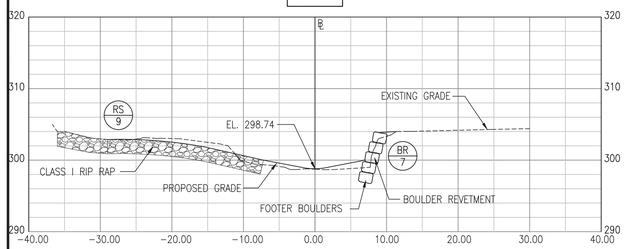

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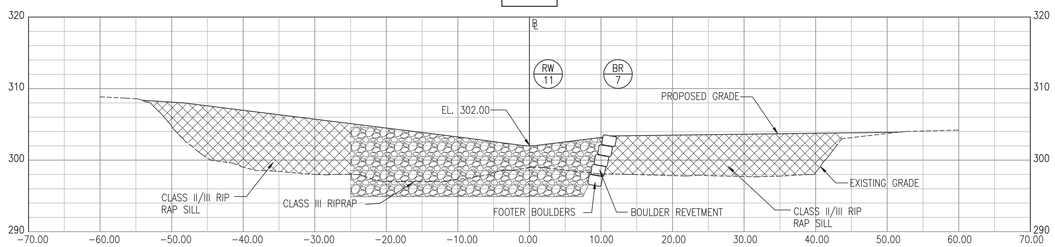

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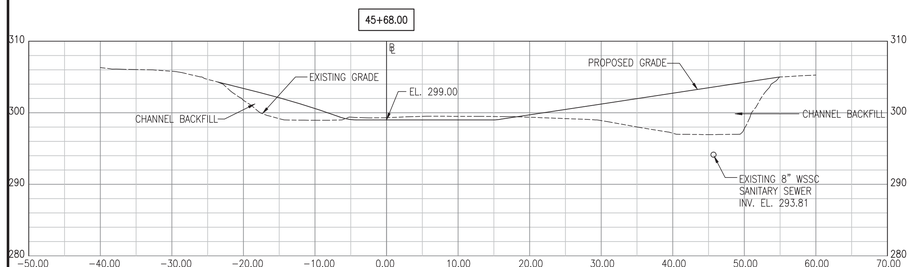

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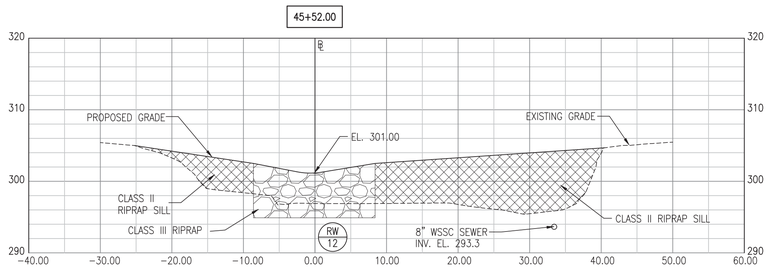

0 10 20 Feet

SCALE: 1" = 10'

NOTE: PIPE BEDDING AND BACKFILLING REQUIREMENTS FOR THE WSSC PIPE SHALL BE IN ACCORDANCE WITH WSSC SPECIFICATION SECTION 02315.

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:25-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

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CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

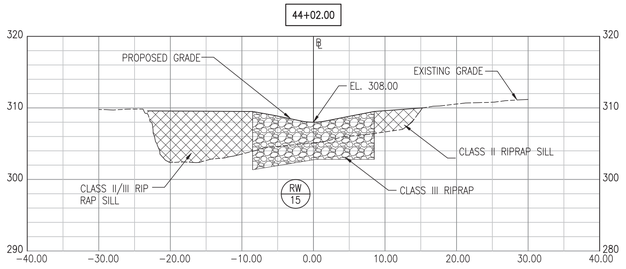
DATE SUBMITTED: 03/12/2025

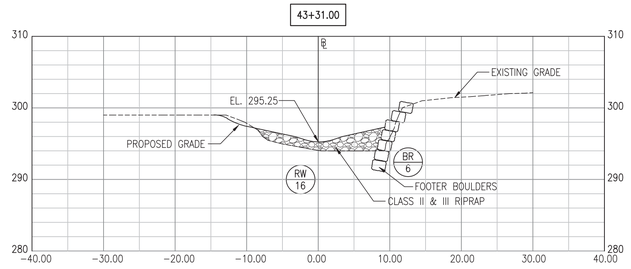
SCALE H: 1"=10' V: 1"=10'

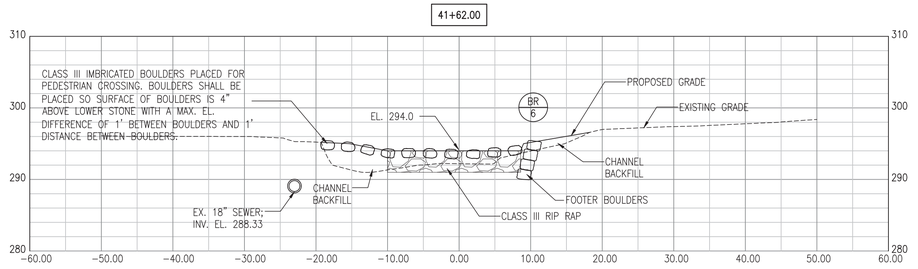
SHEET NO. 35 OF 84

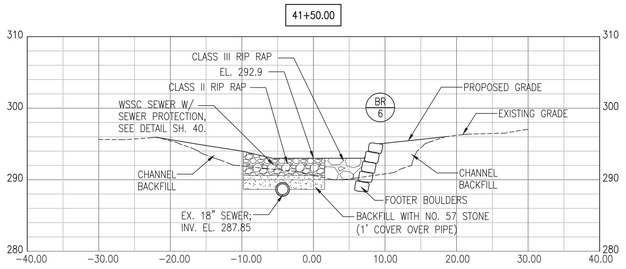
FILE # G-134

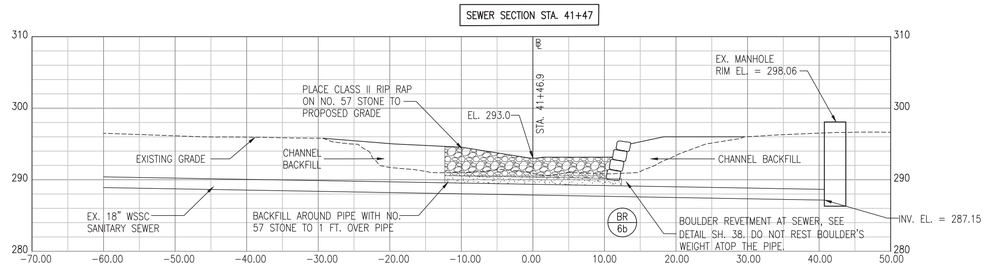
CALVIN TRIBUTARY (CONT.)











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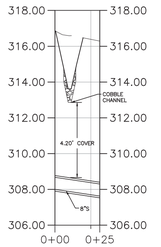
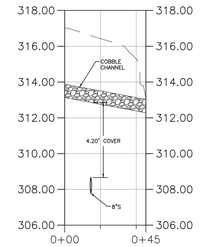
030M TO 029M PROFILE



STORM DRAIN OUTFALL PROFILE



HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

SCALE: 1" = 10'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:26-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS

CROYDON CREEK AND CALVIN TRIBUTARY

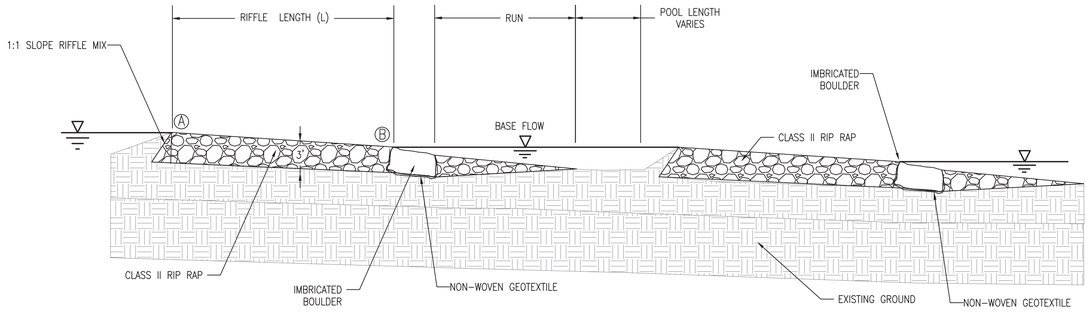
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

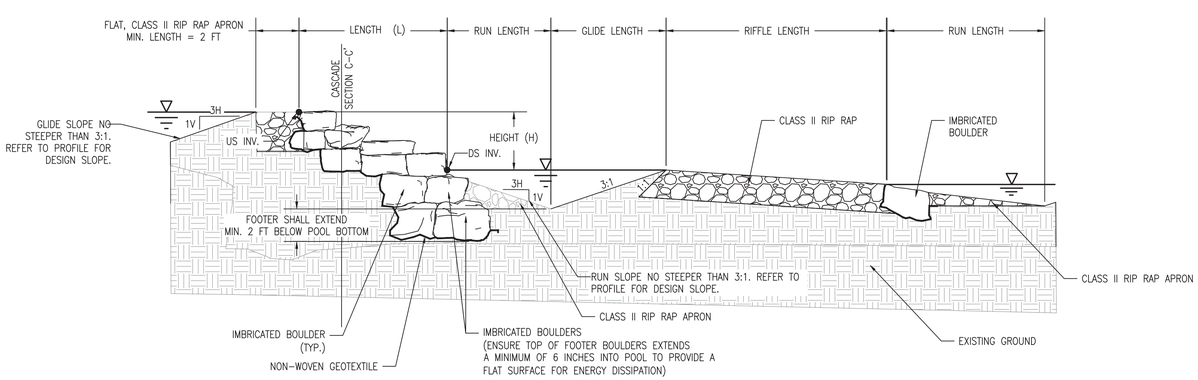
SCALE H: 1"=10' V: 1"=10'

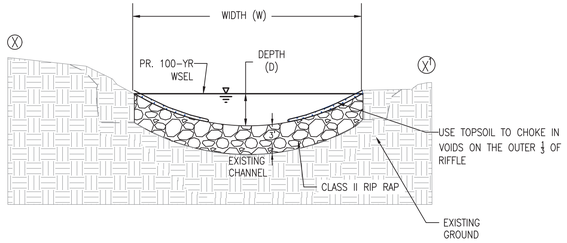
SHEET NO. 36 OF 84

FILE # G-134

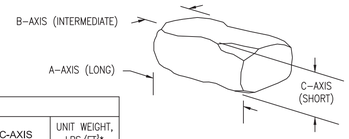


PARABOLIC RIFFLE WEIR
CENTERLINE PROFILE





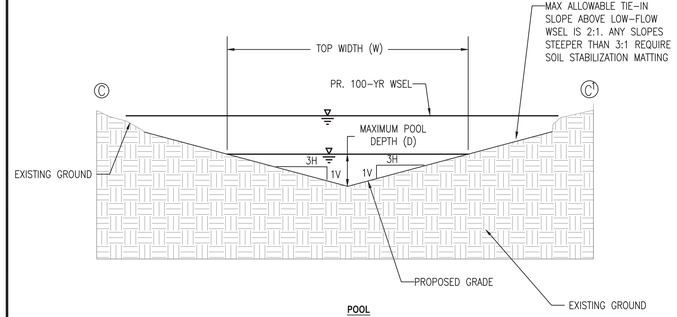
PARABOLIC RIFFLE WEIR
TYPICAL SECTION X-X'



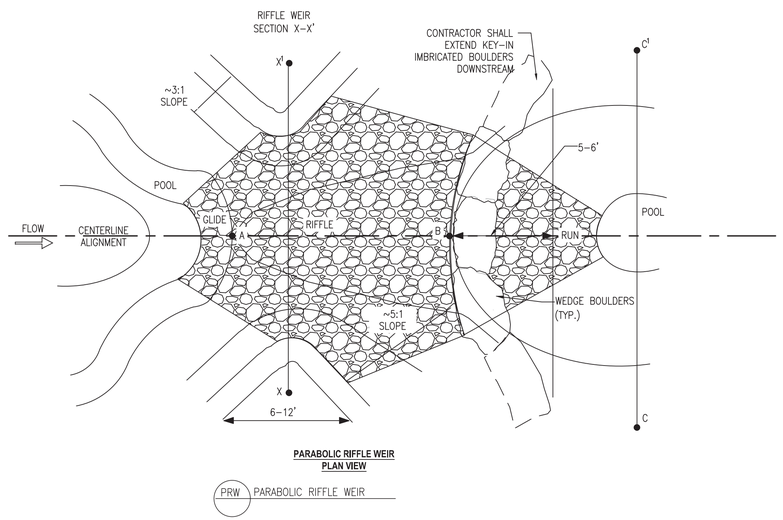
BOULDER AXIS

A-AXIS	B-AXIS	C-AXIS	UNIT WEIGHT, LBS/FT³*
36-48	30-36"	24-36"	160

NOTES:
1. THE BOULDER MEDIAN A-AXIS DIMENSION AVERAGED ACROSS THE PARABOLIC RIFFLE FULL STRUCTURE SHALL EQUAL A MINIMUM OF 30".
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT MATERIAL THAT IS APPROPRIATELY SIZED TO ALLOW FOR ECONOMICAL CONSTRUCTION OF RIFFLE AND CASCADE WEIR STRUCTURES MEETING THE DESIGN DIMENSIONS DESCRIBED IN THIS PLAN.
3. RIFFLE MIX SHALL CONSIST OF CLASS II RIP RAP.
4. RIFFLE MIX SHALL BE WASHED WITH STREAM BED MATERIAL TO CHOKE VOIDS PRIOR TO FINAL STABILIZATION. THE STREAM BED MATERIAL IS AN INCIDENTAL SUPPLEMENT TO THE RIFFLE MIX FOR NATURALIZATION AND IS NOT CONSIDERED PART OF THE MIX WHEN CALCULATING D50.
5. THE BOULDERS SHALL HAVE FLAT PARALLEL SURFACES ON THE TWO LARGEST FACES (ALONG THE LENGTH AND WIDTH DIMENSIONS) TO FACILITATE STACKING. THIS MATERIAL IS COMMONLY REFERRED TO AS IMBRICATED BOULDER.

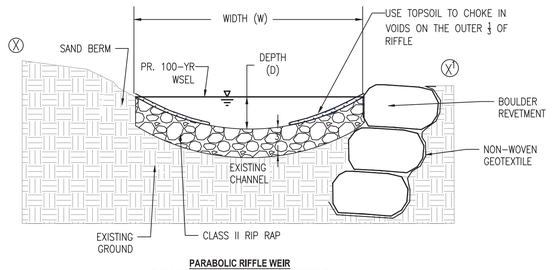


POOL
TYPICAL SECTION C-C'

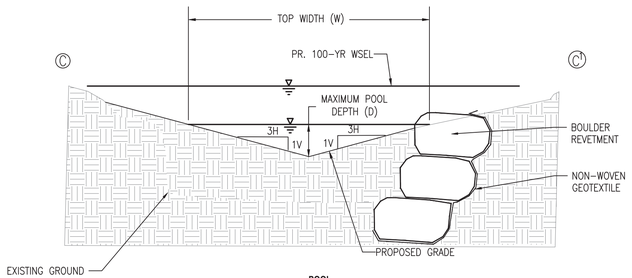


PARABOLIC RIFFLE WEIR
PLAN VIEW

PRW PARABOLIC RIFFLE WEIR

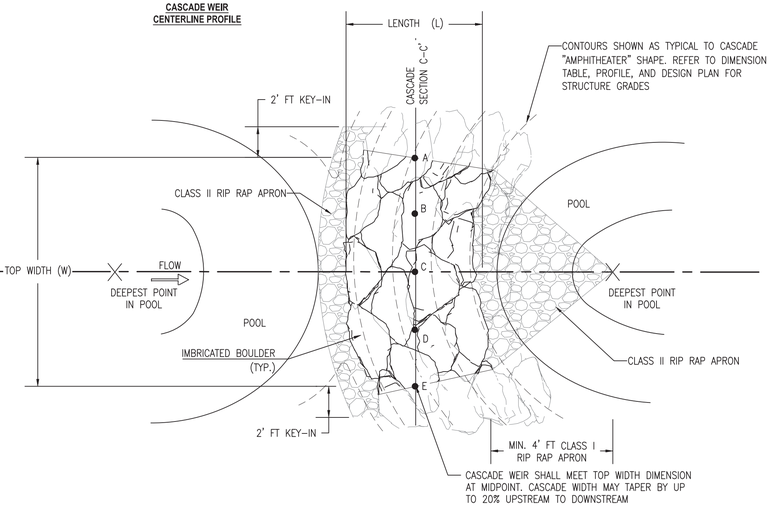


PARABOLIC RIFFLE WEIR
TYPICAL SECTION AT BOULDER REVETMENT

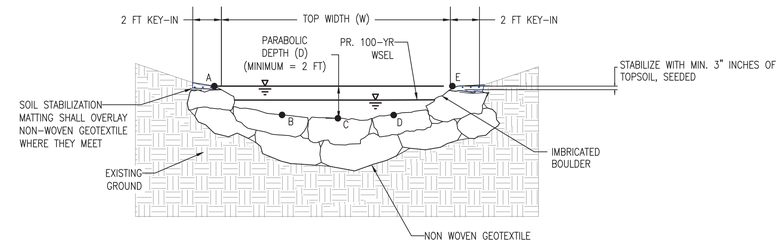


POOL
TYPICAL SECTION AT BOULDER REVETMENT

CASCADE WEIR
CENTERLINE PROFILE



CASCADE WEIR
PLANVIEW



CASCADE WEIR
TYPICAL SECTION C-C'

CS CASCADE

STATE OF MARYLAND
MELISSA DIANE WILSON
No. 26599
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

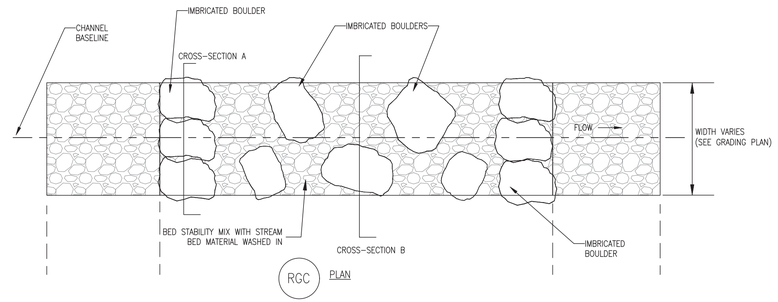
DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:28-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

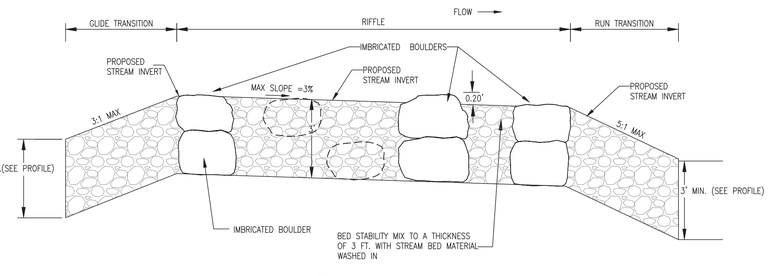
STREAM RESTORATION
CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE NOT TO SCALE
SHEET NO. 37 OF 84
FILE # G-134



RGC PLAN



RGC PROFILE

NOTES:

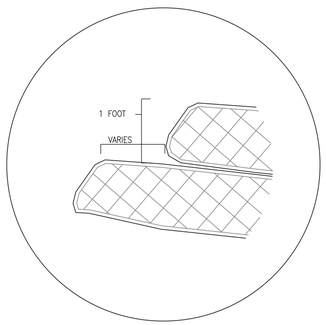
1. COMPACT CHANNEL BACKFILL TO MATCH PRE-CONSTRUCTION GRADE UNLESS OTHERWISE SPECIFIED.
2. CROSS-SECTIONAL DIMENSIONS AND LONGITUDINAL SPACING VARIES. STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE TYPICAL RIFFLE CROSS SECTION FOR EACH REACH. ELEVATIONS AND LONGITUDINAL SPACING ARE SHOWN ON THE PROFILE AND STRUCTURE TABLE.
3. BED STABILITY MIX SHALL BE PLACED SO THAT IT SHINGLES IN A DOWNSTREAM DIRECTION. SMALL AND LARGE RIP RAP SHALL BE MIXED TO MINIMIZE VOID SPACES. RIP RAP MUST BE PLACED IN A MANNER TO PROMOTE INTERLOCKING. DUMPING OF RIP RAP SHALL NOT BE PERMITTED.
4. THALWEG MAY BE MODIFIED IN FIELD PER THE DESIGN ENGINEER AND CITY.
5. WHEN EXCAVATING FOR THE STRUCTURE, SALVAGE STREAM BED MATERIAL. IF THERE IS AN INSUFFICIENT SUPPLY OF SALVAGED STREAM BED MATERIAL, CONTRACTOR SHALL PROVIDE STREAM BED MATERIAL MIX.
6. THE RIFFLE SHALL BE CONSTRUCTED IN 1-FT. LIFTS. WHEN THE STRUCTURE IS AT GRADE, STREAM BED MATERIAL SHALL BE WASHED INTO THE STRUCTURE TO ENSURE ALL VOIDS ARE FILLED AND SURFACE FLOW IS ACHIEVED.
7. NOTIFY THE CITY INSPECTOR AND DESIGN ENGINEER IF BEDROCK IS ENCOUNTERED DURING CONSTRUCTION. AT THE CITY'S DIRECTION, THE VERTICAL EXTENT OF THE STRUCTURE SHALL BE REDUCED AND / OR THE BEDROCK SHALL BE NOTCHED TO PROVIDE A STABLE FOOTER ON WHICH TO PLACE THE IMBRICATED BOULDERS.

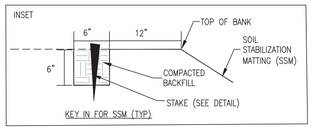
BED STABILITY MIX

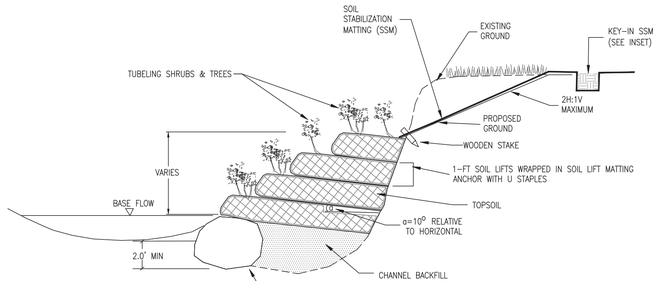
% MIX		
	CLASS II RIP RAP	30%
	CLASS I RIP RAP	30%
	STREAM BED MATERIAL (WASHED IN)	40%

STREAM BED MATERIAL (SBM)

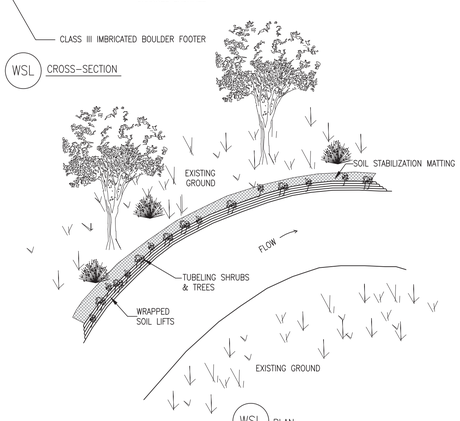
% MIX		
	SAND	10%
	GRAVEL	75%
	COBBLE	15%





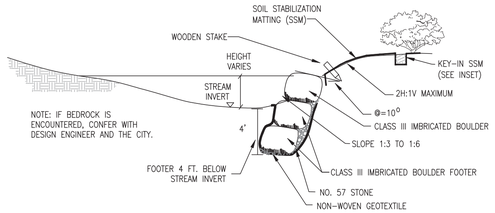


WSL CROSS-SECTION

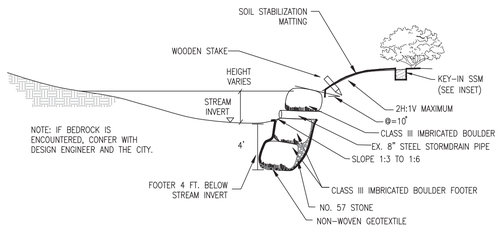


WSL PLAN

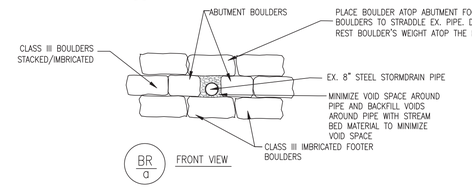
WSL WRAPPED SOIL LIFTS



BR BOULDER REVETMENT

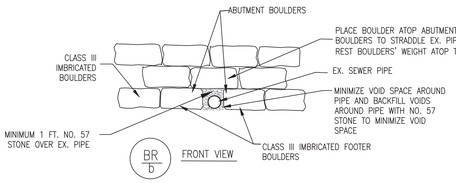


BR/a CROSS-SECTION



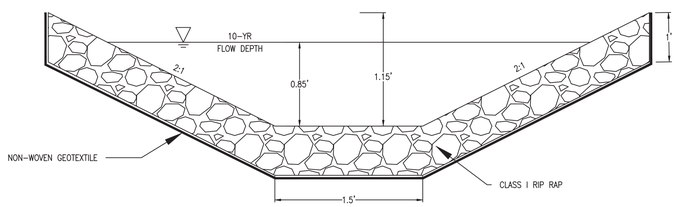
BR/a FRONT VIEW

BR/a BOULDER REVETMENT WITH STORMDRAIN OUTLET

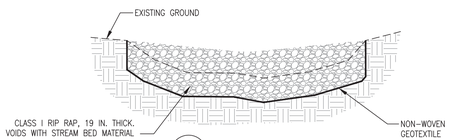


BR/b FRONT VIEW

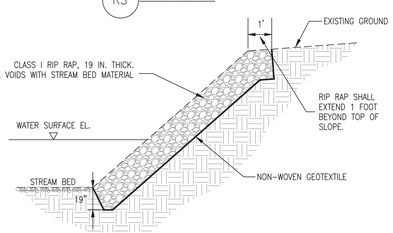
BR/b BOULDER REVETMENT AT SEWER PIPE



RC RIP RAP CHANNEL INFLOW PROTECTION TYPICAL SECTION

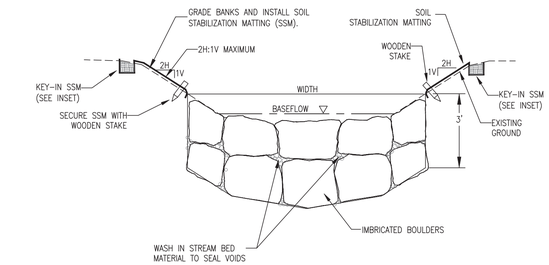


RS CROSS-SECTION

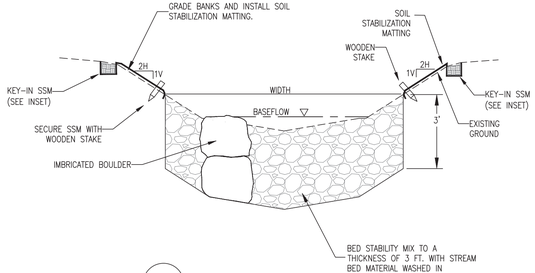


PROFILE

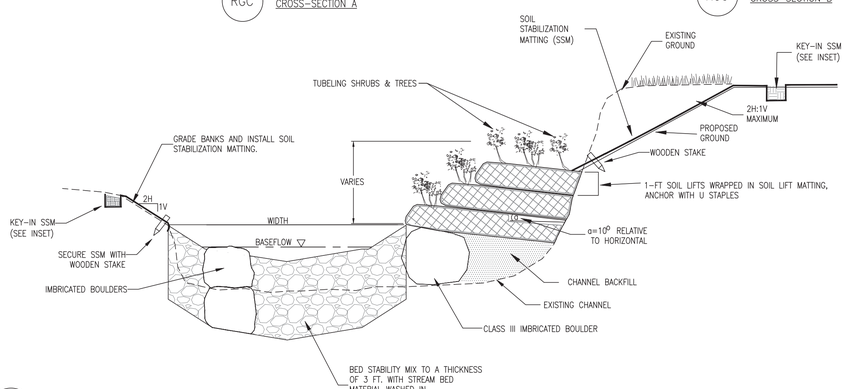
RS RIP RAP SWALE



RGC CROSS-SECTION A



RGC CROSS-SECTION B



RGC CROSS-SECTION TIE INTO WRAPPED SOIL LIFT

RGC RIFFLE GRADE CONTROL

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX
1					

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND — MELISSA A. DANIELS — No. 26599 — PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:29-04'00'
DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION

CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY

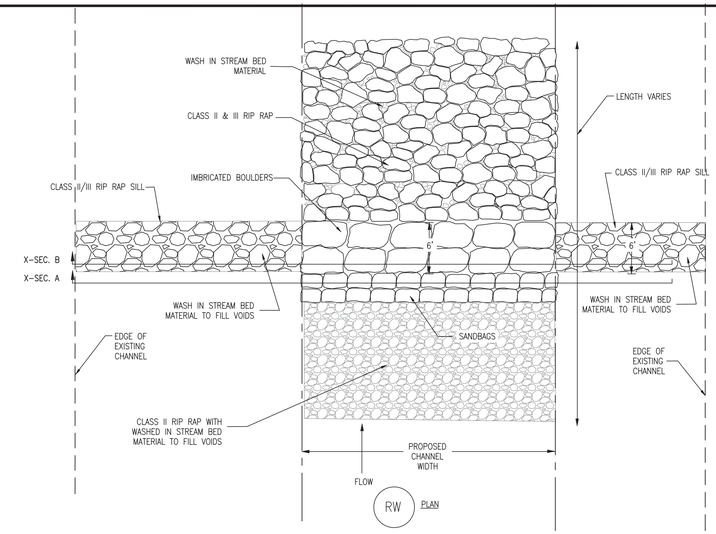
Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

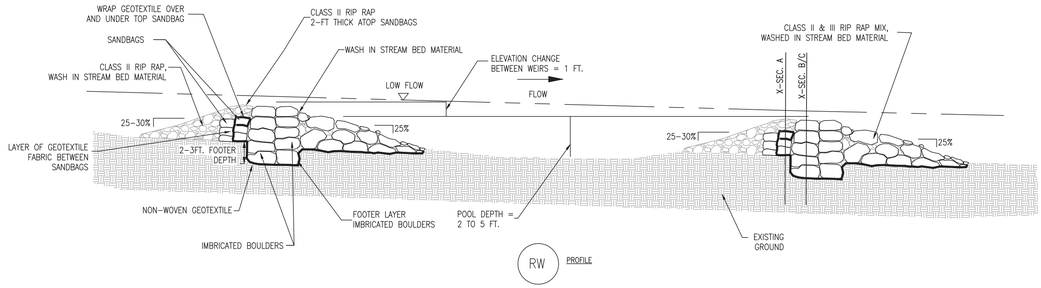
SCALE NOT TO SCALE

SHEET NO. 38 OF 84

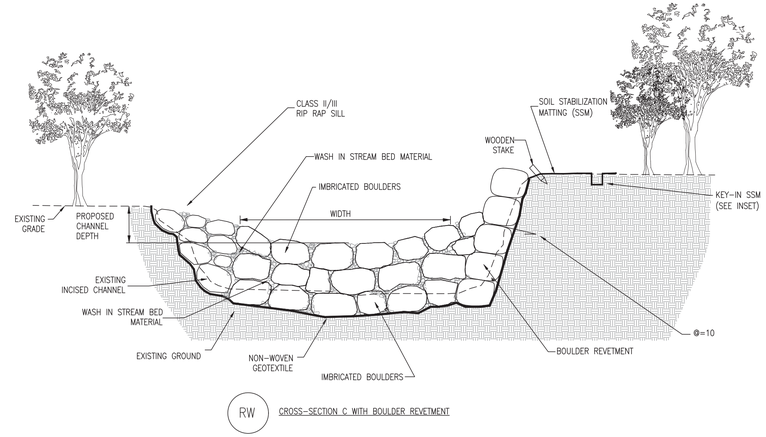
FILE # G-134



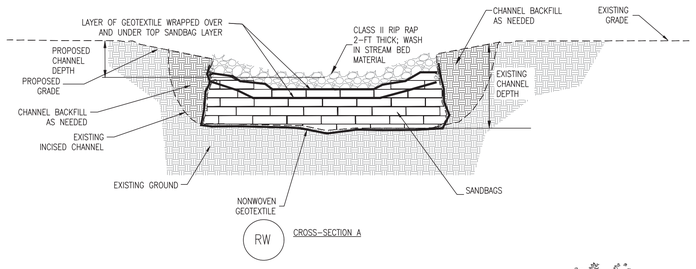
RW PLAN



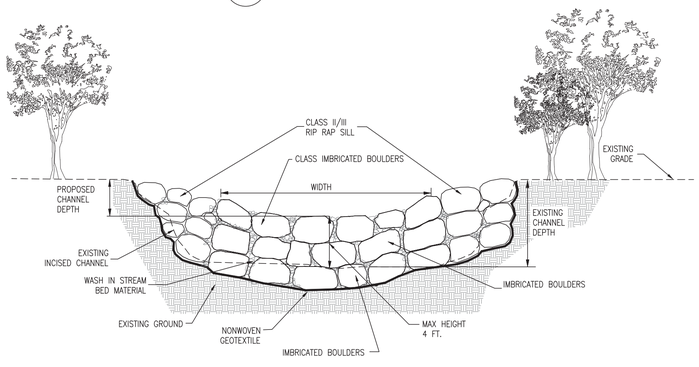
RW PROFILE



RW CROSS-SECTION C WITH BOULDER REVETMENT

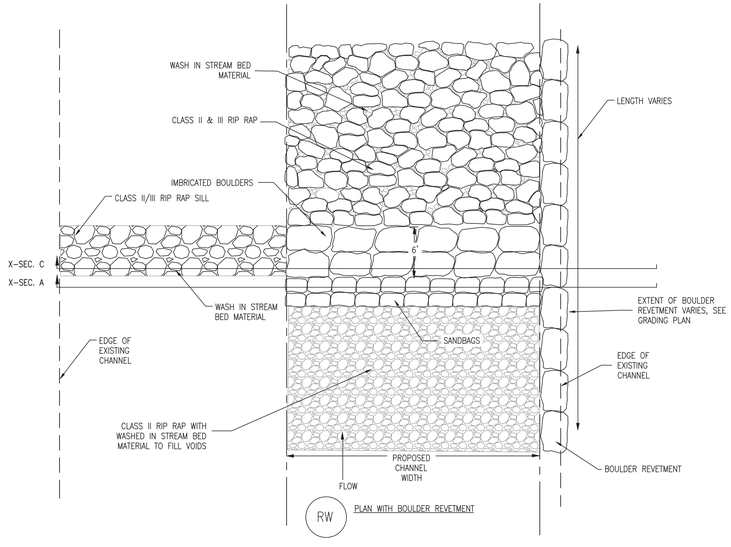


RW CROSS-SECTION A



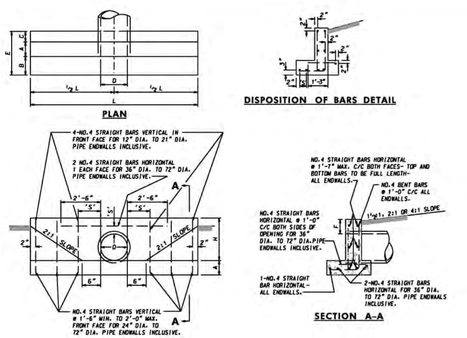
RW CROSS-SECTION B

NOTE:
1. CROSS SECTIONAL DIMENSIONS AND LONGITUDINAL SPACING VARIES. STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE TYPICAL RIFFLE CROSS SECTION FOR EACH REACH. ELEVATIONS AND LONGITUDINAL SPACING ARE SHOWN ON THE PROFILE.



RW PLAN WITH BOULDER REVETMENT

RW RIFFLE WEIR



QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING		DIMENSIONS						QUANTITIES	
D (INCHES)	AREA SQ.FT.	A	B	C	E	F	H	L	CONC. C.Y.	STEEL LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	41
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-0"	0.77	47
18	1.77	9"	6"	6"	1'-9"	9"	2'-3"	7'-6"	0.95	54
21	2.40	9"	6"	6"	1'-9"	9"	2'-6"	10'-0"	1.14	70
24	3.14	9"	14"	6"	2'-5"	9"	2'-9"	11'-6"	1.56	80
27	3.98	9"	14"	6"	2'-5"	9"	3'-0"	12'-0"	1.82	88
30	4.91	9"	14"	6"	2'-5"	12"	3'-6"	14'-0"	2.22	98
33	5.94	9"	14"	6"	2'-5"	12"	3'-9"	15'-5"	2.48	105
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.16	182
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-2"	5.07	206
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-8"	6.09	244
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'-2"	7.62	275
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-8"	8.80	304
72	28.27	12"	20"	12"	3'-8"	12"	7'-0"	31'-8"	11.46	377

'S' DISTANCES

6" FOR 12" DIA. TO 21" DIA. PIPES INCLUSIVE.
9" FOR 24" DIA. TO 36" DIA. PIPES INCLUSIVE.
9" FOR 42" DIA. TO 72" DIA. PIPES INCLUSIVE.

GENERAL NOTES

SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO.2
REINFORCING: DEFORMED STEEL BARS-NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED

SPECIFICATION	CATEGORY CODE ITEMS
305	

APPROVED — DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration

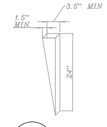
APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 9-28-84	APPROVAL 12-12-84
REVISED 10-1-01	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

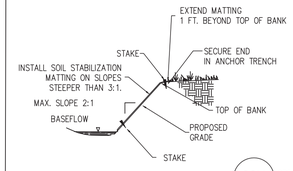
STANDARD TYPE C ENDWALL
METAL OR CONCRETE ROUND PIPE

STANDARD NO. MD 354.01

SSM PLAN VIEW

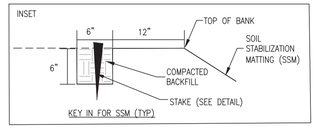


SSM STAKE DETAIL



SSM CROSS-SECTION

SSM SOIL STABILIZATION MATTING



KEY IN FOR SSM (TYP)

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:30-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

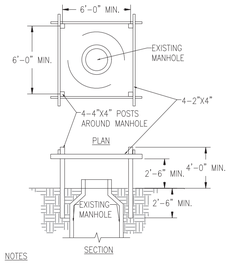
DATE SUBMITTED: 03/12/2025

SCALE NOT TO SCALE

SHEET NO. 39 OF 84

FILE # G-134

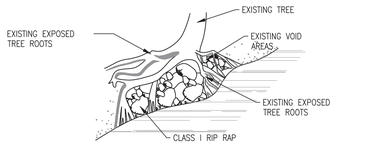
STATE OF MARYLAND MELISSA DIANE WISS No. 26599 PROFESSIONAL ENGINEER



NOTES

1. ALL SANITARY MANHOLES ARE TO REMAIN ACCESSIBLE AND PROTECTED DURING CONSTRUCTION PHASE.
2. THIS DETAIL IS TO BE USED PRIOR TO STARTING EXCAVATION OR GRADING.

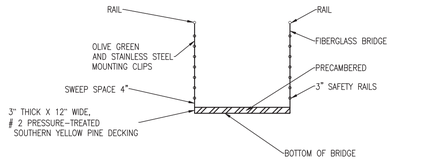
MP MANHOLE PROTECTION DETAIL



NOTES:

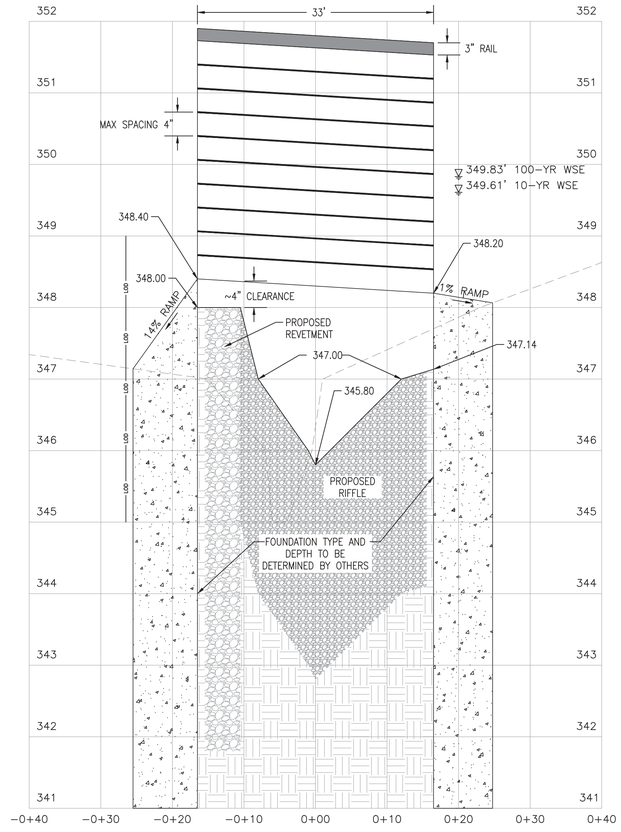
1. THE PLACEMENT OF INDIVIDUAL ROCK FOR ROOT PACKING SHALL BE DETERMINED IN THE FIELD BY THE DESIGN ENGINEER AND CITY. CLASS I RIP RAP SHALL BE USED FOR THIS PRACTICE.
2. AT THE LOCATIONS IDENTIFIED, THE CONTRACTOR SHALL PLACE BY HAND INDIVIDUAL STONES AROUND AND WITHIN EXISTING TREE ROOTS TO PROVIDE PROTECTION TO ERODED BANKS. NO EXCAVATION OR GRADING SHALL BE PERFORMED.
3. PLACE ADDITIONAL RIP RAP AS DIRECTED TO EFFECTIVELY FILL VOID AREAS BEHIND AND ADJACENT TO TREES TO FORM A REVETMENT WHICH IS RELATIVELY UNIFORM IN CROSS SECTION.
4. WHEN PLACING RIP RAP AROUND ROOTS, CARE IS TO BE USED TO PREVENT DAMAGE TO THE ROOTS OR OTHER PARTS OF THE TREE. ANY ROOT THAT IS DAMAGED SHALL BE PRUNED AND SEALED BY THE CONTRACTOR, ACCORDING TO STANDARD ARBORICULTURAL PRACTICES, AND TO THE SATISFACTION OF THE DESIGN ENGINEER AND CITY.

RP ROCK ROOT PACKING

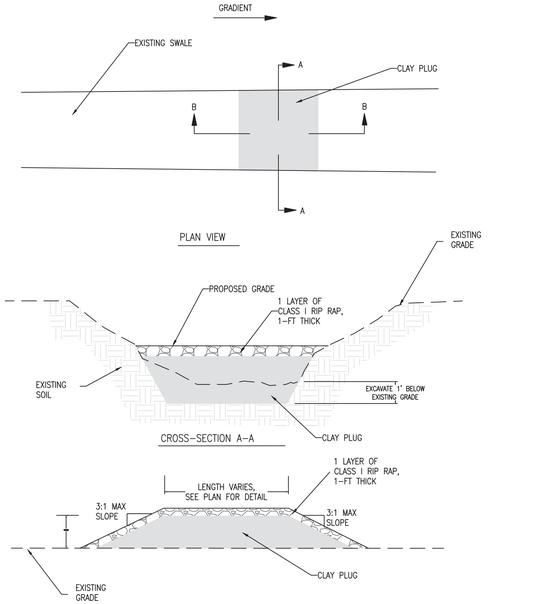


1 BRIDGE CROSS SECTION

N.T.S.

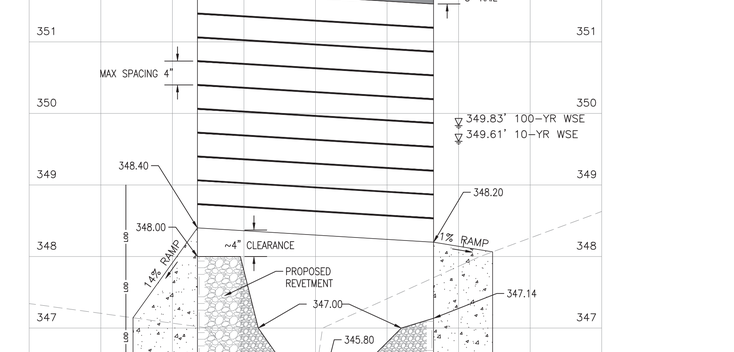


2 BRIDGE PROFILE AND ELEVATIONS

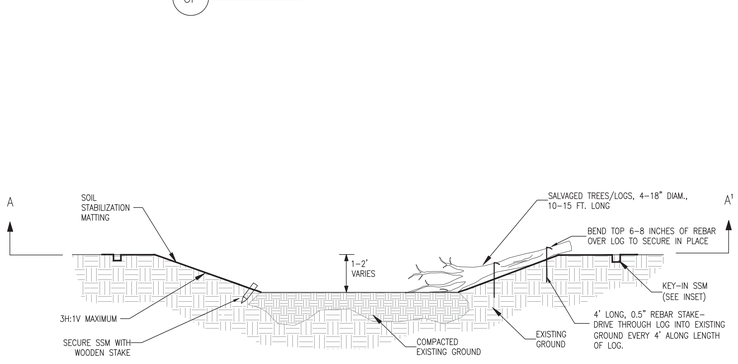


NOTE:
CLAY PLUGS SHALL BE INSTALLED IN 6" LIFTS, WITH COMPACTION OCCURRING AT EACH LIFT.

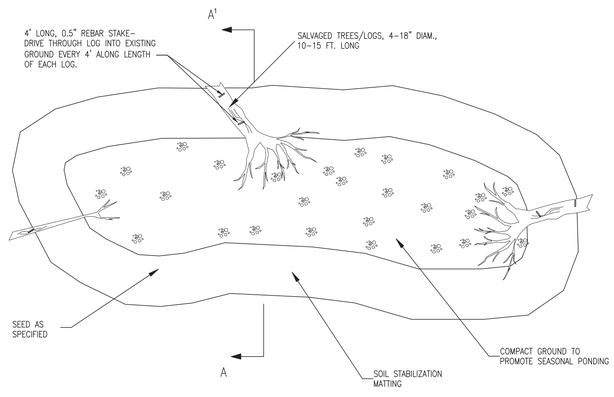
CP CLAY PLUG



SP SEWER PIPE PROTECTION



VP CROSS-SECTION A-A



VP PLAN

VP VERNAL POOL

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:31-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION
CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE NOT TO SCALE

SHEET NO. 40 OF 84

FILE # G-134

Page 358 of 394

Croydon Creek - Reaches 1 thru 5

Structure Number	Start Glide Transition	Riffle Start Station	Offset	Start Elevation	Riffle End Station	Offset	End Elevation	End Run Transition	Notes
RGC 1	29+20	29+12	0	342.5	28+62	0	341	ties into SP1	
			25.3 L	344.9		13 L	343.4		
			13.0 R	344.9		13 R	343.4		
SP 1	Ties into RGC 1	28+62	0	341	28+56	0	339.8	28+46	
			13 L	343.4		13 L	342.2		
			13 R	343.4		13 R	342.6		
RGC 2	28+37	28+32	0	340.5	27+97	0	339.5	27+89	
			13 L	342.9		13 L	341.9		
			13 R	342.9		13 R	341.9		
RGC 3	27+67	27+62	0	339	27+22	0	338	27+15	
			13 L	341.4		13 L	340.4		
			13 R	341.4		13 R	340.4		
RGC 4	26+78	26+72	0	338	26+32	0	337	26+19	
			13 L	340.4		13 L	339.4		
			13 R	340.4		13 R	339.4		
RGC 5	25+75	25+62	0	336.5	25+22	0	335.5	25+16	
			13 L	338.9		13 L	337.9		
			13 R	338.9		13 R	337.9		
RGC 6	24+77	24+72	0	335	24+47	0	334.5	24+39	
			13 L	337.4		13 L	336.9		
			13 R	337.4		13 R	336.9		
RGC 7	24+23	24+17	0	334.5	23+67	0	333	23+61	
			13 L	336.9		19.4 L	335.4		
			13 R	336.9		6.4 R	335.4		
RGC 8	19+60	19+45	0	328.5	19+15	0	328	19+07	
			13 L	330.9		13 L	330.4		
			13 R	330.9		13 R	330.4		
SP 2	17+52	17+42	0	327.1	17+56	0	327.1	17+56	
			20.5 L	330.1		22.2 L	327.9		
			18.7 R	330.1		20.3 R	329		
RGC 9	16+68	16+59	0	325.3	16+09	0	323.8	15+89	
			18.2 L	328		16 L	326.5		
			16 R	328		16 R	326.5		
RGC 10	15+68	15+52	0	323.3	15+37	0	323	15+37	
			16 L	326		16 L	325.7		
			16 R	326		16 R	325.7		
RGC 11	2+73	2+63	0	291.5	2+08	0	290.2	1+98	
			14 L	294.2		14 L	292.9		
			14 R	294.2		14 R	292.9		
RGC 12	1+06	0+88	0	289.8	0+48	0	289.8	0+48	
			14 L	292.5		14 L	292.7		
			14 R	292.5		14 R	292.7		

Structure Number		Start Station	Start Offset	Start Elevation	End Station	End Offset	End Elevation	Notes
BR 5	NA	24+99	21.4 R	338	22+54	11.6 R	336	
BR 10	NA	70+72 (Tributary)	4 R	330	70+46 (Tributary)	3.5 R	330	
WSL 1	NA	30+21	9 R	348.5	29+13	16 R	345.5	Elevations indicate bank elevations. All WSL's are to rise up and gradually tie into existing grade as shown.
WSL 2	NA	60+83 (SHA Tributary)	18.5 L	346.5	28+85	14.5 L	345.5	
WSL 3	NA	26+41	13 L	339.5	25+50	13 L	339.5	
WSL 4	NA	20+20	7.5 L	331.5	19+36	13 L	330.5	
WSL 5	NA	17+24	34 L	328.5	16+44	16 L	328.5	
WSL 6	NA	16+09	10 R	327.5	15+52	10 R	327	
WSL 7	NA	22+54	11.5 R	333	21+48	15 R	335	

Calvin Branch - Reach 6

Structure Number	Start Glide Transition	Riffle Weir Start Station	Offset	Start Elevation	Riffle Weir End Station	Offset	End Elevation	End Run Transition	Boulder Wing Length		Notes
									Left	Right	
RW 1	54+32	54+22	0	312	54+16	0	312	54+01	7	10	
			7.5 L	313.4		7.5 L	313.4				
			7.5 R	313.4		7.5 R	313.4				
RW 2	53+83	53+74	0	311	53+68	0	311	53+57	6	0	
			7.5 L	312.4		7.5 L	312.4				
			7.5 R	312.4		7.5 R	312.4				
RW 3	53+28	53+19	0	310	53+13	0	310	52+96	13	11	
			7.5 L	311.4		7.5 L	311.4				
			7.5 R	311.4		7.5 R	311.4				
RW 4	52+17	52+07	0	309	52+01	0	309	51+84	5	0	
			7.3 L	310.4		7.0 L	310.4				
			7.8 R	310.4		7.9 R	310.4				
RW 5	51+49	51+34	0	308	51+28	0	308	51+14	9	0	
			7.5 L	309.4		7.5 L	309.4				
			7.5 R	309.4		7.5 R	309.4				
RW 6	50+56	50+45	0	307	50+39	0	307	50+23	10	0	
			7.5 L	308.4		7.5 L	308.4				
			7.5 R	308.4		7.5 R	3084				
RW 7	49+95	49+87	0	306	49+81	0	306	49+67	11	12	
			7.8 L	307.4		7.5 L	307.4				
			7.3 R	307.4		7.5 R	307.4				
RW 8	48+96	48+80	0	305	48+74	0	305	48+55	11	5	
			7.5 L	306.4		7.5 L	306.4				
			7.5 R	306.4		7.5 R	306.4				
RW 9	48+22	48+10	0	304	48+04	0	304	47+88	11	5	
			7.5 L	305.4		7.5 L	305.4				
			7.5 R	305.4		7.5 R	305.4				
RW 10	47+15	47+02	0	303	46+96	0	303	46+79	9	0	
			8.5 L	304.5		7.5 L	304.4				
			8.5 R	304.5		7.5 R	304.4				
RW 11	46+09	45+98	0	302	45+92	0	302	45+80	28	39	
			25 L	304.7		7.5 L	303.4				
			8.5 R	303.5		7.5 R	303.4				
RW 12	45+61	45+55	0	301	45+49	0	301	45+32	14	31	
			8.5 L	302.5		8.5 L	302.5				
			8.5 R	302.5		8.5 R	302.5				
RW 13	45+17	45+08	0	300	45+02	0	300	44+89	12	7	
			8.5	301.4		8.8	301.4				
			8.5	301.4		8.1	301.4				
RW 14	44+74	44+64	0	299	44+58	0	299	44+43	4	4	
			8.5	300.5		8.5	300.5				
			8.5	300.5		8.5	300.5				
RW 15	44+13	44+03	0	298	43+97	0	298	43+83	15	8	
			8.5	299.5		8.8	299.5				
			8.5	299.5		8.1	299.5				
RW 16	43+51	43+44	0	297	43+38	0	297	43+26	0	0	
			8.5	298.5		8.5	298.5				
			8.5	298.5		8.5	298.5				
RW 17	42+79	42+69	0	296	42+63	0	296	42+51	0	0	
			8.5	297.5		8.5	297.5				
			8.5	297.5		8.4	297.5				
RW 18	42+36	42+29	0	295	42+23	0	295	42+11	0	0	
			8.5	296.5		8.5	296.4				
			8.5	296.5		8.5	296.4				
RW 19	41+93	41+83	0	294	41+77	0	294	Ties into SP 3	12	0	
			8.5	295.5		8.5	295.5				
			8.5	295.5		8.5	295.5				
SP 3	Ties into RW 19	41+58	0	293.3	41+26	0	292	41+19	0	0	
			10.5	294		9.9	293				
			8.5	294		8.5	293				
RW 20	41+04	41+01	0	292	40+95	0	292	40+87	0	0	
			8.9	293.5		9.3	293.5				
			8.8	293.5		8.2	293.5				
RW 21	40+72	40+69	0	291	40+63	0	291	40+59	0	0	
			8.6	292.5		8.5	292.5				
			8.4	292.5		8.5	292.5				

Structure Number		Start Station	Start Offset	Start Elevation	End Station	End Offset	End Elevation
BR 6	NA	43+81	8.5 R	300.5	40+94	8.5 R	295.5
BR 7	NA	47+02	8.5 R	304.5	45+91	8 R	303.5
BR 8	NA	52+07	7.8 R	310.5	49+87	16.8 R	308.5
BR 9	NA	56+02	10.0 L	315.5	54+92	7.5 L	314.5

