

**PUR-1513
INVITATION TO BID
ISSUED ON BEHALF OF
THE BOARD OF COUNTY COMMISSIONERS
OF WASHINGTON COUNTY, MARYLAND**

**BY
THE WASHINGTON COUNTY PURCHASING DEPARTMENT
100 WEST WASHINGTON STREET, SUITE 3200
HAGERSTOWN, MD 21740
PHONE: 240-313-2330 / FAX: 240-313-2331**

DATE ISSUED: December 6, 2021

FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT

PRE-BID CONFERENCE/TELECONFERENCE

DATE/TIME AND LOCATION: **Monday, December 13, 2021, at 10:00 A.M., (EDT/EST)**
Washington County Administration Complex
Third Floor, Conference Room 3000
100 West Washington Street
Hagerstown, MD 21740

SUBMIT INQUIRIES: No later than **4:00 P.M., (EDT/EST), Monday, December 20, 2021** to:
Washington County Purchasing Department
Washington County Administration Complex
100 West Washington Street, Suite 3200
Hagerstown, MD 21740
Fax: 240-313-2331

SUBMIT BIDS TO: Washington County Purchasing Department
Washington County Administration Complex
100 West Washington Street
Third Floor, Suite 3200
Hagerstown, MD 21740

BID SUBMISSION DEADLINE

AND BID OPENING TIME: No later than **2:00 P.M., (EDT/EST), Wednesday, January 5, 2022**

BID OPENING LOCATION: Washington County Administration Complex
Third Floor, Conference Room 3000
100 West Washington Street
Hagerstown, MD 21740

If indicated below (✓) and not waived by the County, Bidders shall be required to provide the following:

- _____ A Bid Bond, in the amount of five (5%) percent of the bid on a bid of \$100,000 or more for construction contracts and on a bid of \$50,000 or more for contracts for services, supplies, or construction related services. See "Bid Bonds – Section 2" of the General Conditions and Instructions to Bidders.
- _____ A Performance Bond for a bid award of \$100,000 or more on construction contracts and on contracts for services, supplies, or construction related services. See "Bid Bonds – Section 2" of the General Conditions and Instructions to Bidders.
- _____ A Labor and Material Bond for a bid award of \$100,000 or more on construction contracts and on contracts for services, supplies, or construction related services. See "Bid Bonds – Section 2" of the General Conditions and Instructions to Bidders

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PURCHASING DEPARTMENT
DIVISION OF BUDGET & FINANCE

PUR-1513

FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT

ADVERTISEMENT FOR BIDS

Board of County Commissioners of Washington County, Maryland

Owner

100 West Washington Street
Hagerstown, Maryland 21740

Separately sealed BIDS for the **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT** to include, but not limited to: excavating and removal of exiting manholes and 10" gravity line, replacing manholes and 10" gravity line, placing proposed manholes and proposed gravity line, reconnecting existing laterals, disposal of existing manholes and gravity line and restoring any earth, pavement, curb and inlets that have been disturb to original will be received by the Board of County Commissioners of Washington County, Maryland at the office of the Washington County Purchasing Department, Washington County Administration Complex, 100 West Washington Street, Suite 3200, Hagerstown Maryland 21740 until no later than **2:00 P.M. (EDT/EST), Wednesday, January 5, 2022** and then publicly opened and read aloud in the Third Floor Conference Room #3000 of said building. Bidders who wish to hear a reading of the bid results prior to the opening shall call 240-313-2330 for further instructions. Documents are available immediately from the Washington County website by accessing: <https://www.washco-md.net>, "**Services/Bids-Purchasing/Open Bid Invitations**", for assistance you may contact the Washington County Purchasing Department, Washington County Administration Complex, 100 West Washington Street, Third Floor, Suite 3200, Hagerstown, MD 21740. Direct all inquiries to Rick F. Curry, CPPO, Director of Purchasing telephone 240-313-2330.

NOTE: All Bidders must enter the Washington County Administrative Complex through either the front door at the 100 West Washington Street entrance or through the rear entrance (w/blue canopy roof) which is handicap accessible and must use the elevator to access the Purchasing Department to submit their Bid. Alternate routes are controlled by a door access system. Washington County Government has announced new security protocols being implemented at the Washington County Administrative Complex at 100 West Washington Street, Hagerstown. The general public will be subject to wand search and will be required to remove any unauthorized items from the building prior to entry. Prohibited items include but are not limited to: Weapons of any type; Firearms, ammunition and explosive devices; Cutting instruments of any type - including knives, scissors, box cutters, work tools, knitting needles, or anything with a cutting edge, etc.; Pepper spray, mace or any other chemical defense sprays; and Illegal substances.

A Pre-Bid Conference/Teleconference will be held on **Monday, December 13, 2021 at 10:00 A.M., (EDT/EST)**, at the Washington County Administration Complex Third Floor Conference Room 3000, 100 West Washington Street, Hagerstown, MD 21740. Attendance at this Conference will not be

100 West Washington Street, Room 3200 | Hagerstown, MD 21740-4748 | P: 240.313.2330 | F: 240.313.2331 | TDD: 711

WWW.WASHCO-MD.NET

mandatory for those contractors wishing to submit bids, but it is strongly encouraged. Bidders who wish to participate in the teleconference, please call prior to the conference, 240-313-2330 for further instructions.

The CONTRACT DOCUMENTS may be examined at the following location:

Washington County Purchasing Department
Washington County Administration Complex
100 West Washington Street, Suite 3200
Hagerstown, MD 21740
Phone 240-313-2330

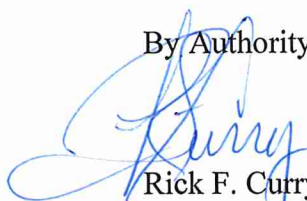
Bid Security in the form of a Cashier's Check, Certified Check, or Bid Bond payable to the Board of County Commissioners of Washington County Maryland, in an amount equal to five percent (5%) of the Bid Price shall be submitted by each bidding Contractor. The successful bidder is required to furnish satisfactory Payment and Performance Bonds for the full amount of the Contract. Bids shall be properly and completely executed on bid forms (BID FORM) provided with the bid documents in accordance with the "Information for Bidders". All work shall conform to the drawings and specifications. The contractor shall use the Form of Proposal and Schedule of Prices forms from the Bid Documents to submit their pricing.

The Owner may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and prospective bidders shall be required to furnish to the Owner's representative evidence of performance of similar projects of this magnitude and complication and all such information and data for this purpose as may be requested. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligation of the Contract and to complete the work contemplated therein.

Washington County, Maryland makes positive efforts to utilize Disadvantaged Business Enterprises for its supplies and services and allows these sources the maximum feasible opportunity to compete for contracts. The Board of County Commissioners does not discriminate on the basis of race, color, national origin, sex, religion, age, and disability in employment or the provision of services. Individuals requiring special accommodations are requested to contact the undersigned at 240-313-2330 Voice, TTY Dial 711 to make arrangements no later than seven (7) calendar days prior to the Pre-Bid Conference and/or Bid Opening.

The Board of County Commissioners of Washington County, Maryland, reserves the right to accept or reject any or all bids, to waive formalities, informalities and technicalities therein. The Board reserves the right to contact a Bidder for clarifications and may, at its sole discretion, allow a Bidder to correct any and all formalities, informalities and technicalities in the best interest of the Washington County, Maryland.

By Authority of:



Rick F. Curry, CPPO
Director of Purchasing

PUR-1513
FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

INFORMATION FOR BIDDERS

1. BIDS will be received by the Board of County Commissioners of Washington County, Maryland (herein called the "OWNER"), at the office of the Washington County Purchasing Department, Washington County Administration Building, 100 West Washington Street, Suite 3200, Hagerstown, MD 21740 until no later than **10:00 P.M., (EDT/EST), Wednesday, January 5, 2022**, and then publicly opened and read aloud in the Third Floor Conference Room #3000 of said building. Bidders who wish to hear the audio of the bid reading shall call, prior to the opening, 240-313-2330 for further instructions.
2. A pre-bid conference/teleconference will be held at the Washington County Administration Complex Third Floor Conference Room #3000, located at 100 West Washington Street, Hagerstown, MD 21740. This conference is to clarify any interpretation of plans, specifications, methods of measurement or payment and other published data so advertised and intended for bidding purposes. The conference will be followed by an inspection of the project site. Attendance at the conference and inspection is voluntary. All proceedings will be addressed in an addendum and issued to all prospective bidders. The meeting will be held on **Monday, December 13, 2021 at 10:00 A.M., (EDT/EST)**. Bidders who wish to participate in the pre-bid teleconference, please call, prior to the conference, 240-313-2330 for further instructions
3. Each BID must be submitted in a sealed envelope, addressed to Washington County Purchasing Department at 100 West Washington Street, Suite 3200, Hagerstown, MD 21740. Each sealed envelope containing a BID must be plainly marked on the outside as BID for **(PUR-1513) "FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT"** and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the BID is submitted. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the Washington County Purchasing Department at 100 West Washington Street, Suite 3200, Hagerstown, MD 21740.
4. All BIDS shall be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one (1) copy of the BID form is required. Bids must be submitted on forms provided.
5. The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified will not be considered. No BIDDER may withdraw a BID within one hundred twenty (120) calendar days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.
6. BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

7. The OWNER shall provide to BIDDERS prior to BIDDING, all information, which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.
8. The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve the contractor from fulfilling any of the conditions of the contract.
9. No interpretation of the meaning of the drawings, specifications or other contract documents shall be made to any bidder orally. Should any Proposer find discrepancies in, or omissions from the documents or be in doubt of their meaning, he should at once request in writing an interpretation from: Rick F. Curry, CPPO, Director of Purchasing, Washington County Purchasing Department, Washington County Administration Complex, 100 West Washington Street, Suite 3200, Hagerstown, MD 21740 (FAX: 240-313-2331); or send questions in Microsoft Word platform via e-mail to: purchasingquestions@washco-md.net.

All necessary interpretations will be issued to all Proposers in the form of addenda to the specifications, and such addenda shall become part of the contract documents. Requests received after **4:00 P.M., (EDT/EST) Monday, December 20, 2021** may not be considered. Every interpretation made by the County will be made in the form of an addendum which, if issued, will be sent by the Director of Purchasing to all interested parties, and such addenda shall become part of the contract documents. Failure of any bidder to receive such addendum or interpretation shall not relieve any bidder from his/her obligation under the bid as submitted.

10. The bidder's attention is directed to the fact that the multiple requirements of the various funding agencies may be redundant, or in some cases, contradictory. The bidder is directed to satisfy the most stringent requirements in case of conflict. In all cases, federal agency requirements will supersede those of the Owner unless the Owner's requirement is more stringent.
11. Each BID must be accompanied by a BID BOND payable to the OWNER for five (5%) percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS (if requested) of all except the three (3) lowest responsible BIDDERS. When the Agreement is executed the bonds of the two (2) remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.
12. A PERFORMANCE BOND and a LABOR AND MATERIAL PAYMENT BOND each in the amount of one hundred (100%) percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.
13. Attorneys-in-fact who signs the BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their power of attorney.
14. The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be

accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the Property of the OWNER.

15. The OWNER within ten (10) calendar days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.
16. The NOTICE TO PROCEED shall be issued within ten (10) calendar days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) calendars day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.
17. The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.
18. A conditional or qualified BID will not be accepted.
19. Award will be made to the responsive, responsible low BIDDER for the BID determined to be constructed by the Owner and shall be based on the Total Sum Bid.
20. All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.
21. Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to its BID.
22. Further, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.
23. The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.
24. Inspection trips for prospective BIDDERS will leave from the office of the Washington County Division of Environmental Management at 16232 Elliott Parkway Williamsport, Maryland, 21795 immediately following the pre-bid conference.

25. The ENGINEER will be the Washington County Division of Environmental Management. All correspondence during construction will go through the Washington County Division of Environmental Management, 16232 Elliott Parkway, Williamsport, Maryland 21795.
26. Bidder must complete the project within **One Hundred Eighty (180) consecutive calendar days** or liquidated damages in the sum of **Five Hundred (\$500.00) dollars** for each consecutive calendar day will be applied.
27. Prior to contracting, private corporations must either be incorporated in the State of Maryland or registered with the Maryland Department of Assessments and Taxation as a foreign corporation, and must be in good standing. Proof of such standing is required prior to the start of the contracting process and shall remain in good standing during the contract period. The website for the State Department of Assessments and Taxation is <http://dat.maryland.gov/Pages/sdatforms.aspx#BNE>, email address is charterhelp@helpdat.state.md.us, and the phone number for the State Department of Assessments and taxation are: **(410) 767-1340** or **(888) 246-5941**.

**GOVERNMENT-WIDE
DEBARMENT AND SUSPENSION**

Background and Applicability:

In conjunction with the Office of Management and Budget and other affected Federal agencies, DOT published an update to 49 CFR Part 29 on November 26, 2003. This government-wide regulation implements Executive Order 12549, *Debarment and Suspension*, Executive Order 12689, *Debarment and Suspension*, and 31 U.S.C. 6101 note (Section 2455, Public Law 103-355, 108 Stat. 3327).

The provisions of Part 29 apply to all grantee contracts and subcontracts at any level expected to equal or exceed \$25,000 as well as any contract or subcontract (at any level) for Federally required auditing services, 49 CFR 29.220(b). This represents a change from prior practice in that the dollar threshold for application of these rules has been lowered from \$100,000 to \$25,000. These are contracts and subcontracts referred to in the regulation as "covered transactions."

Grantees, Contractors, and Subcontractors (at any level) that enter into covered transactions are required to verify that the entity (as well as its principals and affiliates) they propose to contract or subcontract with is not excluded or disqualified. They do this by (a) Checking the Excluded Parties List System, (b) Collecting a certification from that person, or (c) Adding a clause or condition to the contract or subcontract. This represents a change from prior practice in that certification is still acceptable but is no longer required, 49 CFR 29.300.

Grantees, Contractors, and Subcontractors who enter into covered transactions also must require the entities they contract with to comply with 49 CFR 29, Subpart C and include this requirement in their own subsequent covered transactions (i.e., the requirement flows down to subcontracts at all levels).

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the Contractor is required to verify that none of the Contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The Contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the Bidder or proposer certifies as follows: The certification in this clause is a material representation of fact relied upon by the *County*. If it is later determined that the Bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the *County*, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

The Bidder agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer.

The Bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Company Name _____

Signature of Contractor's Authorized Official _____

Printed Name of Contractor's Authorized Official _____

Printed Title of Contractor's Authorized Official _____

Date _____

PUR-1513
FORM OF PROPOSAL

(Submit Form of Proposal & Schedule of Prices)

**Board of County Commissioners
of Washington County, Maryland
(Hereinafter called "Owner")
c/o Washington County Purchasing Department
100 West Washington Street, Suite 3200
Hagerstown, MD 21740**

BIDS DUE:
Date: Wednesday, January 5, 2022
Time: No later than 2:00 P.M. (EDT/EST)

Project Name: **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT**
Washington County Bid No.: **PUR-1513**
Washington County Project No.: **090-1347**
Washington County Contract No.:

Proposal of _____ (hereinafter
called "Bidder"), *a corporation, organized and existing under the laws of the State of _____,
*a partnership, or an individual doing business as _____.
Telephone No. (____) _____ Fax: (____) _____
Contact: Name & Title Printed: _____
Address: _____
E-Mail Address: _____

*Insert corporation, partnership or individual as applicable.

Gentlemen/Ladies:

The Bidder, in compliance with your Invitation for Bids for the abovementioned project has examined the plans and specifications with related documents and the size of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment, plant and services, and to construct the project in accordance with the Contract Documents and Addenda within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

We hereby submit our proposal for the **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT**

Having carefully examined the Contract Documents for the subject construction project -

Specifications dated September 30, 2021
Drawings dated September 30, 2021

Addenda No. _____ Date _____; No. _____ Date _____; No. _____ Date _____;

Addenda No. _____ Date _____; No. _____ Date _____; No. _____ Date _____;

and having received clarification on all items of conflict or upon which any doubt arose, the undersigned proposes to properly complete the work, in strict accordance with the Contract Documents, for the stipulated sum of, based on the unit prices set forth in the attached Schedule of Prices:

1. **TOTAL SUM BID:**

To furnish labor, materials, equipment, plant and services necessary to properly complete the work required under the TOTAL SUM BID, based on the unit prices set forth in the attached Schedule of Prices in strict accordance with the aforesaid documents, and to be substantially completed within One Hundred Eighty (180) consecutive calendar days of Notice to Proceed.

_____ Dollars (\$_____)
(Written) (Figures)

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

It is understood that the bid price will be firm for a time period of ninety (90) calendar days from the bid opening date and that if the undersigned is notified of acceptance of this proposal within this time period, the firm shall complete the total work within **One Hundred Eighty (180)** consecutive calendar days from the date of "Notice to Proceed" for construction and to complete the work in accordance with the provisions of the Contract Documents. If this work is not completed within the time period specified, the Contractor will be liable for liquidated damages of Five Hundred (\$500.00) dollars per consecutive calendar day will be applied.

2. **SUBCONTRACTORS:**

- A. All Bidders shall submit their list of subcontractors to the Washington County Purchasing Department with the bid.
- B. No change or deviation from this list shall be allowed except as determined by the Owner or the Owner's Representative.

3. **AWARD:** Award of the bid can be made by the Owner to the responsive, responsible low bidder based on the Total Sum Bid plus Contingent Bid Items C-1 through C-2.

4. **BIDDER'S STATE OF MARYLAND REGISTRATION NUMBER.**

Construction Firm License No. Date Issued Place of Issuance

Federal Employer Identification Number (FEIN) or Social Security No. (if no FEIN)

Bid Security Bonds shall be submitted with each proposal in the amount of five percent (5%) of the Total Base Bid plus Contingent Bid Items C-1 through C-2.

Bid Bonds, except those of the three (3) low bidders will be returned after the bid opening. Other bid bonds will be returned after the related contract has been executed. If no bid has been accepted within ninety (90) calendar days after the bid opening, then any bond may be returned upon demand of the bidder.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract within ten (10) calendar days. The Bid Security attached, in the sum of:

_____ Dollars \$ _____,
(Written) (Figures)

is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Failure to properly and completely fill in all blanks may be cause for rejection of this proposal. All alternates and unit prices called for in the Contract Documents must be submitted herewith.

AFFIRMATION/AFFIDAVIT REGARDING COLLUSION

I AFFIRM THAT:

Neither I nor, to the best of my knowledge, information, and belief, the below stated business has:

- (a) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;
- (b) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the Bidder or Offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted.

AFFIRMATION/AFFIDAVIT REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM:

Neither I nor, to the best of my knowledge, information, and belief, the below business (as is defined in Section 16-101 (b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies (as is defined in Section 16-101(f) of the State Finance and Procurement Article of the Annotated Code of Maryland), has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, Section 6-220 of the Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other State or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE ABOVE-REFERENCED AFFIDAVITS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF AND THAT I AM THE DULY AUTHORIZED REPRESENTATIVE OF THE BELOW BUSINESS AND THAT I PROCESS THE LEGAL AUTHORITY TO MAKE THE AFFIDAVITS ON BEHALF OF MYSELF AND THE BUSINESS FOR WHICH I AM ACTING.

BY: _____
(Signature of Authorized Representative and Affiant)

(Name & Title Printed)

(Business Address)

_____/_____
(Phone Number) (Fax Number)

(Federal Employer Identification Number)

(SEAL) If bid is by corporation.

For Informational Purposes Only: Has your company/firm been certified by the State of Maryland as a Minority Business Enterprise? (Please check below.)

_____ Yes _____ No

PUR-1513 SCHEDULE OF PRICES Base Bid Items						
ITEM NO.	ITEM (Unit Price Written)	UNIT	APPR. QTY	UNIT PRICE (Figures)	TOTAL PRICE (Figures)	
1	MOBILIZATION AND DEMOBILIZATION @ _____ (Written) Dollars _____ (Written) Cents per	LS	1	\$ _____	\$ _____	
2	REPLACEMENT OF MANHOLES @ _____ (Written) Dollars _____ (Written) Cents per	EA	17	\$ _____	\$ _____	
3	REPLACEMENT OF 8" SDR-26 GRAVITY SEWER @ _____ (Written) Dollars _____ (Written) Cents per	LF	1,280	\$ _____	\$ _____	
4	REPLACEMENT OF 10" SDR-26 GRAVITY SEWER @ _____ (Written) Dollars _____ (Written) Cents per	LF	1,423	\$ _____	\$ _____	

5	NON-PAVED AREA RESTORATION @ _____ Dollars (Written) _____ Cents per (Written)		SY	390	\$ _____	\$ _____
6	PAVED-AREA RESTORATION @ _____ Dollars (Written) _____ Cents per (Written)		SY	1,134	\$ _____	\$ _____
7	CURB REPLACEMENT @ _____ Dollars (Written) _____ Cents per (Written)		LF	560	\$ _____	\$ _____
8	INLET REPLACEMENT @ _____ Dollars (Written) _____ Cents per (Written)		EA	3	\$ _____	\$ _____
9	REHAB LINING OF MANHOLE @ _____ Dollars (Written) _____ Cents per (Written)		EA	2	\$ _____	\$ _____

Schedule of Prices

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

PUR-1513

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_____ Sign for Identification

10	FILTER LOG @ _____ Dollars (Written) _____ Cents per (Written)		LF	191	\$ _____	\$ _____
Total Sum Bid (Items 1 through 10) _____ Dollars (Written) _____ Cents (Written)						
\$ _____ (Figures)						

PUR-1513 SCHEDULE OF PRICES CONTINGENT BID ITEMS					
ITEM NO.	ITEM (Unit Price Written)	UNIT	APPR. QTY	UNIT PRICE (Figures)	TOTAL PRICE (Figures)
C1	SELECT MATERIAL FOR BACKFILL @ _____ Dollars (Written) _____ Cents per (Written)	CY	50	\$ _____	\$ _____
C2	CONTINGENT UNSUITABLE MATERIAL EXCAVATION @ _____ Dollars (Written) _____ Cents per (Written)	CY	50	\$ _____	\$ _____
Total Sum Contingent Bid Items (C-1 through C-2) _____ Dollars (Written) _____ Cents (Written)					
\$ _____ (Figures)					

NOTE: Contingent bid items are for work not shown on the Contract Drawings and shall only be performed at direction by the Owner.

<p align="center">TOTAL SUM BID (BASE BID ITEMS AND CONTINGENT ITEMS)</p>		<p align="center">\$ _____ (Figures)</p>
<p>_____ Dollars</p> <p align="center">(Written)</p>	<p>_____ Cents</p> <p align="center">(Written)</p>	

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the Board of County Commissioners of Washington County, Maryland as OWNER in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 2022. The Condition of the above obligation is such that whereas the Principal has submitted to the Board of County Commissioners of Washington County, Maryland a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for **Contract No. (PUR-1513) FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT**.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attachment hereto (Properly completed in accordance with said BID) and shall furnish a BOND for **faithful** performance of said contract, and for the payment of all persons performing labor furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

By: _____

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and authorized to transact business in the State where the project is located.

PUR-1513

CONTRACT AGREEMENT BY AND BETWEEN THE
BOARD OF COUNTY COMMISSIONERS OF
WASHINGTON COUNTY, MARYLAND

AND

THIS CONTRACT AGREEMENT (hereinafter the "Contract"), is made this _____ day of _____, 2021, by and between _____, a _____ corporation (hereinafter the "Contractor") and the **BOARD OF COUNTY COMMISSIONERS OF WASHINGTON COUNTY, MARYLAND**, a body corporate and politic and a political subdivision of the State of Maryland, (hereinafter the "County").

RECITALS

This Contract for the construction of **Contract No. PUR-1513, FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT**, near Highfield/Cascade, Washington County, Maryland, as shown on the drawings identified in the same manner, with a final approval date of September 2021, on file at the Division of Environmental Management, Williamsport, Maryland, subject to all the conditions, covenants, stipulations, terms and provisions contained in the Specifications, the Specifications being in all respects incorporated herein by reference and made a part hereof as if attached or entirely stated herein, has recently been awarded to the Contractor by the County, at and for a sum equal to the prices and rates respectively named therefore in the bid.

One of the conditions of said award is that a formal contract be executed by and between the Contractor and the County evidencing the terms of said award.

NOW, THEREFORE, in consideration of the mutual covenants, conditions and agreements herein contained, the parties hereby agree as follows:

1. The "Contract Documents," except for modifications issued after the execution of this Contract, are enumerated as follows and are incorporated herein by reference and made a part hereof as if attached or entirely stated herein:

*The executed Contract Agreement between the County and the Contractor,
The Advertisement for Bids,
The Information for Bidders,
The Government Wide Debarment and Suspension
The Completed Project Bid Forms
Form of Proposal
Schedule of Pricing
Bid Bond
Labor and Material Payment Bond
Performance Bond
Subcontractors List
Notice of Award
Notice to Proceed
General Conditions for Construction
Technical Specifications:*

Agreement

**FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT
PUR-1513**

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<i>Sheet 3</i>	<i>Plan View</i>
<i>Sheet 4</i>	<i>Plan View</i>
<i>Sheet 5</i>	<i>Details</i>
<i>Sheet 6</i>	<i>E&S Notes & Details</i>

2. The date of commencement and substantial completion of the project contemplated herein shall be as set forth in the Instructions to Bidders and stipulated by the Notice to Proceed or an authorized extension thereof.

3. The Contractor shall complete **Contract No. PUR-1513, FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT**, near Highfield/Cascade , Washington County, Maryland, in accordance with each and every one of the conditions, covenants, stipulations, terms and provisions contained in the aforementioned Specifications, which in all respects are incorporated herein by reference and made a part hereof as if attached or entirely stated herein, and as shown on the aforementioned drawings, which are also incorporated herein by reference and made a part hereof as if attached or entirely stated herein, at and for a sum equal to the prices and rates respectively named therefore in the bid attached hereto, and shall comply with and perform each and every obligation imposed upon it by the said Specifications or by the terms of said award.

4. The County shall comply with and perform each and every obligation imposed upon it by the said Specifications or by the terms of the said award.

5. The County shall pay the Contractor for the Contractor's performance of the Contract the sum of _____ Dollars and _____ Cents (\$ _____) (hereinafter the "Contract Sum"), when due and payable under the terms of the said Specifications and the terms of said award and shall be subject to additions and deductions as provided for in the Contract Documents.

6. Progress payments shall be made on account of the Contract Sum to the Contractor as set forth in the Contract Documents.

7. The Contractor hereby certifies that it is a corporation authorized and registered to do business in the State of Maryland with the Maryland State Department of Assessments and Taxation and shall remain so throughout the term of this Contract.

8. The Contractor hereby certifies that it has read and understood the provisions of the Washington County Purchasing guidelines dealing with conflicts of interest, and that it further certifies, represents and warrants to the County that there is no current conflict of interest and that the Contractor shall refrain from any such conflict of interest for the duration of this Contract.

9. This Contract was made and entered into in the State of Maryland and shall be governed and construed in accordance with the laws of the State of Maryland. As to the Contractor, this Contract is intended to be a contract under seal and specialty.

10. The Recitals are incorporated into this Contract as substantive provisions.

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed and delivered, the day and year first above written.

APPROVED AND AGREED TO:

ATTEST:

BY: _____
(Signature)

APPROVED AND AGREED TO:

ATTEST:

BOARD OF COUNTY COMMISSIONERS
OF WASHINGTON COUNTY, MARYLAND

Krista Hart, Clerk

BY: _____
Jeffrey A. Cline, President

Recommended for approval:

Mark D. Bradshaw P.E., Director
Division of Environmental Management

Approved for Legal Sufficiency:

Kirk C. Downey
County Attorney

END OF DOCUMENT

LABOR AND MATERIAL PAYMENT BOND

Board of County Commissioners of Washington County, Maryland

BOND NO. _____

CONTRACT NO. PUR-1513

Date Bond Executed: _____, 2022

KNOW ALL MEN BY THESE PRESENTS, that we _____,

_____,
(Here insert full name and address or legal title of Contractor, including zip code)

a corporation organized and existing under the laws of the State of Maryland and authorized to do business in the State of Maryland, hereinafter called the "**Principal**" and

_____,
(Here insert full name and address or legal title of Surety, including zip code)

a corporation organized and existing under the laws of the State of _____, and authorized to do business in the State of Maryland, hereinafter called the "**Surety**", are held and firmly bound unto the Board of County Commissioners of Washington County, Maryland, a body corporate and politic, and a political subdivision of the State of Maryland, hereinafter called the "**County**", for the use and benefit of claimants as hereinafter defined, in the Penal Sum _____ Dollars and _____ Cents (\$ _____) lawful money, for the payment of which Penal Sum we bind ourselves, our heirs, executors, administrators, personal representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into or will enter into a contract with the County, for the **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT (Contract No. PUR-1513), in Washington County, Maryland.** The contract and all items incorporated into the contract, together with any and all changes, extensions of time, alterations, modifications, or additions to the contract or to the work to be performed there under or to the Plans, Specifications, and Special Provisions, or any of them, or to any other items incorporated into the contract shall hereinafter be referred to as the "**Contract**".

WHEREAS, it is one of the conditions precedent to the final award of the Contract that these presents be executed.

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and materials furnished, supplied and reasonably required for use in the performance of the Contract, then this obligation shall be null and void, otherwise it shall remain in full force and effect, subject to the following conditions:

1. A **Claimant** is defined to be any and all of those persons supplying labor and materials (including lessors of the equipment to the extent of the fair market value thereof) to the Principal or its subcontractors and sub-subcontractors in the prosecution of the work provided for the Contract, entitled to the protection provided by Md. Code Ann., State Finance and Procurement Article, §17-101, *et seq.*, as from time to time amended.

2. The above-named Principal and Surety hereby jointly and severally agree with the County that every claimant as herein defined, who has not been paid in full may, pursuant to and when in compliance with the provisions of the aforesaid State Finance and Procurement Article, §17-101, *et seq.*, sue on this Bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant and have execution thereon. The County shall not be liable for the payment of any costs or expenses of any such suit.

The Surety hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder of the Specifications accompanying the same shall in any way affect its obligations on this Payment Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or the Specifications.

This Payment Bond shall be governed and construed in accordance with the laws of the State of Maryland and any reference herein to the Principal or Surety in the singular shall include all entities in the plural who or which are signatories under the Principal or Surety heading below.

IN WITNESS WHEREOF, the Principal and Surety have set their hands and seals to this Payment Bond this _____ day of _____, 2022.

WITNESS:

(Typed Name of Principal)

BY: _____ (SEAL)

(Typed Name and Title)

WITNESS:

(Typed Name of Surety)

BY: _____ (SEAL)

(Typed Name and Title)

(Name of Local Agent)

(_____) _____
(Telephone Number of Local Agent)

PERFORMANCE BOND

Board of County Commissioners of Washington County, Maryland

BOND NO. _____

CONTRACT NO. PUR-1513

Date Bond Executed: _____, 2022

KNOW ALL MEN BY THESE PRESENTS, that we _____,

(Here insert full name and address or legal title of Contractor, including zip code)

a corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of Maryland, hereinafter called the "**Principal**" and _____

(Here insert full name and address or legal title of Surety, including zip code)

a corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of Maryland, hereinafter called the "**Surety**", are held and firmly bound unto the Board of County Commissioners of Washington County, Maryland, hereinafter called the "**County**", the sum of Sum _____ Dollars and _____ Cents (\$ _____) lawful money of the United States for the payment of which sum well and truly to be made, the Principal and the Surety bind themselves, their heirs, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into or will enter into a contract with the County for the **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT (Contract No. PUR-1513, hereinafter the "Contract")**, in Washington County, Maryland, which Contract and all work to be done thereunder and all the plans, drawings, and specifications accompanying the same shall be deemed a part hereof and shall be incorporated by reference herein to the same extent as if fully set forth.

NOW, THEREFORE, during the original term of said Contract, during any extensions thereto that may be granted by the County, and during the guarantee and warranty period, if any, required under the Contract, unless otherwise stated therein, this Performance Bond shall remain in full force and effect unless and until the following terms and conditions are met:

1. Principal shall well and truly perform the Contract; and
2. Principal and Surety shall comply with the terms and conditions in this Performance Bond.

Whenever Principal shall be declared by the County to be in default under the Contract, the Surety may, within fifteen (15) days after notice of default from the County, notify the County of its election to either promptly proceed to remedy the default or promptly proceed to complete the Contract in accordance with and subject to its terms and conditions. In the event the Surety does not elect to exercise either of the above stated options, then the County thereupon shall have the remaining contract work completed, Surety to remain liable hereunder for all expenses of completion up to but not exceeding the penal sum stated above.

The Surety for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder of the

Performance Bond

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

PUR-1513

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Specifications accompanying the same shall in any way affect its obligations on this Performance Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder of the specifications accompanying the same.

This Performance Bond shall be governed by and construed in accordance with the laws of the State of Maryland and any reference herein to Principal or Surety in the singular shall include all entities in the plural who or which are signatories under the Principal or Surety heading below.

IN WITNESS WHEREOF, Principal and Surety have set their hands and seals to this Performance Bond. If any individual is a signatory under the Principal heading below, then each such individual has signed below on his or her own behalf, has set forth below the name of the firm, if any, in whose name he or she is doing business, and has set forth below his or her title as a sole proprietor. If any partnership or joint venture is a signatory under the Principal heading below, then all members of each such partnership or joint venture, and each member has set forth below his or her title as a general partner, limited partner, or member of joint venture, whichever is applicable. If any corporation is a signatory under the Principal or Surety heading below, then each such corporation has caused the following: the corporation's name to be set forth below, a duly authorized representative of the corporation to affix below the corporation's seal and to attach hereto a notarized corporate resolution or power of attorney authorizing such action, and each such duly authorized representative to sign below and to set forth below his or her title as a representative of the corporation. If any individual acts as a witness to any signature below, then each such individual has signed below and has set forth below his or her title as a witness. All of the above has been done as of the Date of Bond shown above.

Signed, and sealed this _____ day of _____, 2022.

WITNESS:

(Typed Name of Principal)

BY: _____ (SEAL)

(Typed Name and Title)

WITNESS:

(Typed Name of Surety)

BY: _____ (SEAL)

(Typed Name and Title)

(Name of Local Agent)

() _____

(Telephone Number of Local Agent)

SUBCONTRACTORS LISTING

All bidders will name below the Item or Items he/she proposes to sublet, their dollar value, the name of the subcontractor or subcontractors and check the "Minority Business Enterprise" column if the named subcontractor so considers itself as per the definition contained elsewhere herein these specifications. The sub-contractor's listing shall be submitted along with the bid proposal.

ITEM NO.	DOLLAR VALUE	SUBCONTRACTOR	MINORITY BUSINESS ENTERPRISE

NOTICE OF AWARD

TO: _____

PROJECT Description: **FORT RITCHIE GRAVITY LINES AND MANHOLE REPLACEMENT** to include but not be limited to: clearing and grubbing, grading, placement of mechanically stabilized earth, erosion and sediment control and restoration of non-paved areas as shown on contract plans.

The OWNER has considered the BID submitted by you for the above-described WORK in response to its Advertisement for Bids dated December 6, 2021, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S PERFORMANCE BOND, PAYMENT BOND and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS and CERTIFICATE OF INSURANCE within ten (10) calendar days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 2022.

Board of County Commissioners of
Washington County, Maryland
100 West Washington Street, Suite 1101
Hagerstown, Maryland 21740
Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged

By _____, this _____ day
(Print Name)

of _____, 2021.

By _____ Title _____
(Signature)

Notice of Award

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

PUR-1513

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**BOARD OF COUNTY COMMISSIONERS OF
WASHINGTON COUNTY, MARYLAND**

Washington County Administration Complex
100 West Washington Street, Suite 1101
Hagerstown, Maryland 21740

NOTICE TO PROCEED

TO: _____

Project Title _____

Bid No. _____ Contract No. _____ Project No. _____

Type of Project/Construction _____

Amount of Contract = \$ _____

You are hereby given Notice to Proceed to commence work on the above project on or before _____, _____, and shall fully complete all of the work of said project within _____ consecutive calendar/working days thereafter.

Your completion date is therefore _____, _____.

The Contract provides for an assessment of the sum of \$ _____ as liquidated damages for each consecutive calendar/working day after the above established project completion date that the work remains incomplete.

Issued this _____ day of _____, _____.

By _____
(Signature)

Name & Title Printed

ACCEPTANCE OF NOTICE

Receipt of the foregoing Notice to Proceed is hereby acknowledged for (Contracting Firm) _____ this _____ day of _____, _____.

By _____
(Signature)

Name & Title Printed

Notice to Proceed

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

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WASHINGTON COUNTY, MD



GENERAL CONDITIONS FOR CONSTRUCTION

October 2008

GENERAL CONDITIONS (GC)

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WASHINGTON COUNTY, MD GENERAL CONDITIONS FOR CONSTRUCTION CONTRACTS

GENERAL CONDITIONS

GC-SECTION 1 DEFINITIONS AND TERMS

These General Conditions include certain basic conditions and standard specifications common to all construction projects.

GC-1.01 GENERAL

Wherever in these General Conditions or in other Contract Documents the following terms or abbreviations are used, the meaning shall be as follows:

GC-1.02 ORGANIZATIONAL DEFINITIONS

- (a) **County** – The County of Washington County, Maryland, a body corporate and politic.
- (b) **Deputy Director** – The Washington County Deputy Director of Public Works (Capital Projects) or the Deputy Director of Environmental Management (Engineering Services) whichever has responsibility for the Contract.
- (c) **Director** – The Washington County Director of Public Works or Director of Environmental Management, whichever has responsibility for the Contract.
- (d) **Division** – The word Division shall mean the Washington County Division of Public Works or the Division of Environmental Management, whichever has responsibility for the Contract.
- (e) **Engineer** – the word Engineer will refer to the County's assigned Project Representative within the Washington County Division of Public Works or the Division of Environmental Management or his/her duly authorized representative.
- (f) **Inspector** – The authorized field representative of the Engineer assigned to make detailed inspection for compliance with the Contract Documents of any or all

portions of the work, or materials thereof. Unless otherwise specifically stated in the Contract documents, the Inspector is not authorized to make code inspections.

- (g) **Purchasing Agent** – The Director of the Washington County Purchasing Department or his/her designee.

GC-1.03 DEFINITIONS

1. **Advertisement** – The public announcement, as required by law, inviting Bids for work to be performed or materials to be furnished.
2. **Agencies/Agency** – Whenever in the Contract Documents reference is made to any federal, state, or county agency or officer, such reference shall be deemed made to any agency or officer succeeding in accordance with law to the powers, duties, jurisdictions and authority of the agency or officer mentioned as it pertains to the Contract.
3. **As-Built Plans** – A set of contract drawings marked in red that clearly reflect the detailed differences between actual construction and those of the original Contract Documents as they existed at the time of award.
4. **Award** – The acceptance by the County of the Bid of the lowest responsive and responsible Bidder for the Work subject to the execution and approval of a satisfactory Contract therefore and Bond when required to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.
5. **Base Course** – The layer or layers of specified selected material of designed thickness placed on a subbase or a subgrade to support a surface course.
6. **Bid** – A statement of price, terms of sale, and description of the supplies, services, construction or construction-related services offered by a Bidder to the County in response to an Invitation for Bids. Also referred to as Proposal.
7. **Bid Security** – The security in the form required by the County in the Bid and executed by the Bidder and its Surety. The Bid Security (when required) shall be in the amount designated by the County as a guarantee on the part of the Bidder to enter into a Contract with the County, if the work of constructing the improvement is awarded to the Bidder, and to post acceptable Payment and Performance Bonds.
8. **Bid Item** – An item of work specifically described in the Invitation for Bids and for which a price, either unit or lump sum, is provided. It includes the performance of all work and the furnishing of all labor, equipment and materials. A Bid Item is synonymous to a contract item or a pay item.
9. **Bid Form** – The approved form on which the County requires Bids to be set forth and submitted.

10. **Bidder** – A Person formally submitting a Bid for the Work contemplated, acting directly or through a duly authorized representative.
11. **Bridge** – A bridge shall be any structure so defined under the FHWA Guidelines. It shall also include any bridge or highway grade separation structure and shall embrace the substructure and superstructure and the approaches thereto, and such entrance plazas, interchanges, overpasses, underpasses, connection highways and other structures which the County may deem necessary in connection therewith, together with all property rights, easements, franchises and interests acquired by the County for the construction and operation of such bridge.

For the convenience of and definition by the County, a bridge will also be known as a structure more than 20 feet in span. The County's definition of length shall be the out-to-out dimension of the floor or from back wall to back wall of abutments. Bridges less than 20 feet in span shall be considered culverts or small structures. Culverts may be designated as arches, box culverts, or pipes. For arches, the length shall be clear span. For box culverts and batteries of pipes, the length shall be out to out of outer walls and out to out of shells of outside pipes. For lengths, all dimensions shall be parallel to the centerline of the roadway. The dimensions of handrails will not be taken into account in measuring bridge lengths.

12. **Calendar Day** – Every day shown on the calendar, Saturdays, Sundays, and Holidays included.
13. **Change Order** – A written order issued by the Purchasing Agent and approved by the Deputy Director and the Director which changes the Contract Documents within the general scope of the Contract and establishes the basis of payment or credit and/or time adjustments for the work affected by the changes.
14. **Claim** – A written demand or assertion by one of the parties seeking, as a legal right, an equitable adjustment including the payment of money, adjustment or interpretation of the Contract Documents, or other relief, arising under or relating to this Contract.
15. **Contingent Item** – Any item listed on the Plans or called for in the Special Provisions and included in the Bid merely for the purpose of obtaining a Contract price in case it may be needed.
16. **Contract** – The written agreement executed between the County and the successful Bidder, covering the performance of the work and furnishing of labor, equipment and materials, by which the Contractor is bound to perform the work and furnish the labor, equipment and materials, and by which the County is obligated to compensate him/her, therefore, at the mutually established and accepted rate or price.
17. **Contract Documents** – The Contract Documents consist of the Invitation for Bids, the Bid, the Contract, the Payment and Performance Bonds, General Conditions,

Specifications, all Special Conditions, all Drawings, all Addenda, Award Letter, Notice to Proceed, also any written Change orders and Supplemental Agreements that are issued to complete the construction of the work in an acceptable manner, including authorized extensions thereof.

18. **Contract Time or Completion Date** – the number of working or calendar days shown in the Bid indicating the time allowed for the completion of the work contemplated in the contract. In case a calendar date of completion is shown in the Bid, in lieu of the number of working or calendar days, such work shall be completed by that date.
19. **Contractor** – A person undertaking the execution of the Work under the terms of the Contract Documents acting directly or through its agents or employees.
20. **County Road** – The term “County Road” means any public road in Washington County, excluding State Highways, title to which, or the easement for the use of which, is vested in a public body or governmental agency by grant, condemnation, dedications, or operation of law.
21. **Culvert** – An arched drain for the passage of water under a roadway, driveway, entranceway or other passageway.
22. **Day** - Every day shown on the calendar, Saturdays, Sundays and Holidays included.
23. **Domestic Manufacture** – When referring to metallic items such as structural steel, pipe, reinforcement, bridge rails, etc., the term “Domestic Manufacture” is intended to mean those metals whose final alloying has taken place within the confines of the Continental United States.
24. **Drainage Ditch** – In general, any open water course other than gutters, constructed beyond the limits of cut or fill slopes for excavation or embankment as indicated by the typical section shown on the plans.
25. **Engineers Supplemental Information (ESI)** – A written notice or response containing information provided by the Engineer as a clarification or supplement to the Contract Documents.
26. **Equipment** – All machinery, tools, and apparatus necessary for the proper construction and acceptable completion of the Work, together with the necessary supplies for operation, transportation, storage, upkeep, and maintenance.
27. **Estimate** – The measurement of quantities by the Engineer or the Inspector of various pay items and/or lump sum items of work based on the Contract definitions for method of measurement and basis of payment for each item.
28. **Extra Work** – Work that was not provided for in the original Contract. Extra Work is synonymous with additional work.

29. Fixed-Price Contingent Items - Bid Items for which unit prices are established by the County to compensate the Contractor for the cost of work and materials in the event that the item may be needed. In the event that a quantity is shown on the Bid sheet for a Fixed-Price Contingent Item, such quantity is intended solely for the purpose of generating a total price extension which will be added to the price totals of items Bid. No representation is made or intended to be made that the quantity shown, or any quantity, will be used.

30. Holidays

The County observes a five-day work week and the following holidays:

January 1	-	New Year's Day
January (3 rd Monday)	-	Martin Luther King Day
March/April	-	Good Friday
May (last Monday)	-	Memorial Day
July 4	-	Independence Day
September (1 st Monday)	-	Labor Day
November 11	-	Veterans Day
November (4 th Thursday)	-	Thanksgiving Day
November (4 th Friday)	-	Day after Thanksgiving Day
December 24	-	Christmas Eve
December 25	-	Christmas Day
December 31	-	New Year's Eve

(a) If any holiday occurs on Sunday, the following Monday shall be considered a holiday. If the holiday occurs on Saturday, the Friday immediately preceding shall be considered a holiday. The County reserves the right to adjust the holiday schedule.

(b) The Contractor will not be permitted to work on the above-mentioned holidays, or Saturdays unless requested 48 hours in advance by written notice. If the Engineer approves the request, he/she will authorize this in writing and the Contractor will not be charged for the inspector's time. In the event that the Contractor fails to work its forces as indicated in its written request, he/she shall be charged a minimum of ½ day for inspection time at the overtime rate.

(c) The normal number of working hours per day on this contract will be limited to nine, unless otherwise specified or authorized by the Engineer in writing.

(d) In case of an emergency, which may require that work be done on Saturday's, Sundays, holidays, or longer than nine hours per day, the Contractor shall request permission of the Engineer to do so. If in the opinion of the Engineer the emergency is bona fide, he/she will grant permission to the Contractor to work such hours as may be necessary. Also, if in the opinion of the Engineer a bona fide emergency exists, he/she

may direct the Contractor to work such hours as may be necessary whether the Contractor requests permission to do so or not.

31. **Invitation For Bids** – The advertisement soliciting Bids for all work and/or materials on which Bids are required. Such advertisement or Invitation for Bids will indicate with reasonable accuracy the location and magnitude of the work to be done and/or the character and quantity of the material to be furnished and the time and place of the opening of Bids.
32. **Laboratory** – The testing laboratory of Washington County or any other testing laboratory that may be designated by the Engineer.
33. **Materials** – Any substances specified for use in the construction of the Project and its appurtenances.
34. **Median** – The portion of a divided highway separating the traveled ways for traffic in opposite directions.
35. **Minority Business Enterprise (MBE)** – Unless otherwise specifically addressed in the Special Provisions or other Contract Documents, any legal entity, other than a joint venture, organized to engage in commercial transactions which is at least 51 percent owned and controlled by one or more minority persons, or a nonprofit entity organized to promote interest of the physically or mentally disabled.
36. **Minority or Minority Person** – Unless otherwise specifically addressed in the Special Conditions or other Contract documents, a member of one of the following socially and economically disadvantage groups:
 - (a) African American – An individual having origins in any of the Black racial groups of Africa;
 - (b) American Indian/Native American – An individual having origins in any of the original peoples of North America and who is a documented member of a North American tribe, band, or otherwise organized group of native people who are indigenous to the continental United States or who otherwise have a special relationship with the United States or a state through treaty, agreement, or some other form of recognition. This includes an individual who claims to be an American Indian/Native American and who is regarded as such by the American Indian/Native American community of which he/she claims to be a part, but does not include an individual of Eskimo or Aleutian origin;
 - (c) Asian – An individual having origins in the far East, Southeast Asia, or the Indian Subcontinent and who is regarded as such by the community of which the person claims to be a part;

- (d) **Hispanic** – An individual of Mexican, Puerto Rican, Cuban, Central or South American, Portuguese or other Spanish culture or origin regardless of race, and who is regarded as such by the community of which the person claims to be a part;
- (e) **Women** – This category shall include all women, regardless of race or ethnicity, although a woman who is also a member of an ethnic or racial minority group may elect that category in lieu of the gender category; or
- (f) **Physically or Mentally Disabled** – An individual who has an impairment that substantially limits one or more major life activity, who is regarded generally by the community as having such a disability, and who disability has substantially limited his or her ability to engage in competitive business.
37. **Notice To Proceed** – A written Notice to the Contractor of the date on or before which it shall begin the prosecution of the work to be done under the Contract.
38. **Payment Bond** – The security in the form approved by the County and executed by the Contractor and his/her Surety, and paid for by the Contractor, as a guarantee that he/she will pay, in full, all bills and accounts for materials and labor used in the construction of the work, as provided by law.
39. **Performance Bond** – The security in the form approved by the County and executed by the Contractor and his/her surety and paid for by the Contractor, guaranteeing complete performance of the Contract including indemnification, warranties and repair of latent defects.
40. **Person** – any individual, partnership, firm, corporation, association, or joint venture authorized to conduct business in Maryland.
41. **Plans or Drawings** – The official plans and drawings issued by the County as part of the Contract Documents, including those incorporated in the Contract Documents by reference. These include the official approved drawings, profiles, typical cross sections, working drawings and supplemental drawings or exact reproduction thereof which show the location, character, dimensions and details of the work to be done. Plans are synonymous with contract drawings.
42. **Profile Grade** – The trace of a vertical plane intersecting the top surface of the proposed wearing surface usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.
43. **Project** – The construction of, reconstruction of, relocation of, or the major maintenance of any County facility, or portion thereof.
44. **Project Representative** – The executive representative of the Contractor authorized to receive and execute instructions from the Engineer and who shall manage and direct the Project.

- 45. **Questionnaire** – the approved form or forms upon which the Bidder shall furnish the information as to his/her ability to perform the work, his/her experience in similar work, the equipment to be used, and its financial condition as related to his/her ability to finance the work.
- 46. **Record Counterpart Document** – Contract Documents that have been compiled by the County and formally executed by the parties to the Contract and shall be the governing document for the project.
- 47. **Request For Information (RFI)** – A written request for information or clarification by one of the Contract parties often pertaining to the Contract documents.
- 48. **Request for Payment** – The Contractor’s formal submittal for payment for work completed, usually on a monthly basis and at the conclusion of the Contract, to the Engineer using the format specified by the Engineer.
- 49. **Right-of-Way** – Includes roadway surfaces, roadway subgrades, shoulders, median dividers, drainage facilities and structures, roadway cuts, roadway fills, guardrails, bridges, highway grade elimination structures, tunnels, overpasses, underpasses and other structures forming an integral part of a road or highway, pipeline, or utility appurtenances.
- 50. **Roadside** – A general term denoting the area adjoining the outer edge of the roadbed within the right-of-way. Extensive areas between the roadways of a divided highway may also be considered roadside.
- 51. **Roadside Development** – Those items necessary to the complete Road or Highway which provide for the preservation of landscape materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching and the placing of other ground covers; such suitable planting and other improvements as may increase the effectiveness and enhance the appearance of the Road or Highway.
- 52. **Road or Street** – Both the word “Road” and the word “Street” include rights of way, roadway surfaces, roadway subgrades, shoulders, median dividers, drainage facilities, roadway cuts, roadway fills, traffic barriers, bridges, highway grade elimination structures, tunnels, overpasses, underpasses and other structures forming an integral part of a road or highway.
- 53. **Seal Coat** – An application to pavement surfaces of bituminous material followed by an application of cover coat aggregate. Also referred to as chip seal.
- 54. **Shoulder** – The portion of the roadbed contiguous with the traveled way for accommodation of stopped vehicles, or emergency use and for lateral support of base and surface courses.

- 55. **Shop Drawings** – All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the Contractor to illustrate some portion of the work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a supplier and submitted by the Contractor to illustrate material or equipment for some portion of the Work.
- 56. **Sidewalk, Pathway, or Walkway** – A surface primarily constructed for the use of pedestrians, usually at the side of a roadway.
- 57. **Slopes** – The inclined graded area beyond the shoulder and extending from the shoulders to the natural undisturbed surface of the ground.
- 58. **Special Conditions** – Special directions, provisions, or requirements applicable to the Project.
- 59. **Standard Details** – Detailed drawings with dimensions of components which have been established for general application and repetitive use.
- 60. **Standard Specifications** – A book of Specifications intended for general application and repetitive use.
- 61. **State** – The State of Maryland acting through its authorized agency or representative.
- 62. **State Highway System** – That system of roads which is from time to time owned by the State and which the State by resolution from time to time designates as State roads to be maintained and operated by the State Highway Administration.
- 63. **State Road** – Any public road included in the State Highway System.
- 64. **Structures** – Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, vaults, endwalls, buildings, sewers, service pipes, underdrains, foundation drains and other features which may be encountered in the work and not otherwise classed herein.
- 65. **Subbase** – The layer or layers of specified selected material of designed thickness placed on subgrade to support a base course.
- 66. **Subcontractor** – Any Person undertaking the construction of a part of the work by virtue of an agreement with the Contractor, who, prior to such undertaking, received the consent of the Surety and the approval of the County.
- 67. **Subgrade** – The material in any excavation (cuts) and embankments (fills) immediately below any subbase, base, pavement, shoulder, or other improved course.

68. **Substructure** – All of that part of the structure below bottoms of bearings of simple and continuous spans, skewbacks of arches, and tops of footings of rigid frames, together with the back walls and wing walls.
69. **Superstructure** – All of that part of the structure above bottoms of bearings of simple and continuous spans, skewbacks of arches and tops of footings of rigid frames, except as noted for Substructure.
70. **Supplemental Agreement** – A written agreement covering added or changed work which is beyond the scope of the Contract and the Changes Section of these General Conditions. A Supplemental Agreement becomes a part of the Contract when approved and properly executed by all parties to the Contract.
71. **Supplemental Specifications** – Additions and revisions to the Standard Specifications. Generally include new or improved procedures, construction items or materials developed subsequent to the publication of Standard Specifications.
72. **Surety** – The approved corporate body bound with and for the Contractor, for the full and complete performance of the Contract, and for the payment of all debts pertaining to the work. When applying to the Bid Bond, it refers to the corporate body that engages to be responsible in the execution by the Bidder of a satisfactory Contract and the posting of Payment and Performance Bonds.
73. **Surface Treatment** – The application of one or more seal coats, each over a layer of specified aggregate, exclusive of shoulders and auxiliary lanes.
74. **Temporary Easement** – An area, adjacent to the right-of-way or easement, temporarily acquired for the use of the Contractor during the execution of the work. This area is only present when shown on the plans.
75. **Trench** – An excavation made for the purpose of installing or removing pipes, drains, catch basins, etc.
76. **Unbalanced Bid** – A bid based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the County even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.
77. **Utilities** – Storm drain, sanitary sewers, water mains, gas, electric and communication equipment and all appurtenances thereto.
78. **Work** – The furnishing of all labor, materials, equipment and other incidentals necessary to the successful completion of the Project and the carrying out of all the duties and obligations imposed by the Contract Documents.

- 79. Written Notice** – Any letter, memorandum, hand-written document, telegram, or other written instrument, formal or informal, signed and dated by its author and transmitted by hand-delivery, facsimile, U.S. Postal Service or other special delivery courier. The Written Notice may be sent to the mailing address of the parties identified in the Record Counterpart Document or the authorized on-site representative of one of the Contracting parties. A bona fide email messages between known addresses identified by the Contracting parties may also constitute a written notice.

GC-1.04 METRIC SYSTEM

The County recognizes the attempts of gradual transition in the construction and other industries to the use of the International System of Units (SI). In keeping with this trend, these General Conditions frequently show approximate equivalencies between U.S. Customary Units and the International System of Units. Selection of units and symbols, conversion, rounding and other matters relating to the equivalencies have been carried out in accordance with The American Association of State Highway and Transportation Officials (AASHTO) R-I. Should the necessity for additional conversion arise, the same practice shall be followed.

It is the intent of these General Conditions that where values in both systems are shown in describing a single requirement, the first named will govern regardless of the system from which it is derived.

GC-1.05 LANGUAGE

In order to avoid cumbersome and confusing repetition of expressions in these General Conditions, it is provided that whenever anything is, or is to be, done, if, as, or, when, or where “contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, sufficient, insufficient, rejected, or condemned,” it shall be understood as if the expression were followed by the words “by the Engineer” or “to the Engineer” unless the context clearly indicates otherwise.

GC-SECTION 2 BIDDING REQUIREMENTS AND CONDITIONS

GC-2.01 BID IRREVOCABLE

Unless otherwise provided in the Invitation for Bids, Bid prices are irrevocable for one hundred and twenty (120) days following Bid opening.

GC-2.02 CONTENTS OF BID FORMS

(a) After the date is fixed for the bidding of the Work, the County will give notice of such bid to Bidders. The Invitation for Bids will contain a description of the proposed Work, the time and place where Sealed Bids will be received, together with information regarding access to information to the Contract Documents, the price of these documents, and the reservation of the right of the County to reject any or all Bids.

(b) All papers included in, bound thereto or attached to the Bid Form are necessary parts thereof and shall not be detached, separated, or altered. Where pay items are unit price items, the Bid Forms will further show an estimate of quantities expected to occur in such unit price items. All Contract Documents with the exception of subsurface data and borings will be considered a part of the Bid Form whether attached thereto or not. Any subsurface data and borings are provided for informational purposes only, and are not part of the Contract Documents.

(c) The Invitation for Bids shall describe location and types of work contemplated by the Contract. The invitation for bids will also set forth the place, date and time of opening Bids, the requirements of a bid Bond and the time to be allowed for completing the Contract. The County may charge a fee for each set of Invitation for Bids and Contract Documents. The amount of such charge will be set forth in the Invitation for Bids. The fee charged for Invitation for Bids and the Contract Documents is not returnable.

(d) Should one or more addenda be issued during the bidding period of this Contract, a certificate of receipt shall accompany such addenda. All certifications of receipts of addenda must be signed by the Bidder and accompany his/her Bid Form, otherwise his/her Bid shall not be accepted. If certificates of receipts are not provided by the County, the addenda must be acknowledged in the appropriate space provided for on the bid form.

GC-2.03 INTERPRETATION OF QUANTITIES IN BID SCHEDULE

(a) Where designated as estimated quantities, the quantities appearing in the prepared Bid Schedule are approximate only and are prepared for the canvassing of Bids. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the Contract and as provided for in GC-4.04, Variations in Estimated Quantities. It is understood that the scheduled quantities of work to be done and materials to be furnished may each be increased, diminished or omitted without in any way invalidating prices Bid, except as hereinafter provided.

GC-2.04 SITE INVESTIGATION

(a) The Bidder acknowledges that he/she has investigated and satisfied him/herself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric

power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Bidder further acknowledges that he/she has satisfied him/herself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the County, as well as from information presented by the drawings and Specifications made a part of this Contract.

(b) Available subsurface data and the results of subsurface investigations shall be made available to the Contractor. Unless the Contract Documents expressly state otherwise, this data is not guaranteed, warranted, or represented as accurate by the County. Geological conditions should be independently investigated and/or verified by the Bidder prior to submission of his/her Bid. No adjustment in contract price will be allowed by the County for differing subsurface conditions, unless otherwise provided for in the Contract Documents.

(c) Where subsurface conditions are indicated in the Contract Documents, they have been so indicated from the best information available and for the information of all parties concerned. The County assumes no responsibility for the accuracy of such information and should any Bidder or Contractor rely solely on such information in the preparation of his/her Bid for the performance of the work, he/she does so at his/her own risk. Whether or not subsurface conditions are shown in the Contract Documents, the Bidder or Contractor is not relieved of the responsibility of making his/her own investigation to determine for themselves the conditions present and in what quantity. The presence or absence of a material, or the increase or decrease in quantities indicated, shall not entitle the Contractor to additional compensation above or beyond the stipulated contract sum.

GC-2.05 TAXES-RESPONSIBILITY FOR PAYMENT, EXEMPTIONS, FORMS TO BE FILED, ETC.

(a) The Contractor is responsible for and by submitting a Bid agrees to pay all retail sales, income, real estate, sales and use, transportation and special taxes applicable to and assessable against any materials, equipment, processes and operations incident to or involved in the Project. The Contractor is responsible for ascertaining and acquainting his/herself with such taxes and making all necessary arrangements to pay same.

(b) The Contractor shall complete a W-9 Vendor Information form (provided by the County) and return it to the Purchasing Agent.

(c) The County hereby reserves the right to withhold payment under this Contract until the Contractor and any subcontractor performing any duties under this Contract have furnished or caused to be furnished the Comptroller of the State of Maryland with all properly completed forms required by the said Comptroller and until all of said retail sales and/or use taxes due the State of Maryland by the Contractor have been paid and the Contractor exhibits a release or receipt from the Comptroller evidencing such payment.

(d) The Contractor is hereby advised of Section 1-106(b)(3) of the Code of Public Local Laws of Washington County, MD: "If a bidder has not paid all taxes owed to the County or a municipal corporation in the County, the County Commissioners may reject the bidder's bid."

GC-2.06 PREPARATION OF BID

(a) The Bidder shall submit his/her single Bid set upon the Bid Form(s) furnished by the County. The Bidder shall specify a price in dollars and cents, for each pay item given, and shall show the products of the respective unit prices and quantities written in figures in the column provided for that purpose, together with the total amount of the Bid obtained by adding the amounts of the several items, Bidders must not change any item in the Bid for which a price has been stipulated by the County. Any such change will cause rejection of the Bid.

(b) The Bid Form(s) shall be filled out in ink or typed. All Bids shall be signed in ink. All erasures or alterations shall be initialed by the signer in ink. The Bid, if submitted by an individual, shall be signed by the individual; if submitted by a partnership, shall be signed by such member or members of the partnership as have authority to bind the partnership; if submitted by a corporation, the same shall be signed by an officer and attested by the corporate secretary or an assistant corporate secretary; if submitted by a joint venture, the same shall be signed by such member or members of the joint venture as have authority to bind the joint venture. If not signed by an officer, as aforesaid, there must be attached a copy of that portion of the Bylaws or a copy of a Board resolution, duly certified by the corporate secretary, showing the current authority of the person so signing on behalf of the corporation. In lieu thereof, the corporation may file such evidence with the County, duly certified by the corporate secretary, together with a list of the names of those officers having authority to execute documents on behalf of the corporation, which listing shall remain in full force and effect until such time as the County is advised in writing to the contrary. In any case where a Bid is signed by an Attorney in Fact, the same must be accompanied by a copy of the appointing document, duly certified.

(c) If the Invitation for Bids requires the Bidder to furnish samples or descriptive literature, it shall be submitted with the Bid, unless the Invitation for Bids provides otherwise.

(d) Bidders shall identify those portions of their Bids that they deem to be confidential, proprietary information or trade secrets and provide any justification of why such materials should not be disclosed by the County under the Maryland Public Information Act, Section 10-611 et seq. of the County Government Article of the Annotated Code of Maryland.

(e) The County will attempt to cooperate in making available to the Bidders for his/her use various documents in their original form or electronic data format.

(1) The County will not be responsible for providing the electronic data in any format or versions other than those used by the County nor will the County make available any equipment, hardware, or other devices to examine or reproduce the data.

(2) Washington County makes no warranty as to the accuracy of drawings, specifications, reports and other electronic data nor will the County accept any responsibility for errors and omissions which may arise as a result of the Bidder having relied upon them.

(3) The Bidder is in no way authorized to manipulate, alter, or reformat documents for use during bidding such as proposal forms, bonds, and other bid documents. At any point subsequent to receiving bids or award and execution of a Contract, should the County discover that the bidder has done so, the County reserves the right to reject the bid and/or terminate the Contract and pursue whatever action may be in the best interest of the County.

GC-2.07 BID SECURITY

(a) No Bid will be considered unless accompanied by a Bid Security of the character and in an amount not less than the specific dollar value indicated in the Bid Form, and made payable to the Board of County Commissioners of Washington County, MD.

(b) Acceptable forms of security for Bid Security shall be:

(1) A bond in a form satisfactory to the County underwritten by a surety company authorized to do business in this State and which is on the United State Department of Treasury Approved List; or

(2) A bank certified check, bank cashier's check, or bank treasurer's check.

(c) All costs of the Bid Security shall be paid by the Bidder.

GC-2.08 DELIVERY OF BIDS

Each Bid must be submitted in a sealed opaque envelope plainly marked to indicate its contents or in an envelope furnished by the County. The blank spaces on the County envelope should be filled in so as to clearly indicate its contents. When sent by mail, the sealed Bid must be addressed to the Washington County agency and exact address specified in the Invitation for Bids. All bids shall be filed prior to the time and at the place specified in the Invitation for Bids, as amended by any applicable addenda. Bids received after the time for opening of Bids will be returned to the Bidder unopened.

GC-2.09 COMMUNICATIONS AND INTERPRETATIONS— PRIOR TO BID OPENING

Any information regarding the requirements or the interpretation of any provision of the General Conditions, Specifications, Supplemental Specifications, or any part of the Contract Documents shall be requested, in writing, from the County agency listed in the Invitation for

Bids, and delivered no later than the number of date and time specified in the Invitation for Bids. Responses to questions or inquires having any material effect on the Bids shall be made by written addenda, or by written notice sent to all prospective Bidders. **DO NOT MAKE VERBAL INQUIRIES.** Any verbal interpretations or oral pre-Bid statements made by County employees or their representatives shall not be binding upon the County.

