



**NOTICE TO CONTRACTORS - INVITATION TO BID
THE CITY OF HAVRE DE GRACE**

**SEWER REPLACEMENT PROJECT
500 BLOCK of WARREN STREET**

**COMMUNITY DEVELOPMENT BLOCK GRANT
MD-19-CD-1**

CITY PROJECT # 19-SWR-01

Sealed bids, addressed to Ms. Sandy Ayres, and marked "BID FOR PROJECT # 19-SWR-01, SEWER REPLACEMENT PROJECT – WARREN STREET" will be received at City Hall, City of Havre de Grace, 711 Pennington Ave, Havre de Grace, Maryland 21078, until **June 28, 2019 at 2 pm local time**, and then and there the bids will be opened and read.

A **Mandatory** Pre-bid Conference will be held at City Hall, **June 19, 2019 at 2 pm**.

The City of Havre de Grace is soliciting a Request for Proposals (RFP) to remove and replace approximately 525 linear feet of 12" sewer line on the 500 block of Warren Street located between N. Stokes Street and N. Union Avenue. This project includes the removal and replacement of sewer pipe, existing sewer lateral connections, and installation of two sewer manholes. Additional details of this project are available in the contract documents.

Contract documents may be examined in the Department of Public Works, 711 Pennington Ave, Havre de Grace, Maryland 21078, 410-939-1800, Monday through Friday, 8 am to 5 pm. Copies may be obtained at this location. In addition, the contract documents are available at www.havredegracemd.com.

A 5% bid bond is required with Bid Submittals.

The City of Havre de Grace reserves the right to reject any and or all Bids, to waive informalities and to accept any Proposal that it deems to be in its best interest.

Ms. Sandra Ayres
Procurement Officer
City of Havre de Grace

CITY OF HAVRE DE GRACE

**Department Public Works
711 Pennington Avenue
Havre de Grace, MD 21078**

CITY COUNCIL

**William Martin, Mayor
David Glenn, Council President
David Martin, Council Member
Jason Robertson, Council Member
Casi Tomarchio, Council Member
Jim Ringsaker, Council Member
Carolyn Zinner, Council Member**

Director of Administration

Patrick Sypolt

Chief of Staff

Steve Gamatoria

Procurement Officer

Sandra Ayers



**REQUEST FOR PROPOSAL AND STATEMENT OF
QUALIFICATIONS**

For

Warren Street Sewer Repair Services

City Project No.

19-SWR-01

REQUEST FOR PROPOSAL - CITY OF HAVRE DE GRACE
SEWER REPLACEMENT PROJECT - 500 BLOCK of WARREN STREET
COMMUNITY DEVELOPMENT BLOCK GRANT # MD-19-CD-1
CITY PROJECT # 19-SWR-01

The City of Havre de Grace is soliciting a Request for Proposal (RFP) from qualified contractors to replace approximately 525 linear feet of 12" sewer line on the 500 block of Warren Street located between N. Stokes Street and N. Union Avenue in Havre de Grace, Maryland operated by the Department of Public Works. There is City-owned property, a vacant lot, adjacent to the project which will be made available to the Contractor for staging and storage during the project. The following document provides the technical specifications of the work and the technical submittals required by the Bidder to be evaluated for the work.

PART I – GENERAL

SUMMARY OF WORK

This project consists of the removal and replacement of 525 linear feet (LF) of sewer pipe, existing sewer lateral connections, and installation of two sewer manholes, trenching and bypass pumping, removal, replacement and disposal of existing sewer lines, sewer lamp hole, sewer lateral connections, asphalt concrete pavement, aggregate base, and excavation materials.

The items of work include, but are not limited to, the following:

- Clear and secure all areas to the limits of work.
- Install and maintain erosion and sediment control in accordance with local, county, and state regulations.
- Transportation and appropriate, offsite disposal of all materials generated from work.
- The furnishing of all materials, transportation, maintenance of traffic control, labor, equipment, tools, and incidentals necessary for replacement of the sewer line and connections to the existing infrastructure.
- Inspection of area where work will be performed and line is replaced.
- Coordination with the City's Department of Public Works (DPW) for notification of residential service outages. Coordination with the City's DPW for isolation of the sewer service line to be replaced prior to initiating construction.
- Provide temporary or bypass sewer service to affected residents and businesses.
- Provide all labor, material, equipment, and transportation necessary for the project. Typically, due to the City's sewer depths, loose soils and other conditions, box shoring and dewatering is necessary.