SHA Tributary - Reach 7

Structure Number	Start Glide Transition	PRW Start Station	Offset	Start Elevation	PRW End Station	Offset	End Elevation	End Run Transition	Notes
PRW 1	62+61.6	62+55	0	353.3	62+49	0	352.3	62+42.2	
			15.5	355.2		15.5	354.2		
			15.5	355.2		15.5	354.2		
PRW 2	62+40.9	62+34	0	352.3	62+28	0	351.3	62+21.2	
			15.5	354.2		15.5	353.2		
			15.5	354.2		15.5	353.2		
PRW 3	62+19.9	62+13	0	351.3	62+07	0	350.3	62+00	
			15.5	353.2		15.5	352.2		
			15.5	353.2		15.5	352.2		
PRW 4	61+98.9	61+92	0	350.3	61+86	0	349.3	61+79.2	
			15.5	352.2		15.5	351.2		
			15.5	352.2		15.5	351.2		
PRW 5	61+77.9	61+71	0	349.3	61+65	0	348.3	61+58.2	
			15.5	351.2		15.5	350.2		
			15.5	351.2		15.5	350.2		
PRW 6	61+56.9	61+50	0	348.3	61+44	0	347.3	61+37.1	
			15.5	350.2		15.5	349.2		
			15.5	350.2		15.5	349.2		
PRW 7	61+35.9	61+29	0	347.3	61+23	0	346.3	61+16.2	
			15.5	349.2		15.5	348.2		
			15.5	349.2		15.5	348.2		
PRW 8	61+14.9	61+08	0	346.3	61+02	0	345.3	60+94.9	
			15.5	348.2		15.5	347.2		
			15.5	348.2		15.5	347.2		
CS 1	60+85.9	60+79	0	345.3	60+60.1	0	339.3	NA	
			18.25	347.3		17.5	341.3		
			18.25	347.3		18	341.3		

Structure Number		Start Station	Start Offset	Start Elevation	End Station	End Offset	End Elevation
BR 1	NA	61+86	10.5 R	351	61+69	10.5 R	351
BR 2	NA	61+65	10.4 R	350	61+48	10.3 R	350
BR 3	NA	61+44	10.3 R	349	61+27	10.5 R	349
BR 4	NA	61+23	10.3 R	348	61+06	10.5 R	348

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE KESS · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:32-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE NOT TO SCALE

SHEET NO. 41 OF 84

FILE # G-134

CITY OF ROCKVILLE GEOTECHNICAL NOTES (November 2016)

1. THE APPLICANT SHALL BE RESPONSIBLE FOR ALL SUBGRADE INSPECTION AND SOIL COMPACTION TESTING ASSOCIATED WITH ANY WORK WITHIN A CITY RIGHT-OF-WAY, PRIVATE PROPERTY SUBJECT TO A PUBLIC ACCESS EASEMENT, OR PRIVATE PROPERTY SUBJECT TO CITY EASEMENT FOR PUBLIC UTILITIES OR PUBLIC IMPROVEMENTS; AND/OR ANY WORK ASSOCIATED WITH A SEDIMENT CONTROL FACILITY, OR STORMWATER MANAGEMENT PRACTICE. THIS WORK SHALL BE COMPLETED BY OR UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND. FOR THE PURPOSES OF THESE NOTES AND ASSOCIATED APPROVED PLANS, THIS ENGINEER SHALL BE REFERRED TO AS THE GEOTECHNICAL ENGINEER AND SHALL BE AN INDEPENDENT FIRM FROM THE APPLICANT.
2. ANY PLANS SUBJECT TO NRCS–MD POND CODE 378 STANDARDS/SPECIFICATIONS, AS SHOWN ON THE PLANS, SHALL SUPERSEDE THESE NOTES WHEN THESE NOTES ARE LESS STRINGENT OR IN CASE OF CONFLICT. ANY REFERENCE TO THE ENGINEER IN THE 378 STANDARD/SPECIFICATIONS SHALL BE THE PROFESSIONAL ENGINEER WHO STAMPED AND SEALED THE DESIGN PLANS. ANY REFERENCE TO THE GEOTECHNICAL ENGINEER SHALL BE THE GEOTECHNICAL ENGINEER AS DEFINED ABOVE OR THE GEOTECHNICAL ENGINEER WHO COMPLETED CERTAIN ASPECTS OF THE POND DESIGN.
3. ALL INSPECTIONS, TESTS, SUPPORTING DATA, REPORTS, AND CERTIFICATIONS SHALL BE PROVIDED TO THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AND SHALL BE SEALED BY THE GEOTECHNICAL ENGINEER. DAILY INSPECTION REPORTS, IF REQUESTED BY THE CITY, CAN BE PROVIDED WITHOUT BEING IMMEDIATELY SEALED BY THE GEOTECHNICAL ENGINEER. THESE REPORTS SHALL BE COMPILED, REVIEWED, SEALED AND THEN SUBMITTED TO DPW AT A LATER DATE AS AGREED UPON BY THE CITY.
4. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FILL MATERIALS THAT ARE USED FOR THE PROJECT. THE GEOTECHNICAL ENGINEER SHALL OBTAIN SAMPLES OF PROPOSED FILL MATERIALS AND PERFORM ALL REQUIRED TESTING TO DETERMINE THAT FILL MATERIALS ARE IN CONFORMANCE WITH THIS PLAN.
5. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A REPORT THAT CERTIFIES THE SUBGRADE PREPARATION AND FILL/BACKFILL PLACEMENT ARE IN CONFORMANCE WITH THIS PLAN. THE CERTIFICATION APPLIES TO ALL FILL, BACKFILL, AND SUBGRADE OPERATIONS SUBJECT TO THIS PLAN AS DETAILED IN NOTE #1, INCLUDING UTILITY TRENCHES. WHEN CONSTRUCTING NEW ROADWAY PAVEMENT THIS CERTIFICATION REPORT SHALL BE PROVIDED PRIOR TO THE PLACEMENT OF GRADED AGGREGATE BASE (GAB). ALL OTHER CERTIFICATIONS SHALL BE PROVIDED AS REQUESTED BY THE CITY.
6. ALL FILL AND/OR BACKFILL MATERIAL SHALL BE FREE FROM ORGANICS, FROZEN MATERIAL, ROCKS/STONES GREATER THAN ONE AND A HALF INCHES IN ANY DIMENSION, WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR OTHER DELETERIOUS MATERIALS; SHALL BE A MINIMUM OF 105 POUNDS PER CUBIC FOOT FOR THE MAXIMUM DRY DENSITY ACCORDING TO AASHTO T–180, METHOD C; AND SHALL NOT HAVE A LIQUID LIMIT GREATER THAN 30 NOR A PLASTICITY INDEX GREATER THAN SIX ACCORDING TO ASTM D–4318. ALL OTHER MATERIALS SHALL MEET THE REQUIREMENTS STATED IN CATEGORY 900 OF THE LATEST EDITION OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
7. COMPACT THE MATERIAL THAT IS ONE FOOT BELOW THE TOP OF SUBGRADE TO AT LEAST 92 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T–180. COMPACT THE TOP ONE FOOT TO AT LEAST 97 PERCENT OF THE MAXIMUM DRY DENSITY. WHEN NECESSARY, ADD WATER OR DRY THE LAYER IN ORDER TO COMPACT TO THE REQUIRED DENSITY. GENERALLY THE MATERIAL SHALL BE WITHIN TWO PERCENT OF THE OPTIMUM MOISTURE CONTENT BUT MAY BE OUTSIDE OF THIS RANGE IF APPROVED BY THE GEOTECHNICAL ENGINEER.
8. FILL AND BACKFILL MATERIALS MUST COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE STRUCTURE OR PIPE. FOR STORMWATER MANAGEMENT EMBANKMENTS, THE APPLICANT SHALL SCARIFY EACH LIFT WITH A SHEEPSFOOT ROLLER OR CLAW TO A MINIMUM DEPTH OF TWO–INCHES PRIOR TO PLACING THE NEXT LIFT. THE APPLICANT SHALL SCARIFY EMBANKMENTS PARALLEL WITH THE CENTERLINE OF THE DAM CORE AND PERPENDICULAR TO THE PRINCIPAL SPILLWAY. BEDDING SHALL BE PROVIDED IN ACCORDANCE WITH DETAILS INDICATED ON THE CONSTRUCTION DRAWINGS. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR–FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL THE APPLICANT DRIVE EQUIPMENT OVER ANY PART OF A CORRUGATED METAL PIPE UNLESS THERE IS A COMPACTED FILL OF 24–INCHES OR GREATER OVER THE STRUCTURE OR PIPE.
9. AT A MINIMUM, COMPACTION TESTS SHALL BE COMPLETED FOR EVERY LIFT OF FILL OR BACKFILL. THE TESTING FREQUENCY SHALL BE AT LEAST ONCE PER 150 LINEAR FEET OF TRENCH OR ONCE PER 1,500 SQUARE FEET OF FILL. AT A MINIMUM, THERE SHALL BE AT LEAST ONE COMPACTION TEST PER LIFT AND A LEAST TWO COMPACTION TESTS PER DAY. THE GEOTECHNICAL ENGINEER SHALL SUPPLY DPW WITH CERTIFIED COMPACTION TEST RESULTS, INCLUDING CERTIFICATION OF PIPE BEDDING SUBGRADE AND FILL SUBGRADE.
10. PRIOR TO PLACING ANY ROADWAY FILL ON EXISTING GRADES (ORIGINAL GRADE AFTER TOPSOIL HAS BEEN STRIPPED, FILL PREPARED BY OTHERS OUTSIDE OF THIS PLAN OR FILL NOT PREPARED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER), SCARIFY THE MINIMUM TOP EIGHT–INCHES OF SOIL MATERIAL. COMPACT THIS LAYER TO THE COMPACTION REQUIREMENTS IN THESE NOTES. PROOF–ROLL THIS COMPACTED LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF–ROLLING AND DETERMINE IF THE SUBGRADE IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION. SUBGRADE AREAS THAT FAIL PROOF–ROLLING SHALL BE REMEDIATED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
    A. SCARIFYING, MOISTURE CONDITIONING, AND RE–COMPACTION OF THE SUBGRADE MATERIALS.
    B. UNDERCUTTING SOFT OF UNSUITABLE AREAS OF SUBGRADE AND BACKFILLING WITH COMPACTED SELECT BORROW (MSHA SECTION 916).
    C. UNDERCUTTING OF SOFT OR UNSUITABLE AREAS OF SUBGRADE AND PLACING A LAYER OF GEOTEXTILE COVERED BY # MSHA 57 COARSE AGGREGATE (TABLE 901A). DPW MAY APPROVE AN ALTERNATE APPROACH FOR SOIL REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER.
11. EXCEPT WHEN SPECIFIED, DO NOT PLACE LAYERS EXCEEDING EIGHT–INCHES UN–COMPACTED DEPTH. PLACE THE MATERIAL IN HORIZONTAL LAYERS ACROSS THE FULL WIDTH OF THE EMBANKMENT. PERFORM ALL ROLLING IN A LONGITUDINAL DIRECTION ALONG THE EMBANKMENT. BEGIN AT THE OUTER EDGES AND PROGRESS TOWARDS THE CENTER. VARY THE TRAVEL PATHS OF TRAFFIC AND EQUIPMENT OVER THE WIDTH OF THE EMBANKMENT TO AID IN OBTAINING UNIFORM COMPACTION.
12. UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. GRADE AND PREPARE THE SUBGRADE SECTION TO THE LINES, GRADES, CROSS SECTIONS AND/OR ELEVATIONS SHOWN ON THE PLANS. AT ALL TIMES, MAINTAIN THE SUBGRADE SURFACE IN SUCH CONDITION AS TO READILY DRAIN.
13. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE. VEHICULAR AND EQUIPMENT TRAFFIC SHALL BE DISTRIBUTED ACROSS THE PREPARED SURFACE IN SUCH A MANNER AS TO PREVENT DISTURBANCE. REPAIR ANY DAMAGE TO THE PREPARED SUBGRADE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER MUST APPROVE THE STORAGE OR STOCKPILING OF HEAVY LOADS ON A ROADWAY SUBGRADE.
14. UNSUITABLE EXISTING FILL, SOFT OR LOOSE NATURAL SOILS, ORGANIC MATERIAL, AND RUBBLE SHALL BE STRIPPED TO APPROVED GRADES AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
15. PROTECT ALL STRUCTURES AND UTILITIES FROM ANY DAMAGE IN THE HANDLING, PROCESSING OR COMPACTING OF EMBANKMENT OR BACKFILL MATERIAL. EXERCISE CAUTION NEAR ARCHES, RETAINING WALLS, CULVERTS AND UTILITY TRENCHES TO PREVENT UNDUE STRAIN OR MOVEMENT. THE GEOTECHNICAL ENGINEER MAY REQUIRE THE USE OF SPECIALLY SELECTED MATERIAL ADJACENT TO STRUCTURES TO PROTECT AGAINST DAMAGE. DO NOT USE ROCK GREATER THAN ONE AND A HALF INCHES IN ANY DIMENSION ADJACENT TO STRUCTURES.
16. WHEN PLACING AND COMPACTING EMBANKMENT ON HILLSIDES OR AGAINST EXISTING EMBANKMENTS, CONTINUOUSLY BENCH THE SLOPES WHERE THE SLOPE IS STEEPER THAN 4:1 WHEN MEASURED AT RIGHT ANGLES TO THE ROADWAY OR EMBANKMENT CENTERLINE. PERFORM THE BENCHING OPERATION AS THE EMBANKMENT IS CONSTRUCTED IN LAYERS. MAINTAIN A BENCH WIDTH OF AT LEAST FIVE–FEET. BEGIN EACH HORIZONTAL CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDES OF THE PREVIOUS CUT. IF THE MATERIAL CUT FROM THE BENCHES MEETS FILL REQUIREMENTS, COMPACT THIS MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL.
17. WHEN PLACING FILL OVER EXISTING PAVEMENT, THOROUGHLY BREAK UP, SCARIFY, OR REMOVE THE PAVEMENT AS SPECIFIED OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
18. PRIOR TO THE PLACEMENT OF ASPHALT PAVEMENT, PROOF–ROLL THE COMPACTED GRADED AGGREGATE BASE (GAB) LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF–ROLLING AND DETERMINE IF THE GAB IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION. GAB AREAS THAT FAIL PROOF–ROLLING SHALL BE REMEDIATED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
    A. SCARIFYING, MOISTURE CONDITIONING, AND RE–COMPACTION OF THE GAB MATERIALS.
    B. UNDERCUTTING SOFT OF UNSUITABLE AREAS OF GAB AND REPLACING WITH COMPACTED GAB.

    DPW MAY APPROVE AN ALTERNATE APPROACH FOR GAB REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A SEALED APPROVAL OF THE GAB PRIOR TO PLACEMENT OF ASPHALT. DPW MAY ACCEPT AN ORAL OR EMAIL APPROVAL WHILE THE FINAL APPROVAL AND REPORTS ARE BEING COMPILED AND COMPLETED.

CITY OF ROCKVILLE STORM DRAIN AND PAVING NOTES (December 2022)

1. ALL STORM DRAIN AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION, MONTGOMERY COUNTY, AND THE CITY OF ROCKVILLE UNLESS OTHERWISE NOTED.
2. MATERIAL AND INSTALLATION REQUIREMENTS FOR STORM DRAIN – DPW WILL ACCEPT THE FOLLOWING MATERIALS FOR THE CONSTRUCTION OF MAIN LINE STORM DRAIN, EXCEPT AS OTHERWISE SPECIFIED ON THE PLANS:
    A. REINFORCED CONCRETE PIPE:
        a. MUST BE CLASS IV OR V IN ACCORDANCE WITH THE LATEST VERSIONS OF ASTM C–76 AND ASTM C–443 WITH RUBBER–GASKETED JOINTS AND INSTALLED WITH MONTGOMERY COUNTY STANDARD 'C' SHAPED SUBGRADE BEDDING OR BETTER.
    B. PLASTIC PIPE:
        a. WILL BE ALLOWED FOR PIPES HAVING A MINIMUM DIAMETER OF 15" AND A MAXIMUM DIAMETER OF 36" AND AS DESIGNATED ON THE PLAN IN SPECIFIC INSTALLATION LOCATIONS.
        b. MUST BE CORRUGATED POLYETHYLENE DRAINAGE PIPE MEETING AASHTO M252 OR AASHTO M294; OR CORRUGATED POLYPROPYLENE DRAINAGE PIPE MEETING AASHTO M330; AND INSTALLED IN ACCORDANCE WITH ASTM D2321.
        c. JOINTS MUST BE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D3212 WITH GASKETS THAT MEET THE REQUIREMENTS OF ASTM F477. GASKETS MUST BE INSTALLED BY THE PIPE MANUFACTURER AND COVERED WITH A REMOVABLE, PROTECTIVE WRAP TO ENSURE THE GASKET IS KEPT FREE FROM DEBRIS.
        d. THE PIPE EMBEDMENT ZONE MUST EXTEND FROM 6" BELOW THE PIPE TO 12" ABOVE THE PIPE AND CONSIST OF ANGULAR, CRUSHED STONE, ROCK, OR GRAVEL WITH LARGE VOID CONTENT AND LITTLE TO NO FINES. EMBEDMENT ZONE BACKFILL MUST MEET THE CLASS IA REQUIREMENTS OF ASTM D2321 WITH 100% PASSING A 1–1/2" SCREEN, LESS THAN OR EQUAL TO 10% PASSING A #4 SCREEN, AND LESS THAN 5% PASSING A #200 SCREEN.
            i. THE PIPE EMBEDMENT ZONE/TRENCH WIDTH MUST BE A MINIMUM OF TWICE THE PIPE DIAMETER PLUS 2'.
            ii. PIPE EMBEDMENT ZONE MATERIAL MUST BE PLACED ALONG THE SIDE OF THE PIPE FOR THE FULL WIDTH OF THE TRENCH IN LAYERS NOT EXCEEDING AN UNCOMPACTED DEPTH OF 6". COMPACT AND CONSOLIDATE EACH LAYER SIMULTANEOUSLY ON BOTH SIDES OF THE PIPE. COMPACT THOROUGHLY UNDER THE HAUNCHES OF THE PIPE. CONTINUE THIS METHOD OF FILLING AND COMPACTING UNTIL THE COMPACTED BACKFILL MATERIAL IS LEAST 12 IN. ABOVE THE TOP OF THE PIPE.
            iii. THE PIPE EMBEDMENT ZONE MUST BE ENCAPSULATED IN A GEOTEXTILE FABRIC MATERIAL TO PROTECT AGAINST THE LOSS OF PIPE SUPPORT BY PREVENTING THE LATERAL MIGRATION OF FINES FROM THE TRENCH WALL INTO THE BACKFILL ENVELOPE.
        e. THE MANUFACTURER AND TRADE NAME OF THE PIPE MUST BE SPECIFIED ON THE PLANS; AS SHOULD ALL PERTINENT MANUFACTURER INSTALLATION REQUIREMENTS, RECOMMENDATIONS, AND GUIDELINES FOR THAT MATERIAL.
        f. A THIRD–PARTY INSPECTOR MUST OBSERVE AND CERTIFY THAT ALL MATERIALS AND INSTALLATION METHODS COMPLY WITH THESE REQUIREMENTS, THE CITY OF ROCKVILLE GEOTECHNICAL NOTES, AND THE APPROVED PLANS.
        g. THE PIPE MUST BE DEFLECTION TESTED WITHIN 30 DAYS OF THE PLACEMENT OF COMPACTED FILL TO FINISHED GRADE AND/OR PROOF ROLLING IN ACCORDANCE THE CITY OF ROCKVILLE GEOTECHNICAL NOTES. THIS TEST MUST TAKE PLACE IN THE PRESENCE OF THE CITY INSPECTOR AND UTILIZE A MANDREL SIZED TO 95% OF THE MINIMUM INSIDE DIAMETER. PIPE SEGMENTS WHICH EXCEED 5% DEFLECTION WILL BE REJECTED BY THE CITY AND MUST BE REPLACED IN THEIR ENTIRETY.
3. IF SPRINGHEADS ARE ENCOUNTERED IN ANY PHASE DURING CONSTRUCTION, CONSTRUCTION MUST BE STOPPED UNTIL THEY ARE CAPPED AND PIPED TO A STORM DRAIN OR STREAM AS DIRECTED BY THE CITY.
4. PROVIDE POSITIVE DRAINAGE OF ALL AREAS DISTURBED BY CONSTRUCTION. MINIMUM SLOPE IN PAVED AREAS IS ONE PERCENT. MINIMUM SLOPE OF GRADED AREAS IS TWO PERCENT. MAXIMUM SLOPE ON EARTH BANKS IS 3:1.
5. WHEN TYING INTO EXISTING PAVEMENT, SAW CUT EXISTING PAVING EDGE TO PROVIDE A CLEAN, STRAIGHT, AND VERTICAL JOINT. WHEN REMOVING EXISTING CURB OR SIDEWALK, REMOVE TO THE NEAREST JOINT.
6. PAVING CONTRACTOR IS RESPONSIBLE FOR ADJUSTING UTILITY TOPS TO FINISHED GRADE.
7. APPLICANT IS RESPONSIBLE FOR INSTALLING ALL PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNAGE PLAN, WHICH IS APPROVED BY THE CHIEF OF TRAFFIC AND TRANSPORTATION.
8. FOR PAVEMENT SECTIONS OF PRIVATE DRIVEWAYS AND PARKING LOTS, REFER TO ZONING AND PLANNING ORDINANCE, 25.16.06.D. – PARKING DESIGN STANDARDS –PAVING SPECIFICATIONS.
9. PER MARYLAND CODE PUBLIC UTILITIES SECTION, ALL NEWLY INSTALLED OR REPLACED STORM DRAIN AND STORM DRAIN FACILITIES MUST BE IDENTIFIABLE, DETECTABLE, OR LOCATABLE. ANY NEW OR REPLACEMENT PIPING THAT IS BURIED OR INSTALLED CONNECTING TO THE STORM DRAIN SYSTEM, SHALL BE BURIED OR INSTALLED WITH A PRODUCT OR TECHNOLOGY THAT MAKES THE PIPING DETECTABLE OR LOCATABLE. AT A MINIMUM, ALL PIPE MUST BE INSTALLED WITH DETECTABLE WARNING TAPE.
    A. DETECTABLE WARNING TAPE.
    1. PLACEMENT
        a. PLACE TAPE DIRECTLY OVER CENTERLINE OF PIPE THE FULL LENGTH OF TRENCH, 18 TO 30 INCHES BELOW FINISHED SURFACE AND WITH MINIMAL NUMBER OF SPLICES.
        b. OVERLAP TAPE MINIMUM 6 INCHES AT SPLICES AND INTERSECTIONS.
    2. DESCRIPTION.
        a. SIZE: SIX–INCH WIDTH, MINIMUM 5 MILS THICKNESS.
        b. PRINTING: TWO LINES, MINIMUM 3/4–INCH–HIGH BLACK LETTERING ON EACH LINE, REPEATED CONTINUOUSLY ALONG LENGTH OF TAPE AT INTERVALS NO GREATER THAN 3 FEET.
        c. TAPE COLOR MUST FOLLOW THE APWA UNIFORM COLOR CODE.
            i. BLUE DETECTABLE WARNING TAPE FOR WATER MAINLINE, WATER SERVICE CONNECTIONS, OR WHEN WATER AND SEWER ARE INSTALLED IN SAME TRENCH.
            ii. GREEN DETECTABLE WARNING TAPE FOR ALL SEWER, STORM DRAIN, AND STORMWATER MANAGEMENT LINES.
    3. APPROVED MANUFACTURERS.
        a. REFER TO WSSC'S STANDARDS AND SPECIFICATIONS SECTION 02315 PART 2.1(A)(2) FOR AN APPROVED MANUFACTURES LIST.
10. WHERE THE DROP ON THE MAIN LINE THROUGH A STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES.
11. WHERE ANY PART OF THE STORM DRAIN SYSTEM IS LOCATED IN A FILL SECTION, PROVIDE FILL MATERIAL IN ACCORDANCE WITH THE GEOTECHNICAL NOTES COMPACTED TO 95% AASHTO T–99 DENSITY FROM APPROVED SUBGRADE TO THE STRUCTURE BOTTOM SLABS AND/OR THE PIPE BEDDING.

LANDSCAPING & FINAL STABILIZATION

1. CONTACT CITY FORESTRY INSPECTOR AT 240–314–8713 TO SCHEDULE PRE–PLANTING MEETING.
2. WITH PERMISSION OF CITY FORESTRY INSPECTOR, INSTALL ALL WOODY PLANTING MATERIAL AS INDICATED ON THE PLANTING PLAN AND CONSTRUCTION SPECIFICATIONS.
3. RE–INSTALL GARDEN NEAR THE SCE AND CITY MAINTENANCE BUILDING PARKING LOT.
4. PERMANENTLY STABILIZE ALL AREAS DISTURBED FOR PLANTINGS.
5. ONCE THE AREA IS STABILIZED AND WITH THE SEDIMENT CONTROL INSPECTOR'S APPROVAL, REMOVE ANY REMAINING EROSION AND SEDIMENT CONTROLS, AND STABILIZE ANY DISTURBED AREAS.

Aggregate Gradation Chart

Percent Passing Range

MM SIEVE SIZE	US SIEVE SIZE	MD #1	MD #2	ASTM #4	ASTM #5	ASTM #57	ASTM #67	ASTM #7	ASTM #8	ASTM #9	MD #10	MD CR-1	MD GAB	MD CR-6	MD CR-8	ASTM C-33 WCS	ASTM C-144 WMS
100	4"	100															
90	3 1/2"	90-100															
75	3"											100					
63	2 1/2"	25-60	100														
50	2"		90-100	100									100	100			
37.5	1 1/2"	0-15	35-70	90-100	100	100						45-75	95-100	90-100			
25	1"		0-15	20-55	90-100	95-100	100								100		
19	3/4"	0-5		0-15	20-55		90-100	100					70-92				
12.5	1/2"		0-5		0-10	25-60		90-100	100								
9.5	3/8"			0-5	0-5		20-55	40-70	85-100	100	100		50-70			100	
4.75	#4					0-10	0-10	0-15	10-30	85-100	85-100	15-45	35-55	30-60	30-60	95-100	100
2.36	#8					0-5	0-5	0-5	0-10	10-40						80-100	95-100
2.0	#10														20-50		
1.18	#16								0-5	0-10						50-85	70-100
0.85	#20																
0.60	#30												12-25			25-60	40-75
0.425	#40																
0.30	#50									0-5						10-30	10-35
0.15	#100										10-30					2-10	2-15
0.075	#200											0-10	0-8	0-12	0-12		

Rip Rap Sizes:

Gabion Stone ---------- 4" - 7" (Nominal size ranges)
Class 1 Rip Rap ---------- 5" - 15" (Heavier than 150 lb-0%, Heavier than 40 lb-50%, Less than 2 lb, 10% Max
Class 2 Rip Rap ---------- 12" - 24" (Heavier than 700 lb-0%, Heavier than 200 lb-50%, Less than 20 lb, 10% Max
Class 3 Rip Rap ---------- 18" - 36" (Heavier than 2000 lb-0%, Heavier than 600 lb-50%, Less than 40 lb, 10% Max

* This gradation chart is for general reference only.
* The percent range represents the percent passing for each sieve size.
* For specific material requirements or questions about your project needs, please contact customer service at 1-888-766-4242.

GRADED RIPRAP-DESIGN VALUES

RIPRAP CLASS	D_{15} WEIGHT (LBS)	MEAN D_{50} SPHERICAL DIAMETER (FT)	THICKNESS (T)(IN.)	WEIGHT RANGE (LBS)	REQUIREMENTS FOR STONE MIXTURE
CLASS I	50	1.1	19	50-150	60% > 100 LBS
CLASS II	150	1.6	32	150-500	50% > 300 LBS
CLASS III	500	2.2	46	500-1,500	50% > 900 LBS

THE SOURCE AND A SAMPLE OF THE RIPRRAP TO BE USED FOR CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED FOR USE BY THE CITY PRIOR TO INSTALLATION. RIPRAP SHALL CONSIST OF ANGULAR ROCK, AND OF APPROPRIATE COLOR (E.G., GREEN, GRAY, BROWN/GRAY, DARK GRAY, AND/OR DARK BROWN IN COLOR) OBTAINED FROM A COMMERCIAL QUARRY OPERATION. ALL STONE SHALL BE FREE FROM LAMINATIONS AND WEAK CLEAVAGES. THE MATERIAL SHOULD NOT DISINTEGRATE FROM THE ACTION OF AIR, WATER, AND IN HANDLING AND PLACING. GRANULAR SEDIMENTARY STONE WILL GENERALLY BE UNACCEPTABLE. CONCRETE WILL NOT BE CONSIDERED AS AN ALTERNATIVE. WHITE STONE/RIPRAP IS NOT ACCEPTABLE. RIPRAP SHALL HAVE A DENSITY GREATER THAN 160 LBS./FT^3.

RIPRAP SHALL BE SALVAGED FROM THE LIMITS OF DISTURBANCE OF THIS CONTRACT FIRST. IF SUFFICIENT MATERIAL MEETING THE REQUIREMENTS IS NOT AVAILABLE FROM WITHIN THE LIMITS OF DISTURBANCE, THE CONTRACTOR SHALL OBTAIN MATERIAL MEETING THE SPECIFICATIONS SHOWN ON THE CONTRACT DOCUMENTS. THE CONTRACTOR WILL NOT BE GRANTED AN EXTENSION OF TIME OR EXTRA COMPENSATION DUE TO DELAY CAUSED BY SAMPLING, TESTING, APPROVAL OR DISAPPROVAL OF MATERIAL UNDER THE REQUIREMENTS OF THESE SPECIFICATIONS. THE CONTRACTOR WILL LOCATE POTENTIAL SOURCES FOR THE MATERIAL AND OBTAIN CITY APPROVAL.

STATE OF MARYLAND · MELISSA DIANE WEISS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:33-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX–XXXXX SCP# 2025–00017
SMP# 2025–00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
CONSTRUCTION DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE

SHEET NO. 42 OF 84

FILE # G–134

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- WL / TM — EXISTING WETLANDS
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS
- SMALL TREE 6"–11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- X — TREE TO BE REMOVED
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING

NORBECK ROAD (RTE. 28)

ROCKVILLE CIVIC CENTER PARK

PEDESTRIAN TRAIL

UNITED ENTERPRISES INC. ET AL

JAMES A TRICE JR. LIVING TRUST
816 BURDETTE RD.
ROCKVILLE, MD 20851

SITE ACCESS 1

CHAINLINK FENCE WITH LOCKABLE GATE TO CONTROL ACCESS

PARKING LOT

AVERY ROAD

SITE ACCESS 2

NATURE CENTER

SPECIMEN TREE #39
TO BE PRESERVED

MATCHLINE SHEET 44

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:34-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
OVERALL
EROSION & SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

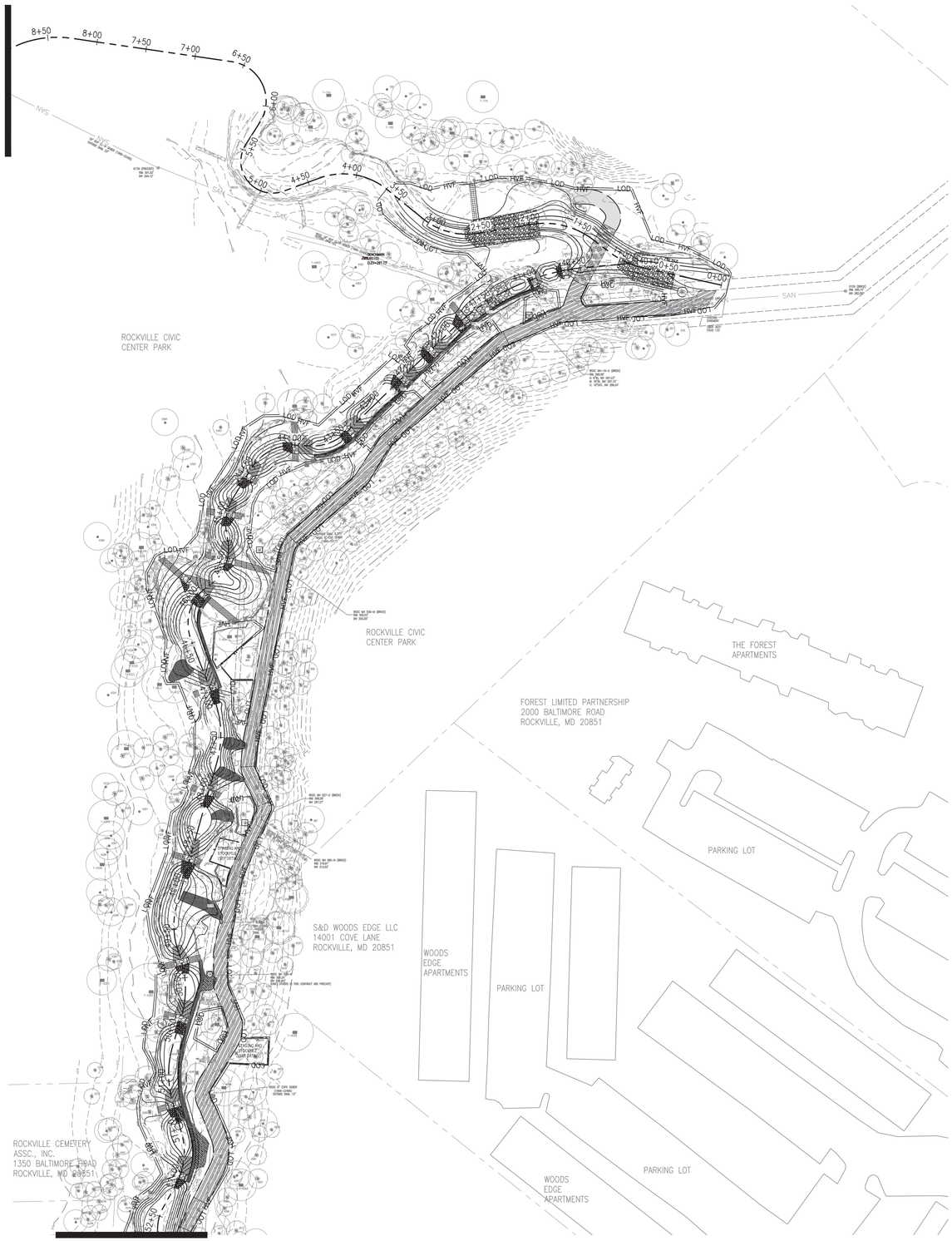
DATE SUBMITTED: 03/12/2025

SCALE 1"=60'

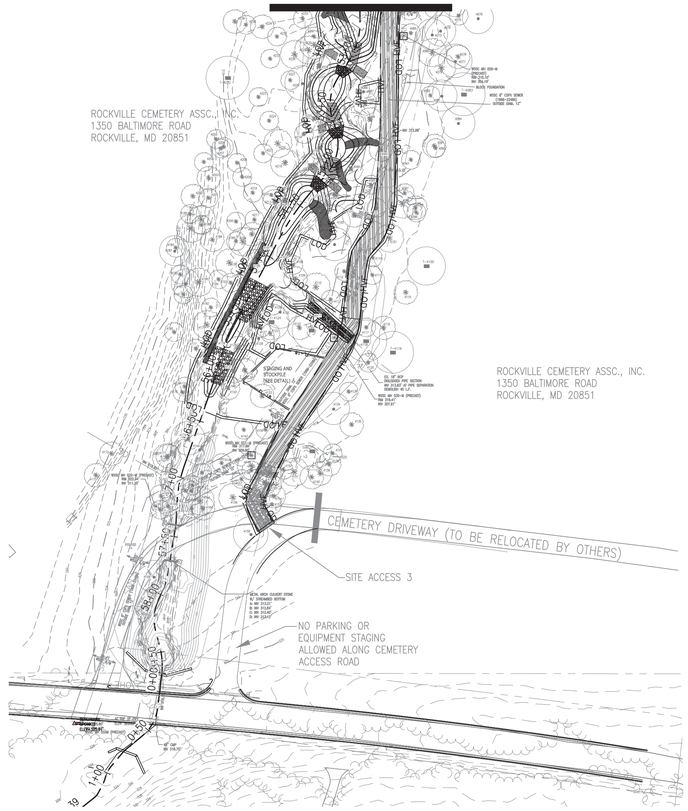
SHEET NO. 43 OF 84

FILE # G-134

MATCHLINE SHEET 43



MATCHLINE THIS SHEET



LEGEND

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- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
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STATE OF MARYLAND
MELISSA DIANE KEY
NO. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:35-04'00'

DIRECTOR OF PUBLIC WORKS — APPROVAL DATE

PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT — APPROVAL DATE

STREAM RESTORATION
OVERALL
EROSION & SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 — City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=60'

SHEET NO. 44 OF 84

FILE # G-134

GENERAL NOTES:

1. THIS TREE SAVE PLAN IS BASED ON THE FINAL NATURAL RESOURCES INVENTORY / FOREST STAND DELINEATION, DATED JANUARY 2023, FOR THE CROYDON CREEK/CALVIN PARK TRIBUTARY STREAM RESTORATION. PLEASE ALSO REFER TO THE PLANTING PLAN (SEE SHEET 65-73).
2. TOTAL TRACT AREA: 1,237,905 SQUARE FEET (28.4 ACRES)
3. CURRENT ZONING: PARK
4. WATERSHED: ROCK CREEK
5. FLOODPLAIN: FEMA FIRM 24031C0334D
6. FOUR STREAMS OCCUR WITHIN THE NET TRACT AREA, WHICH WERE FIELD-DELINEATED FOR THE NRI/FSD:
   a. CROYDON CREEK – HUC 020700100101; USE CLASS I
   b. CALVIN PARK TRIBUTARY – NO HUC OR USE CLASS IDENTIFIED
   c. TWO UNNAMED PERENNIAL STREAMS – NO HUC OR USE CLASS IDENTIFIED
7. TWO WETLANDS OCCUR WITHIN THE NET TRACT AREA, WHICH WERE FIELD-DELINEATED FOR THE NRI/FSD.
8. NO RARE, THREATENED, OR ENDANGERED SPECIES ARE KNOWN TO OCCUR IN THE NET TRACT AREA BASED ON MDNR WHD RESPONSE DATED APRIL 19, 2017.
9. DIAMETER OF TREES MEASURED USING A COMBINATION OF DBH TAPE AND CALIPER MEASURE.
10. NO STATE/COUNTY CHAMPION TREES OCCUR ON OR ADJACENT TO THE SITE.
11. THE PROPERTY CONTAINS TWO CONTRIBUTING ELEMENTS TO THE NRHP-LISTED GLENVIEW FARM.
12. FORESTRY FIELDWORK CONDUCTED BY MICHAEL BUSAM, STEPHANIE LIGUORI, AND PATRICK MORELAND IN APRIL/MAY 2017.
13. PRIORITY RETENTION AREAS INCLUDE ALL STREAMS/WETLANDS AND THEIR BUFFERS, AND 100-YEAR FLOODPLAINS. DUE TO THE NATURE OF THIS STREAM RESTORATION PROJECT, DISTURBANCE MUST OCCUR WITHIN SOME PRIORITY RETENTION AREAS. HOWEVER, THE LOD HAS BEEN REDUCED TO THE EXTENT FEASIBLE TO MINIMIZE DISTURBANCE TO THESE AREAS, AND THESE AREAS WERE PRIORITIZED FOR REFORESTATION AND TREE REPLACEMENT PLANTINGS.
14. ALL FOREST CLEARED WITHIN THE STREAM VALLEY BUFFER SHALL BE REPLACED ON A 1:1 BASIS IN THE LOCATION OF THE CLEARING WHERE POSSIBLE. REFER TO THE PLANTING PLAN FOR TREE REPLACEMENT PLANTINGS AND REFORESTATION.
15. DUE TO THE NATURE OF THIS STREAM RESTORATION PROJECT, SOME SPECIMEN TREES CANNOT BE AVOIDED DURING CONSTRUCTION. HOWEVER, THE LOD WAS THOUGHTFULLY CRAFTED TO IDENTIFY POCKETS OF TREES (INCLUDING SPECIMEN TREES) WITHIN THE OVERALL LOD THAT COULD BE WORKED AROUND DURING CONSTRUCTION. THESE TREES WILL BE PROTECTED TO THE EXTENT FEASIBLE. AS NOTED PREVIOUSLY, THE LOD HAS BEEN MINIMIZED TO REDUCE DISTURBANCE TO EXISTING FORESTED AREAS.

FOREST AND TREE PRESERVATION ORDINANCE NOTES

PRE-CONSTRUCTION

1. PERMITTEE SHALL OBTAIN A FORESTRY PERMIT (FTP) FOR THE PROJECT AND SECURE COPIES OF THE APPROVED FOREST CONSERVATION PLAN (FCP) FOR DISTRIBUTION TO CONTRACTORS. THE PERMITTEE IS RESPONSIBLE FOR OBTAINING A MARYLAND ROADSIDE TREE PERMIT IF APPLICABLE. CONTACT MISS UTILITY AT 1-800 257-7777.
2. THE PERMITTEE MUST COORDINATE AND SCHEDULE AN ONSITE PRECONSTRUCTION MEETING WITH THE THE FOLLOWING ATTENDEES: PERMITTEE, CONSTRUCTION SUPERINTENDENT, MARYLAND LTE/ISA CERTIFIED ARBORIST (IF REQUIRED BY FORESTRY DEPARTMENT), THE CITY FORESTRY INSPECTOR, CITY PROJECT INSPECTOR, AND CITY SEDIMENT CONTROL INSPECTOR. THE LIMITS OF DISTURBANCE MUST BE STAKED AND FLAGGED PRIOR TO THE PRECONSTRUCTION MEETING. NO LAND DISTURBANCE SHALL OCCUR PRIOR TO THIS MEETING. THIS INCLUDES, BUT IS NOT LIMITED TO, THE INSTALLATION OF TREE PROTECTION FENCING, SEDIMENT CONTROL MEASURES, CLEARING, GRADING AND TREE STRESS REDUCTION MEASURES. THE LIMITS OF DISTURBANCE WILL BE REVIEWED, AND TREE PROTECTION AND TREE CARE MEASURES WILL BE DISCUSSED.
3. NO LAND DISTURBANCE SHALL BEGIN BEFORE STRESS-REDUCTION MEASURES AS INDICATED ON THE APPROVED FCP, OR OTHERWISE DIRECTED BY THE FORESTRY INSPECTOR HAVE BEEN IMPLEMENTED AND APPROVED BY FORESTRY INSPECTOR. MEASURES NOT SPECIFIED ON THE PLAN MAY BE REQUIRED AS DETERMINED BY THE FORESTRY INSPECTOR IN CONSULTATION WITH THE PERMITTEE'S MD LTE/ISA CERTIFIED ARBORIST. APPROPRIATE STRESS-REDUCTION MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO:
   A. ROOT PRUNING
   B. CROWN REDUCTION OR PRUNING
   C. WATERING
   D. FERTILIZING
   E. SURFACE MULCHING
   F. VERTICAL MULCHING
   G. ROOT AERATION MATTING
4. A PROFESSIONAL WITH THE DUAL CREDENTIALS OF MARYLAND DEPARTMENT OF NATURAL RESOURCES LICENSED TREE EXPERT (LTE) AND INTERNATIONAL SOCIETY OF ARBORICULTURE CERTIFIED ARBORIST (ISA CA) MUST PERFORM ALL STRESS REDUCTION MEASURES. DOCUMENTATION OF THESE QUALIFICATIONS MAY BE REQUIRED. THE MEASURES MUST BE DONE IN ACCORDANCE WITH ANSI STANDARDS FOR TREE CARE OPERATIONS (A300) AND OTHER INDUSTRY BEST MANAGEMENT PRACTICES. IMPLEMENTATION OF THE STRESS REDUCTION MEASURES MUST BE OBSERVED BY THE FORESTRY INSPECTOR OR WRITTEN DOCUMENTATION, INCLUDING PHOTOGRAPHS MUST BE SENT VIA MAIL OR EMAIL TO THE CITY FORESTRY INSPECTOR.
5. TEMPORARY TREE PROTECTION DEVICES, INCLUDING SIGNAGE, SHALL BE INSTALLED PER THE APPROVED FOREST CONSERVATION PLAN, OR AS OTHERWISE DIRECTED BY THE FORESTRY INSPECTOR, AND PRIOR TO ANY LAND DISTURBANCE. TREE PROTECTION FENCING LOCATIONS MUST BE STAKED AND FLAGGED PRIOR TO THE PRE-CONSTRUCTION MEETING. THE FORESTRY INSPECTOR, IN COORDINATION WITH THE CITY SEDIMENT CONTROL INSPECTOR, MAY MAKE FIELD ADJUSTMENTS TO INCREASE THE SURVIVABILITY OF TREES AND FOREST SHOWN AS SAVED ON THE APPROVED PLAN. THE PERMITTEE MUST CONTACT THE FORESTRY INSPECTOR TO SCHEDULE A FOLLOW UP CONSTRUCTION INSPECTION AFTER INSTALLING ALL TREE PROTECTION MEASURES AND PERFORMING ALL STRESS REDUCTION MEASURES. UPON A SATISFACTORY INSPECTION BY THE FORESTRY INSPECTOR AND SEDIMENT CONTROL INSPECTOR, A NOTICE TO PROCEED WILL BE ISSUED AND CLEARING AND GRADING CAN COMMENCE. TEMPORARY TREE PROTECTION DEVICES MAY INCLUDE:
   A. CHAIN LINK FENCE (FOUR FEET HIGH)
   B. SUPER SILT FENCE WITH WIRE STRUNG BETWEEN THE SUPPORT POLES (MINIMUM 4 FEET HIGH) WITH HIGH VISIBILITY FLAGGING.
   C. 14 GAUGE 2 INCH X 4 INCH WELDED WIRE FENCING SUPPORTED BY STEEL T-BAR POSTS (MINIMUM 4 FEET HIGH) WITH HIGH VISIBILITY FLAGGING.
6. THE PERMITTEE AND CONTRACTOR SHALL MAINTAIN THE TEMPORARY TREE PROTECTION DEVICES FOR THE DURATION OF THE PROJECT AND THE LOCATION MUST NOT BE ALTERED WITHOUT PRIOR APPROVAL OF THE FORESTRY INSPECTOR. NO EQUIPMENT, TRUCKS, MATERIALS, DEBRIS, OR ANY OTHER ITEMS MAY BE STORED WITHIN THE TREE PROTECTION FENCE AREAS DURING THE ENTIRE CONSTRUCTION PROJECT. NO ACCESS BEYOND THE FENCED AREA WILL BE PERMITTED. TREE PROTECTION FENCING SHALL NOT BE REMOVED WITHOUT PRIOR APPROVAL OF THE FORESTRY INSPECTOR.
7. LONG TERM TREE PROTECTION DEVICES/TECHNIQUES, AS SHOWN ON THE FCP OR AS DIRECTED BY THE FORESTRY INSPECTOR MAY INCLUDE BUT ARE NOT LIMITED TO:
   A. ROOT AERATION SYSTEMS
   B. RETAINING WALLS
   C. RAISED SIDEWALKS
   D. TUNNELING OF UTILITIES
   E. PIER AND PANEL WALLS
   F. POROUS PAVERS

DURING CONSTRUCTION

1. PERIODIC INSPECTIONS AT THE DISCRETION OF THE FORESTRY INSPECTOR WILL OCCUR DURING THE CONSTRUCTION PROJECT. CORRECTIONS AND REPAIRS TO ALL TREE PROTECTION DEVICES AND OTHER PROTECTIVE MEASURES, AS DETERMINED BY THE FORESTRY INSPECTOR, MUST BE MADE WITHIN THE TIMEFRAME ESTABLISHED BY THE FORESTRY INSPECTOR.
2. THE PERMITTEE MUST IMMEDIATELY NOTIFY THE FORESTRY INSPECTOR OF ANY DAMAGE TO TREES, FORESTS, UNDERSTORY, GROUND COVER, AND ANY OTHER UNDISTURBED AREAS SHOWN ON THE PLAN. REMEDIAL ACTIONS TO THE RESTORE THESE AREAS WILL BE DETERMINED BY THE FORESTRY INSPECTOR AND THE CORRECTIVE ACTIONS MUST BE MADE WITHIN THE TIMEFRAME ESTABLISHED BY THE FORESTRY INSPECTOR.
3. FAILURE TO COMPLY WITH THE APPROVED FCP OR ANY DIRECTIVE OF THE CITY FORESTER'S OFFICE IS A VIOLATION OF THE FOREST AND TREE PRESERVATION ORDINANCE (FTPO). PURSUANT TO SECTION 10.5-34 OF THE FTPO, A FINE IN THE AMOUNT OF $1,000 MAY BE IMPOSED FOR EACH VIOLATION. EACH DAY A VIOLATION CONTINUES IS A SEPARATE VIOLATION. IN ADDITION, A STOP WORK ORDER MAY BE ISSUED UNTIL THE VIOLATION HAS BEEN ABATED AND THE FINE HAS BEEN PAID OR AN APPEAL HAS BEEN FILED PURSUANT TO SECTION 10.5-35 OF THE FTPO. ADDITIONAL PUNITIVE MEASURES AS STATED UNDER SECTION 10.5-34 OF THE FTPO MAY BE IMPOSED.

POST CONSTRUCTION

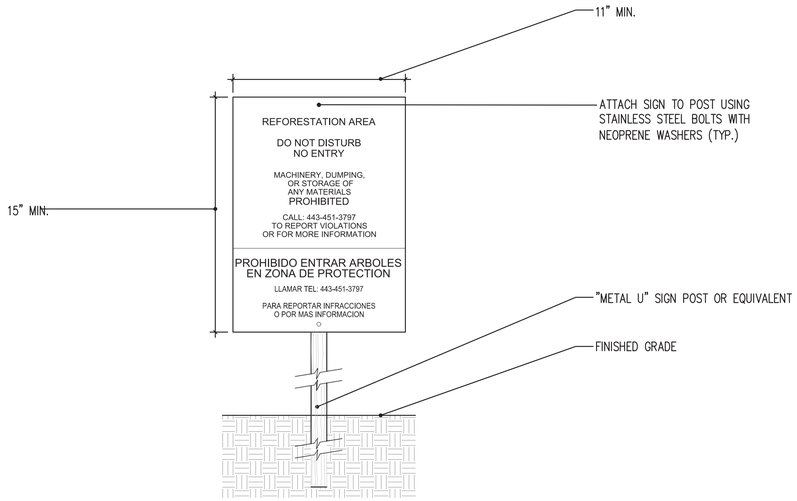
1. AFTER CONSTRUCTION IS COMPLETED, THE PERMITTEE MUST REQUEST A FINAL INSPECTION IN WRITING WITH THE FORESTRY INSPECTOR. AT THE FINAL INSPECTION, THE FORESTRY INSPECTOR MAY REQUIRE ADDITIONAL CORRECTIVE MEASURES, WHICH MAY INCLUDE, BUT IS NOT LIMITED TO:
   A. REMOVAL AND REPLACEMENT OF DEAD AND DYING TREES
   B. PRUNING OF DAMAGED, DEAD OR DECLINING LIMBS
   C. SURFACE MULCHING
   D. SOIL AERATION
   E. FERTILIZATION
   F. WATERING
   G. WOUND REPAIR
   H. CLEAN UP OF SRETENTION AREAS INCLUDING TRASH REMOVAL
2. AFTER THE FINAL INSPECTION AND COMPLETION OF ALL CORRECTIVE MEASURES THE FORESTRY INSPECTOR WILL REQUEST ALL TEMPORARY TREE AND FOREST PROTECTION DEVICES BE REMOVED FROM THE SITE. REMOVAL OF TREE PROTECTION DEVICES THAT ALSO OPERATE FOR EROSION AND SEDIMENT CONTROL MUST BE COORDINATED WITH BOTH THE CITY SEDIMENT CONTROL INSPECTOR AND THE FOREST CONSERVATION INSPECTOR. NO ADDITIONAL GRADING, SODDING, OR BURIAL MAY TAKE PLACE AFTER THE TREE PROTECTION FENCING IS REMOVED.

POST INSTALLATION

1. THE PERMITTEE SHALL NOTIFY THE CITY FORESTRY INSPECTOR IN WRITING WHEN THE PLANTING IS COMPLETE AND REQUEST A POST PLANTING INSPECTION. THE INSPECTION MUST INCLUDE THE PERMITTEE, LANDSCAPE CONTRACTOR AND FORESTRY INSPECTOR. THE MAINTENANCE AND WARRANTY PERIOD WILL NOT BEGIN UNTIL THE CITY FORESTRY INSPECTOR HAS ACCEPTED ALL PLANTINGS.
2. TREES WILL BE INSPECTED FOR PLANT QUALITY AND PROPER PLANTING IN ACCORDANCE WITH CITY SPECIFICATIONS AND NURSERY STANDARDS. ONCE THE MAINTENANCE PERIOD HAS BEGUN, THE APPLICANT IS RESPONSIBLE FOR MAINTAINING PLANT HEALTH IN ACCORDANCE WITH THE SIGNED WARRANTY AND MAINTENANCE AGREEMENT.
3. ROUTINE INSPECTIONS WILL BE CONDUCTED THROUGHOUT THE WARRANTY PERIOD AND THE APPLICANT WILL BE NOTIFIED IN WRITING WHEN CORRECTIVE MEASURES ARE REQUIRED. FAILURE TO COMPLETE THE CORRECTIVE MEASURES BY THE GIVEN DATE MAY RESULT IN FINES BEING ISSUED, PERMITS REVOKED, EXTENSION OF WARRANTY PERIOD OR OTHER PUNITIVE MEASURES.
4. SUCH MAINTENANCE SHALL INCLUDE WHEN APPROPRIATE, BUT NOT NECESSARILY BE LIMITED TO:
   A. WEEKLY WATERING EQUAL TO 10 GALLONS PER CALIPER MEASURE OF TREE DIAMETER. (EX: 2.5" CALIPER TREE =25 GALLONS/WEEK.) DOCUMENTED DRENCHING NATURAL RAINFALL MAY SUBSTITUTE FOR WEEKLY WATERING.
   B. CONTROL OF COMPETING VEGETATION THROUGHOUT THE MAINTENANCE PERIOD AS NECESSARY.
   C. FERTILIZING, AS REQUIRED BY SOIL ANALYSIS.
   D. PRUNING, MULCHING, TIGHTENING OF STRAPPING, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITION.
   E. FURNISHING AND APPLYING PESTICIDES OR OTHER ITEMS NECESSARY TO THWART DAMAGE FROM INSECTS AND DISEASE.
   F. PROVIDING PROTECTION MEASURES SUCH AS FENCING AND INTERPRETIVE SIGNS AS NECESSARY, TO PREVENT DESTRUCTION OR DEGRADATION OF THE PLANTING SITE.
   G. REPLACEMENT OF DEAD AND DYING TREES. SURVIVAL STANDARDS CONTAINED IN THE STATE FOREST CONSERVATION MANUAL SHALL BE FOLLOWED FOR THE PROTECTION AND SATISFACTORY ESTABLISHMENT OF FOREST WHERE APPLICABLE.
   H. ERADICATE, SUPPRESS AND CONTROL NON-NATIVE AND INVASIVE PLANT SPECIES DURING THE MAINTENANCE PERIOD TO THE SATISFACTION OF THE CITY FORESTRY INSPECTOR.
   I. INSTALLING AND MAINTAINING DEVICES TO PROTECT AGAINST WILDLIFE DAMAGE.
   J. REMOVAL OF STAKING AND STRAPPING AFTER SIX MONTHS, OR AS DIRECTED BY THE FORESTRY INSPECTOR

NON-NATIVE INVASIVE PLANT CONTROL:

1. THE CITY OF ROCKVILLE MAINTAINS A LIST OF NON-NATIVE AND INVASIVE PLANTS FOR CERTAIN AVAILABLE ON THE CITY'S WEBSITE. THE STATE OF MARYLAND MAINTAINS A NOXIOUS WEED LIST. THE PERMITTEE SHALL SUBMIT A NON-NATIVE AND INVASIVE MANAGEMENT PLAN TO THE CITY FORESTRY INSPECTOR FOR REVIEW AND APPROVAL PRIOR TO THE PRE-PLANTING MEETING. DETAILS TO BE INCLUDED IN THE MANAGEMENT PLAN ARE:
   A. NARRATIVE AND/OR PLAN STATING THE LOCATION, TYPE AND AMOUNT OF NON-NATIVE AND INVASIVE PLANTS PRESENT ON THE SITE.
   B. PROPOSED TREATMENT MEASURES AND METHODS OF CONTROL BY PLANT TYPE.
   C. TIMING AND FREQUENCY OF TREATMENTS BY PLANT TYPE.
   D. PLAN FOR SEEDING AND/OR RE-PLANTING FOLLOWING MANAGEMENT/ERADICATION TREATMENT.
   E. PROPOSED SIGNAGE TYPE AND LOCATIONS FOR INSTALLING HERBICIDE APPLICATION NOTIFICATION SIGNS.
   F. COPIES OF CONTRACTOR CERTIFICATIONS/PESTICIDE LICENSES.
2. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH MDE, EPA AND OTHER GOVERNMENT AGENCY REGULATIONS AS WELL AS OBTAINING PROPER PERMITS FROM THESE AGENCIES AS APPLICABLE. THE FORESTRY INSPECTOR MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO COMMENCING ANY AND ALL TREATMENTS.
3. THE FORESTRY INSPECTOR WILL PERFORM PERIODIC INSPECTIONS OF THE NON-NATIVE AND INVASIVE TREATMENTS THROUGHOUT THE WARRANTY AND MAINTENANCE PERIOD. THE APPLICANT MAY BE REQUIRED TO SUBMIT PROOF OF TREATMENT.