GC-2.10 ADDENDA TO INVITATIONS FOR BIDS

(a) **Form** – Each addendum to an Invitation for Bids shall be in written form and identified as such.

(b) **Acknowledgments** – Unless otherwise provided, the Bidder shall acknowledge receipt of all addenda.

GC-2.11 PRE-OPENING MODIFICATION OR WITHDRAWAL OF BIDS

(a) **Procedure** – Bids may be modified or withdrawn by written notice on official company stationery received in the office designated in the Invitation for Bids before the time and date set for Bid opening. A notice of withdrawal or modification to a Bid must be signed in accordance with the requirements of GC-2.06(b). The requirements of this subparagraph may be satisfied by a FAX.

(b) No withdrawal or modifications shall be accepted after the time for Bid opening except as expressly permitted in the Invitation for Bids.

(c) **Disposition of Bid Security** – If a Bid is withdrawn in accordance with this Section, the Bid Security, if any, shall be returned to the Bidder.

GC-2.12 LATE BIDS, LATE WITHDRAWALS, AND LATE MODIFICATION

(a) **Policy** – Any Bid received at the place designated in the Invitation for Bids after the time and date set for receipt of Bids is late. **Any** request for withdrawal or request for modification received after the time and date set for receipt of Bids will not be honored.

(b) **Treatment** – A late Bid, late request for modification, or late request for withdrawal shall not be considered. Late Bids will be returned to the Bidder unopened.

GC-2.13 OPENING AND RECORDING OF BIDS

(a) **Opening and Recording** – Bids and modifications shall be opened publicly, at the time, date, and place designated in the Invitation for bids. The name of each Bidder, the total Bid price, and such other information as is deemed appropriate shall be read aloud or otherwise

(b) Confidential Data – The Engineer shall examine the Bids to determine the validity of any requests for nondisclosure of trade secrets and other proprietary data identified in writing. Confidential, proprietary information, and trade secrets furnished by a Bidder may be disclosed to another County agency if there is a need for the information and may not be disclosed outside of County government except as provided by the Public Information Act or other applicable laws of the State of Maryland.

GC-2.14 MISTAKES IN BIDS

(a) Mistakes Discovered Before Opening – A Bidder may correct mistakes discovered before the time and date set for Bid opening by withdrawing or correcting the Bid as provided in GC-2.11.

(b) Confirmation of Bid – If the Engineer knows or has reason to conclude that a mistake may have been made, the Bidder may be required to confirm the Bid. Situations in which confirmation may be requested include obvious, apparent errors on the face of the Bid or a Bid unreasonably lower than the other Bids submitted. If the Bidder alleges mistake, the Bid may be corrected or withdrawn upon written approval of the County Attorney's Office if any of the following conditions are met:

(1) If the mistake and intended correction are clearly evident on the face of the Bid form, the Bid shall be corrected to the intended correct Bid and may not be withdrawn. Examples of mistakes that may be clearly evident on the face of the Bid form are typographical errors, errors in extending unit prices, transposition errors, and arithmetical errors.

(2) A Bidder may be permitted to withdraw a low Bid if:

(A) A mistake is clearly evident on the face of the Bid form but the intended correct Bid is not similarly evident; or

(B) The Bidder submits proof of evidentiary value that clearly and convincingly demonstrates that a mistake was made.

(3) In situations where the Purchasing Agent determines that the low Bid submitted is so low due to a demonstrable mistake other than a mistake in judgment, such that

the bidder may incur severe loss if awarded the Contract, and that a potential unconscionable contract would be made, the Bidder may be allowed to withdraw the Bid, subject to forfeiture of the Bid deposit.

(c) **Mistakes Discovered After Award** – Mistakes may not be corrected after award of the Contract except when the Engineer and the Purchasing Agent make a determination that it would be unconscionable not to allow the mistake to be corrected. Changes in price are not permitted.

GC-2.15 IRREGULARITIES

(a) Bids having one or more of the following faults will be considered irregular and may be rejected:

- (1) If the Bid Form furnished by the County is not used or is altered;
- (2) If not prepared as directed in GC-2.06;
- (3) If there is an omission of a necessary word(s) or numeral(s) required to make a price unmistakably clear, as well as any other omission; addition of item(s) not called for;
- (4) Failure to include a price for each item required except in the case of designated alternate pay item(s) or contrary to the conditions of the advertisement;
- (5) If there are additions, conditions or unauthorized alternate Bids;
- (6) If the Bidder adds any provisions reserving the right to accept or reject the Award;
- (7) If not accompanied by a Bid Security when required from Surety guaranteeing that the Payment and Performance Bonds will be furnished if the Bidder is determined to be the low Bidder; or
- (8) If all the required Bid certifications and/or documents are not duly executed.

(b) Minor irregularities –

(1) Minor irregularities or informalities in Bids, as defined below, may be waived if the County determines that it shall be in the County's best interest. The County may either give a Bidder an opportunity to cure any deficiency resulting from a technicality or minor irregularity in his/her Bid, or waive the deficiency where it is to the County's advantage to do so.

(2) When at any public opening of Bids, a Bid appears to be irregular, as herein specified, this fact may be announced when read. Said Bid shall be read as other Bids and then referred to the Engineer for consideration and appropriate action thereon in accordance with these General Conditions, and applicable laws and regulations.

(3) A minor irregularity is one that is merely a matter of form and not of substance or pertains to some immaterial or inconsequential defect or variation of a Bid from the exact requirement of the Invitation for Bids, the correction or waiver of which would not be prejudicial to other Bidders or offerors. The defect or variation in the Bid is immaterial and inconsequential when its significance as to price, quantity, quality or delivery is trivial or negligible when contrasted with the total cost or scope of the supplies or services being procured and the intent and meaning of the entire Bid is clear.

GC-2.16 CANCELLATION OF INVITATIONS FOR BIDS

(a) Before bid opening, an Invitation for Bids may be canceled in whole or in part when the County determines this action is fiscally advantageous or otherwise in its best interest.

(b) When an Invitation for Bids is canceled before Bid opening, the Bids shall be returned unopened to the Bidders submitting them and notice of cancellation shall be included.

(c) When it is determined before an award but after opening that the Invitation for Bids contains inadequate, deficient or ambiguous specifications; does not provide for consideration of all factors; or the scope of the work needs to be modified; then the bid shall be rejected.

(d) Each Bidder shall be notified of the cancellation/rejection. The notice shall state the reason for such action.

GC-2.17 REJECTION OF INDIVIDUAL BIDS OR PROPOSALS

(a) A Bid opened and read at any Bid opening may be subsequently rejected if found to be irregular for any of the reasons specified in GC-2.14 and 2.15.

(b) A Bid opened and read at any Bid opening will be subsequently rejected if there is found to be interest by the same individual, partnership, firm or corporation in more than one Bid on a Contract, except that any individual, partnership, firm or corporation may have an interest in a Contract as a Bidder and also be named in other Bids as a Subcontractor.

(c) Any Bid may be rejected in whole or in part when it is in the best interest of the County to do so.

(d) Reasons for rejection of a Bid may include but are not limited to:

(1) The Bid is not responsive i.e., it does not conform in all material respects to the Invitation for Bids;

(2) Unreasonable price(s);

(1) The Bidder submitting the Bid is determined to be non-responsible, or

(2) The Bidder fails to supply information to the Engineer promptly after notification from the Engineer that such information is required in connection with a determination to be made pursuant to this section.

(e) A determination of non-responsibility may be made for, but is not limited to, any of the following reasons:

(1) Bidder debarred by any public body or ineligible to Bid to any public body and the period of debarment or ineligibility has not expired.

(2) The unit prices contained in a Bid are unbalanced.

(3) The omission of a unit price for a bid item.

(4) Evidence of collusion among Bidders.

(5) Inadequate quantity and/or quality of experience, plant, equipment, financing, manpower or other resources required to perform the Contract.

(6) Bidder's workload, which, in the judgment of the County, might hinder or prevent the prompt completion of the subject work if awarded.

(7) Default by the Bidder on other contracts with the County.

(8) Failure to pay or satisfactorily settle all reasonable and just bills due for labor and material on prior or current contracts with the County.

(9) The same person has an interest in more than one Bid on a Contract exclusive of being named by another Bidder as a subcontractor.

(10) Failure to perform satisfactorily on other contracts awarded, and the conditions leading to unsatisfactory performance remain unresolved.

(11) The Bidder is not authorized to conduct business in Maryland.

(12) Any other reason affecting the Bidder's ability to perform or record of business integrity.

(13) Bidder not otherwise qualified and eligible to receive an award under applicable laws and regulations.

(f) Refusal or failure by the Bidder to comply with the County's request for the submission of a Contractor's Qualifications Questionnaire will be cause for rejection of the Bid and for the forfeiture of the Bid Security, which shall become the property of the County not as a penalty but in liquidation of damages sustained.

GC-2.18 REJECTION OF ALL BIDS

(a) After Bid opening but before award, all Bids may be rejected in whole or in part when the Engineer, with the approval of the Director, determines that this action is fiscally advantageous or otherwise in the County's best interest.

(b) A notice of rejection of all Bids shall be sent to all Bidders, Bids that have been opened shall be retained by the County.

GC-2.19 BID EVALUATION AND AWARD

(a) **General** – The Contract is to be awarded to the lowest responsive and responsible Bidder whose Bid meets the requirements and evaluation criteria set forth in the Invitation for Bids, and is either the lowest Bid or lowest evaluated Bid. After Bids have been publicly opened and read, the Bids will be audited and reviewed for mathematical accuracy to determine that there are no irregularities as outlined in GC-2.14 and 2.15.

(b) **Sub-Contractor Approval** – The three (3) lowest bidders shall submit a written list of all subcontracts within 48 hours after the bid opening for review for approval by the County.

(c) **Determination of Lowest Bidder** – Bids shall be evaluated to determine which Bidder offers the lowest cost to the County in accordance with the evaluation criteria set forth in the Invitation for Bids. Except as otherwise provided under GC-2.14 Mistakes in Bids:

(1) The written words will govern in the event of a discrepancy between the prices written in words and the prices written in figures.

(2) The unit price will govern in the event of a discrepancy between the unit price Bid and the extended price (product of unit price multiplied by the quantity).

(3) The sum of the extended prices will govern in the event of a discrepancy between the total amount Bid and the extended prices.

(4) If a unit price has been omitted and an extended price is provided, the unit price will be determined by dividing the extended price by the quantity.

(d) The County reserves the right to make the award by Bid Item, or groups of Bid Items, or total Bid if it is in the best interest of the County to do so unless the Bidder specifies in its Bid that a particular or progressive award is not acceptable.

(e) Before any Contract is awarded, the Bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the Work together with samples, which samples may be subjected to the tests provided for in the Specifications to determine their quality and fitness for the Work.

(f) **Award** – Upon determination of the lowest Bidder, review of the Bid for responsiveness and satisfaction that the Bidder is responsible, the Contract may be awarded to that Bidder. A Contract may be awarded to a Bidder offering a higher quality item than that designated in the Invitation for Bids if that Bidder is also the lowest responsive and responsible Bidder. The successful Bidder will be notified (by letter mailed to the address shown on the Bid Form) that his/her Bid has been accepted and that he/she has been awarded the Contract.

(g) A Notice of Award may be rescinded by the County at any time prior to execution of the Contract. After Notice of Award, the County shall forward the formal Contract and other appropriate forms and certifications to the bidder for execution. The Bidder will then execute the Contract and return same, together with fully executed Payment and Performance Bonds, insurance certificates, and any other forms required by the Contract Documents, to the County within ten (10) days after the Notice of Award is sent. After receipt of the properly executed Contract and acceptable Payment and Performance Bonds, the County will execute the Contract and forward a copy to the Bidder. The County will issue a Notice to Proceed followed by the Purchase Order signed by the County Purchasing Agent, which is the official statement that the obligation of funds for construction has been authorized. No Bidder shall withdraw his/her Bid within the time specified in the Bid.

GC-2.20 TIE BIDS

(a) **Definition** – Tie Bids are responsive Bids from responsible Bidders that are identical in price, terms, and conditions and which meet all the requirements and evaluation criteria set forth in the Invitation for Bids.

(b) **Award – Unless otherwise specified**, if identical low Bids are received from an in-County and out-of-County Bidder, the award shall be made to the in-County Bidder. If identical low Bids are received from in-County Bidders or from out-of-County Bidders, a drawing shall be conducted, and a witness shall be present to verify and certify the result.

GC-2.21 MULTIPLE OR ALTERNATE BIDS

Unless multiple or alternate Bids are requested in the Invitation for Bids, these Bids may not be accepted. However, if a Bidder clearly indicates a base Bid, it shall be considered for Award as though it were the only Bid submitted by the Bidder.

GC-2.22 BID PROTESTS

(1) A Bidder may deliver a written protest to the Purchasing, within ten (10) days of issuance of award notifications. The written protest shall set forth all particulars supporting the protest and enclose all supporting exhibits and evidence.

(2) The Purchasing Agent shall review the protested decision; examine any additional information provided by the Bidder and respond to the Bidder within seven (7) days of receipt of the protest. The decision of the Purchasing Agent shall be final and not subject to appeal to the fullest extent allowed by law.

GC-2.23 POLITICAL CONTRIBUTION DISCLOSURE

The Proposer, in accordance with Md. Code Ann., State Finance and Procurement Article, Section 17-402, as amended from time to time, shall comply with the political contribution reporting requirements under Title 14 of the Election Law Article, Md. Code Ann., as amended from time to time, to which the Proposer may be subject.

GC-SECTION 3 AWARD AND EXECUTION OF CONTRACT

GC-3.01 AWARD OF CONTRACT (See GC-2.19)

- (a) Written Notice of Award shall be sent to the successful Bidder.
- (b) The County reserves the right to cancel the award of any Contract at any time before the execution of the said Contract by all parties without any liability against the County.
- (c) Unless otherwise specified, the successful Bidder on each Contract advertised by the Department will receive upon award up to five (5) sets of Drawings and Specifications free of charge. Any additional sets required by the Contractor may be purchased at the price stated in the Invitation for Bids.

GC-3.02 RETURN OF BID SECURITY

(a) All Bid Securities, except those of the three (3) lowest Bidders, will be returned immediately following opening and the review of the Bids. The Bid Securities of the three (3) lowest Bidders will be returned following the execution of the Contract and submission and approval of the Payment and Performance Bonds. The Contractor has the right to substitute a Bid Bond for other Bid Security, acceptable to the County, at any time prior to return of the Bid Security.

GC-3.03 PERFORMANCE BOND AND PAYMENT BOND REQUIREMENTS

(a) **Performance and Payment Bonds** – The successful Bidder shall provide to the County a Performance Bond and a Payment Bond, each in an amount equal to at least 100 percent of the Contract price. The form of the Bonds and the security shall be as prescribed by the County. The name of the underwriting agency for said Bond as well as the local contact and phone number shall be shown thereon. The Bonds shall be delivered by the Bidder to the County no later than the time the Contract is to be executed. If the Bidder fails to deliver the required Bonds, his/her Bid shall be rejected, his/her Bid Security shall be enforced, and award of the Contract may be made to the next lowest responsive and responsible Bidder.

(b) Corporations executing Payment and/or Performance Bonds as sureties must appear on the United States Department of Treasury's most current list of approved sureties and must act within the limitations listed therein. In the event that during the performance of the Contract the corporate surety is removed from the Department of Treasury's most current list of approved sureties or its limitation is reduced below the amount of the Payment and Performance Bonds, the Contractor will be in default and will immediately obtain additional or replacement Bonds to the satisfaction of the County.

(c) The Bonds shall be on forms provided by the County.

GC-3.04 EXECUTION OF CONTRACT

(a) The Contract shall be effective only upon receipt by the County of the proper, executed Contract and Performance and Payment Bonds (if required), and execution of the Contract by the County.

(b) After a Notice of Award, as provided in GC-3.01, has been issued to a Bidder, the County shall forward the formal Contract form and the appropriate forms for the Payment and Performance Bonds (if any) to the Bidder for execution. The Bidder will execute the Contract form and return same, together with fully executed Payment and performance Bonds (if any), to the County within ten (10) days after receipt of same. After receipt of properly executed Contract form and Payment and Performance Bonds, (if any), the County will execute the Contract within one hundred and twenty (120) days and forward the Bidder a copy; provided, however, that the Board has approved the Contract (if such approval is required). If the County fails to execute the Contract and the period of irrevocability has expired, the Bidder may, as his/her sole remedy, withdraw his/her Bid(s).

(c) If the lowest responsible Bidder is not notified of the County's acceptance of his/her Bid within one hundred and twenty (120) calendar days of Bid opening or the time or date otherwise specified in the contract documents, the Bidder shall have the right to withdraw his/her Bid without penalty.

(d) By executing the Contract, the Contractor represents that he/she understands the Contract Documents, has obtained clarification as to the intent of these documents, has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his/her observations with the requirements of the Contract Documents. It is assumed the Contractor has obtained, before award of the Contract, clarification of all questions as to the intent of the Contract Documents, and any conflict between two or more items in Contract Documents. Should Contractor fail to obtain such clarification, then the Engineer shall direct work to proceed by the method indicated, specified or required by Contract Documents which will produce the best results, as judged by the Engineer. Such direction by Engineer shall not constitute a basis for any claim for extra cost by Contractor.

GC-3.05 FAILURE TO EXECUTE CONTRACT

(a) Failure of the Bidder to execute the Contract and file acceptable Performance and Payment Bonds within the time aforesaid shall be just cause for the annulment of the Award. The County may then issue an Award to the next lowest responsive, responsible Bidder or the work may be re-advertised and constructed under Contract or otherwise, as the County may decide. The Contractor shall immediately upon demand pay over to the County the difference between the amount of his/her Bid and such larger amount for which the County may, in good faith contract with another party to perform the work covered by Contractor's bid, plus an additional sum of Two Thousand Dollars (\$2,000.00) representing the reasonable approximation of damages suffered by the County for administrative expenses arising out of the Contractor's failure to execute the Contract and/or file acceptable Performance and Payment Bonds. In the event the Contractor fails to make said payment, the County may proceed against the Bid Security and liquidate said Bid Security to the extent necessary to satisfy the demand. In the event the Bid Security is insufficient to fully compensate the County for its demand, the Contractor shall be liable for the unpaid portion of the demand and the County may proceed against the Contractor for the deficiency.

GC-3.06 W-9 VENDOR INFORMATION

(a) Prior to issuing a purchase order or check, the Internal Revenue Service (IRS) requires the County to obtain the Contractor's Taxpayer Identification Number (TIN), which is the Contractor's Social Security number or his/her company Employer Identification Number (EIN).

(b) Upon award of the Contract to Contractors doing business with the Washington County Board of County Commissioners for the first-time, the County Purchasing Department

will transmit a request for completion and return of an IRS Form W-9, Request for Taxpayer Identification Number and Certification. The information will be required for processing Requests for Payment as set forth in GC-9.01(e).

GC-SECTION 4

SCOPE OF WORK

GC-4.01 INTENT OF CONTRACT

(a) The Contractor shall (within specified tolerances) perform all work in accordance with the lines, grades, typical cross sections, dimensions, and other data shown on the Drawings or as modified by written orders including the furnishing of all materials, implements, machinery, equipment, tools, supplies, transportation, labor, and all other things necessary to the satisfactory prosecution and completion of the Project in full compliance with the Contract Documents.

(b) The documents composing the Contract Documents are intended to be complementary, and to describe the construction and completion of the Work. Anything mentioned in the Specifications and not shown on the Drawings and not mentioned in the Specifications shall have like effect as if it is shown or mentioned in both. The intention of the Contract Documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the Work and which is reasonably inferable from the Contract Documents to produce the intended results. The terms and conditions of the Contract Documents control over any conflicting terms and conditions of any Purchase Order issued to fund the payments under this Contract.

(c) Words which have well-known technical or trade meanings are used herein in accordance with such recognized meanings. Omissions from the Drawings or Specifications or the incorrect description of details of work that are manifestly necessary to carry out the intent of the Drawings and Specifications or that are customarily performed shall not relieve the Contractor from performing such omitted or incompletely described details of work, but they shall be performed as if fully and correctly set forth and described in the Drawings and Specifications.

(d) In the event the Contractor discovers any discrepancies in the Contract Documents, he/she shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Contract. In the event of any irreconcilable discrepancy between the drawing and figures written thereon, the figures, unless obviously incorrect, will govern over scaled dimensions. In the case of any irreconcilable discrepancy between the Drawings and Specifications, the Drawings govern.

(e) The organization of the Specifications into divisions, sections and articles and the arrangement of the Drawings shall not control the Contractor in dividing the Work among Subcontractors, or in establishing the extent of Work to be performed by any trade.

(f) Written interpretations necessary for the proper execution or progress of the Work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Engineer and in accordance with any schedule agreed upon.

(g) All decisions, corrections and interpretations made by the Engineer pursuant to this paragraph GC-4.01 shall be final.

GC-4.02 GENERAL CONDITIONS CONTROLLING

In the event of a conflict between these General Conditions and any other provision of the Contract Documents that cannot be reconciled in accordance with GC-4.01, the Special Provisions of the Contract Documents shall be controlling.

GC-4.03 ENTIRE CONTRACT

(a) The Contract Documents represent the entire and integrated agreement between the parties hereto and supersede all prior negotiations, representations, or agreements either written or oral. The Contract may only be amended or modified in accordance with these General Conditions.

(b) Unless otherwise expressly set forth herein, the parties hereto do not intend to and do not create any third party beneficiaries to this Contract.

GC-4.04 VARIATIONS IN ESTIMATED QUANTITIES

(a) Where the quantity of a pay item in this Contract is an estimated quantity and where the actual quantity of such pay item varies more than 25 percent above or below the estimated quantity stated in this Contract, an equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 125 percent or below 75 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Engineer shall, upon receipt of a written request for an extension of time within 10 days from the beginning of the delay, or within a further period of time which may be granted by the Engineer before the date of final settlement of the Contract, ascertain the facts and make the adjustment for extending the Completion Date as in his/her judgment the findings justify.

(b) When the Engineer directs adjustments to pay item quantities for normal prosecution of work in pursuing the original scope, a Change Order will be executed prior to exceeding contract quantities for that pay item. The Change Order will be based upon the unit prices Bid for that pay item except that when quantities vary more than 25 percent above or below the estimated quantity stated in this Contract, an equitable adjustment shall be made upon demand of either party as set forth above.

(c) Should any Pay Items contained in the Bid be found unnecessary for the proper completion of the Work contracted, the Engineer may, upon written Change Order to the Contractor, eliminate such Pay Items from the Contract under the terms and conditions described above. Such action will in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contract except as stipulated in this section and/or for such work as may have been done, materials actually delivered and bona fide equipment costs prior to notification of the elimination of the items.

GC-4.05 DIFFERING SITE CONDITIONS

(a) The Contractor shall within seven (7) days of encountering, and before such conditions are disturbed, notify the Engineer in writing of:

(1) Unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract and not discoverable in the Contractor's site investigation required under GC-2.04. Subject to the limitations of 2.04 regarding subsurface conditions, the Engineer shall promptly investigate the conditions, and if he/she finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the Contract modified in writing accordingly.

(b) The Contractor shall immediately notify the Engineer upon encountering hazardous waste.

(c) No claim of the Contractor under this section shall be allowed unless the contractor has given notice as required in (a) above. Any claim for an equitable adjustment arising out of said condition shall be furnished to the Engineer within thirty (30) days from the date of the notice under (a) above and shall proceed in accordance with GC-4.06.

(d) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

(e) Failure to provide notice or to submit a claim within the time prescribed herein shall operate as a waiver of any such claim regardless of whether the County incurred or demonstrates any prejudice by the failure to give such notice or to submit such claim.

GC-4.06 CHANGES

(a) The Engineer may unilaterally, at any time, without notice to the Surety, if any, by written order designated or indicated to be a change order, make any change in

- (1) In the Specifications (including drawings and designs);
 - (2) In the sequence, method or manner of performance of the Work;
 - (3) In the County-furnished facilities, equipment, materials, services, or site;
- or
- (4) Requiring expedition in the performance of the Work.

An order of the Engineer by virtue of being called or referred to as a “change order” does not necessarily constitute a change in the scope of the Contract or in the work required under the Contract. The Contractor should not be entitled to additional compensation, a time extension or other relief for complying with an order of the Engineer if the Contract otherwise requires the Contractor to perform as stated in the order.

(b) Any other act or event or written or oral order including a direction, instruction, interpretation, or determination from the Engineer shall not entitle Contractor to additional compensation unless the Contractor gives the Engineer written notice stating within seven (7) days of the act or event or of the Contractor’s receipt of said order, the date, circumstances, and source of the act or event or of the order and that the Contractor believes that he/she is entitled to additional compensation. Failure to timely provide said notice shall operate as a waiver of any claim by the Contractor for an equitable adjustment, regardless of whether the County incurred or demonstrates any prejudice by the failure to give timely notice. In the event of a dispute between the Engineer and the Contractor as to whether any work was included in the scope of the Contract such that the Contractor would be obligated to provide that Work at no additional cost to the County, the Engineer may order the Contractor under this Section to perform the Work. If the Contractor considers such an order to be a change in the scope of the Contract entitling the Contractor to additional compensation, a time extension, or other relief, the Contractor must provide the notice required by this subparagraph and initiate a claim therefore in accordance with this Section and other contract requirements.

(c) Any proposal for changed work offered by or requested from the Contractor for which a Change Order is necessary shall include a complete breakdown of labor, materials and equipment along with justification for any increase requested in the contract time. When changed work is to be performed by a subcontractor, a copy of the subcontractor’s proposal shall also be included in the submission. When requested by the Engineer, proposals and supporting documentation shall be sent to the Engineer within a reasonable time for his/her review. Any delay resulting from the failure of the Contractor to submit a complete price proposal within a reasonable time shall not be excused or compensated. The Engineer will process a Change Order upon approval of the Contractor’s Bid.

(d) If the Engineer deems that a bona fide emergency exists, he/she may direct in writing that work proceed prior to issuing an executed Change Order. The Engineer will

(e) Except as herein provided, no order, statement, or conduct of the County shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment in the Contract Documents.

(f) Subject to paragraph (g), if any change or order under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the Work under this Contract, an equitable adjustment shall be made and the Contract modified in writing accordingly. Provided, however, that no claim for any change under (b) above shall be allowed for any costs incurred more than seven (7) days before the Contractor gives written notice as therein required.

(g) If the Contractor intends to assert a claim for an equitable adjustment under this section, he/she shall, within 30 days after receipt of a written Change Order under (a) above, or a directive under (d) above, submit to the Engineer a written statement setting forth the nature and monetary extent of such claim, including the submission of full particulars of the claim, including a full breakdown of all labor, material, equipment, and subcontractor costs, and full justification for any extension of the Completion Date. As to claims under (b) above supporting data shall be provided with the notice of a claim. As to any supporting data which is not available at the time of the notice, Contractor shall provide with the notice his/her best estimate of the total cost of the claim and further supporting data shall be provided as soon as he/she becomes available. As to any claim for Equitable Adjustment asserted under this Contract, the Contractor shall certify that the claim was made in good faith, that the supporting data are accurate and complete to the best of his/her knowledge and belief, and that the amount requested accurately reflects the contract adjustment for which Contractor believes the County is liable. The failure to timely submit the written statement with full particulars will be deemed a waiver by the Contractor of any right to an equitable adjustment, regardless of whether the County incurred or demonstrates any prejudice by the failure to timely submit the written statement and full particulars, unless this period is extended by the County in writing by the Engineer. The statement of claim hereunder may be included in the notice under (b) above.

(h) When changes involve work for which a Pay Item is included in the Contract, the changed work shall be paid for or a credit provided to the County at the price bid subject to GC-4.04. When changes involve work for which a Bid Item is not included in the Contract, the changed work shall be paid or a credit provided to the County at the unit or lump sum price agreed upon in writing by the Contractor and the Engineer in accordance with GC-4.07. No changed work, except for emergency work, shall be performed until the Contractor has received an executed Change Order. If the Engineer and contractor cannot agree on the amount of the equitable adjustment, the work shall be done in accordance with GC-9.02.

(i) Each Change Order that affects the Contract price shall be subject to the prior written approval of the Purchasing Agent and other appropriate authorities and to prior certification of the appropriate fiscal authority of fund availability and the effect of the Change

Order on the project budget or the total construction cost. If, according to the certification of the fiscal authority, the Change Order will cause an increase in cost that will exceed budgeted and available funds, the Change Order may not be made unless sufficient additional funds are made available or the scope of the Project is adjusted to permit its completion within the project budget.

(j) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

(k) Unauthorized work prohibited. Any unauthorized work shall be at the expense of the Contractor and shall not be measured or paid for by the County. At the Engineer's discretion, unauthorized work may be removed and/or replaced within a reasonable time at the Contractor's expense. "Unauthorized work" includes, but is not limited to:

- (1) Work performed by the Contractor before receipt of the Notice to Proceed;
- (2) Work contrary to or in disregard of the instructions of the Engineer;
- (3) Work performed beyond the lines and grades described in the Drawings and Specifications; or
- (4) Extra work performed without written authority.

(l) Contractor may not unilaterally "reserve his rights" to file any claims or requests for extensions of time. The Contractor's rights to additional compensation or time extensions are contingent upon Contractor strictly complying with the Notice, Filing and Certification requirements of the Contract Documents.

GC-4.07 PAYMENT PROVISIONS – CHANGES, EQUITABLE ADJUSTMENTS, DELAYS

(a) Unless the Contractor has been directed to proceed under GC-9.02 (Force Account), if the Contractor is entitled to an equitable adjustment, the cost or credit to the County shall be determined in one or more of the following ways:

- (1) By mutual acceptance of a lump sum properly itemized;
- (2) By unit prices stated in the Contract Documents or subsequently agreed upon; or
- (3) By cost plus a fixed percentage fee.

(b) Under (a) (3) above, the Contractor shall be allowed to add the following maximum percentages for overhead and profit to his/her costs for labor and materials:

(1) Twenty percent may be added by the Contractor for overhead and profit for work performed by his/her own forces.

(2) Fifteen percent may be added by the subcontractor for overhead and profit for work performed by the subcontractors; the Contractor may add an additional five percent of the subcontractor's costs for labor and materials.

(3) The County may require the Contractor to produce independent audits to verify overhead and profit rates claimed by the Contractor.

(4) The provisions of (a) and (b) above do not apply to Variations In Estimated Quantities as provided for in GC-4.04.

(c) Payment for materials and equipment shall be in accordance with GC-9.02.

(d) Delay Damages

(1) In the event the Contractor asserts a claim for delay damages it is agreed and understood that the Contractor's compensation shall be limited to direct costs of any such delay. Direct costs may include extended field overhead costs, idle equipment costs as allowed in GC-9.02(c)(6), and the costs of any directed accelerations and/or material escalations, with an allowance of an additional 10% for Contractor's overhead and profit on all direct costs allowed herein. No other damages or compensation or loss whether consequential, direct or indirect shall be allowed, including but not limited to damages for:

(A) Lost profits;

(B) Lost business opportunities;

(C) Extended home office or other overhead other than that specified under this subparagraph;

(D) Loss of bonding capacity;

(E) Lost income;

(F) Lost productivity;

(G) Consequential damages;

(H) Punitive damages;

(I) Interference with contractual relations;

(J) Any like tort damages;

(K) Claim preparation; or

(L) Attorney's fees.

(2) Costs claimed, agreed to, or determined pursuant to this section must be allowable, reasonable, lawful, and allocable to the Work and accounted for in accordance with generally accepted accounting principles. Guidance for any determination of whether the costs allowable, reasonable, lawful, allocable, and accounted for in accordance with generally accepted accounting principles will be provided by the Contract Cost Principles and Procedures of the Code of Maryland Regulations currently in effect, which as of July 2008 were located at COMAR 21.09.01.

(e) In no event shall any dispute over the amount to be paid by the County to the Contractor be cause for the Contractor to cease performance of the Work and in all events the Work shall proceed expeditiously pending the resolution of any such dispute as provided for in the Contract Documents.

(f) All requirements for notices of claim and timely submission of, and certification of, claim statements and full particulars found in GC-4.06 and elsewhere in the Contract Documents are a condition precedent to the Contractor's right to delay or any other type of damages or compensation regardless of whether the County has incurred or demonstrates any prejudice by the Contractor's failure to comply with these requirements.

GC-4.08 UNAUTHORIZED WORK

(a) Unauthorized work shall be at the expense of the Contractor and shall not be measured or paid for by the County. At the Engineer's discretion, unauthorized work may be ordered removed and/or replaced within a reasonable time at the Contractor's expense.

(b) Unauthorized Work includes, but is not limited to:

- (1) Work performed by the Contractor before receipt of the Notice to Proceed;
- (2) Work contrary to or in disregard of the instructions of the Engineer;
- (3) Work performed beyond the lines and grades described in the Plans and Specifications; or
- (4) Extra Work performed without written authority.

GC-4.09 FINAL CLEAN UP

(a) Upon completion of the work specified in the Contract and before final payment will be made, the Contractor shall, without charge therefore, disassemble (or demolish) and

remove all temporary buildings and other structures built by him/her. The construction area and all other adjoining areas, occupied by the Contractor during the construction of said Contract, shall be cleaned of all surplus and discarded materials, spilled materials, excess materials left deposited on the Work as a result of the Contractor's operations, false work, and rubbish. The adjoining areas mentioned above, outside the normal pay limits for seeding, will be reshaped, seeded and mulched, according to the Contract Documents at the Contractor's expense. If the disturbed area was part of an established lawn or was maintained as such, the Contractor shall sod the area in accordance with the Contract Documents at his/her own expense.

GC-4.10 WARRANTY OF CONSTRUCTION

(a) In addition to any other warranties at law or set out elsewhere in this Contract, the Contractor warrants for one year after final acceptance of the Work, that all Work performed under this Contract conforms to the Contract Documents and is free of any defect of equipment, material, or design furnished, or workmanship performed by the Contractor or any of his/her subcontractors or suppliers at any tier. With respect to any part of the Work, which the County takes possession of prior to final acceptance, the warranty on that Work shall run for a period of one year from the date the County takes possession and has beneficial use of that part of the Work. Under this warranty, the Contractor shall remedy at his/her own expense any such failure to conform or remedy any such defect. In addition, the Contractor shall remedy at his/her own expense any damage to County owned or controlled real or personal property, when that damage is the result of the Contractor's failure to conform to the Contract Documents or any defect of equipment, material, workmanship, or design. The Contractor shall also restore any work damaged in fulfilling the terms of this section. The Contractor's warranty with respect to work repaired or replaced hereunder will run for one year from the date of such repair or replacement.

(b) The County shall notify the Contractor in writing within a reasonable time after the discovery of any failure, defect, or damage.

(c) Should the Contractor fail to remedy any such failure, defect or damage described in (a) above within 15 days after receipt of notice thereof or such longer time as specified in writing by the Engineer, the County shall have the right to replace, repair, or otherwise remedy such failure, defect, or damage at the Contractor's expense.

(d) In addition to the other rights and remedies described in this section, all subcontractors', manufacturers', and suppliers' warranties, express or implied, respecting any work and materials shall, at the direction of the County, be enforced by the Contractor for the benefit of the County. In such case, if the Contractor's warranty under (a) above has expired, any suit directed by the County to enforce a subcontractor's manufacturer's or supplier's warranty shall be at the expense of the county.

(e) The Contractor shall obtain any warranties that the subcontractors, manufacturers, or suppliers would give in normal commercial practice. If directed by the Engineer, the Contractor shall require any such warranties to be executed in writing to the County.

(f) Notwithstanding any other provision of this section, unless such a defect is caused by negligence of the contractor or his/her subcontractors or suppliers at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the County nor for the repair of any damage which results from any such defect in County furnished material or design.

(g) The warranty specified herein shall not limit the County's rights under the Contract Documents and is only intended to create the right and obligation of the Contractor to correct defective items during the warranty period. Nothing contained in the warranty shall be construed to establish a period of limitation with respect to other obligations which the Contractor has under the Contract and shall not be construed to waive or limit any claims against Contractor or his/her Surety arising after the expiration of the warranty period, including without limitation, faulty or defective work, indemnification obligations, and failure of the Work to conform to the Contract Documents. Moreover, nothing contained herein is intended to waive or limit any claim the County has or may have against the Contractor or Surety for latent defects appearing in the Work after the expiration of the warranty period.

(h) To secure the County against the nonpayment of such costs resulting from the Contractor's failure to make repairs during the warranty period as set forth herein, the County may require the Contractor, as a line item, to post a guarantee bond, in a form acceptable to the County, in the amount of five (5) percent of the total value of the Contract, or \$10,000.00 whichever is greater. The guarantee bond shall be posted prior to Final Payment. The guarantee bond must be executed by a surety satisfactory to the County and shall be effective for the longest guarantee period called for in the Contract Documents.

GC-4.11 VALUE ENGINEERING CHANGE PROPOSALS

(a) The contractor may submit to the Engineer, in writing, Value Engineering Change Proposals (VECP) for modifying the contract Documents for the purpose of reducing the total cost of construction without reducing design capacity or quality of the finished product. The Engineer will then forward the proposal to the Deputy Director with recommended action. The decision to accept or deny the proposal will be made by the Director. The Director will be the sole judge of the acceptability of a VECP. The decision will be final. The County will not consider appeals once the final decision is made. If accepted by the County, net savings resulting from a VECP will be equally divided by the County and the Contractor.

The Contractor may elect to pursue one of the following options.

Option 1 – Submit the detailed Plans, Specifications and estimate of savings;

Option 2 – Submit a written concept of the VECP for tentative approval and if accepted, submit the detailed plans, Specifications, and estimate of savings along with all design calculations, reports, studies, etc. for final approval at a later date.

(b) Each VECP shall result in a net savings to the Contract cost without impairing essential functions and characteristics of the items or of any other part of the project, including but not limited to service life, reliability, and economy of operation, ease of maintenance, desired aesthetics and safety.

(c) As a minimum, the Contractor shall submit the following information before receiving final approval of a VECP.

(1) A statement that the proposal is submitted as a VECP.

(2) A statement concerning the basis for the VECP and benefits to the County together with an itemization of the Contract items and requirements affected by the VECP.

(3) A detailed estimate of the cost under the existing Contract and under the VECP.

(4) Proposal Plans, Specifications and recommendations as to how the VECP changes shall be accomplished.

(5) A statement as to the time by which an extra work order adopting the VECP must be issued so as to obtain the maximum cost effectiveness. Typically, the County will require four weeks to review and approve a VECP.

(6) The Contractor's engineering cost for the VECP.

(d) The County will process the VECP in the same manner as prescribed for any other proposal that would necessitate issuance of a Change Order. The County may accept in whole or in part any VECP by issuing a Change Order which will identify the VECP on which it is based. The County will not be liable to the Contractor for failure to accept or act upon any VECP submitted pursuant to these requirements nor for any delays to the work attributable to any VECP PROPOSAL. Until a proposal is effected by Change Order, the Contractor shall remain obligated to the terms and conditions of the existing Contract. If an executed Change Order has not been issued by the date upon which the Contractor's proposal specifies that a decision thereon should be made, or any other date as the Contractor may subsequently have specified in writing, the proposal shall be deemed rejected.

(e) The Change Order effecting the necessary Contract modification will establish the net savings agreed upon, will provide for adjustment in the Contract prices and/or Contract time and will indicate the net savings to be equally divided between the Contractor and the County. The Contractor's costs for preparation of the VECP and the County's costs to review and administer the VECP will be deducted from the gross savings. The County reserves the right to include in the Change Order any conditions it deems appropriate for consideration, approval and implementation of the proposal. The Contractor's 50 percent share of the net savings shall constitute full compensation for effecting all changes pursuant to the Change Order.

(f) Acceptance of the VECP and performance of the work therein will not change the Contract time limit as a result of the VECP, unless specifically provided for in the Change Order authorizing the VECP.

(g) The County expressly reserves the right to adopt a VECP for general use in Contracts administered by the County when it determines that the proposal is suitable for application to other contracts. VECPs identical or similar to previously submitted proposals will be eligible for consideration and compensation under this section if such proposals were not previously adopted for general application to other contracts administered by the County. When a VECP is adopted for general use, compensation pursuant to these requirements will be applied only to those contracts awarded and for which the subject VECP has been submitted prior to the date of adoption of the specific VECP.

(h) Proposed changes in the basic design of a bridge or pavement type, or requiring modification to the right-of-way limits, will not normally be considered as an acceptable VECP. Quantity decreases or elimination of any Contract pay items as a result of changing field conditions, errors, etc. will not be considered as an acceptable VECP. If a VECP is based upon or similar to a change in the Plans, Specifications or Special Provisions adopted by the County prior to submission of the VECP, the Director will not accept the proposal.

(i) The requirements herein apply to all VECPs initiated and developed by the Contractor and which are identified as such by the Contractor at the time of his/her submission to the agency; however, nothing herein shall be construed as requiring the Director to consider or approve a VECP submitted by the Contractor.

(j) Subject to the provisions contained herein, the County or any other public agency shall have the right to use all or part of any accepted VECP on other projects without obligation or compensation of any kind to the Contractor.

(k) In the event a VECP is accepted by the County, the provisions of the Contract Documents that pertain to adjustment of Contract unit prices due to alterations of Contract quantities will not apply to the items adjusted or deleted as a result of making the VECP effective by Change Order.

GC-4.12 CONTINGENT ITEMS

(a) Construction items for which quantities are identified in the "Contingent Fixed Price Items Unit Schedule" or listed in the "Invitation for Bids Form" are established for the purpose of obtaining bids on one or more pay items that may be incorporated into the Project.

(b) The Engineer shall have sole discretion in determining whether and to what extent such items will be incorporated into the Project. The Engineer may order incorporation of such items at any location within the Contract and at any time during the Work. These items may not be located on the Plans. The estimated quantities set out in the Invitation for Bids for such items are presented solely for the purpose of obtaining a representative bid price. The actual quantities

employed may be only a fraction of, or many times the estimated quantity. The requirements of GC-4.04 (Variations in Estimated Quantities) shall apply.

GC-SECTION 5 CONTROL OF THE WORK

GC-5.01 AUTHORITY OF THE ENGINEER

(a) The Engineer shall decide all questions that may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of said work; all questions that may arise as to the interpretation of any or all Drawings and Specifications; and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor.

(b) The Engineer shall determine the amount and quantity of work performed and materials that are to be paid for under the Contract.

(c) The Engineer shall have the authority to suspend the work wholly or in part due to the failure of the Contractor to carry out provisions of the Contract.

GC-5.02 CONFORMITY WITH CONTRACT REQUIREMENTS

(a) All work performed and all materials furnished shall be in conformity with the Contract Documents.

(b) In the event the Engineer finds that the materials or the finished product in which the materials are used or the work performed are not in conformity with the Contract Documents and have resulted in an inferior or unsatisfactory product, the Engineer may order that the work or materials be removed and replaced or otherwise corrected within a reasonable time by and at the expense of the Contractor.

(c) In the event the Engineer finds the materials or the finished project in which the materials are used on the work performed are not in conformity with the Contract Documents but that acceptable work has been produced, the Engineer shall then make a determination if the work shall be accepted. In this event, the Engineer will document the basis of acceptance by a Change Order that will provide for an appropriate equitable adjustment in the Contract price. Any action taken pursuant to this section may not result in an increase of the Contract price.

GC-5.03 DISCREPANCIES IN THE CONTRACT DOCUMENTS

In the event the Contractor discovers any discrepancies in the Contract Documents, he/she shall immediately notify the Engineer. The Engineer will then make such instructions, corrections, and/or interpretations as may be deemed necessary for fulfilling the intent of the

Contract Documents. The decision of the Engineer shall be rendered within a reasonable time and shall be final.

GC-5.04 COOPERATION BY CONTRACTOR

(a) The Contractor will keep a copy of the Record Counterpart Document and a complete set of all other Contract Documents and shop drawings available on the project site at all times.

(b) The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer and the Inspectors in every way possible.

(c) The Contractor shall assign to the contract as his/her agent, a competent Project Representative capable of communicating in fluent English, capable of reading and thoroughly understanding the contract Documents, and thoroughly experienced in the type of work being performed, who shall receive instructions from the Engineer or the Engineer's authorized representatives. The Project Representative shall be satisfactory to the Engineer and shall not be changed or replaced except with the written consent of the Engineer, unless the Project Representative proves to be unsatisfactory to the Contractor and/or ceases to be employed by the Contractor. The Project Representative shall have full authority to execute the orders or instructions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required. Such management personnel shall be furnished irrespective of the amount of work sublet. Said Project Representatives shall be available at all times when the work is in progress on the project site.

GC-5.05 COOPERATION WITH UTILITIES

(a) The Contractor shall consider in his/her Bid all of the permanent and temporary utility appurtenances in their present or relocated positions and that no additional compensation will be allowed for delays, inconvenience, or damage sustained by him/her due to any interference from the said utility appurtenances or the operation of moving them.

(b) The Contractor shall have responsibility for notifying all affected utility companies prior to the necessity of performing any work on their utilities and shall cooperate with them in achieving the desired result. All damage to utility facilities caused by the Contractor's operations shall be the responsibility of the Contractor.

(c) Approximate locations of existing utilities are shown on the Drawings. The Contractor shall take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to the Contractor's operation shall be repaired immediately at the Contractor's expense.

(d) The Contractor shall locate existing utilities well in advance of construction activities, clear all utilities by a minimum of six (6) inches, and maintain adequate clearance for utility poles, brace for tunnel as required.

GC-5.06 COOPERATION BETWEEN CONTRACTORS

(a) Separate Contractors on adjoining or overlapping work shall cooperate with each other as necessary. It is the responsibility of all Contractors to ensure that contiguous work is joined in an acceptable manner. Such cooperation shall include:

(1) Arrangement and conduct of work;

(2) Storage and disposal of materials, etc., by each in such manner as to not unnecessarily interfere with or hinder the progress of the work being performed by other Contractors.

(b) The County and Division shall have the right, at any time, to contract for and perform other work on, near, over or under the work covered by this Contract. In addition, other work may be performed under the jurisdiction of another County agency. In such cases, when a dispute arises among Contractors, the Director will decide which of the Engineers will have jurisdiction over said dispute. The Contractor shall cooperate fully with such other Contractors and carefully fit his/her own work to such other work as may be directed by the Engineer.

(c) In the event of dispute as to cooperation the Director will act as referee. The Contractor will make no claims against the County for any inconvenience, delay, inefficiency, costs, expenses, additional overhead, damages, or loss experience because of the presence and operations of other Contractors.

GC-5.07 AUTHORITY AND DUTIES OF INSPECTORS

(a) Inspectors shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to revoke, alter, or waive any requirements of the Contract Documents, nor is the Inspector authorized to approve or accept any portion of the Work. The Inspector is authorized to call the attention of the Contractor to any failure of the Work or materials to conform to the Contract Documents. The Inspector shall have the authority to reject materials or suspend the Work until any questions at issue can be referred to and decided by the Engineer. Inspectors shall perform their duties at such times and in such manner as will not unnecessarily impede progress on the Contract.

(b) The Inspector shall in no case act as foreman or perform any duties for the Contractor, nor interfere with the management of the Work by the latter. Any advice, instruction, direction, or other order which the Inspector may give the Contractor shall not be

construed as binding the Engineer in any way, or releasing the Contractor from fulfilling all of the terms of the Contract Documents.

(c) Where there is disagreement between the Contractor (or his/her representative) and the Inspector, such as refusal by the Contractor to use properly approved material, performing work not in compliance with Plans and Specifications, and/or refusing to suspend work until problems at issue can be referred to and decided by the Engineer, the Inspector will immediately direct the Engineer's attention to the issues of disagreement. If the Contractor still refuses to make corrections, comply, or suspend work (as the case may be), the Engineer will prepare and deliver in writing to the Contractor, by mail or otherwise, a written order suspending the Work or any portion thereof and explaining the reason for such shutdown. As soon as the Inspector is advised of the delivery of the shutdown order, the Inspector shall immediately leave the site of the Work and any work performed during the inspector's absence will not be accepted or paid for and may be required to be removed and disposed of at the Contractor's expense.

GC-5.08 INSPECTION OF WORK

(a) All materials and each part or detail of the work shall be subject at all times to inspection by the Engineer or his/her authorized representatives and the Contractor will be held strictly to the materials, workmanship, and the diligent execution of the Work in conformity with the Contract Documents. Such inspection may include mill, plant, or shop inspection, and any material furnished under the Contract is subject to inspection at any time. The Engineer or his/her representatives shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

(b) At the Engineer's request, The Contractor, at any time before acceptance of the Work, shall remove or uncover such portions of the Work as may be directed. After examination, the Contractor shall restore said portions of the Work to the standards required by the Contract Documents. Should the Work thus exposed or examined prove acceptable, adjustments in Contract time and price will be made pursuant to Section GC-4.06 for the uncovering or removing and the replacing of the covering or making good of the parts removed. Should the Work so exposed or examined provide unacceptable, the uncovering, or removing and replacing, shall be at the Contractor's expense.

(c) When the United States Government, the State, or any railroad, corporation, or other public body is to pay a portion of the cost of the Work, their respective representatives shall have the right to inspect the Work under the same conditions as apply to the Engineer and/or the Inspector.

(d) The Contractor is not relieved of any obligation under the Contract because of the approval of non-conforming work by the Inspector, or the failure of an Inspector to detect work that is not performed in accordance with the Contract Documents.

GC-5.09 REMOVAL OF DEFECTIVE WORK

(a) All work and materials that do not conform to the requirements of the Contract Documents will be considered unacceptable, unless otherwise determined acceptable under the provisions in GC-5.02.

(b) Any unacceptable work found to exist, whether the result of poor workmanship, use of defective materials, or damage through carelessness or any other cause, shall be removed and replaced within a reasonable time with work and materials that shall conform to the Contract Documents or shall be remedied otherwise in an acceptable manner authorized by the Engineer.

(c) Upon failure on the part of the Contractor to comply promptly with any order of the Engineer made under these General Conditions, the Engineer shall have authority to cause defective work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs from any monies due or to become due the Contractor under this Contract.

GC-5.10 LOAD RESTRICTIONS

(a) The Contractor shall comply with all State, County, and local requirements pertaining to speed, size and weight of motor vehicles.

(b) The County may specify in the Contract load restrictions on any road or structure within the vicinity of the Project.

(c) The Contractor shall take into account any and all posted bridges, the crossing of which might be contemplated by the Work. No loads in excess of posted limits will be allowed in the prosecution of the Work on any Contract, unless the required permits are obtained from the appropriate State, County, and local government agencies.

(d) The Contractor shall consider possible detrimental effects of operating heavy paving and grading equipment contiguous to retaining walls, pipe culverts, arches, forms for concrete work, or construction existing prior to this Contract.

(e) The Engineer shall have the right to limit passage of heavy equipment (plus loads) when such passage or usage is causing apparent or visible damage to embankments, paving, structures or any other property.

GC-5.11 MAINTENANCE OF WORK DURING CONSTRUCTION

(a) The Contractor shall maintain the work during construction and until Final Acceptance. This maintenance shall constitute continuous and effective work prosecuted as required with adequate equipment and forces to the end that all parts of the work be kept in satisfactory condition at all times.

(b) Particular attention shall be given to drainage, both permanent and temporary. The Contractor shall use all reasonable precautionary measures to avoid damage or loss that might result from accumulations and concentrations of drainage water, and material carried by such water and such drainage shall be diverted or removed when necessary to prevent damage to excavation, embankments, surfacing, structures and/or property. Suitable measures shall be taken by the Contractor to prevent the erosion of soil in all construction areas where the existing ground cover has been removed.

(c) The Contractor shall maintain and coordinate his/her activities to the extent necessary to maintain operations of all existing infrastructure affected by the Contract. All cost of maintenance work during construction and before Final Acceptance shall be included in the price Bid (or in the unit price Bid on the various Bid Items as the case may be) and the Contractor will not be paid additional amounts for such work, except as otherwise provided in the Contract Documents.

(d) In the event that the Work is ordered shut down, the Contractor shall maintain the entire Project as provided herein, and shall provide such ingress and egress for local residents or tenants adjacent to the Project, for occupants of the Project, for the County, the Engineer, the Inspectors, and for the general public as may be necessary during the period of suspended work or until the Contract has been terminated for convenience or for default.

(e) On Projects where traffic flow is maintained, the Contractor shall be responsible for repair of all traffic damages to the Work, either partially or totally completed, until such time as the work is accepted by the Engineer. Responsible, as used here, shall mean the responsibility for restoration and the cost thereof unless otherwise expressly provided for in the Contract Documents.

(f) Should the Engineer deem that a bona fide emergency exists and directs Changes in accordance with GC-4.06(d), the Contractor shall continue to maintain the entire Project to every extent necessary to minimize disruptions to all affected infrastructure. The Contractor may file a request for an equitable adjustment as provided for in GC-4.06.

GC-5.12 FAILURE TO MAINTAIN ENTIRE PROJECT

If the Contractor, at any time, fails to comply with the provisions of GC-5.11 above, the Engineer may immediately notify the Contractor to comply with the required maintenance provisions. In the event that the Contractor fails to remedy unsatisfactory maintenance within 24 hours after receipt of such notice, the Engineer may at his/her sole option immediately proceed with adequate forces and equipment from any source to maintain the Project, and the entire cost of this maintenance will be the responsibility of the Contractor and may be deducted from any monies due the Contractor.

GC-5.13 CLAIMS

(a) All disputes arising under or as a result of a breach of this contract and all requests for an equitable adjustment in the terms of the Contract Documents that are not resolved by mutual agreement shall be resolved in accordance with this section. All requirements for notices of claims and timely submission of, and certification of, claim statements and full particulars found elsewhere in the Contract Documents are a condition precedent to the Contractor's right to proceed under this section regardless of whether the County has incurred or demonstrates any prejudice by the Contractor's failure to comply with these requirements.

(b) As used herein, "Claim" means a written demand or assertion by one of the parties seeking, as a legal right, an equitable adjustment including the payment of money, adjustment or interpretation of the Contract Documents, or other relief, arising under or relating to this Contract.

(1) A voucher, invoice, or request for payment that is not in dispute when submitted is not a Claim under this Section. However, where the submission is subsequently not acted upon in a reasonable time, or is disputed either as to liability or amount, it may be converted to a claim for the purpose of this section.

(2) A Claim by a Contractor shall be made in writing and submitted to the Engineer for decision. A claim by the County shall be set forth in a decision by the Director.

(c) Any Claim of the Contractor against the County for an equitable adjustment, including extensions of time, extra compensation, or damages, whether under this Contract or otherwise, shall be conclusively deemed to have been waived by the Contractor, regardless of whether the County has incurred or demonstrates any prejudice, if not submitted with the following documents and within the time specified:

(1) The Claim shall be set forth in writing describing the specific fact or event that is the basis of the Claim.

(2) The Claim must be accompanied by itemized supporting data supporting the Claim and specifically identifying the actual cost, both direct and indirect, that the Contractor has incurred or will incur by reason of the fact or event that is the basis of the claim for an equitable adjustment.

(3) The accuracy of the supporting data shall be certified under GC-4.06 and signed by an officer or principal of the Contractor.

(4) Unless an extension has been granted the County, the Claim must be received by the Engineer within thirty (30) calendar days after the fact or event to which the Claim is attributed became known or should have become known to the Contractor.

(d) Review and Response – The Engineer will have thirty (30) calendar days from receipt of the Claim to review and respond to the Claim, provided the Contractor has complied with (c) above. In the event that the Engineer does not provide the Contractor with a response

within thirty (30) calendar days of receipt to a properly submitted Claim, the Claim shall be considered denied and the contractor shall proceed with an appeal to the Deputy Director as set forth below or the claim will be forever waived and barred.

(e) Appeal to the Deputy Director

(1) The Contractor may appeal the decision of the Engineer to the Deputy Director, in writing, provided the Contractor has complied with GC-5.13(b) and (c) above. The appeal shall contain the complete package of information submitted to the Engineer for consideration and must be filed with the Deputy Director within fourteen (14) calendar days after the Engineer's decision or deemed denial. Unless specifically requested by the Deputy Director, in writing, the Contractor shall not be permitted to submit information that was not offered to the Engineer for review.

(2) The Deputy Director will have thirty (30) calendar days from the actual receipt of a properly submitted appeal as provided for herein to review and respond to the appeal and the Deputy Director shall issue a written decision. In the event that the Deputy Director does not issue a written decision within thirty (30) calendar days of the receipt of a properly submitted appeal, the appeal shall be considered denied and the Contractor shall proceed with an appeal to the Director as set forth below or the Claim shall be forever waived and barred.

(f) Appeal to the Director

(1) All references to the "Director" shall be deemed to include the Director or his/her Designee.

(2) The Contractor may appeal the decision of the Deputy Director to the Director, in writing, provided the Contractor has complied with the provisions of GC-5.13 as contained herein. The Contractor's appeal shall contain the complete package of information submitted to the Deputy Director for consideration and must be filed with the Director within fourteen (14) calendar days after the Deputy Director's written decision. Unless specifically requested by the Director, in writing, the Contractor shall not be permitted to submit information that was not offered to the Deputy Director for review.

(3) The Director will have thirty (30) calendar days from the actual receipt of the Contractor's properly submitted appeal as provided for herein to review and respond to the appeal and the Director shall issue a written decision. In the event that the Director does not issue a written decision within thirty (30) calendar days of the receipt of a properly submitted appeal, the appeal shall be considered denied and the Contractor shall proceed to the Circuit Court of Washington County, Maryland as set forth below or the Claim shall be forever waived and barred.

(4) The Director's decision as referenced above shall be the final decision of the County.

(g) The Contractor may appeal the County's final decision by filing a complaint in the Circuit Court for Washington County, Maryland within fourteen (14) calendar days of the County's final written decision. The applicable provisions of the Annotated Code of Maryland and the Maryland Rules shall govern the conduct of the proceedings before the Circuit Court and shall govern all further appeals.

(h) The failure of the Contractor to timely file any appeal described herein shall forever bar and waive the Claim regardless of whether the County incurred or demonstrates any prejudice resulting from the Contractor's failure to timely file any such appeal.

(i) Pending resolution of the Claim, the Contractor shall proceed diligently with the performance of the Contract in accordance with the Engineer's decision.

GC-5.14 SHOP DRAWINGS

(a) **General** – The Contractor shall provide for review and approval submittals such as shop drawings, product data and samples to determine compliance with all applicable laws, statutes, ordinances, codes, orders, rules and regulations; and to determine whether the work, when completed, will be in compliance with the requirements of the Contract Documents. Reviews by the Engineer and/or his/her designated Consultant are for general compliance with the Contract Documents. The reviewer will not assume responsibility for correctness of dimensions or details. The responsibility for dimensions, application and guarantee to conform with the drawings and specifications rest with the Contractor.

(1) Shop drawing review shall be as set forth below to ensure that the equipment, materials and installation methods are in accordance with the construction contract documents.

(2) The Drawings will be supplemented by such drawings as are necessary to adequately control the work. All authorized alterations affecting the requirements and information given on the Drawings shall be in writing and approved by the Engineer. When at any time reference is made to the plans, the interpretations shall be based on the Drawings as affected by all authorized alterations then in effect.

(3) The Contractor shall provide at his/her expense all necessary and required shop drawings and shall have them adequately checked, after which they shall be submitted to the Engineer for review. The Engineer may reject or disapprove such drawings and return them for revisions, in which case the Contractor shall submit new additional or revised drawings as required. No items involving such drawings shall be incorporated in the Work until those drawings have been accepted for use by the Engineer in connection therewith.

(4) Unless otherwise required by the County, all shop drawings shall have a standard title block at lower right corner approximately 4 inches by 8 inches (2 inches for revision column on left side and remaining 6 inches for title) indicating the following information in the order named:

- (A) Name of Contractor (and subcontractor, if applicable)
- (B) Address of above
- (C) Sheet Title (reinforcing details, etc.)
- (D) Name of Facility
- (E) For (Washington County, Maryland)
- (F) By (indicate name of Contractor's official or engineer, or other parties authorized to sign official documents)

(5) The Contractor shall list all County contract numbers and the date the drawings were completed. The left portions of the title block shall be headed "Revisions" and the space used as needed.

(b) At the discretion of the Engineer, shop drawings, and/or calculations for other aspects of the work shall be stamped and signed by a Professional Engineer (P.E.) registered in the State of Maryland who has a minimum of five years of experience in the relevant discipline. The submittal shall include the P.E.'s resume showing evidence of the required experience. The P.E.'s Drawings and design calculations shall evaluate and quality all products and components including manufactured products and proprietary items for their intended service. Acceptance by the Engineer of such drawings and/or calculations shall not in any way relieve the Contractor of the responsibility for the safety and adequacy of the design and construction for the falsework systems and operations, including all components.

(c) **Submittal Process** – The Contractor shall submit the specified number of copies of each shop drawing, submittals and final approval data to the Engineer and his designated consultant for review and approval prior to incorporating materials and/or equipment into the work. Unless otherwise specified, the Contractor shall submit six (6) copies for each item submitted plus the number of copies the Contractor desires to have returned.

(1) Each submittal package shall be accompanied with a formal Letter of Transmittal listing the submittal(s), quantity, date, brief description, and whether the items are transmitted for approval, as requested, etc.

(2) Details of shop drawings, data, and literature for fabricated materials or equipment to be incorporated in the Work shall be submitted to the Consultant for review for general compliance with the Contract Documents before fabrication. The Contractor shall obtain manufacturer's shop drawings, certifications, and other pertinent data for conformance with all requirements of the Drawings and Specifications, and in ample time to permit satisfactory progress of the Work. After completion of such checking and verification by the Contractor, the Contractor shall sign and stamp the drawings, which stamp shall state as follows:

CHECKED BY: _____
(Checker's Name)

(Date)

SIGNED BY: _____
(Contractor's Name)

(Date)

(3) All data, drawings and correspondence from subcontractors, manufacturers or suppliers shall be routed through the Contractor. The Contractor is further advised that the Engineer and his designated representatives will not act as coordinators between suppliers and subcontractors. All required coordination shall be the complete responsibility of the contractor.

(4) At the time of each submission, the Contractor shall call to the Engineer's attention, in writing, any deviations that the shop drawings may have from the requirements of the Drawings and Specifications. The Contractor shall also provide a list prioritizing the submittals for review. In the event that such a list is not furnished by the Contractor, the Engineer shall exercise discretion regarding the order in which submittals are reviewed. This list shall be attached to each applicable submittal.

(5) The Engineer and his designated consultant will review, stamp, and sign each copy of the accepted shop drawings and submittals with "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".

(6) No extra measurement or payment shall be made for compliance with the requirements of this section of these General Conditions. All costs shall be included in the applicable items.

(7) Corrections or comments made on the shop drawings during review do not relieve the Contractor from compliance with the requirements of the Drawings and Specifications. The County will not be responsible to Contractor for errors or omissions on drawings furnished by the Contractor even though drawings containing such errors or omissions are inadvertently accepted. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; and in performing his work in a safe manner. If the shop drawings deviate from the Contract Documents, the Contractor shall request a deviation from the Contract Documents by submitting a written request accompanying the shop drawings to the Engineer. If this data is not provided with the shop drawings, or is not adequate, the shop drawings shall be rejected and returned to the Contractor.

(8) The Contractor's attention is specifically directed to the fact that no items shall be fabricated, nor equipment or materials ordered nor any construction performed, prior to acceptance of shop drawings and submittals applicable thereto. However, to expedite the project, the contractor may request, in writing, authorization from the Engineer to order critical items before formal acceptance of the shop drawings but not prior to shop drawing submittals. NO items unless so authorized shall be ordered until the Engineer has accepted the drawings.

(9) It shall be the Contractor's responsibility to make all the necessary changes in other items, which result from deviations or changes requested by the Contractor and accepted by the Engineer or his/her consultant, so that all items perform the original requirements and intent of the Contract Documents.

(d) A maximum of two (2) submissions of each submittal will be reviewed, checked, and commented upon without charge to the Contractor. The cost to review submittals (over two submissions) may be deducted from the Contractor's monthly invoice, or from monies retained under the provisions of the Specifications; amounts will be based upon actual additional costs to the County for the additional reviews. It is, therefore, incumbent upon the Contractor to make all modifications and/or corrections as may be required by the Engineer in an accurate, complete, and timely fashion.

GC-SECTION 6 CONTROL OF MATERIAL

GC-6.01 GENERAL

All materials shall meet all quality requirements of the Contract. In order to expedite the inspection and testing of materials, the Contractor shall notify the Engineer in writing of the materials and the sources from which he/she proposes to obtain all materials requiring approval, testing, inspection or certification prior to incorporation into the Work. This submittal shall be made within ten (10) days after receipt of the Notice to Proceed. State and/or Federal funded projects may require approval from one or more State and/or Federal agencies prior to delivery of the material. Such requirements will be set forth in the Special Provisions of the Contract.

GC-6.02 APPROVAL OF MATERIAL SOURCES

(a) **Approval** – The Engineer will inform the Contractor as to the acceptability of each material and his/her source as soon as an evaluation of the sources proposed can be made. No material may be incorporated into the Work until approval of the source has been given. Where delivery of materials to the job site is made prior to approval, such delivery is made at the Contractor's risk and subject to immediate removal, at no cost to the County, if he/she is determined that the source or the material is not acceptable.

(b) **Rejection** – Material sources may be rejected even though prior samples meet the applicable Specifications. Where it is evident to the Engineer that the material tends to be of marginal quality, as compared to the Specification tolerances in one or more of its properties, the material source may be rejected.