Further **Technical Specifications** for this project can be found in **Attachment B**.

ATTACHMENT B

TECHNICAL SPECIFICATIONS FOR BIDDERS

All work shall be performed in accordance with the Standard Specifications for Public Works Construction, latest edition, and the Harford County requirements. Traffic Control shall be set in accordance with the requirements of the State of Maryland and the MUTCD Manual. The Contractor shall comply with all applicable Federal, State, and Local safety requirements. The Contractor shall obtain required permits.

All the work performed must be in conformance with OSHA, MOSHA and all other Federal, State and Local Regulations in reference to:

- Traffic Safety and Management
- Excavations
- Work in Confined Space
- Control of Hazardous energy

1. The work will require:
 - A. The addition of two (2) manholes, elevations to be field verified by Contractor, estimated at 8.5 to 9 feet.
 - B. Replace 12 inch sewer pipe from existing manhole 1 at Warren Street and Stokes Street to new pipe at existing manhole, 123.6 linear feet (LF) manhole to manhole.
 - C. Replace 12 inch sewer pipe from new pipe at existing manhole 2 to new manhole which will replace the lamp hole at the junction of Warren Street and Freedom Lane, 112.1 linear feet manhole to existing lamp hole.
 - D. Replace sanitary laterals with pvc pipe and cleanouts at 550 through 556 Warren Street (one building, two services).
 - E. Replace 12 inch sewer pipe from new manhole 290 linear feet approximately to just prior to 7-11 parking lot and install new manhole 3. Placing of this manhole will be field determined to provide pump around without interfering with the entrance to the parking lot for the 7-11, which will be limit of disturbance.
 - F. Restoration of Warren Street will be from center line of road to face of curb east bound lane with a contingency item for milling and paving west bound lane.
 - G. Clean up work site, have a final work through with inspector before demobilizing.
 - H. Survey of sewer by Welsh Engineering is provided.
2. The Contractor shall furnish all tools, equipment, apparatus, facilities, labor, services and material to perform all work necessary to conduct the general sewer repair maintenance services in accordance with the highest standards.

All work shall be performed in accordance with the Standard Specifications for Public Works Construction, latest edition, and the Harford County requirements.

Traffic Control shall be set in accordance with the requirements of the State of Maryland and the MUTCD Manual. The Contractor shall comply with all applicable Federal, State, and Local safety requirements. The Contractor shall obtain required permits.

3. Work Hours

Work will ordinarily be performed between the hours of 7:00 am and 3:00 pm, Monday through Fridays. During emergencies, work may be required at other than normal hours. The hourly rates requested in the bid proposal for emergency work is for work outside of these normal hours of operation.

4. Removal and Disposal of Existing Improvements

All existing improvements required to be removed by construction of the new work shall become the property of the Contractor & shall be removed and disposed of in accordance with the provisions of Section 300-1 of the Standard Specifications, and as directed by the Engineer. Existing pavement and cross gutter shall be saw cut prior to removal. Compensation for removal and disposal of excess material, pavement, cross gutter, etc., is considered included in the contract unit price paid for various items of work and no other compensation will be allowed therefore.

The Contractor has sole discretion on the means of hauling away the removal items. The Contractor shall provide documentation for materials hauled away and subsequently recycled in compliance with all laws. Documentation shall be submitted with the Contractor's monthly billing. Failure to provide material/recycling documentation will result in the holding of processing the monthly billing.

The Contractor may use Contractor's own vehicles and employees to haul waste that is incidental to the contract. If the Contractor self-hauls waste material, he or she must designate the specific State permitted landfill or recycling facility that will be used to dispose of any waste material generated on the job. If the Contractor does not designate a State permitted disposal site, he or she shall obtain a hold harmless agreement acceptable to the City Risk Manager and the City Attorney.