NOTES:
1. BOTTOM OF SIGN TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED APPROXIMATELY 100' APART. CONDITIONS ONSITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
4. MAXIMUM SIGN SPACING PERMITTED IS 150' APART.

REFORESTATION SIGN

d-fcp-sign.dwg

Source: Adapted from Maryland State Forest Conservation Technical Manual, 1997 NTS

TREE PROTECTION SIGN DETAIL

NOT TO SCALE

SYMBOL: HVF

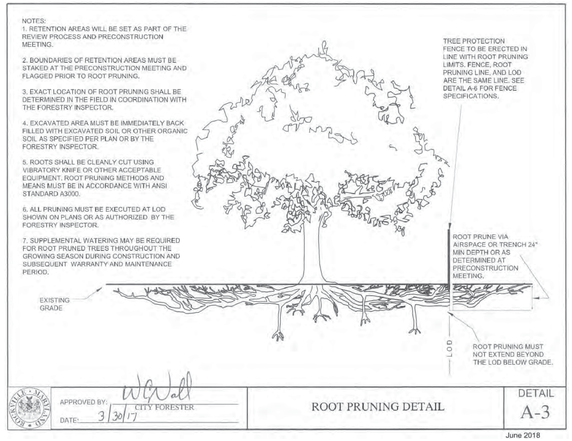
NOTES:
1. TREE PROTECTION/HIGH VISIBILITY FENCE SHALL BE DIAMOND MESH FENCING WITH A ROLL WEIGHT OF 20 POUNDS PER ROLL AND A MULTILINGUAL SIGN IS REQUIRED.
2. ALL TREES WITHIN THE LIMIT OF DISTURBANCE THAT ARE NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED AS PER THE TREE PROTECTION/HIGH VISIBILITY DETAIL AND THE TREE PLANKING DETAIL AS INDICATED ON THE APPROVED FCP OR AS DIRECTED DURING PRE-CONSTRUCTION MEETING.
3. TREE PROTECTION FENCE SHALL BE UTILIZED WHEN THERE IS ADEQUATE ROOM TO AVOID DAMAGING THE TREE DURING CONSTRUCTION. TRUNK PROTECTION FOR TREES THAT ARE DIRECTLY ADJACENT TO OR HAVE THE POTENTIAL TO BE DAMAGED BY MACHINERY.
4. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
5. THE HIGH VISIBILITY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS WITH WIRE OR ZIP TIES.
6. ROOT DAMAGED SHOULD BE AVOIDED. IF REQUIRED, ROOT PRUNING MUST BE PERFORMED EXCLUSIVELY BY AN RESOURCES LICENSED TREE EXPERT. AS PER CITY OF ROCKVILLE ROOT PRUNING DETAIL (A-3).
7. AFTER APPROVED LOCATION AND INSTALLATION, TREE PROTECTION FENCE MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; MODIFICATIONS TO LOCATIONS AND LIMITS OF TREE PROTECTION FENCE MUST BE COORDINATED IN THE FIELD WITH THE CITY'S FORESTRY STAFF.
8. POST CONSTRUCTION, TREE PROTECTION FENCE MUST REMAIN IN PLACE UNTIL A FINAL INSPECTION IS REQUESTED AND COMPLETED BY THE CITY'S FORESTRY STAFF.

TREE PROTECTION/HIGH VISIBILITY FENCE DETAIL

NOT TO SCALE

LIMB PRUNING

N.T.S.



APPROVED BY: CITY FORESTER
DATE: 3/30/17

ROOT PRUNING DETAIL — DETAIL A-3

June 2018

ROOT PRUNING

N.T.S.

NOTES:
1. COMPLETE ALL INSTALLATION UNDER THE DIRECTION OF A CERTIFIED ARBORIST.
2. DO NOT DIRECTLY FASTEN PLANKS TO TREES.
3. DO NOT PIN OR STAKE PLANKS INTO THE GROUND.
4. INSTALL PLANKING COMPLETELY AROUND THE TREE. DO NOT PLACE PLANKING BOARDS ON ROOT FLARE OF TREE.
5. TIE BOARDS WITH 1/2" DIAMETER ROPE OR STRAPS SUFFICIENT TO PROTECT THE TREE DURING CONSTRUCTION.
6. WHERE SIGNIFICANT TREE BRANCHES EXIST WHICH PREVENT PLANK INSTALLATION, PLANKING SHALL EXTEND TO THE ELEVATION OF THE LOWEST BRANCH.

APPROVED BY: CHIEF, CONSTRUCTION MANAGEMENT
DATE: 1/11/18

TRUNK PROTECTION DETAIL — DETAIL A-10

June 2018

TRUNK PROTECTION

N.T.S.

TREE REPLACEMENT SUMMARY

TREE SIZE (DBH)	TOTAL TREES REMOVED	TREE REPLACEMENT FACTOR	TREES REQUIRED TO BE PLANTED
24"	0	2	0
25-29"	12	3	42
>30"	5	6	30
TOTAL	17		72

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND — MELISSA DIANE HIEBLER — No. 26539 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:36-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

TREE SAVE PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE NTS

SHEET NO. 45 OF 84

FILE # DPW TO PROVIDE

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
373**	Platanus occidentalis	28	28				X	3
374**	Liriodendron tulipifera	16	16	X	X			
375**	Platanus occidentalis	6	6					
376**	Acer negundo	7	7				X	0
377**	Juglans nigra	14	14				X	0
378**	Acer negundo	8	8				X	0
379**	Juglans nigra	10	10	X	X	X		
380**	Platanus occidentalis	21	21				X	0
381**	Juglans nigra	14	14	X	X			
383**	Acer negundo	17	17				X	0
384**	Morus alba	10	10	X	X	X		
385**	Platanus occidentalis	40	40	X				
386**	Acer negundo	9	9	X	X	X		0
387**	Acer negundo	9	9	X	X	X		0
388**	Juglans nigra	33	33	X	X			
389**	Robinia pseudoacacia	11	11					
390**	Acer negundo	6	6					
391	Prunus serotina	7	7					
392**	Robinia pseudoacacia	9	9	X	X	X		0
393**	Acer negundo	8	8				X	0
394**	Robinia pseudoacacia	14	14	X	X			
395**	Acer negundo	7	7				X	0
396**	Acer negundo	6	6				X	0
397**	Salix nigra	10	10				X	0
398**	Fraxinus pennsylvanica	8	8				X	0
399**	Fraxinus pennsylvanica	7	7					
400**	Ulmus americana	6	6					
401	Nyssa sylvatica	21	21					
402	Fraxinus pennsylvanica	11	11					
403	Quercus alba	30	30					
404	Prunus avium	6	6					
405	Prunus serotina	12	12					
406	Morus alba	6	6					
407	Quercus alba	26	26					
408	Quercus alba	31	31					
409	Prunus serotina	6	6					
410**	Betula nigra	8	8					
411**	Acer saccharinum	31	31					
412**	Acer saccharinum	28	28	X				
413**	Acer saccharinum	28	28	X	X			
414**	Acer negundo	15	15	X	X			
415**	Platanus occidentalis	22	22	X				
416**	Robinia pseudoacacia	13	13	X	X			
417**	Robinia pseudoacacia	13	13	X	X	X		
418**	Acer saccharinum	15	15				X	0
419**	Acer negundo	10	10				X	0
422**	Robinia pseudoacacia	8	8				X	0
423**	Acer saccharinum	11	11				X	0
424**	Acer negundo	16	16				X	0
425**	Acer saccharinum	10	10		X			
426**	Acer saccharinum	25	25	X	X	X		
427	Pinus strobus	22	33	X	X			
428	Pinus strobus	19	28.5	X	X			
429	Robinia pseudoacacia	17	17					
430	Platanus occidentalis	26	26					
431	Acer negundo	17	17					
432**	Juglans nigra	13	13	X	X			
433**	Juglans nigra	8	8	X	X			
434**	Acer rubrum	13	13				X	0
435**	Robinia pseudoacacia	13	13	X	X	X		
436**	Robinia pseudoacacia	16	16				X	
437**	Robinia pseudoacacia	11	11				X	
438**	Robinia pseudoacacia	9	9				X	
439**	Acer negundo	11	11				X	
440**	Robinia pseudoacacia	7	7				X	0
441**	Juglans nigra	11	11				X	0
442**	Juglans nigra	16	16				X	0
443	Juglans nigra	7	7				X	0
444**	Acer negundo	18	18				X	0
445**	Juglans nigra	20	20				X	0
446**	Acer negundo	10	10				X	0
447**	Juglans nigra	12	12	X	X			
448**	Liriodendron tulipifera	18	18					
449**	Juglans nigra	29	29				X	3
450**	Robinia pseudoacacia	6	6				X	0
451**	Robinia pseudoacacia	7	7				X	0
453**	Robinia pseudoacacia	7	7				X	0
454**	Acer negundo	10	10				X	0
455**	Quercus coccinea	33	33	X				
456**	Acer rubrum	12	12					
457	Quercus coccinea	29	29					
458	Liriodendron tulipifera	10	10					
459**	Acer rubrum	9	9					
460**	Prunus serotina	11	11	X	X			
461**	Acer rubrum	7	7					
462	Quercus rubra	27	27					
463	Quercus velutina	28	28					
464	Nyssa sylvatica	11	11					
465**	Nyssa sylvatica	7	7					
466**	Prunus serotina	7	7					
467**	Prunus avium	6	6					
468**	Prunus serotina	8	8					
469**	Robinia pseudoacacia	18	18					
470**	Quercus coccinea	18	18					
471**	Acer rubrum	12	12				X	0
472**	Juglans nigra	9	9				X	0
473	Juglans nigra	14	14				X	0
475**	Acer negundo	12	12	X	X	X		
476**	Platanus occidentalis	20	20				X	0
477**	Platanus occidentalis	16	16				X	0
478**	Platanus occidentalis	20	20				X	0
479**	Juglans nigra	13	13				X	0
480**	Platanus occidentalis	22	22				X	0
481**	Liriodendron tulipifera	25	25					
482	Liriodendron tulipifera	10	10					
483	Liriodendron tulipifera	11	11					
484	Liriodendron tulipifera	8	8					
485**	Acer rubrum	8	8					
486**	Liriodendron tulipifera	14	14	X	X			
487**	Liriodendron tulipifera	11	11	X	X	X		
489**	Liriodendron tulipifera	12	12					
490	Liriodendron tulipifera	20	20					
491	Prunus avium	8	8					
492	Prunus serotina	8	8					
501**	Platanus occidentalis	22	22	X				
502**	Prunus serotina	8	8				X	0
503**	Liriodendron tulipifera	12	12				X	0
504**	Liriodendron tulipifera	15	15				X	0
505**	Liriodendron tulipifera	7	7				X	0
506**	Robinia pseudoacacia	11	11				X	0
507**	Prunus serotina	7	7				X	0
508**	Acer rubrum	8	8				X	0
509**	Prunus serotina	18	18				X	0
510**	Platanus occidentalis	10	10				X	0
511**	Acer rubrum	13	13		X			
512**	Acer rubrum	9	9					
513**	Prunus serotina	8	8		X			
514**	Robinia pseudoacacia	10	10	X	X	X		
515	Prunus serotina	7	7				X	0
516**	Acer rubrum	6	6		X			
517**	Robinia pseudoacacia	19	19				X	0
518**	Acer rubrum	9	9					
519**	Robinia pseudoacacia	11	11	X	X			
520**	Liriodendron tulipifera	18	18	X	X	X		
521**	Acer negundo	9	9				X	0
522**	Juglans nigra	17	17				X	0
523**	Acer negundo	13	13				X	0
524**	Robinia pseudoacacia	6	6		X			
525**	Robinia pseudoacacia	8	8	X	X			
526**	Robinia pseudoacacia	11	11	X	X			
527	Quercus coccinea	28	28					
528	Acer rubrum	15	15					
530	Juglans nigra	13	13					
531**	Acer rubrum	7	7					
532**	Prunus serotina	7	7					
533**	Liriodendron tulipifera	11	11	X	X	X		

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

NOTE: TAG NOT USED FOR TREES 420–421

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
4426	*Juniperus virginiana*	20.5	20.5					
4429	*Juniperus virginiana*	7	7					
4428	*Juniperus virginiana*	20	20					
4430	*Juniperus virginiana*	6	6					
4431	*Juniperus virginiana*	10	10					
4450	*Pinus strobus*	21	21					
4451	*Pinus strobus*	22	22					
4452	*Pinus strobus*	26.5	26.5					

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100'-ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP — FEMA 100 YEAR FLOODPLAIN
- WL WL / TM TM — EXISTING WETLANDS
- WB — EXISTING 25–FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- M–FP — MO COUNTY 100 YEAR FLOODPLAIN
- SSF — SUPER SILT FENCE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- SSF — SUPER SILT FENCE
- FL–18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- CHAIN LINK FENCE

NOTE: FOR TREES LEGEND, SEE NEXT SHEET.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

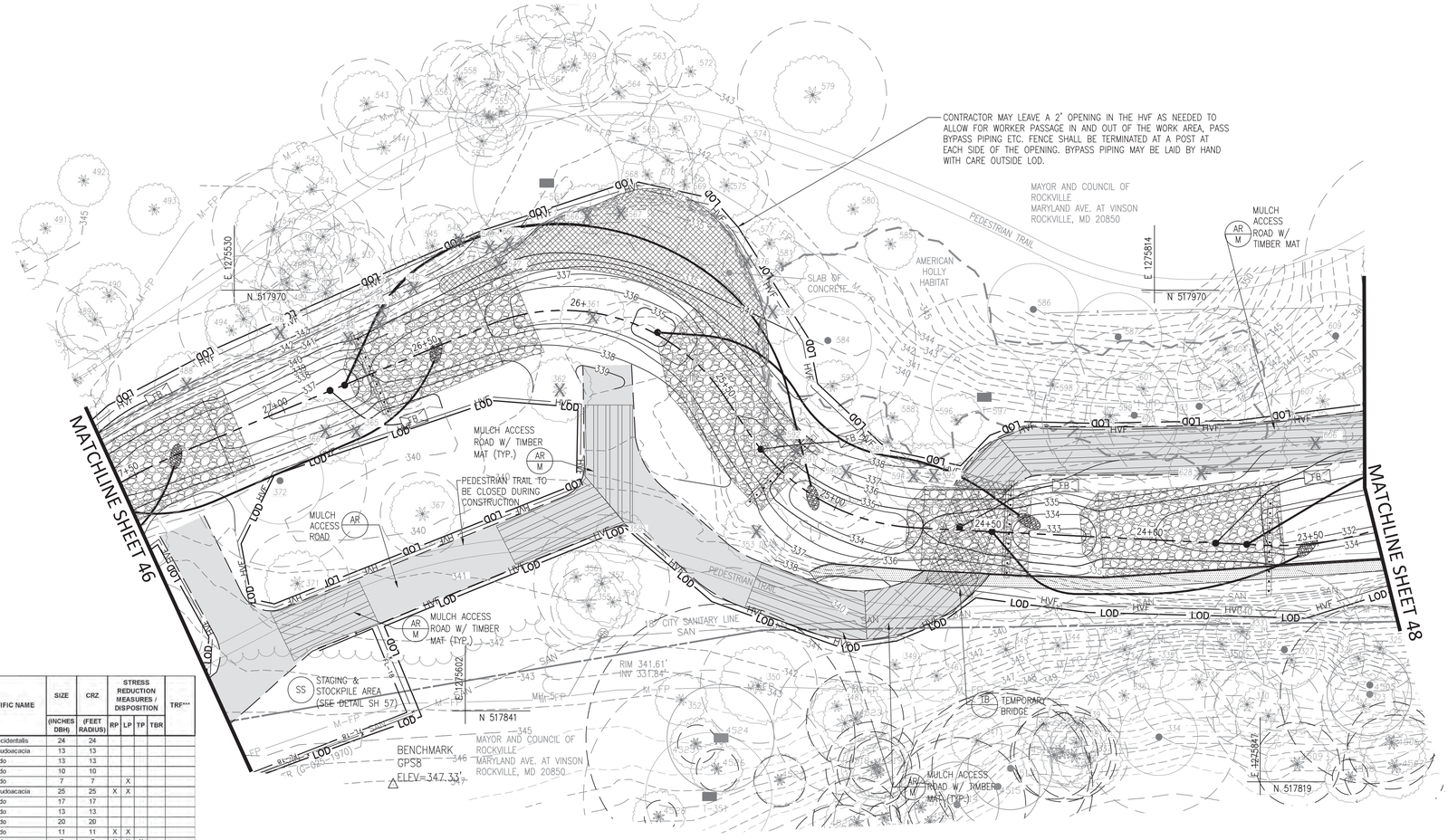
DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:37-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX–XXXXX SCP# 2025–00017
SMP# 2025–00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
SHA TRIBUTARY REACH 7/CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 46 OF 84
FILE # G–134



TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
323**	Platanus occidentalis	24	24					
324**	Robinia pseudoacacia	13	13					
325**	Acer negundo	13	13					
326**	Acer negundo	10	10					
327**	Acer negundo	7	7		X			
328**	Robinia pseudoacacia	25	25	X	X			
329	Acer negundo	17	17					
330	Acer negundo	13	13					
331**	Acer negundo	20	20					
332**	Acer negundo	11	11	X	X			
333**	Acer negundo	7	7	X	X	X		
334	Acer negundo	24	24					
335**	Acer negundo	11	11					
336	Acer negundo	9	9					
337	Robinia pseudoacacia	12	12					
338	Robinia pseudoacacia	11	11					
339	Acer negundo	13	13					
340	Acer negundo	10	10					
341	Acer negundo	7	7					
342**	Acer negundo	9	9		X			
343**	Acer negundo	9	9	X	X			
344**	Acer negundo	13	13	X	X			
345**	Acer negundo	19	19	X	X			
346**	Acer negundo	10	10		X			
347**	Acer negundo	22	22					
348**	Acer negundo	11	11					
349**	Acer rubrum	8	8	X	X			
350**	Liriodendron tulipifera	18	18					
351	Quercus alba	39	39					
352	Liriodendron tulipifera	9	9					
353**	Morus alba	10	10				X	0
354**	Acer negundo	11	11					
355**	Prunus serotina	12	12					
356**	Acer negundo	7	7		X			
357**	Liriodendron tulipifera	21	21	X	X			
358**	Quercus rubra	8	8	X	X	X		
361**	Prunus avium	10	10				X	0
362**	Acer negundo	8	8				X	0
365**	Liriodendron tulipifera	19	19				X	0
366**	Ulmus americana	6	6				X	0
367**	Morus alba	13	13	X	X			
368**	Acer negundo	12	12					
369**	Acer negundo	14	14					
370**	Acer negundo	17	17					
371**	Liriodendron tulipifera	16	16	X	X	X		
372**	Liriodendron tulipifera	27	27	X	X	X		
488**	Robinia pseudoacacia	12	12				X	0
493	Prunus serotina	9	9					
494**	Robinia pseudoacacia	9	9	X	X	X		
495**	Liriodendron tulipifera	20	20	X	X	X		
496**	Juglans nigra	10	10				X	0
497	Liriodendron tulipifera	17	17	X	X			
498**	Liriodendron tulipifera	11	11	X	X			
499**	Liriodendron tulipifera	7	7	X	X			
500**	Liriodendron tulipifera	20	20	X	X	X		
534**	Platanus occidentalis	13	13				X	0
535**	Liriodendron tulipifera	18	18				X	0
536**	Platanus occidentalis	9	9				X	0
537**	Liriodendron tulipifera	12	12	X	X			
538**	Liriodendron tulipifera	14	14					
539	Liriodendron tulipifera	13	13					
540	Liriodendron tulipifera	19	19					
541	Liriodendron tulipifera	9	9					
542	Acer rubrum	7	7					

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
543	Liriodendron tulipifera	14	14					
544	Acer rubrum	13	13					
545**	Liriodendron tulipifera	13	13	X	X	X		
546**	Platanus occidentalis	10	10				X	0
547**	Acer rubrum	7	7				X	0
548**	Liriodendron tulipifera	14	14				X	0
549**	Liriodendron tulipifera	13	13				X	0
550**	Liriodendron tulipifera	9	9				X	0
551**	Acer rubrum	45	45	X	X			
552	Liriodendron tulipifera	11	11					
553	Liriodendron tulipifera	7	7					
554	Liriodendron tulipifera	12	12					
555	Liriodendron tulipifera	11	11					
556	Liriodendron tulipifera	9	9					
557	Liriodendron tulipifera	13	13					
558	Liriodendron tulipifera	12	12					
559	Liriodendron tulipifera	13	13					
560	Liriodendron tulipifera	13	13					
561	Liriodendron tulipifera	11	11					
562	Liriodendron tulipifera	12	12					
563	Liriodendron tulipifera	12	12					
564**	Liriodendron tulipifera	12	12					
565**	Liriodendron tulipifera	10	10		X			
566**	Liriodendron tulipifera	9	9				X	0
567**	Liriodendron tulipifera	9	9				X	0
568**	Liriodendron tulipifera	8	8	X	X	X		
569**	Liriodendron tulipifera	7	7	X	X	X		
570	Liriodendron tulipifera	6	6		X			
571	Liriodendron tulipifera	9	9					
572	Liriodendron tulipifera	10	10					
573	Liriodendron tulipifera	11	11					
574**	Liriodendron tulipifera	9	9					
575**	Liriodendron tulipifera	13	13	X	X			
576**	Acer rubrum	11	11				X	0
577**	Acer rubrum	11	11	X	X			
578**	Quercus rubra	41	41					
579	Quercus alba	23	23					
580	Juglans nigra	8	8					
581	Acer rubrum	10	10	X	X	X		
582**	Acer rubrum	7	7				X	0
584**	Liriodendron tulipifera	27	27	X	X	X		
585	Acer rubrum	10	10					
586	Quercus rubra	28	28					
587	Liriodendron tulipifera	27	27	X				
588**	Nyssa sylvatica	7	7		X			
589**	Nyssa sylvatica	8	8	X	X	X		
590**	Quercus rubra	9	9				X	0
591**	Ulmus americana	10	10				X	0
592**	Ulmus americana	9	9				X	0
593**	Acer rubrum	6	6	X	X	X		
594**	Acer rubrum	6	6				X	0
595**	Nyssa sylvatica	7	7				X	0
596**	Acer rubrum	9	9		X			
597**	Quercus rubra	32	32	X	X			
598**	Nyssa sylvatica	10	10		X			
599**	Nyssa sylvatica	21	21	X	X	X		
600	Liriodendron tulipifera	27	27	X	X	X		
601**	Liriodendron tulipifera	9	9		X			
602**	Quercus rubra	9	9		X			
603**	Quercus rubra	29	29	X	X	X		
604**	Carya glabra	13	13					
605**	Nyssa sylvatica	19	19	X	X			
606	Liriodendron tulipifera	14	14				X	0
607**	Quercus alba	16	16	X	X	X		
609**	Quercus rubra	27	27					
628**	Ulmus americana	12	12				X	0

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL / WL / WB — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- (TBR) — TO BE REMOVED
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- CP 1 — PROPOSED CLAY PLUG
- SSF — SUPER SILT FENCE
- FL-18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.
TBR*–TREE IS BEING REMOVED AT REQUEST OF CITY FORESTY STAFF
TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

0 20 40 Feet
SCALE: 1" = 20'

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND · MELISSA DIANE REES · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX
1					

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:38-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 1 & 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 47 OF 84
FILE # G-134

TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
195	Platanus occidentalis	13	13					
196	Platanus occidentalis	11	11					
224	Platanus occidentalis	8	8					
226**	Liriodendron tulipifera	9	9					
227**	Liriodendron tulipifera	11	11		X			
228**	Acer negundo	11	11					
229**	Acer negundo	9	9		X			
230**	Liriodendron tulipifera	44	44				X	6
231**	Juglans nigra	9	9	X	X			
232**	Liriodendron tulipifera	10	10				X	0
233**	Juglans nigra	25	25	X				
234**	Acer negundo	11	11		X			
235**	Acer negundo	10	10		X			
236**	Liriodendron tulipifera	20	20	X	X			
237	Ulmus americana	7	7					
238	Acer negundo	7	7					
239	Juglans nigra	21	21					
240	Juglans nigra	8	8					
241	Liriodendron tulipifera	13	13					
242**	Acer negundo	8	8	X	X	X		
243**	Liriodendron tulipifera	23	23	X	X			
244**	Liriodendron tulipifera	17	17					
245**	Acer negundo	15	15					
247**	Acer negundo	11	11					
248**	Liriodendron tulipifera	19	19	X	X			
249**	Liriodendron tulipifera	25	25	X	X			
251**	Liriodendron tulipifera	20	20	X	X	X		
252**	Liriodendron tulipifera	29	29	X				
253**	Juglans nigra	8	8					
254**	Prunus serotina	7	7				X	0
255**	Juglans nigra	9	9	X	X	X		
256**	Acer negundo	11	11				X	0
257**	Acer negundo	8	8		X			
258**	Liriodendron tulipifera	8	8		X			
259**	Liriodendron tulipifera	18	18	X				
260**	Acer negundo	15	15					
261**	Liriodendron tulipifera	12	12					
262	Liriodendron tulipifera	32	32	X				
263**	Acer negundo	11	11					
264	Acer negundo	12	12					
265	Acer negundo	12	12					
266	Quercus rubra	20	20					
267	Acer rubrum	9	9					
268	Liriodendron tulipifera	7	7					
269	Acer rubrum	8	8					
270	Nyssa sylvatica	8	8					
271	Liriodendron tulipifera	7	7					
272	Liriodendron tulipifera	17	17					
273	Acer rubrum	12	12					
274	Liquidambar styraciflua	18	18					
275	Liquidambar styraciflua	13	13					
276	Liquidambar styraciflua	18	18					
277	Juglans nigra	8	8					
278	Liquidambar styraciflua	15	15					
279	Liquidambar styraciflua	10	10					
280	Liriodendron tulipifera	22	22					
281	Liriodendron tulipifera	11	11					
282	Liriodendron tulipifera	16	16					
283	Liriodendron tulipifera	17	17					
284	Liriodendron tulipifera	8	8					
285	Liriodendron tulipifera	22	22					
286	Liriodendron tulipifera	16	16					
287	Acer rubrum	17	17					
288	Liriodendron tulipifera	19	19					
289	Juglans nigra	12	12					
291**	Liriodendron tulipifera	13	13				X	0
292**	Liriodendron tulipifera	7	7				X	0
293**	Liriodendron tulipifera	8	8				X	0
294**	Acer negundo	8	8				X	0
296**	Juglans nigra	12	12				X	0
297	Acer negundo	19	19					
298	Juglans nigra	8	8					
299	Acer negundo	10	10					
300	Robinia pseudoacacia	16	16					
301	Acer negundo	6	6					
302	Ailanthus altissima	12	12					
303	Ailanthus altissima	6	6					
304	Acer negundo	11	11					
305	Acer negundo	12	12					
306	Acer negundo	11	11					
307**	Acer negundo	16	16				X	0
308**	Acer negundo	12	12				X	0
309**	Prunus avium	13	13				X	0
310	Paulownia tomentosa	11	11					
311**	Paulownia tomentosa	9	9					
312	Paulownia tomentosa	12	12					
313**	Acer negundo	7	7		X			
314**	Acer negundo	6	6				X	0
317	Liriodendron tulipifera	8	8					
318	Platanus occidentalis	24	24					
319	Platanus occidentalis	22	22					
320	Platanus occidentalis	21	21					
321	Acer negundo	13	13					
322	Platanus occidentalis	18	18					

TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
610	Quercus rubra	36	36					
611**	Liriodendron tulipifera	9	9					
612**	Acer rubrum	7	7		X			
613	Liriodendron tulipifera	13	13				X	0
615**	Liriodendron tulipifera	21	21					
616**	Liriodendron tulipifera	13	13					
617**	Liriodendron tulipifera	13	13					
618**	Juglans nigra	12	12					
619**	Liriodendron tulipifera	19	19	X				
620**	Juglans nigra	11	11					
621**	Juglans nigra	14	14	X	X			
622	Liriodendron tulipifera	23	23					
623	Acer platanoides	7	7					
624**	Liriodendron tulipifera	36	36				X	6
625	Prunus serotina	6	6					
626**	Juglans nigra	8	8	X	X	X		
629**	Prunus serotina	9	9	X	X	X		
630**	Acer negundo	7	7	X	X			
631**	Juglans nigra	11	11	X	X			
632**	Ailanthus altissima	10	10		X			
633**	Ulmus americana	8	8		X			
634**	Ulmus americana	7	7		X			
635**	Ulmus americana	7	7				X	0
636**	Acer rubrum	9	9		X			
637**	Acer rubrum	12	12		X			
638	Liriodendron tulipifera	27	27					
639	Liriodendron tulipifera	18	16					
640	Liriodendron tulipifera	23	23					
641	Liriodendron tulipifera	31	31					
642**	Liriodendron tulipifera	11	11					
643**	Quercus alba	21	21	X	X			
644**	Quercus alba	25	25	X	X			
645**	Acer negundo	10	10	X	X	X		
646**	Acer rubrum	7	7		X			
647	Liriodendron tulipifera	32	32	X				
648**	Liriodendron tulipifera	25	25	X				
649	Acer rubrum	7	7					
650	Prunus serotina	8	8					
651**	Prunus serotina	10	10	X	X	X		
652**	Acer rubrum	6	6				X	0
653**	Ilex opaca	6	6	X	X	X		
654**	Liriodendron tulipifera	32	32	X	X			
655**	Liriodendron tulipifera	30	30	X				
656	Liriodendron tulipifera	10	10					
657	Liriodendron tulipifera	24	24					
658**	Ilex opaca	7	7					
659	Liriodendron tulipifera	27	27					
660	Liriodendron tulipifera	25	25					
661**	Liriodendron tulipifera	26	26	X				
662**	Acer rubrum	6	6	X	X	X		
663**	Acer rubrum	10	10					
664	Acer rubrum	11	11					
665**	Acer rubrum	6	6	X	X			
666	Robinia pseudoacacia	8	8					
667**	Liriodendron tulipifera	16	16					
668**	Prunus serotina	7	7	X	X			
669**	Acer negundo	11	11	X	X	X		
672	Liriodendron tulipifera	28	28					
673	Liriodendron tulipifera	30	30					
674	Liriodendron tulipifera	28	28					
675**	Liriodendron tulipifera	32	32	X				
676	Liriodendron tulipifera	28	28					
4410**	Liriodendron tulipifera	19	19	X	X			

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

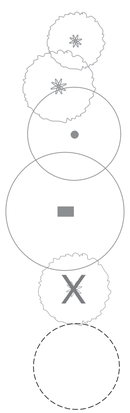
TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL WL / TM TM — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- (TBR) — TO BE REMOVED
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE

- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- CP 1 — PROPOSED CLAY PLUG
- SSF — SUPER SILT FENCE
- FL-18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE



TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

0 20 40 Feet
SCALE: 1" = 20'

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION
NAME: Joanna Hiebler
SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND · MELISSA DIANE KISS · NO. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:39-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACH 2
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 48 OF 84
FILE # G-134

SMALL TREE 6–11"

SIGNIFICANT TREE ≥ 12" < 18"

SIGNIFICANT TREE ≥ 18" < 30"

SPECIMEN TREE ≥ 30"

TREE TO BE REMOVED

CRITICAL ROOT ZONE

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
110	Liriodendron tulipifera	11	11					
111	Liriodendron tulipifera	6	6					
112	Liriodendron tulipifera	23	23					
113	Liriodendron tulipifera	8	8					
114	Liriodendron tulipifera	8	8					
115	Liriodendron tulipifera	9	9					
116**	Liriodendron tulipifera	21	21	X	X			
117	Liriodendron tulipifera	20	20					
118	Liriodendron tulipifera	18	18					
119	Acer negundo	7	7					
120	Acer negundo	14	14					
121	Acer negundo	16	16					
122**	Fagus grandifolia	16	16					
123**	Quercus laurifolia	21	21	X				
124	Acer negundo	16	16					
125	Acer negundo	7	7					
126	Acer negundo	7	7					
127	Acer negundo	17	17					
128**	Acer negundo	12	12					
129**	Acer negundo	15	15	X	X	X		
130**	Juglans nigra	21	21					
131	Acer negundo	13	13					
132	Acer negundo	12	12					
133**	Juglans nigra	16	16					
134**	Acer negundo	23	23	X				
135**	Acer negundo	11	11	X	X			
164**	Acer negundo	7	7	X	X	X		
165**	Acer negundo	8	8				X	0
166**	Nyssa sylvatica	12	12	X	X			
167**	Acer negundo	9	9	X	X	X		
168	Quercus alba	26	26	X	X			
169**	Acer negundo	9	9		X			
170**	Acer negundo	8	8		X			
174**	Juglans nigra	14	14				X	0
175**	Juglans nigra	15	15				X	0
177**	Liriodendron tulipifera	15	15				X	0
178**	Liriodendron tulipifera	14	14	X	X			
179**	Morus alba	6	6	X	X	X		
183**	Ulmus americana	9	9	X	X	X		
184**	Gymnocladus dioicus	8	8		X			
185**	Liriodendron tulipifera	25	25					
186**	Juglans nigra	23	23					
187**	Gymnocladus dioicus	23	23	X				
188**	Acer negundo	9	9					
189**	Liriodendron tulipifera	23	23	X	X	X		
190**	Acer negundo	13	13	X	X			
191**	Gymnocladus dioicus	7	7	X	X	X		
192**	Gymnocladus dioicus	17	17	X	X			
193**	Gymnocladus dioicus	14	14	X	X			
194	Acer negundo	13	13					
197**	Juglans nigra	19	19	X	X			
198**	Juglans nigra	16	16					
199**	Celtis occidentalis	18	18					
200**	Juglans nigra	16	16					
201**	Gymnocladus dioicus	21	21					
202**	Juglans nigra	12	12	X	X	X		
203**	Acer negundo	7	7					
204**	Acer negundo	6	6					
205**	Juglans nigra	22	22	X	X	X		
206**	Morus alba	9	9	X	X			
207**	Juglans nigra	16	16				X	0
209**	Liriodendron tulipifera	15	15				X	0
210**	Juglans nigra	18	18				X	0
211**	Ulmus americana	7	7	X	X	X		
212**	Liriodendron tulipifera	8	8	X	X	X		
213**	Liriodendron tulipifera	20	20	X	X			
214**	Juglans nigra	26	26				X	3
215**	Liriodendron tulipifera	10	10	X	X	X		
216**	Liriodendron tulipifera	24	24	X	X			
217**	Liriodendron tulipifera	30	30	X	X	X		
218**	Liriodendron tulipifera	19	19	X	X	X	X	
219**	Juglans nigra	11	11					
220**	Liriodendron tulipifera	29	29					
221**	Juglans nigra	13	13					
222**	Acer negundo	14	14	X	X			
223**	Acer negundo	12	12	X	X	X		
225**	Juglans nigra	22	22					

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
670**	Juglans nigra	13	13	X	X			
671**	Liriodendron tulipifera	13	13	X	X			
677**	Liriodendron tulipifera	17	17				X	0
678**	Liriodendron tulipifera	7	7	X	X			
679	Liriodendron tulipifera	38	38	X				
680	Acer rubrum	9	9					
681	Liriodendron tulipifera	29	29					
682	Liriodendron tulipifera	27	27					
683	Liriodendron tulipifera	29	29	X				
684	Liriodendron tulipifera	21	21					
685	Liriodendron tulipifera	22	22					
686	Liriodendron tulipifera	33	33					
687**	Liriodendron tulipifera	29	29	X				
689**	Liriodendron tulipifera	23	23	X				
690**	Liriodendron tulipifera	27	27	X	X			
691**	Liriodendron tulipifera	12	12					
692**	Liriodendron tulipifera	24	24	X				
693**	Ailanthus altissima	9	9				X	0
694**	Acer negundo	7	7				X	0
697**	Acer negundo	8	8				X	0
698**	Acer negundo	8	8					
699	Liriodendron tulipifera	34	34					
700	Liriodendron tulipifera	22	22					
701	Liriodendron tulipifera	8	8					
702**	Liriodendron tulipifera	25	25	X				
703**	Liriodendron tulipifera	27	27	X	X			
705**	Ilex opaca	6	6	X	X	X		
706**	Liriodendron tulipifera	21	21					
707**	Liriodendron tulipifera	22	22					
708**	Liriodendron tulipifera	21	21	X	X			
709**	Acer rubrum	10	10	X	X			
710**	Liriodendron tulipifera	20	20	X	X	X		
711**	Liriodendron tulipifera	19	19	X				
712**	Liriodendron tulipifera	17	17					
713	Liriodendron tulipifera	17	17					
714	Liriodendron tulipifera	12	12					
715	Liriodendron tulipifera	15	15					
716**	Acer rubrum	8	8					
717**	Liriodendron tulipifera	22	22	X	X			
718**	Acer rubrum	27	27	X	X			
719	Liriodendron tulipifera	27	27					
720**	Liriodendron tulipifera	22	22	X	X	X		
721**	Ulmus americana	8	8		X			
722**	Liriodendron tulipifera	24	24	X	X			
725**	Acer negundo	11	11	X	X	X		
726**	Ulmus americana	6	6					
727**	Liriodendron tulipifera	27	27	X				
728**	Liriodendron tulipifera	26	26					
729**	Liriodendron tulipifera	24	24	X				
730**	Liriodendron tulipifera	19	19					
731	Ulmus americana	7	7					
732	Liriodendron tulipifera	25	25					
733	Liriodendron tulipifera	14	14					
734	Liriodendron tulipifera	15	15					
735**	Acer rubrum	27	27	X	X			
737	Robinia pseudoacacia	12	12					
741**	Liriodendron tulipifera	11	11					

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL / WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- (TBR) — TO BE REMOVED
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- CP 1 — PROPOSED CLAY PLUG
- SSF — SUPER SILT FENCE
- FL-18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

0 20 40 Feet

SCALE: 1" = 20'

STATE OF MARYLAND — WELISSA DIANE HEID — No. 26539 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:40-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

268 of 304

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 2, 3 & 8
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=20'

SHEET NO. 49 OF 84

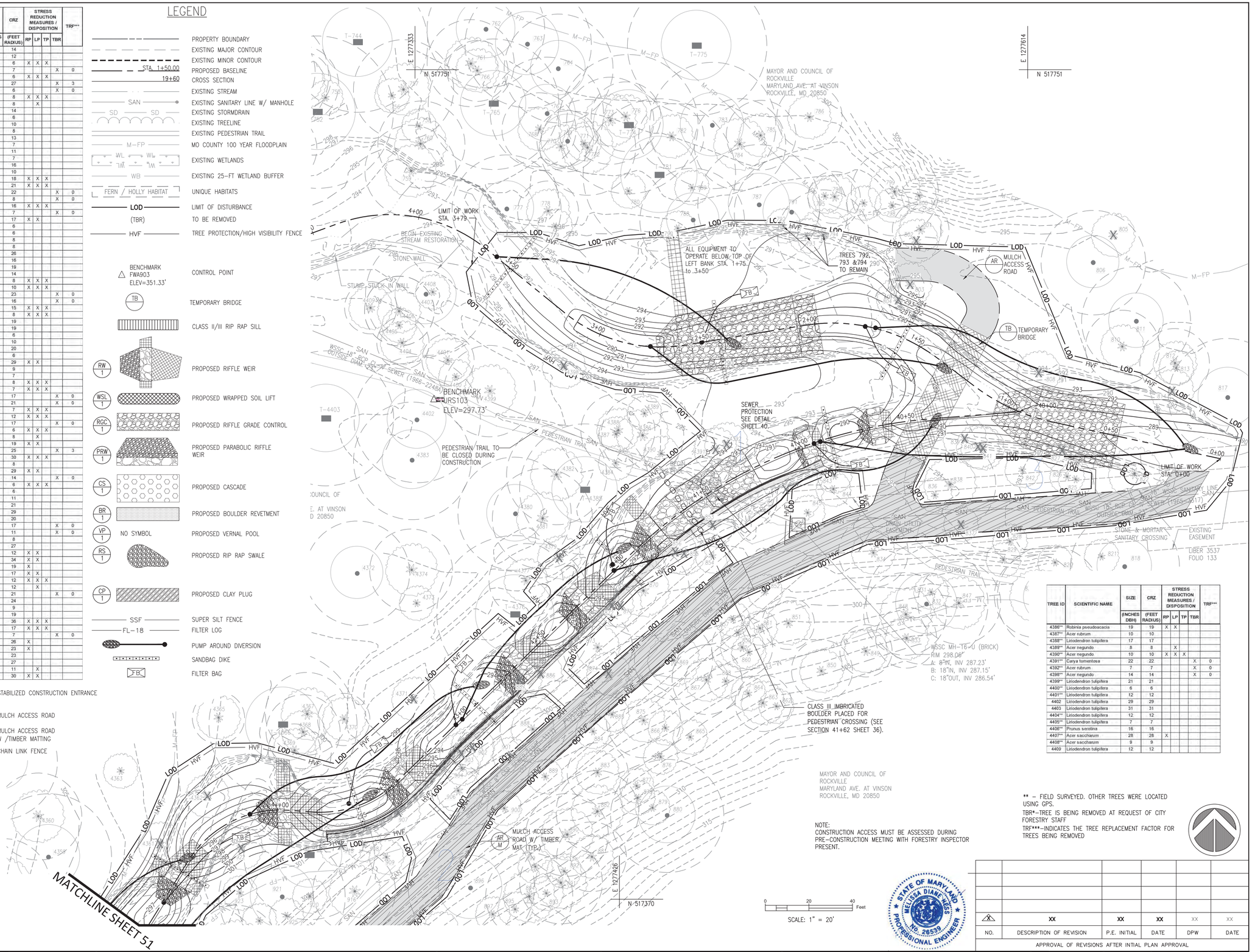
FILE # G-134

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
744	Liriodendron tulipifera	32	32					
745	Liriodendron tulipifera	18	18					
746	Liriodendron tulipifera	28	28					
747	Liriodendron tulipifera	8	8					
748	Liriodendron tulipifera	18	18					
749	Liriodendron tulipifera	13	13					
750	Liriodendron tulipifera	6	6					
751	Liriodendron tulipifera	17	17					
752	Liriodendron tulipifera	35	35					
753	Liriodendron tulipifera	7	7					
754	Liriodendron tulipifera	13	13					
755	Liriodendron tulipifera	21	21					
756	Liriodendron tulipifera	7	7					
757	Liriodendron tulipifera	23	23					
758	Liriodendron tulipifera	10	10					
759**	Liriodendron tulipifera	21	21					
760	Liriodendron tulipifera	20	20					
761	Platanus occidentalis	20	20					
762	Liriodendron tulipifera	27	27					
763	Liriodendron tulipifera	29	29					
764	Liriodendron tulipifera	25	25					
765	Liriodendron tulipifera	30	30				X	0
766	Liriodendron tulipifera	14	14					
767	Liriodendron tulipifera	26	26					
768	Liriodendron tulipifera	17	17					
769	Liriodendron tulipifera	24	24					
770	Liriodendron tulipifera	14	14					
771	Juglans nigra	9	9					
772	Liriodendron tulipifera	22	22					
773	Liriodendron tulipifera	20	20					
774	Liriodendron tulipifera	32	32					
775	Liriodendron tulipifera	32	32					
776	Liriodendron tulipifera	16	16					
777**	Liriodendron tulipifera	25	25	X	X			
778**	Juglans nigra	14	14	X	X			
779**	Juglans nigra	10	10	X	X	X		
780**	Juglans nigra	10	10					
781**	Liriodendron tulipifera	35	35	X				
782	Liriodendron tulipifera	15	15					
783	Liriodendron tulipifera	29	29					
784	Liriodendron tulipifera	21	21					
785	Carya glabra	16	16					
786	Acer rubrum	15	15					
787**	Liriodendron tulipifera	28	28	X	X			
788**	Liriodendron tulipifera	24	24	X	X	X		
789**	Carya glabra	10	10					
790**	Acer negundo	11	11	X	X	X		
791**	Platanus occidentalis	26	26	X	X	X		
792**	Liriodendron tulipifera	8	8					
793**	Liriodendron tulipifera	9	9					
794**	Liriodendron tulipifera	21	21					
795**	Liriodendron tulipifera	6	6		X			
796**	Liriodendron tulipifera	12	12		X			
797**	Liriodendron tulipifera	8	8		X			
798**	Liriodendron tulipifera	8	8					
799**	Carya glabra	20	20					
800**	Nyssa sylvatica	7	7					
801**	Robinia pseudoacacia	13	13	X	X			
802**	Liriodendron tulipifera	18	18				X	0
803**	Liriodendron tulipifera	26	26				X	3
804**	Platanus occidentalis	21	21				X	0
805	Liriodendron tulipifera	29	29				X	3
806**	Platanus occidentalis	24	24					
808**	Liriodendron tulipifera	23	23				X	0
810**	Juglans nigra	17	17	X	X			
811**	Liriodendron tulipifera	25	25	X				
812**	Liriodendron tulipifera	16	16	X	X			
813**	Liriodendron tulipifera	6	6		X			
814**	Liriodendron tulipifera	20	20				X	0
817**	Liriodendron tulipifera	27	27	X	X			
818**	Liriodendron tulipifera	25	25	X				
819	Quercus coccinea	24	24					
820**	Liriodendron tulipifera	7	7		X			
821**	Nyssa sylvatica	9	9		X			
822**	Platanus occidentalis	19	19	X	X	X		
825**	Acer negundo	9	9	X	X	X		
826**	Acer negundo	7	7	X	X	X		
827**	Acer negundo	11	11				X	0
828**	Acer negundo	10	10	X	X	X		
829**	Quercus rubra	8	8		X			
830**	Quercus alba	19	19					
831	Nyssa sylvatica	8	8					
832	Fagus grandifolia	28	28					
833	Nyssa sylvatica	14	14					
834**	Liriodendron tulipifera	16	16	X	X	X		
836	Liriodendron tulipifera	8	8	X	X	X		
837**	Acer negundo	9	9				X	0
838	Liriodendron tulipifera	21	21	X	X			
839**	Platanus occidentalis	17	17				X	0
840**	Platanus occidentalis	20	20				X	0
841**	Liriodendron tulipifera	26	26				X	3
842**	Acer negundo	7	7	X	X			
843**	Acer negundo	7	7	X	X	X		
844**	Liriodendron tulipifera	11	11	X	X			
845**	Acer negundo	9	9	X	X			
846**	Fagus grandifolia	31	31				X	6
847	Quercus alba	19	19					
848	Quercus coccinea	19	19					
849	Fagus grandifolia	12	12					

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
850	Liriodendron tulipifera	14	14					
851**	Liriodendron tulipifera	12	12					
852	Ulmus americana	6	6	X	X	X		
853**	Ulmus americana	7	7				X	0
854**	Liriodendron tulipifera	6	6	X	X	X		
855**	Acer rubrum	27	27				X	3
856**	Quercus rubra	6	6				X	0
857	Ulmus americana	8	8	X	X	X		
858	Liriodendron tulipifera	8	8		X			
859**	Liriodendron tulipifera	14	14					
860**	Liriodendron tulipifera	6	6					
861**	Liriodendron tulipifera	10	10					
862	Carya glabra	8	8					
863	Carya glabra	13	13					
864	Fagus grandifolia	7	7					
865	Carya glabra	11	11					
866**	Liriodendron tulipifera	7	7					
867**	Fagus grandifolia	16	16					
868**	Carya tomentosa	10	10					
869**	Liriodendron tulipifera	18	18	X	X	X		
870**	Liriodendron tulipifera	21	21	X	X	X		
871**	Liriodendron tulipifera	22	22				X	0
872**	Liriodendron tulipifera	8	8				X	0
873**	Liriodendron tulipifera	16	16	X	X	X		
874**	Prunus avium	7	7				X	0
875**	Nyssa sylvatica	17	17	X	X			
876**	Nyssa sylvatica	6	6					
877	Carya glabra	6	6					
878	Carya glabra	8	8					
879	Liriodendron tulipifera	8	8					
880	Quercus coccinea	26	26					
881	Quercus coccinea	16	16					
882**	Fagus grandifolia	19	19					
883**	Quercus coccinea	14	14					
884**	Platanus occidentalis	8	8	X	X	X		
885**	Liriodendron tulipifera	10	10	X	X	X		
886**	Liriodendron tulipifera	23	23				X	0
887**	Acer rubrum	16	16				X	0
888**	Liriodendron tulipifera	15	15	X	X	X		
889**	Liriodendron tulipifera	8	8	X	X	X		
890**	Quercus coccinea	19	19					
891	Quercus coccinea	19	19					
892	Fagus grandifolia	6	6					
893	Quercus alba	10	10					
894**	Liriodendron tulipifera	20	20					
895**	Acer rubrum	6	6					
896**	Quercus coccinea	29	29	X	X			
897**	Carya glabra	9	9					
899**	Liriodendron tulipifera	7	7					
900**	Liriodendron tulipifera	8	8	X	X	X		
901**	Platanus occidentalis	7	7	X	X	X		
902**	Liriodendron tulipifera	17	17				X	0
903**	Liriodendron tulipifera	21	21				X	0
904**	Liriodendron tulipifera	7	7	X	X	X		
906**	Platanus occidentalis	12	12	X	X	X		
907**	Liriodendron tulipifera	17	17				X	0
908**	Liriodendron tulipifera	6	6	X	X	X		
909**	Platanus occidentalis	8	8		X			
916**	Liriodendron tulipifera	19	19	X	X			
918**	Liriodendron tulipifera	25	25				X	3
919**	Liriodendron tulipifera	30	30	X	X	X		
920**	Liriodendron tulipifera	8	8					
921**	Liriodendron tulipifera	29	29	X	X			
922**	Juglans nigra	14	14				X	0
923**	Liriodendron tulipifera	6	6	X	X	X		
924**	Liriodendron tulipifera	6	6					
925**	Liriodendron tulipifera	11	11					
4358	Platanus occidentalis	21	21					
4359	Liriodendron tulipifera	29	29					
4360	Liriodendron tulipifera	20	20					
4361**	Juglans nigra	17	17				X	0
4362**	Acer rubrum	11	11				X	0
4363**	Liriodendron tulipifera	8	8					
4364	Liriodendron tulipifera	27	27					
4365**	Acer rubrum	12	12	X	X			
4366**	Liriodendron tulipifera	34	34	X	X			
4367**	Acer rubrum	19	19	X				
4368**	Fagus grandifolia	17	17	X	X			
4369**	Fagus grandifolia	12	12	X	X	X		
4370**	Nyssa sylvatica	12	12		X			
4371**	Liriodendron tulipifera	21	21				X	0
4372	Liriodendron tulipifera	24	24					
4373	Liriodendron tulipifera	9	9					
4374	Liriodendron tulipifera	19	19					
4376**	Liriodendron tulipifera	36	36	X	X	X		
4377**	Liriodendron tulipifera	17	17	X	X	X		
4379**	Nyssa sylvatica	7	7				X	0
4380	Liriodendron tulipifera	26	26	X				
4381**	Liriodendron tulipifera	23	23	X				
4382	Liriodendron tulipifera	23	23					
4383	Liriodendron tulipifera	27	27					
4384**	Ulmus americana	11	11		X			
4385**	Liriodendron tulipifera	30	30	X	X			

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 / 19+60 — PROPOSED BASELINE CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL WL / WM WM — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- (TBR) — TO BE REMOVED
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- ROC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- CP 1 — PROPOSED CLAY PLUG
- SSF — SUPER SILT FENCE
- FL-18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE



TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
4386**	Robinia pseudoacacia	19	19	X	X			
4387**	Acer rubrum	10	10					
4388**	Liriodendron tulipifera	17	17					
4389**	Acer negundo	8	8		X			
4390**	Acer negundo	10	10	X	X	X		
4391**	Carya tomentosa	22	22				X	0
4392**	Acer rubrum	7	7				X	0
4398**	Acer negundo	14	14				X	0
4399**	Liriodendron tulipifera	21	21					
4400**	Liriodendron tulipifera	6	6					
4401**	Liriodendron tulipifera	12	12					
4402	Liriodendron tulipifera	29	29					
4403	Liriodendron tulipifera	31	31					
4404**	Liriodendron tulipifera	12	12					
4405**	Liriodendron tulipifera	7	7					
4406**	Prunus serotina	16	16					
4407**	Acer saccharum	28	28	X				
4408**	Acer saccharum	9	9					
4409	Liriodendron tulipifera	12	12					

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.
TBR*–TREE IS BEING REMOVED AT REQUEST OF CITY FORESTRY STAFF
TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND MELISSA DIANE KEYS No. 28599 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
4	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:41-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CROYDON CREEK REACHES 4 & 5 AND CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 50 OF 84
FILE # G-134

TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RAD/DIS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
898	Quercus coccinea	26	26					
910**	Acer rubrum	10	10	X	X			
911**	Fagus grandifolia	20	20	X	X			
912	Fagus grandifolia	11	11					
913**	Fagus grandifolia	12	12					
914**	Liriodendron tulipifera	18	18	X	X			
915**	Liriodendron tulipifera	18	18	X	X	X		
926**	Liriodendron tulipifera	8	8		X			
927**	Liriodendron tulipifera	6	6	X	X	X		
928	Fagus grandifolia	9	9					
929	Fagus grandifolia	25	25					
930**	Carya glabra	6	6					
931**	Fagus grandifolia	17	17	X	X			
932**	Fagus grandifolia	8	8		X			
933**	Nyssa sylvatica	12	12	X	X			
934**	Fagus grandifolia	10	10	X	X			
935**	Fagus grandifolia	12	12		X			
936**	Liriodendron tulipifera	7	7	X	X	X		
937**	Liriodendron tulipifera	11	11		X			
938**	Liriodendron tulipifera	15	15					
939**	Liriodendron tulipifera	19	19	X				
940**	Platanus occidentalis	28	28	X	X	X		
941**	Liriodendron tulipifera	15	15				X	0
942**	Liriodendron tulipifera	21	21	X	X			
943**	Liriodendron tulipifera	12	12	X	X	X		
944**	Liriodendron tulipifera	19	19	X	X	X		
945**	Liriodendron tulipifera	8	8	X	X	X		
946**	Robinia pseudoacacia	11	11	X	X	X		
947**	Fagus grandifolia	11	11	X	X			
948	Acer rubrum	18	18					
949**	Fagus grandifolia	13	13	X	X			
950**	Liriodendron tulipifera	16	16				X	0
951**	Platanus occidentalis	13	13				X	0
952**	Liriodendron tulipifera	10	10				X	0
953**	Liriodendron tulipifera	37	37	X	X	X	X	
954**	Liriodendron tulipifera	31	31	X	X			
955**	Liriodendron tulipifera	11	11	X	X			
956**	Acer rubrum	21	21	X	X			
957**	Fagus grandifolia	8	8					
958	Quercus rubra	14	14					
959	Carya glabra	12	12					
960**	Fagus grandifolia	11	11		X			
961**	Fagus grandifolia	11	11					
962**	Fagus grandifolia	21	21	X	X			
963**	Fagus grandifolia	7	7	X	X			
964**	Platanus occidentalis	15	15				X	0
965**	Liriodendron tulipifera	24	24	X	X	X		
966**	Liriodendron tulipifera	12	12	X	X	X		
967**	Platanus occidentalis	10	10	X	X			
968**	Liriodendron tulipifera	23	23	X	X	X		
969**	Liriodendron tulipifera	23	23				X	0
970**	Quercus coccinea	15	15					
971	Carya tomentosa	8	8					
972	Acer rubrum	10	10					
973**	Carya tomentosa	12	12					
974**	Carya tomentosa	14	14					
975**	Liriodendron tulipifera	6	6					
977**	Fagus grandifolia	20	20	X	X			
978**	Carya tomentosa	8	8					
979**	Liriodendron tulipifera	12	12					
980**	Quercus coccinea	19	19	X				
981**	Liriodendron tulipifera	12	12	X	X			
982**	Acer rubrum	7	7		X			
983**	Liriodendron tulipifera	6	6	X	X			
985**	Liriodendron tulipifera	22	22				X	
986	Fagus grandifolia	12	12					
987	Quercus velutina	27	27					
988**	Fagus grandifolia	8	8		X			
989**	Liriodendron tulipifera	20	20					
990**	Liriodendron tulipifera	19	19	X	X	X		
991**	Platanus occidentalis	23	23	X	X	X		
992**	Acer negundo	8	8				X	0
993**	Acer rubrum	7	7				X	0
994**	Acer negundo	9	9				X	0
995**	Acer rubrum	7	7				X	0
996**	Platanus occidentalis	22	22				X	0
997**	Acer negundo	13	13	X	X	X		
998**	Liriodendron tulipifera	22	22	X	X	X		
999**	Acer negundo	6	6		X			
1000**	Platanus occidentalis	11	11	X	X			
4001**	Liriodendron tulipifera	6	6					
4002	Platanus occidentalis	13	13					
4003	Liriodendron tulipifera	13	13					
4004	Acer rubrum	7	7					
4005	Acer negundo	8	8					
4006	Carya glabra	32	32					
4007	Liriodendron tulipifera	16	16					
4008	Carya tomentosa	13	13					
4009**	Acer rubrum	6	6					

TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RAD/DIS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
4016**	Acer negundo	11	11				X	0
4291	Acer rubrum	27	27					
4292	Acer rubrum	10	10					
4293	Acer rubrum	16	16					
4294**	Liriodendron tulipifera	14	14					
4295	Liriodendron tulipifera	32	32					
4296	Acer rubrum	27	27					
4297	Liriodendron tulipifera	29	29					
4298	Platanus occidentalis	28	28					
4299**	Acer rubrum	28	28				X	3
4300**	Juglans nigra	8	8	X	X	X		
4301	Liriodendron tulipifera	28	28					
4302	Acer rubrum	11	11					
4303	Liriodendron tulipifera	36	36					
4304	Platanus occidentalis	18	18					
4305**	Acer rubrum	19	19	X	X	X		
4306**	Acer rubrum	16	16	X	X	X		
4307**	Acer rubrum	20	20				X	0
4308**	Platanus occidentalis	29	29	X	X			
4309	Prunus serotina	11	11					
4310	Prunus serotina	21	21					
4311	Acer rubrum	19	19					
4312	Liriodendron tulipifera	27	27					
4313	Liriodendron tulipifera	37	37					
4314	Prunus serotina	15	15					
4315*	Platanus occidentalis	10	10					
4316**	Liriodendron tulipifera	21	21	X	X	X		
4317**	Acer rubrum	8	8				X	0
4318**	Prunus avium	6	6				X	0
4319**	Liriodendron tulipifera	16	18					
4320	Liriodendron tulipifera	6	6					
4321**	Platanus occidentalis	33	33	X	X	X		
4322**	Liriodendron tulipifera	35	35	X	X	X		
4323	Liriodendron tulipifera	33	33					
4324	Liriodendron tulipifera	24	24					
4325	Liriodendron tulipifera	34	34	X				
4326	Liriodendron tulipifera	28	28					
4327	Liriodendron tulipifera	29	29	X				
4328**	Platanus occidentalis	20	20	X	X	X		
4329**	Morus alba	7	7				X	0
4330**	Platanus occidentalis	14	14	X	X			
4331	Liriodendron tulipifera	29	29	X				
4332**	Acer rubrum	6	6					
4333**	Platanus occidentalis	13	13		X			
4334**	Liriodendron tulipifera	20	20	X	X			
4335**	Liriodendron tulipifera	7	7	X	X	X		
4336**	Liriodendron tulipifera	21	21				X	0
4337**	Liriodendron tulipifera	29	29	X	X	X		
4338**	Liriodendron tulipifera	14	14	X	X	X		
4339	Liriodendron tulipifera	24	24					
4340**	Liriodendron tulipifera	25	25					
4341**	Acer rubrum	8	8					
4342**	Liriodendron tulipifera	15	15					
4343**	Acer saccharum	6	6		X			
4344**	Liriodendron tulipifera	30	30	X	X			
4345**	Liriodendron tulipifera	26	26	X	X	X		
4346**	Acer saccharum	7	7		X			
4347**	Liriodendron tulipifera	21	21				X	0
4348**	Platanus occidentalis	15	15				X	0
4349**	Acer rubrum	8	8				X	0
4350**	Acer rubrum	22	22				X	0
4351**	Platanus occidentalis	11	11				X	0
4354	Liriodendron tulipifera	25	25					
4355	Acer rubrum	7	7					
4356	Liriodendron tulipifera	28	28					
4357	Acer rubrum	10	10					

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

SMALL TREE 6–11"

SIGNIFICANT TREE ≥ 12" < 18"

SIGNIFICANT TREE ≥ 18" < 30"

SPECIMEN TREE ≥ 30"

TREE TO BE REMOVED

CRITICAL ROOT ZONE

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

0 20 40 Feet

SCALE: 1" = 20'

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- 19+60 CROSS SECTION
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL WL WL WL EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT UNIQUE HABITATS
- LOD LIMIT OF DISTURBANCE
- (TBR) TO BE REMOVED
- HVF TREE PROTECTION/HIGH VISIBILITY FENCE
- BENCHMARK FWA903 ELEV=351.33' CONTROL POINT
- TB TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 PROPOSED RIFFLE WEIR
- WSL 1 PROPOSED WRAPPED SOIL LIFT
- RGC 1 PROPOSED RIFFLE GRADE CONTROL
- PRW 1 PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 PROPOSED CASCADE
- BR 1 PROPOSED BOULDER REVETMENT
- VP 1 NO SYMBOL PROPOSED VERNAL POOL
- RS 1 PROPOSED RIP RAP SWALE
- CP 1 PROPOSED CLAY PLUG
- SSF SUPER SILT FENCE
- FL-18 FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB FILTER BAG
- SCE STABILIZED CONSTRUCTION ENTRANCE
- AR MULCH ACCESS ROAD
- AR M MULCH ACCESS ROAD W /TIMBER MATTING
- CHAIN LINK FENCE

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND MELISSA DIANE NESS No. 26599 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:42-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SMP# 2025-00023 SCP# 2025-00017
REVIEWED BY XX

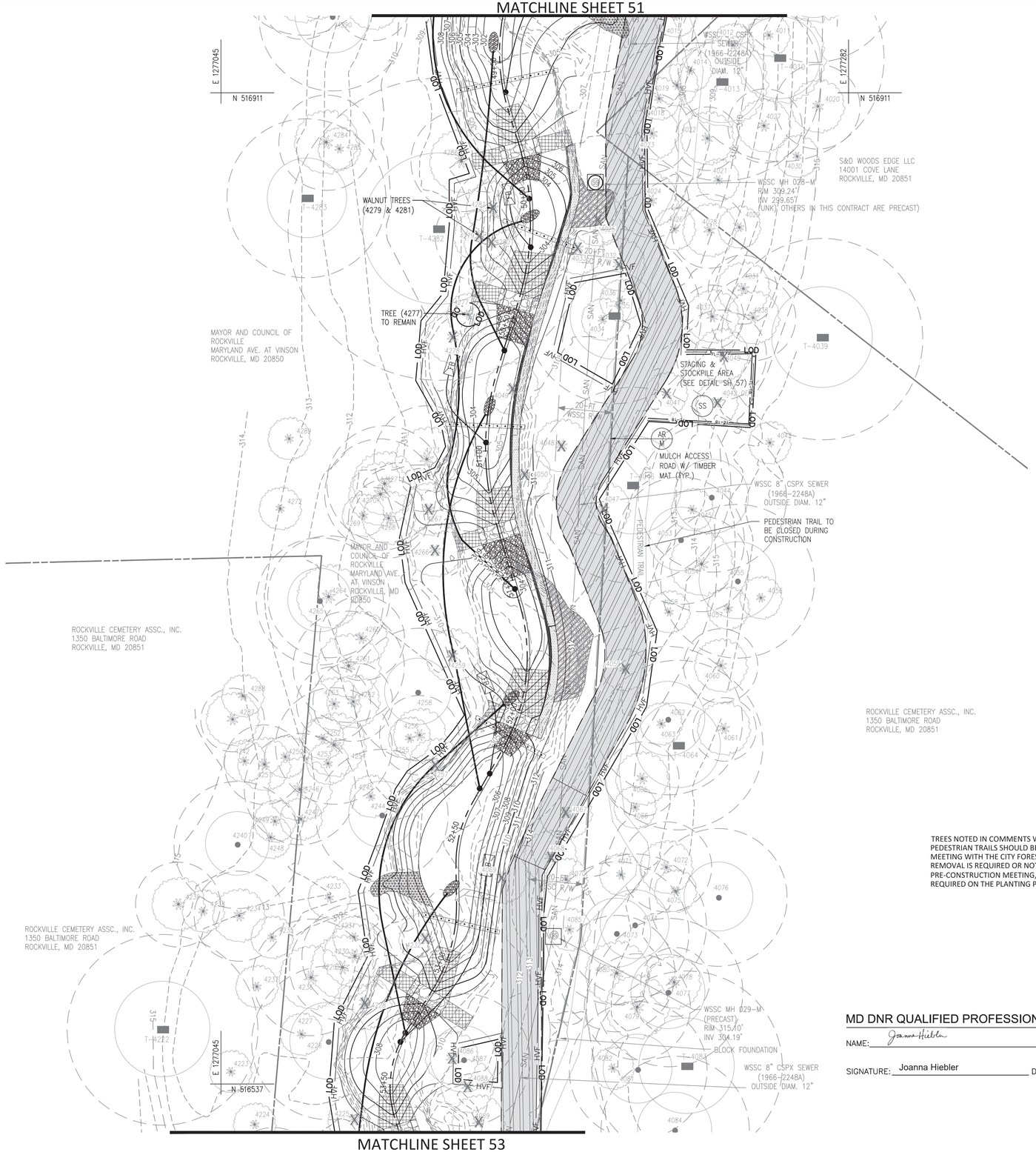
AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 51 OF 84
FILE # G-134

MATCHLINE SHEET 51



MATCHLINE SHEET 53

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
4010**	Quercus velutina	39	39					
4011	Carya glabra	10	10					
4012**	Carya glabra	7	7					
4013**	Liriodendron tulipifera	37	37	X				
4014**	Liriodendron tulipifera	8	8		X			
4015**	Liriodendron tulipifera	8	8	X	X	X		
4018**	Liriodendron tulipifera	6	6	X	X	X		
4019**	Liriodendron tulipifera	6	6		X			
4020	Fagus grandifolia	16	16					
4021	Liriodendron tulipifera	11	11					
4022**	Liriodendron tulipifera	12	12					
4023**	Liriodendron tulipifera	15	15	X	X	X		
4024**	Liriodendron tulipifera	14	14	X	X	X		
4025**	Acer negundo	8	8				X	0
4026**	Prunus avium	7	7	X	X			
4027**	Liriodendron tulipifera	14	14					
4028**	Carya glabra	14	14					
4029**	Juglans nigra	9	9					
4030	Carya glabra	7	7					
4031**	Carya tomentosa	13	13					
4032**	Liriodendron tulipifera	10	10				X	0
4033**	Acer negundo	9	9				X	0
4034**	Liriodendron tulipifera	9	9		X			
4035	Platanus occidentalis	33	33	X	X			
4036**	Liriodendron tulipifera	6	6	X	X	X		
4037**	Platanus occidentalis	12	12	X	X			
4038**	Acer rubrum	16	16	X	X			
4039	Quercus coccinea	38	38	X				
4040**	Juglans nigra	17	17				X	0
4041**	Liriodendron tulipifera	10	10				X	0
4042**	Acer rubrum	7	7				X	0
4043	Acer saccharum	7	7		X			
4044	Platanus occidentalis	28	28	X				
4045**	Acer saccharum	6	6					
4046**	Acer rubrum	37	37	X	X	X		
4047**	Pinus virginiana	16	16				X	0
4048**	Acer negundo	7	7				X	0
4049**	Platanus occidentalis	13	13				X	0
4050**	Morus alba	7	7				X	0
4053**	Platanus occidentalis	24	24	X				
4054**	Liriodendron tulipifera	18	18					
4055	Platanus occidentalis	29	29					
4056	Juglans nigra	7	7					
4057**	Acer rubrum	9	9					
4058**	Liriodendron tulipifera	11	11	X	X			
4059	Prunus serotina	7	7				X	0
4060**	Juglans nigra	14	14					
4061**	Platanus occidentalis	>12	>12					
4062**	Liriodendron tulipifera	28	28	X	X			
4063**	Acer rubrum	7	7		X			
4064**	Platanus occidentalis	32	32	X				
4065**	Liriodendron tulipifera	14	14	X	X			
4066**	Liriodendron tulipifera	11	11					
4067**	Liriodendron tulipifera	18	18				X	0
4068**	Liriodendron tulipifera	15	15				X	0
4069**	Acer rubrum	9	9				X	0
4070**	Liriodendron tulipifera	8	8	X	X			
4071**	Liriodendron tulipifera	6	6					
4072	Liriodendron tulipifera	17	17					
4073	Liriodendron tulipifera	27	27					
4074	Liriodendron tulipifera	27	27					
4075	Prunus avium	6	6					
4076	Acer rubrum	26	26					
4077	Liriodendron tulipifera	28	28					
4078	Acer rubrum	13	13					
4079	Liriodendron tulipifera	20	20					
4080**	Platanus occidentalis	22	22					
4081**	Platanus occidentalis	26	26					
4082	Liriodendron tulipifera	8	8					
4083	Liriodendron tulipifera	36	36					
4084	Platanus occidentalis	28	28					
4085**	Acer negundo	6	6		X			
4086**	Acer negundo	20	20				X	0
4087	Acer rubrum	25	25	X	X	X		
4088**	Acer rubrum	6	6				X	0
4089**	Prunus serotina	12	12				X	0

TREE ID	SCIENTIFIC NAME	SIZE	CRZ	STRESS REDUCTION MEASURES / DISPOSITION				TRF***
		(INCHES DBH)	(FEET RADIUS)	RP	LP	TP	TBR	
4222	Platanus occidentalis	36	36					
4223**	Acer rubrum	9	9					
4224**	Acer saccharum	6	6					
4225**	Acer saccharum	7	7				X	0
4226**	Liriodendron tulipifera	29	29	X	X			
4227**	Acer negundo	9	9		X			
4228**	Acer rubrum	13	13				X	0
4229**	Platanus occidentalis	20	20	X	X			
4230**	Platanus occidentalis	20	20	X	X	X		
4231**	Acer rubrum	9	9	X	X	X		
4232**	Acer negundo	14	14				X	0
4233**	Acer saccharum	7	7		X			
4234	Juglans nigra	17	17					
4235	Acer negundo	8	8					
4236**	Platanus occidentalis	22	22	X	X			
4237	Acer saccharum	6	6					
4238	Juglans nigra	10	10					
4239	Juglans nigra	16	16					
4240	Juglans nigra	24	24					
4242	Platanus occidentalis	10	10					
4244**	Platanus occidentalis	25	25	X	X	X		
4245**	Acer negundo	10	10	X	X			
4246**	Platanus occidentalis	21	21					
4247**	Platanus occidentalis	11	11					
4248	Acer negundo	6	6					
4249	Platanus occidentalis	7	7					
4250	Platanus occidentalis	10	10					
4251**	Prunus serotina	15	15					
4252	Acer negundo	7	7					
4253	Platanus occidentalis	9	9					
4254**	Platanus occidentalis	22	22					
4255**	Juglans nigra	6	6		X			
4256**	Platanus occidentalis	15	15	X	X			
4257**	Acer saccharum	12	12				X	0
4258**	Platanus occidentalis	25	25	X	X			
4259**	Acer saccharum	7	7				X	0
4260**	Platanus occidentalis	16	16					
4261	Platanus occidentalis	21	21					
4262	Juglans nigra	15	15					
4263	Acer saccharum	14	14					
4264	Platanus occidentalis	23	23					
4265**	Acer rubrum	24	24					
4266**	Acer negundo	6	6				X	0
4267**	Morus alba	8	8				X	0
4268**	Juglans nigra	15	15	X	X			
4269**	Acer negundo	11	11		X			
4270**	Platanus occidentalis	21	21	X	X			
4271**	Platanus occidentalis	22	22	X	X			
4272	Acer negundo	9	9					
4273**	Juglans nigra	20	20	X	X	X		
4277**	Fagus grandifolia	7	7	X	X	X		
4278**	Juglans nigra	12	12				X	0
4279**	Juglans nigra	17	17	X	X	X		
4280**	Acer negundo	7	7				X	0
4281**	Juglans nigra	14	14	X	X	X		
4282**	Platanus occidentalis	57	57	X	X	X		
4283	Acer rubrum	30	30					
4284	Liriodendron tulipifera	18	18					
4285	Acer platanoides	6	6					
4286**	Liriodendron tulipifera	19	19	X	X	X		
4287	Platanus occidentalis	12	12					
4288	Acer saccharum	10	10					
4289	Platanus occidentalis	7	7					
4290	Platanus occidentalis	28	28					

ROCKVILLE CEMETERY ASSC., INC.
1350 BALTIMORE ROAD
ROCKVILLE, MD 20851

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

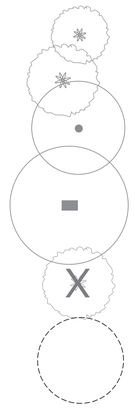
TRF***–INDICATES THE TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES (SRM) KEY
LP = LIMB PRUNING
RP = ROOT PRUNING
TP = TRUNK PROTECTION
TBR= TO BE REMOVED

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA 1+50.00 / 19+60 — PROPOSED BASELINE CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- M–FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL WL / WM WM — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- (TBR) — TO BE REMOVED
- HVF — TREE PROTECTION/HIGH VISIBILITY FENCE
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINT
- TB — TEMPORARY BRIDGE
- CLASS II/III RIP RAP SILL
- RW 1 — PROPOSED RIFFLE WEIR
- WSL 1 — PROPOSED WRAPPED SOIL LIFT
- RGC 1 — PROPOSED RIFFLE GRADE CONTROL
- PRW 1 — PROPOSED PARABOLIC RIFFLE WEIR
- CS 1 — PROPOSED CASCADE
- BR 1 — PROPOSED BOULDER REVETMENT
- VP 1 — NO SYMBOL — PROPOSED VERNAL POOL
- RS 1 — PROPOSED RIP RAP SWALE
- CP 1 — PROPOSED CLAY PLUG
- SSF — SUPER SILT FENCE
- FL-18 — FILTER LOG
- PUMP AROUND DIVERSION
- SANDBAG DIKE
- FB — FILTER BAG
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE



MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

0 20 40 Feet

SCALE: 1" = 20'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

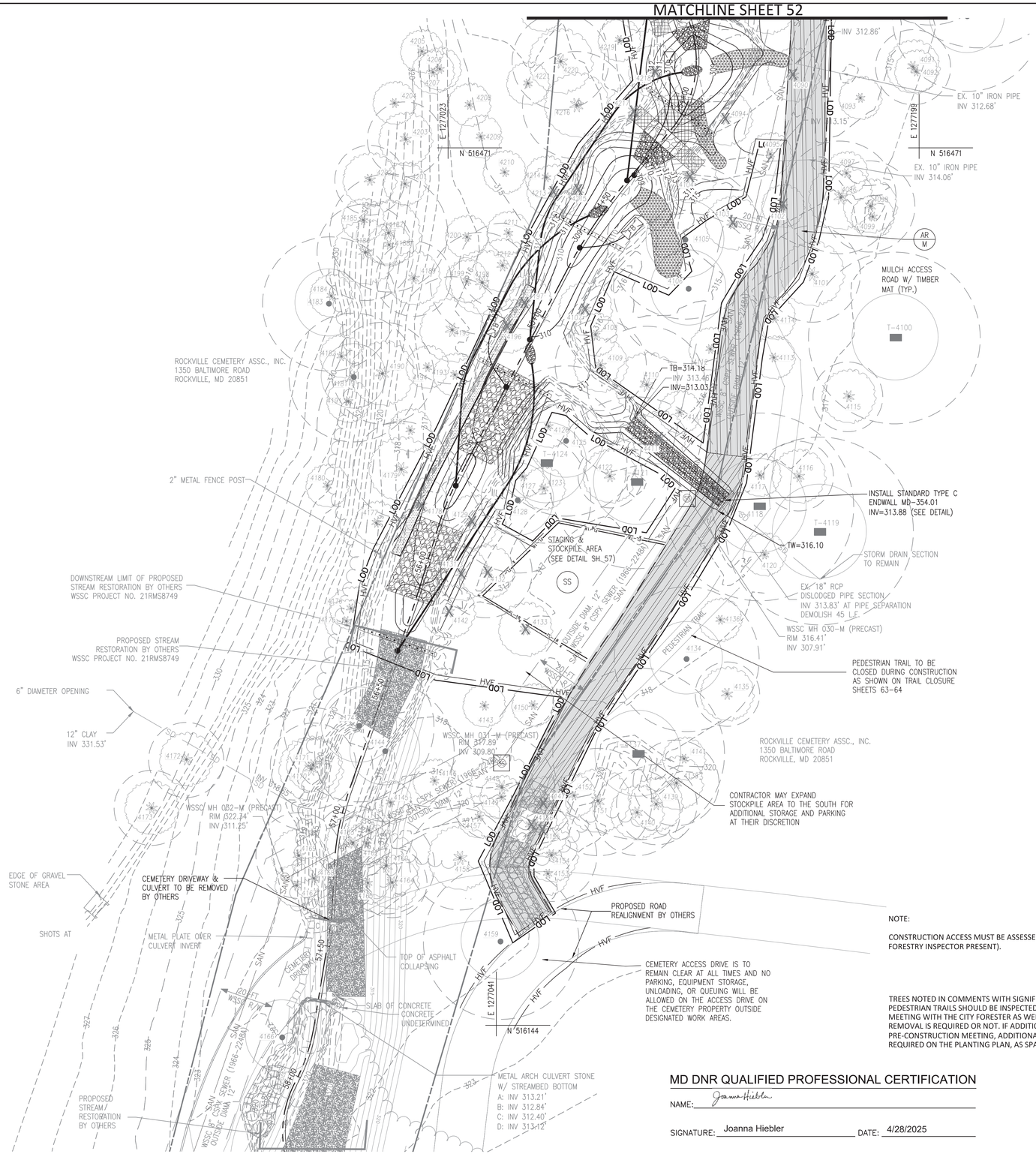
DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:43-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 52 OF 84
FILE # G-134



TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RAD/IUS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
4090**	Acer negundo	10	10				X	0
4091	Liriodendron tulipifera	14	14					
4092	Prunus serotina	6	6					
4093**	Malus sp.	6	6		X			
4094**	Prunus serotina	21	21				X	0
4095**	Acer negundo	8	8	X	X	X		
4096**	Platanus occidentalis	21	21	X	X	X		
4097**	Acer rubrum	10	10	X	X			
4098**	Platanus occidentalis	17	17	X				
4099**	Acer saccharum	7	7					
4100**	Liriodendron tulipifera	32	32					
4101**	Acer rubrum	18	18	X	X	X		
4102**	Liriodendron tulipifera	7	7				X	0
4103**	Acer negundo	7	7					0
4104**	Platanus occidentalis	27	27				X	.3
4105**	Liriodendron tulipifera	29	29	X	X	X		
4106**	Liriodendron tulipifera	28	28		X	X		
4107**	Acer saccharum	7	7				X	0
4108**	Acer saccharum	9	9	X	X	X		
4109**	Platanus occidentalis	17	17	X	X	X		
4110**	Platanus occidentalis	22	22	X	X	X		
4111**	Acer negundo	7	7	X	X	X		
4112**	Acer negundo	9	9	X	X	X		
4113**	Acer negundo	7	7	X	X	X		
4114**	Acer negundo	7	7	X	X	X		
4115**	Liriodendron tulipifera	13	13					
4116**	Acer negundo	13	13					
4117**	Acer negundo	6	6	X	X	X		
4118**	Acer rubrum	35	35	X	X			
4119**	Quercus coccinea	35	35	X				
4120**	Liriodendron tulipifera	6	6					
4121**	Liriodendron tulipifera	32	32	X	X	X		
4122**	Carya glabra	12	12	X	X	X		
4123	Acer saccharum	8	8		X			
4124**	Platanus occidentalis	30	30	X	X	X		
4125**	Platanus occidentalis	28	28	X	X	X		
4126**	Acer saccharum	11	11	X	X	X		
4127**	Acer saccharum	11	11	X	X	X		
4128**	Platanus occidentalis	27	27	X	X	X		
4129**	Acer saccharum	8	8				X	0
4131**	Acer saccharum	12	12				X	0
4132**	Acer saccharum	17	17				X	0
4133	Acer rubrum	10	10				X	0
4134**	Liriodendron tulipifera	27	27	X	X			
4135	Liriodendron tulipifera	12	12					
4136**	Acer rubrum	7	7					
4137**	Acer rubrum	32	32	X				
4138	Liriodendron tulipifera	16	16					
4139	Robinia pseudoacacia	15	15					
4140	Acer negundo	16	16					
4141	Acer rubrum	6	6					
4142**	Acer saccharum	6	6				X	0
4143**	Platanus occidentalis	8	8	X	X			
4144**	Platanus occidentalis	26	26					
4145	Acer negundo	6	6					
4146	Liriodendron tulipifera	11	11					
4147**	Platanus occidentalis	17	17				X	0
4148**	Platanus occidentalis	20	20	X	X	X		
4149**	Platanus occidentalis	9	9	X	X	X		
4150**	Morus alba	7	7	X	X	X		
4151**	Populus deltoides	20	20	X	X			
4152**	Acer negundo	8	8	X	X	X		
4153	Robinia pseudoacacia	6	6	X	X	X		
4154**	Platanus occidentalis	17	17	X	X	X		
4155	Acer negundo	12	12				X	0
4156	Acer negundo	8	8				X	0
4157**	Acer negundo	7	7		X			

TREE ID	SCIENTIFIC NAME	SIZE (INCHES DBH)	CRZ (FEET RAD/IUS)	STRESS REDUCTION MEASURES / DISPOSITION RP	LP	TP	TBR	TRF***
4158**	Acer negundo	19	19	X	X			
4159**	Acer rubrum	29	29	X	X	X		
4160	Catalpa speciosa	18	18					
4161	Acer negundo	7	7					
4162	Acer negundo	7	7					
4163	Salix nigra	14	14					
4164	Paulownia tomentosa	13	13					
4165	Robinia pseudoacacia	7	7					
4166	Platanus occidentalis	27	27					
4167	Acer negundo	10	10					
4168	Ulmus americana	11	11					
4169	Acer negundo	16	16					
4170**	Platanus occidentalis	23	23					
4171**	Acer negundo	16	16					
4172	Juniperus virginiana	14	14					
4173	Acer rubrum	14	14					
4174**	Platanus occidentalis	28	28	X				
4175**	Acer negundo	6	6	X	X	X		
4176**	Acer negundo	9	9	X	X	X		
4177**	Acer saccharum	7	7	X	X	X		
4178**	Acer saccharum	18	18				X	0
4179**	Acer saccharum	18	18	X	X	X		
4180	Acer saccharum	9	9					
4181	Platanus occidentalis	24	24					
4182	Acer saccharum	9	9					
4183	Juglans nigra	25	25					
4184	Acer saccharum	6	6					
4185	Acer saccharum	8	8					
4186	Juglans nigra	18	18					
4187	Platanus occidentalis	22	22					
4188	Acer saccharum	10	10					
4189	Acer saccharum	14	14	X	X			
4190	Acer saccharum	19	19					
4191	Juglans nigra	11	11					
4192**	Acer saccharum	11	11	X	X			
4193**	Acer saccharum	7	7	X	X	X		
4194**	Acer saccharum	10	10		X			
4195**	Catalpa speciosa	20	20	X	X			
4196**	Acer saccharum	6	6				X	0
4197**	Platanus occidentalis	21	21				X	0
4198**	Prunus serotina	19	19	X	X			
4199**	Acer saccharum	6	6		X			
4200	Acer saccharum	8	8					
4201	Acer saccharum	10	10					
4202	Acer saccharum	13	13					
4203	Acer saccharum	14	14					
4204	Acer saccharum	6	6					
4205	Acer saccharum	8	8					
4206	Acer saccharum	6	6					
4207	Acer saccharum	7	7					
4208	Acer saccharum	11	11					
4209	Acer saccharum	7	7					
4210**	Acer saccharum	6	6					
4211**	Acer saccharum	7	7	X	X			
4212**	Juglans nigra	16	16	X	X	X		
4213**	Acer saccharum	14	14				X	0
4214**	Nyssa sylvatica	9	9	X	X	X		
4215**	Acer saccharum	9	9				X	0
4216**	Acer saccharum	20	20	X	X			
4217**	Acer saccharum	8	8				X	0
4218**	Paulownia tomentosa	9	9				X	0
4219**	Acer saccharum	7	7	X	X	X		
4220**	Juglans nigra	18	18					
4221	Acer saccharum	9	9					
4411**	Liriodendron tulipifera	7	7				X	0

** – FIELD SURVEYED. OTHER TREES WERE LOCATED USING GPS.

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STRESS REDUCTION MEASURES (SRM) KEY
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- SANDBAG DIKE
- FB — FILTER BAG
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- AR — MULCH ACCESS ROAD
- AR M — MULCH ACCESS ROAD W /TIMBER MATTING
- x — CHAIN LINK FENCE

- SMALL TREE 6-11"
- SIGNIFICANT TREE ≥ 12" < 18"
- SIGNIFICANT TREE ≥ 18" < 30"
- SPECIMEN TREE ≥ 30"
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE

NOTE:

CONSTRUCTION ACCESS MUST BE ASSESSED DURING PRE-CONSTRUCTION MEETING (WITH FORESTRY INSPECTOR PRESENT).

TREES NOTED IN COMMENTS WITH SIGNIFICANT CRZ IMPACTS THAT ARE WITHIN 100' ANY PEDESTRIAN TRAILS SHOULD BE INSPECTED ON-SITE AT THE TIME OF THE PRE-CONSTRUCTION MEETING WITH THE CITY FORESTER AS WELL AS THE FORESTRY INSPECTOR TO DETERMINE IF REMOVAL IS REQUIRED OR NOT. IF ADDITIONAL TREES ARE TO BE REMOVED PER PRE-CONSTRUCTION MEETING, ADDITIONAL TREE REPLACEMENTS/REFORESTATION WILL BE REQUIRED ON THE PLANTING PLAN, AS SPACE ALLOWS.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

0 20 40 Feet
SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:44-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
TREE SAVE PLAN AND
EROSION AND SEDIMENT CONTROL PLAN

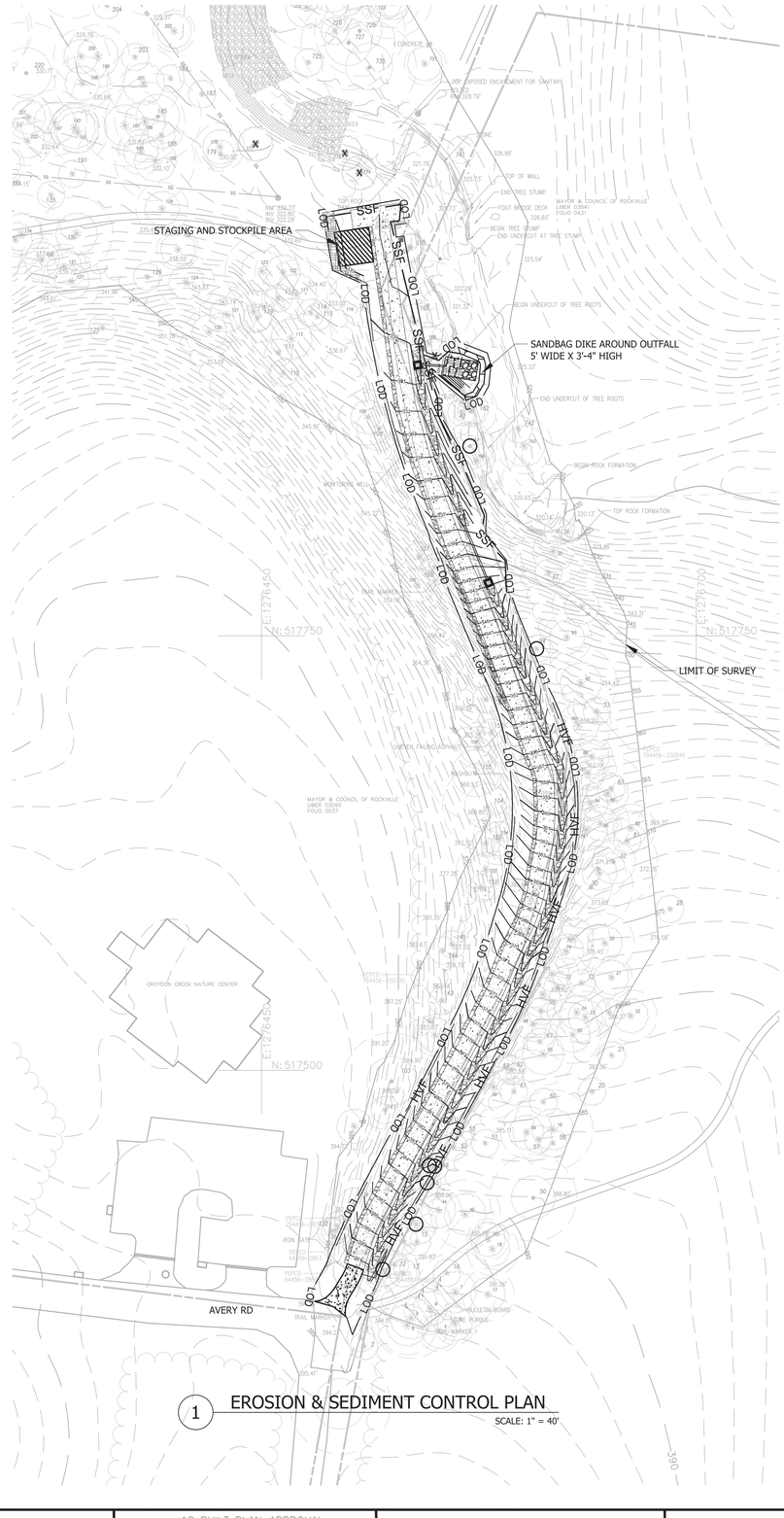
CROYDON CREEK AND CALVIN TRIBUTARY
CALVIN TRIBUTARY REACH 6
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025
SCALE 1"=20'
SHEET NO. 53 OF 84
FILE # G-134

TREE ID	Scientific Name	SIZE (INCHES DBH)	CRZ (FEET RADIUS)	TBR	TPF	TRF
1	*Quercus alba*	29	29			
2	*Quercus velutina*	8	8			
3	*Prunus avium*	11	11			
4	*Fagus grandifolia*	12	12			
5	*Acer rubrum*	12	12			
6	*Fagus grandifolia*	15	15			
7	*Quercus velutina*	23	23			
8	*Fagus grandifolia*	17	17			
9	*Quercus alba*	23	23			
10	*Acer negundo*	6	6		TPF	
11	*Juglans nigra*	12	12		TPF	
12	*Quercus alba*	9	9		TPF	
13	*Prunus serotina*	6	6			
14	*Carya glabra*	6	6		TPF	
15	*Diospyros virginiana*	7	7			
16	*Prunus serotina*	7	7			
17	*Nyssa sylvatica*	15	15			
18	*Nyssa sylvatica*	15	15			
19	*Carya glabra*	23	23			
20	*Fagus grandifolia*	10	10			
21	*Carya glabra*	9	9			
22	*Quercus velutina*	15	15			
23	*Nyssa sylvatica*	15	15			
24	*Quercus alba*	17	17			
25	*Quercus alba*	13	13		TPF	
26	*Quercus alba*	8	8			
27	*Liriodendron tulipifera*	12	12			
28	*Nyssa sylvatica*	10	10			
29	*Carya tomentosa*	17	17			
30	*Quercus alba*	24	24		TPF	
31	*Quercus alba*	15	15		TPF	
32	*Quercus coccinea*	25	25			
33	*Quercus alba*	9	9			
34	*Quercus alba*	17	17			
35	*Carya glabra*	19	19			
36	*Acer rubrum*	6	6			
37	*Quercus alba*	6	6			
38	*Prunus avium*	6	6	TBR		0
39	*Quercus rubra*	31	31	TBR		0
40	*Carya tomentosa*	8	8	TBR		0
41	*Quercus rubra*	27	27		TPF	
42	*Carya tomentosa*	6	6		TPF	
43	*Quercus velutina*	20	20		TPF	
44	*Carya tomentosa*	13	13		TPF	
45	*Prunus avium*	10	10		TPF	
46	*Quercus alba*	20	20			
47	*Morus alba*	8	8	TBR		0
48	*Morus alba*	6	6		TPF	
49	*Robinia pseudoacacia*	11	11		TPF	
50	*Quercus alba*	25	25			
51	*Quercus alba*	10	10			
52	*Acer rubrum*	8	8		TPF	
53	*Quercus velutina*	9	9		TPF	
54	*Morus alba*	7	7	TBR		0
55	*Quercus alba*	22	22	TBR		0
56	*Fagus grandifolia*	17	17			
57	*Carya glabra*	10	10			
58	*Acer rubrum*	6	6			
59	*Quercus alba*	18	18		TPF	
60	*Liriodendron tulipifera*	6	6			
61	*Quercus alba*	11	11			
62	*Quercus alba*	8	8			
63	*Quercus alba*	8	8		TPF	
64	*Liriodendron tulipifera*	12	12	TBR		0
65	*Quercus alba*	18	18			
66	*Quercus coccinea*	16	16			
67	*Fagus grandifolia*	7	7			
68	*Quercus alba*	15	15		TPF	
69	*Liriodendron tulipifera*	15	15	TBR		0
70	*Quercus alba*	7	7		TPF	
71	*Quercus alba*	7	7			
72	*Quercus alba*	10	10			
73	*Quercus alba*	15	15		TPF	
74	*Quercus alba*	15	15		TPF	
75	*Quercus alba*	21	21		TPF	
76	*Liriodendron tulipifera*	10	10	TBR		0
77	*Liriodendron tulipifera*	8	8	TBR		0
78	*Liriodendron tulipifera*	8	8	TBR		0
79	*Quercus coccinea*	20	20		TPF	
80	*Quercus coccinea*	17	17		TPF	
81	*Quercus alba*	7	7			
82	*Quercus alba*	14	14			
83	*Quercus alba*	8	8		TPF	
84	*Quercus alba*	15	15		TPF	
85	*Liriodendron tulipifera*	8	8	TBR		0
86	*Quercus alba*	22	22		TPF	
87	*Quercus velutina*	17	17		TPF	
88	*Quercus alba*	12	12		TPF	
89	*Quercus alba*	18	18	TBR		0
90	*Quercus alba*	19	19		TPF	
91	*Quercus coccinea*	17	17	TBR		0
92	*Quercus rubra*	21	21		TPF	
93	*Quercus alba*	14	14		TPF	
94	*Quercus alba*	11	11		TPF	
95	*Morus alba*	6	6	TBR		0
96	*Morus alba*	8	8	TBR		0
97	*Quercus alba*	14	14			
98	*Carya glabra*	13	13	TBR		0
99	*Quercus alba*	21	21	TBR		0
100	*Quercus rubra*	17	17		TPF	
101	*Carya glabra*	12	12			
102	*Juglans nigra*	15	15			
103	*Acer negundo*	36	36		TPF	
104	*Liriodendron tulipifera*	26	26			
105	*Robinia pseudoacacia*	14	14	TBR		0
106	*Acer negundo*	15	15			
107	*Acer negundo*	7	7		TPF	
108	*Liriodendron tulipifera*	25	25		TPF	
109	*Juglans nigra*	16	16		TPF	
110	*Liriodendron tulipifera*	11	11			
111	*Liriodendron tulipifera*	6	6			
112	*Liriodendron tulipifera*	23	23			
113	*Liriodendron tulipifera*	8	8			
114	*Liriodendron tulipifera*	8	8			
115	*Liriodendron tulipifera*	9	9			
116	*Liriodendron tulipifera*	25	25		TPF	
117	*Liriodendron tulipifera*	20	20			
118	*Liriodendron tulipifera*	18	18			
119	*Acer negundo*	7	7			
120	*Acer negundo*	14	14			
121	*Acer negundo*	16	16			
122	*Fagus grandifolia*	16	16			
123	*Quercus laurifolia*	21	21			
124	*Acer negundo*	16	16			
125	*Acer negundo*	7	7			
126	*Acer negundo*	7	7			
127	*Acer negundo*	17	17			
128	*Acer negundo*	12	12			
129	*Acer negundo*	15	15			
130	*Juglans nigra*	21	21			
131	*Acer negundo*	13	13			
132	*Acer negundo*	12	12			
133	*Juglans nigra*	16	16			
134	*Acer negundo*	23	23			
135	*Acer negundo*	11	11			
136	*Koelreuteria paniculata*	8	8		TPF	
137	*Diospyros virginiana*	8	8			
138	*Acer negundo*	7	7		TPF	
139	*Juglans nigra*	15	15		TPF	
140	*Acer negundo*	9	9	TBR		0
141	*Acer negundo*	11	11		TPF	
142	*Acer negundo*	16	16		TPF	
143	*Acer negundo*	9	9			
144	*Acer negundo*	11	11			
145	*Ailanthus altissima*	8	8			
146	*Acer negundo*	10	10	TBR		0
147	*Robinia pseudoacacia*	11	11	TBR		0
148	*Juglans nigra*	12	12	TBR		0
149	*Juglans nigra*	14	14	TBR		0
150	*Acer negundo*	9	9	TBR		0
151	*Acer negundo*	9	9		TPF	
152	*Acer negundo*	17	17		TPF	
153	*Acer negundo*	6	6		TPF	
154	*Prunus serotina*	15	15		TPF	
155	*Platanus occidentalis*	27	27			
156	*Juglans nigra*	12	12			
157	*Liriodendron tulipifera*	10	10		TPF	
158	*Robinia pseudoacacia*	10	10		TPF	
159	*Prunus serotina*	6	6		TPF	
160	*Robinia pseudoacacia*	8	8		TPF	
161	*Robinia pseudoacacia*	11	11		TPF	
162	*Liriodendron tulipifera*	11	11			
163	*Liriodendron tulipifera*	15	15			
164	*Acer negundo*	7	7	TBR		0
165	*Acer negundo*	8	8	TBR		0
166	*Nyssa sylvatica*	12	12			
167	*Acer negundo*	9	9			
168	*Quercus alba*	26	26			
169	*Acer negundo*	11	11			
170	*Acer negundo*	8	8			

TRF - TREE REPLACEMENT FACTOR FOR TREES BEING REMOVED

STRESS REDUCTION MEASURES KEY
TBR = TO BE REMOVED
TPF = TREE PROTECTION FENCE



1 EROSION & SEDIMENT CONTROL PLAN
SCALE: 1" = 40'

LEGEND

- PROPERTY LINE
- 340 — EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- HYDROLOGIC SOIL BOUNDARY
- EXISTING TREELINE
- EXISTING CONCRETE ROAD & PATH
- LOD — LIMITS OF DISTURBANCE
- PROPOSED RIP-RAP CHANNEL
- PROPOSED ASPHALT PATH
- PROPOSED STORM DRAIN PIPE
- EXISTING PEDESTRIAN TRAIL
- SSF — SUPER SILT FENCE
- TEMPORARY STABILIZATION MATTING
- SANDBAG DIVERSION
- STOCKPILE
- T — T — TYPE II TURBIDITY CURTAIN
- HVF — HIGH VISIBILITY TREE PROTECTION FENCE
- SMALL TREE 6-11"
- SIGNIFICANT TREE 12-18"
- SIGNIFICANT TREE 18-29"
- SPECIMEN TREE 30"+
- X — TREE TO BE REMOVED
- CRITICAL ROOT ZONE
- TREE TO BE INSPECTED

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

40 0 40 80
SCALE: 1" = 40'

STATE OF MARYLAND
MELISSA DIANE WEST
No. 26599
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:45-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD TREE SAVE AND EROSION & SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

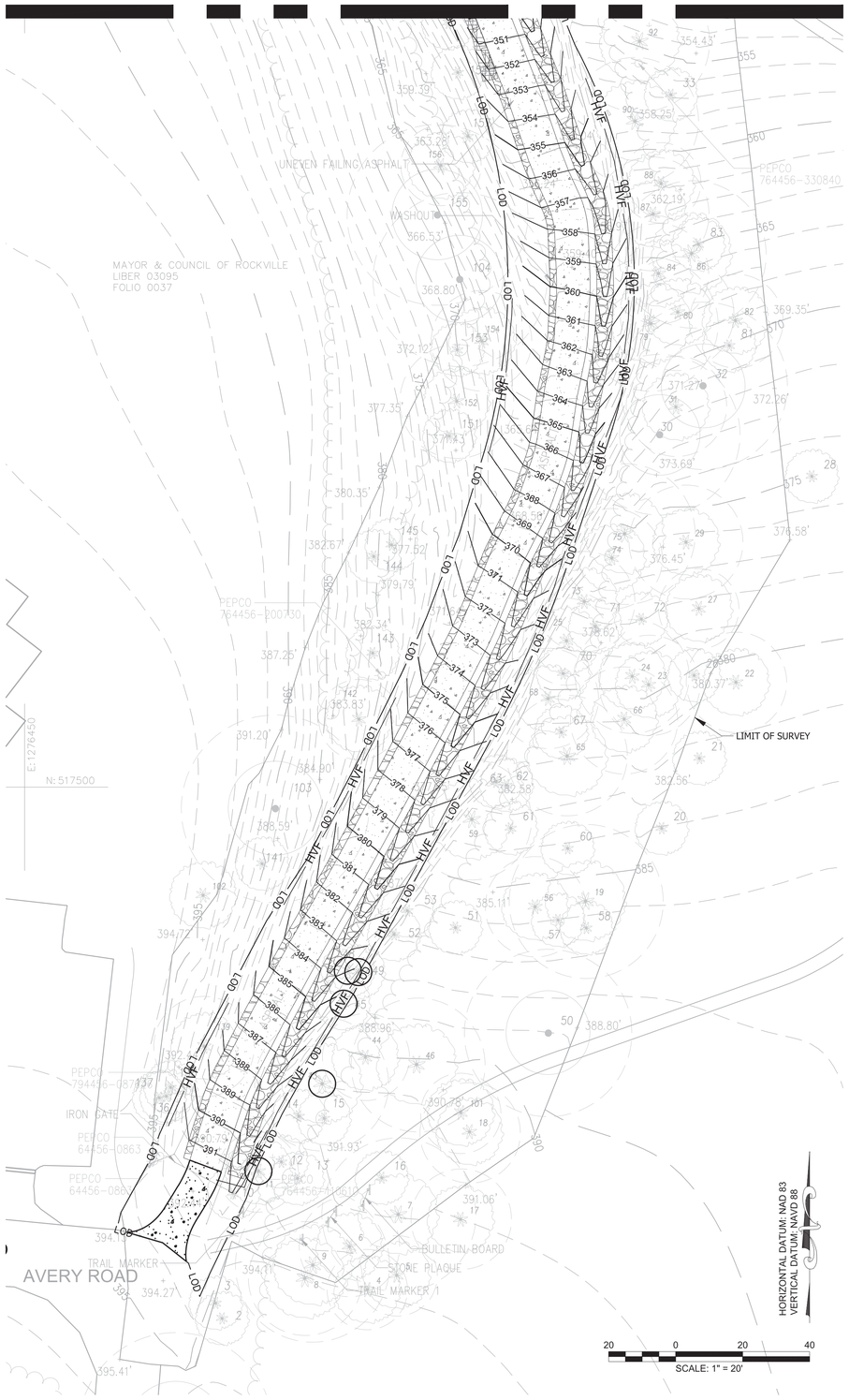
Election District No. 4 City of Rockville, Maryland

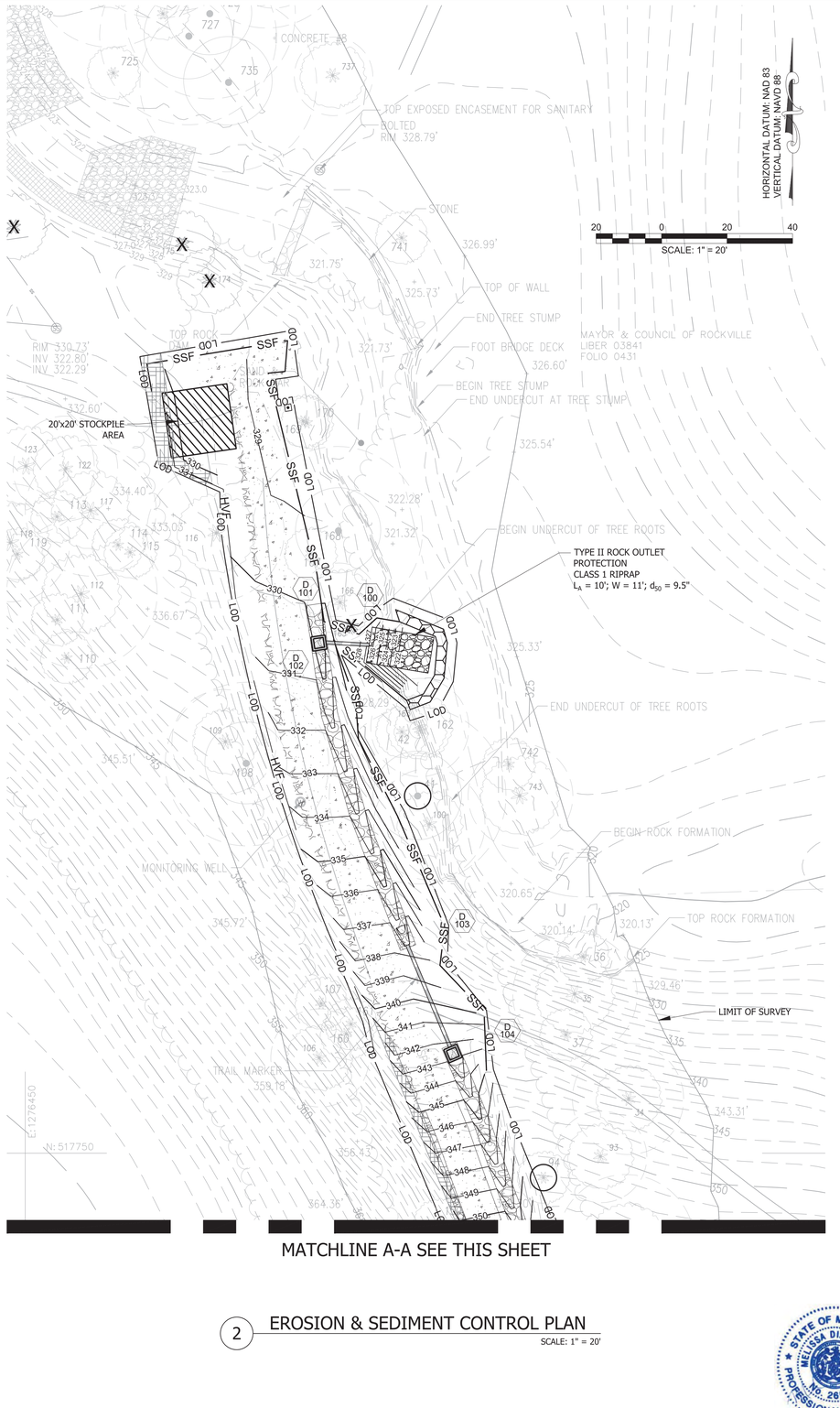
DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=40'

SHEET NO. 54 OF 84

FILE # DPW TO PROVIDE





LEGEND

- PROPERTY LINE
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- SIGNIFICANT TREE 18-29"
- SPECIMEN TREE 30"+
- X TREE TO BE REMOVED
- CRITICAL ROOT ZONE
- TREE TO BE INSPECTED

NOTES

1. ANY EXCESS DIRT THAT CANNOT BE STOCKPILED SHALL BE HAULED AWAY TO A SITE THAT HAS AN ACTIVE AND APPROVED SEDIMENT CONTROL PLAN.
2. TRENCHES SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.
3. TREES THAT ARE WITHIN 100 FEET OF THE CROYDON CREEK OVERLOOK TRAIL AND FACE SIGNIFICANT CRZ IMPACTS SHALL BE INSPECTED ONSITE BY THE CITY FORESTER AND FORESTRY INSPECTOR TO DETERMINE IF THEY POSE A FALL RISK AND REQUIRE REMOVAL.
4. SANDBAG COFFERDAM TO BE INSTALLED DURING A 3-DAY DRY FORECAST WINDOW.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

2 EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 20'

STATE OF MARYLAND · MELISSA DIANE KEIR · No. 28539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau
2025.05.05
17:46:46-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD TREE SAVE AND EROSION & SEDIMENT CONTROL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 55 OF 84

FILE # DPW TO PROVIDE

ROCKVILLE STORMWATER MANAGEMENT STRUCTURE NOTES (MAY 2012)

GENERAL

1. ALL WORK AND MATERIALS FOR CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA), MONTGOMERY COUNTY, MARYLAND DEP RTMENT OF THE ENVIRONMENT STORMWATER DESIGN MANUAL AND NRCS–MD NO. 378 POND STANDARDS/SPECIFICATIONS.