(c) **Approval Withdrawn** – All source approvals are made subject to continuing production of materials meeting the Specifications. If the materials do not continue to meet the specifications, the approval of any source may be withdrawn by the Engineer at any time. The

(d) Substitutions.

(1) After execution of the Contract, the Engineer will consider a written request by the Contractor for the substitution of products in place of those specified, under the following conditions:

(A) The request is accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents, including project identification and description, performance and test data, references and samples where applicable, and an itemized comparison of the proposed substitution with the products specified or named by addenda, with data relating to contract time schedule, design and artistic effect where applicable, and its relationship to separate contracts.

(B) The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification of the contract sum is to be a consideration.

(2) Request for substitution when forwarded by the Contractor to the Engineer, are understood to mean that the Contractor:

(A) Represents that he/she has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;

(B) Will provide the same guarantee for the substitution as was required for that item originally specified;

(C) Certifies that the cost data presented is complete and includes all related cost under the contract, and that he/she waives all claims for additional costs related to the substitution that subsequently become apparent; and

(D) Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be completed in all respects in conformity with the Contract Documents.

(3) Substitutions will not be considered if:

(A) They are indicated or implied on shop drawing submissions without written request as set forth above; or

(B) For their implementation they require a substantial revision of the Contract Documents in order to accommodate their use

(4) No substitution will be approved without the Contractor remitting to the County the difference between the cost to the Contractor of the substitution and the specified item. The substitution must be less expensive than the specified item. The County reserves the right to disapprove any substitution at its sole discretion.

GC-6.03 APPROVAL OF PLANTS AND SHOPS

(a) Five days after receipt of Notice to Proceed, the Contractor shall submit in writing for the Engineer's approval the location and ownership of those plants or fabricating shops at which materials for the project will be processed.

(b) The Engineer will inform the Contractor as to the acceptability of the proposed plants or shops within ten (10) days after receipt of the submittal specified in (a) above. No material is to be shipped from these sources until this approval has been given.

(c) Plant or shop approvals are made subject to continuing production of materials meeting the Specifications. Where this condition is not met, the approval of any plant or shop may be withdrawn by the Engineer at any time. The Contractor shall have or assert no claim against the County for damages or time extensions when such approvals are withdrawn.

GC.6.04 SAMPLES, TESTS, CITED SPECIFICATIONS

(a) All materials used in the Work will be inspected, sampled, and tested in accordance with these requirements and such others as are set forth elsewhere in the Contract Documents where particular reference is made to a specific material. Unless otherwise designated, tests will be made in accordance with the most recently published cited standard tentative or interim methods of AASHTO, the American Society for Testing and Materials (ASTM), the American Water Works Association (AWWA), or others that are current on the date of the Invitation for Bids. These tests will be made by and at the expense of the County unless otherwise expressly required in the Contract Documents.

(b) Acceptance testing by the County as described here and elsewhere is not to be considered as a replacement for quality control testing conducted by the Contractor or a manufacturer producing materials for the Contractor. When the Contractor or manufacturer is not providing adequate quality control testing facilities in his/her own behalf, the Engineer may refuse to carry out re-sampling and testing of materials that have been shown to be defective by normal sampling and testing routines. The Engineer may also refuse to resample and test defective materials until and unless corrective action has been taken by the Contractor or manufacturer. The Contractor shall neither have nor assert any claim against the county for damages or time extensions when such approvals are withdrawn.

(c) While it is required that all materials will conform to the specified values for all properties, the Engineer may designate different points of sampling and different sampling intervals for separate characteristics of any material.

(d) The Contractor shall assist in the sampling of materials and make provision for safe and reasonable access.

(e) The Engineer may elect where possible to sample and test lots of material at the point of manufacture. In this case, lots may be given approval and where practical so marked by the Engineer. This procedure assumes that consistent production and appropriate storage, handling and shipping practices shall be maintained by the manufacturer, the hauler and the Contractor. Such approval does not preclude subsequent inspection, sampling and/or testing of materials at the job site with acceptance or rejection being predicated on the results of these later procedures.

GC-6.05 CERTIFICATION OF COMPLIANCE

(a) The Engineer may permit use prior to sampling and testing of a particular material or assembly accompanied by a Certificate of Compliance from the manufacturer stating that such materials or assembly fully comply with the requirements of the Contract. The Certificate shall be signed by the manufacturer and notarized, and submitted to the Engineer for review and approval prior to the material being incorporated into the Work.

(b) A Material or assembly used on the basis of the manufacturer's Certificate of Compliance may be sampled and tested at any time and, if found not be in conformity with the Contractor requirements, will be subject to rejection whether in place or not, at no cost to the County.

(c) The form and distribution of the manufacturer's Certificate of Compliance will be as approved by the Engineer.

(d) The County reserves the right to refuse permission for use of a material or assembly on the basis of failure to produce a Certificate of Compliance in accordance with the Contract Documents.

GC-6.06 PROJECT CONTROL TESTING

(a) Materials from approved sources, plants, or shops will be subject to control tests by the Engineer at such locations and with such frequency as he/she deems appropriate.

(b) The point or points of sampling will be those at which materials must meet required physical or chemical properties. It is intended that insofar as is practical, these points will be those in the production process just prior to inclusion into the Work or into combination with other materials. It is also intended that sampling and testing be conducted in such manner

and at such points as to minimize interference with the maintenance of an efficient schedule by the Contractor. Where the nature of the work precludes the attainment of both of these ends simultaneously, the Engineer will designate the points of sampling in a manner so as to ensure compliance with the Contract Documents.

(c) While all materials are required to conform to the specified values for all properties, the Engineer may designate different points of sampling and different sampling intervals for separate characteristics of any material.

(d) The Contractor shall assist in the sampling of materials and make provision for safe and reasonable access.

(e) The Engineer may elect where possible to sample and test lots of material at the point of manufacture. In this case, lots may be given approval and where practical so marked by the Engineer. This procedure assumes that the manufacturer, the hauler and the Contractor shall maintain consistent production and appropriate storage, handling and shipping practices. Such approval does not preclude subsequent inspection, sampling and/or testing of materials at the job site with acceptance or rejection being predicated on the result of these later procedures.

GC-6.07 STORAGE AND HANDLING OF MATERIALS

(a) Materials shall be so stored as to assure the preservation of their quality and acceptability for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the Work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the right-of-way, easement and/or project site may be used for storage purposes and for the placing of the Contractor's plant and equipment; such storage areas must be restored to their original condition by the Contractor at his/her expense. The Contractor will be required to furnish the appropriate traffic control devices to warn and protect the public. Any additional space required must be provided by the Contractor at his/her expense.

(b) Materials shall be handled in such a manner as to preserve their quality and acceptability for the work. Handling equipment and hauling vehicles shall be so constructed as to prevent loss, contamination or segregation of materials during or after loading.

GC-6.08 UNACCEPTABLE MATERIALS

(a) Materials represented by samples taken and tested in accordance with the specified tests and failing to meet required values shall be considered to be defective regardless of prior tests or approvals.

(b) Unless otherwise allowed by the Engineer as set forth below, defective materials shall be removed from the site with any tags, stamps or other markings implying conformance with Specifications removed or obliterated.

(c) Where defects can be corrected, the Contractor may propose such corrective action, as he/she deems appropriate to the Engineer. The Engineer may approve the corrective action but in so doing does not assume responsibility for the success thereof. Retests will be made at the Contractor's expense to determine the acceptability of the material after corrective measures have been taken. No person other than the Engineer may change any provision of the Specifications or the contract without written authorization. The County reserves the right not to accept damaged materials for use in the Work.

(d) The cost of replacing, correcting, and/or removal of defective material will be the responsibility of the Contractor and the Contractor shall not assert a Claim for an equitable adjustment for this cost.

(e) The cost of repairing or replacing other materials damaged by the installation, correction, and/or removal of defective materials will be the responsibility of the Contractor and the Contractor shall not assert a Claim for an equitable adjustment for this cost.

GC-6.09 MATERIAL FURNISHED BY THE COUNTY

(a) The Contractor shall furnish all materials required to complete the Work, except those specified to be furnished by the County. Materials furnished by the County will be delivered or made available to the Contractor at the point or points specified in the Contract Documents. The cost of handling and placing all materials, after they are delivered to the Contractor, shall be considered as included in the Contract price for the item in connection with which they are used.

(b) The Contractor shall be held responsible for all material delivered to him/her, and deductions will be made from any monies due him/her to make good any shortages and deficiencies, from any cause whatsoever, and for any damage that may occur after such delivery, and for any demurrage charges.

(c) In cases where materials are supplied by the County and incorporated in the Contract Work by the Contractor, materials inspection and acceptance will not be prerequisite for acceptance of the final product as the product pertains to these items.

GC-SECTION 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

GC-7.01 COMPLIANCE WITH LAWS

The Contractor hereby represents and warrants that:

(a) He/she is qualified to do business in the State of Maryland and that he/she will take such action as, from time to time hereafter, may be necessary to remain so qualified;

(b) He/she is not in arrears with respect to the payment of any monies due and owing the State of Maryland, or the County, or any department or unit thereof, including, but not limited to the payment of taxes and employee benefits, and that he/she shall not become so in arrears during the term of this Contract;

(c) The Contractor shall keep fully informed of all Federal, State, and local laws, ordinances, rules and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, rules, ordinances, regulations, orders and decrees; he shall protect and indemnify the County and its representatives against any such claim or liability arising from or based on the violation of any law, ordinance, regulation, order or decree, whether by Contractor or his/her employees, subcontractors or suppliers and any tier.

(d) All requirements set forth in Federal and State assistance instruments applicable to this Contract shall be satisfied.

GC-7.02 PERMITS AND LICENSES

(a) Except as provided in Section 7.02(b), the Contractor shall procure such permits and licenses as may be necessary in order to comply with Federal, State, County, and local laws, ordinances and regulations in performance of the work. All permits issued by the County will be at no charge. The Contractor will be responsible for securing and paying for all other permits, governmental fees, landfill fees and licenses necessary for the proper execution and completion of the Work. He/she shall further give all notices necessary and incidental to the due and lawful prosecution of the Work, including notification to appropriate code enforcement agencies.

(b) Federal permits from the U.S. Corps of Engineers and/or the Environmental Protection Agency will be obtained by the County, and the Contractor shall comply with the requirements of such permits. Permits required from the Maryland State Highway Administration (SHA) and the Maryland Department of the Environment (MDE) will also be obtained by the County and the Contractor shall comply therewith. However, any permits required by these Federal or State agencies which are not required by the Specifications but are desired by the Contractor for temporary structures or other such uses must be applied for and obtained by the Contractor.

(c) The Contractor will not be permitted to move over or operate on any road (except on the road under construction) any power shovels, rollers, concrete mixers, cranes, tractors or any other heavy equipment of weight or dimensions in excess of Maryland Motor Vehicle Law and regulations without first obtaining all necessary permits.

(d) Soil borings or test pits for soil determination in improved roads are not to be excavated by the Contractor, unless permission is obtained from the Washington County Division of Public Works.

GC-7.03 RESTORATION OF SURFACES OPENED BY PERMIT

(a) The right to construct or reconstruct any utility in the road/street and/or to grant permits for same at any time is hereby reserved by Washington County.

(b) Upon the presentation of a duly authorized and satisfactory permit which provides that all necessary repair work shall be paid for by the party to whom such permit is issued, the Contractor shall allow parties bearing such permits to make openings in the highway.

(c) When ordered by the Engineer, the Contractor shall make all necessary repairs due to such openings in an acceptable manner. If such necessary work is part of this Contract, all costs associated with these repairs shall be borne by the Contractor. If it is determined that the costs for such repairs are not the Contractor's responsibility, they will be paid for as extra work under the appropriate unit price items provided for in the Contract. When no such unit price items are provided in the Contract, the costs shall be determined as set forth in GC-4.06.

GC-7.04 PATENTED DEVICES, MATERIALS AND HEALTH STANDARDS

If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, it shall provide for such use by suitable legal agreement with the patentee or owner and a copy of such agreement shall be filed with the County. If such agreement is made or filed as noted, the Contractor and the surety shall indemnify and save harmless the County, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, materials or process, or any trademark or copyright, and shall indemnify, protect and save harmless the County, its officers, agents and employees with respect to any claim, action, cost, expense, attorney's fees, damages or judgment for patent, trademark or copyright infringement, arising out of purchase or use of materials, construction, supplies, equipment or services covered by this Contract.

GC-7.05 FEDERAL AND/OR STATE PARTICIPATION

When the United States Government and/or the State of Maryland pays all or any portion of the cost of a Project, the Work shall be subject to the inspection of the appropriate federal and/or state agency. Such inspection shall in no sense make the federal and/or state governments a party to this Contract, shall not constitute approval of Work not in conformity with the Contract Documents and will not interfere, in any way, with the rights of either party hereunder.

GC-7.06 CONSTRUCTION SAFETY AND HEALTH STANDARDS

(a) It is a condition of this Contract, and shall be made a condition of each subcontract entered into pursuant to this Contract, that the Contractor and any subcontractor shall not require any laborer or mechanic employed in performance of the Work to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to his/her health or safety, as determined under construction safety and health standards and regulations under Federal, State or local law.

(b) The Contractor shall be responsible for posting all appropriate safety notifications such as hard hat requirements, etc.

(c) The Contractor and each subcontractor shall permit inspection without delay and at any reasonable time on any premises where the Work is being performed by a federal or state inspector authorized to investigate compliance with the above-mentioned federal and state statutes and regulations.

(d) The Contractor further agrees to correct any violations found to exist during such inspection within a reasonable time after the issuance of any citation, unless he/she contests the validity thereof through the appropriate administrative and judicial process.

(e) Should the Engineer question the safety of trench shoring(s), he/she may require the Contractor to produce calculations or other supporting documentation and information to satisfy the Engineer's concerns.

GC-7.07 PUBLIC CONVENIENCE AND SAFETY

(a) The Contractor shall at all times conduct the work in such a manner as to ensure the least practicable obstruction to all forms of traffic. Except where required to do so as part of the Contract, he/she shall refrain from disrupting utility operations and service to the least extent reasonable. It shall be provided for the convenience of the general public, tenants and of the residents along and/or adjacent to the improvement.

(b) Equipment and/or materials stored upon the Project shall be placed so as to cause a minimum of obstruction to the public and surrounding operations.

(c) The Contractor shall perform sprinkling or other measure of dust control at the direction of the Engineer.

(d) Unless otherwise specified, the Contractor shall provide and maintain in passable condition such temporary access, roads and bridges as may be necessary to accommodate traffic diverted from the Project under construction, or using the Project under construction and shall provide and maintain in a safe condition temporary approaches to, and crossings of the Project.

(e) All footways, gutters, sewer inlets, water valves and portions of the project adjoining the work under construction shall not be obstructed more than is absolutely necessary.

(f) In the case of utility projects, the Contractor shall provide and maintain such temporary or existing water lines, wastewater lines, and by-pass systems as may be necessary to continue uninterrupted service.

(g) Existing County facilities planned for removal, but which might be of service to the public during construction are not to be disturbed until other and adequate provisions are made. Existing mailboxes shall be maintained or reset in positions accessible to the public and to mail deliveries during construction and subsequent to construction in their final locations in a satisfactory condition.

(h) On County facilities occupied by railroad tracks, temporary platforms for the entrance and exit of passengers to and from the railway cars shall be provided and maintained in an approved manner by the Contractor.

(i) With the exception of fire hydrants marked out-of-service, fire hydrants on or adjacent to the project shall be kept accessible to fire apparatus at all times, and no material or obstruction shall be placed within fifteen (15) feet of any such hydrant. Work closed down for the winter or at any other times shall be left entirely accessible at all points to fire apparatus.

(j) Where the construction lies within rights-of-way, the County has or will obtain permission from the owner of the property to occupy, during construction, Temporary Easements outside the limits of the rights-of-way as shown on the drawings. The Contractor shall not move any equipment or materials in the rights-of-way or Temporary Easements and shall not commence any clearing within rights-of-way until authorized to do so by the Engineer.

(k) Should the Contractor require any temporary easements beyond those shown on the drawings, it shall be his/her obligation to obtain it. Such acquisition shall be in writing and at the Contractor's expense and shall require the Engineer's approval.

GC-7.08 MAINTENANCE OF TRAFFIC

(a) The purpose of this section of the General Conditions is to provide for the safe and continuous maintenance of traffic (both vehicular and pedestrian) through the project site and to minimize accidents and accident severity while at the same time minimizing inconvenience to the traveling public and the Contractor.

(b) The Contractor will be required to adhere to the Traffic Control Plans, and to the Maryland Manual on Uniform Traffic Control Devices (MMUTCD), latest edition at the time of design. In lieu of complying with the above, the Contractor has the option of preparing and submitting a Traffic Control Plan (TCP) of his/her own design. The TCP developed by the Contractor may not be employed until it is approved, in writing, by the Deputy Director.

(c) The Contractor shall perform all maintenance of traffic work in accordance with the approved Traffic Control Plan (TCP) where applicable, MMUTCD, and Special Provisions to the Contract together with Section 104 of the SHA Standard Specifications for Construction and Materials.

(d) All provisions and methods for maintaining traffic shall comply with the requirements of the Manual of Uniform Traffic Control Devices (MMUTCD), current edition. Also, all materials, devices and flagging procedures shall conform to the requirements of MMUTCD. The Contractor shall provide, maintain in first class condition, and move when necessary and/or directed, all traffic control devices used for the guidance and protection of vehicles.

(e) Traffic must be maintained at all times through the entire length of the Project, and travel lane(s) of the Road may be closed with the approval of the Deputy Director of Public Works (Capital Projects) and/or the SHA District Engineer.

(f) The Contractor shall provide a sufficient number of flagmen and take all necessary precautions for the protection of the Work and safety of the public, all as indicated in the MMUTCD.

(g) Marking for Work Areas.

(1) All existing and new signs that may cause driver confusion during various stages of construction shall be removed, covered, or altered subject to the approval of the Engineer.

(2) All existing and new pavement markings that may cause driver confusion during various stages of construction may be removed by any method that the Engineer approves, provided that they are removed and not painted over.

(3) The entire signing and marking procedures shall be reviewed by the Engineer prior to its initiation and shall not be utilized until approved by the Engineer.

(4) No temporary paint striping will be permitted. The Contractor will be required to furnish, install and maintain temporary pavement marking tape which shall delineate lane configuration through each stage of construction.

(5) Pavement marking tape used on this project shall be a type similar to "Scotchlane Highway Grade" for temporary pavement marking or approved equal. The Engineer will determine which tape is to be used for each stage of construction and may limit the Contractor to a specific type at his/her discretion.

(6) The Contractor will continually monitor the condition of the tape and shall direct the immediate removal and replacement of any tape which becomes deteriorated under the use of traffic. The Contractor will be responsible to install the tape in accordance with manufacturer's specifications, and will continually monitor the condition, of the tape. Except in

emergency situations, he/she shall notify the Engineer to approve the immediate removal and replacement of any tape that becomes deteriorated under the use of traffic. Manufacturer's specifications for tape installation shall be submitted to the Engineer for his/her approval.

(7) All pavement markings used shall be temporary and removable along points of traffic lane shifts and detours caused by construction activities. All such markings shall be placed at the time traffic patterns are actually altered and promptly removed at such time traffic patterns are restored to normal lines.

(h) Signs on Windmaster-type sign supports within the limits of the work zone shall be mounted in such manner that the bottom of the sign is at least one foot off the ground.

(i) The channelization devices shall be a minimum of Type II barricades or plastic reflective drums with Type C steady burn lights (2 faces) attached to the inner barricades. The first barricade in either direction a Type "A" low intensity flashing light (2 faces) will have attached to it. All Type III barricades will have 2 Type "A" low intensity flashing lights attached to them.

(j) Traffic cones used in Work areas shall be a minimum of 28" in height with the predominant color being orange in accordance with the MMUTCD. The County will not accept improvisations. Nighttime use of traffic cones shall require two (2) white reflective sleeves 6" on top, 4" on bottom with 2" of separation.

(k) No equipment or materials shall be stored or permitted to stand unprotected where traffic is maintained, or where they would restrict adequate intersection sight distance. At the conclusion of each working day, the Contractor shall store all equipment and materials in protected areas (behind traffic barriers) or remove them to a minimum distance of 30 feet from where traffic is maintained.

(l) Any earth or surfacing material that may be dropped on the surface where traffic is being maintained shall be removed immediately to avoid creating a slippery or hazardous condition.

(m) The Contractor will be required to designate a traffic manager prior to any work being done. The traffic manager will be responsible for the proper implementation of the TCP and for maintaining a regular surveillance over all aspects of traffic control and safety.

(n) The cost of maintenance of traffic shall be included in the appropriate lump sum and unit prices bid. Where no unit prices or lump sum items are provided, the cost will be deemed incidental to the project and is to be provided for in other items in the contract. This would include all costs associated with the maintenance of traffic including, but not limited to, the furnishing, placement, maintenance, removal, related labor, tools, equipment and incidentals such as lights, cones, flags, vests, flaggers, traffic manager, and temporary traffic signs, etc.

(o) Unless otherwise expressly stated within the written provisions of the Contract, the Contractor will be permitted to work with the appropriate traffic control and appurtenances

(p) The County reserves the right to modify or explain the methods of traffic control specified herein and to restrict the working hours if, in the opinion of the Engineer, the Contractor's operations are a detriment to traffic.

(q) Failure to comply with this section will result in an immediate order to stop work at no expense to the County.

GC-7.09 MAINTENANCE OF TRAFFIC FOR PRIVATE AND COMMERCIAL PROPERTIES

(a) The County has obtained various permits, rights-of-way, and construction easements along the line of work as indicated on the Drawings. The Contractor will schedule his/her work so as to cause the least amount of inconvenience to commercial and private properties. Where such properties have more than one entrance to the establishment, the Contractor may close one entrance to the establishment with the approval of the Engineer. Work on the second entrance shall not proceed until the first closed entrance is fully completed, all trenches are capped with crusher run and two (2) inches of cold patch material, and the entrance is opened to traffic. At locations where only one entrance exists, the Contractor will confine his/her work to not more than one-half (1/2) of the entrance. The Contractor will bring the first half to completion before work continues through the remainder of the entrance. The Contractor will maintain at all times continuous vehicular ingress and egress to commercial properties.

(b) Once work is started through a private driveway or entrance, the Contractor will be required to complete the work before ending operations for the day, unless otherwise approved by the Engineer in writing. Unless the Contractor has submitted to the Engineer written approval from the property owner, private driveways or entrances shall not remain closed overnight. Written approval must be provided to the Engineer prior to commencement of work through the driveway or entrance.

(c) There will not be any measurement and payment for this item; the cost will be included in the unit prices Bid for other appropriate Bid Items and considered incidental to the contract.

GC-7.10 ACCESS TO RAILROAD RIGHTS-OF-WAY

(a) **County's Responsibilities** – Where the contractor is required to perform work within the rights-of-way of any railroad, the County has made arrangements with that railroad authority for written approval.

(b) **Contractor's Responsibilities** – Where the Contractor desires to enter onto railroad property or establish a temporary crossing of the railroad property for his/her own convenience and operation, the Contractor shall make his/her own arrangements with the railroad and provide written approval from the railroad authority for the use of any private crossing.

All work on portions of structures over railroad rights-of-way shall conform to all rules and regulations of the owners of the rights-of-way. The Contractor is hereby made responsible for acquiring full knowledge of these rules and regulations and complying therewith with the satisfaction of the owners of the railroad rights-of-way. Where the County has entered into a license agreement or other written arrangement with the railroad authority pertaining to work within the railroad's right-of-way, the Contractor acknowledges the terms and conditions of the agreement and agrees to be bound by these terms and conditions as if fully set forth herein.

(c) **Coordination of Work** – All work to be performed by the Contractor within the railroad right-of-way shall be done in a manner satisfactory to the railroad company and shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the track of the railroad company. The Contractor shall exercise all care and precaution in order to avoid accidents, damage, unnecessary delay or interference with the railroad company's trains or other property, and the Contractor shall indemnify and hold harmless the County for the Contractor's failure to exercise such care and precaution.

(d) **Insurance Requirements** – Prospective Bidders on contracts crossing railroad rights-of-way are advised that the Contractor will be required to obtain, pay for and have approved by the railroad, certain broad forms of public liability and property damage insurance policies as set forth in the Special Provisions, before entering upon the railroad property. In situations where the Contractor requires access to railroad property for convenience, the Contractor shall communicate directly with the railroad authority for written approval. As a general rule, details of such policies are set forth in the Special Provisions; but in the event of an omission from the Special Provisions, the Contractor shall communicate directly with the railroad authority so as to ascertain type of insurance required, if any, and make provisions for same in the proposal.

Unless otherwise provided in the Proposal, costs of insurance policies whether described in the Special Provisions or ascertained by the Contractor will not be provided for in any special item and the cost shall be considered incidental to the several items set forth in the proposal.

GC-7.11 PRESERVATION AND RESTORATION OF PROPERTY

(a) The Contractor shall not enter upon public or private property (outside of the right-of-way or construction easement) for any purpose without obtaining written permission and he/she shall be responsible for the preservation of all public and private property, trees, monuments, signs and markers and fences thereon, and shall use every precaution necessary to prevent damage or injury thereto.

(b) All County signs and markers that are affected by the Work shall be carefully removed when grading operations begin and delivered to the Engineer or stored and protected on-site. The Contractor shall take suitable precautions to prevent damage to underground or overhead public utility structures; shall protect carefully from disturbances or damages all land monuments and property markers until the Engineer has referenced their location; and shall replace them as directed by the Engineer.

(c) The Contractor shall be responsible for all damage or injury to property of any character during the prosecution of the work, resulting from any act, omission, neglect or misconduct in his/her manner or method of executing the Work, or at any time due to defective work or materials, and the responsibility shall not be released until the Work shall have been completed and accepted. When or where any direct or indirect damage or injury is done to public or private property by 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, he/she shall restore, at his/her own expense, such property to a condition similar to, or equal to, that existing before such damage or injury, in an acceptable manner. In case of the failure on the part of the Contractor to restore such property or make good such damage or injury, the Engineer may, upon 48 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.

(d) **Protection of Geodetic Control Monuments** – It shall be the Contractor's responsibility to protect all geodetic monuments within the limits of Work. The Contractor shall carefully protect all geodetic control monuments from disturbance or damage until such time as the Washington County Engineering Department has referenced or relocated the monuments. All geodetic control monuments damaged or disturbed by the Contractor shall be replaced by the County at the Contractor's expense. The Contractor shall coordinate the preservation of all geodetic control monuments with the Washington County Engineering Department.

(e) **Protection of Property Corners** – All property corners not shown on the drawings that are encountered by the Contractor during the course of construction shall be protected from disturbance or damage until the Engineer has referenced their locations. All property corners shown on the plans that are disturbed or damaged by the Contractor shall be reestablished by a licensed surveyor at the Contractor's expense. Any property corners found during the course of construction which were not shown on the drawings, shall be replaced by the County if disturbed during construction.

(f) **Discovery of Historical Objects** – Whenever historical objects and burial sites of archaeological or paleontological value are encountered during the course of construction, such objects shall not be disturbed. Work shall be stopped and rescheduled in such a manner as to avoid the objects and the Engineer notified, immediately. The Engineer will arrange for an evaluation by the appropriate authorities and for the ultimate disposition of the objects.

(g) **Protection of Existing Landscape Features** – Special attention shall be given to the landscape features of the Work and special care taken to protect the natural surroundings unless otherwise noted on the Drawings. The Contractor shall not disturb, damage, destroy, remove or cut trees or shrubs without authorization. The roots of trees or shrubbery which are not to be cleared, shall not be cut and no heavy equipment of any type shall be allowed to stand under such trees or shrubbery.

(h) **Removal of Trees, Roots and Stumps** – Selected trees within the right-of-way or construction easement, which in the opinion of the Engineer can be saved, shall be protected by the Contractor with boards or planks so that they will not be defaced, bruised, or damaged by the Contractor's equipment or operations. Unless otherwise indicated in the Contract Documents, all trees may be felled in the rights-of-way, utility or drainage easements and construction easements. Trees marked on the Drawings to be protected in the right-of-way or construction easement shall be protected in the manner described above. Stumps, roots, branches and other debris shall be removed from the site unless otherwise noted or directed by the Engineer.

GC-7.12 LAND, AIR AND WATER POLLUTION

(a) The Contractor shall incorporate all permanent sediment and erosion control features into the Work at the earliest practicable time as required by the Contract Documents. Temporary pollution control measures will be used by the Contractor to correct conditions that develop during construction that were not foreseen during design; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the Project.

(b) The Contractor's attention is directed to the fact that temporary pollution control may include control measures outside the right-of-way or project site where such work is necessary as a direct result of project construction. The Engineer shall be kept advised of all such off-site control measures taken by the Contractor. This shall not relieve the Contractor of the basic responsibilities for such work.

(c) In case of failure on the part of the Contractor to control erosion, pollution, or siltation, the Engineer reserves the right to employ outside assistance or to use his/her own forces to provide the necessary corrective measures. All expenses incurred by the Engineer or the County in the performances of such duties for the Contractor will be the responsibility of the Contractor and may be withheld from monies due to the Contractor. The Contractor will be liable for fines and penalties imposed on the County as a result of his failure to maintain pollution control as set forth in the Contract Documents.

(d) Contractors and suppliers must submit evidence to the County that the governing Federal, State, and local air pollution criteria will be met. This evidence and related documents will be retained by the County for on-site evaluation.

GC-7.13 INDEMNIFICATION AND INSURANCE

(a) Indemnification

(1) The Contractor shall be responsible for all damage to life and property due to his/her activities or those of his/her subcontractors, agents or employees in connection with the services required under this contract.

Further, to the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the County, its officials, agents, employees, successors and assigns against and with respect to any and all losses, damages, suits, claims, judgments and expenses whatsoever ("losses"), including without limitation cost of investigation, litigation and attorney's fees, arising directly or indirectly from performance of this contract by the Contractor, his/her officers, employees, agents, or subcontractors, or otherwise arising directly or indirectly from the work, except only when such losses are attributable to and proximately caused by the negligence of the County or its officials, employees or agents with no negligence on the part of the Contractor, his/her officers, employees, agents or subcontractors. The foregoing shall apply, without limitation, to losses of all types including destruction or degradation of the environment and all clean-up costs, fines, penalties and other pollution-related items. This indemnification is not to be deemed as a waiver of any immunity, which may exist in any action against Washington County, MD.

(2) In any and all claims against the County or any of its agents or employees or any employee of the Contractor, or any subcontractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under subsection 1 above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' compensation laws, disability benefits acts, or other employee benefits.

(3) Unless otherwise stated within this Agreement, any property or work to be provided by the Contractor under this Contract will remain at the Contractor's risk until written acceptance by the County. Until that time, the Contractor will replace, at Contractor's expense, all property or work damaged or destroyed by any cause whatsoever.

(4) The Contractor shall not disclose any work product created by the Contractor under this Contract to any other parties except as may be authorized in writing by the County as required or permitted by public law.

(5) The Contractor shall be considered for all purposes of this Agreement as an independent contractor, shall not be an agent of the County and shall have no right or authority to enter into any agreements or otherwise bind the County or create any obligations on behalf of the County with other parties whatsoever.

(b) Insurance Requirements

(1) **Certificate(s) of Insurance.** The Contractor shall not commence work under the Contract until satisfactory evidence of all required coverage is received by the County. The Contractor shall provide certificates of insurance requiring a 30 day notice of cancellation to the Board of County Commissioners of Washington County in care of the Risk Management Administrator prior to the start of the applicable project.

Approval of the insurance by the County shall not in any way relieve or decrease the liability of the Contractor. It is expressly understood that the County does not in any way represent that the specified limits of liability or coverage or policy forms are sufficient or adequate to protect the interest or liabilities of the Contractor.

All responsibility for payment of any sums resulting from any deductible provisions, corridor, or self-insured retention conditions of the policy or policies shall remain with the Contractor.

(2) Further, the Contractor shall not reduce or cancel or change any of the required insurance coverage without 30 days notice of such change to the Board of County Commissioners of Washington County in care of the Risk Management. Failure to maintain required insurance shall be viewed as a material breach of the Contract by the Contractor.

(3) Insurance Coverage Required

Unless otherwise stated in the Special Provisions, the Contractor shall purchase and maintain, at his/her expense until final acceptance of the work by the County, insurance as hereinafter enumerated in policies written by insurance companies admitted in the State of Maryland, having an A.M. Best rating of 'A' or better or its equivalent, and acceptable to the County:

(A) Workers' Compensation – The Contractor agrees to comply with Workers Compensation laws of the State of Maryland and to maintain a Workers Compensation and Employers Liability Policy. Minimum Limits Required:

(1) Workers Compensation – Statutory

(2) Employers Liability – \$100,000 (Each Accident)
\$150,000 (Disease – Policy Limit)
\$100,000 (Disease – Each Employee)

(B) Comprehensive General Liability Insurance – The Contractor shall provide Comprehensive General Liability including Products and Completed Operations. Minimum Limits Required: \$1,000,000 combined single limit for Bodily Injury and Property Damage.

Such insurance shall protect the County, its agents, elected and appointed officials, commission members and employees, and name Washington County on the policy as additional insured against liability, loss or expense due to damaged property (including loss of use), injury or death of any person or persons and for care and loss of services arising in any way, out of, or in connection with or resulting from the work or services performed on behalf of Washington County.

The Contractor is ultimately responsible that Subcontractors, if subcontracting is authorized, procure and maintain, at their sole expense and until final acceptance of the work by the County, insurance as hereinafter enumerated in policies written by insurance companies admitted in the State of Maryland, having an A.M. Best rating of 'A' or better or its equivalent, and acceptable to the County.

(C) Business Automobile Liability – The Contractor shall provide Business Auto Liability including coverage for all leased, owned, non-owned and hired vehicles. Minimum Limits Required: \$1,000,000 combined single limit for Bodily Injury or Property Damage.

(D) General Indemnity – The Contractor shall indemnify, defend and save harmless the Board of County Commissioners of Washington County, its appointed or elected officials, commission members, employees and agents for any and all suits, legal actions, administrative proceedings, claims, demands, damages, liabilities, interest, attorneys fees, costs and expenses of whatsoever kind of nature, whether arising before or after final acceptance and in any manner directly or indirectly caused, occasioned or contributed to in whole or in part by reason of any act, error or omission, fault or negligence whether active or passive by the Contractor, or any one acting under his/her direction, control or on his/her behalf in connection with or incident to his/her performance of the Contract.

(E) Builder's Risk Insurance – The Contractor shall provide Builder's Risk Insurance with a limit of coverage equal to the construction cost on a replacement cost basis and written on an all-risk policy form. Insurance shall be maintained until the entire project is fully and finally accepted by the County. The Builder's Risk Policy shall include the County as an additional insured.

- (1) The County is not responsible for any damage or loss of materials stored on or within County-owned facilities. The Contractor shall provide necessary insurance coverage for such losses or shall assume full risk for replacement cost for his/her own materials and those of all subcontractors.
- (2) If the Contract includes the installation of a boiler or heating, ventilating or air conditional equipment, the Contractor shall purchase and maintain from the point of delivery of such equipment onto the site until the project is accepted by the County, a Boiler and Machinery Insurance policy at a limit of not less than the purchase price of such equipment, covering all equipment not covered by the Builders' Risk Insurance described in 'E' before.

(4) **Professional Liability Insurance.** IF ANY ARCHITECTURAL, ENGINEERING, DESIGN, INSPECTION OR PLANNING SERVICES ARE RENDERED, INCLUDING APPROVAL OF SUCH ACTIVITIES OF OTHERS, the following insurance is also required: Professional Liability/Errors and Omissions coverage appropriate to the profession with limits of at least \$1,000,000.00 per occurrence. Such coverage shall contain a retroactive date not later than the effective date of the Consultant's services in relation to this Agreement and shall contain, an agreement to maintain identical insurance, covering incidents occurring or claims made, for a period of three (3) years after substantial completion of the project.

GC-7.14 USE AND POSSESSION PRIOR TO COMPLETION

(a) The County shall have the right to take possession of or use any completed or partially completed part of the Work. Such possession of or use shall not be deemed an acceptance of any work not completed in accordance with the Contract. While the County is in possession, the Contractor shall be relieved of the responsibility for loss or damage to that portion of the work in possession of the County, other than that resulting from the Contractor's fault or negligence. If such prior possession or use by the County will delay the progress of the work or causes additional expense to the Contractor, the Contractor shall proceed in accordance with GC-4.06 for an equitable adjustment.

(b) At the option of the Engineer, certain completed sections of the work may be opened to traffic or made available for use. In such cases, the completed section will be inspected, tentatively accepted in writing, and the same turned over to the County for maintenance. Such action shall not in any way be construed as Final Acceptance of the Work, or any part of it. No such action shall be construed as a waiver of any of the provisions of these Specifications or the Contract. Upon written authorization by the Engineer, the Contractor may open the Road to traffic and will be relieved of further maintenance of barriers and lights on that portion of the Road.

(c) In the event that the Contractor, with written authorization from the Engineer, suspends work for prolonged periods of time, as a result of winter weather or other reasons, the County, upon written notification by the Engineer, may open a section or sections of a Road in advance of completion or in advance of the Contractor turning the section or sections over to the County for maintenance. Such actions may be taken either for the convenience of the traveling public, or during the winter season, while the work is suspended. The Contractor shall restore the shoulder areas, surfacing, or any portion of the Work which might be disturbed or damaged by use. The restoration work shall be performed at the respective contract unit prices for the items involved. Where unit prices have not been provided for, the work shall be performed in accordance with GC-4.06.

(d) Builder's Risk Insurance – The Contractor shall provide “All Risks” Builder's Risk Insurance on the Project, as provided in GC-7.13.

GC-7.15 CONTRACTOR'S RESPONSIBILITY FOR WORK

(a) Except as otherwise provided in the Contract Documents, until Final Acceptance, the Contractor shall have the charge and care of the Work and shall take every reasonable precaution against injury or damage to any part of the Work or other property by the action of the elements, or from any other cause, whether rising from the execution or from the non-execution of the Work. The Contractor, except as herein elsewhere provided, shall rebuild, repair, restore, and make good all injuries or damages to any portion of the Work or other property occasioned by any of the above causes before Final Acceptance and shall bear the expense thereof. Material lost or structures damaged as a result of faulty temporary drainage during construction or the action of the elements shall be replaced or repaired by the Contractor at no cost to the County. The Contractor shall make good or replace at his/her own expense and as required any County furnished material which may be broken, lost through fire, theft or otherwise damaged, or in any way made useless for the purpose and use intended subsequent to delivery to the Contractor by the County and prior to Final Acceptance of the Work even though such breakage, damage, loss, or uselessness may result from causes beyond the control of the Contractor.

(b) In case of suspension of the Work for any cause whatever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Work, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of Work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seeding and sodding furnished under this Contract, and shall take adequate precautions to protect new growth and other important vegetative growth against injury.

(c) The Contractor shall be responsible to the County for the acts and omissions of all his/her employees and all Subcontractors, their agents and employees and all other persons performing any of the Work under a contract with the Contractor.

(d) The Contractor shall supervise and direct the Work, using his/her best skill and attention. It shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract Documents.

GC-7.16 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

(a) At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone and power companies, public/private utilities, or are adjacent to other property, damage to which might result in expense, loss or inconvenience, the Contractor shall not commence work until he/she has made all arrangements necessary for the protection thereof.

(b) The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication or rearrangement work may be reduced to a minimum and that services rendered by those parties will not be unnecessarily interrupted.

(c) In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the Washington County Division of Emergency Services and the utility owner.

GC-7.17 PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the provisions of the Contract Documents, or in exercising any power or authority granted by the County to the Engineer and other authorized representatives by or within the scope of the Contract Documents, there shall be no liability upon the County's authorized representatives either personally or as officials of the County, it being understood that in all such matters they act solely as agents and representatives of the County.

GC-7.18 NOTICES AND WAIVER OF LEGAL RIGHTS

(a) The County shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after completion and acceptance of the Work payment therefore, from showing the true amount and character of the Work, nor from showing that any such measurement, estimate, or certificate is untrue or is incorrectly made, nor from showing that the Work does not in fact conform to the Contract Documents. The County shall not be precluded or stopped, notwithstanding any such measurement, estimate or certificate and payment in accordance therewith, from recovering from the Contractor or the surety, or both, such damage as it may sustain by reason of the Contractor's failure to comply with the terms of the Contract Documents. Neither the acceptance by the County, or any representative of the County, nor any

payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the County, shall operate as a waiver of any portion of the Contract Documents or of any power herein reserved, or of any right to damages.

(b) A failure to provide a required notice or to submit a claim or appeal within the time prescribed in the Contract Documents shall operate as a waiver of any such claim regardless of whether the County incurred or demonstrates any prejudice by the failure to give such notice or to submit such claim or appeal.

(c) The waiver of any breach of the Contract Documents shall not be held to be a waiver of any other or subsequent breach. Any waiver by the County of a requirement of the Contract Documents, including without limitation a requirement that a notice be made in writing or a submission be made within a certain time, shall not operate as a waiver of the same or any other requirement of the Contract Documents in any other circumstance or at any other time. The County need not incur or demonstrate prejudice in order to assert that a waiver of the Contractor's rights or claims results from the Contractor's failure to comply with any provision of the Contract Documents when the Contract Documents provide for such waiver of any right or claim.

GC-7.19 CHOICE OF LAW, FORUM

The Parties hereby agree that:

(a) This Contract was made and entered into in Maryland, and under the laws of Maryland.

(b) The law of Maryland (exclusive of its choice of laws rules) shall govern the resolution of any issue arising in connection with this Contract, including, but not limited to, all questions concerning the validity of this Contract, the capacity of the parties to enter therein; any modification or amendment thereto; and the rights and obligations of the parties hereunder.

(c) The exclusive venue and jurisdiction for any litigation arising out of or related to the Contract Documents is the Circuit Court for Washington County, Maryland. Prior to commencing litigation, the Contractor must exhaust all remedies and appeals applicable to the claim or dispute as provided in the Contract Documents as a condition precedent to proceeding with litigation. The Contractor's failure to exhaust all remedies and appeals applicable to the claim or dispute will operate as a waiver of said claim or dispute and will forever bar said claim or dispute, regardless of whether the County incurred or demonstrates any prejudice by the failure to exhaust the remedies and appeals.

(d) Notwithstanding anything in these General Conditions to the contrary, all appeals or litigation arising out of or related to the Contract Documents must be commenced within fourteen (14) calendar days after the County's final decision giving rise to the Contractor's claim. The failure of the Contractor to timely file any appeal or litigation shall forever bar and waive the claim regardless of whether the County incurred or demonstrates any prejudice resulting from the Contractor's failure to timely file the appeal or litigation.

GC-7.20 AUDIT AND RETENTION OF RECORDS

(a) The Contractor and his/her subcontractors and suppliers at any tier shall retain and maintain all records and documents relating to this Contract, including, but not limited to, estimates, cost or pricing data, payrolls, reports and inspections, relating to this Contract for three years after Final Acceptance, and shall make such documents available for inspection and audit by authorized representatives of the County, including the Engineer or his/her designee, at all reasonable times, including during the time of performance of the Contract as may be necessary for any purpose including pricing and cost verification of any Contractor claim.

(b) In the event the County or the Contractor initiates a claim, Contractor and his/her subcontractors or suppliers at any tier shall retain the records set forth in (a) above until the expiration of the aforesaid three-year period or until final, non-appealable resolution of the claim, which ever is later.

(c) The Contractor shall include the provisions of paragraph (a) in every subcontract for the Work.

(d) If Contractor, or his/her subcontractors or suppliers, fail to retain the records set forth herein for the period of time required by this Section, Contractor shall not be entitled to any damages, compensation or equitable adjustment (including time extensions) for any claims based upon information available from or which might be verified by records that have not been retained.

GC-7.21 USE OF EXPLOSIVES

(a) The use of explosives will not be permitted adjacent to or on any existing structures unless authorized in writing by the Engineer. When the use of explosives is permitted, the Contractor shall use the utmost care so as not to endanger life or property. He/she shall exercise extreme caution with the number and size of the charges. The Contractor shall provide for the safeguarding of the traveling public and adjacent properties while using explosives. Such precautions shall include, but not be limited to, a sufficient number of watchpersons, flag persons, signs, etc., to warn motorists during periods of blasting. All explosives shall be stored in a secure manner, and all such storage places shall be marked clearly – “Dangerous Explosives”- and shall be in care of competent watchpersons at all times. Explosives shall be stored and handled in conformity with the provisions of the statutes of the State of Maryland and local laws and ordinances.

(b) **Notifications** – The Contractor shall notify each public utility company having structures in proximity to the site of the Work of his/her intention to use explosives, and such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from damage. Such notice shall not relieve the Contractor of his/her responsibility for any damage resulting from his/her blasting operations. The Contractor shall notify the Engineer of his/her intention to use explosives, in sufficient time for that agency to schedule its operations.

(c) **Licensed Employees** – Expert powder men licensed by the State Fire Marshall or authority having jurisdiction shall be employed by the Contractor for the handling and use of explosives, and all their work shall conform to the requirements of the State Fire Marshall. The authorization by the Engineer for the use of explosives shall not relieve the Contractor of his/her full responsibility for damages that may occur.

GC-SECTION 8

PROSECUTION AND PROGRESS

GC-8.01 SUBCONTRACTING

(a) All subcontractors are subject to the County's written approval as specified in Section GC-2.19 BID EVALUATION AND AWARD.

(b) The Contractor shall incorporate by reference or otherwise include these General Conditions in every subcontract issued pursuant to or under the Contract.

(c) The Subcontractors who are named by the Contractor subsequent to the Bid opening and approved by the County and those approved when subsequently submitted shall perform the portions of the Work for which approval has been given by the County. Requests for permission to sublet, assign or otherwise dispose of any portion of the Contract shall be in writing and include the item number or numbers, the dollar value, and the percentage of the original contract value. Each request for permission to sublet, assign or otherwise dispose of any portion of the Contract must be accompanied by written consent from the Contractor's Surety. The Contractor shall give assurance that the minimum wage for labor, as stated in his/her Bid, shall apply to labor performed on all work sublet, assigned or otherwise disposed of in any way.

(d) The County will not approve subletting portions of items except in the case of specialty items such as the erection of structural steel, painting, or such portions of items that are distinct and identifiable and that have been approved by the Engineer.

(e) Once a Subcontractor has been approved by the County and Surety for the performance of certain contract items of Work, the Contractor shall not substitute another Subcontractor, unless the Contractor requests a change in writing giving the reasons the change is sought and the substitute proposed. If a Subcontractor does not perform to the satisfaction of the Contractor, the Contractor may perform the Work with his/her own forces or request that another Subcontractor, mentioned by name, be substituted. The County will approve the change if the County determines that the change is in the best interest of the County.

(f) Roadside production of materials shall be considered as "subcontracting", unless performed by the Contractor. This is construed to include the production of crushed stone, gravel and/or other materials by means of portable or semi-portable crushing, screening or

washing plants, established or reopened in the vicinity of the Work, for the purpose of supplying materials to be incorporated into the Work on a designated project or projects.

(g) Anti-Kickback Regulations

(1) The Anti-Kickback Regulations issued by any department, agency, or branch of the federal, state or local government are applicable to this Contract. The Contractor shall comply with these regulations, and any amendments or modifications thereof and shall cause appropriate provisions to be inserted in subcontracts to ensure compliance therewith by all Subcontractors, and shall be responsible thereunder, except as the applicable department, agency, or branch may specifically provide for reasonable limitations, variations, tolerances and exemptions from the requirements thereof. In lieu of mailing affidavits required by the Anti-Kickback Regulations to the department, agency, or branch furnishing financial aid on this Project, the Contractor shall submit all such affidavits promptly, as specified, to the County or to a representative designated by the County.

(2) The County, or its representative, may withhold or cause to be withheld from the Contractor so much of the accrued payments or advance as may be considered necessary to pay laborers and mechanics employed by the Contractor or any Subcontractor on the work the full amount of wages to which they are entitled under their contracts of employment. In the event of failure to pay any laborer or mechanic employed or working on the site of the Work, all or part of the wage to which he/she is entitled under this contract of employment, the County, or its representative, may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payroll records shall contain the information and be preserved as required by the Anti-Kickback Regulations. The Contractor shall make his/her employment records available for inspection by authorized representatives of any federal, state, or local government and shall permit such representatives to interview employees during working hours on the job.

(4) The Contractor shall insert in each of his/her subcontracts the provisions set forth in the foregoing clauses and such other stipulations as any federal, state, or local government may require by appropriate instructions.

(5) A breach of stipulations (1) through (4) may be grounds for termination of the Contract.

(h) The Contractor shall not require as a condition to any executed agreement to provide labor and/or materials to the Project, that a Subcontractor waive the right to sue on or collect from the Payment Bond. The Contractor shall prohibit his/her Subcontractor from requiring, as a condition to any executed agreement to provide labor and/or materials to the Project, that any lower tier Subcontractor waive the right to sue on or collect from any Subcontractor's bond and/or the Payment Bond. The parties expressly intend for all Subcontractors to be third party beneficiaries of this subsection and all Subcontractors can enforce this provision in any appropriate proceedings.

GC-8.02 NOTICE TO PROCEED

After the Contract has been executed, the County will issue to the Contractor a "Notice to Proceed," which will stipulate when the Contractor is expected to begin work. The specified Contract Time shall begin on the date stipulated in the Notice to Proceed or, if an earlier start is authorized in the Notice to Proceed, on the day work (other than the erection of the inspection office, construction stakeouts, and/or mobilization) actually starts. Work done prior to receipt of the Notice to Proceed, including erection of traffic control, is unauthorized and may not be measured, inspected, or paid for.

GC-8.03 PROSECUTION OF THE WORK – COMMENCEMENT – TIME

(a) The Contractor shall begin work promptly within the time specified by the Engineer and shall notify the Engineer at least five (5) days before starting work.

(b) After commencing work, the Contractor shall prosecute the Work continuously on all acceptable days without stoppage until Final Acceptance.

(c) Should the prosecution of the Work for any reason be discontinued, the Contractor shall notify the Engineer of his/her intention to stop and shall also notify the Engineer at least 24 hours in advance of resuming operations. Said notification shall be confirmed in writing.

(d) The Contractor shall do all the work and furnish all the labor, materials, tools and appliances necessary or proper for performing the Work, in the manner called for by the Contract Documents within the Contract Time; except such as are hereinafter specified as being furnished by the County. He/she shall complete the entire Work, including any work included in Change Orders, at the prices established therefore, to the satisfaction of the Engineer, in accordance with the Contract Documents.

(e) The Contractor shall complete the Work contracted for in an acceptable manner within the number of working days or calendar days as stated in the Contract Documents.

(f) In the unusual event that a Contract is based on Working Days, the Engineer will make available each week to the Contractor a record showing the number of days charged to the Contract for the preceding week and the number of days specified for completion of the Contract. The Contractor will be allowed one week in which to protest and thirty (30) days in which to file a written statement, setting forth in what respects the time charged by the Engineer is incorrect for the week in question. Otherwise, the record will be deemed to have been accepted by the Contractor.

(g) The number of days for performance allowed in the Contract as awarded is based on the Bid quantities. If satisfactory fulfillment of the Contract with extensions and increases authorized under the Contract Documents shall require the performance of work in greater quantities than those set forth in the Bid, the Contract Time allowed for performance shall be

adjusted in an equitable manner based on the quantities, costs and the nature of the work involved pursuant to the procedures in GC-4.06.

(h) Under certain conditions, the Contractor may be granted permission or ordered to suspend operations as noted in Section GC-8.08. During such periods, if the Contractor elects and is permitted to do any work, the time charged shall bear the same ratio to the total time allowed for the completion of the Work, as the value of the work done during such time bears to the total value of the original Contract value. However, the resultant number of days to be charged for any particular month will not exceed the number of calendar days for that month, excluding Saturdays, Sundays or official holidays on which no work was performed by the Contractor.

(i) Time used in performing work of an emergency nature ordered by the Engineer for the convenience of the traveling public or for the production or delivery of materials for storage, if performed during the period of suspension, will not be charged as working days against the Contract Time.

(j) An exception to GC-8.10(b) will be those landscaping items on which work is restricted to specified seasons. When Final Acceptance is being deferred pending completion of those landscaping items on which work is not permissible at the time because such work is currently out of season, and for no other reason, no time will be charged against the Contractor until such time as he/she is again permissible to proceed with such work.

GC-8.04 PROGRESS SCHEDULE

(a) Within fifteen (15) days after Notice to Proceed, the Contractor shall furnish a "Progress Schedule" for the Engineer's review and acceptance in the form required by the Contract Documents showing the proposed order of work and indicating the time required for the completion of the Work. The progress schedule shall be used to establish major construction operations and to check on the progress of the Work. The Engineer's acceptance of any schedule shall not be deemed to modify any time requirements in the Contract Documents. The Contractor shall submit revised progress schedules on a monthly basis thereafter with each the request for payment. If the Engineer does not accept the submitted progress schedule, the Contractor, within ten (10) days of receipt of written notice of non-acceptance, shall submit a revised progress schedule for review and acceptance.

(b) If the Contractor fails to submit the progress schedule or revised progress schedule within the required time or if the progress schedule is not accepted, the Engineer may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedules or may recommend termination of the Contract for default.

(c) If, in the opinion of the Engineer, the Contractor falls significantly behind the approved progress schedule, the Contractor shall take any and all steps necessary to improve his/her progress. This may require the Contractor to increase the number of shifts, initiate or increase overtime operations, increase days of work in the work week, or increase the amount of

construction plants, or all of them. The Engineer may also require the Contractor to submit for approval supplemental progress schedules detailing the specific operational changes to be instituted to regain the approved schedule, all without additional cost to the County.

(d) Failure of the Contractor to comply with the requirements of the Engineer under this provision shall be grounds for determination by the County that the Contractor is not prosecuting the Work with such diligence as will insure completion within the time specified. Upon such determination, the Director may terminate the Contractor's right to proceed with the Work, or any separable part thereof, in accordance with GC-8.09.

(e) Acceptance by the County of a progress schedule showing completion of the Work on an accelerated basis shall not be construed as a waiver of the Contract time specified in the Contract Documents. Any accelerated progress schedule accepted by the County shall not form the basis of a delay or acceleration claim by the Contractor.

GC-8.05 LIMITATIONS OF OPERATION

(a) **Sequence of Work** – The Contractor shall conduct the Work at all times in such a manner and in such sequence as will assure the least interference with the public. The Contractor shall begin work at such points as may be specified in the Contract Documents and shall thereafter prosecute the Work at such points and in such order as may be prescribed therein.

(b) **No Work Without Inspection** – No work requiring the presence of an Inspector will be permitted on Sunday or on legal holidays, except in cases of emergency, without written permission of the Engineer.

(c) **Work On Legal Holidays** – If the Contractor desires to work upon any Sunday or legal holiday he/she shall provide written notification to the Engineer at least two (2) week days in advance. He/she shall indicate the nature of the work and the location where the work will be conducted.

(d) **Emergency Work** – In the event of an emergency, the Contractor may work provided verbal consent is obtained from the Engineer prior to performing the work.

GC-8.06 CHARACTER OF WORKMEN, METHODS AND EQUIPMENT

(a) The Contractor shall employ personnel with sufficient command of the English language to comprehend spoken instructions and communicate with all parties involved.

(b) The Contractor shall employ sufficient labor and equipment for prosecuting the several classes of Work to full completion in the manner and time required by the Contract.

(c) Workmen must have sufficient skill and experience to perform properly the work assigned to them. All workmen engaged in special work or skilled work shall have sufficient

experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

(d) Any person employed by the Contractor or by any Subcontractor who, in the opinion of the Engineer, does not perform his/her work in a proper manner or is intemperate or disorderly shall, at the written direction of the Engineer, be removed forthwith by the Contractor or Subcontractor employing such person, and shall not be employed again in any portion of the Work without the written approval of the Engineer.

(e) Should the Contractor fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, the Engineer may withhold requests for payment that are or may become due on the Contract until a satisfactory understanding has been reached.

(f) Equipment to be used on the Work shall meet the requirements of the Work and produce a satisfactory product in conformity with the Contract Documents. The Engineer may order the removal and require replacement of any unsatisfactory equipment.

(g) When the methods and equipment to be used by the Contractor in accomplishing the Work are not prescribed in the Contract Documents, the Contractor is free to use any methods or equipment that he/she demonstrates to the satisfaction of the Engineer will accomplish the Work in conformity with the Contract Documents.

(h) When the Contract Documents specify that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer in writing. If the Contractor desires to use a method or type of equipment other than those specified in the Contract, he/she may request authorization from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with the Contract Documents. If, after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract Documents, the Contractor shall discontinue the use of the substituted method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove all deficient Work and replace it with Work of specified quality, or take such other corrective action as the Engineer may direct. Unless approved under GC-4.11, no equitable adjustment to the Contract will be made as the result of authorizing a change in methods or equipment under these provisions.

GC-8.07 ILLEGAL IMMIGRANTS

(a) The Contractor shall comply with the Immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Under the INA, the Contractor may hire only persons who may legally work in the United States (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the

U.S. The Contractor shall verify the identity and employment eligibility of anyone employed or to be employed, including completion of the Employment Eligibility Verification Form (I-9). The Contractor shall establish appropriate procedures and controls to insure that no services under this Contract will be performed by any worker who is not legally eligible to perform such services or for employment.

(b) Failure by the Contractor or his/her Sub-Contractors to comply with the provisions of GC-8.07 (a) will be grounds for termination of the Contract.

GC-8.08 SUSPENSION OF WORK

(a) The Engineer may unilaterally order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for a period of time as he/she may determine to be appropriate for the convenience of the County.

(b) If the performance of all or any part of the Work is suspended, delayed, or interrupted for an unreasonable period of time by an act of the Engineer or the County, or by a failure of the Engineer or County to act within the time specified in this Contract (or if not time is specified, within a reasonable time), subject to the provisions of GC-4.06 and 4.07 an adjustment shall be made for any increase in the cost of performance of this Contract necessarily caused by an unreasonable suspension, delay, or interruption. However, no adjustment shall be made under this provision for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor.

(c) By issuance of a written notice of suspension of work, the Engineer may order the Contractor to suspend, delay, or interrupt any part of the Work as a result of code violations or deviation from the Contract Documents. Should the violation or deviation persist, the Engineer may extend the suspension to all Work. The Engineer will enforce the suspension until such time as the Contractor completes the necessary correction. No equitable adjustment in the Contract Documents will be allowed for actions by the Engineer under this provision.

(d) If it should become necessary to suspend, delay, or interrupt all or part of the Work for an indefinite period, the Contractor shall store all materials in such manner that they will not obstruct or impede the traveling public unnecessarily nor become damaged in anyway. The Contractor shall take every precaution to prevent damage or deterioration of the work performed, provide suitable drainage by opening ditches, shoulder drain, etc. and erect temporary structures where necessary.

GC-8.09 TERMINATION FOR DEFAULT-DAMAGES FOR DELAY – TIME EXTENSIONS

(a) If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as shall ensure its completion within the Contract Time, or any

extension thereof, or if the Contractor fails to complete said Work within the Contract Time, persistently fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or otherwise materially breaches any of his/her obligations under the Contract Documents, the County may, in its sole discretion and without prejudice to any right or remedy against the Contractor and the Surety, by written notice to the Contractor, terminate for default the Contractor's right to proceed with the Work, or the part of the Work as to which there has been delay. In this event the County may take over the Work and prosecute the same to completion, by Contract or otherwise, and may take possession of and utilize the materials, appliances, and plant as may be on the site of the Work and necessary therefore in completing the Work.

(b) Liquidated damages as set forth in GC-8.10 are not intended to compensate the County after the Contractor's default for any additional expenses to complete the Work in accordance with the Contract Documents. If the County terminates the Contractor's right to proceed for default, the Contractor and the Surety are liable to the County and will pay within 30 days after demand by the County all additional costs incurred in completing the Work in excess of the Contract Sum (as modified by approved Change Orders) together with liquidated damages assessed in accordance with GC-8.10.

(c) If liquidated damages are provided in the Contract and if the County does not so terminate the Contractor's right to proceed under subsection (a) above, the resulting damage shall consist of the liquidated damages as outlines elsewhere in the Contract Documents.

(d) The Contractor's right to proceed may not be terminated nor the Contractor charged with resulting damages if:

(1) The delay in the completion of the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the County in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence in whole or in part of either the Contractor or the subcontractors or suppliers; and

(2) The Contractor, within ten (10) days from the beginning of any such delay (unless the Engineer grants in writing a further period of time before the date of final payment under the Contract), notifies the Engineer in writing of the causes of delay. The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in his/her judgment, the findings of fact justify such an extension, and his/her findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in GC-5.13.

(e) If, after notice of termination for default, it is determined for any reason that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to GC-8.11

(f) The rights and remedies of the County provided in this provision are in addition to any other rights and remedies provided by law or under this Contract.

(g) As used in paragraph (d) (1) of this provision, the term “subcontractors or suppliers” means subcontractors or suppliers at any tier.

GC-8.10 LIQUIDATED DAMAGES

(a) Time is an essential element of the Contract and it is important that the Work be vigorously prosecuted until Final Acceptance. The Contractor understands and agrees that the County and the general public will suffer financial loss and/or inconvenience if the Project is not substantially complete on the date set forth in the Contract Documents. The County and the Contractor agree that the amount of financial loss and/or inconvenience is not subject to accurate estimation and the actual damages are not easily ascertained. Therefore, the County and the Contractor agree that the amount of liquidated damages set forth in the Contract Documents is a reasonable forecast of the just and fair compensation for the harm that would result from the Contractor’s failure to timely complete the Work.

(b) For each calendar day that the Work shall remain uncompleted beyond the Contract Time, the Contractor and/or the Surety shall be liable for liquidated damages in the amount provided for in the Contract Documents, provided, however, that due account shall be taken of any adjustment of the Contract time for completion of work as granted by approved equitable adjustments.

GC-8.11 TERMINATION FOR THE CONVENIENCE OF THE COUNTY

(a) The performance of Work may be terminated by the County in accordance with this provision in whole, or from time to time in part, whenever the Director shall determine that such termination is in the best interest of the County. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of the Work is terminated, and the date upon which such termination becomes effective.

(b) After receipt of Notice of Termination, and except as otherwise directed by the Engineer, the Contractor shall:

(1) Stop the Work on the date and to the extent specified in the Notice of Termination;

(2) Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of the portion of the Work as is not terminated;

(3) Terminate all orders and subcontracts to the extent that they relate to the performance of the Portion of the Work terminated by Notice of Termination;

(4) Assign to the County in the manner, at the times, and to the extent directed by the Engineer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the County shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(5) Settle all outstanding liabilities and all claims arising out of the termination of orders and subcontracts, with the approval or ratification of the Engineer, to the extent he/she may require, which approval or ratification shall be final for all the purposes of this provision;

(6) Transfer title and deliver to the County, in the manner, at the times and to the extent, if any, directed by the Engineer, (a) the fabricated or non-fabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of the Work terminated by the Notice of Termination, and (b) the completed or partially completed, drawings, information, warranties, and other property which, if the Contract had been completed, would have been required to be furnished to the County;

(7) Use his/her best effort to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Engineer, any property of the types referred to in (6) above; provided, however, that the Contractor (a) may not be required to extend credit to any purchaser, and (b) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Engineer; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the County to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Engineer may direct;

(8) Complete performance of such part of the Work as may not have been terminated by the Notice of Termination; and

(9) Take any action that may be necessary, or as the Engineer may direct, for the protection and preservation of the property related to this Contract that is in the possession of the Contractor and in which the County has or may acquire an interest. The Contractor shall submit to the Engineer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Engineer, and may request the County to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) calendar days thereafter, the County shall accept title to such items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Engineer upon removal of the items, or if the items are stored, within 45 days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Engineer his/her termination claim, in the form and with the certification required under GC-4.06 and GC-5.13 or as otherwise prescribed by the Engineer. This claim shall be submitted promptly

but in no event later than ninety (90) calendar days from the effective date of termination, unless one or more extensions in writing are granted by the Engineer, upon request of the Contractor made in writing within the ninety (90) calendar-day period or authorized extension thereof. Failure to submit the claim within the time specified herein shall operate as a waiver of claim regardless of whether the County incurred or demonstrates any prejudice by the failure to timely submit the claim. However, if the Engineer determines that the facts justify such action, he/she may receive and act upon any such termination claim at any time after the ninety (90) calendar-day period or any extension thereof. Upon failure of the Contractor to submit his/her termination claim within the time allowed or any extension thereof, the Engineer may determine, on the basis of information available to him/her, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount, if any, so determined.

(d) Subject to the provisions of paragraph (C), the Contractor and the Engineer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of the Work pursuant to this provision, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs; shall not exceed the total Contract price as reduced by the amount of payments otherwise made and as further reduced by the price of work not terminated. The Contract shall be amended accordingly pursuant to GC-4.06. Nothing in paragraph (e) of this provision, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Engineer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this provision, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts that may be agreed upon to be paid to the Contractor pursuant to this paragraph.