The full compensation for removal and disposal of existing improvements is considered included in the unit prices paid for the various items of work.

No additional compensation shall be paid to the Contractor for expenses incurred for repairing or replacing private utilities (e.g. water, gas, electric, telephone, cable, etc.) damaged during the removal of the various improvements.

5. Trench Excavation and Grading

Maryland Law requires the notification of MISS UTILITY prior to excavation. A copy of the Ticket from MISS UTILITY should be provided to the City Representative.

All excavation, export, backfill, and re-compaction necessary to obtain the finished grades as shown on the plan shall be done in accordance with Maryland law, Section 02250 and applicable standard drawings, and as directed by the Engineer. Excess materials shall become the property of the Contractor and shall be removed from the site.

The cost of this work including removal and disposal of excess material is considered included in the unit price paid for various items of work and no additional compensation shall be allowed therefore.

6. Removal and Replacement of Existing Sewer Pipe and Sewer Lateral

Saw cutting of existing concrete and asphalt concrete paving prior to removal will be required at all locations and shall be in accordance with Section 02050 of the Standard Specifications.

Replacement of gravity sewer and house connections will be in accordance with Section 02700 of the Standard Specifications.

It shall be the Contractor's responsibility to divert flow so that the improvements can be constructed WITHOUT backup of sewage, health hazard and public inconvenience. A sewage diversion plan shall be submitted to the City for review, 10 working days prior to the start of any work that changes the existing sewage flow. The plan shall include, but is not limited to, the location of sewage by-pass installations, pumps, pump pits, high lines and type and schedule of work being performed. The plan shall provide a complete description of work being performed, emergency contact phone numbers, spill control procedures, emergency response procedures and 100% system redundancy. The plan shall provide for an on-site review and approval by the City prior to implementation. No work shall be performed that diverts sewage flow until the City has reviewed and approved the proposed sewage flow diversion plan and the City has performed a site inspection of the procedures, materials and equipment to be employed.

If spillage occurs, all other work shall stop immediately and clean-up of the sewage spill shall take precedence over all other work. Notification must be made BY THE CONTRATOR to the Maryland Department of the Environment and to Harford County Emergency Operations Center. Contractor shall prevent any sewage flow into any natural or storm drainage system. All sanitary sewer overflows (SSO's) must be reported immediately. This work shall be considered as part of the installation of the sewer main.

The Contractor shall plan the construction so as to minimize the time required for pumping.

The Contractor shall submit to the City an action plan in case of any spills occurring on the project site, and also notify the Maryland Department of the Environment and

Harford County Emergency Operations Center of such occurring spills immediately. All follow-up reporting is the Contractor's responsibility.

All highlines shall be watertight and all spills shall be cleaned up immediately.

ANY FINE(S) OR PENALTIES IMPOSED DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE BORNE BY THE CONTRACTOR.

The Contractor shall not be allowed to excavate more than the amount of work, which can be completed within the workday at a time prior to installation of the trench. The Contractor shall backfill to existing surface all open trenches at the end of each working day. Temporary pavement repairs shall be provided, with a minimum of 2-inch "Cold Mix" asphalt concrete. Subject to the approval of the City Engineer an alternate to backfilling may be steel plating with sufficient strength to support all traffic loads. If steel plating is used, the maximum length shall be no longer than 20 feet. The cost shall be included in the various unit price bid for sewer items in the bid proposal.

The Contractor shall provide a Progress and Schedule of work, including critical path which shows the phasing of his construction operations. The Contractor shall outline in detail the proposed method of laying the sewer main with the following considerations:

- Safety and health
- Convenience to the traveling public
- Convenience to the property owners and tenants
- Areas to be high lined and method to keep the existing sewer mains and laterals in service

The above will be submitted at the pre-construction conference and will be submitted for approval by the City. The Contractor may vary from the approved schedule with the City Engineer's or designee written approval.