2. CARE OF WATER DURING CONSTRUCTION – ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE APPLICANT SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORK. THE APPLICANT ALSO SHALL FURNISH, INSTALL, OPERATE AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND
F R MAINTAINING THE EXCAVATIONS, FOUNDATION AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED
OR DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS (DPW) FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED ITS PURPOSE, ALL TEMPORARY PROTECTIVE WORK SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET AND SO AS NOT TO INTERFERE, IN ANY WAY, WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORK.

THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND/OR FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATION AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS, WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED. AN EXCEPTION TO THIS WILL BE MADE WHEN COMPACTING A FILTER DIAPHRAGM UNDER A STORMWATER MANAGEMENT (SWM) STRUCTURE BARREL; IT IS ACCEPTABLE TO FLOOD THE SAND DIAPHRAGM WITH WATER TO ENHANCE COMPACTION.

3. SILT AND DEBRIS SHALL NOT BE ALLOWED TO ENTER ANY SWM STORAGE OR CONTROL STRUCTURE. RUNOFF SHALL NOT ENTER STRUCTURES UNTIL THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. ALL OPENINGS SHALL BE PROTECTED WITH APPROPRIATE SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. WHERE STORM DRAINPIPES CONVEY CONSTRUCTION RUNOFF TO SEDIMENT CONTROL TRAPS OR BASINS, THE PIPES SHALL BE FLUSHED CLEAN AT THE END OF CONSTRUCTION PRIOR TO THE REMOVAL OF THE SEDIMENT CONTROL TRAP/BASIN. UNDER NO CIRCUMSTANCES SHOULD WATER BE DISCHARGED WITHOUT USING PROPER DEWATERING PROCEDURES.

4. ALL SAND USED IN SWM FACILITIES MUST BE WASHED SILICA SAND. LIMESTONE SAND IS UNACCEPTABLE.
5. ALL PROPRIETARY STORMWATER MANAGEMENT STRUCTURES AND FACILITIES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

CONCRETE

1. CONCRETE DESIGN SHALL MEET THE REQUIREMENTS OF ACI 350, ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, WITH FREEZING AND THAWING EXPOSURES. CONCRETE MIX SHALL USE TYPE II OR IIA CEMENT, WITH A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI FOR CAST IN PLACE AND 5000 PSI FOR PRE-CAST STRUCTURES. CONCRETE SHALL ALSO MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 420 AND 902.10, MIX NO. 6.

2. THE APPLICANT SHALL SUPPLY DPW WITH CERTIFIED CONCRETE STRENGTH RESULTS FROM AN INDEPENDENT FIRM, STAMPED BY A PROFESSIONAL ENGINEER WHO IS LICENSED IN THE STATE OF MARYLAND.

3. REINFORCING STEEL TO BE ASTM A615, GRADE 60. EPOXY COATED REINFORCING, WHEN SPECIFIED, SHALL CONFORM TO ASTM A775. MINIMUM STEEL SPACING REQUIREMENT TO BE IN ACCORDANCE WITH ACI 350, A_s = 0.003 BH AT MAXIMUM REBAR SPACING OF 12-INCHES. MINIMUM CONCRETE COVER OVER STEEL IS 2- INCHES FOR WALLS OR SLABS; 3-INCHES FOR BASE SLABS CAST AGAINST EARTH OR MUD MAT. WALL THICKNESS AND CLEAR DISTANCE TO REINFORCING SHALL BE AS SHOWN ON THE DRAWINGS. ALL BARS TO BE LAPPED 30 BAR DIAMETERS UNLESS NOTED OTHERWISE. TOP SLAB STEEL SHALL BE LAPPED OVER A SUPPORT WALL. WALLS GREATER THAN 10-INCHES IN THICKNESS SHALL HAVE REINFORCEMENT ON BOTH FACES.

4. CONSTRUCTION JOINTS ON STRUCTURES, INCLUDING SWM RISERS AND WEIR WALLS, SHALL BE LOCATED AS SHOWN OR AS DIRECTED BY DPW. ALL CONSTRUCTION JOINTS SHALL HAVE A 2-INCH X 4-INCH KEYWAY WITH RUBBER, NEOPRENE OR SILICON WATER STOP. BENTONITE WATER STOPS ARE NOT ACCEPTABLE.

5. DPW MUST APPROVE ANY CHANGES TO THE SWM RISER STRUCTURE AT LEAST 48 HOURS PRIOR TO ORDERING OF THE PRE-CAST STRUCTURE. IF A PRE-CAST STRUCTURE IS SUBSTITUTED FOR A DESIGNED CAST-IN-PLACE STRUCTURE, DPW MUST BE PROVIDED NEW ANTI-FLOTATION COMPUTATIONS, SEALED BY PROFESSIONAL ENGINEER WHO IS LICENSED IN THE STATE OF MARYLAND. FOR THE PRE-CAST STRUCTURE IF THE STRUCTURE HAS SMALLER DIMENSIONS THAN THE ORIGINAL STRUCTURE.

CORRUGATED METAL PIPE USED FOR STORMWATER MANAGEMENT STORAGE

1. CORRUGATED METAL PIPE SHALL BE ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE. THE PIPE AND ITS APPURTENANCES SHALL CONFORM TO AASHTO M-36, AASHTO M-274, ASTM A760 AND ASTM A929. PIPE OVER 60-INCHES SHALL BE 12 GAUGE WITH 5-INCH X 1-INCH CORRUGATIONS. ALL PIPE
60-INCHES AND LESS SHALL BE 14 GAUGE WITH 2-2/3-INCH X 1/2-INCH CORRUGATIONS.

2. ALUMINIZED STEEL PIPE THAT COMES IN CONTACT WITH CONCRETE SHALL BE COATED WITH ZINC CHROMATE PRIMER.

3. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILLIMETERS THICKNESS.

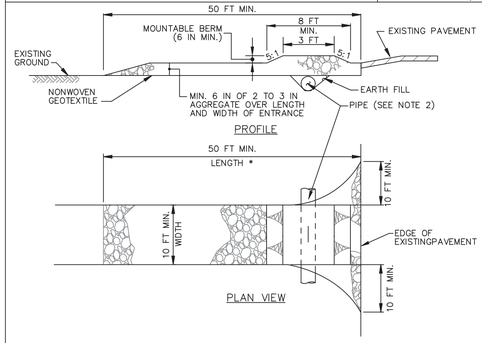
4. ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAINPIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS AND ARISER SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT. ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE
SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED WITH AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN
24-INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE, A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCHES WIDE BY 3/8-INCHES THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2-INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24-INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24-INCH LONG ANNULAR CORRUGATED BAND USING RODS AND LUGS (TWO ON EACH SIDE OF THE LUGS). A 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED ON THE END OF EACH PIPE FOR A TOTAL OF 24-INCHES. GASKETS SHALL BE PRE-STRESSED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS.

5. CORRUGATED METAL PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MSHA SPECIFICATIONS, SECTIONS 303 AND 304. PIPE OVER 60-INCHES SHALL HAVE A MINIMUM 2-FOOT OF COVER.

6. ALL PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY, OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT TO A MINIMUM DEPTH OF 6-INCHES BELOW SUB-GRAD

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*)0 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS AND 100–YEAR FLOODPLAIN

1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
5) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100–YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6) RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100–YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON–PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST–CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9) TO PROTECT AQUATIC SPECIES, IN–STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE I WATERS: IN–STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

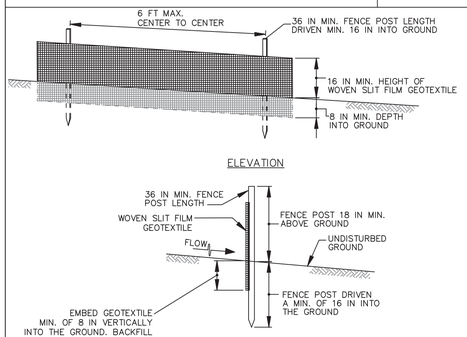
10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

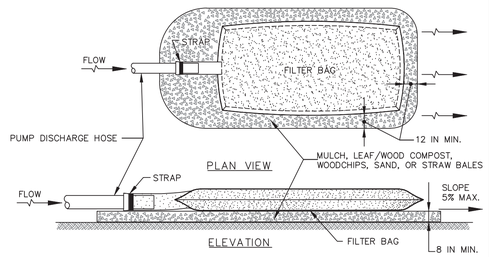
1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "I" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ☒FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

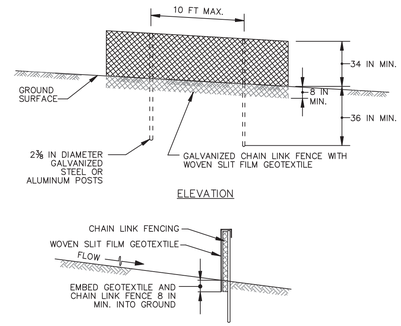
GRAB TENSILE	250 LB	ASTM D–4632
PUNCTURE	150 LB	ASTM D–4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D–4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D–4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D–4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D–4751
SEAM STRENGTH	90%	ASTM D–4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

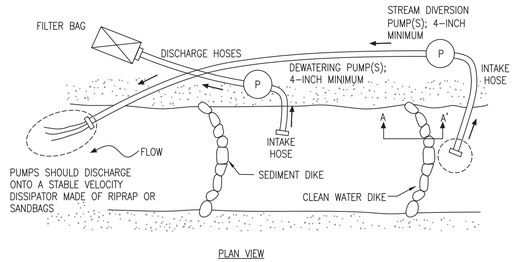


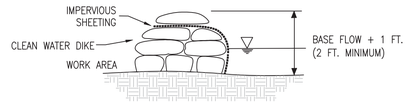
CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

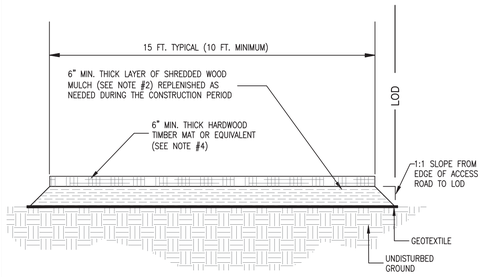
PUMP–AROUND DIVERSION





PUMP–AROUND DIVERSION IMPLEMENTATION SEQUENCE

1. UPON INSTALLATION OF ALL SEDIMENT CONTROL MEASURES AND APPROVAL BY THE SEDIMENT CONTROL INSPECTOR AND THE LOCAL ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT INSPECTION AND ENFORCEMENT DIVISION, THE CONTRACTOR SHOULD BEGIN WORK AT THE UPSTREAM SECTION AND PROCEED DOWNSTREAM BEGINNING WITH THE ESTABLISHMENT OF STABILIZED CONSTRUCTION ENTRANCES. IN SOME CASES, WORK MAY BEGIN DOWNSTREAM IF APPROPRIATE. THE SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED UNLESS THE CONTRACTOR GETS WRITTEN APPROVAL FOR DEVIATIONS FROM THE WMA OR LOCAL AUTHORITY. THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA WHICH CAN BE COMPLETED BY THE END OF THE DAY INCLUDING GRADING ADJACENT TO THE CHANNEL. AT THE END OF EACH WORK DAY, THE WORK AREA MUST BE STABILIZED AND THE PUMP AROUND REMOVED FROM THE CHANNEL. WORK SHOULD NOT BE CONDUCTED IN THE CHANNEL DURING RAIN EVENTS.
2. SANDBAG DIKES SHOULD BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATOR MADE OF RIPRAP OR SANDBAGS.
3. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A DEWATERING BASIN, SEDIMENT BAG, OR OTHER APPROVED SOURCE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.
4. TRAVERSING A CHANNEL REACH WITH EQUIPMENT WITHIN THE WORK AREA WHERE NO WORK IS PROPOSED SHOULD BE AVOIDED. IF EQUIPMENT HAS TO TRAVERSE SUCH A REACH FOR ACCESS TO ANOTHER AREA, THEN TIMBER MATS OR SIMILAR MEASURES SHOULD BE USED TO MINIMIZE DISTURBANCE TO THE CHANNEL. TEMPORARY STREAM CROSSINGS SHOULD BE USED ONLY WHEN NECESSARY AND ONLY WHERE NOTED ON THE PLANS OR SPECIFIED.
5. ALL STREAM RESTORATION MEASURES SHOULD BE INSTALLED AS INDICATED BY THE PLANS AND ALL BANKS GRADED IN ACCORDANCE WITH THE GRADING PLANS AND TYPICAL CROSS–SECTIONS. ALL GRADING MUST BE STABILIZED AT THE END OF EACH DAY WITH SEED AND MULCH OR SEED AND MATTING AS SPECIFIED ON THE PLANS.
6. AFTER AN AREA IS COMPLETED AND STABILIZED, THE CLEAN WATER DIKE SHOULD BE REMOVED. AFTER THE FIRST SEDIMENT FLUSH, A NEW CLEAN WATER DIKE SHOULD BE ESTABLISHED UPSTREAM FROM THE OLD SEDIMENT DIKE. FINALLY, UPON ESTABLISHMENT OF A NEW SEDIMENT DIKE BELOW THE OLD ONE, THE OLD SEDIMENT DIKE SHOULD BE REMOVED.
7. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A SANDBAG DIKE AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STEM PUMP AROUND.
8. IF A TRIBUTARY IS TO BE RESTORED, CONSTRUCTION SHOULD TAKE PLACE ON THE TRIBUTARY BEFORE WORK ON THE MAIN STEM REACHES THE TRIBUTARY CONFLUENCE. CONSTRUCTION IN THE TRIBUTARY, INCLUDING PUMP AROUND PRACTICES, SHOULD FOLLOW THE SAME SEQUENCE AS FOR THE MAIN STEM OF THE RIVER OR STREAM. WHEN CONSTRUCTION

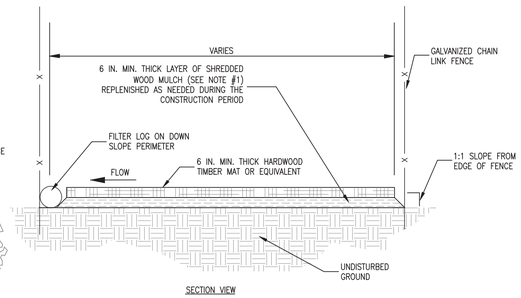


SECTION VIEW WITH TIMBER MAT

1. ACCESS ROUTES TO BE VERIFIED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING. REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY THE CITY.
2. SHREDDED WOOD MULCH SHALL BE DERIVED FROM FRESH OR AGED HARDWOOD OR PINE MATERIALS INCLUDING BARK AND WOOD FRAGMENTS. WOOD CHIPS SHALL BE FREE OF LEAVES, VINES INCLUDING POISON IVY, TRASH AND FOREIGN MATTER, AND MAY INCLUDE CHUNKS UP TO 3 INCHES IN ANY DIMENSION.
3. TIMBER MATS TO BE INSTALLED TO MINIMIZE IMPACTS TO CRITICAL ROOT ZONES, IN WETLANDS, AND OTHER SENSITIVE AREAS; AS INDICATED ON THE PLANS.
4. GEOTEXTILE SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO MULCH PLACEMENT FOR ALL EXISTING TURF, PEDESTRIAN TRAILS, HARDSCAPES OR OTHER MAINTAINED AREAS FOR EASY REMOVAL POST CONSTRUCTION.
5. WHERE ROAD ABUTS TPF OR HVF, GEOTEXTILE SHALL EXTEND 6 INCHES ABOVE THE ROAD SURFACE AND BE ATTACHED TO THE FENCE EVERY 3 FT.

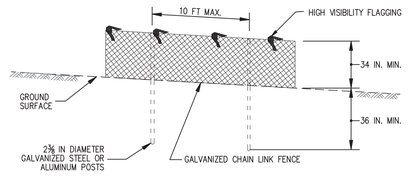
AR M — TEMPORARY CONSTRUCTION MULCH ACCESS ROAD WITH TIMBER MAT

STOCKPILE PLAN VIEW



SECTION VIEW

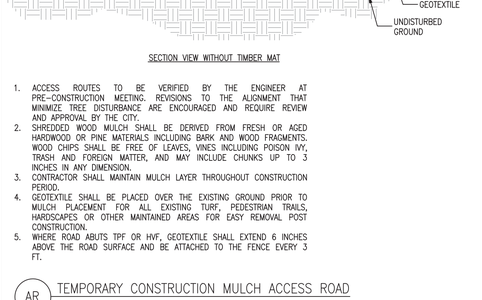
1. SHREDDED WOOD MULCH SHALL BE DERIVED FROM FRESH OR AGED HARDWOOD OR PINE MATERIALS INCLUDING BARK AND WOOD FRAGMENTS. WOOD CHIPS SHALL BE FREE OF LEAVES, VINES INCLUDING POISON IVY, TRASH AND FOREIGN MATTER, AND MAY INCLUDE CHUNKS UP TO 3 INCHES IN ANY DIMENSION.



PERIMETER FENCE PROFILE

1. CONTRACTOR IS TO ENSURE THAT FENCING IS VISIBLE TO EQUIPMENT OPERATORS. DAMAGED FENCING MUST BE REPAIRED AT THE BEGINNING OF EACH WORK WEEK. FAILURE TO MAINTAIN FENCING IN GOOD REPAIR WILL BE CONSIDERED A VIOLATION OF THE SEDIMENT CONTROL PERMIT.

SS — STAGING AND STOCKPILE



SECTION VIEW WITHOUT TIMBER MAT

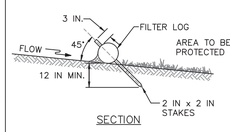
1. ACCESS ROUTES TO BE VERIFIED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING. REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY THE CITY.
2. SHREDDED WOOD MULCH SHALL BE DERIVED FROM FRESH OR AGED HARDWOOD OR PINE MATERIALS INCLUDING BARK AND WOOD FRAGMENTS. WOOD CHIPS SHALL BE FREE OF LEAVES, VINES INCLUDING POISON IVY, TRASH AND FOREIGN MATTER, AND MAY INCLUDE CHUNKS UP TO 3 INCHES IN ANY DIMENSION.
3. CONTRACTOR SHALL MAINTAIN MULCH LAYER THROUGHOUT CONSTRUCTION PERIOD.
4. GEOTEXTILE SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO MULCH PLACEMENT FOR ALL EXISTING TURF, PEDESTRIAN TRAILS, HARDSCAPES OR OTHER MAINTAINED AREAS FOR EASY REMOVAL POST CONSTRUCTION.
5. WHERE ROAD ABUTS TPF OR HVF, GEOTEXTILE SHALL EXTEND 6 INCHES ABOVE THE ROAD SURFACE AND BE ATTACHED TO THE FENCE EVERY 3 FT.

AR — TEMPORARY CONSTRUCTION MULCH ACCESS ROAD

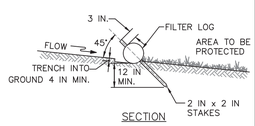
DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

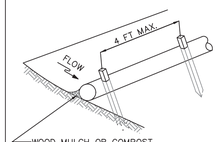
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



SECTION

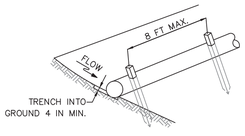


SECTION



UNTRENCHED INSTALLATION

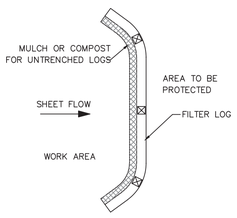
OR



ENTRENCHED INSTALLATION*

*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.

ISOMETRIC VIEW



PLAN

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

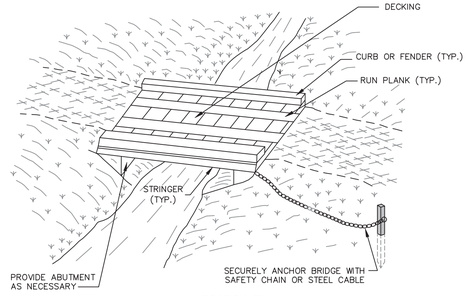
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB



LOCATION PLAN

NOTE:
TIME OF YEAR RESTRICTIONS DO NOT APPLY TO THE CONSTRUCTION OR REMOVAL OF A TEMPORARY ACESS BRIDGE UNLESS THERE IS DISTURBANCE TO THE STREAM CHANNEL.

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.
2. PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.
3. CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.
4. USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
5. SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.
6. SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.
7. INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.
8. ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.
9. AREAS DISTURBED DURING BRIDGE INSTALLATION AND\OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
10. STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
11. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STATE OF MARYLAND — MELISSA DIANE WEBB — NO. 26539 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:46:49-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION
EROSION & SEDIMENT CONTROL DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE NOT TO SCALE

SHEET NO. 57 OF 84

FILE # G-134

ROCKVILLE EROSION AND SEDIMENT CONTROL NOTES (NOVEMBER 2016)

1. THE APPLICANT MUST OBTAIN INSPECTION AND APPROVAL BY THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AT THE FOLLOWING POINTS:
   a. AT THE REQUIRED PRE-CONSTRUCTION MEETINGS
   b. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
   c. DURING INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
   d. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL DEVICES.
   e. PRIOR TO FINAL ACCEPTANCE.
2. ALL EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE PUBLISHED STANDARDS AND SPECIFICATIONS AND THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
3. THE APPLICANT SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY DPW PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES WITHOUT PRIOR PERMISSION FROM DPW.
4. ANY REQUESTS FOR CHANGES TO THE APPROVED SEDIMENT CONTROL PLAN OR SEQUENCE OF CONSTRUCTION MUST BE SUBMITTED TO THE DPW SEDIMENT CONTROL INSPECTOR AND APPROVE BEFORE IMPLEMENTING CHANGES. MAJOR CHANGES WILL REQUIRE A PLAN REVISION.
5. THE APPLICANT SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
6. THE APPLICANT SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATION CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DPW SEDIMENT CONTROL INSPECTOR.
7. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, SWALES, PERIMETER DIKES AND PERMANENT SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN CALENDAR DAYS OF ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. RE-STABILIZATION OR OVERSEEDING WILL BE REQUIRED, IF NECESSARY.
8. THE APPLICANT SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. OTHER ACTIVE CONSTRUCTION AREAS THAT ARE NOT BEING ACTIVELY GRADED (I.E. ROUTES FOR CONSTRUCTION VEHICLES WITHIN THE SITE) MAY BE REQUIRED TO BE STABILIZED AT THE DIRECTION OF THE INSPECTOR. STOCKPILES, WHICH HAVE NOT BEEN USED FOR SEVEN (7) CALENDAR DAYS, SHALL BE STABILIZED THROUGH THE APPLICATION OF SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION METHODS.
9. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE APPLICANT SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
10. THE SITE WORK, MATERIALS, APPROVED SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS, AND ANY REQUIRED TEST REPORTS SHALL BE AVAILABLE, AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF THE CITY OF ROCKVILLE.
11. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
12. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
13. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF DPW, WITHIN 30 CALENDAR DAYS FOLLOWING ESTABLISHMENT OF STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. IF ESTABLISHMENT IS NOT FULL AND UNIFORM AS DETERMINED BY THE DPW SEDIMENT CONTROL INSPECTOR, OVERSEEDING WILL BE REQUIRED. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
14. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN AREAS THAT ARE NOT TO BE MAINTAINED PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
15. THE APPLICANT SHALL INSTALL A SPLASH BLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
16. ALL WATER PUMPED FROM AN EXCAVATION DURING CONSTRUCTION SHALL BE PUMPED EITHER TO SEDIMENT TANKS AND/OR SEDIMENT TRAPS. NO WATER WILL BE PUMPED TO THE STORM DRAIN SYSTEM OR SWALE. DE-WATERING SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
17. FOR FINISHED GRADING, THE APPLICANT SHALL PROVIDE ADEQUATE GRADIENTS TO AS TO: (1) PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN 24 HOURS AFTER THE END OF RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS 48 HOURS AFTER THE END OF A RAINFALL, AND (2) PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS OR OPENINGS.
18. SEDIMENT TRAPS OR BASINS AR NOT PERMITTED WITHIN 20-FEET OF A BUILDING, WHICH EXISTS OR IS UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20-FEET OF A SEDIMENT TRAP OR BASIN.
19. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING TO DIRECT RUNOFF TO INLETS.
20. THE DPW SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
21. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
22. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
23. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE-HALF THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP.
24. SEDIMENT REMOVED FROM TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS IN SUCH A MANNER THAT IT DOES NOT FOUL EXISTING OR PROPOSED STORM DRAINAGE SYSTMES OR AREAS ALREADY STABILIZED. SEDIMENT SHALL NOT BE PLACED WITHIN A FLOOD PLAIN OR WETLAND.
25. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42-INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN EIGHT-FEET, HAVE MESH OPENINGS NO GREATER THAN TWO-INCHES IN WIDTH AND FOUR-INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
26. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE APPROVED SEDIMENT CONTROL PLANS.
27. PROTECT ALL TREES TO BE PRESERVED DURING CONSTRUCTION IN ACCORDANCE WITH THE APPROVED FOREST CONSERVATION PLAN.
28. THE APPLICANT IS RESPONSIBLE FOR ALL ACTIONS OF CONTRACTOR AND SUBCONTRACTORS, INCLUDING REPAIRING DAMAGE TO SEDIMENT CONTROL DEVICES AND EXISTING INFRASTRUCTURE.
29. THE APPLICANT SHALL COMPLY WITH ALL PROVISIONS OF THE NPDES CONSTRUCTION DISCHARGE PERMIT. A COPY OF THE PERMIT AND ALL REQUIRED REPORTS SHALL BE AVAILABLE ON SITE AT ALL TIMES.

MDE STANDARD NOTES AND DETAILS

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

USING VEGETATION AS COVER TO PROTECT EXPOSED SOIL FROM EROSION.

PURPOSE

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS.

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.

VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.
2. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
3. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION

ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES.

PURPOSE

TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

CRITERIA

A. INCREMENTAL STABILIZATION – CUT SLOPES
   1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
   2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
      a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
      b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
      c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
      d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

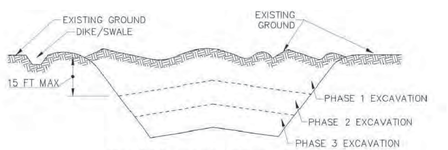
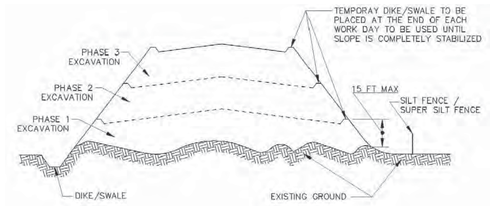


Figure B.1: Incremental Stabilization – Cut

B. INCREMENTAL STABILIZATION – FILL SLOPES
   1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
   2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
   3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
   4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
      a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
      b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
      c. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
      d. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
      e. PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



ROCKVILLE GEOTECHNICAL NOTES

1. THE APPLICANT SHALL BE RESPONSIBLE FOR ALL SUBGRADE INSPECTION AND SOIL COMPACTION TESTING ASSOCIATED WITH ANY WORK WITHIN A CITY RIGHT-OF-WAY, PRIVATE PROPERTY SUBJECT TO A PUBLIC ACCESS EASEMENT, OR PRIVATE PROPERTY SUBJECT TO CITY EASEMENT FOR PUBLIC UTILITIES OR PUBLIC IMPROVEMENTS; AND/OR ANY WORK ASSOCIATED WITH A SEDIMENT CONTROL FACILITY, OR STORMWATER MANAGEMENT PRACTICE. THIS WORK SHALL BE COMPLETED BY OR UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND. FOR THE PURPOSES OF THESE NOTES AND ASSOCIATED APPROVED PLANS, THIS ENGINEER SHALL BE REFERRED TO AS THE GEOTECHNICAL ENGINEER AND SHALL BE AN INDEPENDENT FIRM FROM THE APPLICANT.
2. ANY PLANS SUBJECT TO NRCS-MD POND CODE 378 STANDARDS/SPECIFICATIONS, AS SHOWN ON THE PLANS, SHALL SUPERSEDE THESE NOTES WHEN THESE NOTES ARE LESS STRINGENT OR IN CASE OF CONFLICT. ANY REFERENCE TO THE ENGINEER IN THE 378 STANDARD/SPECIFICATIONS SHALL BE THE PROFESSIONAL ENGINEER WHO STAMPED AND SEALED THE DESIGN PLANS. ANY REFERENCE TO THE GEOTECHNICAL ENGINEER SHALL BE THE GEOTECHNICAL ENGINEER AS DEFINED ABOVE OR THE GEOTECHNICAL ENGINEER WHO COMPLETED CERTAIN ASPECTS OF THE POND DESIGN.
3. ALL INSPECTIONS, TESTS, SUPPORTING DATA, REPORTS, AND CERTIFICATIONS SHALL BE PROVIDED TO THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AND SHALL BE SEALED BY THE GEOTECHNICAL ENGINEER. DAILY INSPECTION REPORTS, IF REQUESTED BY THE CITY, CAN BE PROVIDED WITHOUT BEING IMMEDIATELY SEALED BY THE GEOTECHNICAL ENGINEER. THESE REPORTS SHALL BE COMPILED, REVIEWED, SEALED AND THEN SUBMITTED TO DPW AT A LATER DATE AS AGREED UPON BY THE CITY.
4. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FILL MATERIALS THAT ARE USED FOR THE PROJECT. THE GEOTECHNICAL ENGINEER SHALL OBTAIN SAMPLES OF PROPOSED FILL MATERIALS AND PERFORM ALL REQUIRED TESTING TO DETERMINE THAT FILL MATERIALS ARE IN CONFORMANCE WITH THIS PLAN.
5. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A REPORT THAT CERTIFIES THE SUBGRADE PREPARATION AND FILL/BACKFILL PLACEMENT ARE IN CONFORMANCE WITH THIS PLAN. THE CERTIFICATION APPLIES TO ALL FILL, BACKFILL, AND SUBGRADE OPERATIONS SUBJECT TO THIS PLAN AS DETAILED IN NOTE #1, INCLUDING UTILITY TRENCHES. WHEN CONSTRUCTING NEW ROADWAY PAVEMENT THIS CERTIFICATION REPORT SHALL BE PROVIDED PRIOR TO THE PLACEMENT OF GRADED AGGREGATE BASE (GAB). ALL OTHER CERTIFICATIONS SHALL BE PROVIDED AS REQUESTED BY THE CITY.
6. ALL FILL AND/OR BACKFILL MATERIAL SHALL BE FREE FROM ORGANICS, FROZEN MATERIAL, ROCKS/STONES GREATER THAN ONE AND A HALF INCHES IN ANY DIMENSIONS, WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR OTHER DELETERIOUS MATERIALS; SHALL BE A MINIMUM OF 105 POUNDS PER CUBIC FOOT FOR THE MAXIMUM DRY DENSITY ACCORDING TO AASHTO T-180, METHOD C; AND SHALL NOT HAVE A LIQUID LIMIT GREATER THAN 30 NOR A PLASTICITY INDEX GREATER THAN SIX ACCORDING TO ASTM D-4318. ALL OTHER MATERIALS SHALL MEET THE REQUIREMENTS STATED IN CATEGORY 900 OF THE LATEST EDITION OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION MATERIALS.
7. COMPACT THE MATERIAL THAT IS ONE FOOT BELOW THE TOP OF SUBGRADE TO AT LEAST 92 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T-180. COMPACT THE TOP ONE FOOT TO AT LEAST 97 PERCENT OF THE MAXIMUM DRY DENSITY. WHEN NECESSARY, ADD WATER OR DRY THE LAYER IN ORDER TO COMPACT TO THE REQUIRED DENSITY. GENERALLY THE MATERIAL SHALL BE WITHIN TWO PERCENT OF THE OPTIMUM MOISTURE CONTENT BUT MAY BE OUTSIDE OF THIS RANGE IF APPROVED BY THE GEOTECHNICAL ENGINEER.
8. FILL AND BACKFILL MATERIALS MUST COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE STRUCTURE OR PIPE. FOR STORMWATER MANAGEMENT EMBANKMENTS, THE APPLICANT SHALL SCARIFY EACH LIFT WITH A SHEEPSFOOT ROLLER OR CLAW TO A MIMIMUM DEPTH OF TWO-INCHES PRIOR TO PLACING THE NEXT LIFT. THE APPLICANT SHALL SCARIFY EMBANKMENTS PARALLEL WITH THE CENTERLINE OF THE DAM CORE AND PERPENDICULAR TO THE PRINCIPAL SPILLWAY. BEDDING SHALL BE PROVIDED IN ACCORDANCE WITH DETAILS INDICATED ON THE CONSTRUCTION DRAWINGS. AT NOT TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR-FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL THE APPLICANT DRIVE EQUIPMENT OVER ANY PART OF A CORRUGATED METAL PIPE UNLESS THERE IS A COMPACTED FILL OF 24-INCHES OR GREATER OVER THE STRUCTURE OR PIPE.
9. AT A MINIMUM, COMPACTION TESTS SHALL BE COMPLETED FOR EVERY LIFT OR FILL OR BACKFILL. THE TESTING FREQUENCY SHALL BE AT LEAST ONCE PER 150 LINEAR FEET OF TRENCH OR ONCE PER 1,500 SQUARE FEET OF FILL. AT A MINIMUM, THERE SHALL BE AT LEAST ONE COMPACTION TEST PER LIFT AND AT LEAST TWO COMPACTION TESTS PER DAY. THE GEOTECHNICAL ENGINEER SHALL SUPPLY DPW WITH CERTIFIED COMPACTION TEST RESULTS, INCLUDING CERTIFICATION OF PIPE BEDDING SUBGRADE AND FILL SUBGRADE.
10. PRIOR TO PLACING ANY ROADWAY FILL ON EXISTING GRADES (ORIGINAL GRADE AFTER TOPSOIL HAS BEEN STRIPPED, FILL PREPARED BY OTHERS OUTSIDE OF THIS PLAN OR FILL NOT PREPARED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER), SCARIFY THE MINIMUM TOP EIGHT-INCHES OF SOIL MATERIAL. COMPACT THIS LAYER TO THE COMPACTION REQUIREMENTS IN THESE NOTES. PROOF-ROLL THIS COMPACTED LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF-ROLLING AND DETERMINE IF THE SUBGRADE IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION. SUBGRADE AREAS THAT FAIL PROOF-ROLLING SHALL BE REMEDIATED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
    A. SCARIFYING, MOISTURE CONDITIONING, AND RE-COMPACTION OF THE SUBGRADE MATERIALS.
    B. UNDERCUTTING SOFT OR UNSUITABLE AREAS OF SUBGRADE AND BACKFILLING WITH COMPACTED SELECT BORROW (MSHA SECTION 916).
    C. UNDERCUTTING OF SOFT OR UNSUITABLE AREAS OF SUBGRADE AND PLACING A LAYER OF GEOTEXTILE COVERED BY #MSHA 57 COARSE AGGREGATE (TABLE 901A).

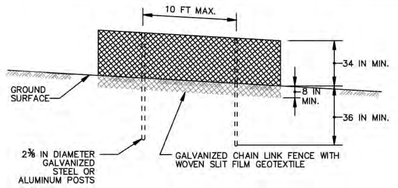
    DPW MAY APPROVE AN ALTERNATE APPROACH FOR SOIL REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER.
11. EXCEPT WHEN SPECIFIED, DO NOT PLACE LAYERS EXCEEDING EIGHT-INCHES UN-COMPACTED DEPTH. PLACE THE MATERIAL IN HORIZONTAL LAYERS ACROSS THE FULL WIDTH OF THE EMBANKMENT. PERFORM ALL ROLLING IN A LONGITUDINAL DIRECTION ALONG THE EMBANKMENT. BEGIN AT THE OUTER EDGES AND PROGRESS TOWARDS THE CENTER. VARY THE TRAVEL PATHS OF TRAFFIC AND EQUIPMENT OVER THE WIDTH OF THE EMBANKMENT TO AID IN OBTAINING UNIFORM COMPACTION.
12. UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. GRADE AND PREPARE THE SUBGRADE SECTION TO THE LINES, GRADES, CROSS SECTIONS AND/OR ELEVATIONS SHOWN ON THE PLANS. AT ALL TIMES, MAINTAIN THE SUBGRADE SURFACE IN SUCH CONDITION AS TO READILY DRAIN.
13. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FORZEN OR CONTAIN FROST OR ICE. VEHICULAR AND EQUIPMENT TRAFFIC SHALL BE DISTRIBUTED ACROSS THE PREPARED SURFACE IN SUCH A MANNER AS TO PREVENT DISTURBANCE. REPAIR ANY DAMAGE TO THE PREPARED SUBGRADE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER MUST APPROVE THE STORAGE OR STOCKPILING OF HEAVY LOADS ON A ROADWAY SUBGRADE.
14. UNSUITABLE EXISTING FILL, SOFT OR LOOSE NATURAL SOILS, ORGANIC MATERIAL, AND RUBBLE SHALL BE STRIPPED TO APPROVED GRADES AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
15. PROTECT ALL STRUCTURES AND UTILITIES FROM ANY DAMAGE IN THE HANDLING, PROCESSING, OR COMPACTING OF EMBANKMENTS OR BACKFILL MATERIAL. EXERCISE CAUTION NEAR ARCHES, RETAINING WALLS, CULVERTS AND UTILITY TRENCHES TO PREVENT UNDUE STRAIN OR MOVEMENT. THE GEOTECHNICAL ENGINEER MAY REQUIRE THE USE OF SPECIALLY SELECTED MATERIAL ADJACENT TO STRUCTURES TO PROTECT AGAINST DAMAGE. DO NOT USE ROCK GREATER THAN ONE AND A HALF INCHES IN ANY DIRECTION ADJACENT TO STRUCTURES.
16. WHEN PLACING AND COMPACTING EMBANKMENT ON HILLSIDES OR AGAINST EXISTING EMBANKMENTS, CONTINUOUSLY BENCH THE SLOPES WHERE THE SLOPE IS STEEPER THAN 4:1 WHEN MEASURED AT RIGHT ANGLES TO THE ROADWAY OR EMBANKMENT CENTERLINE. PERFORM THE BENCHING OPERATION AS THE EMBANKMENT IS CONSTRUCTED IN LAYERS. MAINTAIN A BENCH WIDTH OF AT LEAST FIVE-FEET. BEGIN EACH HORIZONTAL CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDES OF THE PREVIOUS CUT. IF THE MATERIAL CUT FROM THE BENCHES MEETS FILL REQUIREMENTS, COMPACT THIS MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL.
17. WHEN PLACING FILL OVER EXISTING PAVEMENT, THOROUGHLY BREAK UP, SCARIFY, OR REMOVE THE PAVEMENT AS SPECIFIED OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
18. PRIOR TO THE PLACEMENT OF ASPHALT PAVEMENT, PROOF-ROLL THE COMPACTED GRADED AGGREGATE BASE (GAB) LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF ROLLING AND DETERMINE IF THE GAB IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION. GAB AREAS THAT FAIL PROOF-ROLLING SHALL BE REMEDIATED TO THE SATISFACTION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
    A. SCARIFYING, MOISTURE CONDITIONING, AND RE-COMPACTION OF THE GAB MATERIALS.
    B. UNDERCUTTING SOFT OR UNSUITABLE AREAS OF GAB AND REPLACING WITH COMPACTED GAB.

    DPW MAY APPROVE AN ALTERNATE APPROACH FOR GAB REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A SEALED APPROVAL OF THE GAB PRIOR TO PLACEMENT OF ASPHALT. DPW MAY ACCEPT AN ORAL OR EMAIL APPROVAL WHILE THE FINAL APPROVAL AND REPORTS ARE BEING COMPILED AND COMPLETED.

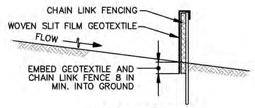
B-4-2 STANDARDS A

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL
—SSF—



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

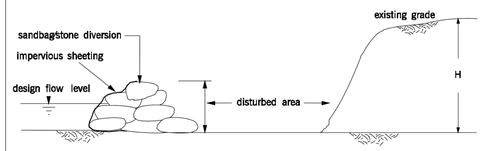
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

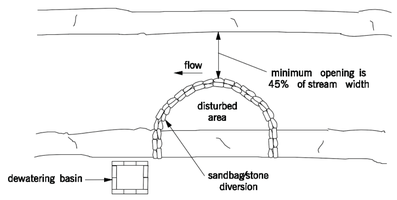
Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAG/STONE DIVERSION

TRANSVERSE SECTION VIEW



H/2 + 1 ft (0.3 m) for projects of duration < 2 weeks;
2-year flood elevation for projects of longer duration

PLAN VIEW



TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE L6 – 8*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE NEES · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:51-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX
REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD EROSION & SEDIMENT CONTROL DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE N.T.S.

SHEET NO. 59 OF 84

FILE # DPW TO PROVIDE

MDE STANDARD NOTES AND DETAILS (CONT.)

B-4-3 STANDARDS AND SPECIFICATIONS
FOR
SEEDING AND MULCHING

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING
1. SPECIFICATIONS
   a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
   a. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
   c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
   d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
   a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
      i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
      ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
   b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
      i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
      ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
   c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
      i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
      ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
      iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
      iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
   a. 100% BIODEGRADEABLE, NET FREE EROSION CONTROL BLANKET (CURLEX NET-FREE OR APPROVED EQUAL).
   b. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
   c. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
      i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
      ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
      iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
      iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
      v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
2. APPLICATION
   a. WHEN NET-FREE EROSION CONTROL BLANKETS ARE USED, USE STAPLING REQUIREMENTS PER MANUFACTURER RECOMMENDATIONS.
   b. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
   c. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
   d. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
3. ANCHORING
   a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
      i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
      ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
      iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

B-4-4 STANDARDS AND SPECIFICATIONS
FOR
TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1* FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3*), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

Temporary Seeding Summary

Hardiness Zone: 7b				Seed Mixture:	Fertilizer Rate	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	Cool Season					
-	Annual Ryegrass (Lolium perenne ssp. multiflorum)	12	Feb 15 to Apr 30, Aug 15 to Oct 31	0.5	436 lb/ac (10 lb/1000 SF)	2 tons/ac (90lb/1000 sf)
-	Oats (Avena sativa)	22	Feb 15 to Apr 30, Aug 15 to Oct 31	1		
-	Wheat (Triticum aestivum)	36	Feb 15 to Apr 30, Aug 15 to Oct 31	1		
	Warm Season					
-	Panicum virgatum (Switchgrass)	10	Feb 15 to Apr 30, May 1 to May 31	0.5		

B-4-5 STANDARDS AND SPECIFICATIONS
FOR
PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES
1. GENERAL USE
   a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3* FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3*) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
   b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
   c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
   d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
   a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
   b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
      i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
      ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
      iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
      iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.

      NOTES:
      SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
   c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURESWESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
   d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
   e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
   a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
   b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
   c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
   d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
   e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
2. SOD INSTALLATION
   a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
   c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
   d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
3. SOD MAINTENANCE
   a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
   b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
   c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ⅓ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

Permanent Seeding Summary

Hardiness Zone: 7b				Seed Mixture:	Fertilizer Rate			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
**	Festuca rubra (Creeping Red Fescue)	10	Feb 15 to Apr 30, Aug 15 to Oct 31	1/4-1/2 in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	Lolium multiflorum (L. perenne var. italicum) (Annual Ryegrass)	10	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Panicum clandestinum (Dichanthelium c.), 'Tioga' (Deertongue, 'Tioga')	10	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Elymus riparius, PA Ecotype (Riverbank Wildrye, PA Ecotype)	8	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Asclepias syriaca (Common milkweed)	5	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Panicum virgatum, 'Shawnee' (Switchgrass, 'Shawnee')	3	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Agrostis perennans, PA Ecotype (Autumn Bentgrass, PA Ecotype)	3	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Carex vulpinoidea, PA Ecotype (Fox Sedge, PA Ecotype)	2	Feb 15 to Apr 30, Aug 15 to Oct 31					
	Chamaecrista fasciculata (Cassia f.), PA Ecotype (Partridge Pea, PA Ecotype)	1	Feb 15 to Apr 30, Aug 15 to Oct 31					

OVERALL SEQUENCE OF CONSTRUCTION

PHASE 1: SHA TRIBUTARY AND UPSTREAM SECTION OF CROYDON CREEK.

PHASE 2: MIDDLE SECTION OF CROYDON CREEK AND AVERY ROAD DRAINAGE IMPROVEMENTS. AVERY ROAD IN ITS CURRENT STATE WILL BE USED AS AN ACCESS ROAD FOR THE CROYDON CREEK STREAM RESTORATION OPERATIONS, AND REGRADING AND STORMWATER MANAGEMENT OF AVERY ROAD WILL OCCUR ONCE CONSTRUCTION ACCESS IS NO LONGER NEEDED. THE LOD ALONG AVERY ROAD CANNOT BE ESTABLISHED BEFORE SEPTEMBER 1.

PHASE 3: LOWER SECTION OF CROYDON CREEK AND CALVIN PARK TRIBUTARY.

PHASE 1 AND PHASE 3 CAN BE DONE CONCURRENTLY.

SEQUENCE OF CONSTRUCTION

PRE-CONSTRUCTION

1. STAKE OUT THE LIMIT OF DISTURBANCE (LOD) AS INDICATED ON THE PLANS (LOD MUST BE STAKED OUT PRIOR TO PRE-CONSTRUCTION MEETING). (7 DAYS)
2. CONDUCT A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCING ANY WORK. PROVIDE AT LEASE 48 HOURS NOTICE TO THE FOLLOWINGS: DPW AREA INSPECTOR LISTED IN THE PERMIT, CITY FORESTRY INSPECTOR AT 240-314-8713, THE SEDIMENT CONTROL INSPECTOR AT 240-314-8879, MD SHA, AND WSSC. NOTIFY MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTION AND COMPLIANCE PROGRAM (410-537-3510) AT LEAST FIVE DAYS PRIOR TO BEGINNING WORK. (1 DAY)
3. CONTACT MISS UTILITY (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION. ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO THE START OF WORK. (1 DAY)
4. VISUALLY FIELD VERIFY EXISTING SITE TOPOGRAPHY AND DRAINAGE PATTERNS FOR SEDIMENT CONTROLS INSTALLATION WITH THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK. (1 DAY)

AVERY ROAD DRAINAGE IMPROVEMENTS

SEQUENCE OF CONSTRUCTION FOR AVERY ROAD

THE FOLLOWING SEQUENCE SHALL SUCCEED THE STEPS OUTLINED IN THE SEQUENCE OF CONSTRUCTION FOR CROYDON CREEK ON SHEET 41. THE ROAD IN ITS CURRENT STATE WILL BE USED AS AN ACCESS ROAD FOR CROYDON CREEK STREAM RESTORATION OPERATIONS, AND REGRADING AND STORMWATER MANAGEMENT WILL OCCUR ONCE CONSTRUCTION ACCESS IS NO LONGER REQUIRED.

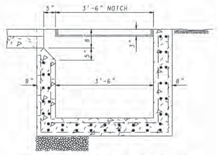
1. CLEAR AND GRUB WITHIN THE AVERY ROAD LOD SHOWN ON THIS SHEET AS NECESSARY FOR THE INSTALLATION OF SEDIMENT AND EROSION CONTROL. (3 DAYS)
2. PERIMETER CONTROLS SUCH AS TEMPORARY CONSTRUCTION FENCE SHOULD ALREADY BE INSTALLED ALONG THE PERIMETER OF THE LOD.
3. BASED ON NOAA 3 DAY DRY WEATHER FORECAST, PLACE SUPER SILT FENCE AT THE DOWNHILL SIDE OF THE ACCESS ROAD AS SHOWN ON SHEET 54.
4. GRADE AND PAVE THE ACCESS ROAD AT THE SLOPES INDICATED ON THE SITE PLAN, SHEETS 21 AND 22. GRADE AND PAVE FROM THE TOP OF THE HILL TO THE BOTTOM. (5 DAYS)
5. BASED ON NOAA 3-DAY DRY WEATHER FORECAST, PLACE A SANDBAG COFFERDAM AROUND THE PROPOSED OUTFALL AS SHOWN ON SHEET 54 AND DEWATER THE AREA WITHIN.
6. EXCAVATE AND PLACE INLET STRUCTURE D-101, OUTFALL STRUCTURE D-100, THE 15"RCP PIPE CONNECTING THEM, AND THE OUTFALL RIPRAP BELOW D-100 AT THE LOCATIONS SPECIFIED ON SHEETS 21 AND 22. THE WORK ZONE SHOULD BE COMPLETE AND 95% STABILIZED WITH SEED AND MULCH AT THE END OF EACH WORK DAY. COFFERDAM MUST BE REMOVED BY THE END OF THE 3-DAY DRY WEATHER FORECAST. (5 DAYS)
7. INSTALL STRUCTURES D-103 AND D-102 AND CONNECTING PIPE. BACKFILL AREAS OVER STORM DRAINS TO MATCH GRADE SHOWN ON SHEET 32.
8. GRADE RIPRAP CHANNEL TO SPECIFIED ELEVATIONS SHOWN ON THE PROFILE, SHEET 32. BACKFILL AREAS OVER STORM DRAINS TO MATCH GRADE SHOWN ON SHEET 32. THE WORK ZONE SHOULD BE COMPLETE AND 95% STABILIZED WITH SEED AND MULCH AT THE END OF EACH WORK DAY.
9. UPON FINAL STABILIZATION AND WITH PERMISSION OF SEDIMENT EROSION CONTROL INSPECTOR, REMOVE SEDIMENT AND EROSION CONTROL DEVICES FROM THE AVERY ROAD AREA; PERMANENTLY STABILIZE ANY REMAINING AREAS AND AREAS DISTURBED BY SUCH REMOVAL. (1 DAY)

CROYDON CREEK

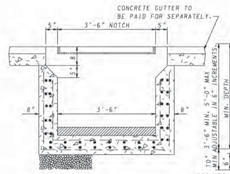
1. INSTALL TREE PROTECTION/HIGH VISIBILITY FENCING. CONTACT THE CITY FORESTRY INSPECTOR AT 240-314-8713 TO OBTAIN APPROVAL. INSTALL TRAIL CLOSED SIGNS FOR THE TRAILS CLOSED AS SHOWN ON THE OVERALL TRAIL PLAN, SHEETS 63. (7 DAYS)
2. CLEAR AND GRUB THE MINIMUM AREA NECESSARY FOR PERIMETER EROSION AND SEDIMENT CONTROL MEASURES INSTALLATION. (5 DAYS)
3. NEAR THE CITY MAINTENANCE BUILDING, DEMOLISH CURB, GARDEN, AND FENCE AS NEEDED. INSTALL SCE AND PERIMETER EROSION AND SEDIMENT CONTROL MEASURES. OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR. UPON COMPLETION OF INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES, PROCEED OTHER EARTH DISTURBANCES AND GRADING. (10 DAYS)
4. CLEAR AND GRUB REMAINDER OF LOD OR PORTIONS THEREOF. (5 DAYS)
5. CONSTRUCT ACCESS ROAD AND TEMPORARY BRIDGES. THE CONSTRUCTION ACCESS ROAD SHALL BE EXTENDED AS WORK PROGRESSES IN THE DOWNSTREAM DIRECTION. (4 DAYS)
6. THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF THE DAY. PROVIDE TEMPORARY STABILIZATION OF ACTIVE WORK AREAS AT THE END OF EACH WORK DAY. AS WORK AREAS ARE COMPLETED, PERFORM PERMANENT STABILIZATION.
7. ESTABLISH STOCKPILE AREAS ACCORDING TO THE PLANS. (3 DAYS)
8. BEGIN WORK AT STATION 62+75 AND PROGRESS DOWNSTREAM.
9. INSTALL THE PUMP-AROUND STREAM DIVERSION AT THE UPSTREAM LIMIT OF WORK. INSTALL THE UPSTREAM AND DOWNSTREAM SANDBAG DIKES PRIOR TO BEGINNING PUMPING. A SEPARATE SECONDARY PUMP SHALL BE USED TO REMOVE ANY WATER THAT REMAINS POOLED WITHIN THE WORK AREA AFTER THE DIVERSION IS INSTALLED AND OPERATING. DISCHARGE FROM DEWATERING ACTIVITIES MUST BE DIRECTED TO AN APPROVED DEWATERING DEVICE, SUCH AS A FILTER BAG. (1 DAY)
10. BEGIN GRADING, CHANNEL SHAPING, AND INSTALLING MATERIALS AS INDICATED ON THE PLANS AND CONSTRUCTION SPECIFICATIONS, WORKING UPSTREAM TO DOWNSTREAM (STATION 62+75 TO 60+64). REMOVE AND STOCKPILE STREAMBED MATERIAL PRIOR TO EXCAVATION. (35 DAYS)
11. BASED ON NOAA 3-DAY DRY FORECAST, AT STATION 62+75 INSTALL THE CONCRETE PIPE ENDWALL (CAST-IN-PLACE) CONCURRENTLY WITH STREAM CHANNEL CONSTRUCTION. (2 DAY)
12. IN THE CHANNEL, REMOVE BROKEN CONCRETE PIPE MATERIALS AND CONCRETE STEP. DEMOLISH EXISTING FOOT BRIDGE AND REMOVE FROM SITE. (4 DAYS)
13. CONTINUE WORKING DOWNSTREAM, MOVING THE PUMP DIVERSION AS NECESSARY.
14. INSTALL NEW PEDESTRIAN BRIDGE AS INDICATED ON THE PLANS AND CONSTRUCTION SPECIFICATIONS. (4 DAYS)
15. ON CROYDON CREEK BEGIN GRADING, WORKING FROM BOTH ENDS OF SITE FROM SITE ACCESS POINTS #1 AND #2. SITE ACCESS POINT #2 SHALL NOT BE USED PRIOR TO SEPTEMBER 1. (190 DAYS)
16. AT STATION 29+30, DEMOLISH THE DAM AND REMOVE THE RUBBLE IN THE STREAM CHANNEL. (3 DAYS)
17. CONTINUE GRADING, CHANNEL SHAPING, AND INSTALLING MATERIALS AS SHOWN ON THE PLANS, MOVING THE PUMP DIVERSION AS NECESSARY.
18. AS WORK IN UPPER SECTION OF PHASE I IS COMP

GENERAL NOTES

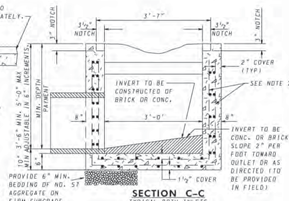
1. CONCRETE TO BE MIX. NO.6 (4500 P.S.I.)
2. REINFORCING WALLS - 2 LAYERS OF 6X6-W4.0xW4.0 WELDED WIRE FABRIC; BASE - 2 LAYERS OF 4X4 - W5.0 X W5.0 WELDED WIRE FABRIC
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. PIPE OPENINGS TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
5. FOR GRATE DETAILS SEE STANDARD MD-378-05. GRATE TO BE AS SHOWN OR FURNISH APPROVED EQUIVALENT.
6. "MINIMUM DEPTH" PAYMENT PER "EACH" INLET INCLUDES DEPTHS UP TO 3'-6" . VERTICAL DEPTH PAYMENT PER "LINEAR FOOT" FOR DEPTHS IN EXCESS OF 3'-6".
7. THIS INLET IS TO BE USED IN MEDIAN DITCHES AND ANY DITCH BEYOND THE SHOULDER AREA. THIS INLET IS NOT TO BE USED IN ROADWAY OR SHOULDER PAVEMENT AREAS OR WHERE BICYCLE OR MOTORCYCLE TRAFFIC IS ANTICIPATED.
8. INLET HAS BEEN DESIGNED FOR MS-25 LOADING, ACCORDING TO ASHTOLRFD BRIDGE DESIGN SPECIFICATIONS.