(e) In the event of the failure of the Contractor and the Engineer to agree as provided in paragraph (d), upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this provision, the Engineer shall pay to the Contractor the amounts determined by the Engineer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (d):

(1) For completed supplies or services accepted by the County (or sold or acquired as provided in paragraph (b)(7) above) and for which payment has not theretofore been made, a sum equivalent to the aggregate price for the supplies or services computed in accordance with the price or prices specified in the Contract, appropriately adjusted for any saving of freight or other charges;

(2) The total of:

(A) The costs incurred in the performance of the terminated portion of the Work, including initial costs and preparatory expense allocable thereto, but exclusive of any costs attributable to supplies or services paid or to be paid for under paragraph (e)(1) hereof;

(B) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in

paragraph (b)(5) above, which are properly chargeable to the termination portion of the Contract (exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors before the effective date of the Notice of Termination, which amounts shall be included in the costs payable under (a) above); and

(C) A sum, as profit on (a) above, determined by the Engineer to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (c) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(D) The reasonable cost of settlement accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Work and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the Contract; but

(E) No payment shall be allowed for any anticipated profit or overhead on work not performed.

(3) The total sum to be paid to the Contractor under (1) and (2) of this paragraph shall not exceed the total Contract price as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. Except for normal spoilage, and except to the extent that the County shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in (e) (1) and (a) above, the fair value, as determined by the Engineer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the County or to a buyer pursuant to paragraph (b) (7).

(f) Costs claimed, agreed to, or determined pursuant to this provision must also be allowable, reasonable, lawful, and allocable to the Work and accounted for in accordance with generally accepted accounting principles. Guidance for any determination of whether the costs are allowable, reasonable, lawful, and allocable, will be provided by the "Contract Cost Principles and Procedures", Title 21, Subtitle 09 of the Code of Maryland Regulations (COMAR 21.09.01), as may be amended from time to time.

(g) The Contractor shall have the right of appeal under GC-5.13 from any determination made by the Engineer under paragraph (c), (e), or (i) hereof, except that if the Contractor has failed to submit his/her claim within the time provided in paragraph (c) or (i) hereof, and has failed to request extension of such time, he/she shall have no such right of appeal. In any case where the Engineer has made a determination of the amount due under paragraph (d), (e), or (i) hereof, the County shall pay to the Contractor the following:

(1) If there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Engineer; or,

(2) If an appeal has been taken, the amount finally determined on such appeal

(h) In arriving at the amount due the Contractor under this provision there shall be deducted:

(1) All non-liquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this Contract;

(2) Any claim that the County may have against the Contractor in connection with this Contract; and

(3) The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to this provisions, and not otherwise recovered by or credited to the County.

(i) If the termination hereunder is partial, the Contractor may file a claim with the Engineer for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), within the time limits and under the procedures set forth in GC-4.06 and GC-5.13.

(j) The County may, from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this Contract whenever, in the opinion of the Engineer, the aggregate of such payments shall be within the amount to which the Contractor shall be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this provision, such excess shall be payable by the Contractor to the County upon demand, together with interest computed at the prime rate established by the County Budget and Finance Office for the period of the date such excess payment is received by the Contractor to the date on which the excess is repaid to the County; provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten (10) days after the date of the retention or disposition, or a later date as determined by the Engineer by reason of the circumstance.

(k) Unless otherwise provided for in this Contract, or by applicable statute, the Contractor shall, from the effective date of termination until the expiration of three (3) years after final settlement (including the expiration and conclusion of all appeals and rights of appeal) under this Contract, preserve and make available to the County at all reasonable times at the office of the Contractor but without direct charge to the County, all his/her books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or, to the extent approved by the Engineer, photographs, microphotographs, or other authentic reproductions thereof.

GC-8.12 SUCCESSFUL TERMINATION OF CONTRACTOR'S RESPONSIBILITY

(a) A contract will be considered as successfully fulfilled when all of the following conditions have occurred: (1) the Work has been completed in accordance with the terms of the Contract; (2) final Acceptance by the County has occurred; (3) the County authorizes Final payment; (4) the Contractor and the Surety have complied with all of their obligations; and (5) final payment has been made. Nothing herein will relieve the Contractor and the Surety from any future obligation such as a warranty, guarantee, guarantee bond, or indemnity obligation, or from responsibility for repair of latent defects discovered or appearing after final payment.

GC-SECTION 9 PAYMENT

GC-9.01 SCOPE OF PAYMENT

(a) If so identified in the Contract, payment to the Contractor will be made for the actual quantities of Contract items performed in accordance with the Contract Documents and if, upon completion of the work, these actual quantities show either an increase or decrease from the quantities given in the Bid form, the Contract unit prices will still prevail, except as provided in GC-4.04 Variations in Estimated Quantities.

(b) The payment of any partial estimate or of any retained percentage, except by and under the approved final estimate and voucher, in no way shall affect the obligation of the Contractor and the Surety to repair or renew any defective parts of the construction or to be responsible for all damages due to such defects.

(c) When requested in writing by the Contractor and approved by the Engineer, payment allowance will be made for nonperishable material to be incorporated in the Work delivered and stockpiled at the work site or other approved site. The Contractor must submit with the request a list of all such materials and their location. The Contractor shall submit back-up invoices, bills of lading, title documents, or such other documentation, satisfactory to the County, as will establish the County's title to the materials upon payment to the Contractor under the request. The Contractor must submit with the request proof of insurance in the amount of the payment requested to be maintained on the materials until such time as the materials are incorporated into the Work. Only those materials for which the Contractor can transfer clear title to the County will be qualified for payment. Payment for stored materials will be made in accordance with paragraph (f) below.

(d) When the Contractor requests payment allowance for stored materials under (c) above, the following terms and conditions will apply:

(1) For superstructure members delivered on the Project site, an allowance of one hundred (100) percent of the material cost plus freight charges as invoiced may be made

provided, however, that all such material will have been tested by the County and found to have met the Specifications or have been accepted under an approved certification program prior to such an allowance. The allowance will be based upon validated invoices or bills for such material including freight charges, and a copy thereof shall be made a part of the documented records for the Project.

(2) For reinforcing steel, piling, pipe, traffic barriers, signs and sign assemblies, and other nonperishable material in storage on the Project, but excluding aggregates, cement, seed, plants, fertilizer or other perishable items, an allowance of one hundred (100) percent of the invoiced cost of the material plus freight charges to the Contractor may be made when such material is delivered and stockpiled at the Project site, provided, however, that all such material will have been tested by the County and found to have met the Specifications or have been accepted under an approved certification program prior to such an allowance.

(3) No allowance will be made for fuels, form lumber, falsework, temporary structures or other materials of any kind, which will not become an integral part of the finished construction.

(4) Material for which an allowance is requested shall be stored in an approved manner in areas where damage is not likely to occur. If any of the stored materials are lost, stolen, or become damaged in any manner, the Contractor shall be responsible for repairing or replacing of such damaged materials. The Contractor expressly agrees to assume and bear the risk of all loss, theft, or damage to the materials. The value of the lost, stolen or damaged material will be deducted from the Contractor's subsequent requests for payment until replacement has been accomplished.

(5) When it is considered impractical to store materials on the actual project, the Engineer may approve storage areas in the vicinity of the actual project that will be considered at the Project site.

(6) When storage of the materials within Washington County is not practical, written approval must be obtained from the Engineer for storage elsewhere. Storage of materials outside of Washington County will be subject to the conditions set forth in this provision and, limited to materials exceeding twenty-five thousand dollars (\$25,000), which are designed and fabricated exclusively for use on a specific project.

(7) The request for allowances for any materials stored on property outside of Washington County shall be accompanied by a release and waiver from the owner and/or tenant of such property agreeing to permit verification by the Inspector that the material is stored at the approved location, to allow the removal of the material from the property without cost to Washington County, and waiving to the fullest extent possible any lien in favor of the owner and/or tenant for payment of any fees for access, storage, care, handling, or the like.

(8) Material, for which payment has been made, either wholly or partially, shall not be removed from the approved location until such time that it is to be incorporated into the Work, unless authorized by the Engineer.

(9) The following prerequisites must also accompany the written request for payment:

(A) Consent of Surety specifying the material type and the Item(s) in which the material is to be used;

(B) Validated invoices showing that payment for the material has been made by the Contractor;

(C) A notarized statement from the Contractor attesting that the invoices, as submitted do not include charges and/or fees for placing, handling, erecting or any other charges and/or markups other than the actual material cost, sales tax(s), if applicable, and freight charges;

(D) Bills of lading showing delivery of the material; and

(E) Inspection test reports, certifications and/or a written statement from the Inspector attesting to the inspection and approval of the material.

(10) Upon receipt of the above by the Engineer and verification by the Inspector that the material is stored at the approved location, the Engineer may authorize payment by a unit of measure based upon the receipted invoices under the appropriate existing items of the Contract. A ratio will be established by the Engineer between the dollar amount of the material as invoiced and the quantity the material represents from the appropriate Bid Items.

(11) Copies of all pertinent data shall be made and distributed to the Inspector for retention as part of the documented records for the Project.

(12) No payment will be made for stored materials when it is anticipated they will be incorporated into the Work within thirty (30) days of receipt by the Engineer of the written request.

(13) Unless otherwise stated by the Engineer in writing, payment on account of a request for payment for stored materials transfers title to the County but does not constitute an acceptance by the Engineer or the County of the materials nor does it constitute an agreement that the materials conform to the Contract Documents. Notwithstanding the fact that payment has been made on account of the request for payment for stored materials, the Contractor and the Surety continue to be responsible to ensure at all times that the materials are in full conformance with the Contract Documents and are free from defect. Moreover, payment on account of a request for payment for stored materials does not begin the running of any applicable warranty or guaranty.

(14) Final payment shall be made only for materials actually incorporated in the Work and, upon final acceptance, title to all materials remaining for which advanced payment have been made shall revert to the Contractor, unless otherwise agreed, and the

payments made for these items shall be deducted from the final payment due to the Contractor for the Work.

(15) The Contractor agrees to indemnify and save harmless the County and all of its representatives from all suits, actions, or claims of any character brought on account of or arising out of the storage of materials for which the County has made payment on account of a request for payment for stored materials, including any claims of a warehouseman's or garageman's lien for cost of storage of the equipment and for claims arising out of damage or injury caused by the materials and their shipping and handling.

(e) Contractor shall indicate his/her Federal Taxpayer Identification Number on the face of each invoice billed to the County. The Contractor may also be required to provide additional information as determined by federal and/or state funding agencies.

(f) Along with each request for payment, the Contractor shall furnish the following certification signed by an officer or principal of the Contractor, or payment shall not be made:

I hereby certify, to the best of my knowledge and belief, that –

(1) The amounts requested are only for performance in accordance with the Specifications, terms and conditions of the Contract Documents;

(2) Payments to all subcontractors and suppliers have been made from previous payments received under the Contract, and timely payments will be made from the proceeds of the payment covered by this certification; and

(3) This request for progress payments does not include any amounts that the Contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

(Name)

(Title)

(Date)

GC-9.02 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 County 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 County 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 labor and foremen are actually engaged in the force account work.

In addition, an amount equal to sixty-five (65) percent of the wages will also be paid the Contractor which shall include, but not limited to the following as full compensation for all cost paid to, or in behalf of, workman 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 property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and Social Security taxes on the force account work.

To substantiate labor cost for the force account, the Contractor shall submit copies of certified payrolls showing name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman.

(b) Materials – For materials accepted by the Engineer and used, the Contractor shall receive the actual cost of such materials delivered on the force account work, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth).

In addition to the actual cost of materials and transportation charges, the Contractor may charge a fee of twenty (20) percent of the actual costs. To substantiate materials and transportation costs, the Contractor shall submit original receipted invoices. The County reserves the right to furnish materials as it deems appropriate and the Contractor shall have no claim for any costs, overhead, or profit on these materials.

(c) Equipment.

(1) For any machinery or special equipment (other than small tools, whether rented or owned), the use of which has been authorized by the Engineer, the Contractor shall receive the rates agreed upon in writing before such work is begun, or the Contractor shall receive those rates which may be specified elsewhere in the Contract Documents. For the purpose of definition, equipment with a new cost of \$500 or less will be considered small tools.

(2) In the event no agreement is reached and if the Contract Documents do not indicate the applicable rate(s), the Contractor shall use the current rental rates recommended in the Rental Rate Blue Book for Construction Equipment published by Data Quest, Inc. using the applicable Blue Book rate adjustment tables in effect at the time of the authorization of the force account work for the use of any machinery or special equipment authorized by the Engineer. Rental rates must be agreed upon in writing before work is begun, except in those cases where the Engineer finds that an emergency exists. Payment will be made for the actual number of hours the equipment is required to work at the site. The maximum number of hours allowed for each working day will be eight (8) or the number of hours in operation, whichever is greater. The

rate to be paid per hour will be computed by dividing the monthly rate by one hundred and seventy-six (176). Premium rates shall not be allowed.

(3) Approved transportation charges will be paid from and to the nearest source if the equipment is brought to the Project specifically for use on the force account work and is not used on any other work.

(4) The rental rate will consist of the sum of the following:

- (A) the rate for the basic piece of equipment;
- (B) the rate for attachments (where applicable); and
- (C) the estimated hourly operating cost (where applicable).

(5) These component parts of the rate are to be obtained from the Rental Rate Blue Book when listed in that book. If a piece of equipment is not listed in the Rental Rate Blue Book, then the rate will be the prevailing rate being paid in the area where the force account work is being performed. When equipment is used in excess of eight hours per day or forty (40) hours per week, the excess time will be considered as overtime. The rental rates for this overtime will be the sum of (A), fifty (50) percent of (B) and one hundred (100) percent of (C) above.

(6) Whenever equipment is ordered by the Engineer to be held on the Project on a standby basis, or when the County is obligated for other reasons to pay for idle equipment, then the rate will be 75 percent of the monthly rental rate with no allowance for operating costs calculated as set forth in Paragraph (c)(2) above. Standby or idle time cannot exceed eight (8) hours per day and will not be allowed for Saturday and Sunday. Non-operating time for equipment required for force account work is not considered standby or idle time if the equipment is operated and used at least once during each working day.

(d) Materials and Supplies Not Incorporated in the Work – For materials and supplies expended in the performance of the force account work (excluding those required for rented equipment) and approved by the Engineer, the Contractor shall receive the actual cost of such materials and supplies used. The Contractor shall receive a reasonable allowance for materials used but not expended in the performance of the force account work.

(e) Subcontractors – The Contractor shall receive the actual cost of the force account 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), below.

(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) **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 Supervisor and the Engineer shall compare records of the cost of work as ordered on a force account basis.

(h) **Statements** – No payment will be made for work performed on a force account basis until the Contractor furnishes the Engineer 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 laborer or foreman.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(3) Quantities of materials, prices and extensions.

(4) Transportation of materials.

(5) Payments of items under (h) (1) shall be accomplished by copies of certified payrolls. Under (h) (2) original receipted invoices for rentals must be provided if requested by the Engineer. Paragraphs (h) (3) and (h) (4) shall be accompanied by original receipted invoices for materials used and transportation charges. 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/her 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 provision shall be submitted in the order outlined by the above.

(i) Costs claimed, agreed to, or determined pursuant to this provision must also be allowable, reasonable, lawful, and allocable to the Work and accounted for in accordance with generally accepted accounting principles. Guidance for any determination of whether the costs are allowable, reasonable, lawful, and allocable, will be provided by the "Contract Cost Principles and Procedures", Title 21, Subtitle 09 of the Code of Maryland Regulations (COMAR 21.09.01) or as may be amended from time to time.

GC-9.03 PROGRESS PAYMENTS

(a) Within ten (10) calendar days after the date of the Notice to Proceed and prior to commencing work, the Contractor shall submit a breakdown of all lump sum items (a "Schedule of Values") within the Bid for review and approval as may be required by the Engineer. No partial payments will be made for lump sum items if the Contractor fails to provide a Schedule of Values. If the Engineer does not approve the Schedule of Values submitted by the Contractor, within ten (10) days of receipt of written notice of disapproval, the Contractor shall submit a revised breakdown for review and approval.

(b) Monthly Estimates – Each month the County will pay the Contractor for the Contract value of the work satisfactorily performed as determined from the approved Schedule of Values during the preceding calendar month, including authorized extras and additions less ten percent (10%), if the Contractor submits a request for payment on the form approved by the County. Unless otherwise reduced in the discretion of the Engineer and approved by the Director, the ten (10) percent of the total Contract value retained by the County will not be released until final payment (unless partially released in a semi-final payment), except as described in (d), below. Current estimates will be based upon the Engineer's estimate of quantity (including materials and equipment complete in place) satisfactorily performed for each item contained in the Contractor's approved Schedule of Values. In the instance of lump sum items, the Engineer's estimate shall be the proper fraction of the lump sum items satisfactorily performed during the preceding month. All quantities, estimates and fractions will be reasonably accurate approximations and are subject to correction (a) in subsequent current estimates, (b) in any semi-final estimate and, (c) in final payment. Should either the Engineer or the Contractor be of the opinion that any estimates, quantities and/or fractions (either as to an individual current estimate or accumulations thereof) do not represent a reasonably accurate approximation of actual work, then details questioned shall be reviewed and then any corrections adjusted for in the next current estimate.

(c) The Engineer may decline to approve a monthly request for payment and may withhold his/her semi-final approval in whole or in part, to the extent reasonably necessary to protect the County, from loss because of:

- (1)** Defective work not remedied;
- (2)** Third party claims filed or reasonable evidence indicating the probability of filing of such claims;
- (3)** Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- (4)** Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum;
- (5)** Damage to another contractor;
- (6)** Reasonable indication that the Work will not be completed within the Contract Time; or
- (7)** Unsatisfactory prosecution of the Work by the Contractor.

(d) Upon completion of fifty percent (50%) of the Contract value, the Contractor may request reduction in the monthly retainage to no less than five percent (5%) if, in the opinion of the Director, the following conditions apply:

(1) The Contractor has diligently pursued the work and is on-time or ahead of the approved schedule,

(2) Work completed to date is satisfactory and acceptable to the County,

(3) The Contractor has made reasonable payment and compensation to all subcontractors and suppliers,

(4) There are no outstanding claims against the County precipitated by the Contractor's work or that of his subcontractors and suppliers,

(5) There are no conditions imposed by grant funding agencies that preclude such reductions,

(6) The Contractor's surety provides written consent to the reduction.

If the Contractor is granted a reduction in retainage, it is to be expressly understood that the Director reserves the right to reconsider the reduction in retainage.

(e) Progress payments requesting more than seventy-five percent (75%) of scheduled values in Mechanical and Electrical Trades will be reduced to include only seventy-five percent (75%) on the Mechanical and Electrical line items if the Contractor fails to submit preliminary Maintenance Manuals with contents specified by Contract Documents and of quality acceptable to the County.

(f) Within seven (7) calendar days of the receipt of a progress payment, the Contractor shall make payment to all Subcontractors in the amount for which payment has been received by the Contractor for the portion of the Work performed by the Subcontractor as reflected on the Request for Payment. The Contractor shall require all Subcontractors to make payment to any further Subcontractors within seven (7) calendar days of the Subcontractor's receipt of payment from the Contractor for the portion of the Work performed by the lower tier Subcontractor. The parties expressly intend for all Subcontractors to be third party beneficiaries of this provision and all Subcontractors can enforce this provision in any appropriate proceedings.

GC-9.04 SUBSTANTIAL COMPLETION AND FINAL PAYMENT

(a) Verification of Final Quantities

(1) When the Contractor has completed the Work, and it has been accepted as substantially complete, the Engineer will proceed:

(A) To make any necessary final surveys;

(B) To complete any necessary computation of quantities; and

(C) To submit a tabulation of the proposed final quantities to the Contractor for his/her consideration, within thirty (30) calendar days after final completion and acceptance of the Work by the Engineer for maintenance. This tabulation shall be accompanied by a statement setting forth: **(a)** the additional work performed under change orders and/or supplemental agreements; **(b)** the authorized extension of time; **(c)** the number of days that have been charged against the Contractor as having been used to complete the Contract, and **(d)** any deductions, charges or liquidated damages that have been made or imposed.

(2) The Contractor shall then have a period of ten (10) calendar days, dating from the date upon which he/she received the aforementioned tabulation from the County, in which:

(A) To decide whether or not it will accept final payment upon such a basis; and

(B) To notify the County, in writing, of its decision. The Contract may request an additional period up to ten (10) calendar days in which to notify the County of its decision. In the event the Contractor notifies the County that he protests final payment on such a basis, that notification shall outline the reason(s) for said protest.

(3) Upon receipt of a notification of acceptance as provided for in paragraph (a) (2) above, the Contractor shall prepare the final estimate and final payment forms and submit them to the County for execution and payment. These forms shall show all data noted in paragraph (a) (1) above, together with deductions for all prior payments. Such action by the County shall be deemed to constitute acceptance and final payment.

(4) In the event the Contractor does not accept the data submitted to him as described in paragraph (a)(1) above and/or has outstanding a claim filed in accordance with GC-5.13, the Engineer and the Contractor shall confer at mutually convenient times and endeavor to expeditiously reconcile all points of disagreement. If such reconciliation is accomplished, the County will promptly proceed with acceptance and final payment on the reconciled basis and in accordance with the provisions of paragraph (a) (3), above. If reconciliation is not accomplished within thirty (30) calendar days, the decision of the Engineer is deemed to be the final action. The Engineer shall promptly furnish a copy of the final decision to the Contractor by certified mail, return receipt requested. The decision may be appealed by the Contractor as set forth in GC-5.13.

(5) All prior partial estimates and payments shall be subject to correction at the time of acceptance and final payment and if the Contractor has been previously overpaid, the amount of such overpayment shall be set forth in the Final Payment forms and the Contractor

hereby agrees that he/she will reimburse the County for such overpayment within thirty (30) calendar days of receipt of such advice.

(6) Payment for the full apparent value of the Contract shall become due and payable to the Contractor within ninety (90) calendar days after determination of final quantities under this section. As a condition precedent to final payment, the Contractor shall be required to execute a general release of all claims against the County arising out of, or in any way connected with, this Contract.

(b) Substantial Completion

(1) Substantial completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the County can occupy or utilize the Work for its intended use.

(2) When the Contractor considers that the Work, or a portion thereof which the County agrees to accept separately, is substantially complete, the Engineer shall prepare and submit to the Contractor a comprehensive list of items to be completed or corrected. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the Contractor's list, the Engineer will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Engineer's inspection discloses any item, whether or not included on the Contractor's list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Engineer. The Contractor shall then submit a request for another inspection by the Engineer to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Engineer will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the County and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate.

(3) Upon issuance of the Certificate of Substantial Completion, the Engineer shall determine a reasonable sum of money for completion of the items on the list accompanying the Certificate. The County, upon application by the Contractor for a substantial completion payment for the apparent estimated final value of the Contract deducting the total of all amounts previously paid to the Contractor as current estimates and sums deemed chargeable against the Contractor properly deductible, including liquidated damages and the amount determined by the Engineer as a reasonable cost of completing the items on the list accompanying the Certificate of Substantial Completion and as a retainage a sum not less than five percent (5%) of the total value of the Contract.

(4) **Partial Acceptance for Maintenance.** If at any time during the performance of the Work the Contractor substantially completes a unit or portion of the Work, he/she may request the Engineer to make final inspection of that unit. If the Engineer finds upon

inspection that the unit has been satisfactorily completed in compliance with the Contract, he/she may accept that unit as being completed and the Contractor may be relieved of further maintenance responsibility for that unit. Generally, partial acceptance for maintenance will only be considered when the County feels that such action is in the public interest. Such partial acceptance for maintenance shall in no way void or alter any of the terms of the Contract.

(c) Final Completion, Final Acceptance and Final Payment.

(1) Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Engineer will promptly make such inspection and, when the Engineer finds the Work acceptable under the Contract Documents and the Contract fully performed, the Engineer will promptly issue a Certificate of Final completion stating that to the best of the Engineer's knowledge, information and belief, the Work has been completed in accordance with terms and conditions of the Contract Documents. After the Certificate of Final Completion has been issued by the Engineer, the County will assume responsibility for maintenance of the Work except as expressly provided elsewhere in the Contract Documents. The Contractor shall then submit a final payment requisition to the Engineer, along with the items set forth in subparagraph (c) (2).

(2) Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Engineer (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the County, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of Surety, if any to final payment and (5), if required by the County, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the County.

(3) If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Engineer so confirms, the County shall, upon application by the Contractor and certification by the Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of Surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Engineer prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

(d) The making of final payment shall constitute a waiver of all claims by the County except those arising from:

- (1) Any indemnity obligations of the Contractor;
 - (2) Faulty or defective Work appearing after Substantial Completion
 - (3) Failure of the Work to comply with the requirements of the Contract Documents;
 - (4) Terms of any special guarantees required by the Contract Documents; or
 - (5) Failure of the Contractor to procure or maintain any insurance required by the Contract Documents.
- (e) The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

GC-9.05 MEASUREMENTS OF QUANTITIES

(a) **Measurements of Quantities By The Engineer** – With the exception of those items of work to be paid by lump sum, after the Work is completed and before final payment is made therefore, the Engineer will make final measurements to determine the quantities of various items of work performed as the basis for final settlement for all items of work. In the case of unit price items, the Contractor will be paid for the actual amount of work performed and for the actual amount of materials in place, in accordance with the Specifications as shown by the Engineer's final measurement. All work completed under the Contract will be measured by the Engineer according to the standards of weights and measures recognized by the National Bureau of Standards.

(b) **Longitudinal/Transverse Measurements** – All longitudinal measurements for area will be made along the actual surface and not horizontally, and no deductions will be made for individual fixtures in the payment having an area of nine (9) square feet or less. For all transverse measurements for area of base course and pavements, the dimensions to be used in calculating the pay area will be the neat dimensions shown on the as-built Plans or ordered in writing by the Engineer.

(c) **Structures** – Structures will be measured according to neat lines shown on the Plans or as ordered in writing, unless otherwise provided for elsewhere in the Contract Documents.

(d) **Measurements by Volume** – Volumes of excavation, tamped fill, and borrow pits will be calculated from cross sections and the use of average end area formulae. Volumes of other work such as masonry, removal of masonry, etc. will be calculated by using arithmetic formulae. Where the volume is bounded by varying dimensions and there are no simple volumetric formulae applicable, frequent cross sections will be taken and the volume computed from average end area formulae.

(e) **Cement** – Cement will be measured by weight in hundredweight (cwt) units.

(f) **Measurements By The Linear Foot** – All items which are measured by the linear foot, such as pipe culverts, traffic barriers, underdrains, etc., will be measured parallel to the base or foundation centerline upon which such structures are placed, face of manhole to face of manholes, unless otherwise shown on the Plans.

(g) **Measurements By Gage** – The term “gage” when used in connection with the measurement of uncoated steel sheet and light plates shall mean the U.S. Standard Gage, except that when reference is made to the measurements of galvanized or aluminum sheets used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing, the term gage shall mean that specified in AASHTO M 36, M 167, M 196, or M 197. When the term gage refers to the measurement of wire, it shall mean the wire gage specified in AASHTO M 32.

(h) **Measurements By The Ton** – The term “ton” shall mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are specified for measurement by the ton shall be weighed on accurate, approved scales meeting the requirements of National Bureau of standards Handbook 44. A digital recorder and printout shall be required on all truck scales. The digital recorder shall produce a printed record of the gross, tare, net weights, the time, date, truck identification and project number. Provisions shall be made so that the scales may not be manually manipulated during the printing process. The system shall be interlocked so as to allow printing only when the scale has come to rest. Except for computer-operated scales, all weights shall be certified by a bonded weigh person supplied by the Contractor, producer, or supplier. The security bond shall be one hundred thousand dollars (\$100,000). If material is shipped by rail, the car weight may be accepted but the payment will be limited to the actual weight of material. Car weights will not be acceptable for material to be passed through mixing plants.

(i) **Measurements By The Cubic Yard** – All materials for which measurements are obtained by the cubic yard, loose measurement or measured in the vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. No allowance will be made for the settlement of material in transit. Approved vehicles for this purpose shall be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. Unless all approved vehicles are of uniform capacity, each approved vehicle must bear a plainly legible identification mark indicating the specific approved capacity. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard may be weighed, and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the laboratory and shall be agreed to by the Contractor before such method of measurement of pay quantities will be approved by the Engineer.

(j) **Bituminous Material** – Bituminous material will be measured by volume in the railroad tank car, tank truck, distributor tank or drums in which it is delivered. Each railroad tank car, tank truck, drum or distributor tank of bituminous material delivered for the Project will be measured. The measurements will be taken when the bituminous material is of a uniform temperature and free from air bubbles, and the temperature of the material will be recorded. The volumetric measurement of the bituminous material for these Specifications will be based upon temperature of 60° F. Reference is made to ASTM D1250, Petroleum Measurement Tables, and ASTM D633, Volume correction Table for Tars. Only the quantity of bituminous material actually placed in the Work and accepted will be considered in determining the amount due the Contractor.

(k) **Timber** – Timber will be measured by the thousand feet board measure (MBM) actually incorporated in the structure. Measurement will be based on nominal widths and thickness and the extreme length of each piece.

(l) **Lump sum** – The term “lump sum” when used as an item of payment will mean complete payment for the unit of work described. When a complete element, structure of structural unit (in effect, lump sum work) is specified as the unit measurement, the unit will be construed to include all necessary fittings and accessories.

(m) **Equipment Rental** – Rental of equipment will be measured by time in hours of actual working time, moving in and moving out costs, if any, and necessary traveling time of the equipment within the limits of the project except when special conditions make some other method of measurement desirable.

(n) **Sanitary Sewer and Water Mains And Accessories** – Measurement of sanitary sewer and water mains and their accessories shall be as noted elsewhere in the Contract Documents.

Chapter 1, Section 101

Definitions and Abbreviations

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
A.	Definitions.....	101-1/101-3
B.	Standards.....	101-3/101-4
C.	Abbreviations.....	101-4/101-6
D.	Standard Specifications.....	101-6

I. Definitions and Abbreviations

A. Definitions

For the purpose of these specifications the following words and terms shall have the meaning hereinafter ascribed to them.

1. “Washington County Department of Water Quality” or “Department” means the governmental entity furnishing public water and sewer at various areas in Washington County, Maryland.
2. “Division” means Division of Environmental Management.
3. “Owner” means the Washington County Department of Water Quality and/or its duly authorized representative acting in its behalf.
4. “Service Area” is the geographical area wherein the County is providing, or intends to provide, public water or sewer service, the “Service Area” having been created and delineated by the County.
5. “Developer” shall mean the person, firm, corporation or agency entering into a contract with the contractor for the construction of the work.
6. “Contractor” shall mean the corporation, company, partnership, association, or individual, named and designated in the contract agreement as “party of the second part” who has entered into this contract for the performance of the work covered thereby, and its, his, or their duly authorized agents or legal representatives. Sub-contractors as such will not be recognized.
7. “Sub-Contractor” shall mean a person, firm, or corporation supplying labor and materials or only labor for work in conjunction with the project and under separate contract or agreement with the contractor.
8. “Engineer” shall mean the person, firm, or corporation responsible for the design of the work and for the preparation of the contract drawings, and other pertinent contract documents.
9. “Inspector(s)” shall mean the engineering or technical inspector(s) duly authorized by the Department, limited to the particular duties entrusted to them.
10. The “work” shall mean the labor, tools, materials, equipment, appurtenances and services to be performed under this contract, unless some other meaning is indicated by the context.

11. Whenever in the contractor documents the words “As Directed”, “As Required”, “As Permitted”, or words or phrases or like import are used, it shall be understood, unless otherwise particularly stipulated, that the directions, requirement, or permission of the owner or engineer is intended only to the extent of judging compliance with the terms of the contract documents. None of these terms shall imply that the developer, the County or engineer is intended only to the extent of judging compliance with the terms of the contract documents. None of these terms shall imply that the developer, the County or Engineer has any authority or responsibility for supervision of the contractor’s forces or operations, such supervision including sole responsibility therefore shall be strictly reserved to the contractor.
12. Whenever in the contract documents the words “Approved”, “Reasonable”, “Suitable” “Acceptable”, “Properly”, “Satisfactory”, or words of like effect and import are used, unless otherwise particularly stipulated, shall mean approved, reasonable, suitable, acceptable, proper or satisfactory in the judgment of the County.
13. Whenever any statement in the contract documents contain the expression “It is understood and agreed”, or an expression of like import, such expression means the mutual understanding and agreement of the parties executing the contract documents.
14. Whenever in the contract documents the words “By Others”, or words or phrases of like import are used, it shall be understood, unless otherwise particularly stipulated, to mean a corporation, company, partnership, association, or individual who has entered into contract with or has been directed by the developer to perform work in the project area.
15. Whenever in the contract documents the phrase “Or Equal”, or words or phrase or like import are used, it shall be understood to mean the reference to manufacturers’ or vendors’ names, trade names, catalogue numbers, etc. is intended merely to establish a standard; and any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the County, of equal substance and function. The contractor shall not substitute an alternate manufacturers’ or vendors’ material, article or equipment without prior written approval of the County.
16. “Work Order” shall mean that notification from the County to the Developer specifying any deficiencies or corrective actions that must be made by the Contractor.

17. “Standard Specifications” shall embrace all items and sections included within this volume.
18. “Specifications” shall mean this volume and all items contained herein which are pertinent to the particular project under consideration, together with any other supplemental specification, referred to specifications, and special provisions approved by the County to the extent that affects the sewer or water systems.
19. Whenever in the specifications reference is made to any part or all of the work being subject to acceptance or approval by the County, it shall mean to include acting within the limits of its particular interest or jurisdiction.
20. “May” is permissive, “Shall” is mandatory.
21. “Service Connection” that portion of the sanitary sewer or public water between the sewer main / water main and the property line to which the building is connected.
22. “Sanitary Sewer” – a sewer which carries sewage and to which storm, surface, and ground waters are not intentionally admitted.

B. Standards

The following standards and their designations used herein are:

1. Aluminum Association – AA
2. American Association of State Highway and Transportation Officials – AASHTO
3. American Concrete Institute – ACI
4. American Institute of Steel Construction – AISC
5. American National Standards Institute – ANSI
6. American Society for Testing and Materials – ASTM
7. American Society of Mechanical Engineers – ASME
8. American Water Works Association – AWWA
9. American Welding Society – AWS
10. Code of Maryland Regulations - COMAR

11. Commercial Standards – CS
12. Federal Specifications- Fed. Spec.
13. Maryland State Highway Administration Standard Specifications for Construction and Materials-SHA
14. Maryland Department of the Environment – MDE
15. Maryland Occupational Safety and Health Administration - MOSHA
16. 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control (or latest adopted version) – SCS
17. National Electric Code – NEC
18. National Electrical Manufacturer’s Association – NEMA
19. National Fire Protection Association - NFPA
20. National Safety Council – NSC
21. National Sanitation Foundation – N.S.F.
22. Occupational Safety and Health Administration, Department of Labor – OSHA
23. Standards of the Hydraulic Institute- SHI
24. Steel Structures Painting Council – SSPC
25. Underwriters Laboratories- UL

C. Abbreviations

For the purpose of these specifications the following abbreviations shall represent the words and phrases hereinafter ascribed to them:

1. United States Geological Survey Elevation Datum – USGS
2. Elevation – Elev. Or El.
3. Feet – 0’
4. Inches – 0”

5. Degrees fahrenheit – F
6. Degrees Centigrade – C
7. Pounds per square inch – PSI
8. Gallons per minute – GPM
9. Revolutions per minute – RPM
10. Percent - %
11. Brinell hardness number (ASTM E 10) BHN
12. Horsepower – HP
13. Angular Degrees – 0
14. Year – yr.
15. Direct Current – DC
16. Alternating Current – AC
17. Kilovolt Ampere – kVA
18. Kilowatt – KW
19. Feet per minute – FPM
20. Pound Feet – LB. Ft. (Torque)
21. Maximum – Max.
22. Minimum – Min.
23. Cubic Feet Per Second – CFS
24. Gallons Per Linear Foot Per Day – Gal/L.F./Day
25. Rockwell Hardness Number (ASTM E 18) – RHN
26. Pounds Per Square Inch – PSI
27. Gage or Gauge – GA.

- 28. Million Gallons Per Day – MGD
- 29. Linear Foot – L.F.
- 30. Cubic Yard – C.Y.
- 31. Vertical Foot – V.F.
- 32. Cubic Foot (Feet) – C.F. or CU. FT.
- 33. Square Foot (Feet) – S.F. or SQ. FT.
- 34. Thousand Feet Board Measure – MFBM
- 35. Lump Sum – L.S.
- 36. Vitrified Clay Pipe, Extra Strength – VCPX
- 37. Reinforced Concrete Sewer Pipe – RCSP
- 38. Acrylonitrile Butadiene Styrene- ABS
- 39. Poly-Vinyl Chloride – PVC
- 40. Cast-Iron – C.I.
- 41. Ductile Iron – D.I.

D. Standard Specifications

Reference to Standard Specifications of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative specification adopted and published at the date of receiving bids, unless specifically stated otherwise herein

Chapter 1, Section 102

Instruction for the Preparation of Construction Plans and Specifications for Construction of Public Sanitary Sewer

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II. Instruction for the Preparation of Construction Plans and Specifications for Construction of Public Sanitary Sewers

A. General

The requirements outlined below are intended to supplement the requirements of the State of Maryland Department of the Environment for submission of plans and specification for the construction of such facilities under the jurisdiction of the Washington County Department of Water Quality and shall be prepared and submitted in accordance with the following requirements.

1. Construction Drawings

Together with applicable supplemental specifications, shall be submitted to the Department of Water Quality for review and approval prior to being submitted to the State. A set will be returned along with indication of approval or disapproval with noted revisions.

2. Revisions

The revision shall be made and drawings shall be resubmitted along with the copy of the original submittal with noted revisions. After approval by the Department of Water Quality and prior to any construction, one (1) complete set of mylars and three (3) paper copies shall be submitted to the Department of Water Quality with all approval blocks being signed.

3. Sheet Size

All drawings shall be 24" X 36".

B. General Map

Construction plans shall include a project number assigned by the Division, a general map showing the extent of the project, an index of sheets, location map and a legend where needed.

Benchmarks and the plane datum shall be on the general map or on the individual plan and profile sheets.

An approval block for Washington County Department of Water Quality on every sheet that contains water and sewer drawings information.

A general note shall appear as follows: "All sanitary sewers shall be constructed in strict accordance with the latest edition of the Washington County Department of Water Quality's Standard Specifications for Construction of Sanitary Sewer".

The words “water lines” will be substituted for sanitary sewer when water lines are being constructed.

C. Plans

Plans and profile sheets shall be prepared in such a manner that the alignments match vertically. The plan and profile sheets shall also show existing improvements, underground and overhead utilities along, across, or near the proposed construction.

Plans for sewer or water construction in easements across private property shall show survey and alignment data. Width of temporary and permanent easements shall be dimensioned.

Where sewers, manhole, and other appurtenances are referenced to survey baseline, this baseline must be shown and stationed on the plans.

Construction drawings shall include a continuous profile of all sewers and waterlines to be constructed showing existing ground surface, proposed finish grade, pipe invert elevations, manhole rim elevations, and type of frame and cover.

Pipe size, slope, type of pipe, and location of special structures and appurtenances shall be shown on the profile.

Lot numbers shall be shown with proposed or existing basement or first floor elevations on sewer profiles at their proper station position. If no basements exist or if none are proposed, this shall be so indicated.

Stationing of gravity sewer lines shall be shown on the profile and shall proceed upgrade starting with 0+00 at each manhole. Length of manhole run shall be shown from center line to centerline of each successive manhole. Stationing of force mains and low-pressure mains shall be shown on the profile and shall proceed upgrade, starting with 0+00 at the lowest point or at intersection point and continuing to limits of work.

Location of tree branches are to be considered approximate unless otherwise noted. Each lateral is to connect with the mainline at a right angle. Where laterals are to connect to manhole, angles shall be shown on contract drawings and shall not be less than 90 degrees to direction of flow. Each sewer service is to be extended to the easement or property line and terminate with a cleanout or valve shown at this point.

Location of water service taps and water meters are to be considered approximate unless otherwise noted. Each service connection is to be connected to the water

main according to detail W-10.2. Each service connection is to be extended to the easement or property line where the water meter is to be installed.

Each manhole shall be identified by a number assigned by the Department of Water Quality. Manhole numbers shall be shown in both plan and profile.

All sewers shall have a minimum of four feet (4') cover, unless otherwise specified or approved by the Division. Sewers designed with less than four feet (4') of cover shall require concrete encasement, which must be shown in both plan and profile.

The maximum distance allowed between manhole runs (center to center) shall be 400 feet, and minimum slope allowed from face of manhole to face of manhole for each run of sewer line shall be 0.4%.

Horizontal scale shall be 1" = 50' and the vertical scale shall be 1" = 5'.

Each drawing shall include a north arrow, and match lines shall be easily identifiable.

All drops across the manhole shall be 0.10' (foot) minimum.

D. Special Details

Special structures and any other work not covered by standard details or by specifications shall be detailed fully to ensure that the finished work is structurally sound and hydraulically correct. Special structures shall be designed for compatibility with existing Department of Water Quality structures.

E. Inspection by Washington County Department of Water Quality

The Washington County Department of Water Quality shall inspect all facilities during construction to ensure conformance to design and specifications. All cost incurred by the inspection (labor, overhead, transportation, testing, record drawings, etc.) shall be paid by the developer prior to the start of construction. The Department shall estimate the inspection costs and invoice the developer for payment. At the completion of the project the actual costs will be determined and the Department will return any unused funds or the developer shall be invoiced for any additional costs above the estimate.

F. Record Drawings

The Department of Water Quality shall record, during the construction period, all data required to complete the record drawings. The Department of Water Quality shall be responsible for revising the mylar reproducible.

G. Approval and Permits – “Water / Sewerage Construction Permit

The developer shall submit to the Department of Water Quality for application of the State of Maryland Department of the Environment. The developer is responsible for paying all fees associated with the construction permit.

Details relative to construction within State and County road right-of-way and within any other governmental or private right-of-way shall be obtained by the developer from agency having jurisdiction. One (1) copy of each shall be filed with the Department of Water Quality by the developer prior to start of construction.

The Developer is responsible for obtaining all permits, necessary for the project, prior to the start of construction. A copy of these permits shall be supplied to the Department of Water Quality prior to start of construction.

H. General Guaranty

Upon acceptance of the system by the Department of Water Quality, the developer shall warranty all work from date of acceptance for a period of one year. The developer shall remedy any defects in the work and pay for any damages to other work resulting there from, which shall appear within the warranty period. The Department of Water Quality will give notice of observed defects with reasonable promptness.

Under certain conditions, the Department of Water Quality may require the developer to provide a longer warranty period other than the one (1) year standard warranty, unless a longer specified warranty period is required elsewhere in these standards.

I. Allocation

The proposed water consumption and sewage usage shall be included on the cover sheet of the construction drawings. Allocation fees will be charged based upon this information. After being in service for a period of one year, the County may adjust the allocation for the project based upon actual rates and shall adjust the allocation accordingly. If additional allocation is required at this time, the owner will be invoiced for the additional allocation. In the event that a developer over estimated water usage and purchased extra allocation, a refund will not be granted for the extra allocation.

Chapter 1, Section 103

Special Conditions

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III. Special Conditions

A. Approval of Materials

Prior to construction on a project, a complete list of materials must be submitted to the Department for approval. Only those approved materials shall be utilized on the project. No substitutions shall be made during construction. See materials, Chapter 2, Section III and Section VIII.

B. Notice To Proceed

In order to properly coordinate the inspection services provided by the Department with the schedule of construction activities, the Department requires notification 72 hours prior to construction.

Should the contractor delay operating for a period of time, the Department shall require notification 72 hours prior to continuing operations.

C. Legal Holidays and The Work Week

Washington County, Maryland observes the following legal holidays: New Year's Day, Martin Luther King's Birthday, Good Friday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving, Christmas Eve, Christmas Day and New Year's Eve. The contractor shall be permitted to work on these holidays only in emergency situations. Should inspection by the Department be required on any of these holidays, inspection services shall be invoiced at 2 ½ times the hourly rate.

The 40-hour work week shall be Monday through Friday. The contractor must submit to the Department in writing, and with 48 hours in advance notice, any request for additional work hours above and beyond the normal 40-hour work week. Should inspection by the Department be approved in excess of the normal work hours, inspection services shall be invoiced at 1 ½ times the hourly rate.

D. Project Completion Time

The Department encourages completion and acceptance of the total project in a timely manner, therefore to emphasize this point, it should be noted that no permits for utility use shall be issued until the project is accepted by the Department.

E. Scope of Work

The intent of the drawings and specifications is that the contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the standard specifications and all

incidental work necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the Department.

All work that may be called for in the specifications and not shown on the drawings or shown on the drawings and not called for in the specifications shall be executed and furnished by the contractor, as if described in both these ways; and should any work or material be required, which is not defined in the specifications or drawings either directly or indirectly, but which is nevertheless necessary for the proper execution of the intent thereof, the contractor is to understand the things to be implied and required, and shall perform all such work and furnish any such material as fully as if they were particularly delineated or described.

Any discrepancies found between the drawings and the specifications and site conditions or any inconsistencies or ambiguities in the drawings or specifications shall be immediately reported to the Department, in writing. Work performed by the contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be performed at the contractor's risk.

F. Access to Work

The Department, their representatives and the representatives of any governmental body or agency having jurisdiction will at all times have access and observation to the work. Contractor shall provide proper and safe facilities for such access and observation of the work and also for any inspection or testing thereof by others. No work will be performed without the Department having notice thereof and all work shall be subject to inspection by the Department.

The construction drawings are not to be considered as all inclusive. They do not indicate every fitting, elbow, offset, valve, etc., which will be required to complete the job. The Contractor shall prepare shop drawings, as required for the use of his mechanics, to insure proper installation.

G. Uncovering Work

If any work is covered contrary to the written request of Department or without the Department's having timely written notice that such work is being performed, it must, if requested by Department, be uncovered for his observation and replaced at contractor's expense.

If any work, the performance of which the Department has given written notice, has been covered without the Department observing it prior to its being covered, or if Department or owner's or owner's representative considers it necessary or advisable that covered work be inspected or tested by others, contractor, at Department's request, shall uncover, expose or otherwise make available for

observation, inspection or testing as Department may require, that portion of the work in question, furnishing all necessary labor, material and equipment.

H. Department's Status during Construction

1. Clarification and Interpretations

The Engineer will issue, with reasonable promptness, such written clarifications or interpretations of the standard specifications as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the project.

2. Rejecting Defective Work

The Department's representative will have authority to disapprove or reject work which is "defective" (which term is hereinafter used to describe work that is unsatisfactory, faulty or defective, or does not conform to the requirements of the standard specifications has been damaged prior to approval of final payment. He will also have authority to require special inspection or testing of the work whether or not the work is fabricated, installed or completed.

3. Limitations of Department's Responsibilities

- a. The Department's authority to act under this article or elsewhere in the contract documents nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility to Department or contractor, any subcontractor, any material man, fabricator, supplier or any of their agents or employees or any other person performing any of the work.
- b. Department will not be responsible for contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto; and Department does not guarantee the performance of the work in accordance with the contract documents
- c. Department will not be responsible for the acts or omissions of contractor, or any subcontractors, or any of his or their agents or employees, or any other persons at the site or otherwise performing any of the work.

I. Existing Utilities

All work requiring changes to or affecting existing utilities, or affecting their operation, shall be performed in a manner and time approved by the Division. Requests to do such work shall be submitted to the Division at least three (3) calendar days to the time that such work is to be performed.

J. Location and Protection of Existing Utilities

The contractor will be responsible for locating all existing utilities including, but not limited to, water, steam, oil, gas mains, sanitary and storm sewers, telephone and electric conduits which may be encountered in the performance of the work. He shall also be responsible for locating all underground structures. He shall, at his own expense, arrange with the owners of such utilities for locating them. The contractor shall be responsible for providing adequate protection against damage to utilities encountered during the course of construction.

K. Use and Storage of Explosives

The Contractor shall give notice to the Department and State Fire Marshall prior to using any explosives. Such explosives shall be stored, handled and used as prescribed by the federal, state and/or local authorities having jurisdiction over such storage and use. The contractor shall comply with all special rules and regulations that may be in effect at the time the work is actually done. The contractor shall obtain the permission of the State Fire Marshal before storing and using any explosives.

L. Protection of Material and Work

The Contractor shall at all times take necessary steps to protect and preserve all materials, supplies, equipment and shall work which has been performed. Should work be suspended temporarily because of inclement weather or other causes, the Contractor shall take such steps as are necessary to protect materials, supplies, equipment and work performed, work not properly protected shall be removed and replaced at the expense of the Contractor.

M. Safety and Protection

Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to: all employees on the work and other persons who may be affected thereby; all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and other property at

the site or adjacent thereto, including utilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss.

Chapter 1, Section 104

Work Within Public Right-of-Way and Easements

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
A.	Work Within Public Right-of-Way and Easements.....	104-1

IV. Work Within Public Right-of-Way and Easements

All work to be performed within Washington County Public Right-of-Way other than State Highway Administration property shall be in strict accordance with the conditions of the special utility installation permit issues by Washington County, Maryland.

All work to be performed on Maryland State Highway Administration (SHA) property shall be in strict accordance with the conditions of the access and construction permit issued by SHA.

Where right-of-way or easements have been obtained for construction of sewer or water lines on private property, the Contractor shall confine his operations to and conduct all work within the limits of the right-of-way or easements as shown on the drawings or as specified. The contractor shall not enter upon or occupy with men, tools, or materials, any private property outside the limits of the right-of-way or easements obtained, without written consent of the owner of such property.

All work within public right-of-way, easements, and/or private property shall be in accordance with the specification contained herein. Width of easement (temporary and/or permanent) shall be:

- A. Thirty (30) feet for permanent conventional easement for gravity sewers, sewer force mains and water lines
- B. Fifteen (15) feet for permanent grinder pump service connection
- C. Temporary easements will be of determinable width based upon site conditions.

The easement widths listed above are minimum widths and the Department may require the easement to be wider based upon site conditions.

In case of conflict, the agency having jurisdiction and/or issuing the permit for construction shall govern.

Chapter 2, Section 200

Measurement and Payment

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
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Part 3 – Execution		
3.1	Payment Procedure.....	200-6/200-7

I. Measurement and Payment

PART 1 – GENERAL

1.1 SUMMARY

- A.** Payment for Work performed under this Contract will be made as set forth herein under the individual Bid Items contained within the Bid Form.
- B.** If a Contract is awarded on a combination of Items, other than the total, the Work performed shall be complete and operable with each Item standing alone and in conformance with all provisions of the Contract Documents.
- C.** There shall be no Work or cost added to an Item which has been included under any other Item.
- D.** The Work included under each Item, shall consist of providing and installing the materials and/or equipment, complete, as enumerated below. Payment for each Item will be made at the Lump Sum or Fixed Unit Price bid in accordance with provisions of Part 3 of this Section.
- E.** The CONTRACTOR shall include in the price bid for each applicable Bid Item listed in the schedule of prices the cost of the following: coordination, labor, materials, tools and equipment, sheeting and shoring in trenches and pits, material and equipment testing, repairs to the roads due to construction damage, dewatering, control of stormwater, material processing, loading, transporting, placing, filling, backfilling, compacting, grading, pre and post work surveying, protection of adjacent work, displacement, replacement and/or repair of damage to any existing utility and/or structure by CONTRACTOR activity, “As-Built” drawings, inspections, meetings, submittals, scheduling, testing, and all other cost necessary to provide the completed Project.
- F.** Contingent Items - Contingent items will only be used when the CONTRACTOR is so directed by the ENGINEER or OWNER in writing. The unit price bid for contingent items shall not vary if quantities increase or decrease, except as described in the paragraph entitled “Estimated Quantities” of the GENERAL CONDITIONS section of these Specifications.
- G.** Work Items included with each schedule of prices are described in the following paragraphs.

PART 2 – PRODUCTS

2.1 BASE BID ITEMS DESCRIPTION, MEASUREMENT AND PAYMENT

ITEM 1- MOBILIZATION AND DEMOBILIZATION

1. Mobilization shall consist of the furnishing of all Work, materials and operations required for assembling and setting up the Project, including, but not limited to, initial movement of personnel to the Project site; establishment of shops and plants; construction of sanitary and any other facilities required by the Specifications and State or local regulations; moving on and off site all construction equipment, hauling units, concrete mixers, hoisting equipment, compressors and tools required to complete the Work; establishment of storage yard area; all other Work and operations which must be performed prior to beginning Work on compensational Items of Work; the cost of required insurance and bonds and any other initial expense required. Demobilization shall consist of the removal of all CONTRACTOR'S property from the project site and cleanup of all affected areas.
2. Price for this Item shall be included as a lump sum in the Bid Form. Contract lump sum price for Mobilization and Demobilization will be shall not exceed 5% of the total contract bid amount. Payment of 50 percent (50%) will be made on the first pay estimate; the remaining 50 percent (50%) will be prorated for and paid in equal amounts on each subsequent monthly estimate.

ITEM 2 – REPLACEMENT OF MANHOLES

1. Work under this item shall include all labor, materials and equipment required to complete the removal and replacement of manholes. This includes, but is not limited to supplying the manholes, excavating of pavement, earth and existing manhole, dewatering, disposal of existing manhole, disconnecting and reconnecting any other existing sewer lines that are not being replaced, compaction, testing, fittings, aggregate base and backfill needed to install manhole.
2. Price for this Item shall be on the unit price based per each manhole to be replaced in the Contract bid form.

ITEM 3 – REPLACEMENT OF 8” SDR-26 GRAVITY SEWER

1. Work under this item shall include all labor, materials and equipment required to complete the removal and replacement of the 8” gravity sewer. This includes but is not limited to supplying the 8” SDR-26, excavating and disposal of pavement, removal and disposal of curb and inlets, earth and existing 8” gravity line, removal and disposal of 2 manholes that will not be replaced see plans for details, bracing power poles, tracer tape, testing, aggregate base, backfill, needed to install new 8” SDR 26 pipe.

2. Measurement of this item for payment shall be based on the linear feet of 8" SDR-26 pipe actually installed.

ITEM 4 – REPLACEMENT OF 10" SDR-26 GRAVITY SEWER

1. Work under this item shall include all labor, materials and equipment required to complete the removal and replacement of the 10" gravity sewer. This includes but is not limited to supplying the 10" SDR-26, excavating and disposal of pavement, removal and disposal of curb and inlets, earth and existing 10" gravity line, tracer tape, testing, aggregate base and backfill needed to install new 10" SDR 26 pipe.
2. Measurement of this item for payment shall be based on the linear feet of 10" SDR-26 pipe actually installed.

ITEM 5 – NON-PAVED AREA RESTORATION

1. Work under this Item includes, but is not limited to, furnishing, and placing topsoil as shown on the contract drawings, work shall include all topsoil, materials, equipment, and incidentals required to provide, completed final grade. Work done for seeding and mulching the non-paved areas shall be restored as shown on plans. All Work shall be in accordance with the Contract Documents.
2. The price for this item shall be included as a fixed unit price per square yard as provided in the bid form.

ITEM 6- PAVED AREA RESTORATION

1. This item includes all labor and material to repair paved areas as disturbed by construction. The payment shall include furnishing all labor, materials, and equipment for the placement of asphalt pavement, including all saw cutting, to repair and finish pavement as shown on the Contract Drawings. The installation shall include the graded aggregate base, surface course and base course.
2. The price for this item shall be included as a fixed unit price per square yard as provided in the bid form.

ITEM 7 – CURB REPLACEMENT

1. Work under this item shall include all labor, materials and equipment required to complete the placement of the curb. This includes but is not limited to supplying the curb and installation of the new curb.
2. Measurement of this item for payment shall be based on the linear feet of curb actually installed.

ITEM 8 – INLET REPLACEMENT

1. Work under this item shall include all labor, materials and equipment required to complete the replacement of existing inlets. This includes but is not limited to supplying inlet grate, rebar and pouring of concrete.
2. Measurement of this item for payment shall be based on each inlet actually installed.

ITEM 9 – REHAB LINING OF MANHOLE

1. Work under this item shall include all labor, materials and equipment required to complete the rehab lining of the manhole. This includes but is not limited to surface preparation, cleaning, application of liner and testing.
2. Measurement of this item for payment shall be based on each manhole rehabbed.

ITEM 10 – FILTER LOG

1. Work under this item shall include all labor, materials and equipment required to install the filter log. This includes but is not limited to supplying mulch, bag and stakes.
2. Measurement of this item for payment shall be based on the liner foot of filter log

2.2 CONTINGENT BID ITEMS DESCRIPTION, MEASUREMENT AND PAYMENT

ITEM C-1 - SELECT MATERIAL FOR BACKFILL

1. Measurement of additional excavation and backfill with No. 57 stone will be on a cubic yard basis and be the number of cubic yards of additional excavation within the limits directed by the ENGINEER.
2. Unit price bid per cubic yard for additional excavation and backfill with No. 57 shall include furnishing all labor, materials and equipment, and performing all work to the limits directed by the ENGINEER and in conformance with these contract documents.

ITEM C-2 – CONTINGENT UNSUITABLE MATERIAL EXCAVATION

1. This work shall consist of the removal of Unsuitable Material encountered at or below the normal limit for Unclassified Excavation as described for that item or as shown on the Plans. Unsuitable material to be removed shall be based upon the judgment of the ENGINEER and shall be removed to the extent directed by the ENGINEER. The proposed quantities include a contingent item for this work, which shall be used if so directed by the ENGINEER.

3. Unsuitable Material Excavation will be measured as described above and paid for at the Contract Unit price bid per cubic yard. The payment shall be full compensation for all labor, materials, equipment, excavation, backfill (with borrow material as approved by the ENGINEER), compaction, disposal and incidentals necessary to complete this item of work.

2.3 INCIDENTAL ITEMS NOT MEASURED FOR PAYMENT

Items of work not specifically included for measurement and payment as described herein will not be measured for payment but the cost thereof will be considered as incidental to the contract with the associated costs borne solely by the CONTRACTOR. This shall include, but not be limited to the following items of work:

- Surveying for measurement and payment quantities;
- Compliance with submittal requirements and as-built drawing preparation;
- Preparation and provision of daily activity reports, material logs, schedules, field notes and other documentation of construction activities as requested by the ENGINEER;
- Inspections, coordination and cooperation with OWNER, ENGINEER, or any other person or entity on the project;
- Maintaining of material storage and CONTRACTOR'S staging areas;
- Testing of materials, including all equipment and personnel required;
- Quality assurance and quality control;
- Removal and disposal of existing items located within the limit of disturbance not otherwise included in the Bid Items – as directed by the ENGINEER, including fencing, reinforced concrete pads, debris, etc;
- Providing environmental protection;
- Health and safety measures;
- Proper control and removal of stormwater and groundwater from within excavations and within and surrounding all other areas within the limit of disturbance;
- Providing source(s) of water for wetting soils, dust control, testing, flushing, cleaning activities and/or any other purposes during construction. The CONTRACTOR is responsible for obtaining any required water for use during construction. Water is not available onsite for the CONTRACTOR'S use.

- Repair of damage to onsite or offsite property;
- Repair of weather-related damage to material or any other surfaces;
- Proper storage, protection and maintenance of stockpiled materials;
- Access/egress ramps or roadways required for construction purposes not otherwise shown on the Contract Drawings;
- Locating and marking of existing utilities located within the project; and
- All other activities, supplies, materials, equipment, and labor needed to complete the Work as specified in the Contract Documents not specifically mentioned herein.

PART 3 – EXECUTION

3.1 PAYMENT PROCEDURE

A. Breakdown of Lump Sum and Fixed Unit Price Items:

1. Prior to first request for payment, the CONTRACTOR shall submit to the ENGINEER for approval an itemized Schedule of Values which includes a complete detailed breakdown of all lump sum and fixed unit price Items awarded. The detailed breakdown shall include quantities with all material and labor costs for individual Work Items required to complete the lump sum and fixed unit price Item. Quantities estimated by the CONTRACTOR are for the purpose of providing a basis for realistic progress payment consistent with performance of the Work. The CONTRACTOR will revise the job breakdown if the ENGINEER so requests.
2. Payments will be made in accordance with the GENERAL CONDITIONS section. The CONTRACTOR may request periodic payments on a monthly basis in accordance with a time schedule approved by the ENGINEER. Submission for payment shall be made to the ENGINEER. However, all payment requests will be made on the basis of the approved breakdown and accompanied by all supporting documentation required herein.
 - a. The CONTRACTOR may request payment for specific Items of material and equipment, which has been purchased for incorporation into the Project provided these Items have been previously approved for use in accordance with the Contract Documents and provided the ENGINEER agrees to request of the CONTRACTOR.

- b. Payment request for materials or equipment purchased may be honored for materials or equipment, which are stored on site and stored in a manner satisfactory to the ENGINEER. Payment will be made for specific Items of material and equipment provided an invoice and delivery ticket is submitted with the payment request, which indicate clearly the materials and equipment are to be used for the Project. The following periodic payment request must include a receipted invoice certified by the vendor as to payment received for the specific Item, which had been previously paid for. Unless the required certified invoice is received with the following request for periodic payment, money previously paid will be deducted from any money due the CONTRACTOR without any penalty of any kind to the ENGINEER.

END OF SECTION

Chapter 2, Section 201

Surveys and Construction Stakeout

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
A.	General.....	201-1
B.	Gravity Sewer Stakeout.....	201-1/201-2
C.	Pressure Pipe.....	201-2
D.	Survey Responsibilities.....	201-2/201-3

I. Surveys and Construction Stakeout

A. General

The Contractor / Developer shall perform and furnish all survey and stakeout required for the work. The Contractor / Developer shall provide competent personnel under the employ of professional surveyor(s) or engineer(s) and shall provide the necessary materials and equipment for setting stakes and making measurements in order to complete the installations in accordance with the plans and specifications. All information obtained by the surveys shall become the property of the Department.

Cut / reference sheet(s) shall be submitted to the Department, in triplicate, at least 72 hours in advance of intended start of construction. No pipeline work shall begin by the Contractor without approved cut / reference sheet(s) in his possession at the work site.

Surveyor shall stakeout all right-of-way, property corners, and easements adjacent to water/sewer utility construction. All proposed work shall be confined to County right-of-way or easements. - This paragraph doesn't apply to residential developments.

All sewer laterals shall be located within the County right-of-way or platted easement. No lateral shall be placed within a drainage swale, or other depressions.

B. Gravity Sewer Stakeout

Standard Detail S-12.3, *CUT SHEET*, shall be utilized to show all stakeout information for gravity sewers containing manholes, cleanouts, include service lateral location, benchmarks, or other structures, consisting of horizontal layout and vertical control at each manhole. Only one manhole-to-manhole section shall be described per each cut sheet submittal.

Vertical control shall be achieved by a benchmark set at within 100 feet of each manhole. Datum shall be *U.S.G.S.* looped and tied to a monument, or established County benchmark.

Additional vertical control shall be provided by field run centerline profile ground elevations at 25 feet stations. (Offset hubs and cut-to-invert shall be used at 25 feet stations for batter board construction. At least three (3) consecutive stakes shall be set with the same cut-to-invert.) Where profiles determine that embankments are required for minimum pipe cover, the location must be listed under *REMARKS*. Embankment must be constructed to a minimum of 3 feet above crown of pipe prior to pipeline installation.

Where the laser beam method of construction is utilized, offset stakes will be required at 100' intervals, at all connections, and at each manhole for horizontal and vertical control. Laser beam set-up shall be made utilizing this control. In this case, sewer stakeout grade and cut sheets shall be required as above.

Sewer slope shall be calculated by actual pipe length from outside face of manhole (i.e. two feet from center of 4' manhole) to outside face of manhole. *CUT TO INVERT* shall be computed and listed on Standard Detail S-12.3. Inverts of additional manhole connections (invert) as well as lateral connections to manholes shall be described under *REMARKS*.

Horizontal control shall be referenced by right angle beginning at the downstream structure or manhole. Two offset hubs and tacks shall be set for each manhole center location. Offsets shall be located out of the path of construction traffic. Turned angles shall be shown for additional manhole connections. Sketch shall show street names, etc. for visual reference.

C. PRESSURE PIPE

Pressure pipe shall include water lines, force mains, low-pressure sewers, and service connection. Standard Detail SW-12.4, *REFERENCE SHEET*, shall be utilized to show all stakeout information, consisting of horizontal layout and vertical control.

Vertical control shall be achieved by a benchmark set at three hundred (300') feet intervals maximum. Datum shall be *U.S.G.S.* looped and tied to an existing monument, or County benchmark.

Additional vertical control shall be provided by field run centerline profile ground elevations at 25 feet stations. Where profiles determine that embankments are required for minimum pipe cover, the location must be listed under *REMARKS*. Embankment must be constructed to a minimum of three feet pipe cover prior to pipeline installation.

Horizontal control shall be provided by offset hubs and tacks set at one hundred (100') feet intervals listing station and offset, and at all valves, fittings and appurtenances, listing the same. Offsets shall be located out of the path of construction traffic. Sketch shall show street names, etc. for visual reference.

REMARKS column shall show the beginning and ending stations of stabilized area construction, and the limits of paving restoration, topsoil, seeding & mulch, stone drives, parking lots and concrete.