Where sewer trench crosses any water lines, Contractor shall compact soil in trench (5 feet minimum on each side of crossing – the full depth of the trench) to a minimum of 95% relative compaction. In addition, said crossing area shall be free of rocks greater than 2 inches for a depth of 3 feet below the water line and up to bottom of pavement section.

Any shoring required shall be included in the contract bid item for the various items of work and no additional compensation will be allowed therefore.

The sewer laterals may be wye connections and shall be considered one unit connected to the sewer main. If the lateral and main are vitrified clay, the main line shall be snapped to install a factory clay pipe wye or tee utilizing band clamps. Approval from the City Inspector is required prior to encasement. If integral bell gasket joints are used, the joint shall be designed, so that when assembled, the gasket (which is attached to

either bell or spigot) will be compressed radially on the pipe spigot or in the bell to form a watertight seal.

Exact locations of the new lateral connections will be determined in the field while preparing the site for improvements by the Contractor and the City's inspectors.

ONE (1) Sack Concrete Slurry shall be placed from the top of the pipe bedding rock to 4-inches below finished pavement grade as the backfill materials for the sewer line trench. All sewer line repairs shall be conducted using PVC materials of equal inside diameter to the existing sewer line.

The Contractor shall notify each affected resident in person one week in advance before starting construction and shall provide access to their property during construction.

7. Trench Shoring

Shoring for open trench excavations shall be in accordance with applicable State and Federal regulations, particularly MD OSHA. Shoring shall be designed and installed to provide for safety of the workmen and to protect property. **Contractor shall also provide a shoring and excavation plan at the pre-construction meeting for the City to review.** Multiple bench excavation is not allowed.

The Contractor shall be responsible for acquiring all permits and calculations for trench shoring. Full compensation for all labor and equipment required shall be considered included in the various bid items.

8. Asphalt Concrete Pavement and Tack Coat

All asphalt concrete (AC) and seal coating shall be according to the provisions of the Harford County Book of Standards Sections I and III, R4, R5, and R6.

The Contractor shall submit a job mix formula one week before paving for approval by the City for each source of supply and type of mixture specified.

Before placement of the pavement the Contractor shall place identification locators on top of all manholes, valve lids, vault covers, etc. that must be raised by the various utilities after the pavement operation. It is the responsibility of the Contractor to preserve the location of all manholes, valve lids, vault covers, pavement delineators, etc. once they are covered by the overlay and before being raised to grade.

The contract unit price paid for **"ASPHALT REPAIR"** shall include full compensation for preparation, tack coat, providing and placing identification locators, and asphalt concrete overlay, and all labor, materials, tools, equipment and incidentals, and for doing all the work involved in place, as specified in the Standard Specifications and these Special Provisions, and no additional compensation will be allowed.

A contingency price will be bid to mill and overlay the entire width of Warren Street in the limit of disturbance.

9. Public Convenience and Safety (Traffic Control)

Public convenience and safety shall be according to the Standard Specifications for Public Works Construction. Two weeks before starting work, the Contractor shall submit traffic control plans for the City's approval. The Contractor shall comply with the traffic control plans. Traffic control shall conform to MDOTs "Manual of Traffic Controls", latest edition or the MUTCD manual. The Contractor shall notify each affected resident in person forty-eight (48) hours before starting the project and closing of driveways (if any). The Contractor shall provide the property owners, access to their property during construction.

The use of "No Parking" traffic signage must be placed 72 hours (weekends not included) in advance. Contractor shall notify the City Inspector when "No Parking" signs have been set. The Contractor shall make any necessary arrangements with the trash collection service for the City and is required to maintain trash pick-up services for those property owners affected by the work.

It is the responsibility of the Contractor performing work on a City street to install and maintain the traffic control devices and such additional traffic control devices as may be required to insure safe movement of traffic motorists, bicyclists and pedestrian through and around the work area and provide maximum protection and safety to construction workers

The City Engineer or designee reserves the right to observe the traffic control plans in use and to make changes as field conditions warrant. Any changes will supersede the plans and will be done solely at the Contractor's expense. The Contractor shall be fully responsible for the adequacy of any traffic plan used. The Contractor shall notify the City Engineer or designee at least two (2) working days before starting any construction detour.