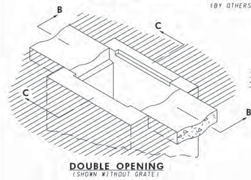
SECTION B-B SINGLE OPENING



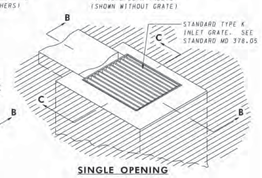
SECTION B-B DOUBLE OPENING



SECTION C-C
(TYPICAL BOTH INLETS (SHOWN WITHOUT GRATE)



DOUBLE OPENING
(SHOWN WITHOUT GRATE)



SINGLE OPENING

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	6-4-84	8-1-84
REVISED	10-1-01	6-23-87
REVISED	10-7-14	9-29-14
REVISED		

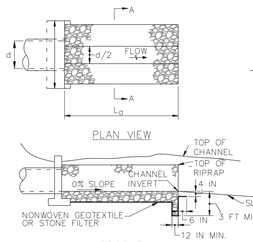
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST STANDARD
SINGLE OR DOUBLE OPENING
TYPE K INLET OPEN-END GRATE
STANDARD NO. MD 378.11

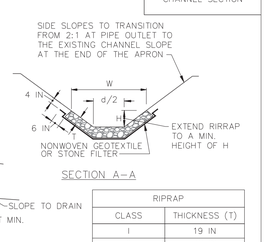
1 TYPE "K" INLET
N.T.S.

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL SECTION





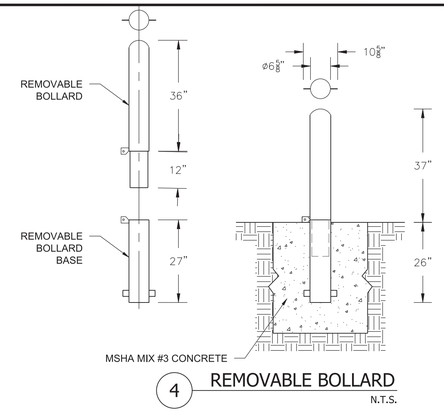
RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

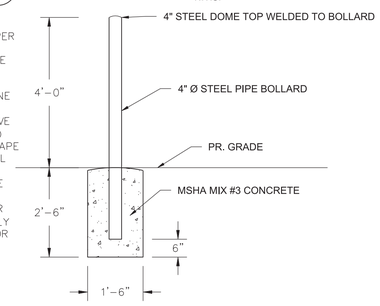
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

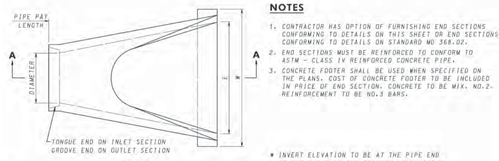


4 REMOVABLE BOLLARD
N.T.S.

NOTES:
1. ALL PIPE TO BE STANDARD WEIGHT AS PER AISC MANUAL.
2. ALL EXPOSED METAL SURFACES SHALL BE PAINTED WITH GALVANIZED PAINT – ONE COAT METAL PRIMER AND TWO COATS HUNTER GREEN RAL 6009 FROM KEYSTONE RIDGE DESIGNS.
3. 18" X 18" YELLOW REFLECTOR (REFLECTIVE PAINT/TAPE) BE SECURELY FASTENED TO EVERY OTHER BOLLARD. IF REFLECTIVE TAPE IS USED, THE MINIMUM ROLL WIDTH SHALL BE 6" AND THERE SHALL BE NO GAPS BETWEEN LAYERS. SIGNAGE WILL NOT BE ALLOWED ON BOLLARDS. END OF ROAD MARKER (MUTCD TYPE 4 OBJECT MARKER OM4-3) SHALL BE INSTALLED SEPARATELY ADHERING TO SIGNAGE REQUIREMENTS FOR HEIGHT, IF REQUIRED.



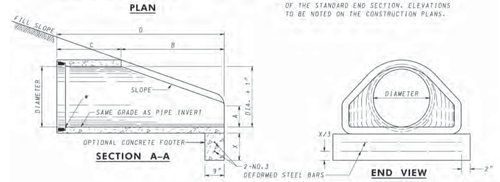
5 BOLLARD
N.T.S.



NOTES

1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD NO 368.02.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO ASTM – CLASS IV REINFORCED CONCRETE PIPE.
3. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2 REINFORCEMENT TO BE NO.3 BARS.

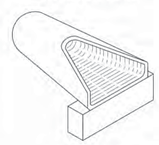
* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS								QUANTITIES	
CONCRETE END SECTION						CONCRETE FOOTER			
DIA.	SLOPE	A	B	C	D	E	W	X	CONC. C.Y.	STEEL LBS.
12"	3:1	4"	2'-0"	4'-0⅝"	6'-0⅝"	2'-0"	3'-0"	12"	0.08	2.01
15"	3:1	6¼"	2'-4"	3'-10⅞"	6'-2"	2'-0"	3'-6"	12"	0.10	2.38
18"	3:1	10⅛"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	0.11	2.76
21"	3:1	9"	3'-0"	3'-11½"	6'-1½"	3'-6"	4'-6"	12"	0.13	3.13
24"	3:1	11"	3'-2"	3'-8"	6'-3"	4'-0"	5'-0"	15"	0.17	3.51
27"	3:1	10⅞"	4'-1½"	3'-0"	6'-1½"	4'-6"	5'-6"	15"	0.19	3.89
30"	3:1	1'-1"	4'-5"	1'-10"	6'-3"	5'-0"	6'-0"	15"	0.21	4.26
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	0.23	4.64
36"	3:1	1'-3½"	5'-3"	3'-1"	8'-4"	6'-0"	7'-3"	15"	0.25	5.20

SEE NOTE 3 ABOVE FOR CONCRETE FOOTER



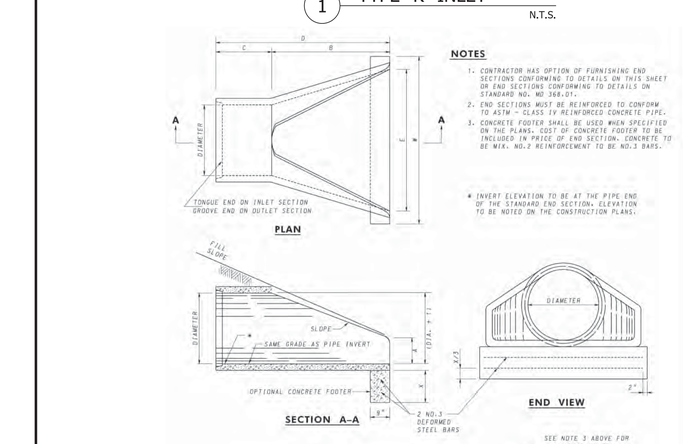
ISOMETRIC VIEW

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	8-28-86	12-12-86
REVISED	3-15-06	4-5-06
REVISED	7-1-09	7-27-09
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD CONCRETE END SECTION
ROUND CONCRETE PIPE
STANDARD NO. MD 368.01

6 CONCRETE END SECTION
N.T.S.



NOTES

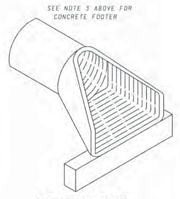
1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD NO. MD 368.01.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO ASTM – CLASS IV REINFORCED CONCRETE PIPE.
3. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2 REINFORCEMENT TO BE NO.3 BARS.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATION TO BE NOTED ON THE CONSTRUCTION PLANS.

QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS								QUANTITIES	
CONCRETE END SECTION						CONCRETE FOOTER			
DIA.	SLOPE	A	B	C	D	E	W	X	CONC. C.Y.	STEEL LBS.
12"	3:1	4"	2'-0"	4'-0⅝"	6'-0⅝"	2'-0"	3'-0"	12"	0.08	2.01
15"	3:1	6¼"	2'-4"	3'-10⅞"	6'-2"	2'-0"	3'-6"	12"	0.10	2.38
18"	3:1	10⅛"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	0.11	2.76
21"	3:1	9"	3'-0"	3'-11½"	6'-1½"	3'-6"	4'-6"	12"	0.13	3.13
24"	3:1	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	5'-0"	15"	0.17	3.51
27"	3:1	10½"	4'-1½"	2'-0"	6'-1½"	4'-6"	5'-6"	15"	0.19	3.89
30"	3:1	1'-0"	4'-6"	1'-7½"	6'-1¾"	5'-0"	6'-0"	15"	0.21	4.26
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	0.23	4.64
36"	3:1	1'-3"	5'-3"	2'-10⅝"	8'-1⅝"	6'-0"	7'-3"	15"	0.25	5.20

SEE NOTE 3 ABOVE FOR CONCRETE FOOTER



ISOMETRIC VIEW

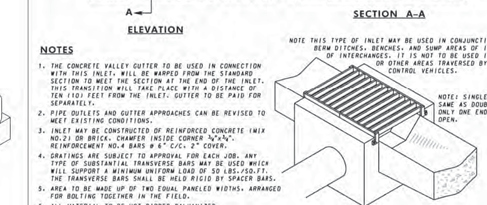
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	8-28-86	12-12-86
REVISED	3-15-06	4-5-06
REVISED	7-1-09	7-27-09
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD CONCRETE END SECTION
ROUND CONCRETE PIPE
STANDARD NO. MD 368.02

7 CONCRETE END SECTION
N.T.S.

NOTE THIS TYPE OF INLET MAY BE USED IN CONJUNCTION WITH BERM DITCHES, BENCHES, AND SUMP AREAS OF INNER LOOPS OF INTERCHANGES. IT IS NOT TO BE USED IN MEDIANS OR OTHER AREAS TRAVERSED BY OUT-OF-CONTROL VEHICLES.



ISOMETRIC VIEW
(DOUBLE OPENING SHOWN)

NOTES

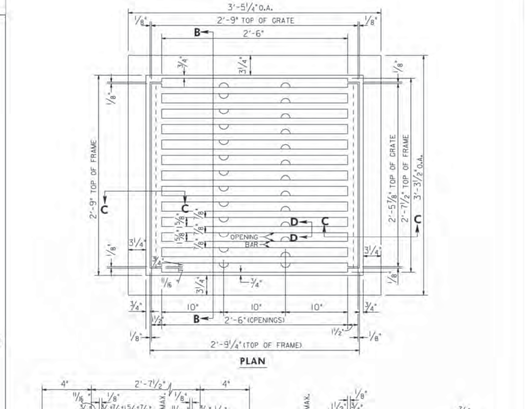
1. THE CONCRETE VALLEY GUTTER TO BE USED IN CONNECTION WITH THIS INLET, WILL BE WARPED FROM THE STANDARD SECTION TO MEET THE SECTION AT THE END OF THE INLET. THIS TRANSITION WILL TAKE PLACE WITH A DISTANCE OF TEN (10) FEET FROM THE INLET. GUTTER TO BE PAID FOR SEPARATELY.
2. PIPE OUTLETS AND GUTTER APPROACHES CAN BE REVISED TO MEET EXISTING CONDITIONS.
3. INLET MAY BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO.2) OR BRICK. CHAMFER INSIDE CORNER ¾"x¾". REINFORCEMENT NO.4 BARS @ 6" C/C. 2" COVER.
4. GRATINGS ARE SUBJECT TO APPROVAL FOR EACH JOB. ANY TYPE OF SUBSTANTIAL TRANSVERSE BARS MAY BE USED WHICH WILL SUPPORT A MINIMUM UNIFORM LOAD OF 50 LBS./SQ.FT. THE TRANSVERSE BARS SHALL BE HELD RIGID BY SPACER BARS.
5. AREA TO BE MADE UP OF TWO EQUAL PANELED WIDTHS. ARRANGED FOR BOLTING TOGETHER IN THE FIELD.
6. ALL MATERIAL TO BE HOT DIPPED GALVANIZED.

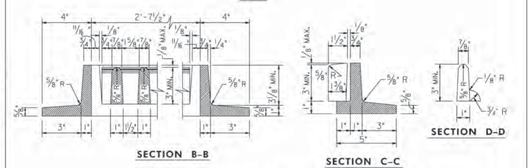
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	1-22-69	2-4-69
REVISED	10-1-01	6-23-87
REVISED		
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD SINGLE OR DOUBLE OPENING
TYPE K INLET OPEN-END GRATE
NON-TRAFFIC AREAS
STANDARD NO. MD 378.03

8 INLET OPEN-END GRATE
N.T.S.





MATERIAL: CAST IRON (SEE LATEST S.H.A. SPECIFICATIONS).

AVERAGE WEIGHTS:
FRAME-270 ± LBS.
GRATE-340 ± LBS.

NOTE: MANUFACTURER TO VERIFY THAT FRAME IS DESIGNED FOR HS-25 LOADING

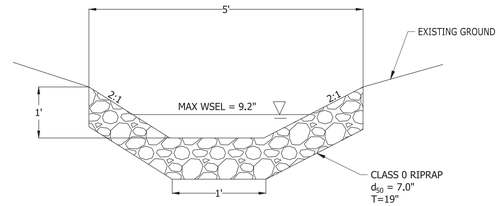
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	2-28-75	5-12-75
REVISED	3-15-06	4-5-06
REVISED	10-7-14	9-29-14
REVISED		

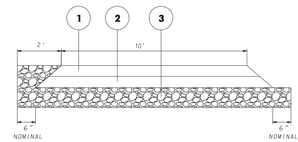
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPE K INLET
SINGLE FRAME AND GRATE
STANDARD NO. MD-378.06

9 INLET FRAME AND GRATE
N.T.S.

2 TYPICAL RIPRAP SWALE SECTION
N.T.S.

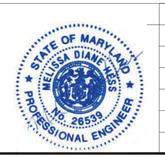


3 PAVEMENT SECTION
N.T.S.



① 1.5" SUPERPAVE ASPHALT MIX 9.5mm FOR SURFACE, PG64S-22, LEVEL 2
② 2.5" SUPERPAVE ASPHALT MIX 19.0mm FOR BASE, PG64S-22, LEVEL 2
③ 4" GRADED AGGREGATE BASE

FLEXIBLE PAVEMENT SECTION - MODIFIED



NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:53-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

AVERY ROAD STORMWATER MANAGEMENT DETAILS

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

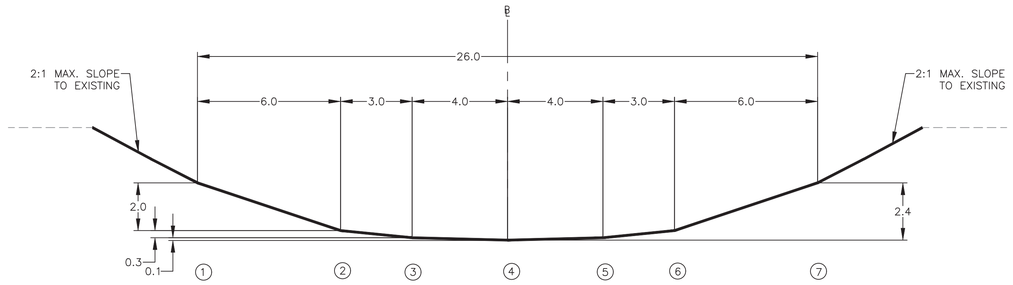
DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE N.T.S.

SHEET NO. 61 OF 84

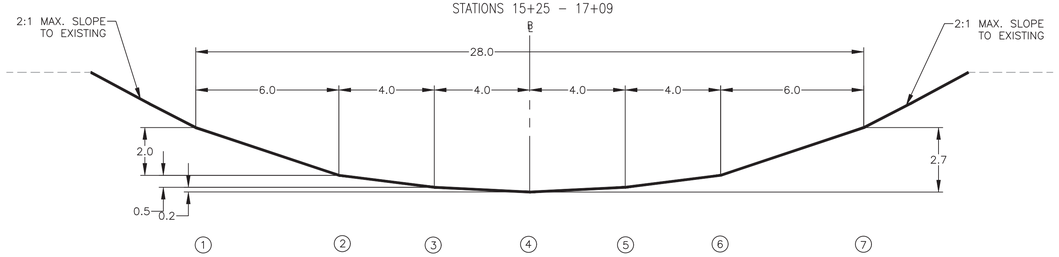
FILE # DPW TO PROVIDE

REACH 2
STATIONS 17+09 – 28+97



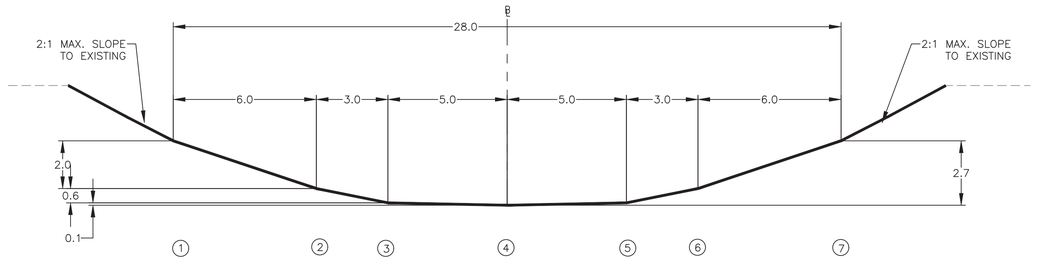
REACH 2 RIFFLE

REACH 3
STATIONS 15+25 – 17+09



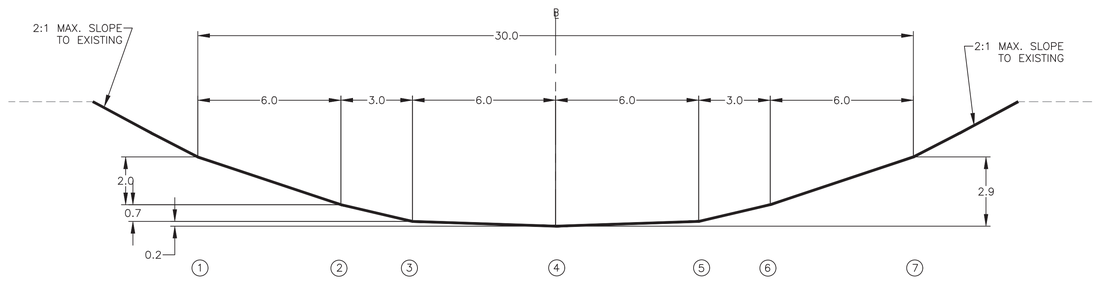
REACH 3 RIFFLE

REACH 4
STATIONS 0+95 – 3+65



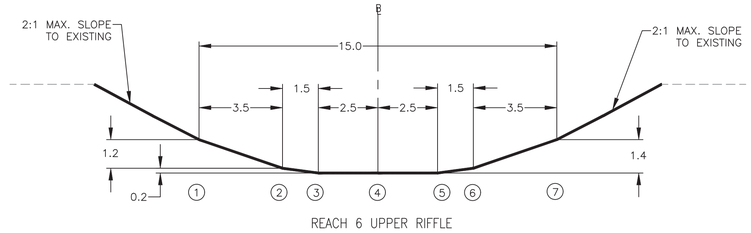
REACH 4 RIFFLE

REACH 5
STATIONS 0+00 – 0+95



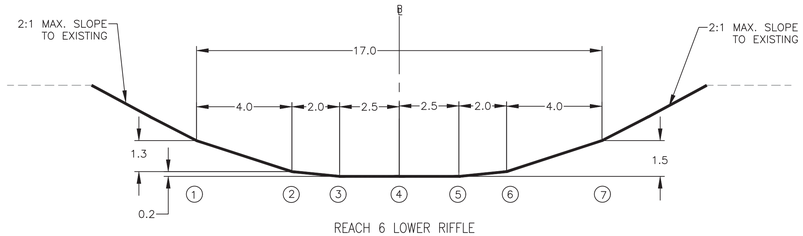
REACH 5 RIFFLE

REACH 6 UPPER
STATIONS 47+50 – 56+30



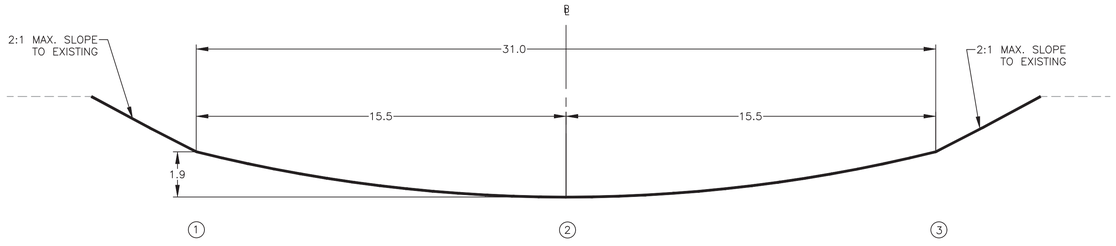
REACH 6 UPPER RIFFLE

REACH 6 LOWER
STATIONS 40+00 – 47+50



REACH 6 LOWER RIFFLE

REACH 7
STATIONS 60+79 – 62+75



PRW RIFFLE

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:54-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX
SMP# 2025-00023
SCP# 2025-00017
REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

TYPICAL CROSS-SECTIONS

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE N.T.S.

SHEET NO. 62 OF 84

FILE # G-134

TRAIL CLOSURE PLAN

PHASE 1

1. CLOSE BRIDGE 1 AND 2
2. CONSTRUCT SHA TRIBUTARY AND BRIDGE 2
3. DURING PHASE 1, LOD ALONG AVERY ROAD TO BRIDGE 4 SHALL NOT BE INSTALLED AND AVERY ROAD SHALL NOT BE USED PRIOR TO SEPTEMBER 1.

PHASE 2

1. ONCE SHA TRIBUTARY AND BRIDGE 2 ARE COMPLETE, ESTABLISH LOD INSIDE HERITAGE TRAIL.
2. ESTABLISH LOD ALONG AVERY ROAD, NO EARLIER THAN SEPTEMBER 1, ALLOWING SUFFICIENT ROOM FOR UNIMPROVED CONNECTION FROM OVERLOOK TRAIL TO BRIDGE 4.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED BASELINE (STA. 1+50.00)
- EXISTING STREAM
- EXISTING WETLANDS (WL / TM)
- UNIQUE HABITATS (FERN / HOLLY HABITAT)
- LIMIT OF DISTURBANCE (LOD)
- EXISTING SANITARY LINE W/ MANHOLE (SAN)
- PROPOSED CONTOURS

WOODLAND TRAIL

PROVIDE SIGN STATING TRAIL CLOSED 0.3 MILES AHEAD

BRIDGE 3

BRIDGE 4

HERITAGE TRAIL

LOD TO BE INSIDE OF HERITAGE TRAIL DURING PHASE 2 OF CONSTRUCTION

BRIDGE 2

BRIDGE 1

PEDESTRIAN TRAIL CLOSED DURING CONSTRUCTION.

PEDESTRIAN TRAIL CLOSED DURING CONSTRUCTION. PROVIDE SIGN THAT PEDESTRIAN TRAIL IS CLOSED DURING CONSTRUCTION.

CONTRACTOR SHALL PROVIDE SUFFICIENT TRAIL ACCESS ADJACENT TO LOD

PEDESTRIAN TRAIL CLOSED DURING PHASE 1 OF CONSTRUCTION.

PEDESTRIAN TRAIL CLOSED DURING CONSTRUCTION.

PROVIDE TRAIL CLOSED SIGN.

AVERY ROAD CLOSED TO PEDESTRIAN TRAFFIC DURING CONSTRUCTION.

OVERLOOK TRAIL

NO CONTRACTOR PARKING OR EQUIPMENT STAGING IN THE NATURE CENTER PARKING LOT.

NO CONTRACTOR PARKING ALONG AVERY ROAD. IT IS TO REMAIN CLEAR AT ALL TIMES.

NO CONTRACTOR / CONSTRUCTION TRAFFIC SHALL TRAVEL PAST OR THROUGH THE MANSION AREA. PROVIDE NO TRUCKS ACCESS SIGN.

PEDESTRIAN ACCESS TO THIS TRAIL HEAD SHALL BE ALLOWED AT ALL TIMES.

0 60 120 Feet

SCALE: 1" = 60'

STATE OF MARYLAND MELISSA DIANE NESS No. 26599 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:46:55-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

OVERALL TRAIL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

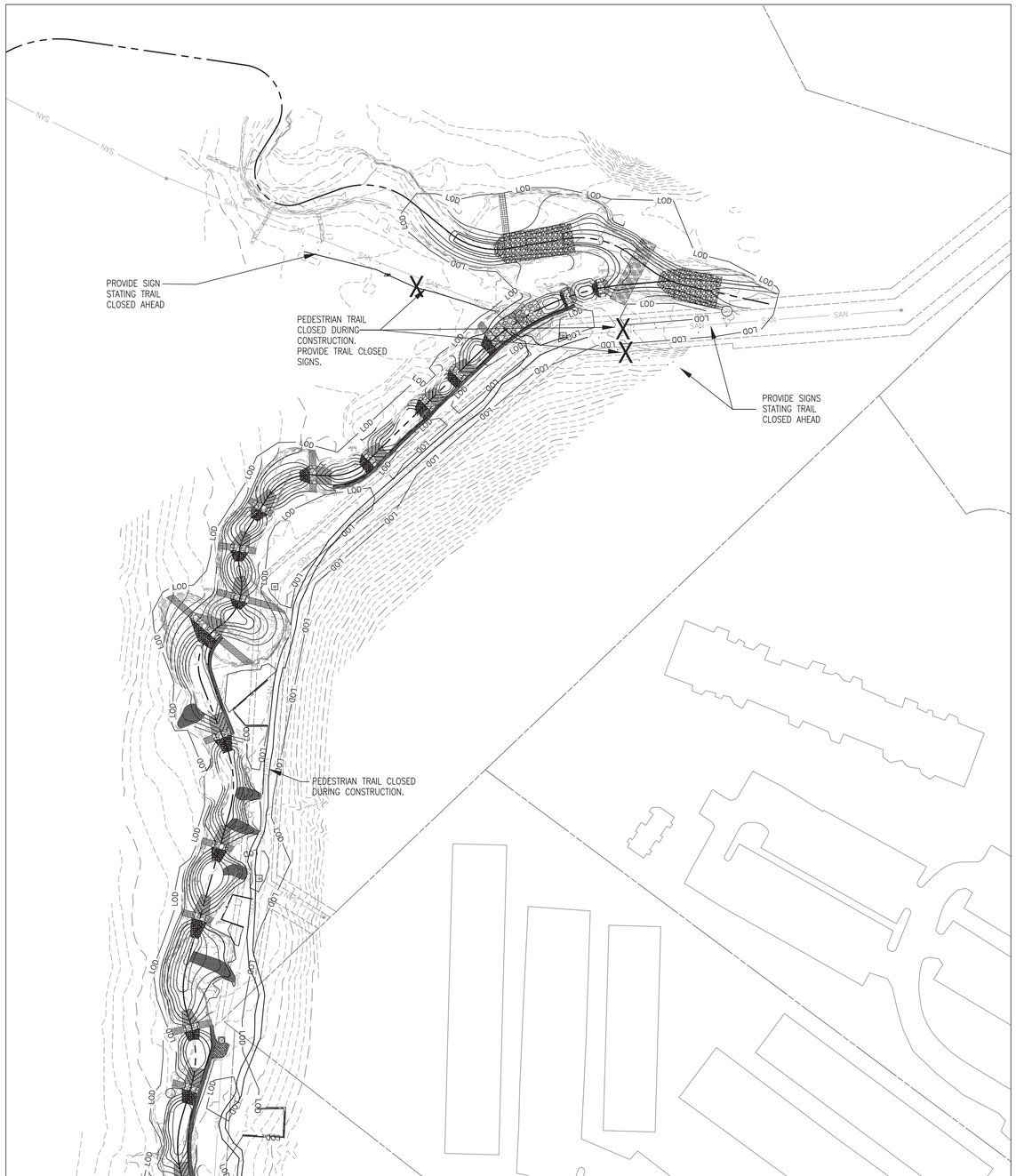
SCALE 1"=60'

SHEET NO. 63 OF 84

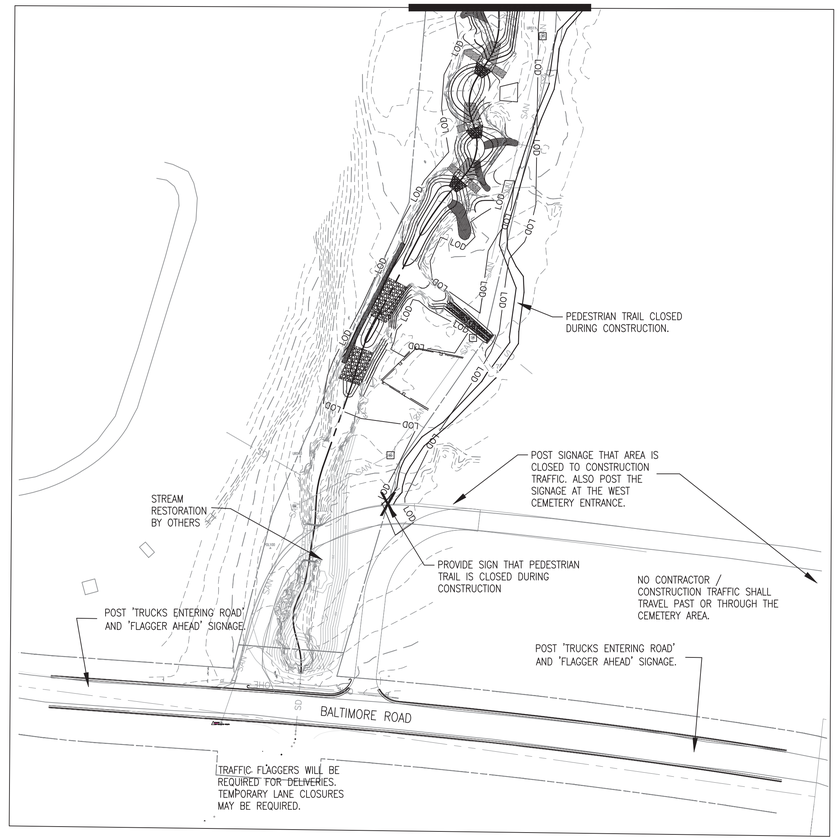
FILE # G-134

Page 298 of 300

I:\NEWPROJ\2019\2019-57-Croydon Creek & Calvin Park Tributary\Civil\Plan\Exhibit\Drawings\Sheets\54-Overall Trail Plan.dwg, 3/13/2025 11:11 AM



MATCHLINE THIS SHEET



LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- EXISTING STREAM
- WL WL WL — EXISTING WETLANDS
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- PROPOSED CONTOURS

0 60 120 Feet

SCALE: 1" = 60'

STATE OF MARYLAND
MELISSA DIANE HESS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

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Craig L. Simoneau
2025.05.05
17:46:56-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

OVERALL TRAIL PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE 1"=60'

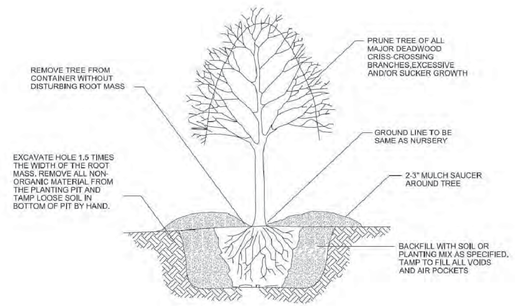
SHEET NO. 64 OF 84

FILE # G-134

PLANTING NOTES

INSTALLATION OF PLANT MATERIAL

1. THE PERMITTEE IS RESPONSIBLE FOR OBTAINING THE APPROVED FOREST CONSERVATION PLAN/LANDSCAPE PLAN AND PROVIDING A COPY TO THE LANDSCAPE CONTRACTOR. THE PERMITTEE SHALL ENSURE THAT THE LANDSCAPE CONTRACTOR CAN SECURE THE PLANTS SHOWN THE FCP/LANDSCAPE PLAN. PLANT SUBSTITUTIONS ARE NOT ALLOWED. IT IS STRONGLY RECOMMENDED THAT PLANT MATERIAL BE SECURED FROM SUPPLIER BY THE PROJECT START DATE.
2. A PRE-PLANTING MEETING IS REQUIRED BEFORE INSTALLATION OF LANDSCAPING, AFFORESTATION, OR REFORESTATION. THE APPLICANT MUST SCHEDULE AN ON-SITE PRE-PLANTING MEETING WITH THE CITY FORESTRY INSPECTOR. ATTENDEES MUST INCLUDE THE PERMITTEE, LANDSCAPE CONTRACTOR, AND FORESTRY INSPECTOR. TREES AND SHRUBS SHALL CONFORM TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
3. THE DEPTHS AND GRADES SHOWN ON PLAN DRAWINGS ARE FINAL GRADES AFTER SETTLEMENT AND SHRINKAGE OF THE ORGANIC MATERIAL. THE CONTRACTOR SHALL INSTALL THE SOIL MIX AT A HIGHER LEVEL TO ANTICIPATE THIS REDUCTION OF VOLUME. ALL GRADES ARE ASSUMED TO BE "AS MEASURED" TO BE PRIOR TO THE ADDITION OF ANY SURFACE COMPOST TILL LAYER OR MULCH OR SOD.
4. ALL DETAILS OF THE PLANTING PLANS REGARDING PLANT QUALITY AND PROPER PLANTING WILL BE DISCUSSED INCLUDING BUT NOT LIMITED TO:
   - A. PLANT QUALITY.
   - B. PROPER FORM FOR SPECIES.
   - C. PROPER RATIO OF CALIPER SIZE/HEIGHT TO CONTAINER SIZE/ROOT BALL SIZE.
   - D. PROPER PRUNING CUTS IF APPLICABLE IN ACCORDANCE WITH CURRENT ANSI A300 PRUNING STANDARDS (GENERALLY THERE SHOULD BE NO RECENT PRUNING).
   - E. NO CO-DOMINANT STEMS OR MULTIPLE TRUNKS (UNLESS APPROVED BY FCP OR BY THE FORESTRY INSPECTOR).
   - F. SOUND GRAFT UNION.
   - G. FREE OF GIRDLING ROOTS, OR THE ABILITY TO REMOVE GIRDLING ROOTS WITHOUT DAMAGING THE TREE.
   - H. TREES SHALL BE HEALTHY, VIGOROUS, INSECT/DISEASE FREE, AND WITHOUT CANKERS/CRACKS OR TRUNK DAMAGE.
5. PROPER INSTALLATION:
   - A. ROOT FLARE NO HIGHER THAN 3 INCHES FROM EXISTING GRADE.
   - B. EXPOSED ROOT FLARE (NOT GRAFT); REMOVING MORE THAN SEVERAL INCHES OF SOIL TO EXPOSE THE ROOT FLARE MAY RESULT IN THE REJECTION OF THE PLANT MATERIAL.
   - C. WIRE BASKETS/TWINE/BURLAP REMOVED FROM AT LEAST THE TOP HALF OF ROOT BALL, OR AS DIRECTED BY FORESTRY INSPECTOR.
   - D. ALL BURLAP OR TWINE REMOVED COMPLETELY.
   - E. NO HOSE AND WIRE; STAKING AND STRAPPING PER CITY PLANTING DETAIL.
   - F. PLANTING HOLE A MINIMUM OF TWICE THE WIDTH OF THE ROOT BALL; COULD BE GREATER. PLANTING DETAIL ASSUMES SOIL HAS BEEN PREPARED PER THE CITY'S SPECIFICATIONS (PLANTING, #3).
   - G. MULCHED PROPERLY; PER CITY PLANTING DETAIL.
   - H. WILDLIFE PROTECTION INSTALLED, IF REQUIRED; TYPE APPROVED BY THE FORESTRY INSPECTOR.
6. TREES NOT COMPLYING WITH THE ABOVE REQUIREMENTS MAY BE REJECTED AT THE DISCRETION OF THE CITY FORESTRY INSPECTOR:
7. TREE PLANTING WILL GENERALLY NOT BE PERMITTED BETWEEN THE DATES OF JUNE 1 AND SEPTEMBER 1, OR WHEN THE GROUND IS FROZEN.
8. TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN 5' OF EXISTING TRAIL.
9. LANDSCAPE CONSTRUCTION SHALL CONFORM TO MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT) STATE HIGHWAY ADMINISTRATION (SHA) STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS UNLESS OTHERWISE SPECIFIED.

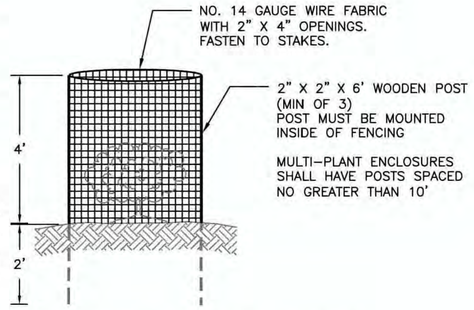


TREE/SHRUB PLANTING - CONTAINER GROWN

N.T.S.

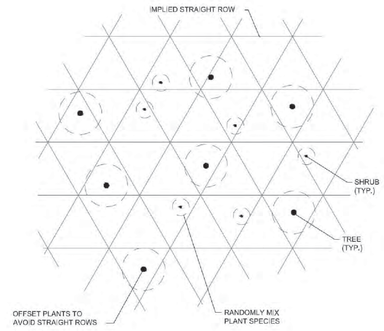
NOTES:

1. HEIGHT OF CAGE SHALL BE 4 FT. (MIN.)
2. CUT A SECTION OF WELDED WIRE FENCING WITH PLANT(S) IN CENTER.
3. CREATE ENCLOSURE BY FASTENING 11-INCH RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6 IN. MIN. ABOVE THE GROUND AT EACH POST) TO EACH POST.
4. DO NOT DAMAGE PLANT DURING INSTALLATION.
5. CAGE SHALL PROVIDE 12" OF SPACE BETWEEN PLANT(S) AND WIRE FABRIC
6. SUBSTITUTIONS MUST BE APPROVED BY THE FOREST CONSERVATION INSPECTOR.
7. CAGES TO BE REMOVED AT THE DIRECTION OF THE FOREST CONSERVATION INSPECTOR.



SHRUB PLANTING/MULTI-STEM TREE/GROUPED PLANTING DEER BROWSE PROTECTION

NOT TO SCALE



NATURALIZED PLANT SPACING

N.T.S.

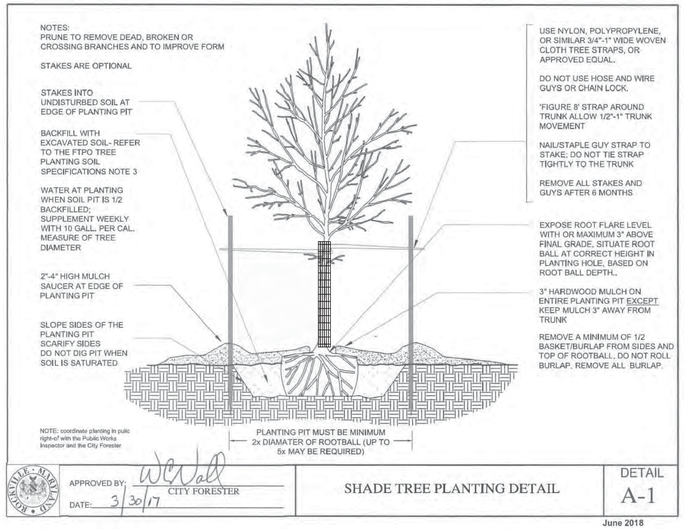
MASTER PLANT SCHEDULE

KEY	SHT 66	SHT 66A1	SHT 66A2	SHT 67	SHT 68	SHT 69	SHT 70	SHT 71	SHT 72	SHT 73	TOTAL QUANTITY ALTERNATIVE # 1	TOTAL QUANTITY ALTERNATIVE # 2	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
														INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
														SHADE TREE				
LT52.5	2	3	1	1	3	2	2	1	1	1	13	15	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	2	2	1	2	3	2	2	1	1	1	14	15	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	3	3	1	2	3	2	2	1	1	1	15	16	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	3	4	0	1	3	2	1	1	1	1	13	14	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QB2.5	3	4	0	1	2	2	1	1	1	0	11	12	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
									SUBTOTAL		**66**	**72**						
														***REFORESTATION AREA (133,187 SF)**				
														SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	12	12	0	7	12	6	18	13	11	7	86	86	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	12	12	0	7	12	6	18	13	11	7	86	86	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	12	12	0	7	12	6	18	13	10	7	85	85	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	12	12	0	7	13	7	17	13	10	9	88	88	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
														SHRUB	**(350 STEMS PER ACRE)**			
LB18H	13	13	0	9	20	17	20	17	21	13	130	130	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	#3 CONT.	12' O.C. MIN.
CA18H	13	13	0	9	20	17	20	17	22	13	131	131	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	#3 CONT.	12' O.C. MIN.
VD18H	14	14	0	9	19	17	19	17	23	15	133	133	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	#3 CONT.	12' O.C. MIN.
HV18H	14	14	0	7	19	17	19	18	23	15	132	132	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	#3 CONT.	12' O.C. MIN.
														EVERGREEN TREE				
IO4H	11	11	0	8	13	8	17	12	10	5	84	84	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
														SEEDING / PERMANENT STABILIZATION				
FME	2,594	2,594	0	1,945	2,947	2,257	3,989	3,111	2,702	1,968	21,513	21,513	SY	FLOODPLAIN SEED MIX				
D-SSM	1,362	1,362	0	933	1,373	933	2,334	1,870	1,406	711	10,922	10,922	SY	SOIL STABILIZATION MATTING				
TE	1,793	940	1,265	130	0	0	0	0	0	0	1,923	2,335	SY	TURFGRASS SEED MIX				
TS	4,144	3,291	1,265	1,867	2,690	1,947	3,989	3,111	2,702	1,968	22,418	22,830	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				
														***TUBELINGS - SOIL LIFT**				
PO	47	47	0	43	50	60	0	0	0	0	200	200	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 X 2 X 9"	CONT.	3' O.C.
BN	47	47	0	43	50	0	0	0	0	0	140	140	EA	BETULA NIGRA	RIVER BIRCH	2 X 2 X 9"	CONT.	3' O.C.
LB	47	47	0	43	49	60	0	0	0	0	199	199	EA	LINDERA BENZOIN	SPICEBUSH	2 X 2 X 9"	CONT.	3' O.C.
CA	47	47	0	44	49	60	0	0	0	0	200	200	EA	CORNUS AMOMUM	SILKY DOGWOOD	2 X 2 X 9"	CONT.	3' O.C.
VD	47	47	0	44	49	59	0	0	0	0	199	199	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	2 X 2 X 9"	CONT.	3' O.C.
HV	46	46	0	44	49	59	0	0	0	0	198	198	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	2 X 2 X 9"	CONT.	3' O.C.

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

FLOODPLAIN SEED MIX

COMMON NAME (BOTANICAL)	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTH	FERTILIZER AND LIME
FORBS		SPRING 3/1 TO 4/30 SUMMER 5/1 to 7/31 FALL 8/1 to 10/30	0.5"	NO FERTILIZER OR LIME TO BE APPLIED
COMMON BONESET (EUPATORIUM PERFOLIATUM)	0.2			
COMMON EVENING PRIMROSE (OENOTHERA BIENNIS)	0.2			
LANCELEAF TICKSEED (COREOPSIS LANCEOLATA)	1.5			
NEW ENGLAND ASTER (SYMPHYOTRICHUM NOVAE-ANGLIAE)	0.2			
NEW YORK IRONWEED (VERNONIA NOVEBORACENSIS)	0.2			
BEARDED BEGGARTICKS (BIDENS ARISTOSA)	0.2			
SWAMP VERBENA (VERBENA HASTATA)	0.7			
SPOTTED TRUMPETWEED (EUTROCHIUM MACULATUM)	0.2			
SWAMP MILKWEED (ASCLEPIAS INCARNATA)	0.4			
GRASSES, SEDGES & RUSHES				
BIG BLUESTEM (ANDROPOGON GERARDII)	2.0			
EASTERN GAMAGRASS (TRIPSACUM DACTYLOIDES)	2.0			
RED FESCUE (FESTUCA RUBRA)	5.0			
BROOMSEDGE (ANDROPOGON VIRGINICUS)	5.0			
PURPLETOP (TRIDENS FLAVUS)	5.0			
DEERTONGUE (DICHANTHELIUM CLANDESTINUM)	5.0			
INDIANGRASS (SORGHASTRUM NASH)	2.0			
RIVER OATS (CHASMANTHIUM LATIFOLIUM)	5.0			
SWITCHGRASS (PANICUM VIRGATUM)	1.0			
VIRGINIA WILDRYE (ELYMUS VIRGINICUS)	0.5			
	36.3 LB/AC			



APPROVED BY: CITY FORESTER
DATE: 3/30/17

SHADE TREE PLANTING DETAIL — DETAIL A-1

June 2018

SHADE TREE PLANTING

N.T.S.

TURFGRASS SEED MIX

SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTH	FERTILIZER RATE (10-20-20)	LIME RATE
TALL FESCUE (LOLIUM ARUNDINACEUM)	60	MAR 1 TO MAY 15 AUG 1 TO OCT 15	0.5"	436 LB/AC (10 LB/1,000 SF)	2 TONS/AC (90 LB/1,000 SF)
KENTUCKY BLUEGRASS (POA PRATENSIS)	40				
PERENNIAL RYEGRASS (LOLIUM PERENNE)	20				
	120 LB/AC				

MITIGATION SUMMARY
REFORESTATION PROVIDED : 3.1 ACRES
(DOES NOT INCLUDE SOIL LIFT AND SHRUB ONLY AREAS)

INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

REQUIRED (ALTERNATIVE 1): 66
PROPOSED (ALTERNATIVE 1): 66

REQUIRED (ALTERNATIVE 2): 72
PROPOSED (ALTERNATIVE 2): 72

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND · MELISSA DIANE VESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:58-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE NTS

SHEET NO. 65 OF 84

FILE # DPW TO PROVIDE

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SOIL LIFT + TUBELINGS + FLOODPLAIN SEED MIX
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP — FEMA 100 YEAR FLOODPLAIN
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL / WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- HVF — TREE PROTECTION FENCE
- HVF — HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS

MATCHLINE THIS SHEET

MATCHLINE SHEET 67

TURF FIELD

PARKING LOT

BENCHMARK
GPS9
ELEV=350.46'

0 20 40 Feet
SCALE: 1" = 20'

PLANT SCHEDULE - SHEET 66

KEY	SHT 66	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	2	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	2	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	3	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	3	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	3	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (18,416 SF)**				
			SHADE TREE		**(200 STEMS PER ACRES)**		
LT51.0	12	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	12	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	12	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	12	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB		**(350 STEMS PER ACRE)**		
LB18H	13	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	13	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	14	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	14	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	11	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	2,267	SY	FLOODPLAIN SEED MIX				
D-SSM	1,362	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	2,698	SY	TYPE A SOIL STABILIZATION MATTING				
TE	1,793	SY	TURFGRASS SEED MIX				
TS	4,240	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				
			***TUBELINGS - SOIL LIFT**				
PO	47	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 X 2 X 9"	CONT.	3' O.C.
BN	47	EA	BETULA NIGRA	RIVER BIRCH	2 X 2 X 9"	CONT.	3' O.C.
LB	47	EA	LINDERA BENZOIN	SPICEBUSH	2 X 2 X 9"	CONT.	3' O.C.
CA	47	EA	CORNUS AMOMUM	SILKY DOGWOOD	2 X 2 X 9"	CONT.	3' O.C.
VD	47	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	2 X 2 X 9"	CONT.	3' O.C.
HV	46	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	2 X 2 X 9"	CONT.	3' O.C.

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND — MELISSA DIANE HESS — No. 26599 — PROFESSIONAL ENGINEER

90% DESIGN - NOT FOR CONSTRUCTION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:46:59-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

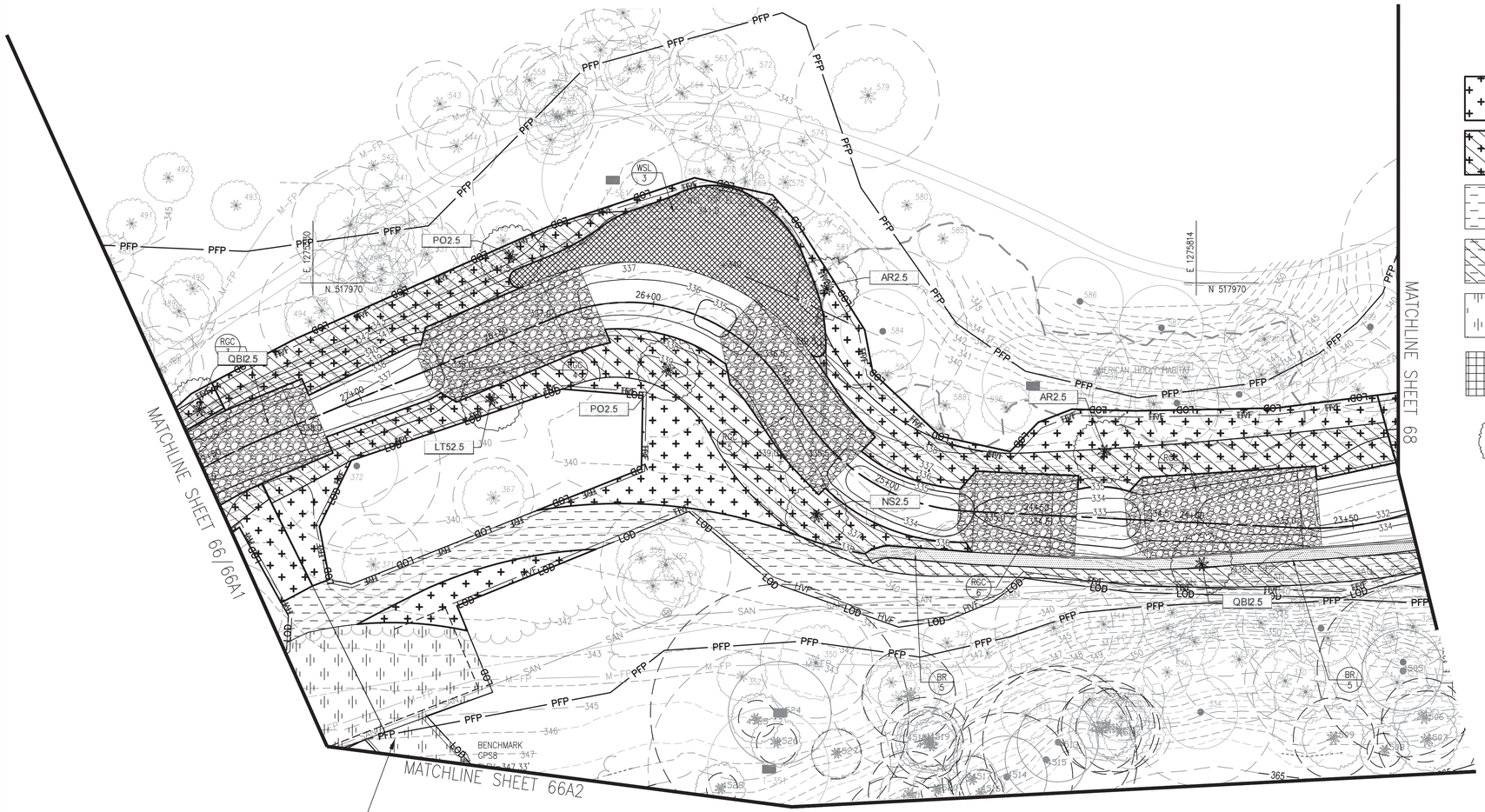
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 66 OF 84

FILE # DPW TO PROVIDE



PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SOIL LIFT + TUBELINGS + FLOODPLAIN SEED MIX
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- 19+60 CROSS SECTION
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP FEMA 100 YEAR FLOODPLAIN
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT UNIQUE HABITATS
- LOD LIMIT OF DISTURBANCE
- HVF TREE PROTECTION FENCE
- HVF HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- △ BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS

PLANT SCHEDULE - SHEET 67

KEY	SHT 67	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	1	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	2	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	2	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	1	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	1	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (11,183 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	7	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	7	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	7	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	7	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	9	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	9	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	9	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	7	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	8	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	1,671	SY	FLOODPLAIN SEED MIX				
D-SSM	865	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	936	SY	TYPE A SOIL STABILIZATION MATTING				
TE	130	SY	TURFGRASS SEED MIX				
TS	1,801	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				
			***TUBELINGS - SOIL LIFT**				
PO	43	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 X 2 X 9"	CONT.	3' O.C.
BN	43	EA	BETULA NIGRA	RIVER BIRCH	2 X 2 X 9"	CONT.	3' O.C.
LB	43	EA	LINDERA BENZOIN	SPICEBUSH	2 X 2 X 9"	CONT.	3' O.C.
CA	44	EA	CORNUS AMOMUM	SILKY DOGWOOD	2 X 2 X 9"	CONT.	3' O.C.
VD	44	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	2 X 2 X 9"	CONT.	3' O.C.
HV	44	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	2 X 2 X 9"	CONT.	3' O.C.

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

0 20 40 Feet

SCALE: 1" = 20'

90% DESIGN - NOT FOR CONSTRUCTION

STATE OF MARYLAND MELISSA DIANE KESS NO. 26539 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:47:00-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 67 OF 84

FILE # DPW TO PROVIDE

PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SOIL LIFT + TUBELINGS + FLOODPLAIN SEED MIX
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- 19+60 CROSS SECTION
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP FEMA 100 YEAR FLOODPLAIN
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT UNIQUE HABITATS
- LOD LIMIT OF DISTURBANCE
- HVF TREE PROTECTION FENCE
- HVF HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGENERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS

PLANT SCHEDULE - SHEET 68

KEY	SHT 68	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	3	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	3	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	3	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	3	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	2	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (19,158 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	12	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	12	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	12	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	13	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	20	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	20	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	19	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	19	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	13	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	2,690	SY	FLOODPLAIN SEED MIX				
D-SSM	1,373	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1316	SY	TYPE A SOIL STABILIZATION MATTING				
TS	2,690	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				
			***TUBELINGS - SOIL LIFT**				
PO	50	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 X 2 X 9"	CONT.	3' O.C.
BN	50	EA	BETULA NIGRA	RIVER BIRCH	2 X 2 X 9"	CONT.	3' O.C.
LB	49	EA	LINDERA BENZOIN	SPICEBUSH	2 X 2 X 9"	CONT.	3' O.C.
CA	49	EA	CORNUS AMOMUM	SILKY DOGWOOD	2 X 2 X 9"	CONT.	3' O.C.
VD	49	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	2 X 2 X 9"	CONT.	3' O.C.
HV	49	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	2 X 2 X 9"	CONT.	3' O.C.