D. SURVEY REPSONSIBILITIES

The method employed by the Contractor for transferring line and grade from the stakeout to the pipe laying shall be subject to the Department's approval. The Contractor shall be responsible for any error in the line or grade of the finished work.

The Contractor shall carefully preserve benchmarks, reference points and stakes, and in case of willful or careless destruction, the Contractor shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

Prior to the final acceptance of the work by the County, the Contractor shall re-establish and replace any disturbed property monuments within the project limits

of work at no cost to the affected property owner, easement holder, or the Department and shall furnish the property owner with a property survey of the affected portions of the project site certifying by a licensed P.S. or P.L.S. that all disturbed property monuments have been accurately replaced.

Chapter 2, Section 202

Excavation and Backfill

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II. Excavation and Backfilling

A. Scope of Work

The Contractor shall furnish all plant, labor, material and equipment to perform all excavation of every kind required for the work under the Contract. Contractor shall perform all filling and backfilling, shall construct all embankments and fills including furnishing, hauling and placing all material required for constructing embankments and fills. Contractor shall perform all grading, shall remove all water, shall satisfactorily dispose of all unsuitable and excess materials, shall furnish, install and remove all sheeting, bracing and shoring necessary to hold the sides of the excavations and to protect the work and existing structures and utilities. Contractor shall perform all incidental and appurtenant work required to satisfactorily complete the work as shown on the drawings, standard details and as specified, herein, and or as directed.

B. General

All excavation for pipes shall be in open trenches, except where and to such extent as the Department may authorize or direct that the same be constructed by tunneling, jacking or boring, or where such is specified herein or shown on the Contract Drawings. Trenches may be, in general, excavated and backfilled either by machinery, or by hand as the Contractor may elect, provided however, that the Department shall be empowered, wherever such necessity exists, to direct that hand excavation be employed, and provided further, that excavation and backfilling by hand shall be performed to the extent herein specified or directed if so deemed necessary. The Contractor shall have no claim for extra compensation due to the fact that hand, instead of machine, excavation may be made necessary from any cause whatsoever. Excavation shall be considered as the removal of all necessary materials from their present location to their final location, as shown on the plans as described in these Specifications.

C. Clearing and Grubbing

The Contractor shall be responsible to perform all work in accordance with the Maryland Standards and Specifications for Soil Erosion and Sediment Control. The approved Soil Erosion and Sediment Control plan shall be a guide of acceptable practices required for this project. Any additional measures required due to field conditions or the methods of construction utilized shall be provided by the Contractor at no additional cost to the Department.

The work under this item shall include the furnishing of all labor, materials and equipment necessary to clear and remove from the site, or dispose of in an approved manner, all perishable and objectionable materials, including stumps, roots, and rocks within the line of construction to be accomplished.

As herein used, perishable material shall include boards, fences, trees, brush,

vines, shrubs, logs, stumps, roots, weeds, rubbish and other organic matter above the surface of the ground, but not sod or topsoil, although a portion of sod and soil may be removed in connection with other materials.

All stumps and organic material shall be removed from areas to be occupied by structures, or areas that are to be finish-graded. Rock shall be removed to 12" below final grade to allow for a clay cap and topsoil for establishing ground cover as specified.

D. Removal of Pavement and Storage of Trench Materials

The Contractor shall clear and grub the surface and remove all surface materials of whatever nature over the line of the trench; he shall properly separate and classify the materials removed; and he shall store, guard and preserve said materials as may be required for use in backfilling, earth, sand, curbing, gutter and flagstones, and all sectional paving units which may be moved, together with all materials taken from the trenches, shall be removed from the street or roadway area to the approved waste area, or such other suitable place, and in such manner as shall be approved or directed by the Department. The Contractor shall be responsible for any loss of, or any damage to, paving materials through his own or his employees' careless removal or neglectful or wasteful storage, disposal or use of same.

The Contractor shall remove all pavements, road surfaces, curbing, driveways and sidewalks within the lines of excavation. Portland Cement Concrete pavements shall be opened by sawing at close joint and asphalt pavements by cutting two neat straight lines with channeling machine, hand operated pneumatic tools or by such other methods as will furnish a clean cut in the pavement and base without undue shattering. All concrete curbing, driveways or sidewalks within the lines of excavation shall be broken up and removed by the Contractor. All such work as above designated shall be performed at the Contractor's expense and in accordance with the rules and regulations of the municipality in which the work is performed. *The use of "pear" or weight dropped on pavement for breaking will not be allowed except by prior written permission of the Department.*

The Contractor shall remove paving of such width only as is necessary for the excavation of the trench, and in case he removes the paving for a greater width than is deemed necessary or in case he removes or disturbs any paving on account of settlement, slides or cave-ins or in making excavation outside the lines of the work without the written order of the Department, cost of permanently replacing the paving so removed shall be borne entirely by the Contractor. The Contractor shall replace the pavement at his expense, to the extent (as directed) by the Department.

In case more material is excavated from any trench than can be backfilled over the completed pipeline or can be stored within the limits of the right-of-way, leaving

space for drainage as herein provided, the excess material shall be removed to some convenient place, provided by the Contractor. The Contractor shall at his own cost and expense, bring back so much of the material so removed, as may be required to properly backfill the trench, if of the proper kind; or, if so directed by the Department, the Contractor shall, at his own cost and expense, furnish such other suitable material as may be deemed necessary.

When it is necessary to haul soft or wet material over the streets or roads, the Contractor shall provide suitable, tight vehicles, of a pattern approved by the Department for the purpose.

E. Removal of, Stockpiling of, and Replacement of Surface Materials

Sod and/or topsoil shall be removed from all areas where excavations or fills are to be made. Sod, if specified to be replaced, shall be cut in suitable strips and carefully removed and stored for subsequent use. During the period of storage, the sod shall be kept suitably protected and watered.

Where seeding, sodding, or grading of areas is called for on the drawings or by these specifications, or where the topsoil or loam, or overburden is unsuitable for use in embankments, dams, or filled areas, the topsoil shall be removed and stockpiled for future use, or where unsuitable for use, as called for above, shall be discarded to such areas approved by the Department and/or the Washington County, Maryland Soil Conservation District, where applicable, otherwise it shall become the property of the Contractor and shall be removed from the site.

In placing topsoil for sodding or seeding, all roots, logs, sticks, weeds, and other debris shall be removed. Stones or rocks that can be removed by garden rakes, as normally used, shall also be removed. The topsoil shall be spread to a minimum depth of four inches (4”), and shall be well raked and graded to drain, and depressions shall be filled in to leave the area level or to the lines and grades indicated on the drawings. Final raking shall take place at the time seeding or sodding is to be performed.

All shrubbery and trees located in the Right-of-Way, easements and work area which would interfere with or become damaged by the construction, shall be removed by balling in burlap, stored in a protected area and watered. Upon completion and backfill the shrubs and trees shall be replanted, except over utility lines or within easement area, in which case they shall be relocated as approved by the owner. The Contractor shall replace all shrubs and trees that are destroyed by his removal or are not thriving at the end of the guarantee period, incidental to all work at no cost to the Department.

F. Excavation Unclassified

All excavation unless otherwise specified shall be unclassified and shall include

all material of any kind encountered, whether earth, rock, concrete, old foundations or other obstacles, hard or soft material, wet material, silt, water or other material. Unless and except as shown on the drawings, no subsurface explorations have been made to determine the character of the material at the side of the work.

The County has not investigated subsurface conditions to determine soil types, rock, water table, etc., and shall not be responsible for extra compensation nor delays caused by any encountered conditions.

If during construction a solution cavity is discovered, the Department may elect to have the developer to retain the services of a Geotechnical Engineer or other professional to evaluate and recommend corrective measures when a solution cavity (sinkhole) or a hazardous material is encountered in the excavation or project area. The Geotechnical Engineer shall submit a proposed recommendation to the County for review and approval. The Contractor shall perform the corrective measures as recommended within the report prepared by the Geotechnical Engineer.

G. Trench Excavation General

The Contractor shall excavate, protect and backfill all trenches that may be necessary for completing the work to be performed under the contract. All excavation shall be in open trenches, except where and to such extent as the County may authorize or direct that the same be performed in tunneling, jacking/boring, or where such is specified in the special conditions or Contract plans. The use of excavation machinery shall be permitted. Hand methods of excavation shall be performed in places where operation of machinery will cause damage to trees, buildings, or other existing utilities above or below ground. No tunneling, boring, or forcing shall be allowed without special permission from the Department. The excavated material in non-paved areas must be stored in such a manner as not to encroach on private property, endanger the work, obstruct sidewalks nor interfere with surface drainage. In roadways and paved areas, all excavated material must be immediately removed from the work area to an approved storage site or removed from the project area for disposal by Contractor.

The Contractor may elect, provided, however, that the Department shall be empowered, wherever such necessity exists, to direct that hand excavation shall be performed to the extent hereinafter specified. The Contractor shall have no claim for extra compensation due to the fact that hand, instead of machine, excavation may be made necessary from any cause whatsoever.

The Contractor shall perform all excavation of every description and of whatever substances encountered, to the depth indicated by the drawings, as specified herein or as directed by the Department. All excavated materials not required for backfill shall be removed and wasted or otherwise disposed in a legal manner by

the Contractor.

H. Removal of Water

The Contractor shall, at all times during construction, provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations, and shall remove all such water as fast as it may collect, in such a manner as shall not interfere with the prosecution of the work or the proper placing of concrete or other work, and in such a manner as will provide against the flotation of any structure, or pipe, without flooding such structure or pipe.

The Contractor shall build all dams and other devices necessary and provide and operate pumps, or well-point systems, of sufficient capacity for continuous dewatering of the excavations. The Contractor shall provide for the disposal of the water removed from excavations, in such manner as shall not cause injury to the public health, to public or private property, to any portion of the work completed or in progress, or produce any impediment to the use of highways, roads, lanes and streets by the public.

All discharge areas of pumping devices shall be in full compliance with the Washington County, Maryland Soil Conservation District's regulations and specifications.

I. Excavation Below Sub-Grade

When excavation is carried below sub-grade without the direction of the inspector the excavation is to be brought back to sub-grade with materials and in a manner approved by the Department.

If the Contractor excavates to the grade shown on the plans and the inspector finds on inspection of this sub-grade that it will not sustain the loads to which it will be subjected, the inspector may then direct further excavation and backfill with specified materials. The Contractor shall perform the corrective measures as directed by the Department and shall be paid for said work as unclassified excavation.

The term "sub-grade" as used herein shall mean the bottom of the excavated trench, ready to receive bedding material.

J. Width and Depth of Trenches

Sides of trenches shall be kept as nearly vertical as possible and shall be excavated true to line so that a clear space eight (8") inches in width is provided on each side of the barrel of the pipe to a height not less than the top of the pipe. If sheeting is required at the level of the pipe, the dimensions in the foregoing shall be applicable to the faces of the sheeting.

The depth of the excavation for the pipe or other structure herein specified shall be such that the proper grade as established on the plans is achieved in accordance with the installation detail.

Should the Contractor excavate beyond the limits herein specified, the space so caused alongside or below the sub-grade of the pipe shall be completely filled with materials approved by the Department, at the Contractor's expense.

Wherever necessary to prevent caving, trenches shall be adequately sheeted and braced. Trench sheeting shall remain in place until pipe has been laid and backfill completed to a minimum height of one foot above the crown of the pipe. All sheeting shall be raised and/or removed as backfilling is completed and no sheeting to remain in place without the written permission of the inspector.

Sub-grade of pipe trenches shall be taken to mean a horizontal plane six inches (6") below the underside of the pipe barrel or other structure as shown on the standard detail drawings herein.

K. Length of Open Trench

The Department shall have the right to limit the amount of trench opened in advance of pipe laying and the amount of pipe laid in advance of backfilling, as determined and directed by the inspector. Generally, in undeveloped cross-country work areas, no more than two hundred feet (200') of trench shall be opened at any one place in advance of the completed trench. The amount of pipe laid in advance of backfilling shall not exceed sixty feet (60'). In all roadways and residential areas, no more than fifty feet (50') of trench shall be opened in any one place in advance of the completed trench. In all cases, trench excavation shall be fully completed, except for the shaping of the bottom of the trench, at least twenty-five feet (25') in advance of the pipe placement, and shall be kept free from obstructions, except that at the close of the work at night, or at the discontinuance of work, the pipe laying shall be completed to within ten feet (10') of the end of the open trench. In all roadways and residential areas, all open trenches must be suitably bridged against intruders and traffic loading at the end of each workday.

The inspector shall be empowered, at any time, to require the refilling of open trenches over completed pipelines, if, in his judgment, such action is necessary, and the Contractor shall thereby have no claim for extra compensation, even though to accomplish said refilling he is compelled temporarily to stop excavation or other work at any place.

If work is stopped on any trench, for any reason except by order of the Department, and the excavation is left open for any unreasonable length of time (in the opinion of the Department) in advance of construction, the Contractor shall, if so directed, refill such trench, at his own cost, and shall not again open

said trench until he is ready to complete the structure therein.

L. Protection of Traveling Public

Contractor shall in all cases be held liable for the safety of the general public entering or near the work area as related to his methods of construction, use of equipment, or control of traffic.

Streets, roads and alleys shall not be completely closed during construction unless authorized in writing, by the Washington County Division of Public Works.

The roadway on one side of the line of work shall be kept open at all times, and driveways shall be kept open.

The Contractor shall construct and maintain such adequate and proper bridges over excavation as may be necessary or as directed for safe accommodation of pedestrians or vehicles. The Contractor shall furnish and erect substantial barricades at crossings or trenches, or along the trench, to protect the traveling public.

Roadways, driveway, and sidewalks shall be kept clean, clear and free for the passage of vehicles or pedestrians, unless otherwise authorized in writing by the County. A straight and continuous passageway on sidewalks and over crosswalks, at least three feet (3') in width, shall be preserved free from all obstructions.

Where deemed necessary, such additional passageway as may be directed shall be maintained free of obstructions. Under no circumstances shall the Contractor obstruct fire hydrants or prevent their use at any time.

M. Accommodation of Drainage

Gutters, sewers, drains and ditches shall be kept open at all times for surface drainage. No damming or ponding of water in gutters or other waterways will be permitted, except where stream crossings are necessary and then only to an extent, which the Department shall consider necessary in accordance with applicable permit. The Contractor shall not direct any flow of water across or over pavements except through approved pipes or properly constructed troughs, and he shall when so required, and at his own cost and expense, provide pipes or troughs of such sizes and lengths and as may be required, and place the same as directed. The grading in the vicinity of trenches shall be controlled so that the ground surface is properly pitched to prevent water running into the trenching.

In open water courses, ditches or pipes, encountered during the process of the work, the Contractor shall provide for the protection and securing of a continuous flow in such courses or pipes and shall repair any damage that may be caused by

construction.

N. Obstruction Shown on Drawings

Certain information regarding the reputed presence, size, character and location of existing underground structures may be shown on the contract drawings. There is no certainty of the accuracy of this information. The location of underground structures shown may be inaccurate and other obstructions than those shown may be encountered. The Contractor hereby distinctly agrees that the Department is not responsible for the accuracy of the information given; that he shall have no claim for delay, or extra compensation due to inaccuracy, insufficiency or absence of information regarding obstructions either revealed or not revealed by the drawing. The Contractor shall have no claim for relief from any obligation or responsibility under the Contract, in case the location, size or character of any pipe or other underground structure is not as indicated on the drawings, or in case any pipe or other underground structure is encountered that is not shown on the drawings.

O. Removal of Obstructions

Should the position of any pipe, conduit, pole or other structures, above or below the ground, require its removal, realignment, or change due to the Contract work; but not be indicated in the Contract documents as part of the work, as determined by the Department; the work shall be performed by the owner of the obstructions, without cost to the Contractor; but the Contractor shall uncover and sustain the structures, at his own expense, before such removal and before and after such realignment or change as constituting part of the contract; and the Contractor shall not be entitled to any claim for damage or extra compensation on account of the presence of said structure, or on account of any delay in the removal or rearrangement of the same.

The Contractor shall, without extra compensation, break through and reconstruct, if necessary, the invert or arch of any sewer, culvert or conduit that may be encountered and damaged, if the said structure is in such a position that, in the judgment of the County, removal, realignment or complete reconstruction is required.

The Contractor shall not interfere with any persons, firms, or corporations, or with the Owner in protecting, removing, changing, or replacing their pipes, conduits, poles, or other structures; but he shall offer said persons, firms, or corporations, or the owner, to take all such measures as they may deem necessary or advisable for the purpose aforesaid, and the Contractor shall thereby be in no way relieved of any of his responsibilities under the contract. At railway or railroad track crossings, any expense to which the owner of the trackage is put, in shoring up tracks, or in maintaining traffic shall be borne by the Contractor, whether same is billed directly to him, or the owner. Should any such bill be unpaid by the

Contractor, before final payment under the contract is made, the Owner shall be empowered to pay said bill and retain the amount thereof, from any monies due, or to become due to the Contractor.

Except when trees are in rights-of-way, in immediate proximity to the trench, and are indicated for removal, relocation, or replacement, they shall not be cut down except by authorization of the County or owner of the project, and the Contractor shall have no claim for the extra compensation owing to the fact that he may be required to excavate by hand, or tunnel in the vicinity of trees that may be left standing. Trees located in SHA's Right-of-Ways needing to be removed require the Contractor to first apply and be granted a roadside tree permit from Maryland Department of Natural Resources.

P. Change of Trench Location

Any change in the location of the trench, from that shown on the approved drawings, shall be authorized by the Department. The developer shall prepare revised construction drawings showing the proposed alignment prior to installing any pipe.

Q. Miscellaneous Excavation

The Contractor shall do such miscellaneous excavating work as may be necessary or directed. Such excavation shall be subject to the same conditions and requirements as specified for trench excavation.

Miscellaneous excavation shall include the digging of test pits, or excavation for any special structure, outside the trench, that may not be shown on the drawings or described in the specifications, where such excavation is performed at the direction of the inspector.

Test pits shall be dug by the Contractor in areas of questionable existing utility locations shown on the drawings, or utilities located by "Miss Utility", to verify size, location, and type prior to performing work in close proximity, at his own expense. All test pitting shall be done in the presents of the County's Inspector. Any utility, so shown or marked, and damaged by the Contract work, shall be repaired immediately, by direction of the respective utility.

R. Embankment

Where embankment is necessary to achieve the subgrade of the pipe or structure, it shall be made to a minimum height of three feet (3') above the crown of the proposed pipe grade, or to the height, width, and slope shown as finished grade on the plans. The embankment shall then be excavated to the proper form and grade of the trench for the pipe installation.

For proposed roadways, the entire embankment or such portion thereof as may be deemed necessary, as directed by the Department, shall be made prior to the construction of the pipe utility, at such time and in such order as the Department may direct; and the embankment and the pipe and its appurtenances which may be laid thereon or therein, shall be maintained by the Contractor, at his own cost and expense, until the completion of the period of twelve (12) months from and after the date of the certificate of completion and acceptance unless otherwise noted for a longer period.

After carefully grubbing and clearing the ground, removing all loose rock and stone, and all muck and improper material, to such a depth as the inspector may determine, the embankment shall be built up of specified or selected approved materials, free from all stones above six inches (6") in diameter.

In case materials, which is unsatisfactory for the foundation of an embankment is encountered, said material shall be removed to such depth, and for such length and width as may be directed by the inspector. Acceptable embankment foundation (subgrade) shall be not less than ninety-two percent (92%) of maximum dry density as specified in AASHTO T-180.

The material for embankment shall be deposited in layers of not more the eight inches (8") in compacted thickness. Each layer shall be separately compacted to ninety five percent (95%) of maximum density at moisture content of within two (2) percentage points of optimum to final subgrade. The whole embankment shall be carried up evenly to the height given by the inspector in such a manner as to make a compact and solid foundation. All performance/acceptable testing shall be the responsibility of the Contractor at his own expense. Field testing results shall become the property of the Department and provided to the inspector at the end of each day unless otherwise approved by the Department. Reports shall be completed and given to the inspector at the end of the workday or the start of the next workday. Complete test reports shall include the following: Date, weather, site conditions, test locations & results, maximum dry density & optimum moisture of fill material tested.

S. Pipe Trenches in Fill

Where pipes are to be laid in areas of fill, the fill shall be made prior to laying pipe. After the fill is in place, the pipe trench shall be excavated to subgrade or to natural ground if lower than subgrade. Where it is necessary to excavate below subgrade, that portion of the trench above natural ground and below subgrade shall be filled with gravel or crushed stone as specified herein.

T. Rock Excavation

Unless otherwise directed by the Department, rock or boulders shall be fully taken out at least twenty-five feet (25') in advance of pipe laying, and to a point at least

six inches (6") below the invert of the pipe, and to a width not to exceed the width of the trench, for the size of pipe to be laid therein. The space below the outer bottom of the pipe shall be filled with specified aggregate bedding, as detailed. If rock below the specified trench subgrade is shattered due to excessive drilling or blasting, and, if in the opinion of the inspector, it is unfit for foundations, such shattered rock shall be removed and the area backfilled to the proper grade with material acceptable to the inspector, at the expense of the Contractor.

Where manholes are excavated in rock, they shall be excavated to a point twelve inches (12") from the outside the exterior lines of the masonry and to a depth of six inches (6") below the outside bottom of the masonry.

Wherever rock is encountered in the excavations for manholes where future connection are shown on the Contract drawings or where manholes would accept future connections as determined by the Department, or where stubs are to be left for future extension, the excavation shall conform to the lines of the prism required by the dimensions of such extension, but not less than five feet (5') from outside the exterior lines of the manhole, structure, or pipe end.

Rock appearing in miscellaneous excavations directed by the Department, shall be removed to lines and grade prescribed by the Department, if directed by the Department.

U. Use of Explosives and Blasting

1. General

The Contractor shall provide all labor, materials, equipment, and services necessary for, and incidental to, the use of explosives and blasting for excavation.

Failure to comply or to complete any work in accordance with any specifications set forth will be sufficient grounds for suspension of privilege to blast. The Contractor shall not be entitled to any claims or any additional compensation, which shall arise from the suspension of the blasting.

Wherever rock is encountered in the excavation, it may be removed by means of explosives, however, the Contractor shall be solely responsible for injury to persons or property that may result from his use of explosives, and the exercise of, or failure to exercise control on the part of the Department shall in no way relieve him of responsibility for injury or damage resulting from their use.

All blasting shall be performed under the supervision of a licensed blasting expert, and subject to NFPA 495, Explosive Material Code, latest

edition.

Blasting for excavation shall be permitted only after securing the required license for the use and handling of explosives from the State Fire Marshal. The Contractor shall notify the State Fire Marshal as required for any and all blasting operations. The Contractor's method for procedure relative to blasting shall conform to state laws and local municipal ordinances.

The State Fire Marshall is empowered to enforce regulations concerning the character and strength of explosives used, and the manner of their use and storage. Handling and storage of explosives shall be in accordance with Federal Regulation 18 U.S.C., Chapter 40, Sections 841-848.

Only the amounts of explosives required shall be kept in an approved location and shall be kept under lock, the key to be only in the hands of a licensed blaster.

The Contractor shall use the utmost care in the use of explosives necessary for the prosecution of the work, so as not to endanger life or property.

All explosives shall be transported and stored in a secure manner, and in accordance with local, state and federal laws, all vehicles and such storage places shall be marked clearly "DANGEROUS – EXPLOSIVES".

Controlled blasting techniques shall be used. Modify the blasting round as necessary to achieve the best obtainable results and to keep the air blast over pressure, vibrations and noise within the limits of COMAR 12.03.01.09 "Control of Airblast and Ground Vibration for Blasting Operations". Exercise all possible care in drilling and blasting operation to minimize overbreak and blast damage of adjacent unexcavated ground. It shall be the Contractor's responsibility to produce a satisfactory excavated surface by determining the proper relationships of the factors of burden, spacing, depth of charge, amount of type of explosive, hole size and delay pattern, and other necessary considerations to achieve the required results.

Blasts shall be made only during daylight hours and all blasts shall be carefully confined and adequately covered, to prevent injury to persons and to protect adjacent structures and pipes against damage. Before detonation of each blast, ample warning shall be given to permit all persons to reach positions of safety. The Contractor shall control fly rock and materials so as to prevent damage to persons or structures. Rubber tire mats shall be used prior to blasting.

Equipment used for drilling of holes shall have a positive means of dust control to the Department's approval, and maintained in working order.

Whenever any pipe main or conduit is encountered in the trench, the right is reserved to direct that all rock within five feet (5') of the same is to be removed by some method other than blasting.

Any damage resulting from lack of control during the blasting last operation shall be the responsibility of and repaired at the expense of the Contractor.

2. Blast Report

The Contractor shall complete, maintain and submit permanent blast reports including logs of each blast. Logs shall be available for inspection by the County or authorized personnel at all times and retained for at least three (3) years. Reports may be accrued for one (1) week and must be submitted within five (5) days after the end of each week. Complete reports after each blast shall include the following:

1. Name of company or Contractor.
2. Location, date, and time of blast.
3. Name and signature of blaster in charge.
4. Type of material blasted.
5. Number of holes, burden, and spacing.
6. Diameter and depth of holes.
7. Types of explosives used.
8. Total amount of explosive used.
9. Maximum amount of explosive per delay period of eight (8) msec or greater.
10. Method of firing and type of circuit.
11. Direction and distance in feet to nearest structure neither owned nor leased by the person conducting the blasting.
12. Weather conditions including such factors as wind direction, etc.
13. Height or length of stemming.
14. If mats or other protection so as to prevent fly rock where used.
15. Type of detonators used and delay period used.
16. Seismograph recording including seismograph reading when required shall contain:
 - a. Name and signature of individual operating the seismograph
 - b. Name of individual analyzing the seismograph recorder
 - c. Seismograph reading
17. The maximum number of holes per delay period of eight (8) msec or greater.
18. The person taking the seismograph reading shall accurately indicate the exact location of the seismograph, if used and shall also show the distance of the seismograph from blast.

3. Blasting Within Existing Development

All blasting will be monitored by the Contractor and at the expense of the Contractor, to control vibrations in the vicinity of roadways, structures and utilities. The Contractor shall provide the Department of Water Quality with twenty-four (24) hours advance notice prior to any blasting with an existing development.

Peak particle velocity shall not exceed one inch (1”) per second in the vicinity of structures and utilities and other objects subject to damage from the blasting operation. Particle velocities in excess of these limits shall be classified as out-of-control blasting and shall not be permitted.

The monitoring device shall be capable of measuring the velocity parallel and transversely to the direction of the blast and vertically. The equipment shall be capable of providing a permanent record of all recordings.

Monitoring instruments shall be placed directly on bedrock at a sufficient number of locations to develop attenuation curve. At least five percent (5%) of the measurements shall be made within ten (10) feet of the blast.

The Contractor shall furnish to the County a certification of calibration for each monitoring instrument used on the project, and a list of qualified personnel certified to operate field equipment.

All data obtained from monitoring equipment shall be interpreted by an independent firm and a report to be forwarded directly to the Department on a timely basis. If the equipment used is capable of analyzing and interpreting data, that equipment must be approved by the Department prior to use.

V. Blasting Within State Highway Right-of-Way

All blasting within the Maryland State Highway Right-Of-Way shall be in strict accordance with the “Standard Blasting Plan Within State Highway Right-Of-Way”.

W. Responsibility for Condition of Excavation

The Contractor shall be responsible for the condition of all excavations made by him. All slides and cave-ins shall be removed without extra compensation at whatever time and under whatever circumstances they may occur.

Neither action nor omission by the Department to order the use of bracing, sheeting, or their associated materials and equipment, shall relieve the Contractor

of his responsibility concerning the safety of the excavation.

Delays caused by any action or lack of action by the Contractor or the Department, their agents or employees, which result in the excavation being kept open longer than necessary shall not relieve the Contractor from properly and adequately protecting the excavation from caving or slipping.

The Contractor shall maintain at his expense, all refilled excavations in proper condition until the end of the one (1) year period following the date of acceptance of the work by the owner, unless otherwise noted for a longer duration. All depressions appearing in the refill excavations shall be properly refilled and surface restored. If the Contractor shall fail to do so within a reasonable time after the receipt of written notice from the owner, the Department may refill and restore said depression and the expense thereof shall be the responsibility of the Contractor. In case of emergency the owner may refill and restore any dangerous depression without giving notice to the Contractor, and the expense of so doing shall be the responsibility of the Contractor.

The Contractor shall be responsible for any injury or damage that may result from improper maintenance of any excavation, within the one (1) year maintenance period, unless otherwise noted for a longer duration.

X. Sheeting, Bracing and Shoring

The Contractor shall be responsible for properly supporting the sides of all trenches and excavations with sheeting, bracing, shoring, or other supports so as to furnish safe and acceptable working conditions. Bracing shall be arranged so as not to place any stress on portions of the completed work until the general construction thereof has proceeded far enough to provide ample strength.

The Contractor shall furnish all labor, materials and equipment and perform all operations required for sheeting, bracing, and shoring of excavations and for constructing foundations. The Contractor is responsible for complying with all OSHA and MOSHA requirements.

Sheeting, sheet piling, bracing and shores shall be withdrawn and removed as the excavations are being backfilled, except where and to such an extent as the Department shall order, in writing, that the same be left in place, or where the County shall permit the Contractor to leave the same in place, at the Contractor's own cost and expense. Any sheeting or sheet piling left in place, whenever and at such point as the County shall order or permit, shall be cut off at least one (1') foot below finished grade, and the Contractor shall remove and dispose of the portion cut off.

In withdrawing sheeting and sheet piling, special care shall be taken to ensure that all voids or holes left by the planks as they are withdrawn are filled with

satisfactory material and thoroughly rammed with thin rammers provided especially for that purpose.

Y. Protection of Property and Structures

The Contractor shall, at his own expense, sustain in their places, and protect them from direct or indirect injury, all pipes, tracks, walls, buildings and other structures or properties in the vicinity of his work, whether above or below the ground, or that may appear in the trench. He shall at all times have sufficient quantity of timber and planks, chains, ropes, etc., on the site and shall use them as necessary for sheeting the excavations and for sustaining or supporting any structures that are uncovered, undermined, endangered, threatened, or weakened.

The Contractor shall take all risks attending the presence or proximity of pipes, poles, tracks, walls, buildings, and other structures and property, of every kind and description, in or over his trenches, or in the vicinity of his work, whether above or below the surface of the ground; and he shall be responsible for all damages and assume all expenses for direct or indirect injury, caused by his work, to any of them, or to any person or property by reason of injury to them, whether such structures are or are not shown on the drawings.

Where necessary, in order to keep one side of the street or roadway free from any obstruction or to keep the material piled alongside of the trench from falling on private property outside the right-of-way, a safe and suitable fence shall be placed alongside the work.

In the event of encountering unstable material, subsurface streams or similar dangerous contingencies, or when passing buildings or any structures which by its construction or position might have its foundation undermined or cause unsafe pressure upon the trench; the right is reserved by the Department to direct that such building, or structure, shall be underpinned, or supported and protected; or that special sheeting shall be driven in such a manner and to such a depth, as may be directed; or that only a short length of trench shall be opened at one time; and furthermore, if necessary that the trench shall be securely sheeted and braced on all sides, after the manner of a shaft, and that the permanent work shall be constructed in the same and the shaft backfilled before another opening is made. Any work directed by the Department to be performed by the Contractor, shall be at the cost and expense of the Contractor.

The Department reserves the right under such conditions to stop the excavation or any other part of the work, and to require the Contractor to complete the pipe and the backfilling up to such a point as the Department may direct before proceeding further with the excavations; and the Contractor shall not thereby become entitled to demand or receive any allowance or compensation.

Z. Pipe Bedding and Granular Encasement

Trenches shall be filled for their entire width with compacted granular material, as specified in section “Sanitary Sewer Materials” and “Water Line Material”, six inches (6”) below invert of the pipe. The bedding material shall be thoroughly compacted by means of mechanical tampers the full width of trench, and screened to a uniform plane on grade having dust out of bell, ready to receive the pipe. After the pipe has been placed to the proper grade and alignment, backfill and lightly tamp both sides, evenly, in six inch (6”) loose lifts and to a twelve inch (12”) horizontal plane above the crown of the pipe with the same pipe bedding aggregate material. Areas along side of the installed pipe and to a level plane two feet (2’) above the crown of the pipe must be mechanically tamped using a hand tamper and in such a manner as to not damage or disturb the pipe or its alignment. Compaction achieved shall be ninety-two percent (92%) of maximum density per AASHTO T-180 to finish grade. Areas within proposed County right-of-ways shall be compacted in accordance with the Department of Public Work’s S-3 Policy.

AA. Backfilling of Trenches (General)

Backfilling of trenches include all backfill material, compaction as specified, re-grading of adjacent disturbed areas, replacing other surface and sub-surface pipes and structures, placing and maintenance of temporary sidewalks and driveways, re-sodding lawns and replacing trees and shrubbery outside of the trench limits damaged by the Contractor and all appurtenant work incidental thereto refilling of excavations.

All lumber, rubbish and debris shall be carefully removed from spaces to be backfilled and kept clean of such during backfilling. All trenches and excavations shall then be backfilled to the subgrade of the respective surface restoration materials or other foundation subgrade.

No backfilling shall be performed prior to the time that joints in pipelines are set, inspected, measured, and approved.

All excavations in stabilized and non-stabilized surface areas must be backfilled or satisfactorily bridged at the end of each day’s work. Adequate fencing may be allowed in undeveloped areas by the approval of the Department. Otherwise, partially excavated or open trenches will not be permitted outside the workday.

Puddling and/or jetting of trenches with water will not be permitted. The condition of the trench shall be restored to the full satisfaction of the Department.

Trenches shall be carefully backfilled without causing shock to the pipe and to prevent after-settlement. The backfill shall be of specified materials, selected for the purpose, in section “Sanitary Sewer Materials” and “Water Line Materials”.

Every precaution shall be taken in the backfilling of excavations to prevent materials so placed from falling directly upon or against any pipe, conduit or other structures in such a way as to cause the displacement of or damage to said pipe, conduit or structure. The backfilling, filling and embankments shall be brought up evenly and all eccentric loading shall be avoided.

As the trenches are filled in and the work completed, the Contractor shall, at his own cost and expense, remove and dispose of all surplus earth, stone or other materials as specified hereinbefore. The Contractor shall leave all roads, sidewalks and other places free, clear and in good order. In case the Contractor shall fail or neglect to do so, or to make satisfactory progress in doing so, after the receipt of a written notice from the Department, the owner may remove such surplus material and clear the roadways, sidewalks and other places, and the cost of said work shall be charged to the Contractor.

Should there be a deficiency of proper material for refilling; the Contractor shall furnish the same at his own cost and expense. Material lacking any specified property shall not be used as backfill.

No backfilling shall be made during freezing weather except by permission of the Department. No backfill shall be made when the material already in the trench is frozen, nor shall frozen material be used in backfilling.

Backfill may be deposited using mechanical or power equipment, except that care shall be exercised in placing material directly from a machine bucket, cars or other vehicle, such that the pipe is not damaged or displaced.

Compaction density shall be measured as specified by AASHTO T-180, and shall be as follows:

	LOCATION	LOOSE LIFT	MAX DENSITY	OPTIMUM MOSTURE
a.	More than seven feet (7') off roadway or driveway edge (open area)	8"	90%	+/-2%
b.	Within seven feet (7') of road or driveway edge to one foot (1') below grade	8"	90%	+/-2%
c.	Within seven feet (7') of road or driveway edge top one (1) foot	8"	90%	+/-2%

Backfill of trench in State and County Roads, or areas to be accepted or maintained by same, shall be in accordance with the requirements of the State Highway Administration and Washington County Division of Public Works, respectively.

The Contractor shall furnish and install six inch (6") wide non-detectable warning tape two feet (2') centered above and continuous with the pipe, including service connection piping. The tape shall be colored and marked appropriate to the respective utility pipe. The Contractor shall also furnish and install a continuous twelve (12) gauge copper tracer wire, with all pressure PVC piping. The tracer wire is to be laid along side the pressure pipe, with testing boxes installed at maximum spacing of five hundred feet (500').

BB. Backfill of Trenches Within New Developments

1. Stabilized Areas

Stabilized areas are areas within seven feet (7') of a proposed or future roadway, street, or driveway; measured from the edge of shoulder or curb; shall be backfilled from a plane one foot (1') above the crown of pipe using materials as specified by Washington County Division of Public Works.

2. Non-Stabilized Areas

Non-stabilized areas are areas greater than seven feet (7') outside or off a proposed or future roadway, street, or driveway; measured from the edge of shoulder or curb; and usually as open, vegetated area; may be backfilled from a plane one foot (1') above the crown of the pipe using clean earth free of rocks over six inches (6") in any dimension.

CC. Backfill of Trenches Within Existing Developments

1. Stabilized Areas

Stabilized areas are areas within seven feet (7') of a proposed or future roadway, street, or driveway; measured from the edge of shoulder or curb; shall be backfilled from a plane one foot (1') above the crown of pipe using materials as specified by Washington County Division of Public Works.

2. Non-Stabilized Areas

Non-stabilized areas are areas greater than seven feet (7') outside or off a proposed or future roadway, street, or driveway; measured from the edge of shoulder or curb; and usually as open, vegetated area; may be backfilled from a plane one foot (1') above the crown of the pipe using clean earth free of rocks over six inches (6") in any dimension.

DD. Backfilling of Structures

Special care will be required in backfilling around structure walls. Backfill to be placed on both sides of a foundation all, shall be placed in simultaneous lifts on both sides of the wall so that there is no uneven pressure against the wall surface.

Backfill against one (1) exposed surface of a structure wall shall not begin prior to the completion of the floors or other portions of the structure tending to brace the walls in their final position. Vehicle and heavy equipment loads shall not be imposed prior to the time that the materials in the wall construction have reached their design strength.

Backfill material and compaction shall be as specified, detailed, and/or shown on the Contract drawings.

EE. Dust Control Clean-up and Repair

The Contractor shall remove from the site of the work, all materials not to be utilized in the scope of work. All construction materials and equipment during non-working hours must be stored so as not to impede traffic. The streets during working hours shall be kept free from surplus material and in a convenient condition for travel.

The Contractor shall be responsible for maintaining the streets, driveways, parking areas, etc. in clean and dust free condition in so far as the dust and dirt relates to his work. Dust control materials shall be calcium, water or other materials approved by the Department.

Upon direction of the County and the failure of the Contractor to control dirt and dust, the Department shall stop the progress of construction until such time the work is performed as directed. At the end of each day's work, the work area(s) shall be swept (hand or mechanical) until area is clean and free of dirt and debris.

The Contractor may store, during the workday, excavated material from the trench that is suitable backfill material to the extent of the amount required to complete backfilling in the general localized are of the work, as approved by the Department. However, at the completion of backfill or at the end of the day's work, all material must be removed, stored, and/or disposed as specified hereinbefore.

The Contractor shall be responsible for maintaining the streets during the construction period. Temporary asphalt base paving (cold mix) shall be placed, rolled and maintained, to provide a smooth riding surface over trench areas until such time the trench areas in existing paving are permanently restored.

The Contractor shall repair any and all damage he has caused to the streets, sidewalks, shrubbery, lawns, lawns, ornamental works, real property, etc., and shall save free and harmless the principal in this contract from all suits for damages to person or property arising from or caused by this construction.

Before final acceptance of the work the Contractor shall remove all equipment and material from the site; restore and/or repair all property, private or public, to a condition equal to or better than originally found.

FF. Tunneling Jacking and Boring

All methods of tunneling, jacking or boring shall be performed to the requirements and satisfaction of the agency issuing the permit, and/or having jurisdiction over same.

It shall be the Contractor's responsibility and expense to provide any additional insurance coverage which may be required by the agency issuing the permit. The Contractor shall also be responsible for any cost involved in inspection by the Railroad Company, state highway or agency having jurisdiction over same.

All construction methods and materials proposed for use in tunneling, jacking or boring shall be submitted to and approved by the Department prior to construction. The Contractor shall assume all responsibility for the sufficiency and safety of his method.

The staging excavation shall be kept to a minimum size required to perform the work. During non-working hours, the excavation shall be kept tightly secured (if greater than three feet (3') deep) by solid fencing and safety flagging, or bridging.

All erosion and sediment control, dewatering, restoration and appurtenant work relating to the tunneling/jack and bore operation, shall be incidental to the work.

Steel casing pipe shall meet the following minimum Requirements:

<u>Sewer Diameter</u>	<u>Minimum Casing Inside Diameter</u>	<u>Minimum Casing Thickness</u>
4"	12"	0.251"
6"	18"	0.313"
8"	18"	0.313"
10"	18"	0.313"
12"	24"	0.407"
15"	30"	0.469"
24"	36"	0.532"
27"	42"	0.563"
30"	48"	0.626"
36"	54"	0.688"

The encasement pipe shall be installed with even bearing throughout its entire length, and shall maintain the grade required for the carrier pipe to function as designed. The completed installation shall meet the requirements as shown in the Standard Detail Drawings.

Care should be used in trimming the surfaces of the excavated section. It is extremely important that firm contact exist between the casing pipe and the ground around the entire ring. Any space outside of the casing pipe shall be filled with uniform mixture of grout placed under pressure. Grouting shall start at the lowest middle hole of each grout panel, with grout holes above being open, and proceed upward progressively and simultaneously on both sides of the casing.

The staging excavation shall be entirely backfilled and compacted in accordance with these specifications, while protecting the end of the installed carrier pipe. The completed backfill excavation may then be excavated to the proper form and grade of the trench for the pipe installation to connect to the carrier pipe at the casing end.

The Contractor shall provide and install sacrificial anodes on all carrier pipes. The anodes shall be sized according to the pipe diameter, thickness, and length of the pipe.

Chapter 2, Section 203

Sanitary Sewer Materials

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III. Sanitary Sewer Materials

A. Scope

This section of these Specifications details the requirements governing the quality of the various materials specified for use in other Sections and on the Construction Drawings and Details.

All pipes, fittings and other related materials used in the construction of sewer lines shall have the approval of and be in compliance with the Specifications and Standards of the Washington County Department of Water Quality, as set forth herein.

B. General

Material of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

Whenever reference is made to the requirements of the American Society for Testing Materials (ASTM), the American Water Works Association (AWWA), the American National Standards Institute (ANSI), or other standard specifications or codes, the latest modifications or revisions of such specifications by ASTM, AWWA, ANSI, or other standards organizations, shall be certified in writing by the manufacturer.

Representative samples of materials, intended for incorporation in the work, shall be submitted, when indicated or directed, for examination and/or test.

The Contractor shall furnish to the Department a minimum of seven (7) copies of Shop Drawings and/or certifications for each type of material used in the work. The Department will retain three (3) copies for our records and will return the remaining four (4) copies to the Contractor. If the Contractor requires more than four (4) copies, the Contractor will have to submit additional copies as part of his submittals. All materials to be used in construction shall have the Department's prior approval before use in the work.

No material shall be used until it has been inspected and approved on the site of the work by the inspector. Such inspection shall not relieve the Contractor of his obligations to complete the work as specified. Any defective material or workmanship which may have been passed by the Department shall be at all times liable to rejection when discovered, until the final completion of the project.

Where a manufacturer's name is used in these Specifications, it is used to designate a standard of quality. The use of said manufacturer's name does not eliminate other manufacturer's equipment and materials equally as good and efficient and that can perform the same function, as approved by the Department.

C. Sewer Pipe and Fittings

1. General

Poly Vinyl Chloride (PVC) pipe and fittings shall be made from PVC compounds as defined and described in ASTM D-1784, Type I, Grade 1, Cell Classification 12454-B for rapid poly vinyl chloride compounds. Chlorinated poly vinyl chloride compounds (CPVC) shall be Type IV, Grade 1, Cell Classification 23447-B. All pipes shall be NSF Standard 14 certified. All fittings shall be one-piece injection molded.

All PVC pipe and fittings supplied shall have the following markings on each:

1. Manufacturer's name or trademark
2. Nominal Size
3. Material designation
4. Psm (and type for pipe)
5. ASTM designation
6. National Sanitation Foundation (N.S.F.) seal of approval
7. Full insertion mark

PVC pipe and fittings shall be manufactured by North American, J. M. Eagle, Harco, R & G Sloane, Spears, or equal. Installation shall be in accordance with the manufacturer's recommendations and as specified herein, whichever is more stringent.

The Contractor shall furnish to the Department sworn statements from the manufacturer that the inspection and all specified tests of the applicable ASTM Standards for PSM poly vinyl chloride gravity and pressure sewer pipe have been made and the results thereof comply with the requirements of these Specifications.

2. Gravity Sewer Main and Fittings

PVC pipe for gravity sewer shall be SDR-26 Heavy Wall PS 115 and must conform to the requirements of ASTM D-1784, ASTM F-679, and ASTM D-2241. All PVC sewer pipe must utilize the bell and spigot concept with the utilization of a single sealing rubber gasket provided by the manufacture.

SDR-26 PVC heavy wall gasketed sewer fitting four inches (4") through eighteen (18") shall be manufactured in accordance with ASTM D 3034 and F 1336. Fitting gaskets shall comply with ASTM F 477 or ASTM F 913. Fitting gaskets shall be locked firmly in position to prevent displacement. Four-inch (4") through eight-inch (8") SDR-26 fittings shall have green color-coded gasket retaining rings for easy identification. Four-inch (4") through eight-inch (8") fittings shall be injection molded

from virgin PVC compound having a minimum cell classification of 12454 or 13343 in accordance with, and certified by the National Sanitation Foundation (NSF), to meet ASTM D 1784. Ten inch (10") through fifteen inch (15") gasketed SDR-26 sewer fittings may be injection molded or fabricated from pipe meeting the requirements of ASTM D 3034. Gasket joints of all fitting sizes must comply with ASTM D 3212 Internal Pressure Test (exfiltration) and vacuum test (infiltration) at five (5) degrees of gasket joint deflection. Gasketed SDR-26 sewer fittings shall be certified by the NFS to meet ASTM D 3034.

Jointing for all PVC gravity sewer pipe and fittings shall be bell and spigot concept (ASTM D-3212) with the utilization of a flexible elastomeric seal (ASTM F-477) provided by the manufacturer. All spigots shall have a full insertion mark and beveled end. Lubricant for the gasket shall be as recommended by the pipe manufacturer.

3. Gasketed Long Radius Tee Wye

SDR 26 Heavy Wall gasketed tee wye shall be manufactured to meet the following requirements:

- a) ASTM D 3034 – Fittings
- b) ASTM D 1784 – Materials
- c) ASTM D 3212 – Joints
- d) ASTM F 477 – Gaskets or F913
- e) Fitting Wall Thickness – Minimum SDR 26

Long sweep tee wyes shall be made from PVC compounds, as defined and described in ASTM D 1784 for rigid PVC compound and shall have the following markings:

- a) Manufacturers Name or Trademark
- b) Nominal Size
- c) Material Designation
- d) ASTM Designation
- e) Color coded green end rings

The dimensions shall be as follows:

- a) Bell Depth 2-1/2" GSK to pipe minimum
- b) Wall SDR 26 H.W. Minimum
- c) Height 14" Minimum
- d) Length 14" Minimum
- e) Gasket Cross Section .21 Square Inches Minimum

Long sweep tee wyes may be factory fabricated until such time as a one piece injected molded fitting is available. At which time the molded

fitting shall be required. Each fitting shall have a factory fabricated sticker for inspection purposes.

Fittings shall have the same warranty as the manufacturer applies to their other products.

Certification required.

4. Pressure Sewer and Fittings

Buried PVC pressure pipe one- and one-half inch (1½") through four-inch (4") diameter shall conform to the requirements of ASTM D-2241 (SDR-21) for working pressure of 200 psi.

Buried PVC pressure pipe six-inch (6") diameter and larger, shall conform to the requirements of ASTM D-2241 and AWWA C-900 class 150 (DR-18), for 150 psi working pressure unless otherwise specified.

Integral bell and spigot joints shall utilize flexible elastomeric seals and shall meet or exceed the requirements of ASTM D-3139 with rubber gasket meeting the requirements of ASTM F-477. Spigot ends shall have a reference mark around the circumference to denote the depth of seating into the bell or coupling. Lubricant for elastomeric gasket shall be specified by the pipe manufacturer.

5. Ductile Iron Pipe (DIP) and Fittings

Ductile iron pipe shall meet the requirements of AWWA C-150 and C-151, thickness Class 54. All pipe shall be centrifugally cast with double thickness cement-mortar lining and seal coated with asphaltic material inside and outside in accordance with AWWA C-104.

Underground installations shall maintain mechanical joints complying with AWWA C-110 with working pressure rating of 350 psi.

Inside of structure and above ground installations shall be flanged joints complying with ANSI/AWWA C-110/A21.10, with water working pressure rating of 250 psi. Flanges shall be flat faced and bolt arrangement shall be compatible with ANSI B 16.1, Class 125 flanges.

ASTM A307 bolts and ASTM A563 nuts used to connect the flanges in a mechanical joint shall conform to ANSI B18.2.

Bolt length shall be such that after installation, the projection of the thread is 1/8 inch to 3/8 inch. All mechanical joints shall be restrained utilizing Megalug or approved equal joint restraining device.

All pipe fittings shall be cement lined and coated inside and outside with coal tar pitch varnish. The varnish shall be made from coal tar to which

sufficient oil has been added to make a smooth coating tough and tenacious when cold and not brittle with any tendency to scale off. The coating and the varnish shall both be heated to a temperature of 300 degrees F prior to dipping of the casting.

Flanged adapter shall be manufactured of ASTM A-126, Class B cast iron with Standard ANSI B16. 1 125-pound flange. Mechanical joint shall be Standard ANSI/AWWA C-111/A21.11. Unit shall be rated for 250-psi water working pressure. Adapter shall be factory-coated exterior with corrosion resistant manufacturer coating and interior with coal tar epoxy.

Wall pipe shall meet the requirements of D.I.P. Pipe shall be sized to allow a minimum clearance of six inches (6") from face of flange to face of wall for mechanical joints and three inches (3") for flanged joints.

The Contractor shall submit to the Department, prior to installation of the pipe and fittings, a certificate, certifying that the pipe and/or fittings were manufactured and tested in accordance with AWWA Specifications.

6. Cast Bronze Fittings

Pipe and fittings shall be composition bronze, ASTM B-62, made of eighty-five percent (85%) copper, and five percent (5%) each of tin, lead, and zinc, and shall be threaded NPT, in accordance with ANSI B16.15.

D. Valves

1. General

Valves shall be of the sizes and types shown on the Drawings and shall joint as specified or be compatible with the pipes in which they are installed. All valves of one classification shall be of the same manufacture, and shall open left, counter-clockwise.

All wetted parts of valves shall be of materials or coatings resistant to corrosion caused by sulfides in sewage, and rated for 150-psi water working pressure in either direction.

Buried valves shall have bituminous, epoxy, or other approved coating applied to the exterior of the valve along with the extension stems and valve boxes.

No valves may be placed within the wetwell area.

2. Ball Valves: 1-½" Through 2-½" Pipe Size

Valve body, ball and stem shall be ASTM B-62 (85-5-5-5) bronze with ball specially coated to compliment ease of turning and no leakage against

the resilient Buna-N rubber seat. Stem shall be Buna-N rubber o-ring sealed. Open valve shall allow full port flow. Actuator shall be the tee-head style capable of connecting to an extension stem for buried applications. End connections shall be female threaded NPT. Valves shall be as manufactured by Ford Meter Box Co. B-11 Series, A.Y. McDonald Mfg. Co. Pattern 3101, or equal.

3. Plug Valves: 3" and Larger Pipe Size

Plug valves shall be of the non-lubricated, eccentric plug type, as manufactured by Dezurik, or approved equal. Minimum full-open flow area through the cast iron (ASTM A-126, Grade 'B') body shall be one hundred percent (100%) of full pipe, and shall not drip when closed. Valve shall have nickel seat, neoprene plug facing, stainless steel bolts, and stainless-steel bearings. Packing shall be nitrile butadiene (buna vee).

Actuator type: lever, handwheel, chainwheel, square nut, cylinder, and electric motor.

All valves shall have 2 coats of Tnemec Series 141 Pota-Pox 80 applied to all surfaces by the factory prior to shipping.

4. Check Valves: 1-½" Through 3" Pipe Size

Horizontal swing check valves shall have a removable cap to allow for seat and disc renewal. Valve body, cap and disc material shall be ASTM B-62 (85-5-5-5) bronze. Hinge pin material shall be a 300 series stainless steel. End connections shall be female threaded NPT. Valves shall be as manufactured by Nibco Inc. Figure No. T-413-B, or equal.

5. Check Valve: 4" and Larger Pipe Size

Resilient seated check valves shall be manufactured from ductile iron meeting or exceeding ASTM A536 65-45-12. Valves shall be rated for 250 p.s.i.g. cold water working pressure.

Valves shall have a ductile iron disc fully encapsulated with rubber. Disc travel to closure shall not be more than 35 degrees and shall seal drop tight at pressures above 5 p.s.i.g.

Valves to be coated with fusion-bonded epoxy on all internal and external ferrous surfaces.

Bronze seat rings are not allowed. Disc shall be the only allowable moving part. No O-Rings, pivot pins or other bearings are allowed. Disc must be reversible such that either side will seal equally.

Valves shall be equal to American Flow Control's Series 2100 Ductile Iron Resilient Seated Check Valve.

All resilient seat check valves shall be placed inside a building or within a vault. Resilient seat check valves can not be direct buried.

6. Combination Air & Vacuum Pressure Release Valve

Combination air valves shall be heavy-duty "Universal" style single body units incorporating the functions of an air and vacuum valve with an air release valve in a single housing.

Combination air valves shall release accumulations of air at high points within a pipeline by exhausting large volumes of air as the pipeline is being filled, and then by releasing accumulated pockets of air while the pipeline is in operation and under pressure. Combination air valves shall also be designed to permit large volumes of air to enter the pipeline during pipeline drainage.

The valve body and cover flange shall be cast or fabricated 316 stainless steel and shall incorporate a "sanitary clamp" to attach the flange to the body at the outlet. Valves that use traditional bolting to attach the cover flange to the body are not acceptable. The flange clamp must be located at the outlet of the body for ease of cleaning and maintenance. Other clamping locations are not acceptable.

All non-sealing internal metal components shall be 316 stainless steel. No plastic, nylon, or fiberglass components will be acceptable.

The valve shall incorporate an Air Release orifice of 3/16" for use at 200 psig. No deviation from this orifice size will be allowed. This orifice will be located in the outlet of the valve and shall be drilled in a 316 stainless steel orifice plate that seals against a Buna-N rubber seat. Valves with seals that flex or "roll" will not be acceptable.

Unit may have a maximum height of 14 inches (14") and a maximum weight of twenty-eight pounds (28 lbs).

The valve shall be Crispin "X" Series, model # UX20 or approved equal.

All combination air valves shall be placed inside a building or within a vault. If the valve is placed within a building, it must be vented to the outside. Air valves can not be direct buried.

7. Sewage Surge Relief Valve

The sewage surge relief valve shall have standard one hundred, twenty-five pound (125 lb) flanged elbow type body. The valve shall open

immediately upon the inlet pressure exceeding the preset relief setting specified for the project.

The valve shall have a cast iron body and a stainless-steel ring to hold the resilient, replaceable seat in position. The valve shall have a normally closed drop tight position. The valve disc movement shall allow for full flow opening when required but the opening stroke shall be limited to that needed to provide surge protection set by the operator. The disc movement shall be guided throughout its stroke length. Valve closure shall be at a slow speed consistent with adjustment of a self-contained oil cushion chamber integral to the valve. The valve closure rate shall be adjustable over a range to prevent hammer.

External springs shall be enclosed in protective casings and in compression. The disc stem bushing shall be bronze capped with a lantern-type gland, which is vented to the atmosphere to reveal seal leakage.

The valve shall be Golden-Anderson Figure 625-D or equal and sized as shown on the drawings.

E. Pipeline Appurtenances

1. Valve Box and Lid

Valve boxes shall be two-piece screw-type adjustable, made of gray cast iron, and shall have a coal tar epoxy coating (or equal) inside and out. Boxes shall be three (3) to four (4) feet long with one adjustment. Mid box extensions may be required for greater depths. Compatible lid shall be cast iron drop lid type with coal tar epoxy coating and "sewer" identification cast in.

4-1/4" roadway valve box barrel shall have an arched bottom for 1-1/2" through 2-1/2" valves.

5-1/4" valve box barrel shall have a flat round bottom for 3" and larger valves.

2. Valve Extension Stem

All buried valves shall have extension stems that attach to the valve operator and extend inside of the valve box to within approximately one foot (1') of finished grade.

Stem materials shall be coal tar epoxy (bitumastic or equal) coated ASTM A-36 steel and/or ductile iron. Rod shall have a welded end piece to connect to the valve operator by means of a stainless steel or brass cotter pin or set screw, provided by the stem manufacturer. The top end of the

rod shall have a welded tee-head aligned with the valve operator or a two inch (2") square nut, each of which shall indicate open or closed valve position.

A 1/4" steel centering ring piece, 1/4" in diameter less than the inside diameter of the valve box, shall be welded to the rod within three to six inches of the top, for alignment.

3. Warning and Identification Tape

All piping including service connections shall have a 4-mil polyethylene tape; six inch (6") wide placed centered, continuous, two feet (2') above the crown of the sewer.

Color shall be bright green with black printed letters on one side spaced continuously stating:

CAUTION – SEWER LINE BURIED BELOW

Tape shall be Terra Tape Mark Line or Sentry Line as manufactured by Reef Industries, or equal.

4. Flushing Connection Vault

Heavy wall PVC bullet meter vaults shall be manufactured to meet the following requirements:

- a. Manufactured of a one (1) piece molded construction.
- b. Manufactured from a three (3) layered polyethylene.
- c. Dimensionally tapered at its top with an expanded body with the maximum inside dimension starting at approximately six inches (6") down from the top of the box.
- d. The nominal wall thickness shall be not less than 0.550 inches.
- e. Each box shall have molded in the wall an insulation layer having a minimum thermal transfer of 4.0 according to ASTM C171 to resist frost jump.
- f. The vertical free-standing load should be minimum of twenty-five thousand pounds (25,000 lbs).
- g. Each box shall have a top flange for frame & cover seating and bottom flange for anti-settling at its base.
- h. The box shall incorporate a top lip shelf to facilitate the use of an additional insulation disc as need may arise.
- i. The interior shall be bright white in color for light reflection to ease meter reading and provide light for maintenance work.
- j. The exterior shall be black in color to retard UV degradation.
- k. Material shall be modified polyethylene with low temperature brittleness exceeding seventy-six (76) degrees Fahrenheit.
- l. The manufacture shall be able to provide grade box adjustment in

heights of three inches (3”) to twelve inches (12”) with tapered risers to accommodate scoping installation.

- m. Meter vaults shall have the following dimensions: 20”(opening)X24”(inside diameter)X30”(depth).
- n. Meter vaults shall be manufactured by Carson Industries L.L.C. or approved equal.

5. **Flushing Connection Frame and Cover**

Frame and cover shall be cast iron, factory bituminous coated, double lid type, with eleven-inch (11”) – thirteen-inch (13”) diameter recessed cover, and an inner lip on the bearing flange equal in diameter to the vault I.D. An extension ring collar may be utilized to meet the vault I.D. and must have the same inner lip on the bearing flange.

The cover shall have a standard pentagon bolt / ‘lifter worm lock’ locking device, and shall have the word ‘SEWER’ cast in. The plastic inner lid shall provide sufficient dead air space for frost protection.

Frame and cover shall be as manufactured by Ford Meter Box Co., or equal, to the following Ford catalog numbers:

	<u>TRAFFIC AREA</u>	<u>NON-TRAFFIC AREA</u>
Frame Cat. No.	W32H	W32
Cover Cat. No.	WA32LH	WA3L
Inner Lid No.	W3BP	W3BP

6. **Cast Iron Clean-Out Adaptor and Brass Plug**

The cast iron clean-out adaptor shall have a heavy-duty designation, suitable for use in light traffic areas. All castings shall be tough and of even grain free of gas holes and flaws thoroughly coated at the factory with one coat of a bitumastic protective coating. The casting shall have a grooved retainer ring for installation of a single piece “O” ring gasket provided by the manufacturer, which joint when properly fitted to the riser pipe shall produce a flexible and watertight connection. The brass plug shall be threaded to fit the cast iron adaptor with a two inch (2”) square countersunk head, brass to cast iron threads shall be coated with anti-seize compound. The cast iron adaptor and plug shall be the Panella clean-out Order #PA_SVCSK as manufactured by the Jones Manufacturing Co., Inc., or equal.

7. **Tracer Wire and Testing Station**

Tracer wire shall be UL Listed, Type THHN, gasoline and oil resistant, and suitable for operations at six hundred (600) volts as specified in the National Electric Code. Conductor size shall be a twelve (12) AWG solid copper conductor (or “12 AWG 19-Strand copper conductor”). Conductor

shall be annealed copper, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or listed equivalent. Tracer wire shall be manufactured on 500' non-returnable plastic spools. Splicing of tracer wire shall not be permitted. Tracer wire shall be Pro-Line Safety Products Company or approved equal.

All tracer wires are to be connected to a combination cast iron & ABS tamper proof tracer wire access box. The cover is to be manufactured of cast iron and ABS components produced in the USA. Cast iron collar & cover is to be manufactured in accordance with ASTM A 48 Class 25. The ABS is to be manufactured in accordance with ASTM D 1788. The cover shall be lettered Electric and shall have a standard AWWA size cast-in pentagonal bolt. Testing station shall be manufactured by C.P. Test Services-Valvco, Inc. or approved equal. The maximum spacing for the test stations shall not exceed 500 feet.

F. Manholes

1. Precast Base, Section and Top

All manhole sections shall be constructed of precast reinforced concrete pipe having an inside diameter of forty-eight inches (48") unless otherwise shown on Drawings. The pipe shall conform to the requirements of ASTM designation C-478, and to the configuration shown in the Standard Details.

The pipe shall have tongue and groove joints, which utilize an extruded, butyl sealant (AASHTO M-198) in flexible rope form to achieve watertight joints.

The base section shall be cast integral (monolithic) with side wall to twelve inch (12") minimum height above the pipe crown.

Lifting holes shall be provided with inserts not longer than four inches (4"). The bottom riser section shall fit into the concrete base and the top section shall either be an eccentric tapered section, tapering from forty-eight inch (48") inside diameter to thirty inches (30") inside diameter respectively and thickened upper walls at frame and cover, or flat top section as shown on Standard Details.

All top sections shall have embedded inserts positioned ninety (90) degrees apart for anchoring bolts to hold the cast iron frame in place. Bolt inserts shall be designed to withstand a 400-pound pullout force and shall be threaded to receive 5/8 inch galvanized all thread rod. Length of bolt is determined by the height of grade rings to place the frame and cover at the proper finished grade.

The Department reserves the right to require HDPE lined manhole where high concentration of sewer gasses is expected.

2. Steps

Each step shall be manufactured using 0.5-inch (13 mm) diameter deformed reinforcing steel, grade sixty (60) standards, and conforms to ASTM A-615. The steel shall be covered with high impact copolymer polypropylene which has been proven non-corrosive in sewer environments and conforms to an ASTM D-4101 specific number.

The steps shall be contoured to fit the hand for comfort and a sure grip with sturdy tread design with side molded slip-resistant wings. Each step shall be stamped with manufacturing data.

Steps shall be installed by the manhole manufacturer as per the step manufacturer's requirements, to achieve minimum horizontal pullout strength of 400 pounds, and withstand a seventy-foot (70')-pound vertical impact at six (6) degrees F.

3. Pipe to Manhole Seal

All seals shall be resilient elastomeric material conforming to the physical requirements of ASTM C-923. Manufacturer shall certify that the seal is designed to accommodate the respective pipe outside diameter. Installation configurations shall comply with Standard Detail SW-2.10.

New precast manholes shall have flexible seals, through which the pipes are inserted, simultaneously cast with the manhole into the wall by the precast manufacturer.

Cast-in place seals shall have a water stop feature molded into the embedded surface and a retainer groove molded into the inside surface to hold the elastomeric seal.

Seals for core-drilled connections to existing manholes shall be the expansion ring & rubber boot type, with all stainless-steel hardware including "worm screw" tightening mechanism.

Seals shall follow the style of "Hail Mary Rubber Co., Inc., Star Seal", "Kor-N-Seal Wedge Korband", or equal.

4. Frame and Cover

Frame and cover manhole castings shall be of ASTM A-48 Class 30B gray iron or ASTM A-536 Grade 60-40-18 Ductile Iron, conforming to the configuration and dimensions shown on the Standard Details. Frame and

cover shall be certified to withstand H-20 traffic loading and have a minimum opening of thirty inches (30").

For manholes located in non-traffic areas and not within the one hundred (100) year floodplain, the frame and cover shall pivot away from the hole opening, eliminating the need for manually raising or lowering the cover. The cover rotates in either direction on a cast-in stainless steel rod that ensures it remains attached to the frame. No special tools are required to open or close the cover. The frame and cover shall be East Jordon Iron Works, Inc. Revolution Access Assembly of approved equal.

Castings shall be true to pattern in form and thickness, free from cracks, gas holes, flaws and excessive shrinkage, sound, cleaned by means of sand blast and neatly finished. Runners, fins, risers and other cast-on pieces shall be removed. All castings shall be tough and of even grain.