The cross traffic at intersecting streets shall always be maintained. Driving across newly placed asphalt into driveways will not be allowed until the overlay has cooled and become firm enough to prevent displacement and tracking.

The Contractor shall cover all open trenches at the end of each day.

The Contractor shall replace all roadway striping, pavement markings and legends removed and damaged during construction of work.

The full compensation for performing all the work necessary to comply with these provisions, including any striping, pavement markings and legends is considered included in the various bid items and no additional compensation will be allowed.

10. Protection and Restoration of Existing Improvements

Protection and restoration of existing improvements shall conform to Section 7-9 of the Standard Specifications for Public Works Construction and as described below.

Trees, shrubs, and other plants that are not to be removed, irrigation boxes/valves, sprinklers and pole lines, fences, planters, signs, iron pipes, markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and water lines, street facilities, and any other improvements or facilities within or adjacent to the right-of-way shall be protected from injury or damage.

If the objects are injured or damaged because of the Contractor's operations, they shall be replaced or restored at the Contractor's expense.

Contractor shall take photographs of the existing improvements that clearly show the existing improvements prior to start of work and provide copies to the City.

Work performed under this section will ensure that the private property will be restored to an "as good as" or "better than" condition as compared with conditions existing prior to commencement of construction. The City Engineer or designee shall determine whether or not the private property has been restored satisfactorily. The Contractor shall provide signed releases from each property owner acknowledging that the work within or next to their property has been done satisfactorily.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in protecting, adjusting, replacing or repairing property, matching new improvements to existing improvements, matching new grades to existing grades, shall be considered as included in the bid prices paid for the various items of work and no additional compensation will be allowed therefore. Full compensation for the items mentioned shall include all labor, materials, tools, equipment and incidentals for doing all the work involved.

All other items shown on plans for which there is no specific bid item and were not mentioned above are considered part of the contract unit prices paid for various items of work and no additional compensation shall be allowed therefore.

11. Construction during Periods of Rainfall

The Contractor shall take precautions to allow flow of storm water during periods of rainfall such that the flow will not damage private property or construction being accomplished under this contract. Any damage occurring shall be repaired at the expense of the Contractor, as well as clean-up of all areas required due to flow of mud, silt or debris from or into the construction operations. The Contractor shall be required to comply with all requirements of the Federal Environmental Protection Agencies construction permit criteria associated with the Federal National Pollution Discharge Elimination System.

The Contractor is required to implement Best Management Practices (BMPs) during construction to prevent pollution of the storm water conveyance systems. Also, adjacent storm drain inlets shall be protected at all times during the construction of the new improvements.

12. Contractor's License

Work performed under this contract requires the Contractor to possess a valid Class A – “General Contractor” license in accordance with the provisions of Maryland law. Contractor shall have a person with a State of Maryland Erosion & Sediment Control Certificate.

13. Calls for Inspection

The Contractor shall give 24-hour notice on all calls for inspection. Any work performed without benefit of inspection shall be subject to rejection and removal. For inspection call **410-939-1800 extension 2103 or 1135**.

14. Cleaning and Clean-up

Contractor shall not permit the adjacent property, public or private, to become dirty and unsightly because of work under this section or specifications. Use water or other means to control dust generated by work noted herein. All water and equipment necessary to provide dust control shall be included in the unit contract prices bid for the project.

15. Damage

Should any work under this contract damage or cause to be damaged any item or items not scheduled to be removed, such items shall be restored to their original condition and position, or shall be replaced, all at the Contractor's expense. All repairs or replacements shall be performed to the satisfaction of the Project Engineer.

16. Submittals

The Contractor shall furnish a list of the Contractor's sources of materials and the locations at which those materials will be available for inspection. Materials to be used in the work will be subject to inspection and test by the Engineer. The Contractor shall furnish without charge such samples as maybe required. The list must be furnished to the Engineer preferably before or at the time of the pre- construction meeting.