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

0 20 40 Feet

SCALE: 1" = 20'

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND MELISSA DIANE HESS No. 26599 PROFESSIONAL ENGINEER

90% DESIGN - NOT FOR CONSTRUCTION

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL				

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:01-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 68 OF 84

FILE # DPW TO PROVIDE

PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SOIL LIFT + TUBELINGS + FLOODPLAIN SEED MIX
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

PLANT SCHEDULE - SHEET 69

KEY	SHT 69	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	2	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	2	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	2	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	2	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	2	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (10,106 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	6	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	6	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	6	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	7	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	17	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	17	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	17	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	17	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	8	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	1,968	SY	FLOODPLAIN SEED MIX				
D-SSM	927	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1040	SY	TYPE A SOIL STABILIZATION MATTING				
TS	1,968	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				
			***TUBELINGS - SOIL LIFT**				
PO	60	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 X 2 X 9"	CONT.	3' O.C.
BN	60	EA	BETULA NIGRA	RIVER BIRCH	2 X 2 X 9"	CONT.	3' O.C.
LB	60	EA	LINDERA BENZOIN	SPICEBUSH	2 X 2 X 9"	CONT.	3' O.C.
CA	60	EA	CORNUS AMOMUM	SILKY DOGWOOD	2 X 2 X 9"	CONT.	3' O.C.
VD	59	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	2 X 2 X 9"	CONT.	3' O.C.
HV	59	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	2 X 2 X 9"	CONT.	3' O.C.

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP — FEMA 100 YEAR FLOODPLAIN
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- HVF — TREE PROTECTION FENCE
- HVF — HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:02-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 69 OF 84

FILE # DPW TO PROVIDE

PLANTING LEGEND

REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING

REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING

FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING

FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING

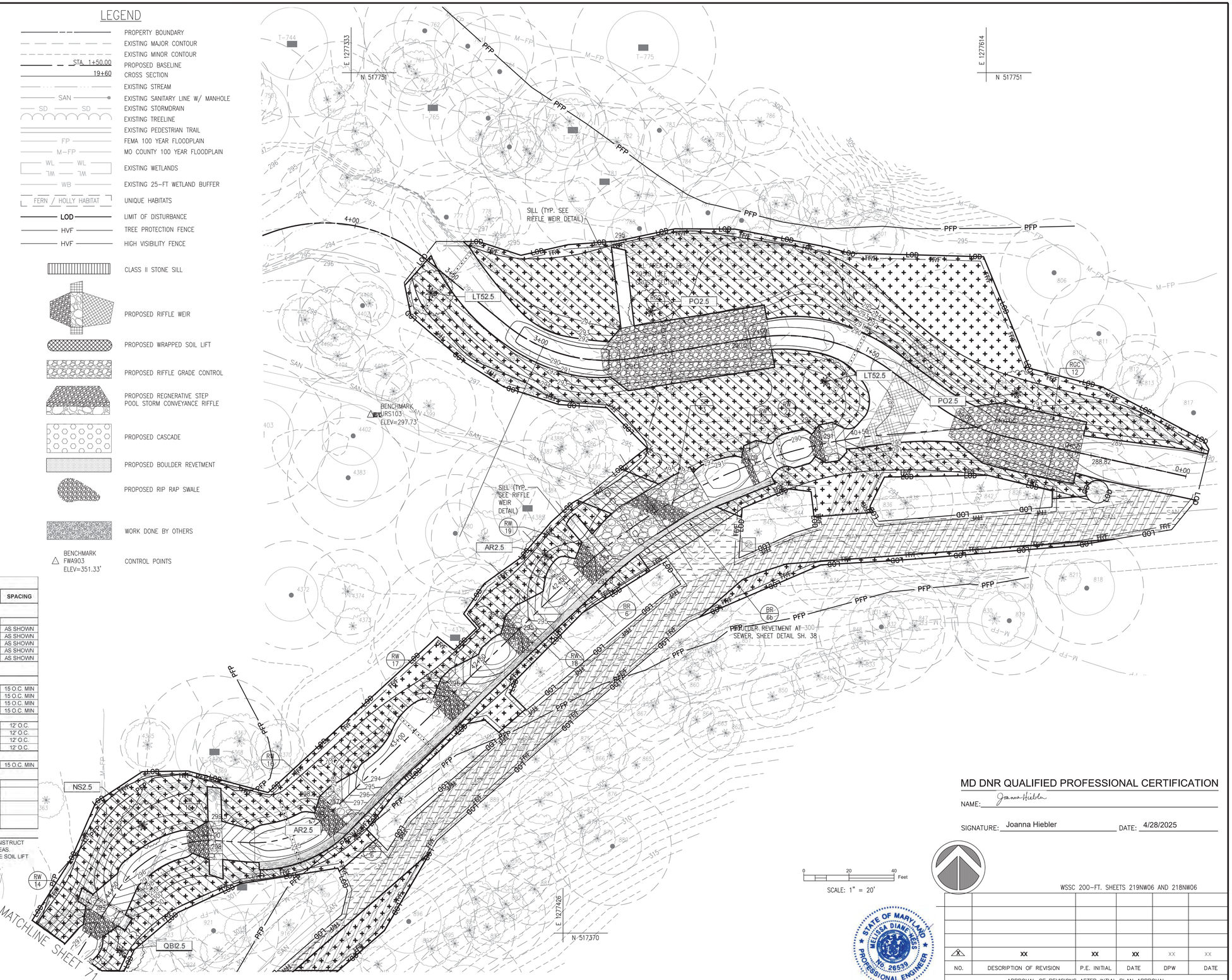
TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING

SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

LEGEND

PROPERTY BOUNDARY
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
STA 1+50.00 PROPOSED BASELINE
19+60 CROSS SECTION
EXISTING STREAM
SAN EXISTING SANITARY LINE W/ MANHOLE
SD SD EXISTING STORMDRAIN
EXISTING TREELINE
EXISTING PEDESTRIAN TRAIL
FP FEMA 100 YEAR FLOODPLAIN
M-FP MO COUNTY 100 YEAR FLOODPLAIN
WL WL WL WL EXISTING WETLANDS
WB EXISTING 25-FT WETLAND BUFFER
FERN / HOLLY HABITAT UNIQUE HABITATS
LOD LIMIT OF DISTURBANCE
HVF TREE PROTECTION FENCE
HVF HIGH VISIBILITY FENCE
CLASS II STONE SILL
PROPOSED RIFFLE WEIR
PROPOSED WRAPPED SOIL LIFT
PROPOSED RIFFLE GRADE CONTROL
PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
PROPOSED CASCADE
PROPOSED BOULDER REVETMENT
PROPOSED RIP RAP SWALE
WORK DONE BY OTHERS
BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.



PLANT SCHEDULE - SHEET 70

KEY	SHT 70	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	2	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	2	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	2	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	1	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QB12.5	1	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (27,436 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	18	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	18	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	18	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	17	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	20	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. /#3	CONT.	12' O.C.
CA18H	20	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	19	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	19	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	17	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	3,989	SY	FLOODPLAIN SEED MIX				
D-SSM	2,334	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1655	SY	TYPE A SOIL STABILIZATION MATTING				
TS	3,989	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

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MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND MELISSA DIANE TESS No. 26599 PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL
Craig L. Simoneau 2025.05.05 17:47:03-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE
PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

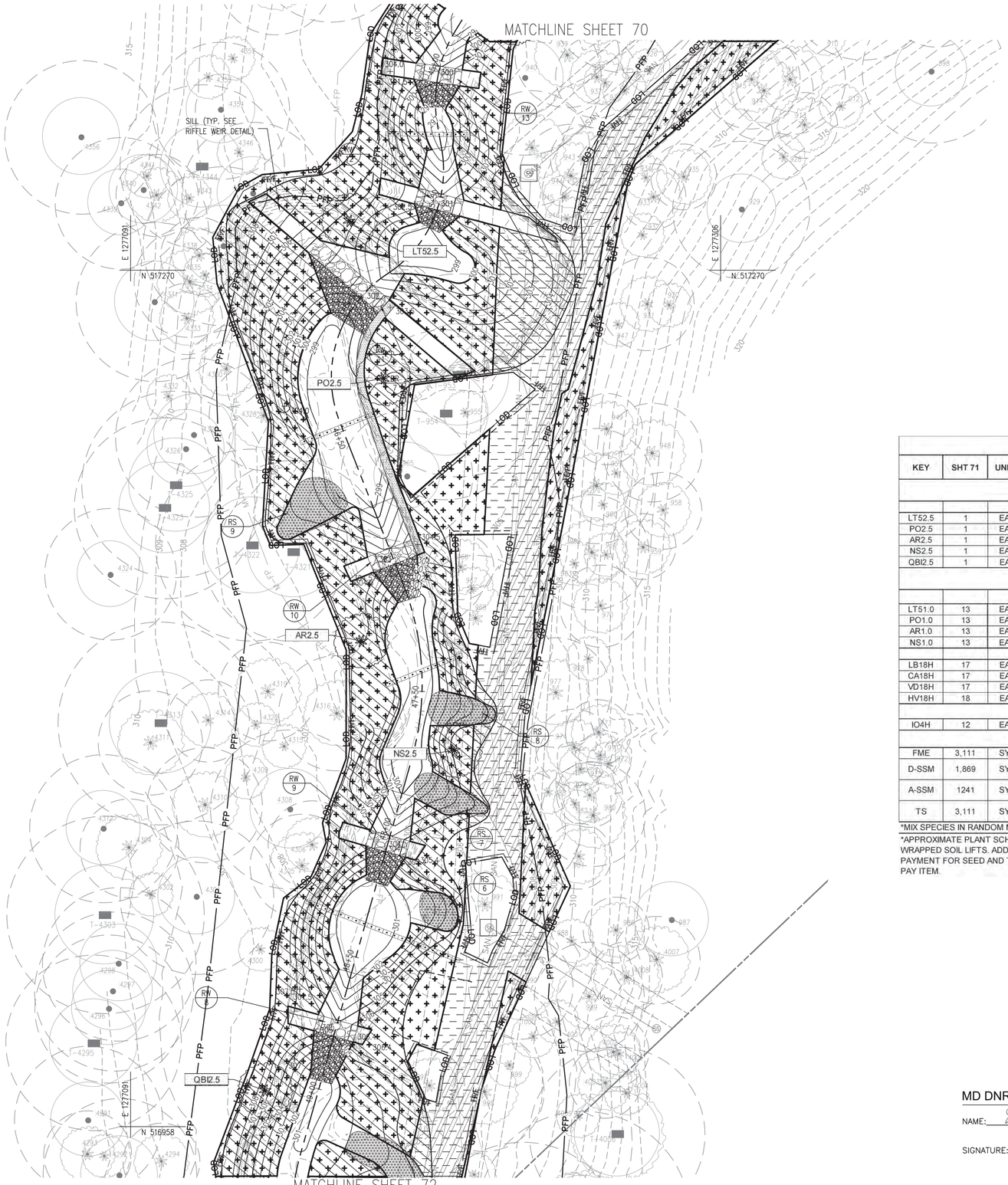
CROYDON CREEK AND CALVIN TRIBUTARY
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024
CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 70 OF 84

FILE # DPW TO PROVIDE



PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

PLANT SCHEDULE - SHEET 71

KEY	SHT 71	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	1	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	1	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	1	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	1	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	1	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (20,040 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	13	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	13	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	13	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	13	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	17	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	17	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	17	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	18	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	12	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	3,111	SY	FLOODPLAIN SEED MIX				
D-SSM	1,869	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1241	SY	TYPE A SOIL STABILIZATION MATTING				
TS	3,111	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 PROPOSED BASELINE
- 19+60 CROSS SECTION
- EXISTING STREAM
- SAN EXISTING SANITARY LINE W/ MANHOLE
- SD EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP FEMA 100 YEAR FLOODPLAIN
- M-FP MO COUNTY 100 YEAR FLOODPLAIN
- WL EXISTING WETLANDS
- WB EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT UNIQUE HABITATS
- LOD LIMIT OF DISTURBANCE
- HVF TREE PROTECTION FENCE
- HVF HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGENERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- △ BENCHMARK FWA903 ELEV=351.33' CONTROL POINTS

0 20 40 Feet

SCALE: 1" = 20'

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND · MELISSA DIANE HESS · No. 26539 · PROFESSIONAL ENGINEER

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:47:04-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

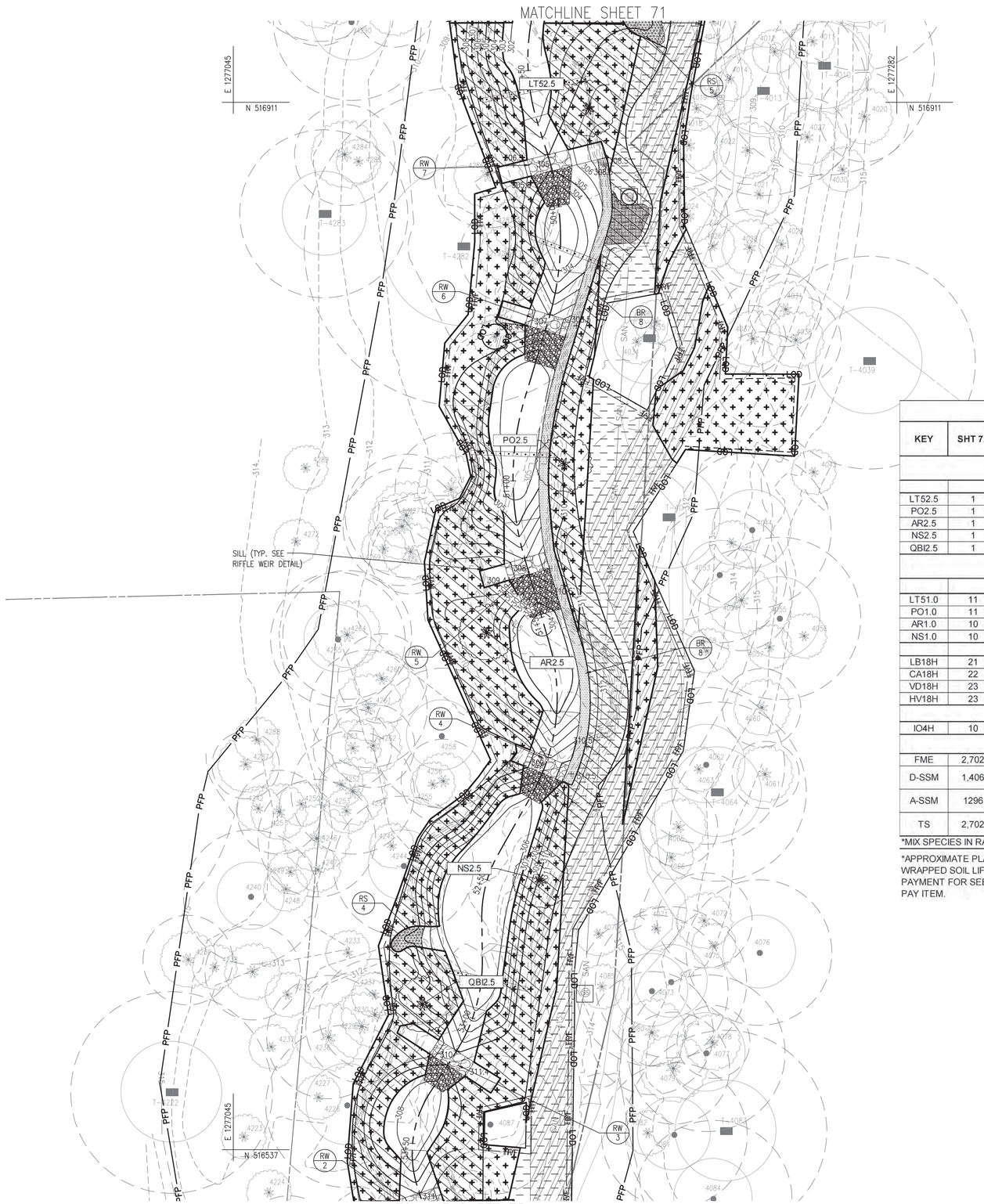
DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 71 OF 84

FILE # DPW TO PROVIDE



PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE D SOIL STABILIZATION MATTING
- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

PLANT SCHEDULE - SHEET 72

KEY	SHT 72	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	1	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	1	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	1	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	1	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
QBI2.5	1	EA	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREAS (16,060 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	11	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	11	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	10	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	10	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	21	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	22	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	23	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	23	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	10	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	2,702	SY	FLOODPLAIN SEED MIX				
D-SSM	1,406	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1296	SY	TYPE A SOIL STABILIZATION MATTING				
TS	2,702	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				

*MIX SPECIES IN RANDOM NATURALIZED CLUSTERS

*APPROXIMATE PLANT SCHEDULE QUANTITIES ARE NOT INCLUSIVE OF THE SEED OR TYPE D SSM THAT MAY BE REQUIRED TO CONSTRUCT WRAPPED SOIL LIFTS. ADDITIONAL QUANTITY ORDERED WILL BE REQUIRED BY CONTRACTOR TO PROPERLY STABILIZE THOSE AREAS. PAYMENT FOR SEED AND TYPE D SSM RELATED TO THE INSTALLATION OF SOIL LIFTS WILL BE TRACKED AND PAID FOR UNDER THE SOIL LIFT PAY ITEM.

LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STA. 1+50.00 — PROPOSED BASELINE
- 19+60 — CROSS SECTION
- EXISTING STREAM
- SAN — EXISTING SANITARY LINE W/ MANHOLE
- SD — SD — EXISTING STORMDRAIN
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FP — FEMA 100 YEAR FLOODPLAIN
- M-FP — MO COUNTY 100 YEAR FLOODPLAIN
- WL — WL — EXISTING WETLANDS
- WB — EXISTING 25-FT WETLAND BUFFER
- FERN / HOLLY HABITAT — UNIQUE HABITATS
- LOD — LIMIT OF DISTURBANCE
- HVF — TREE PROTECTION FENCE
- HVF — HIGH VISIBILITY FENCE
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- △ BENCHMARK FWA903 ELEV=351.33' — CONTROL POINTS

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND MELISSA DIANE HIEBLER NO. 26539 PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:47:05-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX

SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

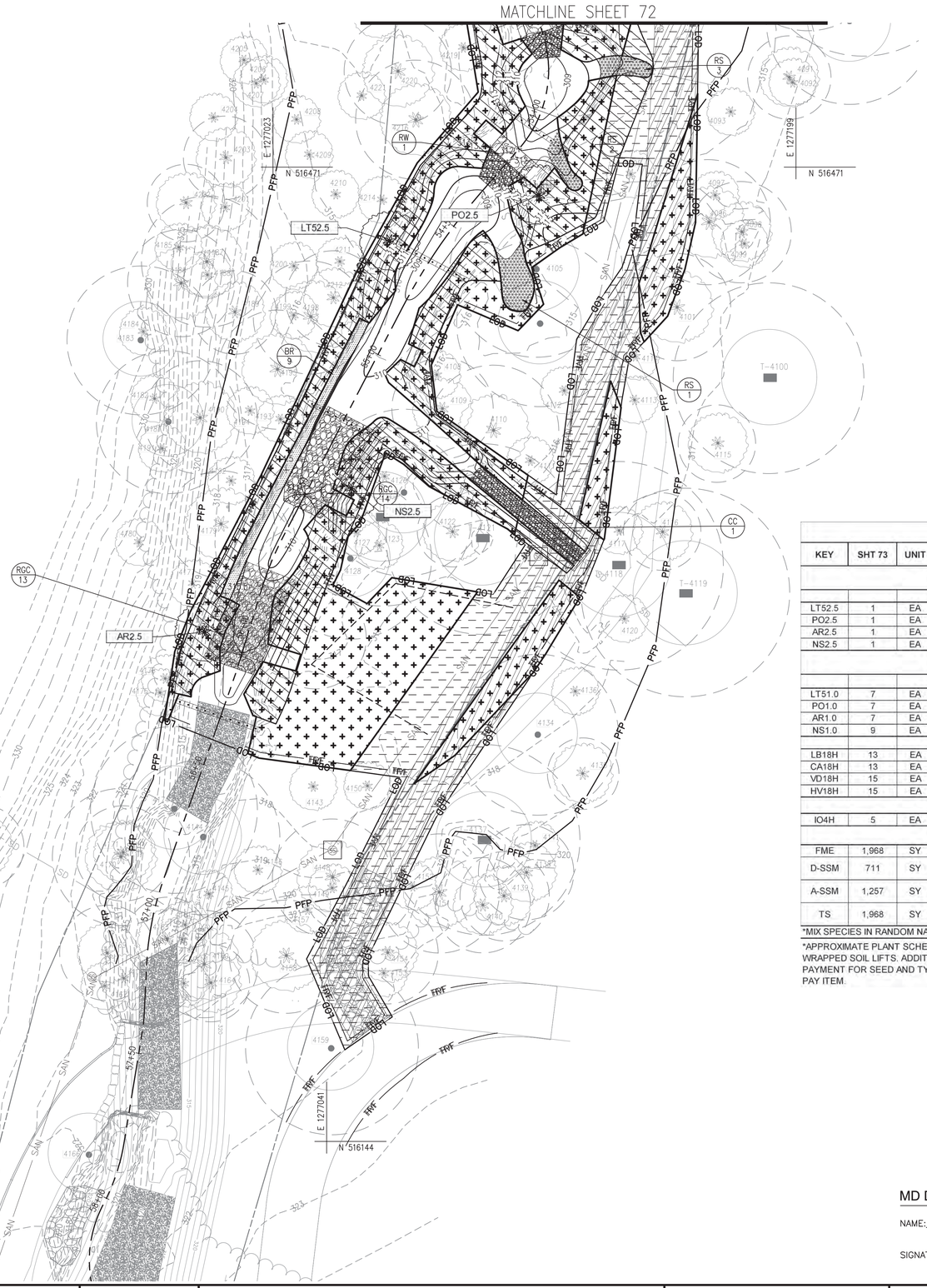
DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

SCALE 1"=20'

SHEET NO. 72 OF 84

FILE # DPW TO PROVIDE



PLANTING LEGEND

- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE A SOIL STABILIZATION MATTING
- REFORESTATION AREA (TREE & SHRUB) + FLOODPLAIN SEED MIX + TYPE D SOIL STABILIZATION MATTING
- FLOODPLAIN SEED MIX + SHRUBS + TYPE A SOIL STABILIZATION MATTING
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- TURFGRASS SEED MIX + STRAW MULCH + TYPE A SOIL STABILIZATION MATTING
- SHADE TREE - INDIVIDUAL SIGNIFICANT TREE REPLACEMENT

NOTE: ALL EXISTING PEDESTRIAN TRAILS SHALL NOT BE SEEDED OR MATTED WITH TYPE A OR TYPE D SOIL STABILIZATION MATTING. ALL PEDESTRIAN TRAILS SHALL BE COVERED 4" DEPTH OF MULCH AT THE END OF CONSTRUCTION. SEE SHEETS 63 & 64 FOR THE OVERALL TRAIL PLAN. LOCATION OF EXISTING TRAILS WILL BE VERIFIED BY THE CITY AND ENGINEER DURING THE PRE-CONSTRUCTION MEETING.

PLANT SCHEDULE - SHEET 73

KEY	SHT 73	UNIT	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
			INDIVIDUAL SIGNIFICANT TREE REPLACEMENT				
			SHADE TREE				
LT52.5	1	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL.	#25 CONT.	AS SHOWN
PO2.5	1	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL.	#25 CONT.	AS SHOWN
AR2.5	1	EA	ACER RUBRUM	RED MAPLE	2.5" CAL.	#25 CONT.	AS SHOWN
NS2.5	1	EA	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	#25 CONT.	AS SHOWN
			***REFORESTATION AREA (10,788 SF)**				
			SHADE TREE	**(200 STEMS PER ACRES)**			
LT51.0	7	EA	LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL.	#7 CONT.	15 O.C. MIN
PO1.0	7	EA	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	#7 CONT.	15 O.C. MIN
AR1.0	7	EA	ACER RUBRUM	RED MAPLE	1" CAL.	#7 CONT.	15 O.C. MIN
NS1.0	9	EA	NYSSA SYLVATICA	BLACK GUM	1" CAL.	#7 CONT.	15 O.C. MIN
			SHRUB	**(350 STEMS PER ACRE)**			
LB18H	13	EA	LINDERA BENZOIN	SPICEBUSH	18" HT. / #3	CONT.	12' O.C.
CA18H	13	EA	CORNUS AMOMUM	SILKY DOGWOOD	18" HT. / #3	CONT.	12' O.C.
VD18H	15	EA	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18" HT. / #3	CONT.	12' O.C.
HV18H	15	EA	HAMMAMELIS VIRGINIANA	WITCHHAZEL	18" HT. / #3	CONT.	12' O.C.
			EVERGREEN TREE				
IO4H	5	EA	ILEX OPACA	AMERICAN HOLLY	4' HT.	#10 CONT.	15 O.C. MIN
			SEEDING / PERMANENT STABILIZATION				
FME	1,968	SY	FLOODPLAIN SEED MIX				
D-SSM	711	SY	TYPE D SOIL STABILIZATION MATTING				
A-SSM	1,257	SY	TYPE A SOIL STABILIZATION MATTING				
TS	1,968	SY	PLACING TOPSOIL 4" COMPACTED DEPTH				

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LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED BASELINE — STA. 1+50.00
- CROSS SECTION — 19+60
- EXISTING STREAM
- EXISTING SANITARY LINE W/ MANHOLE — SAN
- EXISTING STORMDRAIN — SD
- EXISTING TREELINE
- EXISTING PEDESTRIAN TRAIL
- FEMA 100 YEAR FLOODPLAIN — FP
- MO COUNTY 100 YEAR FLOODPLAIN — M-FP
- EXISTING WETLANDS — WL
- EXISTING 25-FT WETLAND BUFFER — WB
- UNIQUE HABITATS — FERN / HOLLY HABITAT
- LIMIT OF DISTURBANCE — LOD
- TREE PROTECTION FENCE — HVF
- HIGH VISIBILITY FENCE — HVF
- CLASS II STONE SILL
- PROPOSED RIFFLE WEIR
- PROPOSED WRAPPED SOIL LIFT
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED REGNERATIVE STEP POOL STORM CONVEYANCE RIFFLE
- PROPOSED CASCADE
- PROPOSED BOULDER REVETMENT
- PROPOSED RIP RAP SWALE
- WORK DONE BY OTHERS
- CONTROL POINTS — BENCHMARK FWA903 ELEV=351.33'

0 20 40 Feet

SCALE: 1" = 20'

WSSC 200-FT. SHEETS 219NW06 AND 218NW06

MD DNR QUALIFIED PROFESSIONAL CERTIFICATION

NAME: Joanna Hiebler

SIGNATURE: Joanna Hiebler DATE: 4/28/2025

STATE OF MARYLAND — MELISSA DIANE HIEBLER — No. 26599 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:47:06-04'00'
DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# XXXX-XXXXX
SMP# XXXX-XXXXX REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

PLANTING PLAN

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 11/2024

CITY IFB NUMBER (REMOVE IF NOT APPLICABLE)

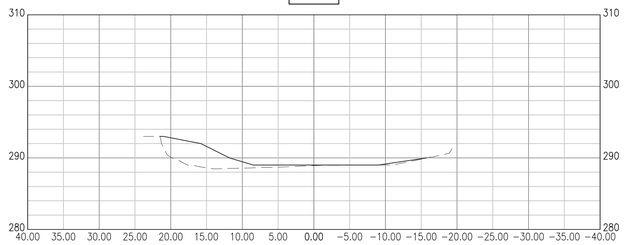
SCALE 1"=20'

SHEET NO. 73 OF 84

FILE # DPW TO PROVIDE

CROYDON CREEK

0+25.00



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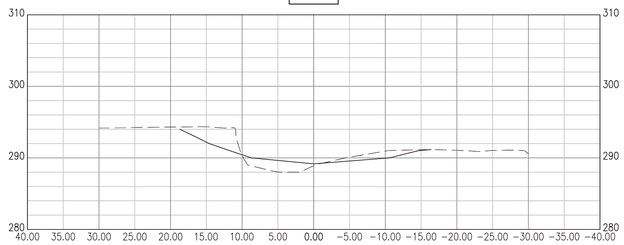

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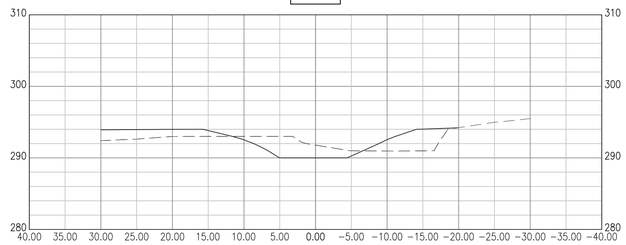

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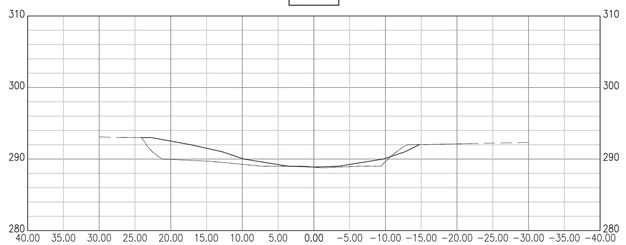

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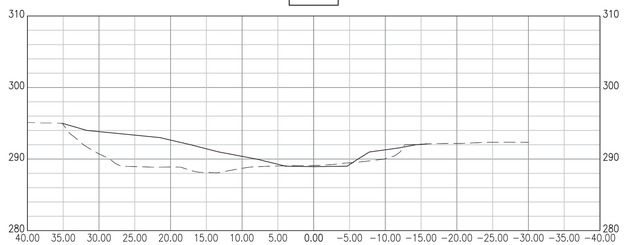

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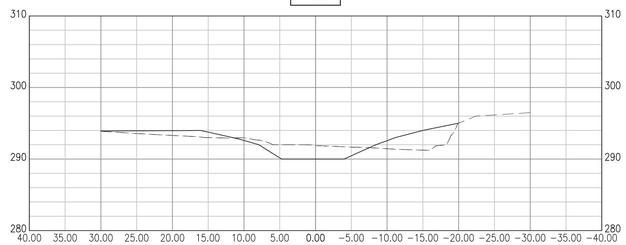

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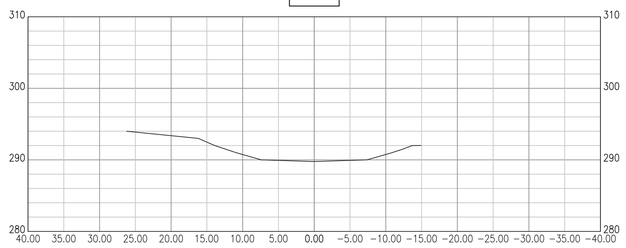

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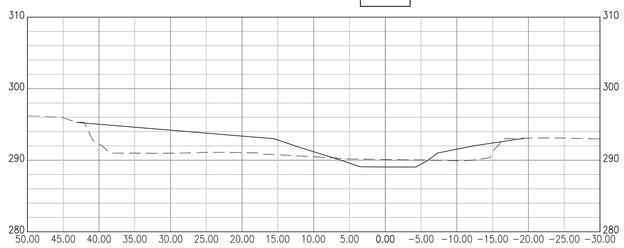

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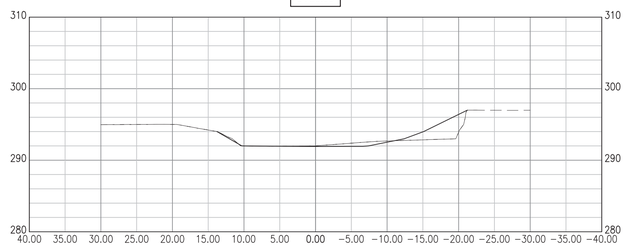

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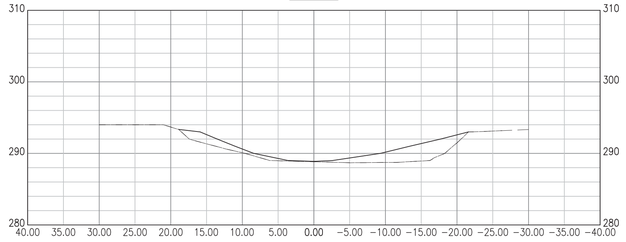

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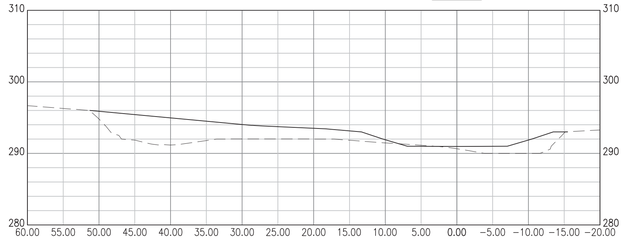

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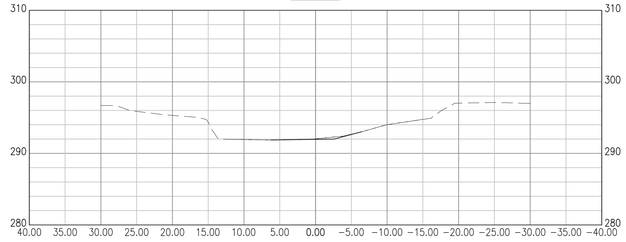

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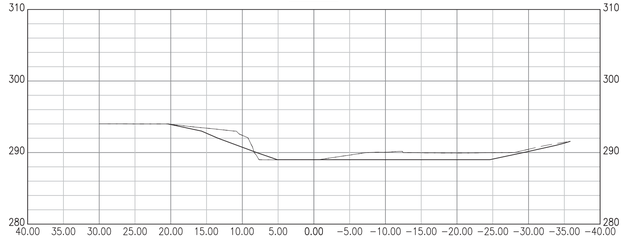

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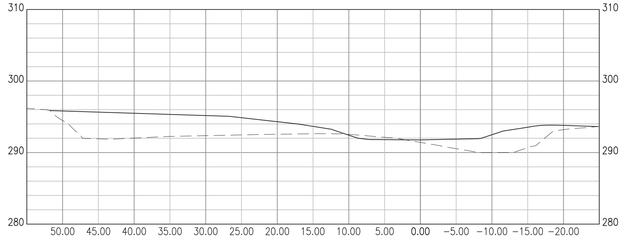


LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE KEYS · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:07-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

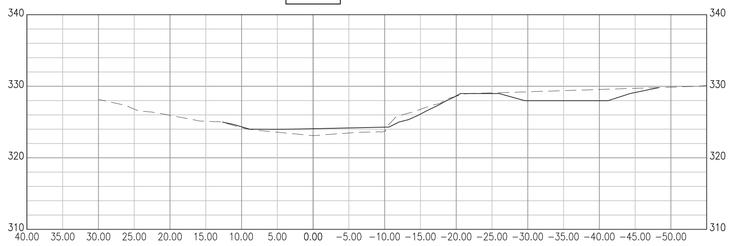
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 74 OF 84

FILE # G-134

15+25.00



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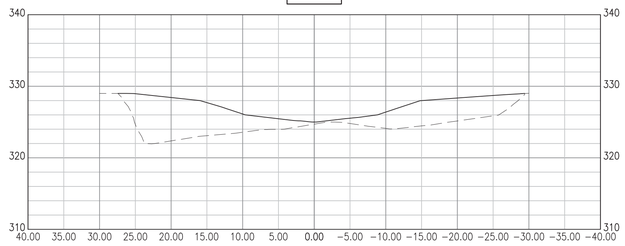
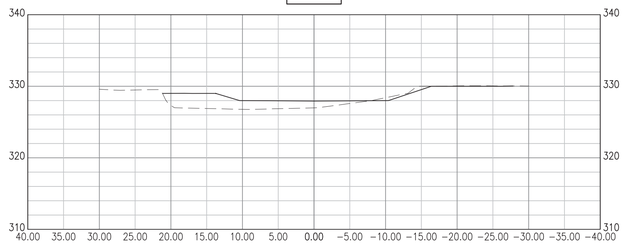


17+75.00



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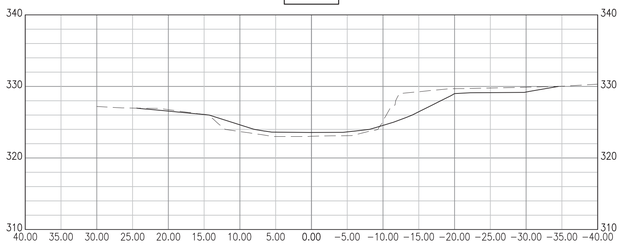

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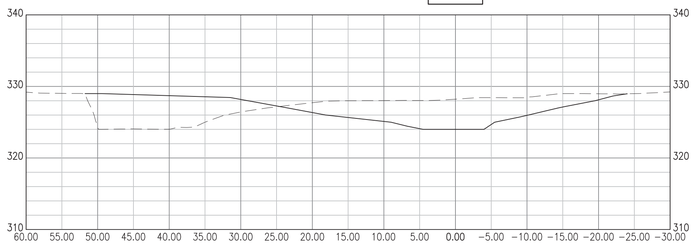

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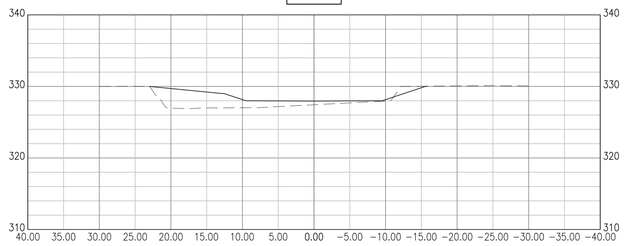

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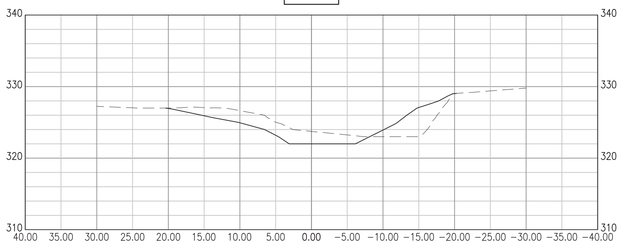

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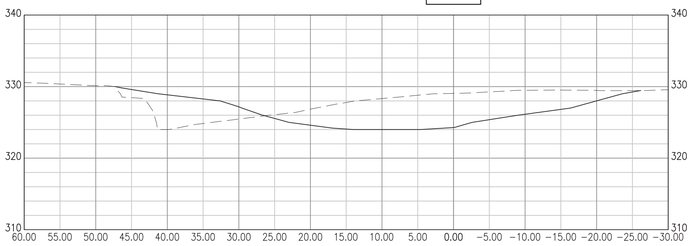

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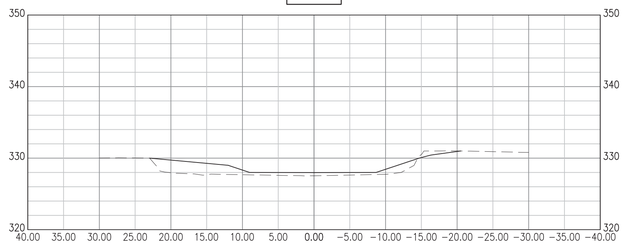

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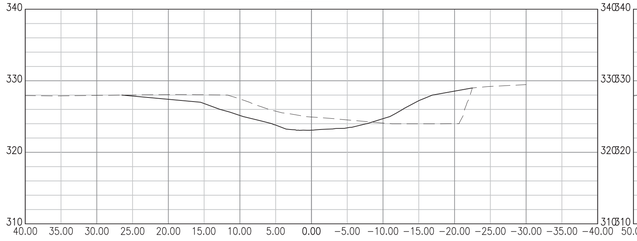

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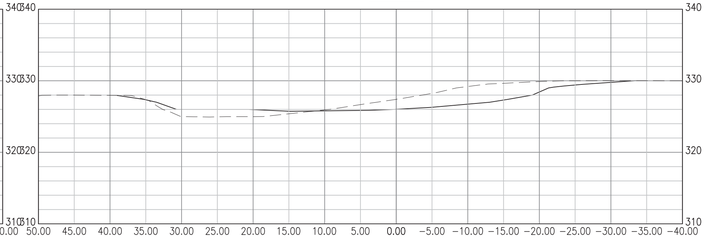

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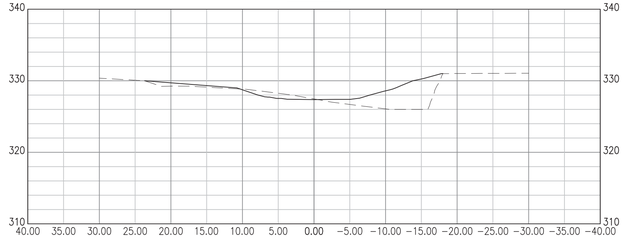

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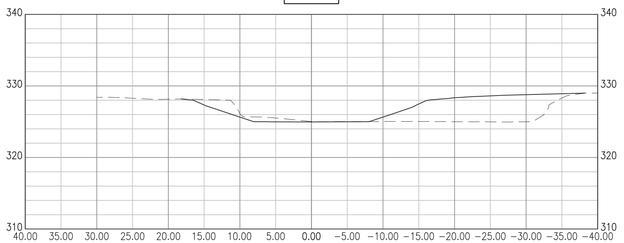

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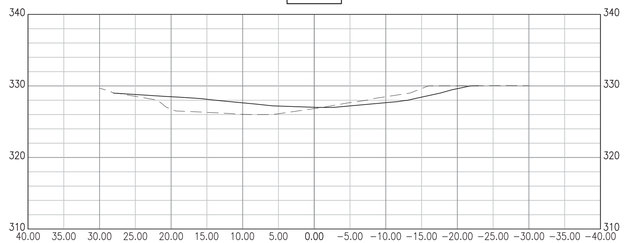

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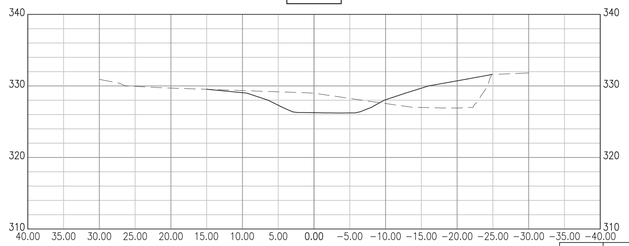


LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

CROYDON CREEK (CONT.)

STATE OF MARYLAND
MELISSA DIANE WEST
No. 26599
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:08-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

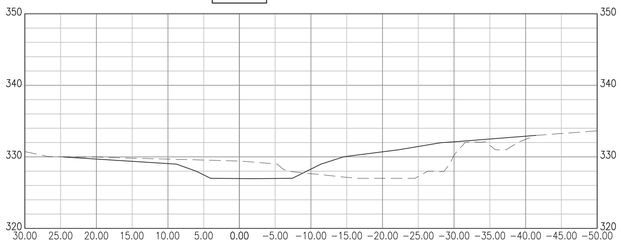
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 75 OF 84

FILE # G-134

19+00.00



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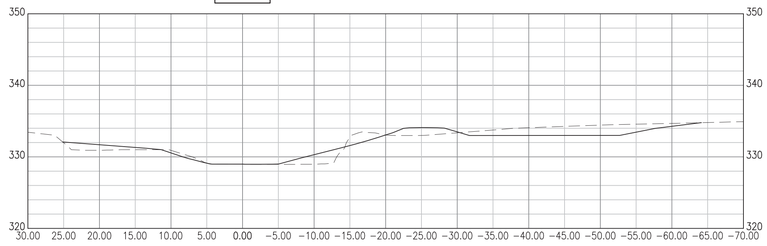

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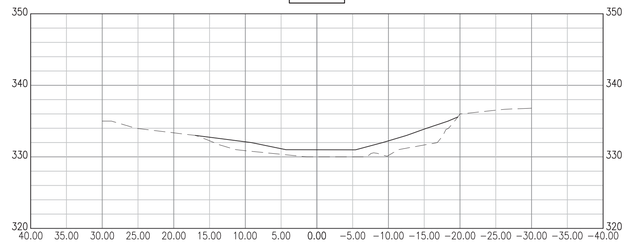

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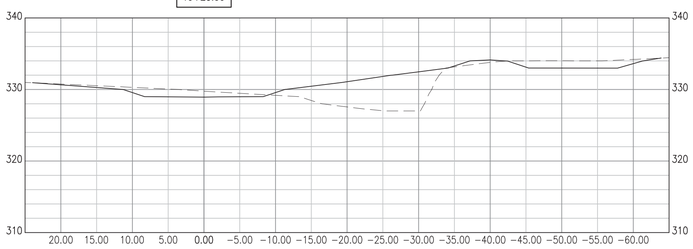

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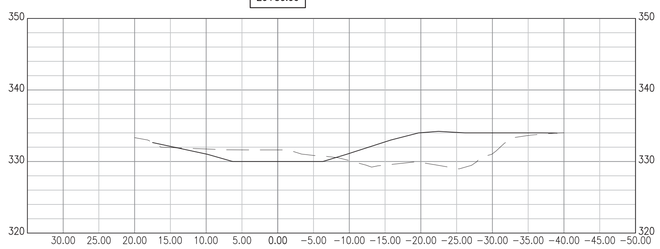

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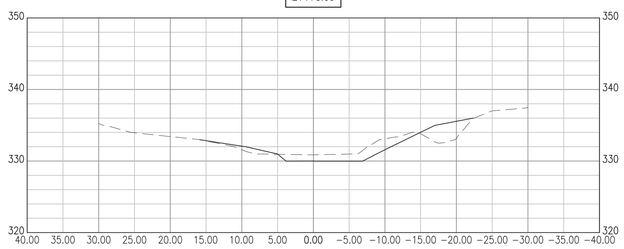

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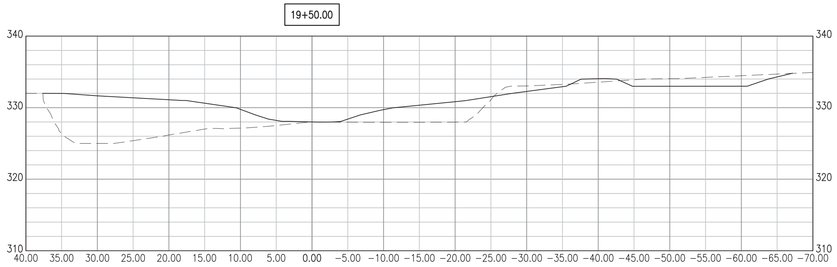

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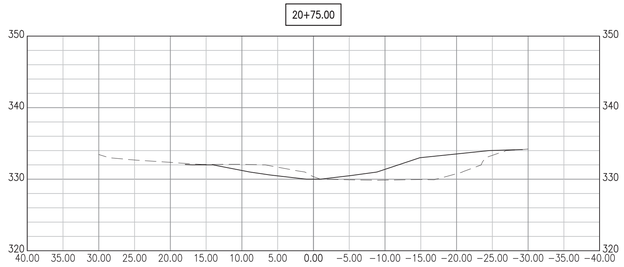

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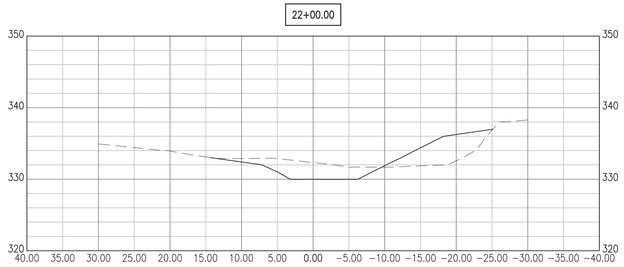

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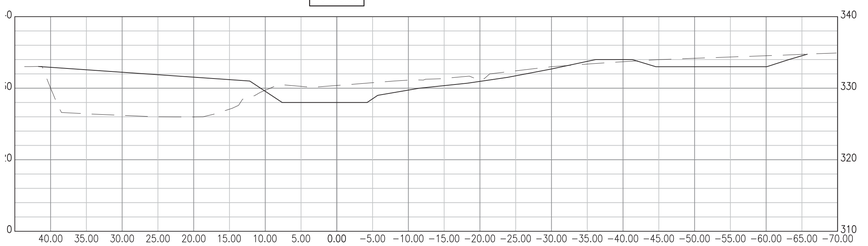

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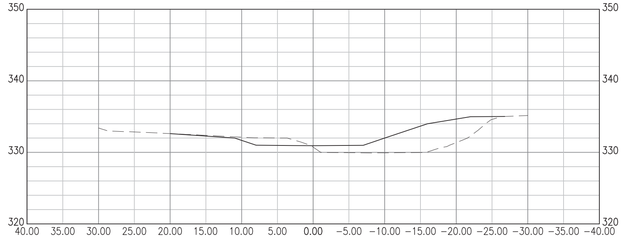

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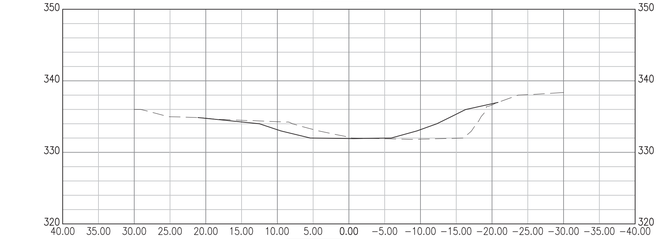

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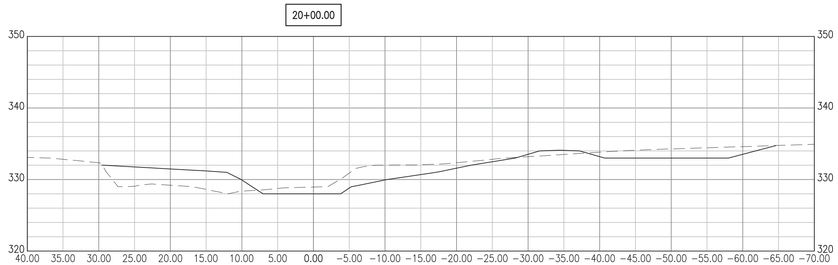

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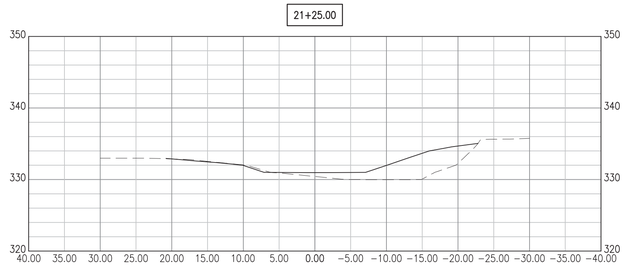

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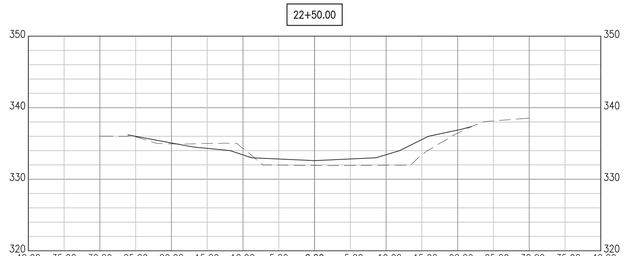


0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

LEGEND

EXISTING GRADE

PROPOSED GRADE

CROYDON CREEK (CONT.)

STATE OF MARYLAND
MELISSA DIANE WEISS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:09-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017
SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

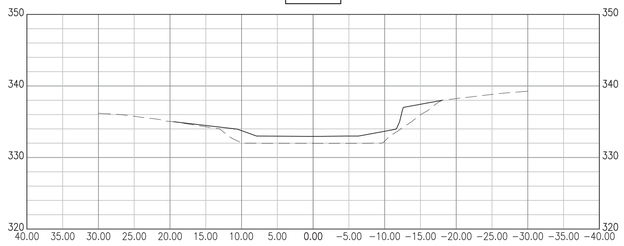
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 76 OF 84

FILE # G-134

22+75.00



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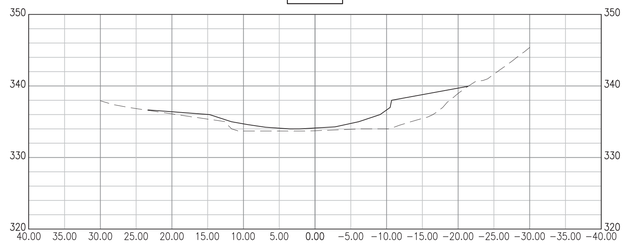

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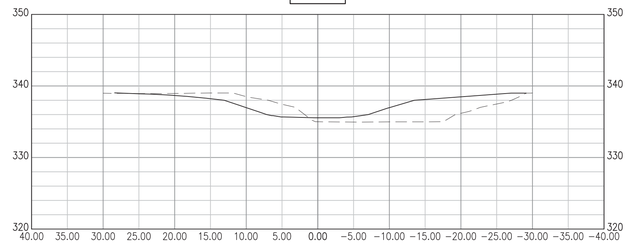

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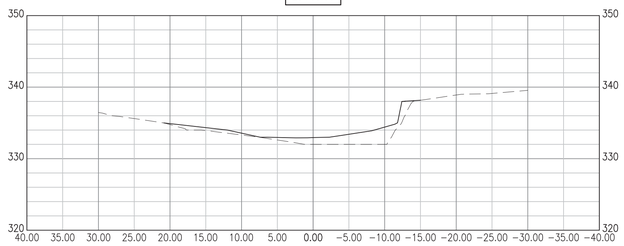

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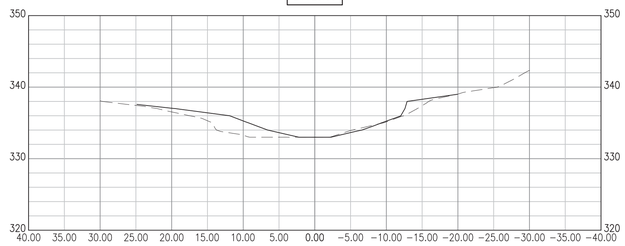

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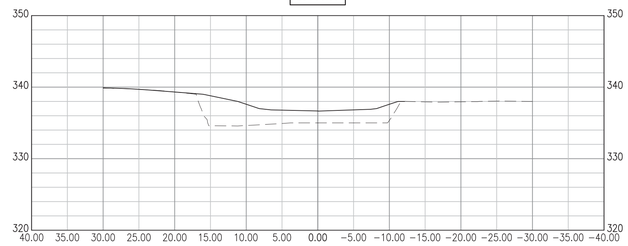

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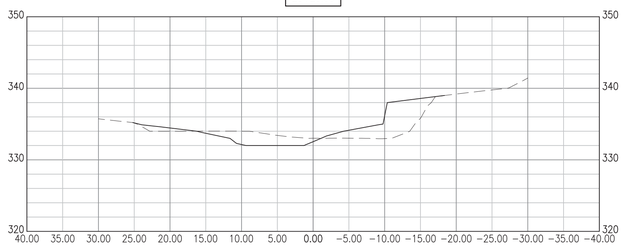

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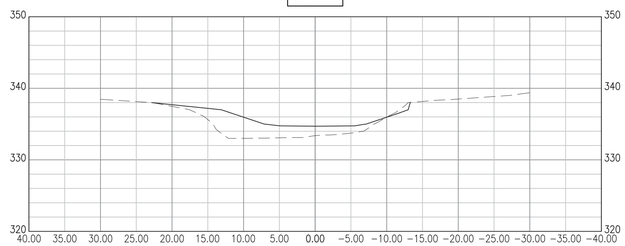

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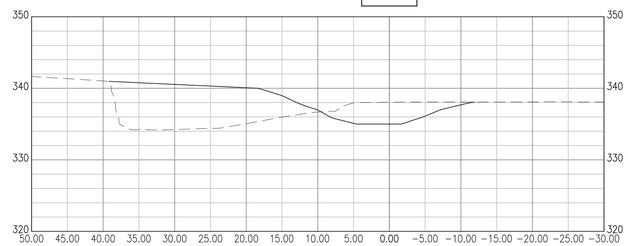

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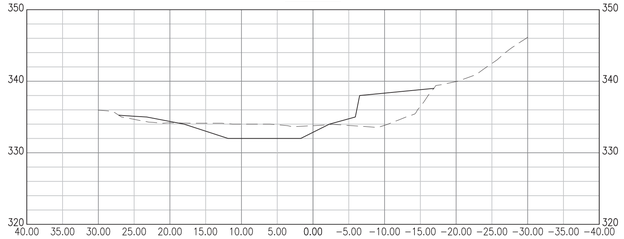

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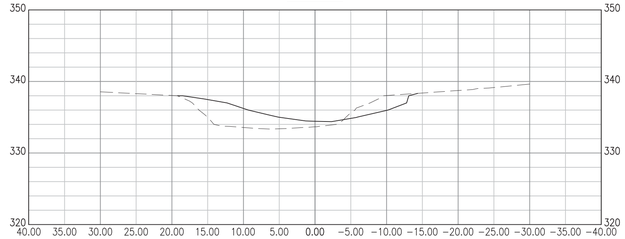

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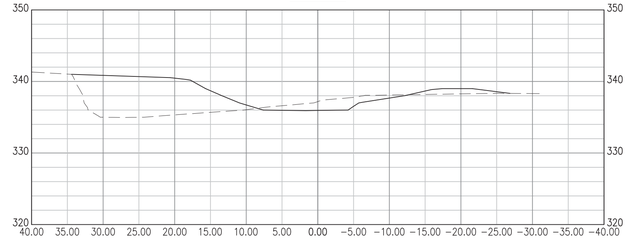

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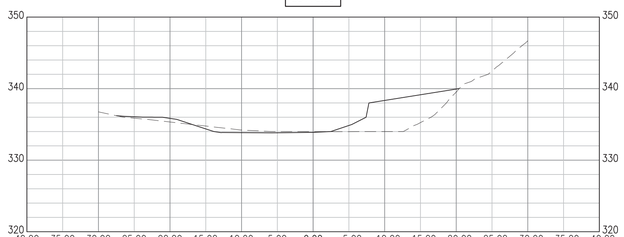

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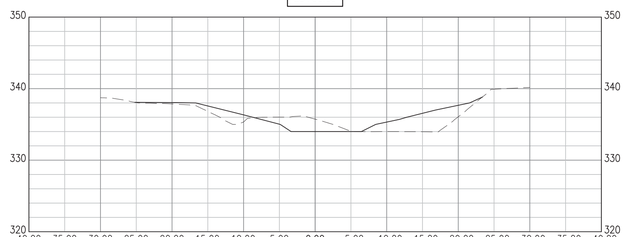

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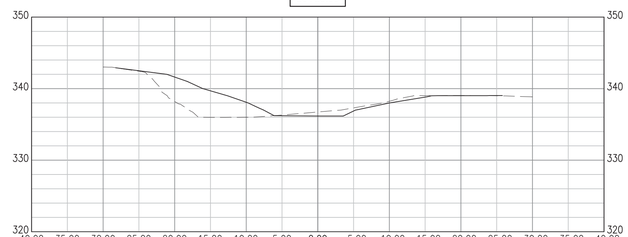

CROYDON CREEK (CONT.)