Makings shall be cast-in to the cover as shown on Standard Details SW-2.6, 2.7, and 2.9.

Watertight frame and cover shall meet the above requirements.

5. Grade / Leveling Rings

Grade rings shall be manufactured of the same class of concrete as manhole riser sections. Grade rings shall conform to and be compatible with dimensions shown on Standard Details, and shall be provided with openings to match the inserts installed in the conical or flat top section of manhole. Grade rings shall be set in full bed of mortar and two (2) rings of one-half inch (1") butyl sealant.

High Density Polyethylene (HDPE), ASTM D-1248, grade rings shall be one-piece injection molded, UV resistant, withstand HS-25 loadings without permanent deformation, and seal watertight utilizing butyl rope sealant. Two inch (2") maximum riser rings shall be capable of adjustment to conform to grade slopes, such as manufactured by Ladtech, Inc. or equal. Prior to installation of grade rings, the Contractor shall demonstrate their ability to install grade rings per manufactures requirements. All grade ring installations shall be inspected by a Department's representative.

6. Access Hatch

Access hatches shall be aluminum checkerplate cast into the precast concrete slab flush, designed for H-20 traffic loading. Access hatches shall be watertight utilizing gaskets with a drip channel to collect water and direct it to a 1" NPT discharge pipe connection. All hardware shall be 300 series stainless steel including hinges, hold-open latch with release handle, spring loaded cylinder lifting assist, latch and latch handle,

recessed lifting handles, and recessed hasp. Portions of frame embedded in concrete shall be bituminous coated. Doors shall be Bilco Type 'J', size as indicated on drawings. Provide master padlocks keyed to Department of Water Quality's standard.

G. Concrete

All classes of concrete utilized in the work shall conform to the Maryland State Highway Specifications and ASTM C-150 for Portland Cement, ASTM C-33 for aggregates, and shall be acceptable to the Department.

The Contractor shall submit a certified mix design and test results for each class of concrete to be used in the work. Mix designs shall be proportioned in accordance with Section 4.4 of ACI 318. Design shall achieve the minimum 28-day compressive strength specified in pounds per square inch (psi).

Type I Portland Cement may be used in general concrete construction when the special properties specified for Type II are not required, where detailed, or as directed by the Department. Type II Portland Cement shall be used in general concrete construction exposed to moderate sulfate action or where moderate heat of hydration is required, where detailed, or as directed by the Department.

All concrete shall have a maximum water-cement ratio of 0.45, a minimum cement content of five hundred, sixty-four (564) pounds per cubic yard, a maximum slump of three inches (3"), and a total air content of six percent (6%) +/- one percent (+/- 1%).

Fine aggregate shall consist of natural sand, manufactured sand or a combination thereof, with maximum particle size of 3/8 inch. Coarse aggregate shall consist of graded crushed limestone material of sizes within the range 3/8 inch to 1 inch.

Water used in concrete shall be free from objectionable quantities of impurities, as determined by the inspector.

H. Concrete Bonding Agent

A bonding agent shall be applied to bond new concrete to existing concrete and shall be Weldcrete as manufactured by Larsen Products Company, Perma-Lok as manufactured by Sinclair Paint Company or other approved equal.

Surface preparation, application and curing shall be in strict accordance with the manufacturer's recommendations.

I. Non-Shrink Grout

Non-shrink grout shall be used for patching concrete, sealing joints, or setting anchorages, where specified; shall be non-metallic and meet the requirements of

ASTM C-827, no shrinkage or expansion. Minimum 28-day compressive strength shall be 6000 psi (ASTM C-39).

Surface preparation, application and curing shall be in strict accordance with the manufacturer's recommendations, and shall be PenngROUT as manufactured by IPA Systems, Waterplug as manufactured by Thoro System, or equal.

J. Mortar

Mortar shall conform to the requirements of ASTM C-270 proportion specifications and shall be composed of Type II cement (ASTM C-175), or Type II masonry cement (ASTM C-91), if specified, ASTM C-144 fine aggregate, and water. Proportioning shall be one-part cement; two-parts fine aggregate and water, by volume.

Water used in mixing mortar shall be free from objectionable quantities of impurities, as determined by the inspector.

The ingredients must be in proportions that can be controlled and accurately maintained by measurement and not by estimation. All cementitious materials and aggregates shall be mixed for a minimum period of three (3) minutes, with the amount of water required to product the desired workability, in a drum type batch mixer. Hand mixing of mortar will be permitted on small jobs with approval from the inspector. No greater quantity of mortar shall be prepared than is required for immediate use, and any mortar that has begun to set shall not be re-tempered or used in any way. Mortar, which has been mixed more than one (1) hour, shall not be used.

The Department shall approve precautions that shall be taken in the mixing and use of mortar during freezing weather.

K. Pipe Bedding Aggregate

1. Pipes Four Inches (4") Diameter and Larger

Maryland State Highway Administration designation "Crusher Run Aggregate CR-6", meeting the requirements of ASTM D-2940.

2. Pipes One- and One-Half Inches (1-1/2") to Three Inches (3")

Diameter

Stone aggregate shall have the designation of B-10. B-10 aggregate is rounded stone without sharp edges and having a maximum size of one-half inch (1/2").

L. Trench Backfill Material

1. Clean Earth

Clean earth shall be those materials complying with ASTM D-2487 Soil Classification Groups GM, GC, SE, SP, SM, SC, CL, and ML, or combinations thereof. The minimum AASHTO T-180 Method C density for clean earth shall be not less than one hundred (100) pounds per cubic foot at Optimum Moisture Content. Clean earth shall not contain rocks over six (6") inches in any dimension, nor shall it contain any noticeable amounts of loam, topsoil, or organic matter.

2. Dirty Crusher Run (CR-D)

Granular limestone material with 100 U.S. standard sieve and gradation similar to Maryland State Highway Administration Graded Aggregate for Sub base (GA S/B). The aggregate shall be thoroughly blended with twenty-five (25) to forty (40) percent by volume or nineteen (19) to thirty-two (32) percent by weight of clean earth material as defined above, except that all constituents must pass the 1-½ inch sieve.

Submit moisture/density curve and gradation analysis, with percent of organic material found.

M. Stone Aggregate Below Subgrade

The aggregate to be utilized below subgrade is dependent upon the site conditions. The inspector will provide the direction as to which aggregate is to be utilized below subgrade. The Contractor shall perform the corrective measures as directed by the Department, as a change in the scope of work.

N. Bituminous Concrete (Asphalt Pavement)

All asphalt paving materials and placement shall be in accordance with Sections 504, 505, and 904 and all Sections referenced, of the "*Standard Specifications for Construction and Materials*" Maryland Department of Transportation – State Highway Administration – October 2008 or latest edition.

O. Bituminous Protective Coating

When indicated in the Plans and Specifications or directed by the Department, some materials shall be given a bitumastic protective coating. This coating shall consist of one (1) or more coats of bitumastic Super Service Black, as manufactured by Koppers Company, Inc., or Marine Foundation as manufactured by Carbolite Company or equal.

The bitumastic material may be applied by brush or spraying. If sprayed, it must be applied at 70 square feet per gallon per coat. Each coat shall have a dry film thickness of 0.016 inches (16 mils).

P. Material Safety Data Sheets

Material Safety Data Sheets (M.S.D.S.) shall be provided for all applicable materials used in performance of the work by the Contractor or his employees, as part of the Shop Drawing Submittal for the sanitary sewer materials used.

M.S.D.S. shall be properly displayed at the site of the work, accessible and visible to all persons within the area of the work.

The inspector may require the Contractor to stop work without compensation or recourse for delay, if the M.S.D.S. for applicable materials being used, are not available at the site.

Q. Steel Pipe Encasement

Where indicated on the Contract Drawings the sanitary sewer pipe shall be installed as a carrier pipe inside of a steel casing pipe within an open trench or by jacking and boring. The carrier shall be adequately secured in place with casing insulators and the ends of the casing shall be sealed, watertight, as indicated on the Standard Detail. Piping joints within the casing pipe shall be restrained with mechanical restraints.

1. Steel Casing Pipe

Casing pipe shall conform to AWWA C200, A-139 Grade 36 steel minimum. Diameter and wall thickness shall be as shown on the Standard Detail for the respective carrier pipe diameter.

All joints shall be welded the full circumference, watertight. Field welding shall comply with AWWA C206, single-welded butt joints. Joints shall be tested for water tightness by means of a vacuum-type look box (AWWA C200), or equal, prior to jacking or setting into place. Casting shall be coated inside and outside with coal tar epoxy in accordance with AWWA C210, to obtain a minimum dry film thickness of 15 mils (0.015 inch).

The contractor shall install #4 anode bags to each end of the casing pipe.

2. Pipe Insulators

Carrier pipe insulators (casing spacers) shall be manufactured to tightly fit the specific class and outside diameter of the carrier pipe so as not to allow slippage along the carrier. The twelve inch (12") wide two-piece solid sleeve band and runner studs shall be either stainless steel lined with PVC or an insulating coating, or steel with a complete coating of fusion bonded PVC. Connecting hardware shall be stainless steel. The runners shall be glass reinforced plastic, HDPE, or UHMW polymer, two inches (2") wide,

of adjusted size to provide the designated pipe gradient, or be centered within the casing. The outside diameter of the runners shall be within one half inch of the inside diameter of the casing.

Insulators shall be Model AL2G-2 as manufactured by Pipeline Seal and Insulator, Inc., or Model CCS as manufactured by Cascade Waterworks Mfg. Co., or equal.

3. Casing End Seals

Casing end seals shall conform in design to Pipeline Seal and Insulator, Inc., Model 'S', or equal. All banding and tightening device materials shall be 300 Series stainless steel. Size shall be suitable to make a non-crimped, watertight fit between casing and carrier pipes.

R. Sewer Line Markers

Markers shall be Carsonite Utility Markers, Model No. SNFB-072 with 1854-SL decal marked "Sewer Line". Markers shall be installed as per manufacturer's recommendations adjacent to valve boxes or directly over the pipeline where indicated on the Contract Drawings.

S. Wet Well

The wet well shall be constructed of precast reinforced concrete pipe manufactured with Type II Portland Cement and with strength of 4000 psi per ASTM C-478 and shall be fully lined with H.D.P.E. liner. All dimensions and the configuration shall be as shown on the drawings. The wet well foundation shall be cast-in-place, reinforced concrete.

Materials shall conform to ASTM C-76, except as otherwise specified. Fine aggregate shall be natural sand conforming to the requirements for concrete subject to surface abrasion. Manufacture shall be by the wet cast method. Include steam curing, water curing or combination thereof as included in applicable standard.

Rubber gaskets for joints in circular pipe shall be o-ring type, circular cross section conforming to ASTM C-361.

Basis of acceptance per physical test requirements of applicable manufacturing standard and ASTM C-497, primarily performed by manufacturer's testing lab and quality control personnel. Provide mill tests on steel, cement and gasket materials throughout the manufacturing and delivery period. Perform concrete compression tests on molded cylinders on days of production during which pipe cores not required.

T. Wet Well Coating

1. Interior

Concrete wetwell shall be fully coated on the interior and across the full width of all joints, by the wetwell manufacturer with a High-Density Polyethylene (H.D.P.E.) liner, as manufactured by AGRU, GSE Studliner, or an approved equal. The H.D.P.E. liner is not required to be installed on the floor of the wet well.

2. Exterior

The exterior of the wet well shall have a protective coating of bitumastic applied to all exterior surfaces. This coating shall consist of one (1) or more coats of bitumastic super service black, as manufactured by Koppers Company, Inc., or marine foundation as manufactured by Carboline Company or approved equal. The bitumastic material may be applied by brush or sprayed; it must be applied at seventy (70) square feet per gallon per coat. Each coat shall have a dry film thickness of 0.016 inches (16 mils).

Once the bitumastic coating has been applied, a protective board will need to be applied to the exterior surfaces. The protective boarding shall be Warm-N-Dri as manufactured by Owens Corning or approved equal. Board thickness is determined based upon manufacture's information and depth. Varying board thickness, on the exterior of the wet well, will not be permitted. The thickness recommended protective board shall be utilized on the entire exterior of the wet well.

U. Mechanical Restraints

When piping is required to be restrained against movement, this shall be achieved through the use of mechanical restraints. The use of concrete thrust blocks is prohibited.

All mechanical restraints shall be manufactures by Ford Meter Box Company, Inc and shall be the Uni-Flange series or approved equal. The Contractor shall determine which Uni-Flange series is applicable for the intended use and shall submit appropriate shop drawing to the Department of Water Quality for approval.

Chapter 2, Section 204

Sanitary Sewer Installation

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IV. Sanitary Sewer Installation

A. Scope

The Contractor shall furnish all plant, labor and materials and perform all operations required for the construction of sewers and appurtenances including all pipe, jointing materials and joints, laying pipe, fittings, tracer wire, manholes, concrete, granular bedding, backfill, testing, and all incidental work necessary to complete the work as shown on the drawings and/or as specified.

B. General

Included in this section are specifications for the installation of all sanitary sewers of whatever size, material or type required. Gravity sanitary sewer shall consist of straight sections of poly vinyl chloride pipe connected by precast concrete manholes of the size and with jointing materials, as shown on the drawing or specified in Chapter 2, Section III, "Sanitary Sewer Materials". Other sewers shall be as specified.

C. Laying Pipe and Fittings

1. Gravity Sewers

Following the trench excavation and preparation of the aggregate bedding material, as specified in Section III, "Excavation and Backfill", pipe laying shall proceed upgrade with pipe laid carefully, bells upgrade, spigot ends entered into adjacent bells to the insertion mark, and true to lines and grades shown on the drawings. Each length or section of pipe or fitting shall be carefully inspected before installation and those containing cracks or other defects shall be removed from the site.

Extreme care must be exercised to prevent breakage when pipe is handled especially during cold weather. Bells and spigots shall be carefully cleaned before pipes are lowered into trenches. The pipes shall be lowered so as to avoid unnecessary handling in the trench.

In laying pipe, special care shall be taken to ensure that each length shall abut against the next in such a manner that there shall be no shoulder or unevenness of any kind along the inside of the pipe. Before joints are made, each section of pipe shall rest upon the pipe bed for the full length of its barrel, with recesses prepared where required to accommodate bells and joints. After jointing, the recess shall be fully backfilled to provide adequate support throughout the entire length. Pipe joints shall be made in strict accordance with the pipe manufacturer's specifications.

No pipe shall be brought into position until the preceding length has been adequately braced and backfilled such that it is secure against movement or misalignment.

Field cutting of pipe shall be kept to the minimum required for fitting placement and manhole connection.

The interior of all pipes shall be thoroughly cleaned before they are laid and shall be kept clean until the acceptance of the completed work. The open ends of all pipe and fittings shall be provided with a stopper carefully fitted so as to prohibit dirt and other substances from entering into the pipe. The stoppers shall be kept in the end of pipe at all times when laying is not in actual progress.

Under no circumstance shall pipe be laid in water or on subgrade into which frost has penetrated, nor at any time when the inspector shall deem that there is danger of the formation of ice or the penetration of frost at the bottom of the excavation, unless all required precautions as to minimum length of open trench and promptness of refilling are observed. In all cases water shall be kept out of the trench.

Walking or working on the completed pipeline except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a height of at least two (2) feet over the top of the pipe.

Any pipe that has its grade or joint disturbed after laying shall be taken up and re-laid. Any section of pipe already laid and found to be defective shall be taken up and replaced with new pipe, without expense to the Department.

No pipe shall be laid within ten (10) feet of the machine excavating the trench, including in rock excavation, nor within twenty-five (25) feet of any place where blasting is being performed. The mouth and exposed portions of the pipe shall be carefully protected from all blasts.

2. Pressure Sewer

Pressure sewer shall be installed in accordance with and as specified herein before under paragraph "1" "Gravity Sewers". Location and grade or depth shall be as shown on the drawings, holding four (4) feet minimum cover unless otherwise indicated to avoid unnecessary high points (air pocket). *Maximum joint deflection shall be limited to one half (1/2) of the maximum joint deflection specified by the pipe manufacturer.*

Tracer Wire Installation

- a. All buried pressure sewer shall be accompanied by a #12AWG standard copper tracer wire and shall terminate in an approved test station located at valves, flushing connections or Air Release and or as directed by the Engineer.
- b. The tracer wire shall form a mechanically and electrically continuous line throughout the pipeline.
- c. Tracer wire shall be tested for continuity in the presence of the inspector, prior to acceptance of the infrastructure.

D. Joints

Before joints are made, the Contractor shall thoroughly clean and inspect all bell and spigot ends to insure there are no defects.

Factory cut or field cut D.I.P. shall have the edge ground smooth to a minimum level width of 1/8", cleaned of extraneous materials and double coated with coal tar epoxy inside and out within three inches (3") of the cut edge and to a dry film thickness of six (6) mils each coating. The coating system shall meet the requirements of AWWA C205 and or C210.

1. Elastomeric Gasket Joints

The gasket shall be removed, if possible, from the retainer, thoroughly cleaned and checked for defects, and then reassembled. Gasket shall be fully seated in retainer and facing in the correct direction. Lubricant shall be used and as specified by the manufacturer.

Field cut pipe shall be beveled to the angle specified by the manufacturer. Prior to insertion, a full insertion mark shall be drawn around the visible top half of the cut end of pipe.

2. Mechanical Joint

The last eight inches (8") outside of the spigot and inside of the bell of mechanical joint pipe shall be thoroughly cleaned of foreign matter. The cast iron gland shall then be slipped on the spigot end of the pipe. The rubber gasket shall be placed on the spigot end with the thick edge toward the gland. The spigot end is inserted into the bell. The gasket is then slid toward the bell and presses into the v-notch of the bell. The gland is placed against the gasket and all of the bolts shall be inserted in the joint and the nuts screwed up tightly with the fingers. All nuts shall be

tightened with an automatic cut off torque wrench. The torque for various sizes of bolts shall be as follows:

Size of Bolt (inches)	Torque Setting (FT-LB)
5/8	50
3/4	75
1	85

Nuts spaced one hundred, eighty (180) degrees apart shall be tightened alternately to produce equal pressure on all parts of the gland.

3. Flanged Joint

Flanged pipe shall be installed in strict conformance with the NSI/AWWA C110/A21.10 standards. Flanged fittings must be installed with the centerline of the bolts holes properly oriented to ensure correct alignment of the piping system. The responsibility for proper alignment and tightening of the flanges in the field rest solely with the Contractor.

4. Branches

Branches shall be installed at the locations indicated on the drawings, or as directed by the Department, and shall conform with the materials and arrangement as shown in "Standard Detail Drawing S-3.1". Branches for the various types of sewer lines shall be:

- a. Branches for connecting a gravity lateral to a gravity main, shall consist of a commercially manufactured sanitary tee with a one eighth (1/8) bend.
- b. Branches for connecting a pressure lateral to a gravity main, shall consist of a commercially manufactured sanitary tee with a one eighth (1/8) bend. Reducer bushings shall be utilized as required for small diameter low pressure sewer.
- c. Branches for connecting a pressure lateral to a pressure mains, shall consist of a commercially manufactured standard tee.

E. Concrete Cradles and Encasements

Concrete cradles or encasements may be required, as directed by the Department, due to conditions encountered, if not specified or shown in the Contract Documents.

Concrete shall have a twenty-eight (28) day compressive strength of 2500 P.S.I. "Dry-Mix" concrete shall not be used without prior approval by the Department.

Method of placement shall be so as to prevent water, earth, or foreign materials from becoming mixed with the concrete.

Formed or unformed concrete shall be placed under or around the pipe for cradle or encasement conforming to the dimensions shown on the standard details or as indicated on the drawings. The final limits of the beginning and ending of cradles and encasements shall be as approved by the inspector.

F. Potable Water Clearance

Sanitary sewer crossing any potable water pipe shall be one foot (1') minimum clear below the water pipe, measured from the outside of pipes. Sewer parallel to water shall maintain a horizontal clearance of ten feet (10') minimum and the sewer crown shall be below the invert of the water pipe.

In cases where the above clearance cannot be achieved, as determined by the Department (if not shown or specified), the sewers shall be encased in 2500 P.S.I. concrete to ten feet (10') each side of the water crossing or for the entire length of the parallel encroachment. The final limits shall be as directed by the Department; or the sewer shall be installed inside a casing pipe or if approved by the inspector, shall be laid if applicable so that no joint be within ten feet (10') either side of the water crossing.

G. Manhole Construction

1. General

The Contractor shall furnish all material for and labor necessary to construct all manholes and appurtenances, as shown, detailed and specified, at such point on the lines of the sewers as are shown on the drawings or as directed by the Department. *Dry cast manholes, risers or tops are not acceptable.*

Drop manholes will be located on sewers only at such points and with such drops as are shown on the drawings or as directed by the Department.

Manholes shall be built as pipe laying progresses. The Department may stop work entirely on laying pipe, until the manhole just passed has been completed and passed vacuum test.

The masonry shall be carried up to such point above or below the ground surface, as the Department shall in each case require. Flow channels for receiving and passing sewage shall be formed in the bottom of manholes.

Manholes shall be built in accordance with the design shown on drawings and conforming to the requirements of the Standard Details and ASTM C-478.

2. Excavation For Manholes:

Excavate as near a vertical plane one (1) foot outside of the manhole base, with the exception that existing pavement shall be cut to a square shape with dimensions two (2) feet greater than the diameter of the manhole base.

Subgrade shall be not less than eight inches (8") below the downstream invert of the sewer except as otherwise shown on the drawings. When it is necessary to excavate wider or deeper foundations than specified or shown, such foundations shall be built of compacted granular material or 500 P.S.I. type II portland cement concrete as directed by the Department, to the specified lines and grades.

3. Precast Concrete Bases:

Shall conform to applicable sections of ASTM standard specification C 478. The base shall be monolithically cast and shall consist of a manhole bottom and a wall which shall extend a minimum of twelve inches (12") above the top of the highest inflowing sewer. The top of the base shall be formed to receive tongue of barrel section. There shall be a minimum distance of four (4) inches between the invert of the lowest out flowing sewer and floor of the precast base to provide for the construction of a formed flow channel and bench within the manhole. No more than two (2) lift inserts shall be cast in the base. Lift inserts shall not extend into the wall more than four (4) inches.

Precast manhole bases shall be installed on top of a layer of Maryland State Highway Administration G.A.S.B. (CR6) crushed stone coarse aggregate which shall be well compacted, screeded to level and uniform bed, have a minimum depth of six (6) inches and be installed on undisturbed earth approved by the inspector.

The pipe-to-manhole seals shall be a compression type rubber joint cast integrally into the manhole base at the time of casting. The minimum pipe to manhole seal/adaptor shall be four inches (4"). It shall form a flexible watertight joint, as manufactured by A-Loc or Star Seal.

4. Precast Concrete Sections:

The base shall be monolithically cast consisting of a bottom and a wall which shall extend a minimum of twelve inches (12") above the top of the

highest inflowing sewer crown. No more than two (2) lift inserts shall be cast in the base. Lift inserts shall not extend into the wall more than four inches (4").

Precast manhole bases shall be installed on top of a layer of aggregate bedding material, placed on disturbed earth subgrade approved by the inspector to a minimum compacted depth of six inches (6").

The pipe-to-manhole seals shall be a compression type rubber joint cast integrally into the manhole section(s) at time of casting. The minimum pipe to manhole seal/adaptor shall be four inches (4"). It shall form a flexible watertight joint.

All joints between sections shall be of the tongue and groove configuration utilizing butyl rubber gasket material to provide a watertight seal.

The base, rise (barrel), conical section, and top, shall be the production of one recognized manufacturer of precast manholes manufactured by wet casting.

5. The Top of All Precast Manholes

Tops of all precast manholes may be brought to proper grade for receiving manhole frames by using not more than twelve (12) inches of concrete grade rings. Masonry construction shall be performed by experienced and qualified workmen only. All work shall be laid plumb, straight, level, square and true. All joints shall be full and not more than one-half (1/2) inch in thickness. All steps and miscellaneous items specified elsewhere shall be bonded in the masonry. The masonry walls shall be parged on the outside with a one-half (1/2) inch coat of Portland Cement mortar.

Mortar to be used in laying the concrete grade rings or laying and parging the leveling courses of brick and for setting manhole frames shall be prepared by thoroughly mixing; one (1) volume of Type II Portland Cement with two (2) volumes of sand and sufficient clean water to produce a rich mass of approved consistency. Mixing mortar on the ground or any paved surface shall not be permitted. Sand to be used in making mortar shall be clean, well-graded and shall pass a standard no. 4 sieve.

6. Frame and Cover Installation

Precast concrete grade rings shall be used to bring the top of the frame and cover to final grade. No more than twelve inches (12") of concrete grade rings may be used. Rings shall be set in mortar by experienced and

qualified workmen. All steps and miscellaneous items specified elsewhere shall be bonded in as the masonry proceeds.

In non-paved areas, rings shall be laid plumb, straight, level, square and true. All joints shall be full and between three eighths inched ($3/8''$) and one-half inch ($1/2''$) in thickness.

In paved roadways only, to match final road grade or pitch, frame and cover shall have beveled grade rings installed to match the roadway cross slope.

Five-eighths inch ($5/8''$) hot-dipped galvanized or stainless steel all thread rod and nuts & washers shall secure the frame to the top manhole section with holes through the leveling courses.

7. Flow channels

Type II Portland cement concrete with twenty-eight (28) day compression strength of 1500 P.S.I. shall be used. Flow channels shall have a smooth trowel finish free of defects and accurately shaped to a semi-circular bottom conforming to the inside of the adjacent sewer sections.

Changes in size and grade shall be made gradually and evenly, and have not less than one-tenth foot ($0.10'$) slope from invert in to invert out. Pipes of differing diameter shall have inverts set such that crowns are level (matching crowns). Changes in direction of the sewer and entering branches shall have a true curve of as large a radius as the size of the manhole will permit.

Benches shall be installed having a one quarter ($1/4$) inch per foot slope toward the flow channel and have a brushed concrete finish. *Steep slopes outside the flow channel will not be permitted.*

Flow channels may be cast by the manhole manufacturer upon prior approval by the Department.

Flow channels shall be formed in conjunction with forming and pouring of cast-in-place concrete bases, and shall be the same 3500 P.S.I. type II portland cement concrete as the base.

Prior to placement of concrete in manhole bases to form channels, the Contractor shall completely wrap "Styrofoam rope" around the pipe ends at the inside face of the manhole wall to provide a void between the concrete and pipes to insure a flexible pipe to manhole joint.

8. Bedding and Backfilling

Manholes shall be bedded and backfilled the same as pipe with material suitable to the location (i.e. stabilized or non-stabilized), compacted in layers and to the density specified in Chapter 2, Section III, "Excavation and Backfilling".

9. Internal Drop Connection

All internal drops must be installed in a minimum sixty-inch (60") diameter manhole. The inside drop bowl, stainless pipe brackets, and manhole channel system, shall be the RELINER® Inside Drop System. The RELINER® Inside Drop System shall be installed according to the manufacture's requirements.

If more than two (2) internal drops are proposed for a manhole, the manhole shall have a minimum diameter of seventy-two inches (72").

H. Connection to Existing Manhole

The Contractor shall neatly core an opening into the existing manhole by methods approved by the Department, and shall fix into place an approved watertight adapter to accept new sewer pipe. (See Standard Detail SW-2.10) For connections of sewer mains and/or services smaller than four inches (4") in diameter, the minimum allowable pipe to manhole adapter shall remain at four inches (4") and a reducer shall be used to adjust the pipe size accordingly outside of the manhole as approved by the Department.

The existing bench shall be saw cut and removed to receive the new pipe invert. The elevation shall be such that all pipes match crowns unless otherwise specified. A new bench and flow channel shall be shaped of brick or concrete to the top of the new pipe. The manhole shall be repaired and made watertight to the satisfaction of the inspector. Vacuum testing may be required.

I. Future Extension

Where directed by the Department, or when indicated on the drawings, provisions shall be constructed for future extension of sewer, as follows.

The flexible manhole seal shall be cast into the manhole base at the time of manufacture, to receive a stub of capped pipe for future extension.

Manhole sections shall be constructed in their entirety for future extensions when any section of a temporary termination falls in or within seven inches (7') of a paved area. The full section of sewer to be a future manhole location in a temporary or permanent non-stabilized area shall be built. All backfill

requirements as specified in Chapter 2, Section III, “Excavation and Backfilling” shall pertain.

J. Sewer in Casing Pipe

All sewer shall be fitted with pipe insulators and casing end seals as specified and shown in the Standard Details.

All casing pipe shall be true and straight in alignment and grade with no deviation from that as indicated on the drawings.

The carrier pipe shall be centered within the casing. Pipe insulators shall be sized so the skids are snug against the casing pipe in all directions of the circumference in order to prevent movement or change in the grade or alignment of the carrier pipe.

The sewer pipe installed within the casing pipe shall be mechanically restrained by mechanical restraints. The mechanical restraints shall also be installed a minimum of twenty feet (20') from each end of the casing.

K. Service Piping and Appurtenances

Service piping shall be installed in accordance with and as specified in paragraph 204 - C, “Laying Pipe and Fittings” and Standard Detail Drawings S-3.1 and S-4.1.

1. Gravity

All piping and fittings shall be gasketed PVC SDR26 Heavy Wall. The contractor shall install a gasketed long sweep TEE WYE for the cleanout connection. The cleanout shall be located on the right-of-way or property line but in no case shall it be installed in a swale or another type depression. Provide easements if so required due to such drainage conflicts.

2. Low Pressure

All piping and fittings shall be gasketed PVC SDR21. The brass ball valve with cast iron roadway valve box shall be located on the right-of-way or property line with a brass swing check valve eighteen inches (18”) behind it with a five-foot (5') stub of pipe and cap. But in no case shall it be installed in a swale or any other type depression. Provide Easements if so required due to such drainage conflicts.

L. Abandoning of Existing Sewer

The Contractor shall furnish all materials for and labor necessary for the construction of the re-routed sewer main and appurtenances and the abandonment of the existing sewer, as shown on the contract drawings, as specified herein, or as directed by the Department. All abandoned sewer lines shall be removed in the entirety.

Whenever the construction of a new utility or structure over an existing sewer in-place requires the abandoning of the existing sewer the following procedures shall be adhered to.

1. Abandoning Gravity Sewer Mains

Flow shall be maintained in the existing sewer main(s) and/or manhole(s) until such time as the relocated sewer(s) and manhole(s) are constructed and ready for use; this shall include excavation and backfill, testing, flow channel(s), frame(s) and cover(s), service laterals, if applicable; final inspection and acceptance of the newly constructed sewer and appurtenances. Upon acceptance, the flow channel shall be constructed in the existing manhole(s) in which the relocated sewer main has been installed. The sewage is then routed through the new sewer main(s). The Contractor shall then excavate the abandoned sewer main(s) at the face of the existing manhole(s) and remove all portion of the abandoned line.

2. Abandoning Manholes

When existing manhole(s) are to be abandoned, said manhole(s) shall be removed and disposed of by the Contractor. Excavations made for the removal of existing manholes shall be refilled with suitable material as may be required in a stabilized or non-stabilized area, and shall be well compacted to the satisfaction of the inspector.

3. Abandoning Pressure Mains

Flow shall be maintained in the existing pressure main(s) until such time as the relocated pressure main construction is completed; including bends, fittings, thrust blocking, buttresses, testing, final inspection and acceptance of the newly constructed pressure main. Upon acceptance, connection to the existing pressure main shall be performed at a time as specified and as co-coordinated by the Department by cutting out a section of existing pressure main and by utilizing mechanical joint repair sleeves and nipples, mechanical restraints, etc. Upon placing the new pressure main into service, the Contractor shall excavate, remove, and dispose of the abandoned pressure main.

M. Testing

All installed sewers shall be tested in the presence of the inspector together with a representative of the Contractor in the manner prescribed in the "testing" section of these standard specifications. It is the intent that the described testing procedures are to be systematically carried out as an integral part of the pipe-laying procedures. Failure to accomplish the testing will be considered as non-completion of construction.

If, at any time before the completion of the contract or warranty period any broken pipes or any defects are found in the sewers or in any of their appurtenances; the Contractor shall cause the same to be removed and replaced by proper material and workmanship, without compensation.

Chapter 2, Section 205

Sanitary Sewer Testing

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
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E.	Hydrostatic Leakage Test	205-4/205-5
F.	Testing Equipment	205-5/205-6
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V. Sewer Testing

A. Laboratory Testing

All materials require written certification of compliance from the manufacturer stating that representative samples have undergone laboratory tests by the methods and procedures of the ASTM, ANSI, AWWA, or other standards agency and do comply as specified.

Reports of the results of such tests may be requested to be submitted to the Department as sufficient evidence of the acceptance or rejection of the quality of the materials tested.

Representative samples of materials may be requested to be submitted to the Department, properly packaged and identified indicating manufacturer, material name and specification, and the intended use of the material in the project. The Department will determine, based on the materials submitted, whether additional laboratory testing by an independent laboratory will be required, prior to approval for the use of material in the work.

B. Field Testing

All sewers and appurtenances shall be tested in the field in the presence of an inspector together with a representative of the Contractor in the manner prescribed herein.

It is intended that the herein described testing procedures be systematically carried out as an integral part of the pipe-laying procedures. Failure to accomplish the testing may be considered as non-completion of construction.

The Contractor shall furnish without charge, all labor and equipment necessary to complete specified testing.

Any section of sewer showing leakage in excess of the amounts specified herein shall be repaired or replaced by the Contractor at no cost to the Department.

C. Low Pressure Air Test

Gravity sewers shall be tested by Low Pressure Air Testing. The test is conducted between two (2) consecutive manholes, as directed by the Department. The length of test section for small diameter gravity sewers shall be as directed by the Department. The test procedure is as follows:

1. The test section of the sewer line is plugged at each end. One of the plugs used must be tapped and equipped for the air inlet connection for filling the line from the air compressor. All service laterals, stubs and fittings

into the sewer test section shall be complete and properly capped or plugged, and carefully braced against the internal pressure to prevent air leakage by slippage and blowouts.

2. Connect air hose to tapped plug selected for the air inlet then connect the other end of the air hose to the portable air control equipment which consists of valves and pressure gauge used to control the air entry rate to the sewer test section, and to monitor the air pressure in the pipeline.

More specifically, the air control equipment includes a shut-off valve, pressure regulation valve, pressure reduction valve and a monitoring pressure gauge having a pressure range from 0 to 5 psi. The gauge should have minimum divisions of 0.10 psi and an accuracy of ± 0.04 psi.

3. Supply air to the test section slowly, filling the pipeline until a constant pressure of 4.0 psi is maintained. The air pressure must be regulated to prevent the pressure inside the pipe from exceeding 5.0 psi.

When constant pressure of 4.0 psi is reached, throttle the air supply to maintain the internal pressure above 3.5 psi for at least five (5) minutes. This time permits the temperature of the entering air to equalize with the temperature of the pipe wall. During this stabilization period it is advisable to check all capped and plugged fittings with a soap solution to detect any leakage at these connections.

If leakage is detected at any cap or plug, release the pressure in the line and tighten all leaky caps and plugs. Then start the test operation again by supplying air. When it is necessary to bleed off the air to tighten or repair a faulty plug, the five (5) minute equalization period must be restarted after the pipe has been refilled.

4. After the stabilization period, adjust the air pressure to 4.0 psi and shut off or disconnect the air supply, observe the gauge until the air pressure reaches 3.5 psi, at 3.5 psig commence timing with a stopwatch which is allowed to run until the line pressure drops to 2.5 psi at which time the watch is stopped, for a pressure loss of 1.0 psi is used to compute the air loss.

The section of the pipe undergoing the test shall be considered acceptable if the time for the 1.0 psi drops in air pressure from 3.5 to 2.5 psi is greater than given by:

$$T \text{ (MINUTES)} = \frac{0.0119}{60} \times D^2 \times L, \text{ where:}$$

D = pipe diameter in inches,

L = length of pipe tested in feet

An air pressure correction is required when the prevailing ground water is above the sewer line being tested. Under this condition, the air test pressure must be increased 0.433 psi for each foot the ground water level is above the invert of the pipe.

The air test form, Standard Detail S-12.6, shall be completed for each air test by an inspector.

D. Vacuum Test

1. Manholes

Each manhole shall be tested immediately after installation and prior to backfilling. All pipes entering the manhole shall be plugged, taking care to securely brace the plug from being drawn inward. The test head shall be placed at the inside or the top of the cone section, or manhole frame and the seal inflated in accordance with the Manufacturer's recommendations.

A vacuum of ten (10) inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine (9) inches. The manhole shall pass if the time is greater than sixty (60) seconds for forty-eight-inch (48") diameter, seventy-five (75) seconds for sixty-inch (60"), and ninety (90) seconds for seventy-two-inch (72") diameter manholes.

If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout to manhole exterior, while the vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained.

Comparable times for a successful vacuum test for different size manholes are:

DEPTH (ft) <u>(height of manhole)</u>	TEST TIME (sec) for DIAMETER (inches)		
	<u>48"</u>	<u>60"</u>	<u>72"</u>
8	14	18	23
10	17	23	28
12	21	28	34
14	25	32	40
16	28	37	45
18	32	41	51
20	35	46	57
22	39	51	62
24	42	55	68
26	46	60	74
28	49	64	80
30	53	69	85

2. Septic Tanks

Each tank shall be tested immediately after installation and prior to backfilling. All openings shall be plugged, taking care to secure plugs from being drawn inward. The test head shall be placed in inlet opening and the seal inflated in accordance with the manufacturer's recommendations.

A vacuum of 3.5 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 2.5 inches. The tank shall pass if the time is greater than five (5) minutes.

If the tank fails the initial test, necessary repairs shall be made in accordance with the manufacturer's recommendations or, if repairs cannot be made the tank shall be replaced. Retesting shall proceed until a satisfactory test is obtained.

E. Hydrostatic Leakage Test

Force mains and pressure sewers shall be tested by hydrostatic testing for leakage. The test section shall not exceed one thousand (1,000) feet in length where practical and shall be approved by the inspector. Each section shall receive the following hydrostatic test:

1. The pipe shall be slowly filled with water and tested to a pressure specified by the Department based on the elevation of the lowest point of the line of section under test. Before applying the specified test pressure, all air shall be expelled from the pipe. The pressure shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Department.
2. The Contractor shall furnish the gauge and flow meter for measuring pressure and leakage. Leakage is defined as the quantity of water to be supplied to the pipe, or any section thereof necessary to maintain the specified test pressure after the pipe has been filled with water and the air expelled.
3. The duration of the test shall be for a period of not less than four (4) hours. The Contractor shall furnish the water, pump, pipe, connections, meter and all other necessary apparatus, as shown on Standard Detail SW-12.7, and shall furnish all necessary labor to conduct the tests at no cost to the Department.

No pipe installation will be accepted until the leakage is less than the number of gallons per hour as determined by the formula:

$$L = \frac{N \times D \times (P)^{1/2}}{7400} \quad , \quad \text{WHERE:}$$

L = allowable leakage in gallons per hour,
N = number of field joints in the test section,
D = nominal diameter of pipe in inches,
P = average test pressure during the test in pounds per square inch.

The pipe shall be pressure tested at 1.5 times the operating pressure.

Should any test of pipe laid disclose leakage greater than that specified above, the Contractor shall locate and repair the line until the leakage is within the specified allowance.

F. Testing Equipment

1. Air Test

Equipment shall be the Unitest System 200 air test system manufactured by United Survey, Inc., Cherne Air Loc low-pressure air testing system, or equal.

All necessary equipment for conducting air testing shall come complete in a self-contained unit. The unit shall include an air test control panel, air

hose, hose reel, regulated air tank, air compressor, sewer plugs, float line kit, air test winch, segmenting test kit for each pipe size and other equipment necessary for conducting the air tests.

All labor and equipment shall be furnished by the Contractor.

2. Hydrostatic Test

A pressure test pump shall be provided. The pump shall be capable of providing a minimum flow of six (6) gpm and pressures of 300 psi or greater. The pump shall be the Hydro-Test II, Model No. 36452 manufactured by Wheeler-Pilot International or equal.

A meter to measure make-up water shall also be installed.

The water, pump, pipe connections, taps into the pipe, all necessary apparatus labor and materials shall be furnished by the Contractor.

All testing equipment must be certified by the manufacturer. Before testing can take place, the testing equipment must be calibrated per manufacturer's specification prior to use.

G. Concrete

1. Laboratory Tests

All concrete to be used in the work shall be laboratory tested, and certified by a Maryland Registered Professional Engineer, and a report submitted to the Department for approval prior to use, as specified in Section, "Materials".

Aggregates shall be tested in accordance with ASTM Specifications: C-29, C-40, C-127, C-128, and C-136.

Methods for compressive strength testing shall conform to ASTM Specifications C-31, C-39, and C-192.

The report shall show in detail at least three (3) different water-cement ratio mix designs for each class of concrete to be used, and seven (7) day, fourteen (14) day and twenty-eight (28) day compressive strengths obtained. The strength determinations shall be based on not less than two (2) concrete test specimens for each age and each water-cement ratio.

The tests shall establish three (3) curves representing the relation between the average strength of the concrete at each age, for each water-cement ratio, for each class of concrete to be used in the work.

The maximum water-cement ratio allowed to be used in the work shall be that corresponding to a point on the curve established by these tests, representing a strength of concrete fifteen percent (15%) higher than the minimum compressive strengths called for.

The Department shall have the right to make adjustments in concrete proportions, if necessary, to meet the requirements of these specifications.

Test results of concrete made with materials from the same sources and of the same class as called for in the current work, along with a certified report dated not more than one (1) year prior to the Contract date, may be submitted for approval by the Department, subject, however, to any provisions to the contrary as required by building codes or ordinances of the governing or permitting authority.

2. Field Tests

During concrete operations, the Department will arrange to have Slump Tests (ASTM C-143), Air Content Test (ASTM C-173), and Test Cylinders (ASTM C-31) made to determine whether the concrete as being produced complies with the standards of quality specified. Tests shall be in accordance with this section. The Contractor shall provide, at no cost to the Department, the required test cylinders.

Sets of four (4) cylinders will be made for each class of concrete used in any one day's operation, but not less than one (1) set for every fifty (50) cubic yards of concrete poured. Two (2) cylinders will be tested at seven (7) days and two (2) at twenty-eight (28) days.

Whenever it appears that tests fail to meet the requirements herein and/or of the approved mix, the Department shall have the right, at the Contractor's expense, to:

- a. Order changes to the proportions of the mix to increase the strength.
- b. Require additional tests of specimens cured entirely under field conditions.
- c. Order changes to improve procedures for protecting and curing the concrete.
- d. Require additional tests in accordance with "Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete", ASTM C-42.

If the above tests fail to prove that the questionable concrete is of specified quality, the Contractor shall replace such portions of the concrete work as the Department may direct, all at no cost to the Department.

In the event that concrete is placed during freezing weather or that a freeze is expected during the curing period, an additional cylinder will be made for each set, and it will be cured under the same conditions as that part of the work, which it represents.

The Contractor shall provide and maintain for the sole use of the Department, adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first twenty-four (24) hours as required by ASTM C-31.

The Department reserves the right, if they elect, to retain the services of a testing laboratory for inspection at the mixing plant.

The Contractor shall make no change from the approved mix or the source or brand of materials used in the concrete without the prior approval of the Department. The Department reserves the right to have periodic checks made to ensure against such changes.

Chapter 2, Section 207

Sewer Lateral Construction

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
A.	Construction Methods	207-1
B.	Conventional Gravity Service	207-1/207-2
C.	Low Pressure Grinder Pump Service	207-3/207-4
D.	Small Diameter Gravity	207-4/207-5
E.	Materials	207-5
F.	Laying Pipe and Fittings	207-6/207-7
G.	Concrete.....	207-7/207-8
H.	Testing	207-8

VII. Sewer Lateral Construction

A. Construction Methods

SCOPE OF WORK - The Contractor shall furnish all plant, labor and materials and perform all operations required for the construction of Sewer Service Laterals and Appurtenances including all pipe, tanks, pumps, jointing materials, joints and fittings, laying pipe, installing tanks and pumps, electrical service, conduit, controls, concrete and granular bedding backfill, testing and all incidental work required for a complete and functional installation as shown on the drawings and/or as specified herein.

GENERAL – Included in this section are specifications for the installation of all Service Laterals including conventional gravity, low pressure (grinder pumps), small diameter gravity and septic tank effluent pumps (S.T.E.P.).

Sewer Service Laterals shall be installed as shown in the Standard Details and shall be laid in accordance with the Specifications herein for Sanitary Sewer Pipe.

The Department shall furnish and provide complete units, in accordance with the Department's Sewer Service Policy, for Sewer Service Laterals requiring the installation of grinder pumps/basins, septic tanks, effluent pumps/basins. The Department shall be the "Supplier" with no exceptions.

B. Conventional Gravity Service

The Contractor shall construct the Service Lateral from the main to a feasible point on the property line, Right-of-Way, easement line, or as directed by the Department.

Gravity sewer services shall be constructed as shown on the Standard Details S-3.1, S-3.2, and S3.3; and shall be laid in accordance with Specifications for Gravity Sewer Pipe.

Gravity Sewer Laterals shall connect to the main sewer through a sanitary tee branch and a forty-five-degree (45°) bend. Laterals connecting to the main sewer through a manhole shall be in accordance with Specifications for Connections to Manholes herein.

Where gravity service connections are specified to be made to an existing sewer at such locations where there are no tee branches provided in the sewer line, connections shall be in accordance with Specifications for Connections to Existing Sewers herein.

Where laterals of different materials the main line are approved, the connection of the lateral to the main shall be made by using an approved adaptor in conjunction with the tee branch and forty-five-degree (45°) bend.

From the end of the forty-five degree (45°) bend all Gravity Sewer Laterals shall be SDR-26 Heavy Wall PVC.

Gravity Sewer Laterals shall be installed at a minimum grade of two percent (2%), except as otherwise approved by the Department.

Gravity Sewer Laterals shall be a minimum of six inches (6") in diameter.

Double lateral shall only be permitted for duplexes and townhouse construction.

When a designated depth at the property line has been determined by the owner or Department, a sloped riser may be installed to raise the service lateral to the determined depth. Risers sloped at forty-five degrees (45°) maximum shall be permitted. Risers shall be of the same material as the pipe to which they are being fitted, unless otherwise directed, and shall enter the sewer through a tee branch, in conjunction with the Standard Detail Drawings herein. All fittings used in the installation of the riser shall be installed in such a manner as to complete the lateral from the riser to the property line at a constant two percent (2%) grade.

Excavation for Service Lateral shall be opened for the entire length before any pipe is laid therein. If rock is encountered within ten feet (10') of any building or structure, it must be removed by means other than blasting.

Sewer Service Laterals shall be installed to the property line, Right-of-Way, easement line at such depths and at such locations as the Department may direct. Excavation shall be made five feet (5') beyond this location to remove any rock which would prohibit the property owner's connection or possible damage to the installation service. This area shall then be backfilled with suitable material.

All Sewer Service Laterals shall be closed at the end with an approved watertight plug or cap, and guarded by a minimum three-foot (3') stake placed vertically.

Vertical clean-outs on each sewer service shall be installed at the property line and 10 feet beyond the property line as shown in the Standard Details S-3.1, S-3.2, and S-3.3. Materials shall be the same as the sewer service.

The top of the clean-out shall be installed approximately three (3) feet above the proposed finish grade. When the final grading is performed, the plumber shall then cut the clean-off at finish grade.

C. Low Pressure Grinder Pump Service

The Contractor shall construct the service lateral from the main line to the grinder pump assembly and shall install the grinder pump system complete at the location designated and determined by the property owner and approved by the Department.

Low pressure services shall be laid in accordance with and as specified herein under the section entitled "Sanitary Sewer Installation" and constructed as shown in the Standard Details. Pressure services and appurtenances shall be installed to line and grade and at locations as shown on the drawings.

Low pressure services shall connect to main sewers through a tee branch. Service Laterals connecting to the main sewer through a manhole shall be installed in accordance with the Specification for "Connections to Manholes".

A low-pressure service connecting to an existing gravity sewer main shall be installed by using a "Cut-In" connection to the main line as directed by the Department. Should the flow, size and type of pipe prohibit this method the connection shall be made by tapping the sewer main as directed by the Department of Water Quality.

Low pressure services connecting to an existing pressure main shall be installed by using a "Cut-In" connection to the main. The Contractor shall contact the Department of Water Quality seventy-two (72) hour in advance of performing the work. The Department of Water quality will perform the actual cut-in and will supply the tee, pipe, valve, and concrete. The Contractor will be responsible for the remainder of the work such as but not all inclusive: excavation, backfill, stone backfill, restoration, traffic control, obtain all permits, having a septic hauler's vacuum tanker truck on site, and disposal of all sewage collected by the tanker.

Low pressure service lines shall be SDR-21 PVC pipe and shall extend from the main sewer to the property line, Right-of-Way or easement line, at which point a ball valve and a swing check valve with valve box shall be installed and from that location to the grinder pump location as determined by the owner and approved by the Department.

The Department shall install grinder pump units at the location agreed upon by the Department and the Contractor. Grinder pump units shall be furnished by the Department and shall include grinder pump(s) and motor, fiberglass reinforced basin with cover, guide rail assembly, internal check valve, anti-siphon valve, junction box, level controls, internal wiring to the junction box, shut-off valve, external alarm and control panel. The Department will furnish a unit complete and functional for Prior to installation, the site for the grinder pump basin shall be excavated to neat lines twelve inches (12") below the bottom of and the outside dimensions of the basin. A bedding of 4" of Maryland S.H.A. B-10 stone shall be

installed and consolidated. Contractor shall furnish and install a concrete anti-flotation collar upon the compacted bedding material. The basin shall be set on top of the concrete and fasten as shown in the Standard Details S-5.1 and S-5.2. Pump and basin shall be installed according to the Manufacturer's instructions. Prior to installation each basin shall be inspected and tested for water tightness. Any tank failing that test shall be rejected. After installation, the area around the outside of the pump shall be backfilled with B-10 stone and to the requirements set forth in Specification Section "Sanitary Sewer Materials".

The Contractor shall furnish and install electrical power for the pump as specified by the pump supplier and shall be installed from the property owner's electric power panel board to the pump.

D. Small Diameter Gravity Service

The Contractor shall construct the service lateral from the main to the septic tank assembly complete at the location designated and determined by the property owner and approved by the Department.

Small diameter services shall be laid in accordance with and as specified herein under the section entitled "Laying Pipe and Fittings" and be constructed as shown in the Standard Details. Small diameter gravity services and appurtenances shall be installed to the line and grade and at locations as shown on the drawings.

Small diameter sewer laterals shall connect to the main sewer through a wye or sanitary tee branch and a forty-five-degree (45°) bend. Laterals connecting to the main sewer through a manhole shall be in accordance with specifications for connecting to manholes herein.

Where small diameter gravity service connections are specified to be made to an existing sewer at such locations where there are no wye/tee branches provided in the sewer line, connecting shall be in accordance with specifications for connecting to existing sewers herein.

Where laterals of different material than the main line are approved, the connection of the lateral to the main shall be made by using an approved adaptor in connection with the wye/tee branch and forty-five-degree (45°) bend.

Small diameter gravity laterals shall be installed at a minimum grade of two percent (2%), except as otherwise approved by the Department.

Small diameter gravity sewer laterals shall be the same size as the small diameter gravity line they are connecting to.

The section under paragraph B “Conventional Gravity Service” shall apply pertaining to the installation of “Risers”.

Excavation for small diameter gravity service laterals shall be opened for the entire length before the pipe is laid therein. If rock is encountered within ten feet (10’) of any building or structure, it must be removed by means other than blasting.

A vertical clean-out on each service lateral shall be installed at the property line as shown in the Standard Details. Materials shall be the same as the sewer service.

The top of the clean-out shall be installed to meet final finish grade.

The Contractor shall install the septic tank at the location designated and determined by the property owner and approved by the Department. The septic tank unit shall be furnished by the Department and shall include the tank and all internal and external piping. The Department shall furnish the unit complete and functional for installation.

Prior to installation, the site for the septic tank shall be excavated to a depth of twelve inches (12”) below the bottom of and the outside dimensions of the tank. A bedding of twelve-inch (12”) CR-6 stone shall be compacted prior to setting the tank. The tank shall be installed according to the manufacturer’s instructions. After setting the tank, the Contractor shall fill the tank with potable water, at his expense, to an elevation of the inlet/outlet holes in the tank. Prior to installation each basin shall be inspected and tested for water tightness. Any tank failing that test shall be rejected. After installation, the area around the outside of the tank shall be backfilled with B-10 stone and to the requirements set forth in specification section “Excavation and Backfill”.

E. Materials

1. Gravity service connections shall consist of sections of SDR 26 HW PVC, or in special cases, other materials of the diameters and with jointing materials, shown on the Drawings or specified under the section entitled “Sanitary Sewer Materials”.
2. Low pressure service connections shall consist of sections of SDR 21 PVC, or in special cases, other materials of the diameters and with jointing materials, shown on the Drawings or specified under the section entitled “Sanitary Sewer Materials”.

Generally, where main line and service lines are constructed under the same contract, they shall be of the same material and by the same manufacturer. Exceptions to this shall be as approved by the Department.

F. Laying Pipe and Fittings

Service Connections

Following the trench excavation and preparation of the crushed stone bedding by the Contractor, as specified, in the section entitled "Excavation and Backfill", pipe laying shall proceed upgrade with pipe laid carefully, bells upgrade, spigot ends fully entered into adjacent bells, and true to lines and grades shown on the Drawings. Each length or section of pipe shall be carefully inspected before installation and those containing cracks or other defects shall be removed from the site or destroyed. Extreme care must be exercised to prevent breakage when pipe is handled, bells and spigots shall be carefully cleaned before pipes are lowered into trenches. The pipes shall be lowered so as to avoid unnecessary handling in the trench. In laying pipe, special care shall be taken to ensure that each length shall abut against the next in such a manner that there shall be no shoulder or unevenness of any kind along the inside of the pipe. Before joints are made, each section of pipe shall rest upon the pipe bedding for the full length of its barrel, with recesses prepared where required to accommodate bells and joints. No pipe shall be brought into position until the proceeding length has been thoroughly backfilled and secured in place. Pipe joints shall be made in strict accordance with the pipe manufacturer's specifications. The interior of all pipes shall be thoroughly cleaned before they are laid and shall be kept clean until the acceptance of the completed work. The open ends of all pipe and fittings shall be provided with a stopper carefully fitted so as to keep dirt and other substances from entering. The stoppers shall be kept in the end of pipe at all times when laying is not in actual process.

Under no conditions shall pipe be laid in water or on subgrade into which frost has penetrated, nor at any time when the Department representative shall deem that there is danger of the formation of ice or the penetration of frost at the bottom of the excavation, unless all required precautions as to minimum length of open trench and promptness of refilling are observed. In all cases water shall be kept out of the trench until concrete cradles or support, where used, and materials in the joints have hardened.

Walking or working on the completed pipeline except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a height of at least two feet (2') over the top of the pipes.

Any pipe that has its grade or joint disturbed after laying shall be taken up and re-laid. Any section of pipe already laid and found to be defective shall be taken up and replaced with new pipe, without expense to the Department.

No pipe shall be laid within ten feet (10') of the machine excavating the trench nor within twenty-five feet (25') of any place where blasting is being performed. In all cases the mouth of the pipe shall be provided with a stopper, carefully fitted

to the pipe to prevent any substance from entering. In rock excavation, the mouth of the pipe shall be carefully protected from all blasts, and the excavation shall be fully completed at least ten feet (10') in advance of the laying of the pipe.

If, at any time before the completion of the contract or warranty period any broken pipes or any defects are found in the sewers or any of their appurtenances, the Contractor shall cause the same to be removed and replaced by proper material and workmanship, without compensation.

Joints

Before joints are made, the pipe layer shall thoroughly clean and inspect all bell and spigot ends for defects.

Gasket Joints

Where gasket joints are used, the gasket shall be removed, if possible, from the retainer, thoroughly cleaned and checked for defects, and then reassembled. The gasket shall be fully seated in retainer and facing in the correct direction. The type of lubricant shall be used as specified by the manufacturer.

G. Concrete

Concrete Foundation

Where required by the Department, pipes shall be placed on a formed concrete cradle, or unformed concrete shall be placed around pipes for bedding and encasement. Concrete cradles shall consist of a concrete mix classified as 2500 PSI concrete.

Concrete, built in trenches requiring forms to support pipes, shall conform dimensions shown on the Standard Details SW-1.1 and SW-1.2 or the Drawings or furnished by the Department. Concrete bedding and encasement shall be classified as 2500 PSI concrete.

Concrete, built in trenches without forms as pipe bedding, or encased around pipes shall conform to the dimensions as shown on the Standard Details SW-1.1 and SW-1.2, or as indicated on the Drawings and in the locations as directed by the Department.

In placing concrete cradles and encasements the methods used shall be as such as to prevent mud, earth, clay or other foreign materials from becoming mixed with the concrete.

In no case shall "Dry-Mix" concrete be placed in the trench without permission of the Department.

In cases where the twelve-inch (12") clearance cannot be obtained between sewer and water lines, the sewer shall be encased in 2500 PSI concrete 10-feet (10') each side of water main.

Crades and Encasements

Where required by the inspector, pipes shall be placed on a formed concrete cradle, or unformed concrete shall be placed around pipes for bedding and encasement. Concrete for cradles shall have a minimum strength of 2500 PSI at 28 days (Class B)

Concrete shall be built in trenches to support pipes and to the dimensions shown on the Standard Details SW-1.1 and SW-1.2 or the Drawings. Concrete for bedding and encasement shall have a minimum strength of 2500 PSI at 28 days (Class B)

In placing concrete cradles and encasements, the methods used shall be such as to prevent mud, earth, clay or other foreign materials from becoming mixed with the concrete.

H. Testing

All installed sewers shall be tested in the presence of the inspector together with a representative of the Contractor in the manner prescribed in the "testing" section of these standard specifications. It is the intent that the described testing procedures are to be systematically carried out as an integral part of the pipe-laying procedures. Failure to accomplish the testing will be considered as non-completion of construction.

If, at any time before the completion of the contract or warranty period any broken pipes or any defects are found in the sewers or in any of their appurtenances; the Contractor shall cause the same to be removed and replaced by proper material and workmanship, without compensation.

Chapter 2, Section 213

Restoration

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE/PAGES</u>
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K.	Maintenance of Planted Areas	213-5
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XIII. Restoration

A. Scope

The Contractor shall furnish all plant, labor, materials and equipment to perform all operations required for removal of temporary surfaces, replacement of permanent surfaces and disposal of any excess or unsuitable material.

B. Bituminous Asphalt Pavements

All asphalt paving placement shall be in accordance with Sections 504 and 505 and all referenced sections of the “*Standard Specifications for Construction and Materials*”, Maryland Department of Transportation – State Highway Administration, latest edition.

The materials and configuration of placement shall comply with the Standard Details pertaining to the application, i.e., State Highway, County Road, driveway, parking area, etc.

Cutting of existing pavements shall be by sawing in straight lines parallel with or transverse to the roadway edge. The limit of cuts shall extend to the most distant point of pavement damaged by the work, when beyond the required limits, at no additional cost to the Department.

When the distance from the repair cut is equal to or less than two (2) feet from the edge of the existing pavement, that swath of the existing pavement shall be removed to the full width and depth required, and included in the repair at the expense of the Contractor.

After the removal and disposal of existing pavement materials, the subgrade shall be prepared by repairing cracks and potholes, grading to a uniform plane and compacting to the density as specified in Chapter 2, Section II, “Excavation and Backfill.”

Graded Aggregate for Sub-Base shall be placed, rolled, and screeded, subgrade and all cut edges of pavement cleaned, and tack coat applied.

Hot mixed asphalt shall be placed by paving machine upon approval of the subgrade by the County Representative. All paving restoration has to comply with the County’s Division of Public Works or SHA, which ever has jurisdiction for the area being restored.

Finish by rolling to an in-place density of ninety-two (92) to ninety-seven (97) percent of Maximum Density prior to cooling to below one hundred, eighty-five (185) degrees F.

C. Gravel and Granular Surfaces

After the removal and disposal of existing materials to the limits as detailed, the subgrade shall be prepared by repairing potholes, grading to a uniform plane and compacting to the density as specified in Chapter 2, Section II, “Excavation and Backfill”.

Gravel, aggregate, or granular material shall match the material type, gradation, and texture of the existing materials, using commonly available materials, and shall be approved by the Department prior to placement.

Depth shall match existing with a minimum depth of two (2) inches in all areas and no less than eight (8) inches in the trench area.

Final grade shall be uniform and compacted by rolling or tamping with machinery that will produce a minimum of five thousand (5,000) pounds per square inch bearing capacity.

D. Concrete

Reinforced and non-reinforced concrete pavement materials and placement shall comply with Sections 520, 522, 523, and 902, and all referenced sections of the “*Standard Specifications for Construction and Materials*”, Maryland Department of Transportation – State Highway Administration, latest edition.

Concrete sidewalks and curbs shall be formed to be configured as per the Governing Authority’s standard details and requirements, to match existing lines and grades. All curb and sidewalk replacement shall be extended to the nearest joint beyond the limits of the repair width.

E. Lawn and Grassy Areas

Whenever the surface of the ground has been disturbed in the course of operation under the Contract, the final graded surface shall be stabilized with temporary and/or permanent topsoil, fertilizer, seeding and mulching as detailed and specified in the approved Erosion and Sediment Control Plan. All materials and practices shall also comply with the “*1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control*”, Section G – Vegetative Practices, Article 20.0 and 21.0.

Seeding shall not be performed in cultivated field areas. Rather, restoration of cultivated areas shall take the form of seed crop equal to that planted or to be planted in the next season at the property owner’s directions. Topsoil shall be replaced to match the pre-construction depth. In any case, restoration shall be as approved or directed by the Department.

Furnish and spread a minimum of four inches (4") of topsoil over areas to be seeded. Topsoil shall be spread only when prepared to follow up with fertilizing and seeding. Fine grade to finished lines, grades and contours, fertilize, seed, and mulch, all at such times as will meet with the approval of the Department. If adequate topsoil isn't available onsite, the Contractor may add amenities to the soil based upon recommendation from a soil's lab.

Delay seeding until after a heavy rain or watering and not sooner than a week after applying fertilizer.

All seed must meet the requirements of the Maryland State Seed Law, and tagged. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. Seed shall have been tested within the six months immediately preceding the date of sowing.

F. Stabilization of Delayed Seeding Areas

All areas shall be stabilized per Soil Conservation Requirements.

G. Plant Materials

Provide sizes of plants as shown or scheduled, conforming to ANSI Z60.1 *"American Standard for Nursery Stock"* for shape and quality.

Furnish balled and burlapped (B&B) trees or shrubs, except container-grown plants may be furnished if indicated size is below limit established in ANSI Z60.1.

Deciduous shrubs may be furnished in bare root condition if adequately maintained and protected from drying through transplanting period.

Furnish ground cover plants in removable containers or integral peat pots.

Provide topsoil, as defined above in "Lawn and Grassy Areas", to supplement what is available for reuse at the site.

Provide fertilizer, humus and other soil amendments of a type, which are known to improve pH condition of the soil for particular plant material to be planted. Mix peat humus (FS Q-P-166) with topsoil in the ratio of 1:3 for use in planting. For basis of quantity, assume topsoil, which has not been stripped, is four inches (4") in depth.

Fertilize topsoil for planting trees, shrubs and ground cover with 5-10-5 (5% Nitrogen, 10% phosphorus and 5% potash) commercial fertilizer, applied and mixed at a rate of not less than 0.25 lbs. Per cu. Ft. of soil and humus.

H. Planting Trees

Excavate pit to one and one half (1-½) times diameter of tree ball and not less than six inches (6") deeper. Compact layer of topsoil in pit to locate collar of plant properly in a slightly dished finish grade. Backfill around ball with topsoil, compacted to eliminate voids and air pockets, watering thoroughly as layers are placed. Build three inch (3") high berm of topsoil beyond edge of excavation. Apply three-inch (3") mulch of shredded hardwood, bark chips, peat, or other recognized organic planting mulch.

Prune tree to remove damaged branches, improve natural shape, thin out structure and remove not more than fifteen percent (15%) of branches. Do not prune back terminal leader.

Wrap trunk from ground to first branch with tree wrapping tape.

Guy and stake tree three directions with galvanized wire, through flexible hose chafing guards, with wooden stake anchors.

I. Planting Shrubs

Excavate pits or trench to one and one half (1-½) times diameter of balls or containers, or one foot (1') wider than spread of roots, and three inches (3") deeper than required for positioning at proper height. Lightly compact a layer of topsoil in the bottom before placing plants. Backfill around plants with topsoil compacted to eliminate voids and air pockets. Water thoroughly as layers are placed. Form grade slightly dished, and bermed at edges of excavation. Apply two-inch (2") mulch of peat, straw or other recognized organic planting mulch.

Prune shrubs to remove damaged branches, improve natural shape, thin out structure and remove not more than fifteen percent (15%) of branches.

J. Planting Ground Cover

Till soil to a depth of eight inches (8") in areas where topsoil has not been stripped.

Loosen subgrade to a depth of four inches (4") in areas where topsoil has been stripped, and spread topsoil to a depth of four inches (4"), except as otherwise indicated.