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND · MELISSA DIANE NESS · No. 26539 · PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:10-04'00'

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PWK# XXXX-XXXXX SCP# 2025-00017

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CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

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CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

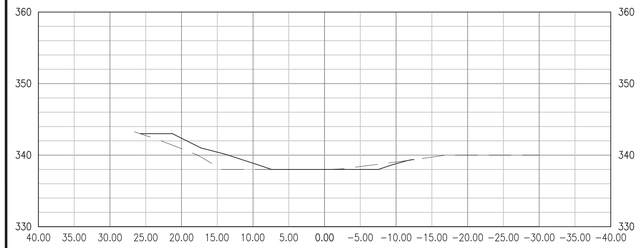
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 77 OF 84

FILE # G-134

26+50.00



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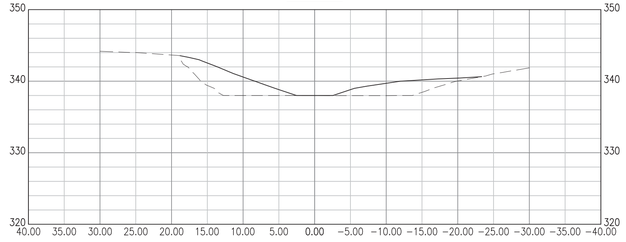

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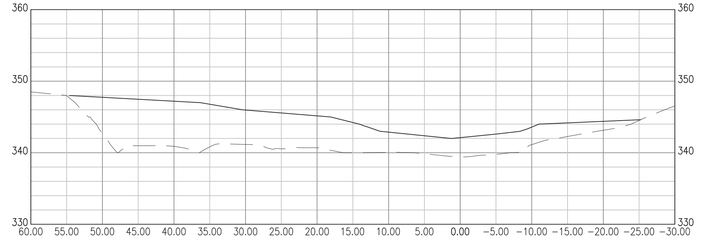

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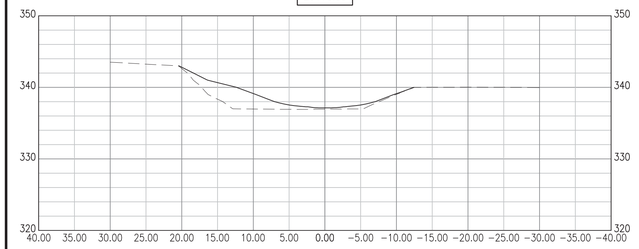

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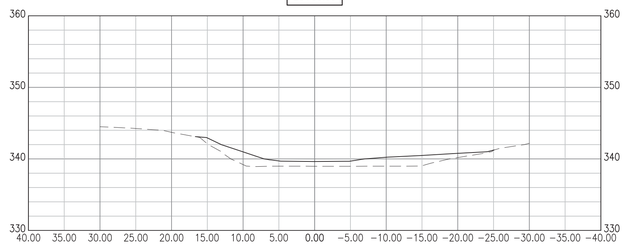

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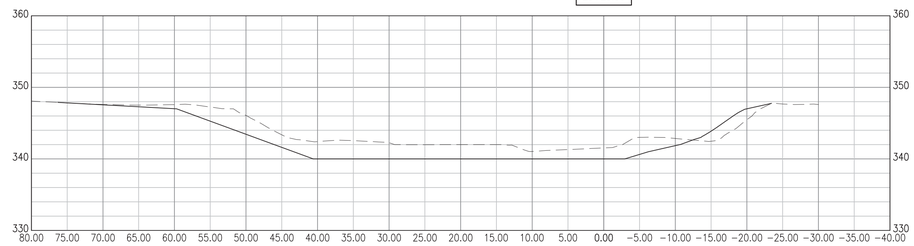

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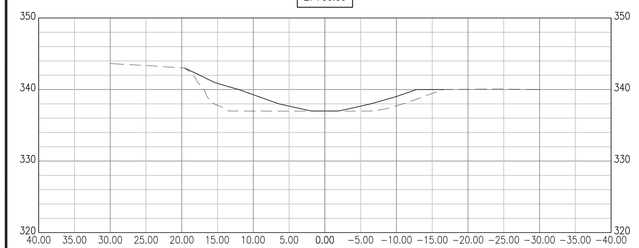

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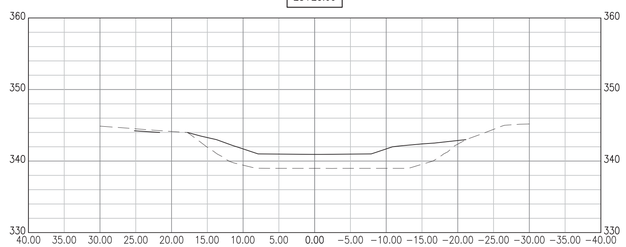

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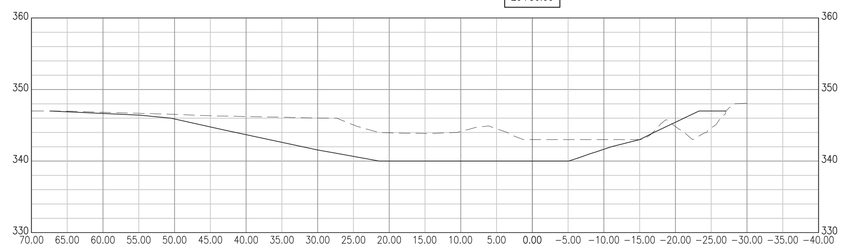

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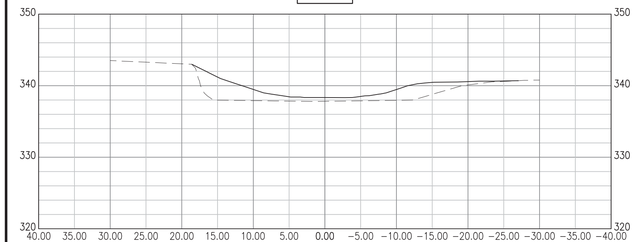

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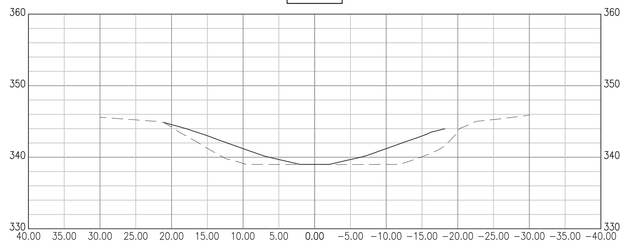

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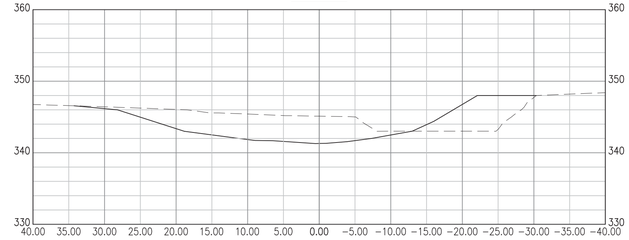

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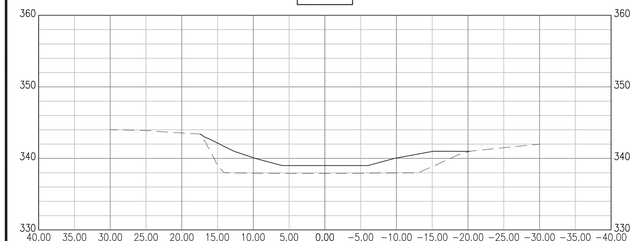

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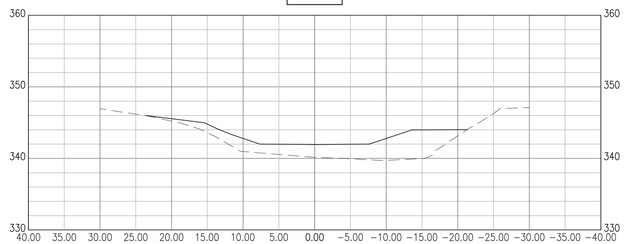

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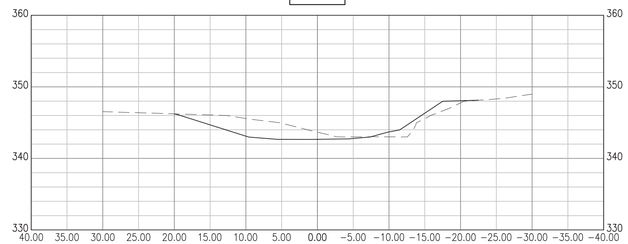

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

CROYDON CREEK (CONT.)

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:11-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 78 OF 84

FILE # G-134

SHA TRIBUTARY (CONT.)

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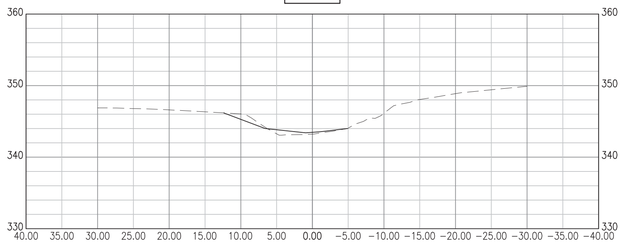

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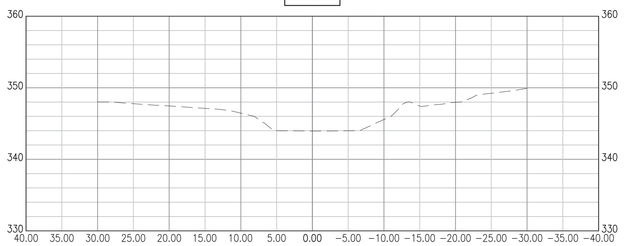

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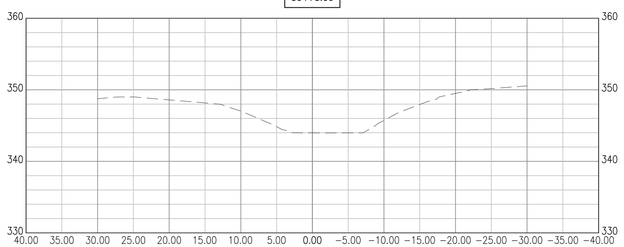

CROYDON CREEK (CONT.)

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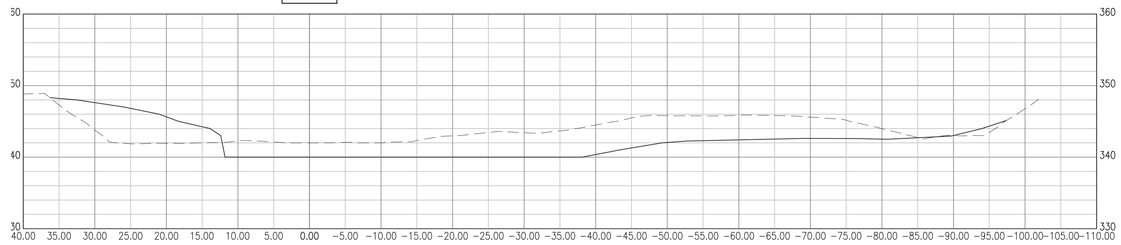

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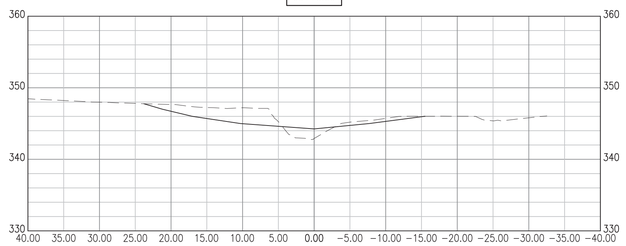

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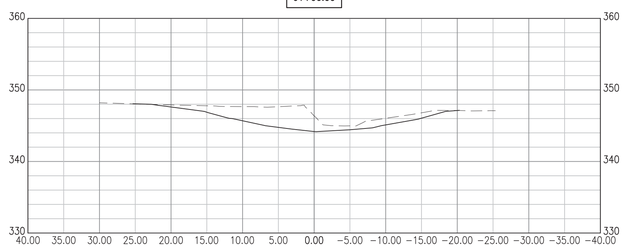

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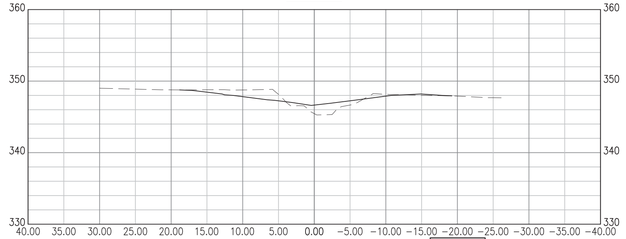

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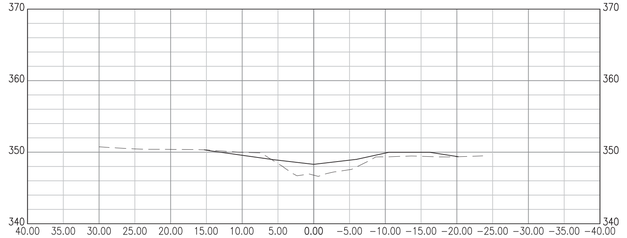

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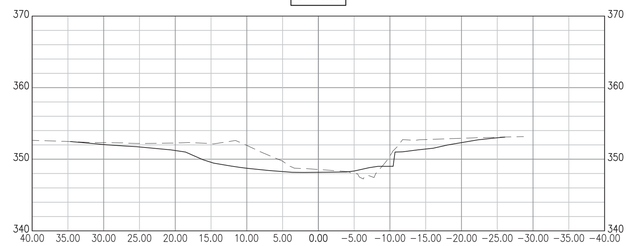

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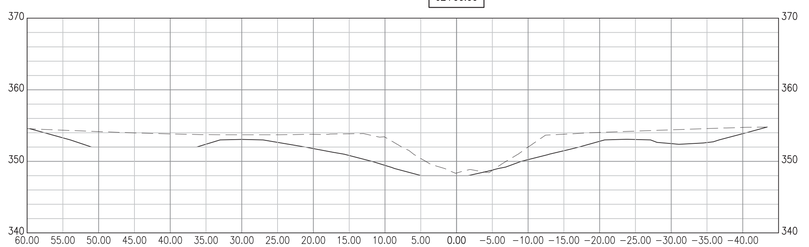

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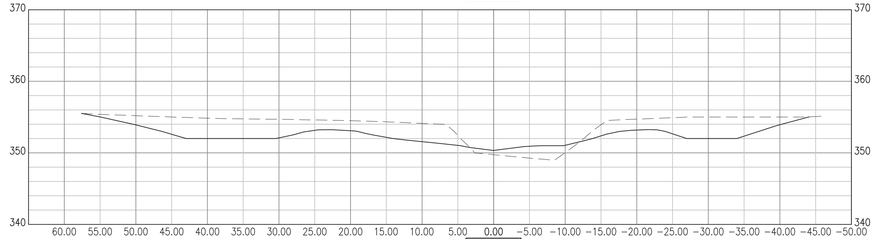

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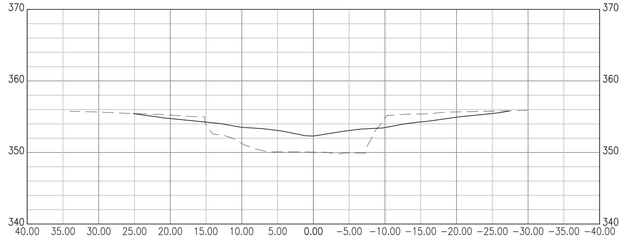
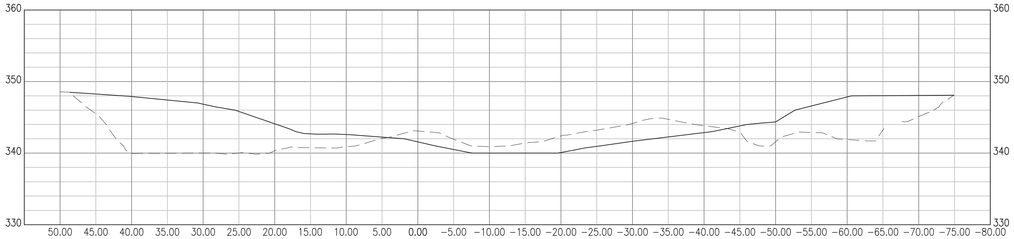


SHA TRIBUTARY

60+25.00



LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

STATE OF MARYLAND · MELISSA DIANE KOSS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
3	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:12-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

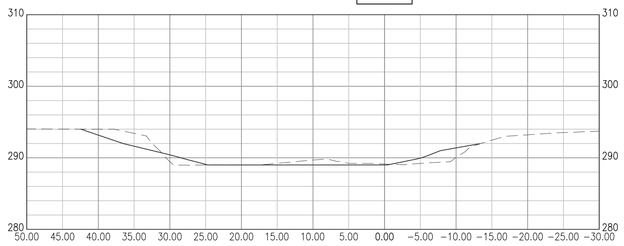
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 79 OF 84

FILE # G-134

40+25.00



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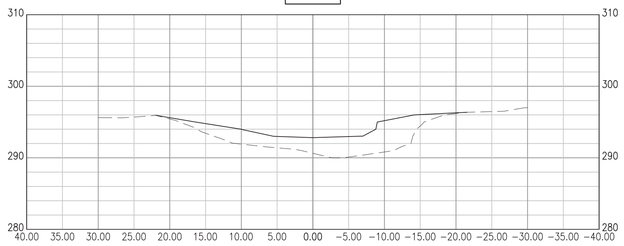

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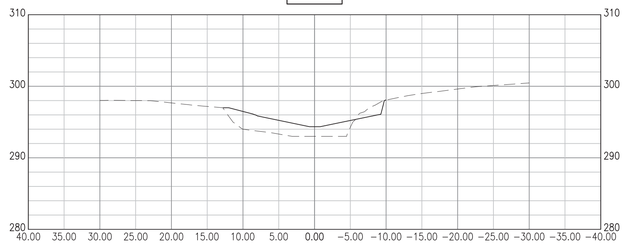

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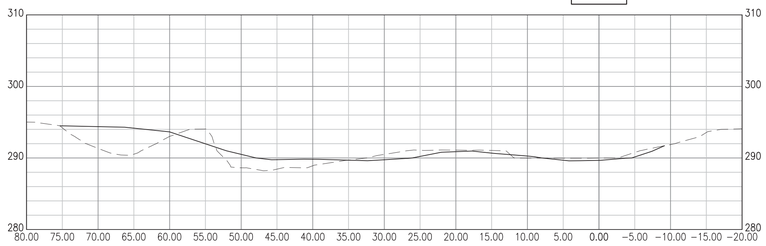

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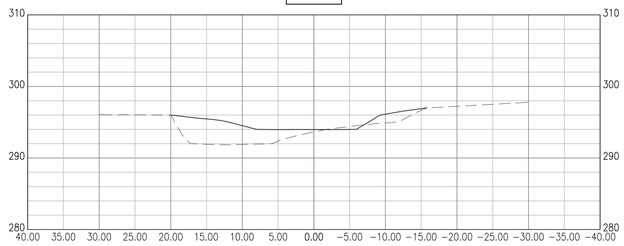

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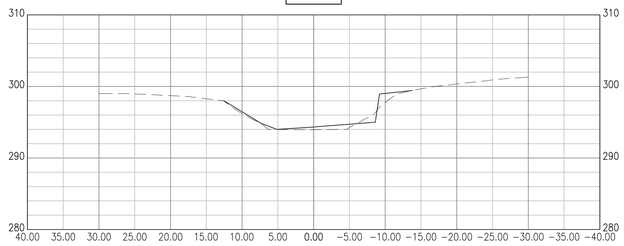

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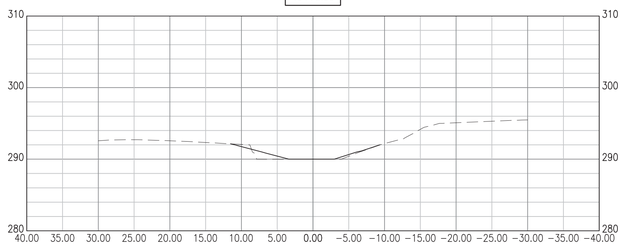

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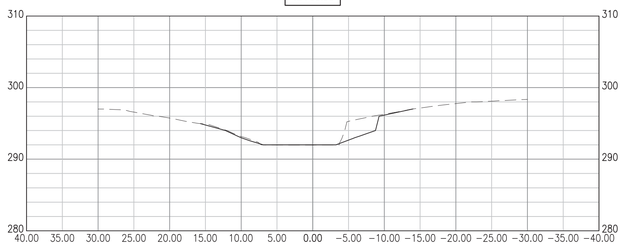

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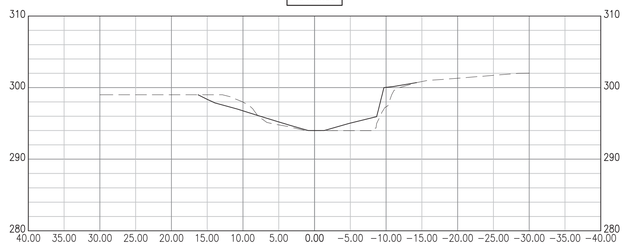

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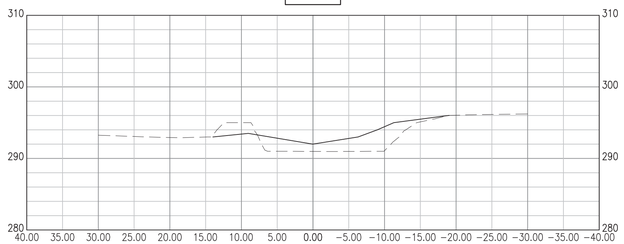

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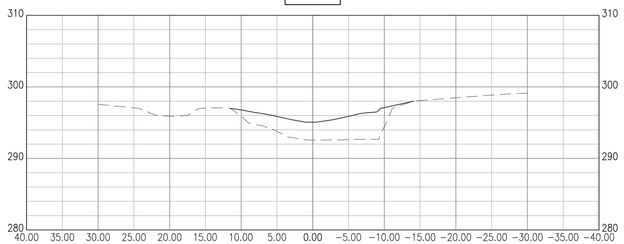

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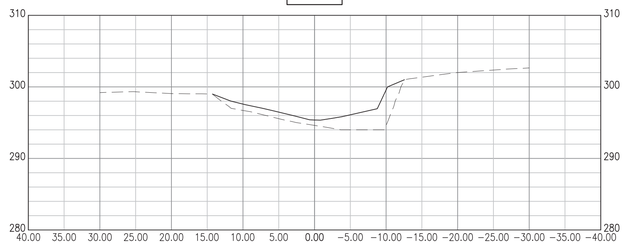

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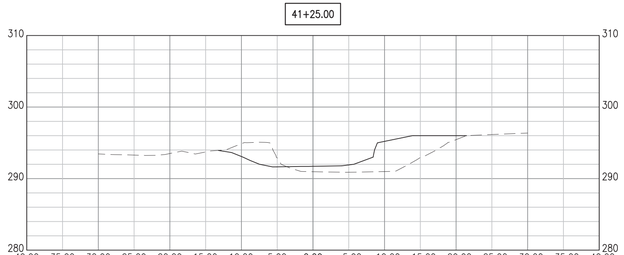

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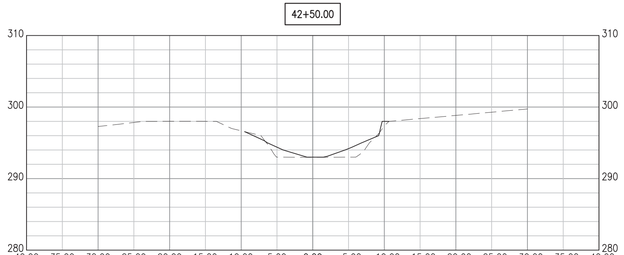

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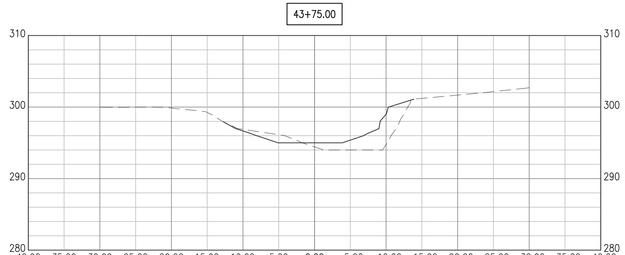

CALVIN TRIBUTARY

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

STATE OF MARYLAND MELISSA DIANE WEISS No. 26539 PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
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17:47:13-04'00'

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PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

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CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

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CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

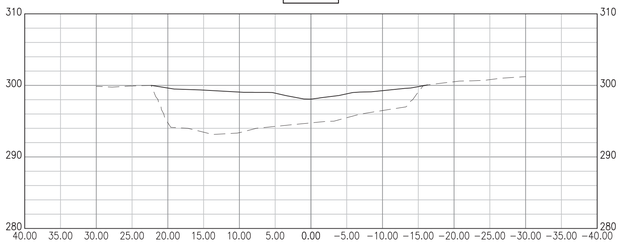
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 80 OF 84

FILE # G-134

44+00.00



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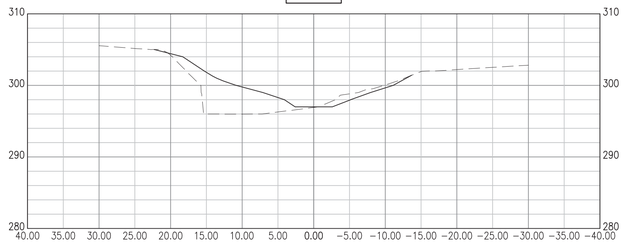

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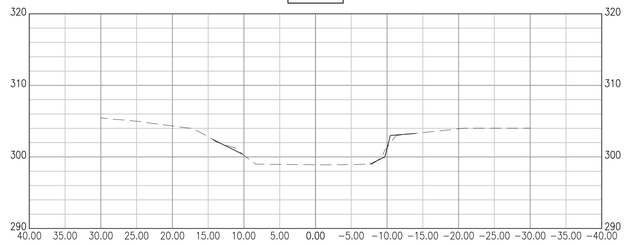

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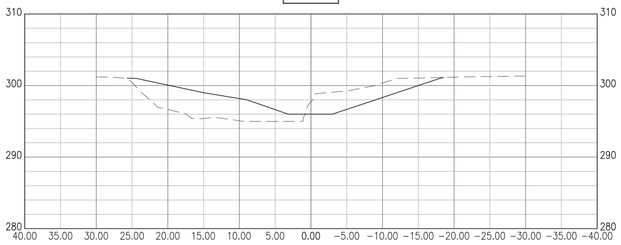

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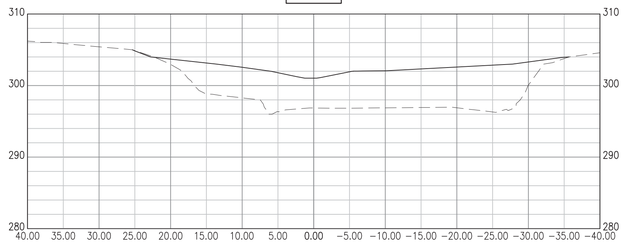

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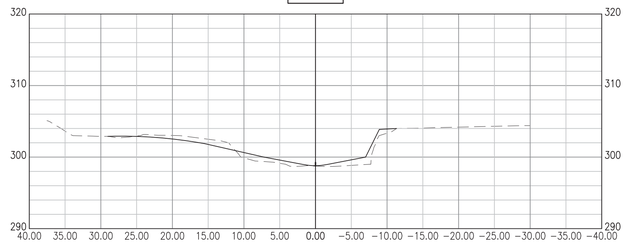

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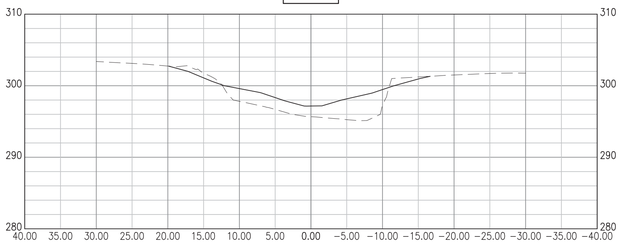

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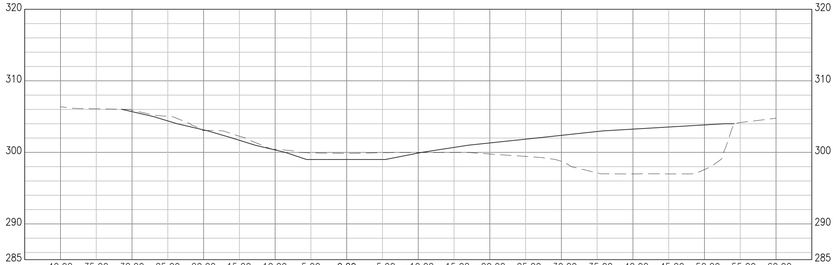

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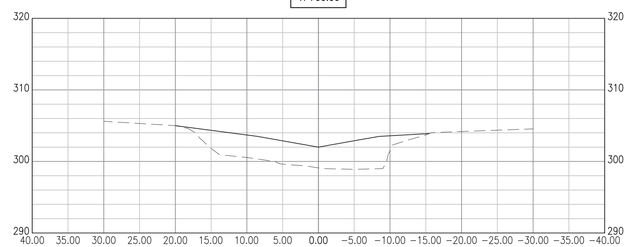

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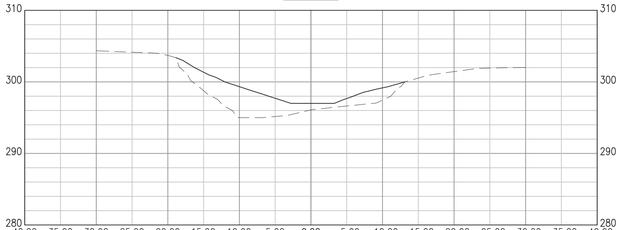

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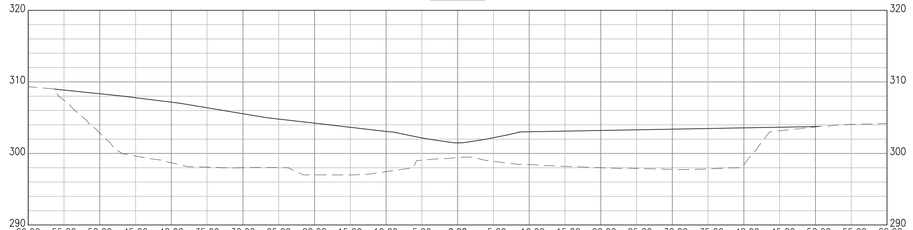

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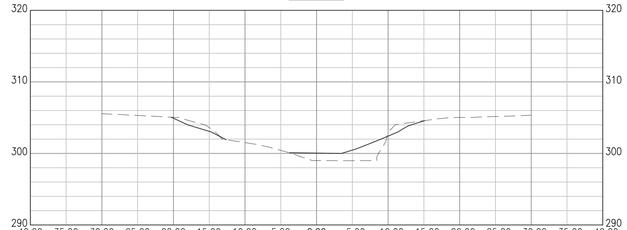

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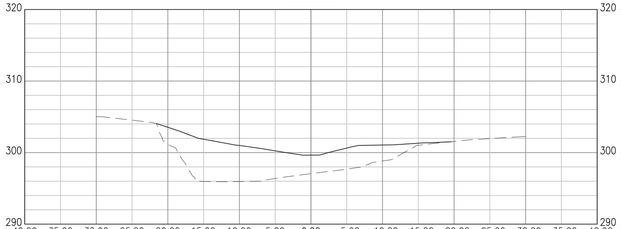

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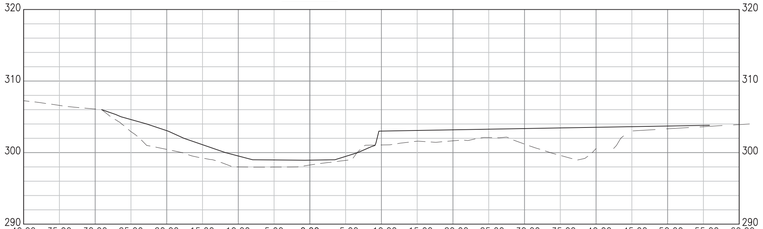

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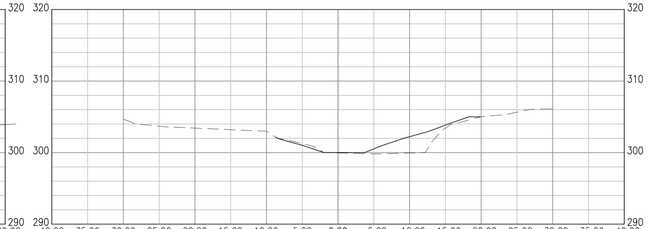


LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

CALVIN TRIBUTARY (CONT.)

STATE OF MARYLAND
MELISSA DIANE KESS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:14-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

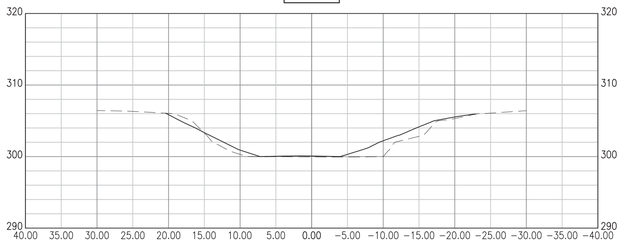
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 81 OF 84

FILE # G-134

47+75.00



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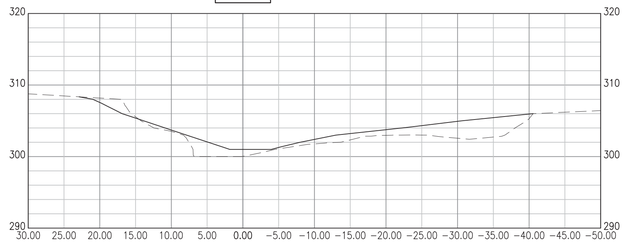

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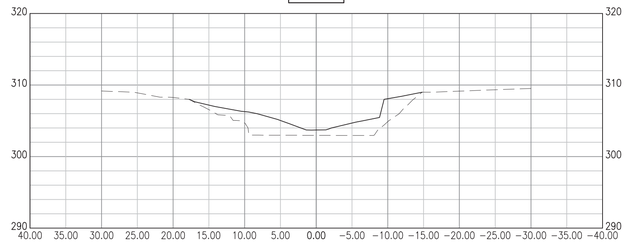

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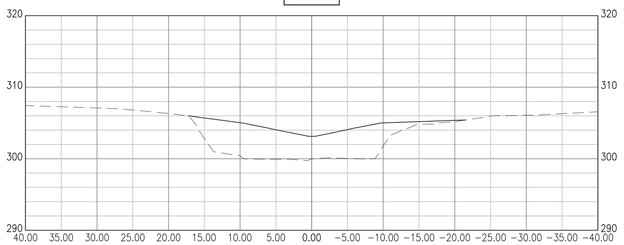

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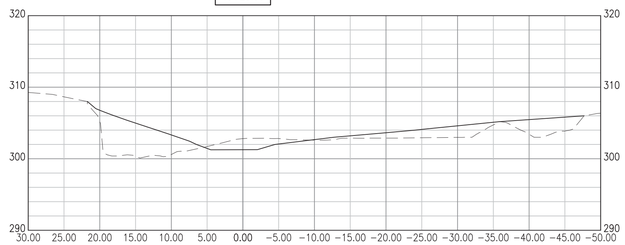

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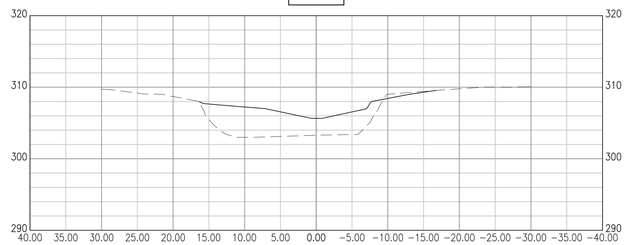

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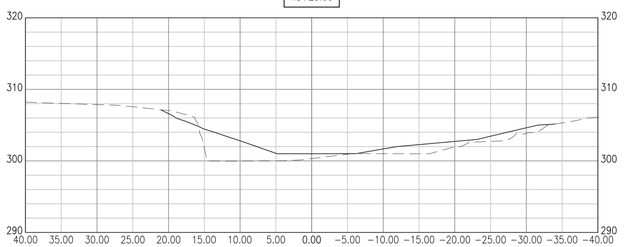

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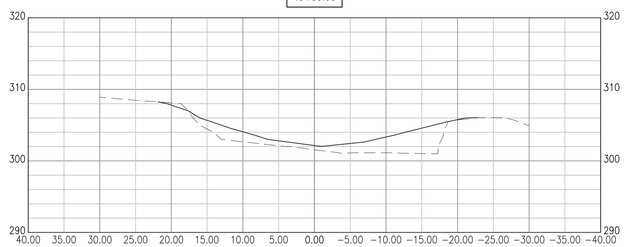

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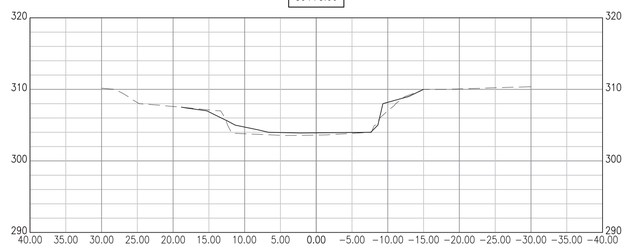

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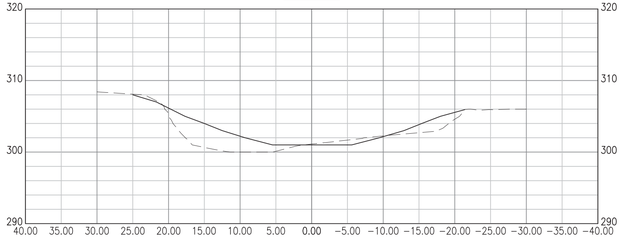

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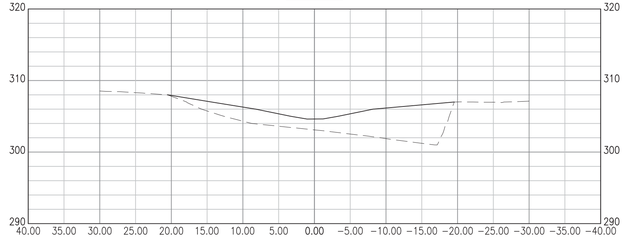

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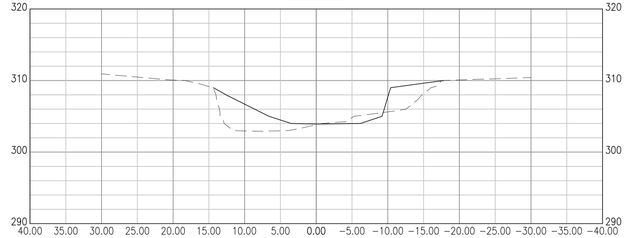

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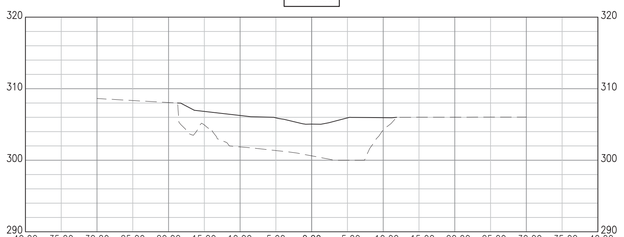

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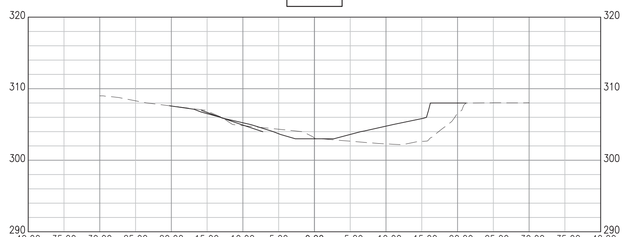

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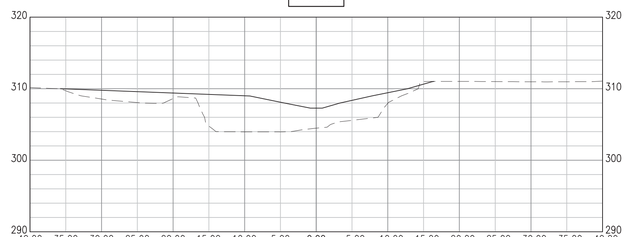


CALVIN TRIBUTARY (CONT.)

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
X	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau 2025.05.05 17:47:16-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

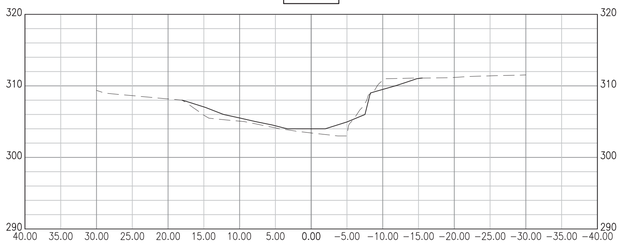
DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 82 OF 84

FILE # G-134

51+50.00



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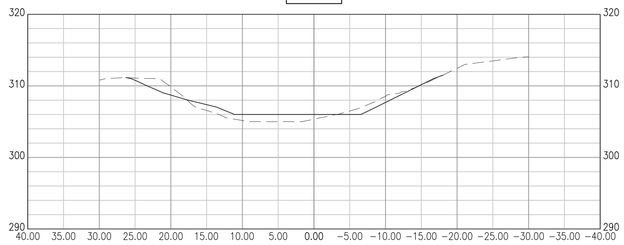

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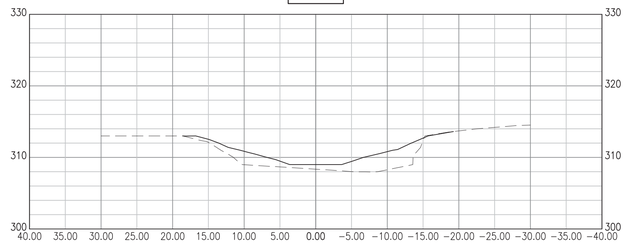

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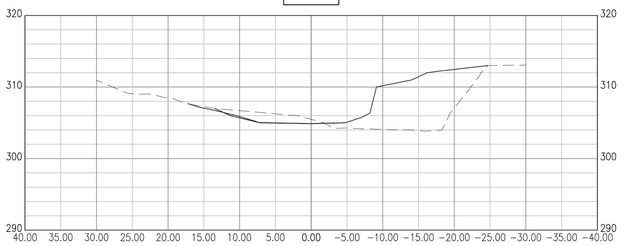

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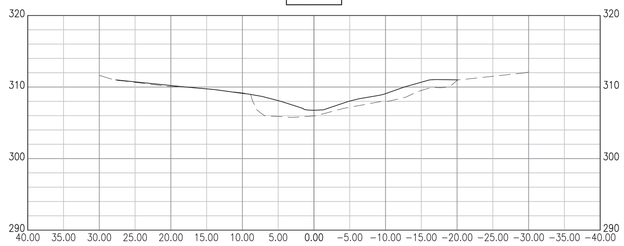

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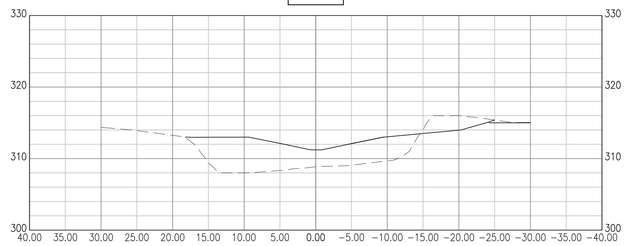

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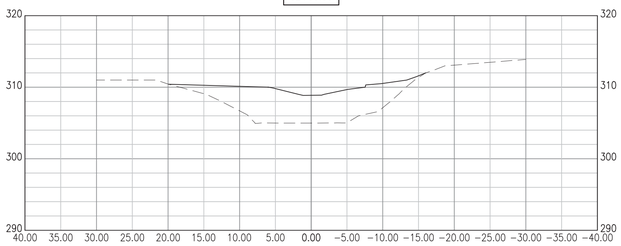

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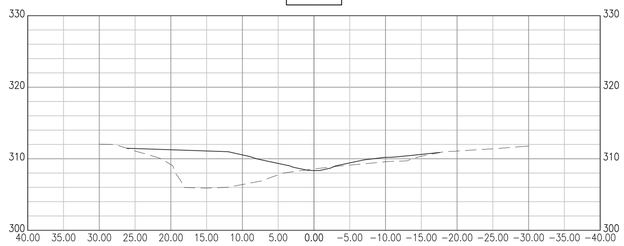

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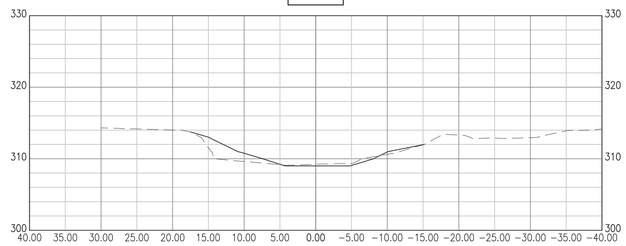

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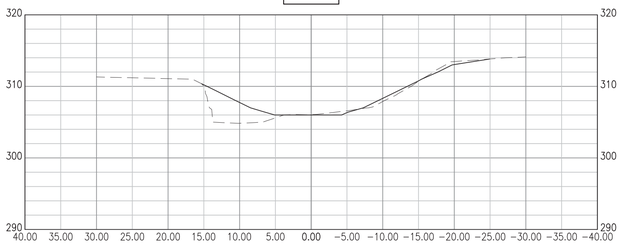

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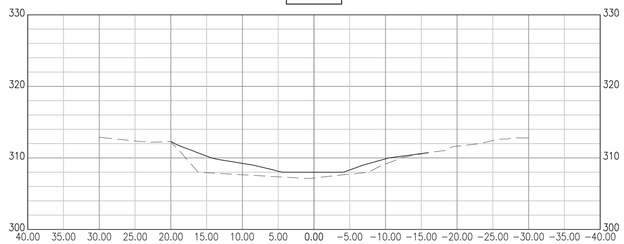

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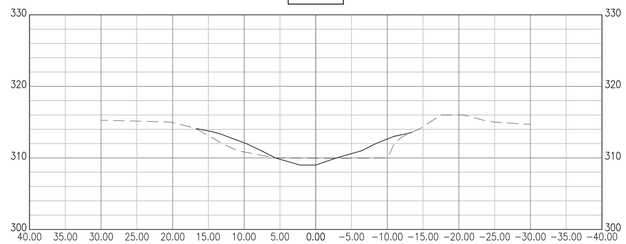

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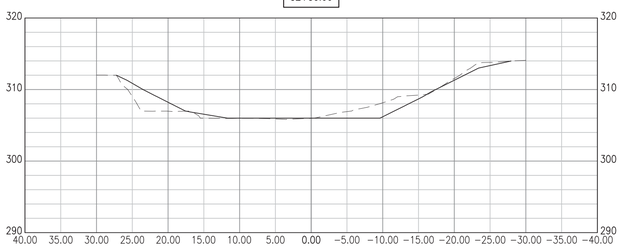

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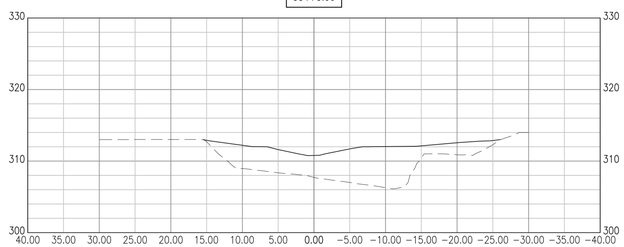

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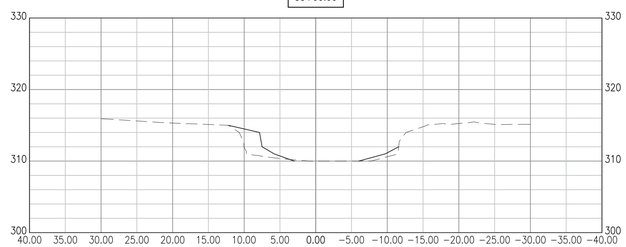

CALVIN TRIBUTARY (CONT.)

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

STATE OF MARYLAND
MELISSA DIANE WEISS
No. 26539
PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
2	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:17-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 83 OF 84

FILE # G-134

CALVIN TRIBUTARY (CONT.)

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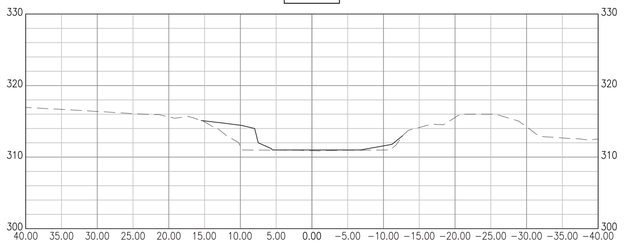

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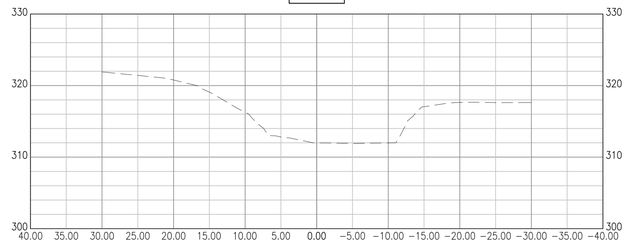

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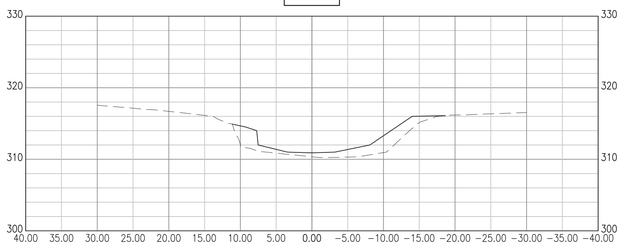

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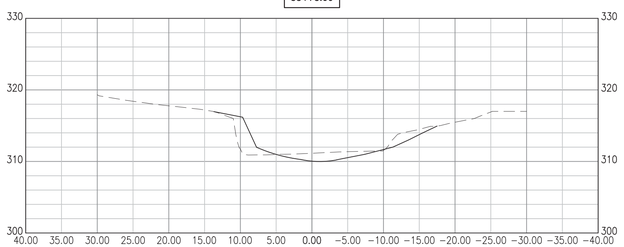

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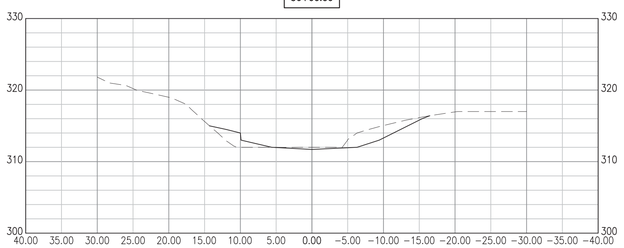

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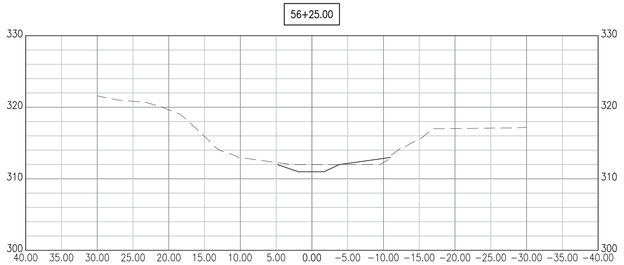

LEGEND

EXISTING GRADE

PROPOSED GRADE

0 10 20 Feet

VERTICAL & HORIZONTAL SCALE: 1" = 10'

STATE OF MARYLAND · MELISSA DIANE VESS · No. 26539 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
1	XX	XX	XX	XX	XX

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

URS

DESIGN PLAN APPROVAL

Craig L. Simoneau
2025.05.05
17:47:18-04'00'

DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# XXXX-XXXXX SCP# 2025-00017

SMP# 2025-00023 REVIEWED BY XX

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

STREAM RESTORATION

CROSS SECTIONS, 25-FT.

CROYDON CREEK AND CALVIN TRIBUTARY

Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 03/12/2025

SCALE H: 1"=10' V: 1"=10'

SHEET NO. 84 OF 84

FILE # G-134

END OF SECTION VII