Space plants two feet (2') apart both ways, except as otherwise indicated. Dig holes large enough to allow for spreading of roots. Compact backfill to eliminate voids, and leave grade slightly dished at each plant. Water thoroughly. Apply two-inch (2") mulch of shredded hardwood, bark chips, peat, straw or other recognized organic planting mulch over entire planting bed, lifting plant foliage above mulch.

During periods of hot sun and wind at time of planting, provide protective cover for several days.

K. Maintenance of Planted Areas

Maintenance of planted areas shall include irrigation to establish growth in abnormally dry or hot seasons, or on adverse sites; and repairs, replacements, and replanting within a proper season.

All new fill areas with slopes steeper than four to one (4:1) shall be protected from livestock until the permanent seeding stand has become established.

The Contractor shall maintain the planted area until acceptance of the work. Prior to acceptance, of the work, the Department shall inspect all planted areas for failures, and direct the Contractor to make all necessary repairs, replacements, and replanting within the proper season, if possible.

If the seed stand is over fifty percent (50%) damaged, re-establish entire area, following the original fertilizer, seeding, and mulching procedure.

L. Storm Water Drainage

The Contractor shall not change or alter the storm water drainage ways. The Contractor shall restore all surfaces disturbed during construction to the same contour as before construction

M. Special Surfaces and Miscellaneous Items

Vegetable or flower gardens damaged during construction shall be brought to grade with topsoil. All weeds and debris shall be removed, transplanted or damaged plants replaced and the entire area restored as required to remove traces of damage.

Mailboxes, street lighting poles and fixtures, ornamental works, fencing, culverts, drains (both natural and man-made), catch basins, manholes, walks, driveways, walls, etc. shall be restored to the condition equal to, or better than existed prior to the start of the work.

GENERAL MATERIAL REQUIREMENTS

CONVICT PRODUCED MATERIALS

Section 1019 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) clarifies that materials produced by convict labor after July 1, 1991 may not be used for Federal-aid highway construction projects unless produced at a prison facility producing convict made materials for Federal-aid construction projects prior to July 1, 1987.

CONTRACT PROVISION BUY AMERICA

This section only applies to projects partially or totally financed with Federal funds. The Contractor shall comply with Section 165 of the Surface Transportation Assistance Act of 1982 as amended by Section 1041(a) and 1048(a) of the Intermodal Surface Transportation Efficiency Act of 1991 (codified by SAFETEA-LU, §1903 as 23 U.S.C 313) with regard to the furnishing and coating of iron and steel products.

The Contract, if awarded, will be awarded to the responsive and responsible bidder who submits the lowest total bid for the Contract based on furnishing Domestic Products unless such bid exceeds the lowest total bid based on furnishing Foreign Products by more than twenty five percent (25%). Foreign Products will not be permitted to be used as a substitution for Domestic ones after the bid has been awarded.

Furnish steel or iron construction materials, including coating, for permanently incorporated work according to 23 CFR 635.410 and as follows:

- (a)** All manufacturing processes of steel or iron materials in a product, including coating; and any subsequent process that alters the steel or iron material's physical form or shape, changes its chemical composition, or the final finish; are to occur within the United States (One of the 50 States, the District of Columbia, Puerto Rico, or in territories and possessions of the U.S.). Manufacturing begins with the initial melting and mixing, and continues through the coating stage. The processes include rolling, extruding, machining, bending, grinding, drilling, welding, and coating. The action of applying a coating to steel or iron is deemed a manufacturing process. Coating includes epoxy coating, galvanizing, aluminizing, painting, and any other coating that protects or enhances the value of steel or iron. Any process from the original reduction from ore to the finished product constitutes a manufacturing process for iron.
- (b)** The following are considered to be steel manufacturing processes:
 - (1)** Production of steel by any of the following processes:
 - (a)** Open hearth furnace.
 - (b)** Basic oxygen.
 - (c)** Electric furnace.
 - (d)** Direct reduction.
 - (2)** Rolling, heat treating, and any other similar processing.

(3) Fabrication of the products:

- (a)** Spinning wire into cable or strand.
 - (b)** Corrugating and rolling into culverts.
 - (c)** Shop fabrication.
- (c)** The manufacturing process for a steel/iron product is considered complete when the product is ready for use as an item (e.g., fencing, posts, girders, pipe, manhole cover, etc.) or could be incorporated as a component of a more complex product through a further manufacturing process (e.g., prestressed concrete girders, reinforced concrete pipe, traffic control devices, bearing pads, etc.). A product containing both steel and/or iron components, may be assembled outside the United States and meet Buy America requirements if the constituent steel and iron components (in excess of the minimal amounts permitted) were manufactured domestically and are not modified at the assembly location prior to final assembly.
- (d)** If domestically produced steel billets or iron ingots are exported outside of the U.S., as defined above, for any manufacturing process then the resulting product does not conform to the Buy America requirements. Additionally, products manufactured domestically from foreign source steel billets or iron ingots do not conform to the Buy America requirements because the initial melting and mixing of alloys to create the material occurred in a foreign country.
- (e)** Due to a nationwide waiver, Buy America does not apply to raw materials (iron ore and alloys), scrap (recycled steel or iron), and pig iron or processed, pelletized, and reduced iron ore.
- (f)** For the Buy America provisions to apply, the steel or iron product must be permanently incorporated into the project. If an item is rendered as a “donated material” in accordance with 23 U.S.C. 323 – Donations and Credits, it will have to comply with Buy America requirements. While States and local governments may receive a credit for donated material, this material must generally comply with Buy America requirements. Buy America does not apply to temporary steel items, e.g., temporary sheet piling, temporary bridges, steel scaffolding and falsework. Further, Buy America does not apply to materials which remain in place at the contractor convenience.
- (g)** Certifications which document that steel and iron have been manufactured and that coatings for iron or steel have been applied in the United States shall be provided to the Contractor by the manufacturer. The Contractor shall provide the required certifications to the Engineer prior to such items being incorporated into the permanent work. Certifications shall extend to materials utilized in manufactured and fabricated products purchased by the Contractor.
- (h)** Products manufactured of foreign steel or iron materials may be used, provided the cost of such products as they are delivered to the project does not exceed 0.1% of the total contract amount, or \$2,500, whichever is greater. If a supplier or fabricator wishes to use a partial fabrication process where domestic and foreign source components are assembled at a domestic location, the “as delivered cost” of the foreign components should include any transportation, assembly and testing costs required to install them in the final product.

ALTERNATE BID - USING FOREIGN PRODUCTS
BIDDER'S INSTRUCTIONS

When a bidder elects to utilize Foreign Products on one or more items, the following summation indicating the Total Bid using Foreign Products must be completed in addition to the individual item bid tabulations.

The following instructions are given to the bidder in completing the Total Bid summation using Foreign Products:

- 1 - The "Bid Total" for the initial bid using Domestic Products shall be shown on line (1).
- 2 - The subtotal for Item Amounts using Domestic Products shall be shown on line (2), for those items which the Contractor elects to use Foreign Products.
- 3 - The subtotal for Item Amounts using Foreign Products shall be shown on line (3).
- 4 - The total Bid, utilizing Foreign Products shall be shown on line (4). The value is obtained by subtracting subtotal (2) from the Total Bid (1) and then adding subtotal (3).

Bid Total for Bid 1 using Domestic items	Line (1)_____
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Total of Domestic Items	Line (2) - _____
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Total of Foreign Items	Line (3) + _____
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Bid Total using Foreign Items	Line (4)_____
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ALTERNATE BID - USING FOREIGN PRODUCTS
BIDDER'S INSTRUCTIONS

When the bidder elects to submit a bid for one or more items using Foreign Products, the following form must be used. For each item that Foreign Products are contemplated, the appropriate "Item Numbers", "Approximate Quantities", "Description of Items", "Unit Price or Lump Sum Price", "Item Amount Domestic" and "Item Amount Foreign" shall be tabulated below as specified in the initial bid. The bidder shall indicate the unit price in dollars and cents and show the total cost of the item for each item that utilizes Foreign Products. When all items utilizing Foreign Products have been listed, the bidder shall indicate on Page 6 of 39 the subtotals of the Item Amounts for Domestic Products in Line (2) and for Foreign Products in Line (3).

Item Nos.	Approximate Quantities	Description of Items	Unit Price or Lump Sum Dollars.Cts.	Items Amount Domestic Dollars.Cts.	Items Amount Foreign Dollars.Cts.

NOTICE

All bidders shall complete and submit with their bid the Bid/Proposal Affidavit below.

BID/PROPOSAL AFFIDAVIT

A. AUTHORIZED REPRESENTATIVE AND AFFIANT

I HEREBY AFFIRM THAT:

I, _____ (print name), possess the legal authority to make this Affidavit.

B. CERTIFICATION REGARDING COMMERCIAL NONDISCRIMINATION

The undersigned bidder hereby certifies and agrees that the following information is correct: In preparing its bid on this project, the bidder has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not engaged in “discrimination” as defined in §19-103 of the State Finance and Procurement Article of the Annotated Code of Maryland. “Discrimination” means any disadvantage, difference, distinction, or preference in the solicitation, selection, hiring, or commercial treatment of a vendor, subcontractor, or commercial customer on the basis of race, color, religion, ancestry, or national origin, sex, age, marital status, sexual orientation, sexual identity, genetic information or an individual’s refusal to submit to a genetic test or make available the results of a genetic test, disability, or any otherwise unlawful use of characteristics regarding the vendor’s, supplier’s, or commercial customer’s employees or owners. “Discrimination” also includes retaliating against any person or other entity for reporting any incident of “discrimination”. Without limiting any other provision of the solicitation on this project, it is understood that, if the certification is false, such false certification constitutes grounds for the State to reject the bid submitted by the bidder on this project, and terminate any contract awarded based on the bid. As part of its bid or proposal, the bidder herewith submits a list of all instances within the past 4 years where there has been a final adjudicated determination in a legal or administrative proceeding in the State of Maryland that the bidder discriminated against subcontractors, vendors, suppliers, or commercial customers, and a description of the status or resolution of that determination, including any remedial action taken. Bidder agrees to comply in all respects with the State’s Commercial Nondiscrimination Policy as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland.

C. AFFIRMATION REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code

Federal Requirements

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

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of Maryland), or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities, including obtaining or performing contracts with public bodies, has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, §6-220, Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

D. AFFIRMATION REGARDING OTHER CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies, has:

- (1) Been convicted under state or federal statute of:
 - (a) a criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract; or
 - (b) fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property;
- (2) Been convicted of any criminal violation of a state or federal antitrust statute;
- (3) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. §1961, et seq., or the Mail Fraud Act, 18 U.S.C. §1341, et seq., for acts in connection with the submission of bids or proposals for a public or private contract;
- (4) Been convicted of a violation of the State Minority Business Enterprise Law, Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;
- (5) Been convicted of a violation of the Section 11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland;
- (6) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsection (1) through (5) above;

(7) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract;

(8) Been found in a final adjudicated decision to have violated the Commercial Nondiscrimination Policy under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland with regard to a public or private contract; or

(9) Been convicted of a violation of one or more of the following provisions of the Internal Revenue Code:

- (a) §7201, Attempt to Evade or Defeat Tax;
- (b) §7203, Willful Failure to File Return, Supply Information, or Pay Tax,
- (c) §7205, Fraudulent Withholding Exemption Certificate or Failure to Supply Information,
- (d) §7206, Fraud and False Statements, or
- (e) §7207 Fraudulent Returns, Statements, or Other Documents;

(10) Been convicted of a violation of 18 U.S.C. §286 Conspiracy to Defraud the Government with Respect to Claims, 18 U.S.C. §287, False, Fictitious, or Fraudulent Claims, or 18 U.S.C. §371, Conspiracy to Defraud the United States;

(11) Been convicted of a violation of the Tax-General Article, Title 13, Subtitle 7 or Subtitle 10, Annotated Code of Maryland;

(12) Been found to have willfully or knowingly violated State Prevailing Wage Laws as provided in the State Finance and Procurement Article, Title 17, Subtitle 2, Annotated Code of Maryland, if:

- (a) A court:
 - (i) Made the finding; and
 - (ii) Decision became final; or
- (b) The finding was:
 - (i) Made in a contested case under the Maryland Administrative Procedure Act; and
 - (ii) Not overturned on judicial review;

(13) Been found to have willfully or knowingly violated State Living Wage Laws as provided in the State Finance and Procurement Article, Title 18, Annotated Code of Maryland, if:

- (a) A court:
 - (i) Made the finding; and
 - (ii) Decision became final; or
- (b) The finding was:
 - (i) Made in a contested case under the Maryland Administrative Procedure Act; and
 - (ii) Not overturned on judicial review;

(14) Been found to have willfully or knowingly violated the Labor and Employment Article, Title 3, Subtitles 3, 4, or 5, or Title 5, Annotated Code of Maryland, if:

- (a) A court:
 - (i) Made the finding; and

- (ii) Decision became final; or
- (b) The finding was:
 - (i) Made in a contested case under the Maryland Administrative Procedure Act; and
 - (ii) Not overturned on judicial review; or

(15) Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described in §§B and C and subsections D(1) — (14) above, except as follows (indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the business, and the status of any debarment):

E. AFFIRMATION REGARDING DEBARMENT

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities, including obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows (list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension):

F. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES

I FURTHER AFFIRM THAT:

- (1) The business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and

- (2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows (you must indicate the reasons why the affirmations cannot be given without qualification):

G. SUB-CONTRACT AFFIRMATION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, has knowingly entered into a contract with a public body under which a person debarred or suspended 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.

H. AFFIRMATION REGARDING COLLUSION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business has:

- (1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;
- (2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted.

I. CERTIFICATION OF TAX PAYMENT

I FURTHER AFFIRM THAT:

Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Department of Labor, Licensing, and Regulation, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

J. CONTINGENT FEES

I FURTHER AFFIRM THAT:

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency, any fee or any other consideration contingent on the making of the Contract.

K. CERTIFICATION REGARDING INVESTMENTS IN IRAN

- (1) The undersigned certifies that, in accordance with State Finance and Procurement Article, §17-705, Annotated Code of Maryland:
 - (a) It is not identified on the list created by the Board of Public Works as a person engaging in investment activities in Iran as described in State Finance and Procurement Article, §17-702, Annotated Code of Maryland; and
 - (b) It is not engaging in investment activities in Iran as described in State Finance and Procurement Article, §17-702, Annotated Code of Maryland.
- (2) The undersigned is unable to make the above certification regarding its investment activities in Iran due to the following activities: _____

L. CONFLICT MINERALS ORIGINATED IN THE DEMOCRATIC REPUBLIC OF CONGO (FOR SUPPLIES AND SERVICES CONTRACTS)

I FURTHER AFFIRM THAT:

The business has complied with the provisions of State Finance and Procurement Article, §14-413, Annotated Code of Maryland governing proper disclosure of certain information regarding conflict minerals originating in the Democratic Republic of Congo or its neighboring countries as required by federal law.

M. I FURTHER AFFIRM THAT:

Any claims of environmental attributes made relating to a product or service included in the bid or proposal are consistent with the Federal Trade Commission's Guides for the Use of Environmental Marketing Claims as provided in 16 CFR §260, that apply to claims about the environmental attributes of a product, package, or service in connection with the marketing, offering for sale, or sale of such item or service.

N. ACKNOWLEDGEMENT

I ACKNOWLEDGE THAT this Affidavit is to be furnished to the Procurement Officer and may be distributed to units of: (1) the State of Maryland; (2) counties or other subdivisions of the State of Maryland; (3) other states; and (4) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this bid or proposal shall be construed to supersede, amend, modify or waive, on behalf of the State of Maryland, or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business with respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: _____

By: _____ (print name of Authorized Representative and Affiant)

_____ (signature of Authorized Representative and Affiant)

COMPREHENSIVE SIGNATURE PAGE 1 OF 2

THE BIDDER IS HEREBY NOTIFIED THAT THIS DOCUMENT SHALL BE SIGNED IN INK IN ORDER FOR THE BID TO BE ACCEPTED. BY SIGNING, THE BIDDER CERTIFIES THAT HE/SHE WILL COMPLY IN EVERY ASPECT WITH THESE SPECIFICATIONS.

FURTHER, I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT (PARAGRAPHS A-N) ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

This bid form shall be filled out legibly in ink or typed. The bid, if submitted by an individual, shall be signed by an individual; if submitted by a partnership, shall be signed by such member or members of the partnership as have authority to bind the partnership; if submitted by a corporation the same shall be signed by the President and attested by the Secretary or an Assistant Secretary. If not signed by the President as aforesaid, there must be attached a copy of that portion of the By-Laws, or a copy of a Board resolution, duly certified by the Secretary, showing the authority of the person so signing on behalf of the corporation. In lieu thereof, the corporation may file such evidence with the Administration, duly certified by the Secretary, together with a list of the names of those officers having authority to execute documents on behalf of the corporation, duly certified by the Secretary, which listing shall remain in full force and effect until such time as the Administration is advised in writing to the contrary. In any case where a bid is signed by an Attorney in Fact the same must be accompanied by a copy of the appointing document, duly certified.

IF AN INDIVIDUAL:

NAME: _____

Street and/or P.O. Box

City

State

Zip Code

Fed ID or SSN

Signature

(SEAL)

Date

Print Signature

WITNESS: _____

Signature

Print Signature

COMPREHENSIVE SIGNATURE PAGE 2 OF 2

IF A PARTNERSHIP:

NAME OF PARTNERSHIP: _____

Street and/or P.O. Box

City State Zip Code Fed ID or SSN

BY: _____ (SEAL) _____
Signature Date

Print Signature

TITLE: _____ WITNESS: _____
Signature

Print Signature

IF A CORPORATION:

NAME OF CORPORATION: _____

Street and/or P.O. Box

City State Zip Code Fed ID or SSN

STATE OF INCORPORATION: _____

BY: _____ (SEAL) _____
Signature Date

Print Signature

TITLE: _____ WITNESS: _____
Secretary's Signature

Print Signature

MDOT DBE FORM A
FEDERALLY-FUNDED CONTRACTS
CERTIFIED DBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT
PAGE 1 OF 2

This affidavit must be included with the bid/ proposal. If the bidder/offeror fails to accurately complete and submit this affidavit as required, the bid shall be deemed not responsive or the proposal shall be deemed not susceptible of being selected for award.

In connection with the bid/proposal submitted in response to **PUR-XX**XX, I affirm the following:

1. DBE Participation (PLEASE CHECK ONLY ONE)

☐ I have met the overall certified Disadvantaged Business Enterprise (DBE) participation goal of **Twenty-Five.Two** percent (**25.2%**). I agree that this percentage of the total dollar amount of the Contract for the DBE goal will be performed by certified DBE firms as set forth in the DBE Participation Schedule - Part 2 of the MDOT DBE Form B (Federally-Funded Contracts).

OR

☐ I conclude that I am unable to achieve the DBE participation goal. I hereby request a waiver, in whole or in part, of the goal. Within 10 business days of receiving notice that our firm is the apparent awardee or as requested by the Procurement Officer, I will submit a written waiver request and all required documentation in accordance with COMAR 21.11.03.11. For a partial waiver request, I agree that certified DBE firms will be used to accomplish the percentages of the total dollar amount of the Contract as set forth in the DBE Participation Schedule - Part 2 of the MDOT DBE Form B (Federally-Funded Contracts).

2. Additional DBE Documentation

I understand that if I am notified that I am the apparent awardee or as requested by the Procurement Officer, I must submit the following documentation within 10 business days of receiving such notice: (a) Outreach Efforts Compliance Statement (MDOT DBE Form C - Federally-Funded Contracts); (b) Subcontractor Project Participation Statement (MDOT DBE Form D - Federally-Funded Contracts); (c) DBE Waiver Request documentation per COMAR 21.11.03.11 (if waiver was requested); and (d) Any other documentation required by the Procurement Officer to ascertain bidder's responsibility/ offeror's susceptibility of being selected for award in connection with the certified DBE participation goal.

MDOT DBE FORM A
FEDERALLY-FUNDED CONTRACTS
CERTIFIED DBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT
PAGE 2 OF 2

I acknowledge that if I fail to return each completed document (in 2 (a) through (d)) within the required time, the Procurement Officer may determine that I am not responsible and therefore not eligible for contract award or not susceptible of being selected for award.

3. Information Provided to DBE firms

In the solicitation of subcontract quotations or offers, DBE firms were provided not less than the same information and amount of time to respond as were non-DBE firms.

4. Products and Services Provided by DBE firms

I hereby affirm that the DBEs are only providing those products and services for which they are MDOT certified.

I solemnly affirm under the penalties of perjury that the information in this affidavit is true to the best of my knowledge, information and belief.

Company Name

Signature of Representative

Address

Printed Name and Title

City, State and Zip Code

Date

**MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE**

PART 1 – INSTRUCTIONS FOR DBE PARTICIPATION SCHEDULE

PARTS 2 AND 3 MUST BE INCLUDED WITH THE BID/PROPOSAL. IF THE BIDDER/OFFEROR FAILS TO ACCURATELY COMPLETE AND SUBMIT PART 2 WITH THE BID/PROPOSAL AS REQUIRED, THE BID SHALL BE DEEMED NOT RESPONSIVE OR THE PROPOSAL SHALL BE DEEMED NOT SUSCEPTIBLE OF BEING SELECTED FOR AWARD.

PAGE 1 OF 4

*** STOP ***

**FORM INSTRUCTIONS
PLEASE READ BEFORE COMPLETING THIS FORM**

1. Please refer to the Maryland Department of Transportation (MDOT) DBE Directory at www.mdot.state.md.us to determine if a firm is certified for the appropriate North American Industry Classification System (“NAICS”) Code **and** the product/services description (specific product that a firm is certified to provide or specific areas of work that a firm is certified to perform). For more general information about NAICS, please visit www.naics.com. Only those specific products and/or services for which a firm is certified in the MDOT Directory can be used for purposes of achieving the DBE participation goal.
2. In order to be counted for purposes of achieving the DBE participation goal, the firm must be certified for that specific NAICS (“DBE” for Federally-funded projects designation after NAICS Code). **WARNING:** If the firm’s NAICS Code is in **graduated status**, such services/products **will not be counted** for purposes of achieving the DBE participation goals. Graduated status is clearly identified in the MDOT Directory (such graduated codes are designated with the word graduated after the appropriate NAICS Code).
3. Examining the NAICS Code is the **first step** in determining whether a DBE firm is certified and eligible to receive DBE participation credit for the specific products/services to be supplied or performed under the contract. The **second step** is to determine whether a firm’s Products/Services Description in the DBE Directory includes the products to be supplied and/or services to be performed that are being used to achieve the DBE participation goal.
4. If you have any questions as to whether a firm is MDOT DBE certified, or if it is certified to perform specific services or provide specific products, please call MDOT’s Office of Minority Business Enterprise at 1-800-544-6056 or send an email to mbe@mdot.state.md.us.

MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE
PART 1 – INSTRUCTIONS FOR DBE PARTICIPATION SCHEDULE
PAGE 2 OF 4

5. The Contractor's subcontractors are considered second-tier subcontractors. Third-tier contracting used to meet a DBE goal is to be considered the exception and not the rule. The following two conditions must be met before MDOT, its Modal Administrations and the Maryland Transportation Authority may approve a third-tier contracting agreement: (a) the bidder/offeror must request in writing approval of each third-tier contract arrangement, and (b) the request must contain specifics as to why a third-tier contracting arrangement should be approved. These documents must be submitted with the bid/proposal in Part 2 of this DBE Participation Schedule.
6. For each DBE firm that is being used as supplier/wholesaler/regular dealer/broker/manufacturer, please follow these instructions for calculating the **amount of the subcontract for purposes of achieving the DBE participation goal:**
 - A. Is the firm certified as a broker of the products/supplies? If the answer is YES, please continue to Item C. If the answer is NO, please continue to Item B.
 - B. Is the firm certified as a supplier, wholesaler, regular dealer, or manufacturer of such products/supplies? If the answer is YES, continue to Item D. If the answer is NO, continue to Item C only if the DBE firm is certified to perform trucking/hauling services under NAICS Codes 484110, 484121, 484122, 484210, 484220 and 484230. If the answer is NO and the firm is not certified under these NAICS Codes, then no DBE participation credit will be given for the supply of these products.
 - C. For purposes of achieving the DBE participation goal, you may count only the amount of any reasonable fee that the DBE firm will receive for the provision of such products/supplies - not the total subcontract amount or the value (or a percentage thereof) of such products and/or supplies. For Column 3 of the DBE Participation Schedule, please divide the amount of any reasonable fee that the DBE firm will receive for the provision of such products/services by the total Contract value and insert the percentage in Line 3.1.
 - D. Is the firm certified as a manufacturer (refer to the firm's NAICS Code and specific description of products/services) of the products/supplies to be provided? If the answer is NO please continue to Item E. If the answer is YES, for purposes of achieving the DBE participation goal, you may count the total amount of the subcontract. For Column 3 of the DBE Participation Schedule, please divide the total amount of the subcontract by the total Contract value and insert the percentage in Line 3.1.

MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE
PART 1 – INSTRUCTIONS FOR DBE PARTICIPATION SCHEDULE
PAGE 3 OF 4

- E. Is the firm certified as a supplier, wholesaler and/or regular dealer? If the answer is YES and the DBE firm is furnishing and installing the materials and is certified to perform these services, please divide the total subcontract amount (including full value of supplies) by the total Contract value and insert the percentage in Line 3.1. If the answer is YES and the DBE firm is only being used as a supplier, wholesaler and/or regular dealer or is not certified to install the supplies/materials, for purposes of achieving the DBE participation goal, you may only count sixty percent (60%) of the value of the subcontract for these supplies/products (60% Rule). To apply the 60% Rule, first divide the amount of the subcontract for these supplies/products only (not installation) by the total Contract value. Then, multiply the result by sixty percent (60%) and insert the percentage in Line 3.2.
7. For each DBE firm that **is not** being used as a supplier/wholesaler/regular dealer/broker/manufacturer, to calculate the **amount of the subcontract for purposes of achieving the DBE participation goal**, divide the total amount of the subcontract by the total Contract value and insert the percentage in Line 3.1.
- Example:** \$ 2,500 (Total Subcontract Amount) ÷ \$10,000 (Total Contract Value) x 100 = 25%.
8. Please note that for USDOT-funded projects, a DBE prime may count towards its DBE participation goal work performed by its own forces. Include information about the DBE prime in Part 2.
9. **WARNING:** The percentage of DBE participation, computed using the dollar amounts in Column 3 for all of the DBE firms listed in Part 2, **MUST** at least equal the DBE participation goal as set forth in MDOT DBE Form A – Federally-Funded Contracts for this solicitation. If the bidder/offeror is unable to achieve the DBE participation goals, then the bidder/offeror must request a waiver in Form A or the bid will be deemed not responsive, or the proposal not susceptible of being selected for award. You may wish to use the Goal Worksheet shown below to assist you in calculating the percentage and confirming that you have met the applicable DBE participation goal.

MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE
PART 1 – INSTRUCTIONS FOR DBE PARTICIPATION SCHEDULE
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GOAL WORKSHEET	
Total DBE Firm Participation (Add percentages in Column 3 for all DBE firms listed in DBE Participation Schedule)	(A) _____ %
The percentage amount in Box A above should be equal to the percentage amount in Box E below.	
Add <i>Countable</i> Subcontract Amounts (see 6 through 8 of Instructions) for all DBE firms listed in DBE Participation Schedule, and insert in Box B	(B) \$ _____
Insert the Total Contract Amount in Box C	(C) \$ _____
Divide Box B by Box C and Insert in Box D	(D) = _____
Multiply Box D by 100 and insert in Box E	(E) = _____ %

MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE
PART 2 – DBE PARTICIPATION SCHEDULE

PARTS 2 AND 3 MUST BE INCLUDED WITH THE BID/PROPOSAL. IF THE BIDDER/OFFEROR FAILS TO ACCURATELY COMPLETE AND SUBMIT PART 2 WITH THE BID/PROPOSAL AS REQUIRED, THE BID SHALL BE DEEMED NOT RESPONSIVE OR THE PROPOSAL SHALL BE DEEMED NOT SUSCEPTIBLE OF BEING SELECTED FOR AWARD.

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Prime Contractor	Project Description	Solicitation Number

LIST INFORMATION FOR EACH CERTIFIED DBE SUBCONTRACTOR YOU AGREE TO USE TO ACHIEVE THE DBE PARTICIPATION GOAL.

COLUMN 1	COLUMN 2	COLUMN 3
		Unless the bidder/offeror requested a waiver in MDOT DBE Form A – Federally Funded Contracts for this solicitation, the cumulative DBE participation for all DBE firms listed herein must equal at least the DBE participation goal set forth in Form A.
NAME OF DBE SUBCONTRACTOR AND TIER	CERTIFICATION NO.	FOR PURPOSES OF ACHIEVING THE DBE PARTICIPATION GOAL, refer to sections 6, 7 and 8 in Part 1 - Instructions. State the percentage amount of the products/services in Line 3.1, except for those products or services where the DBE firm is being used as a wholesaler, supplier, or regular dealer. For items of work where the DBE firm is being used as a supplier, wholesaler and/or regular dealer, complete Line 3.2 using the 60% Rule.
<input type="checkbox"/> Please check if DBE firm is a third-tier contractor (if applicable). Please submit written documents in accordance with Section 5 of Part 1 - Instructions	Certification Number: <hr/>	<p>3.1. <u>TOTAL PERCENTAGE TO BE PAID TO THE SUBCONTRACTOR (STATE THIS PERCENTAGE AS A PERCENTAGE OF THE TOTAL CONTRACT VALUE- EXCLUDING PRODUCTS/SERVICES FROM SUPPLIERS, WHOLESALERS OR REGULAR DEALERS).</u></p> <p>_____ % (Percentage for purposes of calculating achievement of DBE Participation goal)</p> <p>3.2 <u>TOTAL PERCENTAGE TO BE PAID TO THE SUBCONTRACTOR FOR ITEMS OF WORK WHERE THE DBE FIRM IS BEING USED AS A SUPPLIER, WHOLESALER AND/OR REGULAR DEALER) (STATE THE PERCENTAGE AS A PERCENTAGE OF THE TOTAL CONTRACT VALUE AND THEN APPLY THE 60% RULE PER SECTION 6(E) IN PART 1 - INSTRUCTIONS).</u></p> <p>_____ % Total percentage of Supplies/Products</p> <p>x _____ 60% (60% Rule)</p> <p>_____ % (Percentage for purposes of calculating achievement of DBE Participation goal)</p>

☐ Please check if Continuation Sheets are attached.

**MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE
CONTINUATION SHEET**

PAGE ___ OF ___

Prime Contractor	Project Description	Solicitation Number

LIST INFORMATION FOR EACH CERTIFIED DBE SUBCONTRACTOR YOU AGREE TO USE TO ACHIEVE THE DBE PARTICIPATION GOAL.

COLUMN 1	COLUMN 2	COLUMN 3
		Unless the bidder/offeror requested a waiver in MDOT DBE Form A – Federally Funded Contracts for this solicitation, the cumulative DBE participation for all DBE firms listed herein must equal at least the DBE participation goal set forth in Form A.
NAME OF DBE SUBCONTRACTOR AND TIER	CERTIFICATION NO.	FOR PURPOSES OF ACHIEVING THE DBE PARTICIPATION GOAL, refer to sections 6, 7 and 8 in Part 1 - Instructions. State the percentage amount of the products/services in Line 3.1, except for those products or services where the DBE firm is being used as a wholesaler, supplier, or regular dealer. For items of work where the DBE firm is being used as a supplier, wholesaler and/or regular dealer, complete Line 3.2 using the 60% Rule.
<input type="checkbox"/> Please check if DBE firm is a third-tier contractor (if applicable). Please submit written documents in accordance with Section 5 of Part 1 - Instructions	Certification Number: <hr/>	<p>3.1. <u>TOTAL PERCENTAGE TO BE PAID TO THE SUBCONTRACTOR (STATE THIS PERCENTAGE AS A PERCENTAGE OF THE TOTAL CONTRACT VALUE- EXCLUDING PRODUCTS/SERVICES FROM SUPPLIERS, WHOLESALERS OR REGULAR DEALERS).</u></p> <p>_____ % (Percentage for purposes of calculating achievement of DBE Participation goal)</p> <p>3.2 <u>TOTAL PERCENTAGE TO BE PAID TO THE SUBCONTRACTOR FOR ITEMS OF WORK WHERE THE DBE FIRM IS BEING USED AS A SUPPLIER, WHOLESALER AND/OR REGULAR DEALER) (STATE THE PERCENTAGE AS A PERCENTAGE OF THE TOTAL CONTRACT VALUE AND THEN APPLY THE 60% RULE PER SECTION 6(E) IN PART 1 - INSTRUCTIONS).</u></p> <p>_____ % Total percentage of Supplies/Products</p> <p>x _____ 60% (60% Rule)</p> <p>_____ % (Percentage for purposes of calculating achievement of DBE Participation goal)</p>

☐ Please check if Continuation Sheets are attached.

Federal Requirements

**FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT
PUR-1513**

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**MDOT DBE FORM B
FEDERALLY-FUNDED CONTRACTS
DBE PARTICIPATION SCHEDULE**

PART 3 – CERTIFICATION FOR DBE PARTICIPATION SCHEDULE

PARTS 2 AND 3 MUST BE INCLUDED WITH THE BID/PROPOSAL AS DIRECTED IN THE SOLICITATION.

I hereby affirm that I have reviewed the Products and Services Description (specific product that a firm is certified to provide or areas of work that a firm is certified to perform) set forth in the MDOT DBE Directory for each of the DBE firms listed in Part 2 of this DBE Form B for purposes of achieving the DBE participation goal that was identified in the DBE Form A that I submitted with this solicitation, and that the DBE firms listed are only performing those products/services/areas of work for which they are certified. I also hereby affirm that I have read and understand the form instructions set forth in Part 1 of this DBE Form B.

The undersigned Prime Contractor hereby certifies and agrees that it has fully complied with the State Minority Business Enterprise law, State Finance and Procurement Article § 14-308(a)(2), Annotated Code of Maryland which provides that, except as otherwise provided by law, a contractor may not identify a certified minority business enterprise in a bid or proposal and:

- (1) fail to request, receive, or otherwise obtain authorization from the certified minority business enterprise to identify the certified minority business enterprise in its bid or proposal;
- (2) fail to notify the certified minority business enterprise before execution of the contract of its inclusion of the bid or proposal;
- (3) fail to use the certified minority business enterprise in the performance of the contract; or
- (4) pay the certified minority business enterprise solely for the use of its name in the bid or proposal.

I solemnly affirm under the penalties of perjury that the contents of Parts 2 and 3 of MDOT DBE Form B are true to the best of my knowledge, information and belief.

Company Name	Signature of Representative
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Address	Printed Name and Title
---------	------------------------

City, State and Zip Code	Date
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MDOT MBE/DBE FORM E

GOOD FAITH EFFORTS GUIDANCE AND DOCUMENTATION

PART 1 – GUIDANCE FOR DEMONSTRATING GOOD FAITH EFFORTS TO MEET MBE/DBE PARTICIPATION GOALS

In order to show that it has made good faith efforts to meet the Minority Business Enterprise (MBE)/Disadvantaged Business Enterprise (DBE) participation goal (including any MBE subgoals) on a contract, the bidder/offeror must either (1) meet the MBE/DBE Goal(s) and document its commitments for participation of MBE/DBE Firms, or (2) when it does not meet the MBE/DBE Goal(s), document its Good Faith Efforts to meet the goal(s).

I. Definitions

MBE/DBE Goal(s) – “MBE/DBE Goal(s)” refers to the MBE participation goal and MBE participation subgoal(s) on a State-funded procurement and the DBE participation goal on a federally-funded procurement.

Good Faith Efforts – The “Good Faith Efforts” requirement means that when requesting a waiver, the bidder/offeror must demonstrate that it took all necessary and reasonable steps to achieve the MBE/DBE Goal(s), which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient MBE/DBE participation, even if those steps were not fully successful. Whether a bidder/offeror that requests a waiver made adequate good faith efforts will be determined by considering the quality, quantity, and intensity of the different kinds of efforts that the bidder/offeror has made. The efforts employed by the bidder/offeror should be those that one could reasonably expect a bidder/offeror to take if the bidder/offeror were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere *pro forma* efforts are not good faith efforts to meet the DBE contract requirements. The determination concerning the sufficiency of the bidder's/offeror's good faith efforts is a judgment call; meeting quantitative formulas is not required.

Identified Firms – “Identified Firms” means a list of the DBEs identified by the procuring agency during the goal setting process and listed in the federally-funded procurement as available to perform the Identified Items of Work. It also may include additional DBEs identified by the bidder/offeror as available to perform the Identified Items of Work, such as DBEs certified or granted an expansion of services after the procurement was issued. If the procurement does not include a list of Identified Firms or is a State-funded procurement, this term refers to all of the MBE Firms (if State-funded) or DBE Firms (if federally-funded) the bidder/offeror identified as available to perform the Identified Items of Work and should include all appropriately certified firms that are reasonably identifiable.

Identified Items of Work – “Identified Items of Work” means the bid items identified by the procuring agency during the goal setting process and listed in the procurement as possible items of work for performance by MBE/DBE Firms. It also may include additional portions of items of work the bidder/offeror identified for performance by MBE/DBE Firms to increase the likelihood that the MBE/DBE Goal(s) will be achieved. If the procurement does not include a list of

Identified Items of Work, this term refers to all of the items of work the bidder/offeror identified as possible items of work for performance by MBE/DBE Firms and should include all reasonably identifiable work opportunities.

MBE/DBE Firms – For State-funded contracts, “MBE/DBE Firms” refers to certified **MBE** Firms. Certified MBE Firms can participate in the State’s MBE Program. For federally-funded contracts, “MBE/DBE Firms” refers to certified **DBE** Firms. Certified DBE Firms can participate in the federal DBE Program.

II. Types of Actions County will Consider

The bidder/offeror is responsible for making relevant portions of the work available to MBE/DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/DBE subcontractors and suppliers, so as to facilitate MBE/DBE participation. The following is a list of types of actions County will consider as part of the bidder's/offeror’s Good Faith Efforts when the bidder/offeror fails to meet the MBE/DBE Goal(s). This list is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Identify Bid Items as Work for MBE/DBE Firms

1. Identified Items of Work in Procurements

(a) Certain procurements will include a list of bid items identified during the goal setting process as possible work for performance by MBE/DBE Firms. If the procurement provides a list of Identified Items of Work, the bidder/offeror shall make all reasonable efforts to solicit quotes from MBE Firms or DBE Firms, whichever is appropriate, to perform that work.

(b) Bidders/Offerors may, and are encouraged to, select additional items of work to be performed by MBE/DBE Firms to increase the likelihood that the MBEDBE Goal(s) will be achieved.

2. Identified Items of Work by Bidders/Offerors

(a) When the procurement does not include a list of Identified Items of Work, bidders/offerors should reasonably identify sufficient items of work to be performed by MBE/DBE Firms.

(b) Where appropriate, bidders/offerors should break out contract work items into economically feasible units to facilitate MBE/DBE participation, rather than perform these work items with their own forces. The ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder/offeror of the responsibility to make Good Faith Efforts.

B. Identify MBE Firms or DBE Firms to Solicit

1. DBE Firms Identified in Procurements

(a) Certain procurements will include a list of the DBE Firms identified during the goal setting process as available to perform the items of work. If the procurement provides

a list of Identified DBE Firms, the bidder/offeror shall make all reasonable efforts to solicit those DBE firms.

(b) Bidders/offerors may, and are encouraged to, search the MBE/DBE Directory to identify additional DBEs who may be available to perform the items of work, such as DBEs certified or granted an expansion of services after the solicitation was issued.

2. MBE/DBE Firms Identified by Bidders/Offerors

(a) When the procurement does not include a list of Identified MBE/DBE Firms, bidders/offerors should reasonably identify the MBE Firms or DBE Firms, whichever is appropriate, that are available to perform the Identified Items of Work.

(b) Any MBE/DBE Firms identified as available by the bidder/offeror should be certified in the appropriate program (MBE for State-funded procurements or DBE for federally-funded procurements)

(c) Any MBE/DBE Firms identified as available by the bidder/offeror should be certified to perform the Identified Items of Work.

C. Solicit MBE/DBEs

1. Solicit all Identified Firms for all Identified Items of Work by providing written notice. The bidder/offeror should:

(a) provide the written solicitation at least 10 days prior to bid opening to allow sufficient time for the MBE/DBE Firms to respond;

(b) send the written solicitation by first-class mail, facsimile, or email using contact information in the MBE/DBE Directory, unless the bidder/offeror has a valid basis for using different contact information; and

(c) provide adequate information about the plans, specifications, anticipated time schedule for portions of the work to be performed by the MBE/DBE, and other requirements of the contract to assist MBE/DBE Firms in responding. (This information may be provided by including hard copies in the written solicitation or by electronic means as described in C.3 below.)

2. “All” Identified Firms includes the DBEs listed in the procurement and any MBE/DBE Firms you identify as potentially available to perform the Identified Items of Work, but it does not include MBE/DBE Firms who are no longer certified to perform the work as of the date the bidder/offeror provides written solicitations.

3. “Electronic Means” includes, for example, information provided *via* a website or file transfer protocol (FTP) site containing the plans, specifications, and other requirements of the

contract. If an interested MBE/DBE cannot access the information provided by electronic means, the bidder/offeror must make the information available in a manner that is accessible by the interested MBE/DBE.

4. Follow up on initial written solicitations by contacting DBEs to determine if they are interested. The follow up contact may be made:

(a) by telephone using the contact information in the MBE/DBE Directory, unless the bidder/offeror has a valid basis for using different contact information; or

(b) in writing *via* a method that differs from the method used for the initial written solicitation.

5. In addition to the written solicitation set forth in C.1 and the follow up required in C.4, use all other reasonable and available means to solicit the interest of MBE/DBE Firms certified to perform the work of the contract. Examples of other means include:

(a) attending any pre-bid meetings at which MBE/DBE Firms could be informed of contracting and subcontracting opportunities;

(b) if recommended by the procurement, advertising with or effectively using the services of at least two minority focused entities or media, including trade associations, minority/women community organizations, minority/women contractors' groups, and local, state, and federal minority/women business assistance offices listed on the MDOT Office of Minority Business Enterprise website; and

(c) effectively using the services of other organizations, as allowed on a case-by-case basis and authorized in the procurement, to provide assistance in the recruitment and placement of MBE/DBE Firms.

D. Negotiate With Interested MBE/DBE Firms

Bidders/Offerors must negotiate in good faith with interested MBE/DBE Firms.

1. Evidence of negotiation includes, without limitation, the following:

(a) the names, addresses, and telephone numbers of MBE/DBE Firms that were considered;

(b) a description of the information provided regarding the plans and specifications for the work selected for subcontracting and the means used to provide that information; and

(c) evidence as to why additional agreements could not be reached for MBE/DBE Firms to perform the work.

2. A bidder/offeror using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.

3. The fact that there may be some additional costs involved in finding and using MBE/DBE Firms is not in itself sufficient reason for a bidder's/offeror's failure to meet the contract DBE goal, as long as such costs are reasonable. Factors to take into consideration when determining whether a MBE/DBE Firm's quote is excessive or unreasonable include, without limitation, the following:

- (a) the dollar difference between the MBE/DBE subcontractor's quote and the average of the other subcontractors' quotes received by the bidder/offeror;
- (b) the percentage difference between the MBE/DBE subcontractor's quote and the average of the other subcontractors' quotes received by the bidder/offeror;
- (c) the percentage that the DBE subcontractor's quote represents of the overall contract amount;
- (d) the number of MBE/DBE firms that the bidder/offeror solicited for that portion of the work;
- (e) whether the work described in the MBE/DBE and Non-MBE/DBE subcontractor quotes (or portions thereof) submitted for review is the same or comparable; and
- (f) the number of quotes received by the bidder/offeror for that portion of the work.

4. The above factors are not intended to be mandatory, exclusive, or exhaustive, and other evidence of an excessive or unreasonable price may be relevant.

5. The bidder/offeror may not use its price for self-performing work as a basis for rejecting a MBE/DBE Firm's quote as excessive or unreasonable.

6. The "average of the other subcontractors' quotes received by the" bidder/offeror refers to the average of the quotes received from all subcontractors, except that there should be quotes from at least three subcontractors, and there must be at least one quote from a MBE/DBE and one quote from a Non-MBE/DBE.

7. A bidder/offeror shall not reject a MBE/DBE Firm as unqualified without sound reasons based on a thorough investigation of the firm's capabilities. For each certified MBE/DBE that is rejected as unqualified or that placed a subcontract quotation or offer that the bidder/offeror concludes is not acceptable, the bidder/offeror must provide a written detailed statement listing the reasons for this conclusion. The bidder/offeror also must document the steps taken to verify the capabilities of the MBE/DBE and Non-MBE/DBE Firms quoting similar work.

(a) The factors to take into consideration when assessing the capabilities of a MBE/DBE Firm, include, but are not limited to the following: financial capability, physical capacity to perform, available personnel and equipment, existing workload, experience performing the type of work, conduct and performance in previous contracts, and ability to meet reasonable contract requirements.

(b) The MBE/DBE Firm's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the efforts to meet the project goal.

E. Assisting Interested MBE/DBE Firms

When appropriate under the circumstances, the decision-maker will consider whether the bidder/offeree:

1. made reasonable efforts to assist interested MBE/DBE Firms in obtaining the bonding, lines of credit, or insurance required by County or the bidder/offeree; and
2. made reasonable efforts to assist interested MBE/DBE Firms in obtaining necessary equipment, supplies, materials, or related assistance or services.

III. Other Considerations

In making a determination of Good Faith Efforts the decision-maker may consider engineering estimates, catalogue prices, general market availability and availability of certified MBE/DBE Firms in the area in which the work is to be performed, other bids or offers and subcontract bids or offers substantiating significant variances between certified MBE/DBE and Non-MBE/DBE costs of participation, and their impact on the overall cost of the contract to the State and any other relevant factors.

The decision-maker may take into account whether a bidder/offeree decided to self-perform subcontract work with its own forces, especially where the self-performed work is Identified Items of Work in the procurement. The decision-maker also may take into account the

performance of other bidders/offerees in meeting the contract. For example, when the apparent successful bidder/offeree fails to meet the contract goal, but others meet it, this reasonably raises the question of whether, with additional reasonable efforts, the apparent successful bidder/offeree could have met the goal. If the apparent successful bidder/offeree fails to meet the goal, but meets or exceeds the average MBE/DBE participation obtained by other bidders/offerees, this, when viewed in conjunction with other factors, could be evidence of the apparent successful bidder/offeree having made Good Faith Efforts.

IV. Documenting Good Faith Efforts

At a minimum, a bidder/offeree seeking a waiver of the MBE/DBE Goal(s) or a portion thereof must provide written documentation of its Good Faith Efforts, in accordance with COMAR 21.11.03.11, within 10 business days after receiving notice that it is the apparent awardee. The written documentation shall include the following:

A. Items of Work (Complete Good Faith Efforts Documentation Form E, Part 2)

A detailed statement of the efforts made to select portions of the work proposed to be performed by certified MBE/DBE Firms in order to increase the likelihood of achieving the stated MBE/DBE Goal(s).

B. Outreach/Solicitation/Negotiation

1. The record of the bidder's/offeror's compliance with the outreach efforts prescribed by COMAR 21.11.03.09C(2)(a) through (e) and 49 C.F.R. Part 26, Appendix A. **(Complete Outreach Efforts Compliance Statement)**

2. A detailed statement of the efforts made to contact and negotiate with MBE/DBE Firms including:

(a) the names, addresses, and telephone numbers of the MBE/DBE Firms who were contacted, with the dates and manner of contacts (letter, fax, email, telephone, etc.) **(Complete Good Faith Efforts Form E, Part 3, and submit letters, fax cover sheets, emails, etc. documenting solicitations);** and

(b) a description of the information provided to MBE/DBE Firms regarding the plans, specifications, and anticipated time schedule for portions of the work to be performed and the means used to provide that information.

C. Rejected MBE/DBE Firms (Complete Good Faith Efforts Form E, Part 4)

1. For each MBE/DBE Firm that the bidder/offeror concludes is not acceptable or qualified, a detailed statement of the reasons for the bidder's/offeror's conclusion, including the steps taken to verify the capabilities of the MBE/DBE and Non-MBE/DBE Firms quoting similar work.

2. For each certified MBE/DBE Firm that the bidder/offeror concludes has provided an excessive or unreasonable price, a detailed statement of the reasons for the bidder's/offeror's conclusion, including the quotes received from all MBE/DBE and Non-MBE/DBE firms bidding on the same or comparable work. **(Include copies of all quotes received.)**

3. A list of MBE/DBE Firms contacted but found to be unavailable. This list should be accompanied by a Minority Contractor Unavailability Certificate signed by the MBE/DBE contractor or a statement from the bidder/offeror that the MBE/DBE contractor refused to sign the Minority Contractor Unavailability Certificate.

D. Other Documentation

1. Submit any other documentation requested by the Purchasing Department to ascertain the bidder's/offeror's Good Faith Efforts.

2. Submit any other documentation the bidder/offeror believes will help the Purchasing Department ascertain its Good Faith Efforts.

MDOT MBE/DBE FORM E
GOOD FAITH EFFORTS GUIDANCE AND DOCUMENTATION

PART 2 – CERTIFICATION REGARDING GOOD FAITH EFFORTS DOCUMENTATION

PAGE ___ OF ___

Prime Contractor	Project Description	Solicitation Number

**PARTS 3, 4, AND 5 MUST BE INCLUDED WITH THIS CERTIFICATE ALONG WITH ALL DOCUMENTS
SUPPORTING YOUR WAIVER REQUEST.**

I hereby request a waiver of (1) the Minority Business Enterprise (MBE) participation goal and/or subgoal(s), (2) the Disadvantaged Business Enterprise (DBE) participation goal, or (3) a portion of the pertinent MBE/DBE participation goal and/or MBE subgoal(s) for this procurement.¹ I affirm that I have reviewed the Good Faith Efforts Guidance MBE/DBE Form E. I further affirm under penalties of perjury that the contents of Parts 3, 4, and 5 of MDOT MBE/DBE Form E are true to the best of my knowledge, information and belief.

Company Name

Signature of Representative

Address

Printed Name and Title

City, State and Zip Code

Date

¹ MBE participation goals and subgoals apply to State-funded procurements. DBE participation goals apply to federally-funded procurements. Federally-funded contracts do not have subgoals.

MDOT MBE/DBE FORM E
GOOD FAITH EFFORTS GUIDANCE AND DOCUMENTATION

**PART 3 – IDENTIFIED ITEMS OF WORK BIDDER/OFFEROR MADE AVAILABLE TO
 MBE/DBE FIRMS**

PAGE __ OF __

Prime Contractor	Project Description	Solicitation Number

Identify those items of work that the bidder/offeror made available to MBE/DBE Firms. This includes, where appropriate, those items the bidder/offeror identified and determined to subdivide into economically feasible units to facilitate the MBE/DBE participation. For each item listed, show the anticipated percentage of the total contract amount. It is the bidder's/offeror's responsibility to demonstrate that sufficient work to meet the goal was made available to MBE/DBE Firms, and the total percentage of the items of work identified for MBE/DBE participation equals or exceeds the percentage MBE/DBE goal set for the procurement. Note: If the procurement includes a list of bid items identified during the goal setting process as possible items of work for performance by MBE/DBE Firms, the bidder/offeror should make all of those items of work available to MBE/DBE Firms or explain why that item was not made available. If the bidder/offeror selects additional items of work to make available to MBE/DBE Firms, those additional items should also be included below.

Identified Items of Work	Was this work listed in the procurement?	Does bidder/offeror normally self-perform this work?	Was this work made available to MBE/DBE Firms? If no, explain why?
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

☐ Please check if Additional Sheets are attached.

MDOT MBE/DBE FORM E
GOOD FAITH EFFORTS GUIDANCE AND DOCUMENTATION

PART 4 – IDENTIFIED MBE/DBE FIRMS AND RECORD OF SOLICITATIONS

PAGE __ OF __

Prime Contractor	Project Description	Solicitation Number

Identify the MBE/DBE Firms solicited to provide quotes for the Identified Items of Work made available for MBE/DBE participation. Include the name of the MBE/DBE Firm solicited, items of work for which bids/quotes were solicited, date and manner of initial and follow-up solicitations, whether the MBE/DBE provided a quote, and whether the MBE/DBE is being used to meet the MBE/DBE participation goal. MBE/DBE Firms used to meet the participation goal must be included on the MBE/DBE Participation Schedule, Form B. Note: If the procurement includes a list of the MBE/DBE Firms identified during the goal setting process as potentially available to perform the items of work, the bidder/offeror should solicit all of those MBE/DBE Firms or explain why a specific MBE/DBE was not solicited. If the bidder/offeror identifies additional MBE/DBE Firms who may be available to perform Identified Items of Work, those additional MBE/DBE Firms should also be included below. Copies of all written solicitations and documentation of follow-up calls to MBE/DBE Firms must be attached to this form. If the bidder/offeror used a Non-MBE/DBE or is self-performing the identified items of work, Part 4 must be completed.

Name of Identified MBE/DBE Firm & MBE Classification	Describe Item of Work Solicited	Initial Solicitation Date & Method	Follow-up Solicitation Date & Method	Details for Follow-up Calls	Quote Rec'd	Quote Used	Reason Quote Rejected
Firm Name: <hr/> MBE Classification (Check only if requesting waiver of MBE subgoal.) <input type="checkbox"/> African American-Owned <input type="checkbox"/> Hispanic American-Owned <input type="checkbox"/> Asian American-Owned <input type="checkbox"/> Women-Owned <input type="checkbox"/> Other MBE Classification <hr/> —		Date: <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Email	Date: <input type="checkbox"/> Phone <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Email	Time of Call: Spoke With: <input type="checkbox"/> Left Message	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Used Other MBE/DBE <input type="checkbox"/> Used Non-MBE/DBE <input type="checkbox"/> Self-performing
Firm Name: <hr/> MBE Classification (Check only if requesting waiver of MBE subgoal.) <input type="checkbox"/> African American-Owned <input type="checkbox"/> Hispanic American-Owned <input type="checkbox"/> Asian American-Owned <input type="checkbox"/> Women-Owned <input type="checkbox"/> Other MBE Classification <hr/> —		Date: <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Email	Date: <input type="checkbox"/> Phone <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Email	Time of Call: Spoke With: <input type="checkbox"/> Left Message	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Used Other MBE/DBE <input type="checkbox"/> Used Non-MBE/DBE <input type="checkbox"/> Self-performing

☐ Please check if Additional Sheets are attached.

MDOT MBE/DBE FORM E

GOOD FAITH EFFORTS GUIDANCE AND DOCUMENTATION

PART 5 – ADDITIONAL INFORMATION REGARDING REJECTED MBE/DBE QUOTES

PAGE __ OF __

Prime Contractor	Project Description	Solicitation Number

This form must be completed if Part 3 indicates that a MBE/DBE quote was rejected because the bidder/offeror is using a Non-MBE/DBE or is self-performing the Identified Items of Work. Provide the Identified Items Work, indicate whether the work will be self-performed or performed by a Non-MBE/DBE, and if applicable, state the name of the Non-MBE/DBE. Also include the names of all MBE/DBE and Non-MBE/DBE Firms that provided a quote and the amount of each quote.

Describe Identified Items of Work Not Being Performed by MBE/DBE (Include spec/section number from bid)	Self-performing or Using Non-MBE/DBE (Provide name)	Amount of Non-MBE/DBE Quote	Name of Other Firms who Provided Quotes & Whether MBE/DBE or Non-MBE/DBE	Amount Quoted	Indicate Reason Why MBE/DBE Quote Rejected & Briefly Explain
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE/DBE	\$ _____ _____	_____ <input type="checkbox"/> MBE/DBE <input type="checkbox"/> Non-MBE/DBE	\$ _____ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE/DBE	\$ _____ _____	_____ <input type="checkbox"/> MBE/DBE <input type="checkbox"/> Non-MBE/DBE	\$ _____ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE/DBE	\$ _____ _____	_____ <input type="checkbox"/> MBE/DBE <input type="checkbox"/> Non-MBE/DBE	\$ _____ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other

☐ Please check if Additional Sheets are attached.

INFORMATION REQUIRED TO BE SUBMITTED FOR FEDERALLY ASSISTED CONTRACTS:

(a) Each bidder shall provide the following information:

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ >\$10,000,000

(b) Each bidder shall provide the following information for each firm quoting or considered as subcontractors and/or suppliers:

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ > \$10,000,000

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ > \$10,000,000

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ > \$10,000,000

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ > \$10,000,000

NAME OF FIRM: _____

Street and/or P.O. Box

City

State

Zip Code

____ DBE ____ Non-DBE Age of the firm ____ years

Annual gross receipts per last calendar year ____ <\$500,000 ____ \$500,000-1,000,000

____ \$1,000,000-3,000,000 ____ \$3,000,000-5,000,000 ____ \$5,000,000-10,000,000

____ > \$10,000,000

Submit additional copies of this page as page 43A of 45, 43B of 45, etc. as necessary, and place them as the last pages in the Invitation for Bids. Place an "X" for "NO" on the last copy. Any additional Copies: _____ NO _____ YES

Commercial Nondiscrimination

- A. As a condition of entering into this Agreement, Contractor represents and warrants that it will comply with the State's Commercial Nondiscrimination Policy, as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland. As part of such compliance, Contractor may not discriminate on the basis of race, color, religion, ancestry, national origin, sex, age, marital status, sexual orientation, sexual identity, genetic information or an individual's refusal to submit to a genetic test or make available the results of a genetic test or on the basis of disability, or other unlawful forms of discrimination in the solicitation, selection, hiring, or commercial treatment of subcontractors, vendors, suppliers, or commercial customers, nor shall Contractor retaliate against any person for reporting instances of such discrimination. Contractor shall provide equal opportunity for subcontractors, vendors, and suppliers to participate in all of its public sector and private sector subcontracting and supply opportunities, provided that this clause does not prohibit or limit lawful efforts to remedy the effects of marketplace discrimination that have occurred or are occurring in the marketplace. Contractor understands that a material violation of this clause shall be considered a material breach of this Agreement and may result in termination of this Agreement, disqualification of Contractor from participating in State contracts, or other sanctions. This clause is not enforceable by or for the benefit of, and creates no obligation to, any third party.
- B. The Contractor agrees to include the clause contained in subsection (A), above, in all subcontracts, regardless of the tier.
- C. As a condition of entering into this Agreement, upon the request of the Commission on Civil Rights, and only after the filing of a complaint against Contractor under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland, as amended from time to time, Contractor agrees to provide within 60 days after the request a complete list of the names of all subcontractors, vendors, and suppliers that Contractor has used in the past 4 years on any of its contracts that were undertaken within the State of Maryland, including the total dollar amount paid by Contractor on each subcontract or supply contract. Contractor further agrees to cooperate in any investigation conducted by the State pursuant to the State's Commercial Nondiscrimination Policy as set forth under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland, and to provide any documents relevant to any investigation that are requested by the State. Contractor understands that violation of this clause is a material breach of this Agreement and may result in contract termination, disqualification by the State from participating in State contracts, and other sanctions.

ATTACHMENT A

CORROSION and INFILTRATION PROTECTION COATING

PART 1 - GENERAL

1.01 SUMMARY

- A.** This section covers work, materials and equipment required to install a monolithic multi-layer/component concrete manhole/wetwell lining system to provide infiltration and corrosion protection.
- B.** This section includes procedures for surface preparation, cleaning, application and testing.

1.02 SUBMITTALS

- A.** Submit technical data sheets on each product used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
- B.** Material Safety Data Sheets (MSDS) for each product used.
- C.** Submit technical data sheets and project specific data for repair materials to be top coated with the coating products including application, cure time and surface preparation.
- D.** Provide samples of the cured system including stepped samples showing stages of multi-layer/component applications.
- E.** Applicator Qualifications:
 - 1. Manufacturer and Contractor specializing in the performance of work specified in this section with a minimum of three (3) years documented experience and three thousand (3,000) vertical feet of application.
 - 2. Five (5) references of municipal sanitary sewer projects successfully performed within the past three years for projects similar in size and scope.

1.03 QUALITY ASSURANCE

- A.** Coating material shall be produced in an ISO 9001 certified facility.
- B.** Furnish materials of quality required by ASTM standards or other approved standards and specification.
- C.** Coating products shall be capable of being installed and curing properly within the

specified environments. Coating products shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems and capable of adhering to the substrates and repair products.

- D.** Coating products must have been tested by and passed ASTM G210-13 Severe Wastewater Analysis Testing (SWAT).
- E.** Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively to the host substrate and coating product(s) forming a composite system.
- F.** Contractor shall utilize equipment for the spray application of the coating product(s) which has been approved by the coating product manufacturer; and, Contractor shall have received training on the operation and maintenance of said equipment from the coating product manufacturer.
- G.** Contractor shall be trained by, or have their training approved and certified by, the coating product manufacturer for the handling, mixing, application and inspection of the coating product(s) to be used as specified herein.
- H.** Contractor shall be trained in the use of testing or inspection instrumentation and knowledgeable of the proper use, preparation and installation of the coating products to be used as specified herein.
- I.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.

1.04 DELIVERY, STORAGE AND HANDLING

- A.** Delivery and Handling: Prevent moisture damage and contamination of materials during delivery and handling.
- B.** Storage: Store materials in undamaged condition with seals and labels intact as packaged by the manufacturer.
 - 1. Liquid products shall be protected from freezing while being stored.

1.05 DEFINITIONS:

- A.** Cleaning: Removal of sand, dirt, roots, grease and all other solid or semi-solid material from the structures as required for proper application of patching and coating products.
- B.** Faults: Leaking joints, cracks, breaks or other imperfections in the structure.

1.06 JOB CONDITIONS

A. Environmental Requirements:

1. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the Manufacturer. Do not apply the products of this Section to frozen surfaces.
2. Do not apply coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the Manufacturer.

B. Protection:

1. Public Safety: If public safety is endangered during the progress of the rehabilitation work, provide adequate protective measures to protect public pedestrian and vehicular traffic on streets and walkways.
 - a. Signs, signals and barricades used shall conform to requirements of Federal, State and Local laws, rules, regulations, precautions, orders, and decrees.
2. Existing Facilities Protection: Protect existing structures from damage due to operations associated with work of this Section.
3. Personnel Protection: It is the responsibility of the Contractor to provide appropriate protective measures to ensure that chemicals are under the control of the Contractor at all times and are not available to unauthorized personnel or animals.

1.07 WARRANTY

- A. Manufacturer and Applicator warrant the liner system against failure for a period of ten (10) years. "Failure" will be deemed to have occurred if the protective lining fails to prevent the internal deterioration or corrosion of the structure or prevent groundwater infiltration. If any such failure occurs within ten (10) years of initial completion of work on a structure, the damage will be repaired at no cost to the Owner. "Failure" does not include damage resulting from mechanical or chemical abuse or act of God. Mechanical or chemical abuse means exposing the lined surfaces of the structure to any mechanical force or chemical substance not customarily present.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers that may be used include:
1. OBIC, LLC.

2.02 PROTECTIVE LINING SYSTEM MATERIALS

- A.** The protective lining system shall be a multi-layer/component protective lining system, OBIC including:

1. Polyurea Adhesion Coating
2. Polymer Surfacer Layer
3. Final Polyurea Armor Layer

2.03 LINER SYSTEM ARMOR LAYER

- A.** One hundred percent (100%) solids, no volatile organic compound (VOC), moisture tolerant, elastomeric polyurea coating to provide infiltration and corrosion protection. Material shall be capable of curing properly given the project site conditions and temperatures conforming to the following minimum physical requirements:

<u>Property</u>	<u>Value</u>
Hardness, D-2240	D 48
Tensile strength, D-412	3315 psi
100% Modulus, D-412	1668 psi
200% Modulus, D-412	1960 psi
300% Modulus, D-412	2650 psi
Tear resistance/DIE-C, D-624	417 pli
Ultimate elongation, D-412	395 %
Taber Abrasion, mg loss CS17	15 mg loss
Flexibility, 1/8" mandrel	Pass
ASTM G210-13 SWAT	Pass

2.04 LINER SYSTEM SURFACER LAYER

- A.** One hundred percent (100%) solids, no volatile organic compound (VOC), moisture tolerant, elastomeric polyurethane coating to provide infiltration and corrosion protection. Material shall be capable of curing properly given the project site conditions and temperatures conforming to the following minimum physical requirements:

<u>Product Type</u>	<u>Value</u>
Density (ASTM D – 1622	6-8 pcf
Compressive Strength 1"	130-180 psi
Closed Cell Content	> 94%
Water Absorption	< 0.03 lbs/sqft
Maximum Service Temp	180 deg
Viscosity (A side) @ 72 deg F	675 cps
Viscosity (B side) @ 72 deg F	200 cps
S.W.A.T (ASTM G210-13)	Pass

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A.** Conduct surface preparation program to include monitoring of atmosphere for hydrogen sulfide, methane, low oxygen or other gases, approved flow control equipment, and surface preparation equipment.
- B.** Surface preparation methods may include high pressure water cleaning, hydro blasting, abrasive blasting, grinding, detergent water cleaning and shall be suited to provide a surface compatible for installation of the liner system.
- C.** Surface preparation method shall produce a cleaned, abraded and sound surface with no evidence of laitance, loose concrete, brick or mortar, contaminants or debris, and shall display a surface profile suitable for application of liner system.
- D.** After the defects in the structure are identified, repair all leaks with a chemical or hydraulic sealant designed for use in field sealing of ground water. Severe cracks shall be "repaired with a urethane-based chemical" sealant. Product to be utilized shall be as approved by owner/engineer prior to installation. Repairs to exposed rebar, defective pipe penetrations or inverts, etc. shall be repaired utilizing non-shrink grout or approved alternative method.

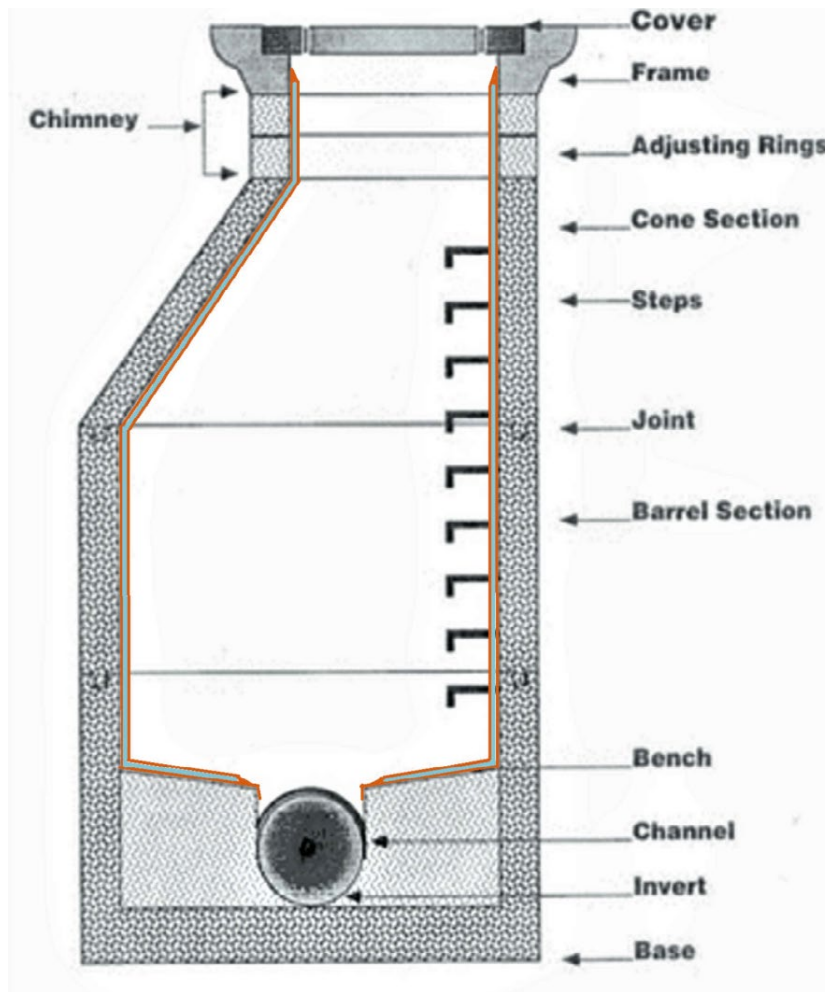
3.02 REPAIR MATERIALS

- A.** Repair materials shall be used to fill voids, structurally reinforce and/or rebuild surfaces. Repair materials shall be compatible with the polyurea coating and shall be applied in accordance with the manufacturer's recommendations.
- B.** Subject to compliance with the polyurea coating manufacturer's requirements, the following products shall be acceptable as compatible repair base coat materials for polyurea top coating:
 - 1. A hydraulic cement and/or plug shall be used to stop active infiltration. The hydraulic cement and plug shall be suitable for the polyurea top coating, and shall be approved by the polyurea coating manufacturer.
 - 2. Hydrophobic and/or Hydrophilic polyurethane chemical grouts used to stop active infiltration. The chemical grouts shall be suitable for the polyurea top coating, and shall be approved by the polyurea coating manufacturer.

3.03 MATERIAL INSTALLATION

- A.** Application procedures shall conform to recommendations of the manufacturer, including materials handling, mixing, environmental controls during application, safety and spray equipment.

- B.** Spray equipment shall be specifically designed to accurately ratio and apply the liner system.
- C.** Application of multi-layer/component liner system shall be in strict accordance with manufacturer's recommendation. Final installation shall be a minimum of ½" (500 mils).
1. Adhesion Layer (not intended to fill small voids)
 2. Surfacer Layer (intended to fill voids, bug holes)
 3. Armor Layer

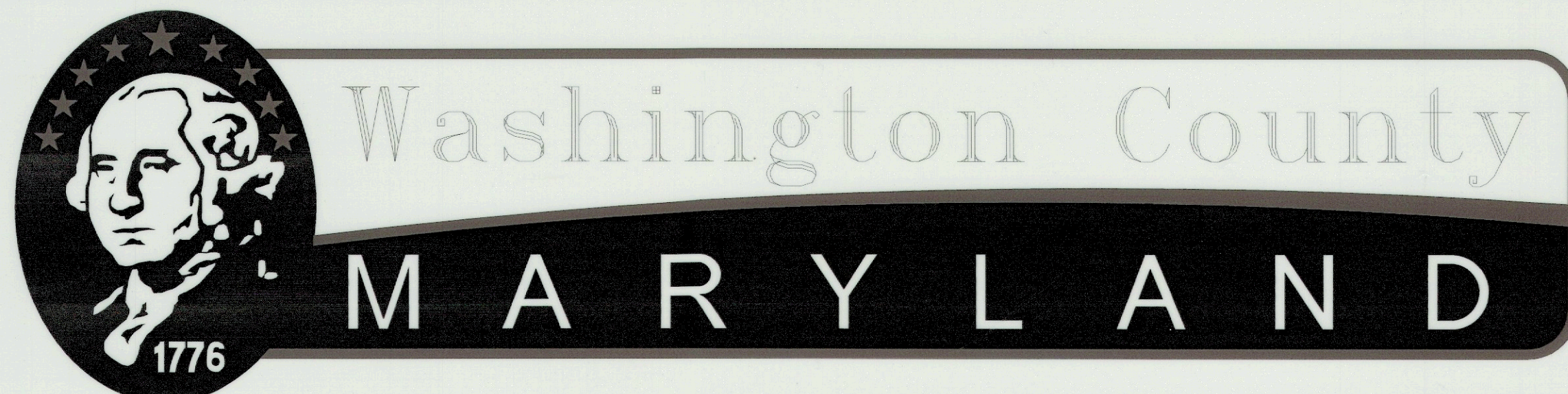


3.04 INSPECTION

- A.** Final liner system shall be completely free of pinholes or voids. Liner thickness shall be the minimum value as described herein (500 mils).

- B.** Due to the fast gel and set time of the material, thickness of the application can be verified by awl point depth checks into the surfacer component and physical removal of a small area of the polyurea material. Repair of the test areas to be done immediately after the test.
- C.** High Voltage Holiday Detection may be used to inspect for pinholes or breaches in the liner system installation.
- D.** Visual inspection shall be made by the Owner/Engineer. Any deficiencies in the finished liner system shall be marked and repaired according to the procedures set forth by Manufacturer.
- E.** The manhole/wetwell may be returned to full operational service after the final inspection has taken place.

END OF SECTION



DIVISION OF ENVIRONMENTAL MANAGEMENT
DEPARTMENT OF ENGINEERING SERVICES

FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT

PROJECT NO. 090-1347

PUR-1513

GP-21-021

I/WE CERTIFY THAT ALL GRADING ON THIS SITE WILL BE DONE IN ACCORDANCE WITH THE CURRENT GRADING REQUIREMENTS AS SET FORTH IN THE WASHINGTON COUNTY GRADING ORDINANCE.

Mark D. Bradshaw 9-28-21
MARK D. BRADSHAW P.E. DATE:
DIRECTOR OF DIVISION OF ENVIRONMENTAL MANAGEMENT WASHINGTON COUNTY, MD

APPROVED

Mark D. Bradshaw 9/30/2021
WASHINGTON COUNTY, DIVISION OF PLAN REVIEW AND PERMITTING DATE

WASHINGTON COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL PLAN APPROVAL

BY: Timothy D. Smith
DATE: 10/5/2021
(PLAN IS VALID FOR TWO YEARS FROM DATE OF APPROVAL)

OWNER / DEVELOPER'S CERTIFICATION

I/WE CERTIFY ALL/ANY PARTIES RESPONSIBLE FOR CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL, BE DONE PURSUANT TO THIS PLAN AND RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT.

Mark D. Bradshaw 9-28-21
MARK D. BRADSHAW P.E. DATE:
DIRECTOR OF DIVISION OF ENVIRONMENTAL MANAGEMENT WASHINGTON COUNTY, MD

APPROVED FOR CONSTRUCTION

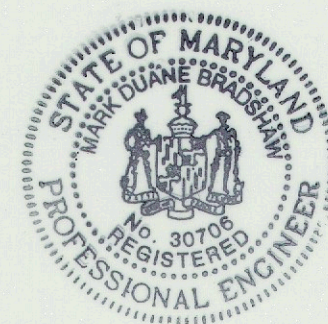
Mark D. Bradshaw 9-28-21
MARK D. BRADSHAW P.E. DATE:
DIRECTOR OF DIVISION OF ENVIRONMENTAL MANAGEMENT WASHINGTON COUNTY, MD

ENGINEER/ARCHITECT DESIGN CERTIFICATION

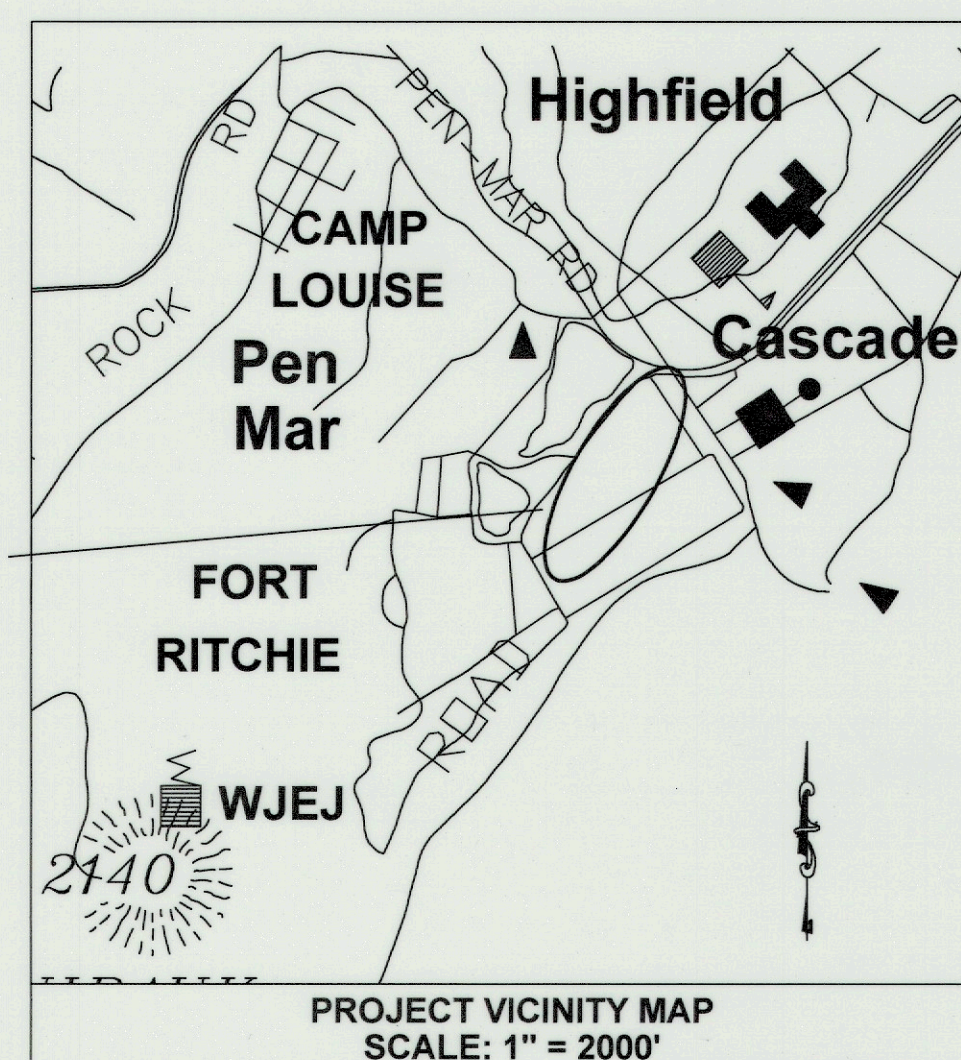
I HEREBY CERTIFY THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAS BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07, AND MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

Mark D. Bradshaw 9-28-21
SIGNATURE REGISTRATION NUMBER DATE

"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. 30,706, EXPIRATION DATE: 6/28/22."



PROJECT SITE



BOARD OF COUNTY COMMISSIONERS
JEFFERY A. CLINE, PRESIDENT
TERRY L. BAKER, VICE PRESIDENT
WAYNE K. KEEFER
CHARLES A. BURKETT JR.
RANDALL E. WAGNER

JOHN M. MARTIRANO, COUNTY ADMINISTRATOR

MARK D. BRADSHAW P.E. DIRECTOR
DIVISION ENVIRONMENTAL MANAGEMENT

STANDARD COUNTY NOTES

1. A COMPLETE SET OF APPROVED PLANS AND A COPY OF THE GRADING PERMIT MUST BE ON SITE AND AVAILABLE FOR USE BY THE INSPECTOR, OR OTHER REPRESENTATIVES OF WASHINGTON COUNTY DIVISION OF PUBLIC WORKS. VERIFICATION PROCEDURES" DATED OCTOBER 17, 2008.
2. A STORMWATER MANAGEMENT WAIVER HAS BEEN OBTAINED FOR THIS PLAN.

INDEX OF SHEETS

SHEET 1	TITLE PAGE
SHEET 2	OVERALL VIEW
SHEET 3	PLAN VIEW
SHEET 4	PLAN VIEW
SHEET 5	DETAILS
SHEET 6	E&S NOTES & DETAILS

ZONING	EC
TAX MAP/PARCEL	28/0186
ELECTION DISTRICT	14
ADDRESS	14421 Lake Royer Drive Cascade, MD 21719

DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 1.6 ACRES AND THE TOTAL AMOUNT OF EXCAVATION AND FILL SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 0 CU. YDS. OF EXCAVATION AND APPROXIMATELY 0 CU. YDS. OF FILL.

NOTE:

A COMPLETE SET OF APPROVED PLANS AND A COPY OF THE GRADING PERMIT MUST BE ON SITE AND AVAILABLE FOR USE BY THE INSPECTOR, OR OTHER REPRESENTATIVE OF WASHINGTON COUNTY DIVISION OF PUBLIC WORKS.

OWNER/DEVELOPER:

BOARD OF COUNTY COMMISSIONERS
FOR WASHINGTON COUNTY, MD
AGENT: MARK BRADSHAW, P.E.
16232 ELLIOTT PARKWAY
WILLIAMSPORT, MD 21795
PHONE: 240-313-2600
FAX: 240-313-2601

SEQUENCE OF CONSTRUCTION

1. CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-257-7777 (A MINIMUM OF 3 WORKING DAYS) PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821 (EXT 3) AT LEAST FIVE DAYS IN ADVANCE TO SCHEDULE PRE-CONSTRUCTION MEETING.
3. INSTALL ANY EROSION AND SEDIMENT CONTROL DEVICES.
4. CONTRACTOR SHALL TEST PIT IN THE AREA OF EXISTING UTILITIES TO VERIFY SIZE, LOCATION, ELEVATION AND TYPE PRIOR TO PERFORMING ANY WORK. POTENTIAL CONFLICTS SHALL BE RESOLVED BEFORE PROCEEDING WITH WORK AND SECURE ANY UTILITIES THAT SHALL BE IN THE EXCAVATION AREA.
5. EXCAVATE AND REMOVE MANHOLES AND GRAVITY LINES. LINES ARE ACTIVE WITH MINIMUM FLOW, PLUG UPSTREAM MANHOLES. ALL LINES, LATERALS AND MANHOLES MUST BE INSTALLED AND THE TRENCH BACKFILLED BY END OF WORK DAY. PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
6. INSTALL REHAB LINER ON MANHOLE 090-071 AND 090-102.
7. TEST ALL LINES AND MANHOLES.
8. SEED AND MULCH ANY NON-PAVED AREAS.
9. INSTALL ANY INLETS THAT NEED REPLACED.
10. INSTALL ANY CURB THAT NEEDS TO BE REPLACED.
11. REPAIR ANY ASPHALT PAVEMENT DISTURBED DURING CONSTRUCTION INCLUDING ANY DAMAGED BY THE CONTRACTOR.
12. CONTRACTOR SHALL CONTACT WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821 (EXT 3) PRIOR TO REMOVING EROSION AND SEDIMENT CONTROL DEVICES.
13. UNINSTALL ANY EROSION AND SEDIMENT CONTROL DEVICES.

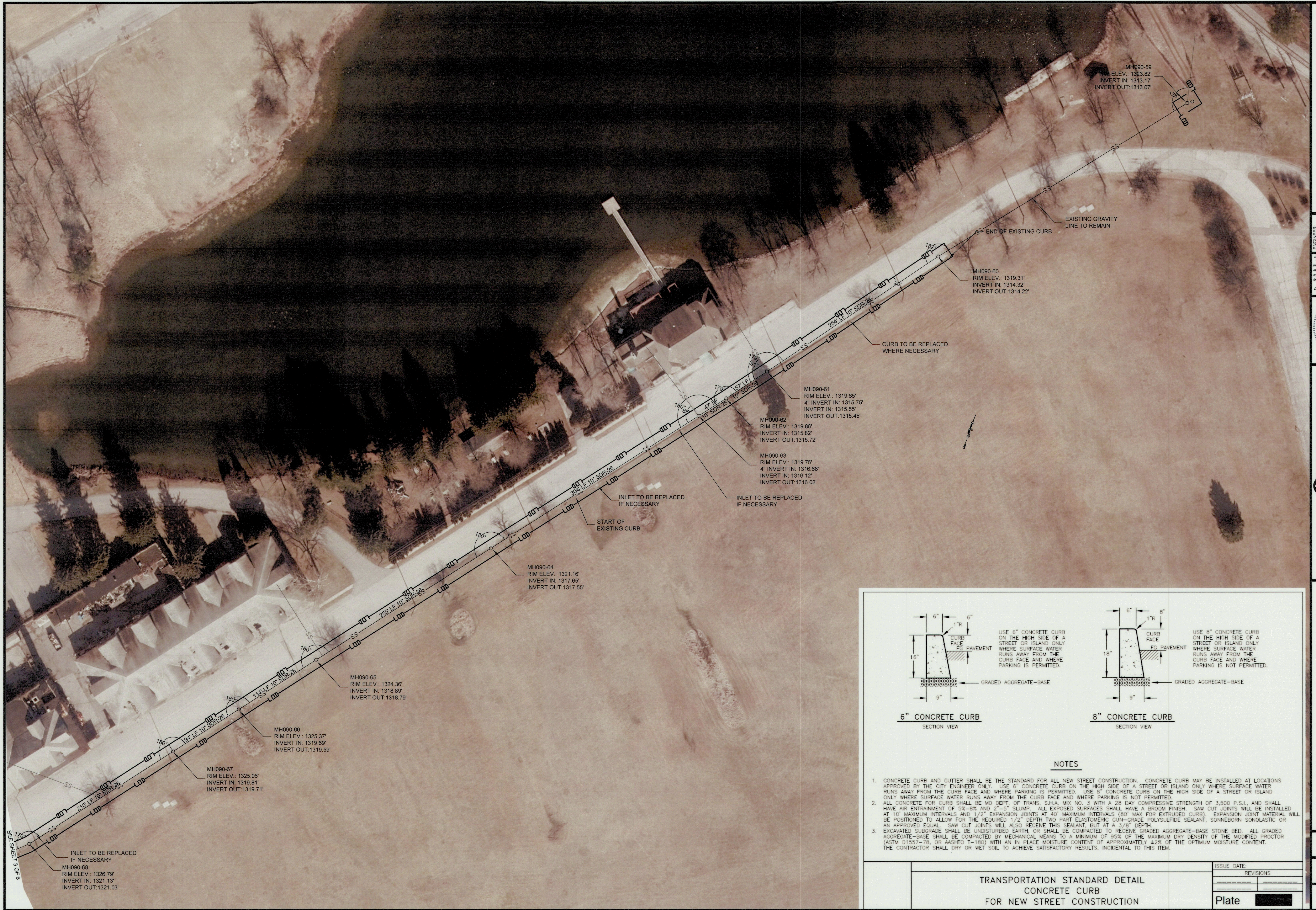
GENERAL CONSTRUCTION NOTES

1. NO ENVIRONMENTAL STUDIES HAVE BEEN CONDUCTED BY DEPARTMENT OF ENGINEERING SERVICES TO DETERMINE THE EXISTENCE OR LOCATION OF GROUND WATER, ROCK OR OTHER NATURAL OR MAN-MADE FEATURES, EXCEPT AS SPECIFICALLY INDICATED.
2. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE MUNICIPAL, COUNTY AND/OR STATE AUTHORITIES AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK WITHIN PUBLIC RIGHT(S) OF WAY.
3. THE CONTRACTOR SHALL VERIFY ALL SURFACE AND SUBSURFACE CONDITIONS (LOCATIONS AND ELEVATIONS) PRIOR TO BIDDING AND START OF CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER BEFORE PROCEEDING IF THEY AFFECT THE DESIGN FEASIBILITY OF THIS PROJECT. ANY DAMAGE TO FACILITIES, STRUCTURES, PAVEMENT OR OTHER MAN-MADE ITEMS ON OR ADJACENT TO THE SITE OR NOT SPECIFICALLY INDICATED FOR THE DEMOLITION SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE OWNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE LEGAL AND REGULATORY REQUIREMENTS. CONTRACTOR SHALL OBTAIN ANY BONDS REQUIRED BY COUNTY/STATE FOR WORK WITHIN COUNTY/STATE RIGHT(S)-OF-WAY.
5. TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO CORRECT CONDITIONS THAT DEVELOP DURING CONSTRUCTION THAT ARE UNOERSEEN DURING THE DESIGN STAGE OR THAT ARE NEEDED TO TEMPORARILY CONTROL EROSION THAT DEVELOPS DURING NORMAL CONSTRUCTION PRACTICES.
6. JOB SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. EXACT LOCATIONS SHALL BE TEST PITTED AND DETERMINED IN THE FIELD BEFORE BEGINNING CONSTRUCTION.
8. NO TITLE REPORT HAS BEEN CONDUCTED. PROPERTY LINE INFORMATION HAS BEEN TAKEN FROM DEED(S) OF RECORD AND NOT FIELD VERIFIED.
9. THE SOILS ON THE PROJECT PER THE USDA SOIL SURVEY OF WASHINGTON COUNTY IS SHOWN AS " KARST LANDSCAPE" DUE TO THIS, THIS AREA HAS A POTENTIAL FOR SINKHOLES.
10. A WASHINGTON COUNTY FLOODPLAIN PERMIT IS REQUIRED FOR ALL DEVELOPMENT WITHIN THE FLOODPLAIN
11. CONTRACTOR WILL BE RESPONSIBLE FOR BRACING EXISTING POWER POLES.
12. CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSAL OF ALL OLD MANHOLES AND PIPES.





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. 30706, Expiration Date: 6/28/22			
ENGINEER:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
MDR	AVM	AVM	MDR
DATE:	6/2021		
Washington County MARYLAND DIVISION OF ENVIRONMENTAL MANAGEMENT DEPARTMENT OF ENGINEERING SERVICES 19329 ELLIOTT PARKWAY WILLIAMSPORT, MD 21795 240-313-2800 Fax: 240-313-2801			
FORT RITCHIE GRAVITY LINES & MANHOLE REPLACEMENT PLAN VIEW			
SCALE 1"=50'			
SHEET NO. 3 OF 6			
PROJECT NO. 090-1347			
XXXXXX			



ENGINEER	DESIGNED BY	DRAWN BY	CHECKED BY	DATE
WJS	WJS	WJS	WJS	6/2021

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. 30709, Expiration Date: 6/28/22

STATE OF MARYLAND
DIVISION OF ENVIRONMENTAL MANAGEMENT
DEPARTMENT OF ENGINEERING SERVICES

Washington County
MARYLAND
18232 ELLIOTT PARKWAY
WILLIAMSPORT, MD 21795
240-313-2800 Fax: 240-313-2801

**FORT RITCHIE GRAVITY LINES
& MANHOLE REPLACEMENT**

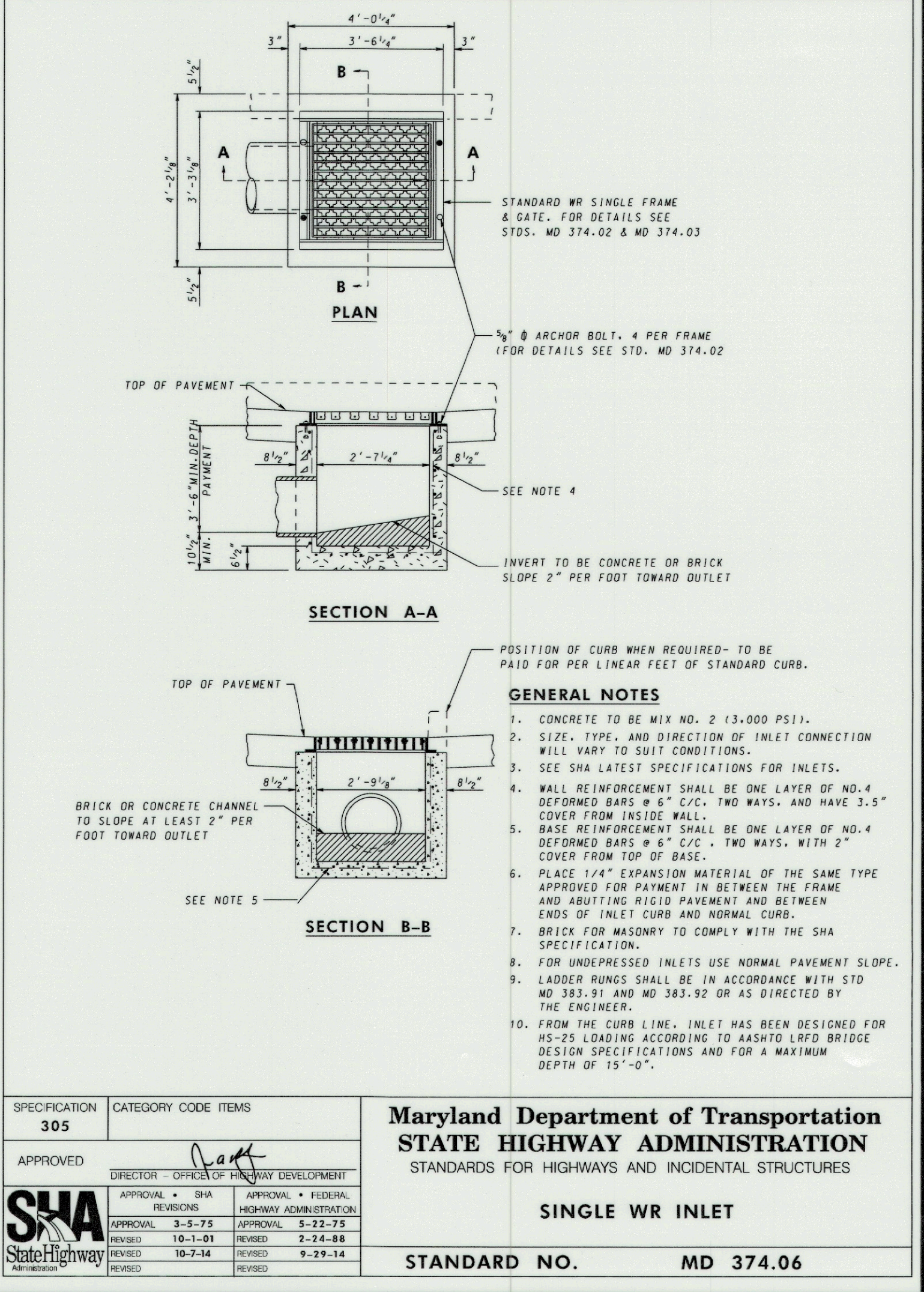
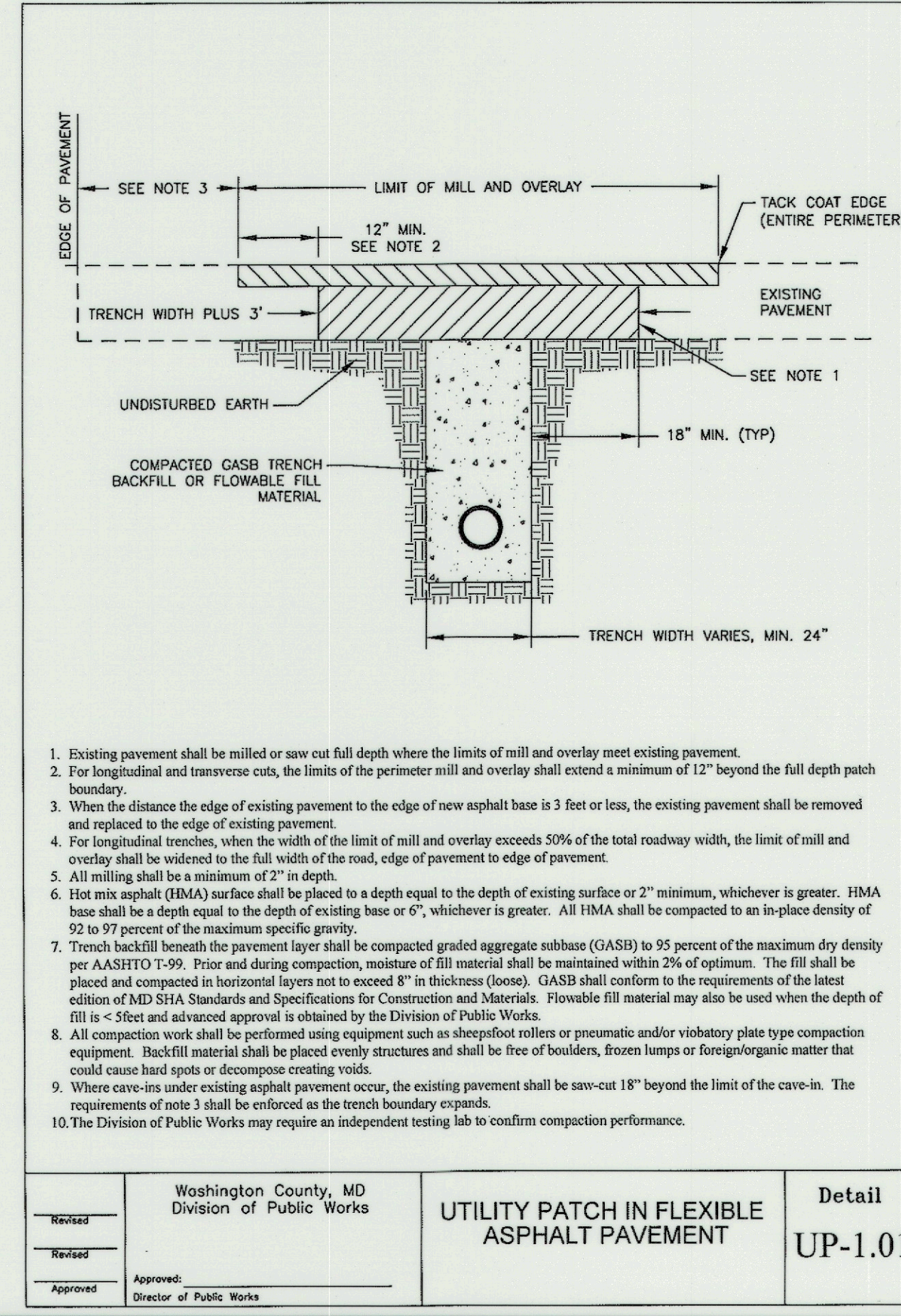
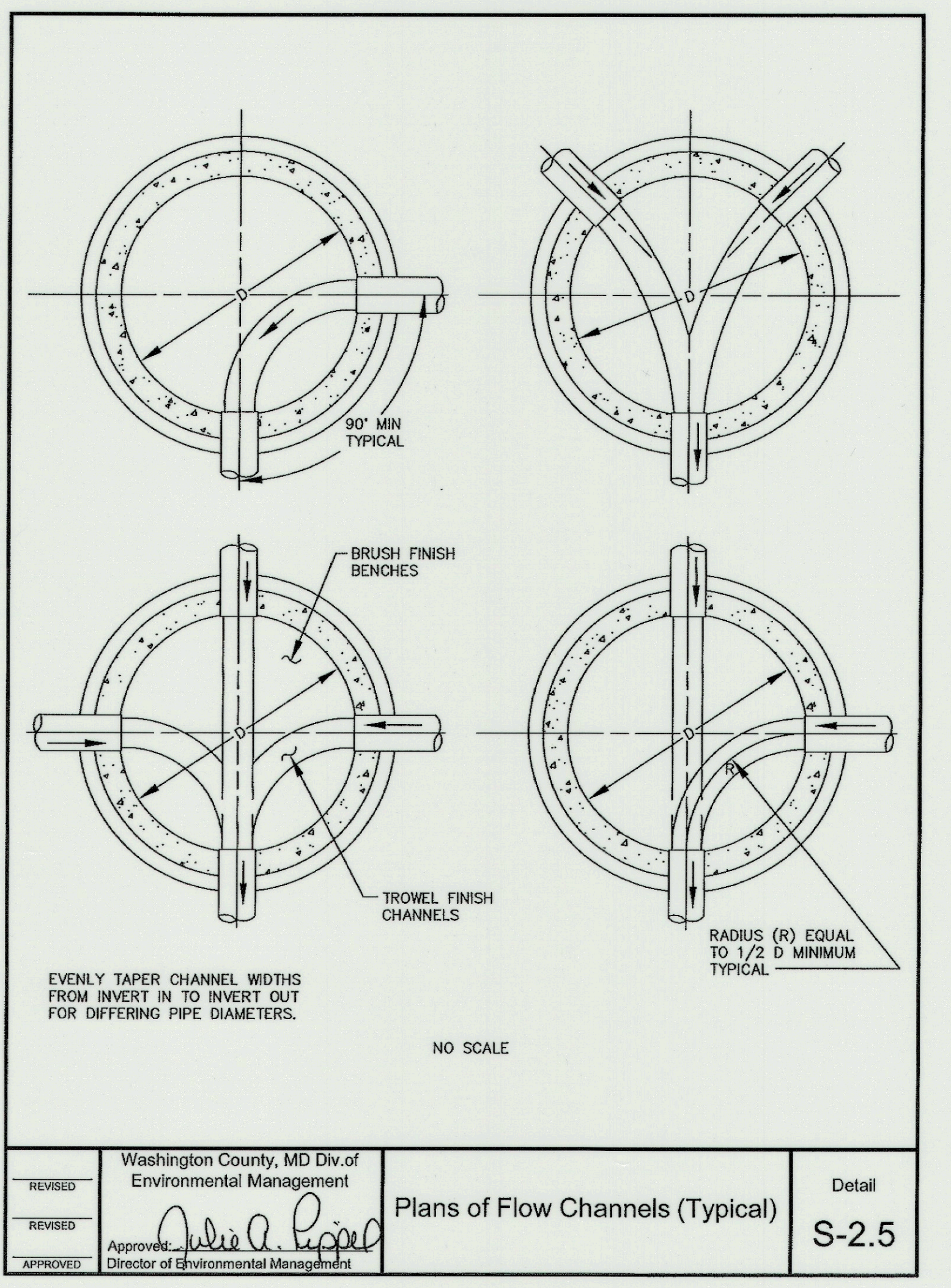
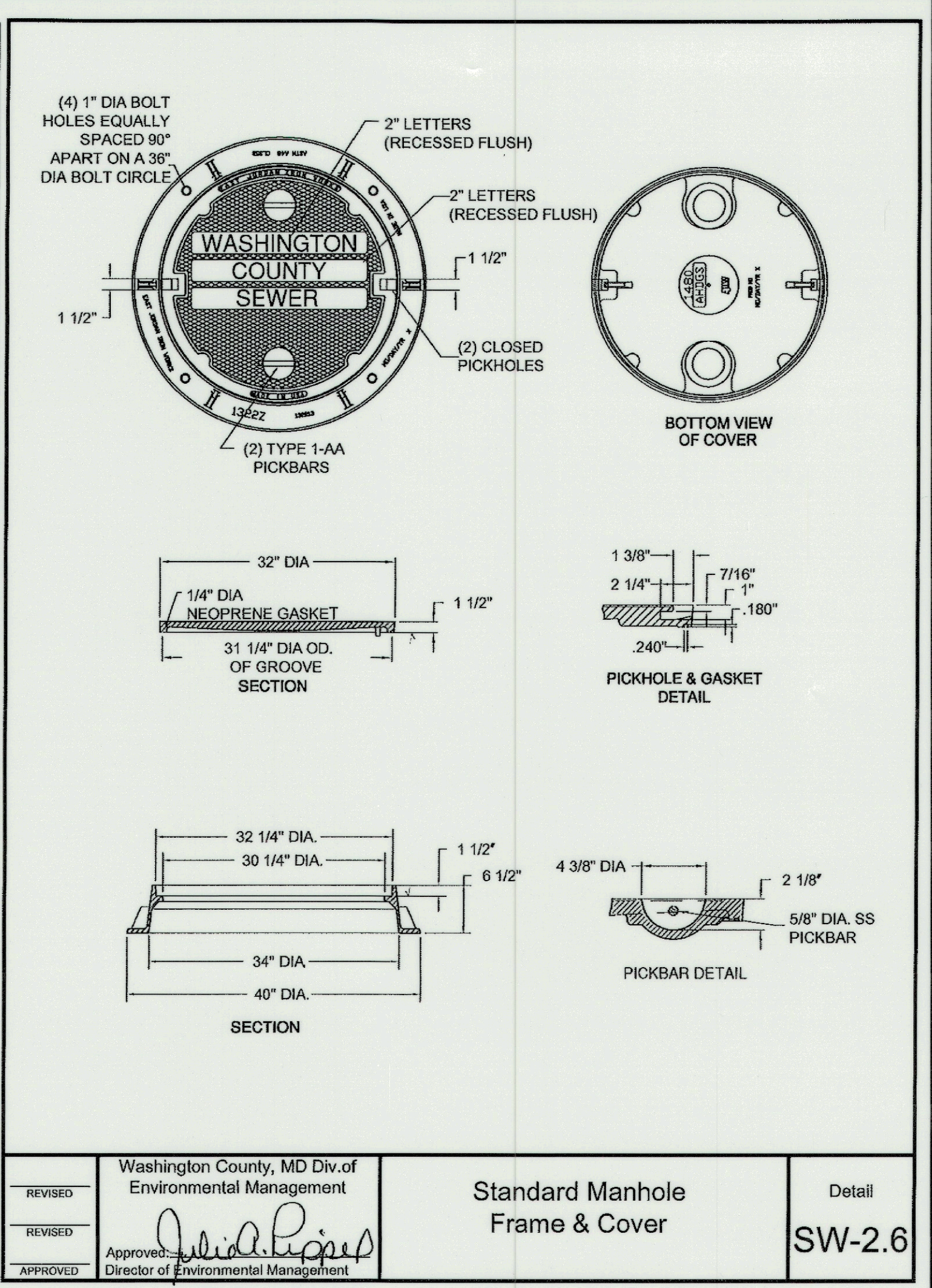
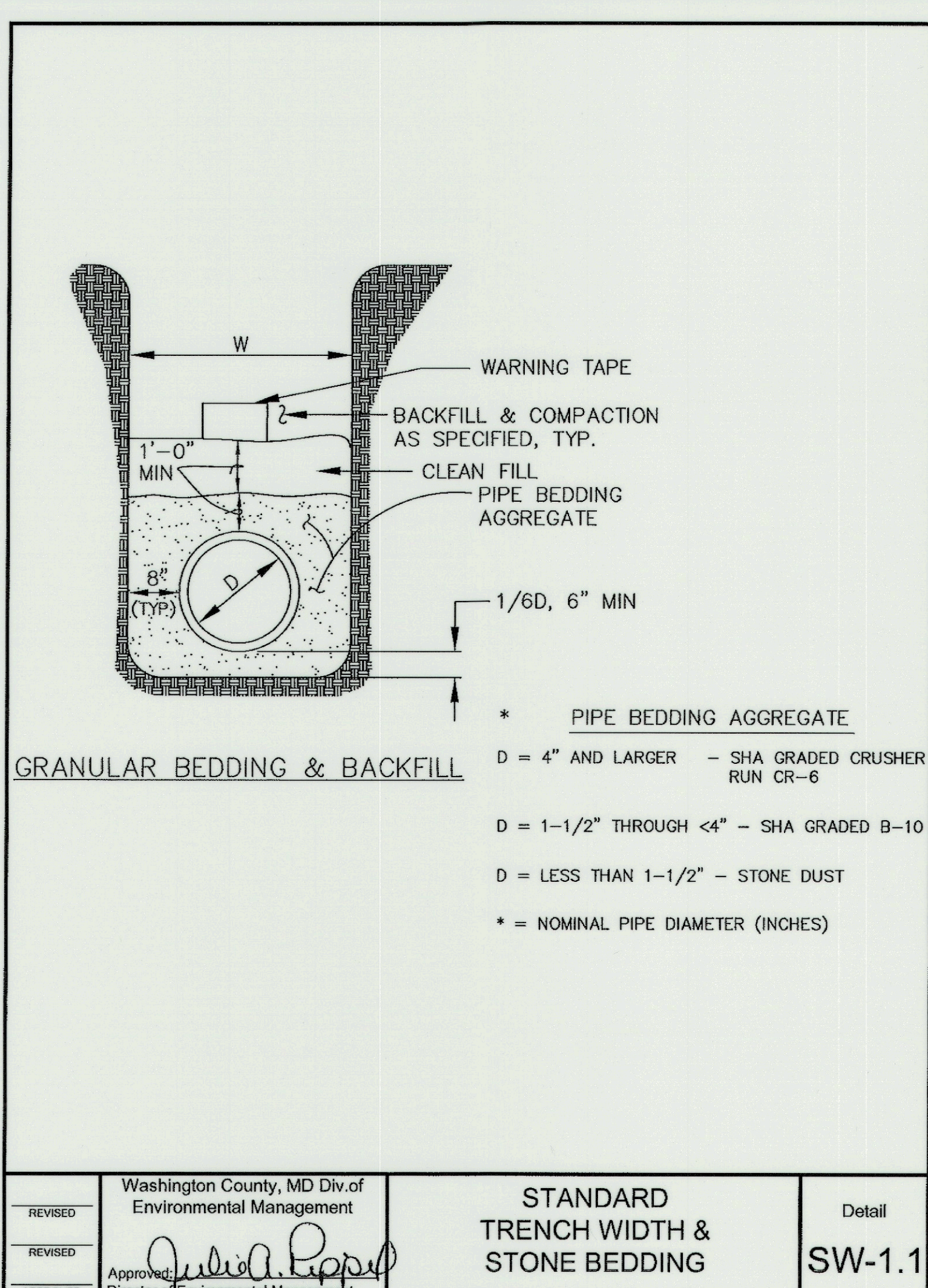
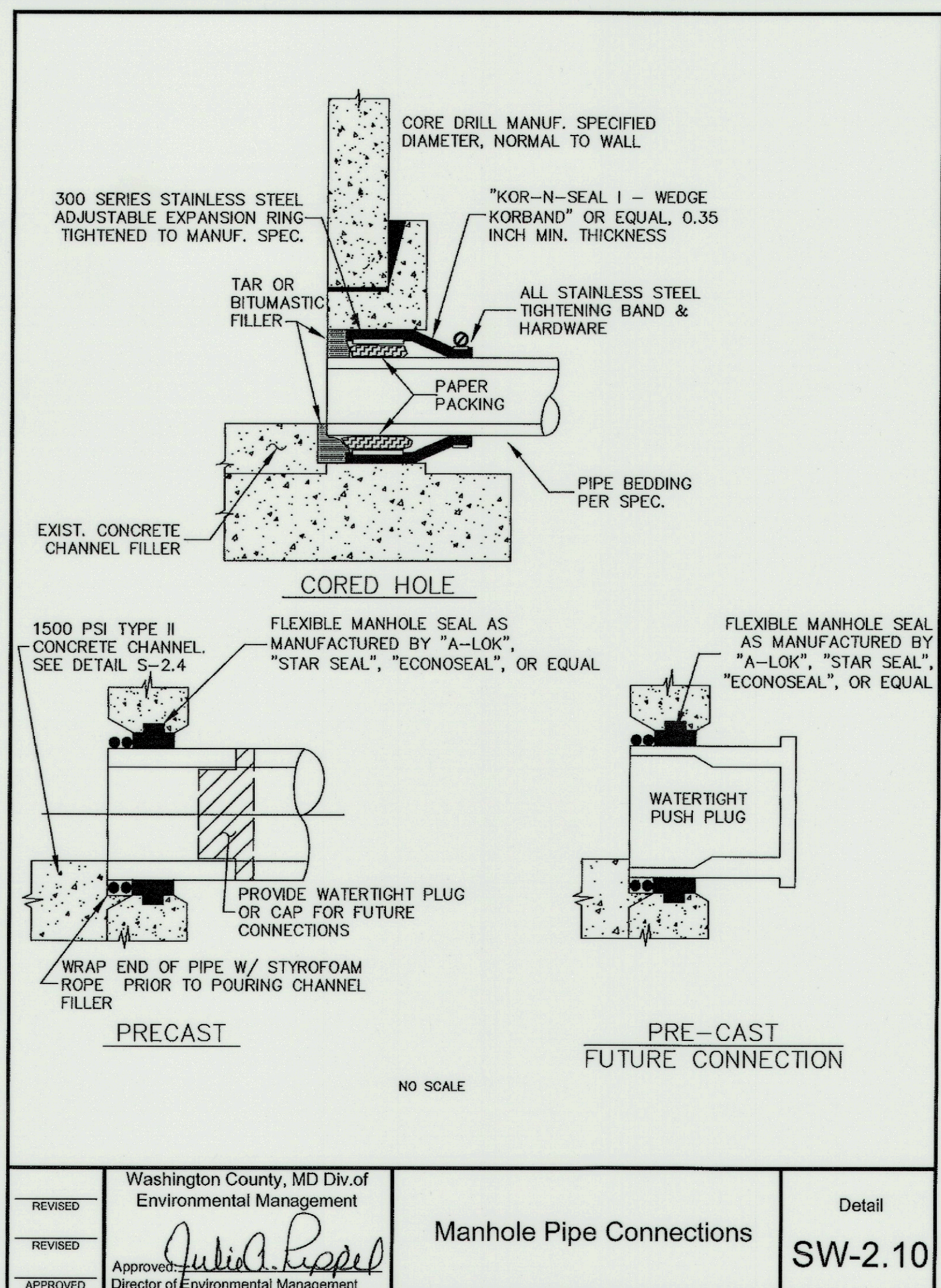
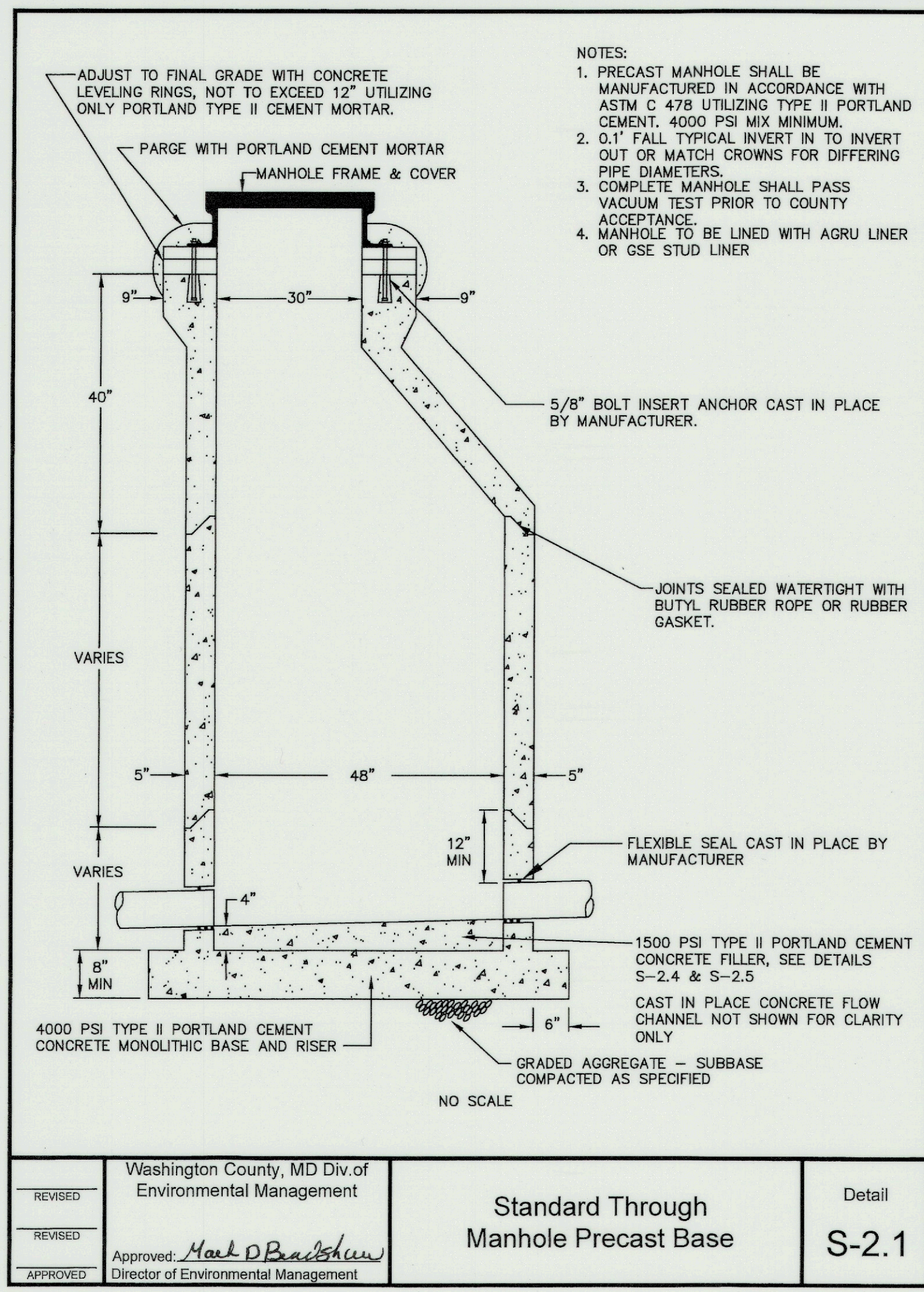
PLAN VIEW

SCALE
1"=50'

SHEET NO.
4 OF 6

PROJECT NO.
090-1347

GP-21-021



ENGINEER	DESIGNED BY	DRAWN BY	CHECKED BY	DATE
MDB	AWM	AWM	MDB	6/2021

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. 30706, Expiration Date: 5/28/22

STATE OF MARYLAND
DIVISION OF ENVIRONMENTAL MANAGEMENT
DEPARTMENT OF ENGINEERING SERVICES

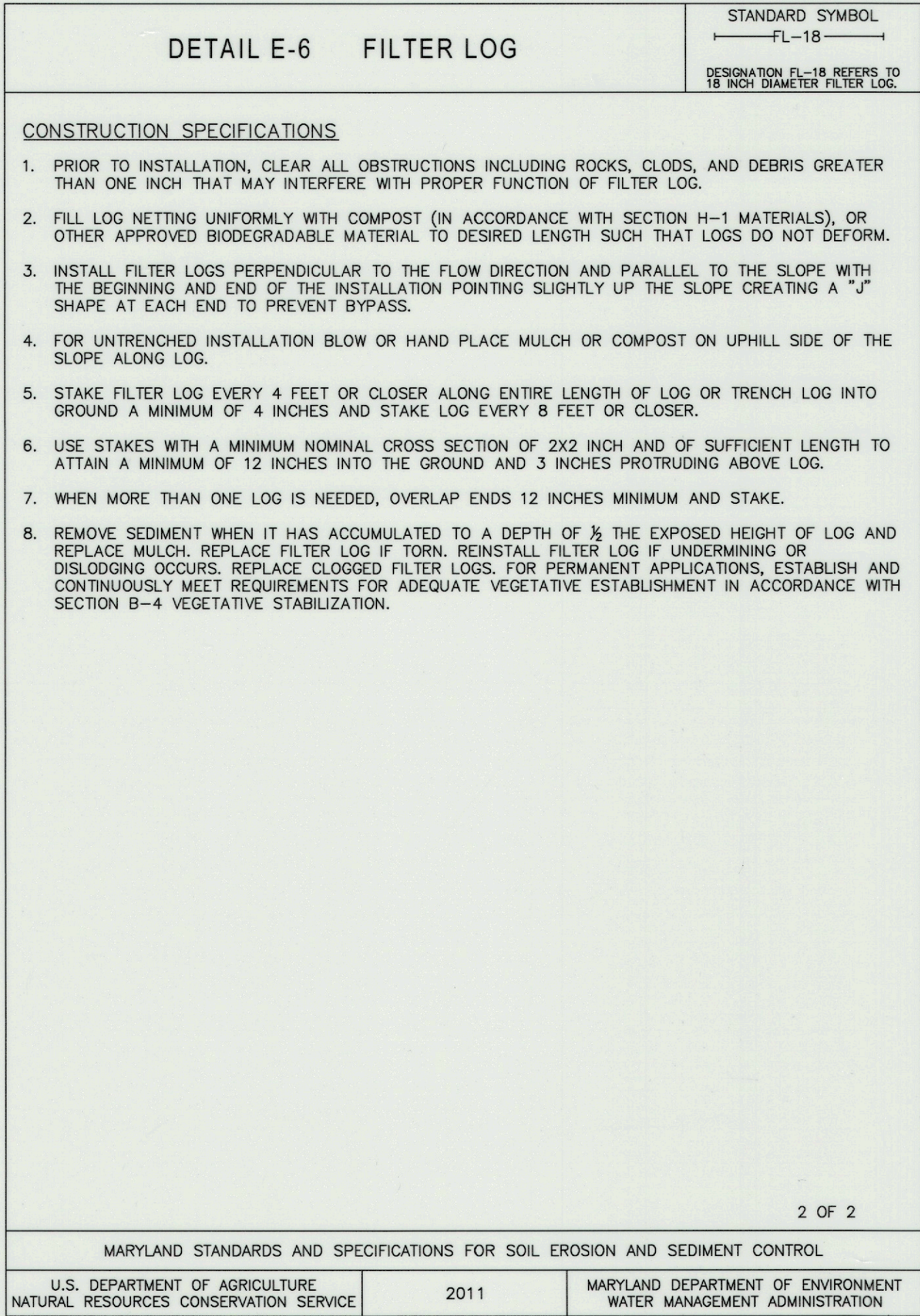
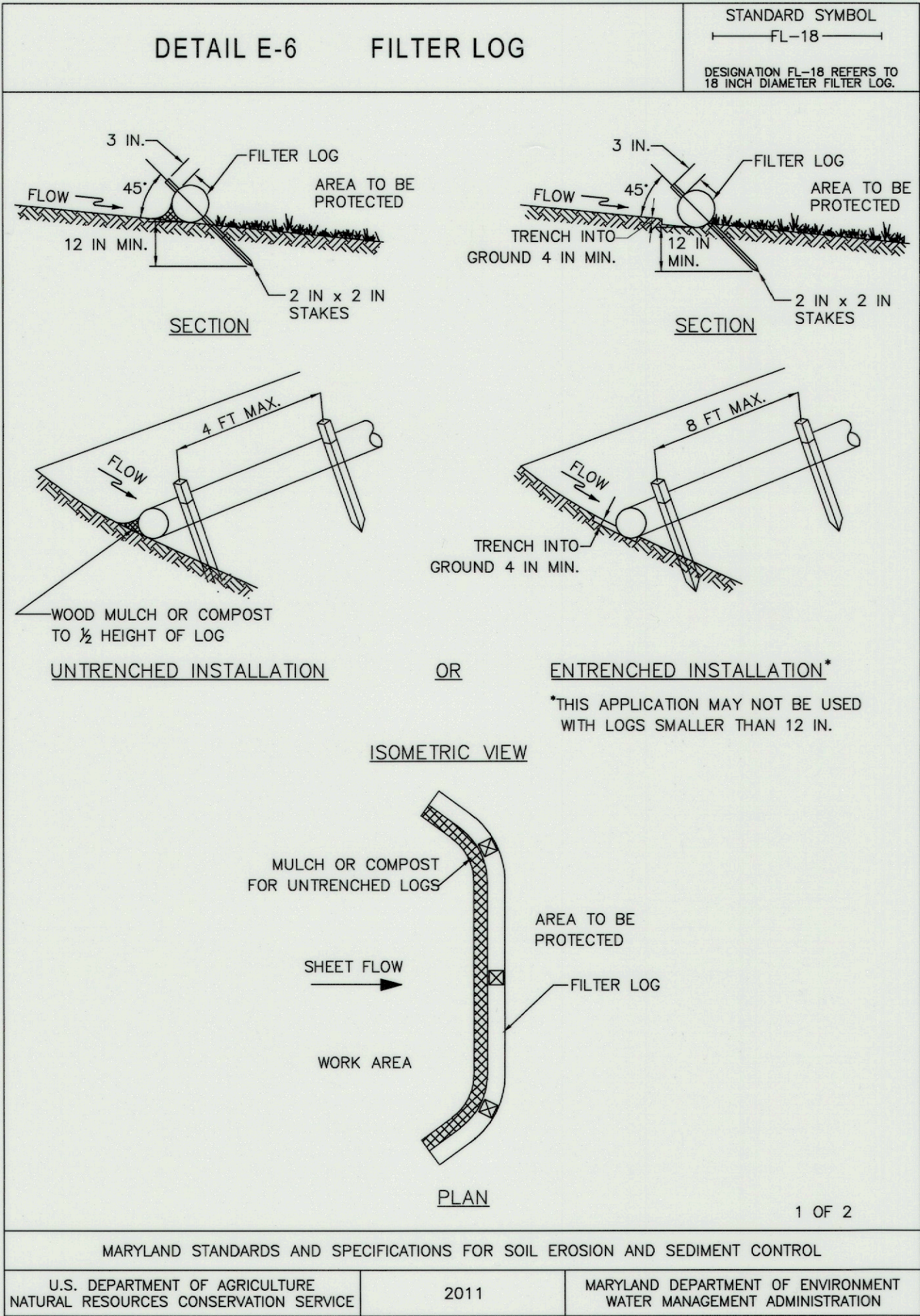
16232 ELLIOTT PARKWAY
WILLIAMSPORT, MD 21795
240-313-2600 Fax: 240-313-2601

Washington County
MARYLAND
DIVISION OF ENVIRONMENTAL MANAGEMENT
DEPARTMENT OF ENGINEERING SERVICES

FORT RITCHIE GRAVITY LINES
& MANHOLE REPLACEMENT

DETAILS

SCALE	N.T.S.
SHEET NO.	5 OF 6
PROJECT NO.	090-1347



The Soil Conservation District makes no representation as to the existence or nonexistence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities. It is suggested that MISS UTILITY be contacted at 1-800-257-7777.

NOTICE: THE CONTRACTOR SHALL NOTIFY

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AT:800-633-6101
AND
WASHINGTON COUNTY SOIL CONSERVATION DISTRICT
AT: 301-797-6821, EXT 3

AT LEAST 10 DAYS PRIOR TO STARTING CONSTRUCTION

Temporary Seeding Summary						
Hardiness Zone (Figure B.3): ZONE 6b					Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (Table B.1):						
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths (inches)	436 lb/ac. (10 lb/1000 s.f.)	2 tons/ac (90 lb/1000 sf)
1	Barley (Hordeum vulgare)	96 lb/ac. 2.2 lb/1000 s.f.	March 15-May 31; August - October 15	1.0		

Permanent Seeding Summary								
Hardiness Zone (Figure B.3): <u>ZONE 6b</u>			Fertilizer Rate (10-20-20)			Lime Rate		
Seed Mixture (Table B.3): <u></u>			N	P ₂ O ₅	K ₂ O			
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths (inches)	45 lb/ac. (1 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	2 tons/ac (90 lb/1000 sf)
6	Tall Fescue	40 lb/ac. 0.93 lb/1000 s.f.	March 15-May 31; August - October 15	$\frac{1}{4}$ - $\frac{1}{2}$ in				
	Perennial Ryegrass	25 lb/ac. 0.57 lb/1000 s.f.	March 15-May 31; August - October 15	$\frac{1}{4}$ - $\frac{1}{2}$ in				
	White Clover	5 lb/ac. 0.11 lb/1000 s.f.	March 15-May 31; August - October 15	$\frac{1}{4}$ - $\frac{1}{2}$ in				

UTILITY CONSTRUCTION NOTES

- ALL EXCAVATED MATERIAL MUST BE PLACED ON THE HIGH SIDE OF TRENCH. EXCESS MATERIAL HAULED AWAY FROM FROM THE PROJECT. MUST BE DISPOSED OF AT AN APPROVED FACILITY.
- ALL SEDIMENT & EROSION CONTROL MEASURES THAT ARE DISTURBED/DAMAGED SHALL BE REPAIRED THE SAME DAY.
- CONTRACTOR SHALL ONLY DO AS MUCH WORK AS CAN BE BACKFILLED AND VEGETATIVELY STABILIZED THE SAME DAY.
- SEDIMENT & EROSION CONTROL DEVICES SHALL BE INSPECTED DAILY AND MAINTAINED IN WORKING CONDITION.

SOIL EROSION, SEDIMENT CONTROL, & SEEDING NOTES

- ALL SOIL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND THE PROVISIONS OF THE APPROVED PLAN.
- ALL GRADING AND STABILIZATION SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", "SECTION B - GRADING AND STABILIZATION" AND THE PROVISIONS OF THE APPROVED PLAN.
- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) ARE TO BE CONSTRUCTED AND/OR INSTALLED PRIOR TO OR AT THE INITIATION OF GRADING IN ACCORDANCE WITH "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND THE APPROVED PLAN.
- A GRADING UNIT IS THE MAXIMUM CONTIGUOUS AREA ALLOWED TO BE GRADED AT A GIVEN TIME AND IS LIMITED TO 20 ACRES. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY AND/OR THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (APPROVAL AUTHORITY). UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION MUST BE COMPLETED WITHIN:
 - THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
 - SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
- STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITHIN THE 7 DAY STABILIZATION REQUIREMENT. AS WELL AS, STANDARD B-4.1 INCREMENTAL STABILIZATION AND STANDARD B-4.4 TEMPORARY STABILIZATION (AS APPLICABLE).
- ALL CONSTRUCTED CHANNELS AND SWALES SHALL HAVE SPECIFIED TREATMENT INSTALLED TO THE DESIGN FLOW DEPTH COMPLETED DOWNSTREAM TO UPSTREAM AS CONSTRUCTION PROGRESSES. AN INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS.
- ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE TO BE MULCHED AND SEEDED WITHIN 3 DAYS OF INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
- ELECTRIC POWER, TELEPHONE, AND GAS LINES ARE TO BE COMPACTED, SEEDED, AND MULCHED WITHIN 3 DAYS AFTER INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
- NO SLOPE SHALL BE GREATER THAN 2:1.
- AS REQUIRED BY SECTION B, OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, "ADEQUATE VEGETATIVE STABILIZATION", IS DEFINED AS 95 PERCENT GROUND COVER. THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT REQUIRES THE PROJECT ADHERE TO THIS FOR SCHEDULING OF THE FINAL SITE CLOSEOUT REVIEW, AND/OR RELEASE OF THE SITE FOR SOIL EROSION AND SEDIMENT CONTROL.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY IN PAVED AREAS.
- CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAULED TO AN APPROVED LOCATION TO WASTE MATERIALS IN PAVED AREAS.
- CONTRACTOR TO BACKFILL TRENCH WITH APPROVED MATERIALS AND STABILIZE DISTURBED AREAS THE SAME WORKING DAY.
- IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO PUMP WATER TO A FILTER BAG TO DEWATER.
- CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
- CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO MOVE ALL EXCESS MATERIAL OFF-SITE TO A SITE WITH A CURRENT AND APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.

ENGINEER:
MOB
DESIGNED BY:
JAW
DRAWN BY:
JAW
CHECKED BY:
MOB
DATE:
6/2021

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. 30708, Expiration Date: 5/28/22

STATE OF MARYLAND
DIVISION OF ENVIRONMENTAL MANAGEMENT
DEPARTMENT OF ENGINEERING SERVICES

Washington County
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DIVISION OF ENVIRONMENTAL MANAGEMENT
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FORT RITCHIE GRAVITY LINES
& MANHOLE REPLACEMENT

E&S NOTES & DETAILS

SCALE
N.T.S.

SHEET NO.
6 OF 6

PROJECT NO.
090-1347

GA-21-021