The Contractor shall allow a minimum of twenty (20) working days for review of submittals, and shall be furnished to the City Engineer or designee in sufficient time to permit inspecting and testing of materials to be furnished from the listed sources in advance of their use.

Materials shall not be furnished or fabricated, nor any work done for which submittals are required. Neither review nor approval of submittals by the City Engineer or designee shall relieve the Contractor from responsibility for errors, omissions, or deviations from the contract documents, unless specifically called to the attention of the City Engineer.

Submittals shall consist of the appropriate combination of catalog sheets, material lists, manufacturers' brochures, technical bulletins, specifications, diagrams, or product samples, necessary to describe a system, product, or item.

17. Wage Rates

Contractors are obligated to pay prevailing wages to persons employed by them for work under this contract.

ATTACHMENT C

HARFORD COUNTY STANDARD SPECIFICATIONS

02012

02050

02110

02250

02700

02710

02800

HARFORD COUNTY DRAWINGS

S-1, S-2

S-12, S-13, S-14

S-20

S-21, S-21A

S-22

S-26

S-27

S-31

D-43

D-49, D-50, D-51

**SECTION 02012
TEST PITS****1.0 GENERAL****A. Description**

1. Prior to construction it shall be the Contractor's responsibility to establish the location and/or elevation of existing utilities and structures that may affect the proposed work. The Contractor shall test pit all mainline utilities as required to perform the work (including but not limited to water mains, gas mains, electric, telecommunication and others which may conflict with the construction) prior to the excavation of the proposed utility and submit copies of the results to the Director within 1 working day. The Contractor shall immediately notify the Engineer if the horizontal or vertical location of the test-pitted utility will conflict with the proposed construction. The proposed construction may not occur until the Engineer has revised the construction drawings and the revised construction drawings have been approved by the County.
2. Test pits shall include, but not necessarily be limited to, excavation to determine the exact horizontal location and/or elevation of underground structures, utilities, and other obstructions; the backfill and compaction of the excavation; and the stabilization of the surface, in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Trench Excavation, Backfill, and Compaction: Section 02250
2. Restoration: Section 02800

C. Quality Assurance

It is intended that all suitable materials removed from the test pit excavation, exclusive of paving materials, be used for backfill. The County has the right to inspect all material used as backfill to determine the material's suitability for use as backfill.

2.0 MATERIALS**A. Materials Furnished by the County**

None

B. Contractor's Options**1. Use of Excavated Material**

All suitable material excavated from test pits shall be used, as far as practicable, for backfill. The Contractor shall properly store or stockpile and protect all materials that are to be reused in the work. The Contractor shall replace, at his own expense, material that was suitable when excavated, which has subsequently become unsuitable because of careless, neglectful, wasteful, or unprotected storage. The Contractor shall have no property right in any material taken from any excavation and no excavated material shall be wasted or otherwise removed from the project site without permission of the County. All unsuitable material shall be removed from the excavation and disposed of off-site in accordance with local, state and federal regulations by and at the expense of the Contractor.

2. Borrow

Borrow material for test pit backfill shall meet the requirements of Section 02250.

3. Graded Aggregate Subbase

Graded aggregate subbase for test pit backfill shall meet the gradation requirements specified in Section 02240.

3.0 EXECUTION**A. General**

It shall be the Contractor's responsibility to determine the location and/or elevation of underground structures and utilities by the use of test pit excavation prior to initiating excavation operations for the installation of the proposed facility. Test pits shall be of the size, depth and location as approved by the County. Should the location and/or elevation thus determined be different from that shown on the Plans, the Contractor shall promptly furnish the correct information to the County so that the impact on the project may be determined.

B. Test Pits

1. The Contractor shall provide all necessary traffic control in accordance with the applicable regulations.
2. Surface preparation, excavation, backfill, compaction, and maintenance of the backfilled excavation shall be as specified in Section 02250 for trenches, except that the limits of the work shall be as approved by the County.

TEST PITS

02012-3

3. Restoration shall be as specified in Section 02800 unless otherwise specified or directed by the County.

4.0 METHOD OF MEASUREMENT

Unless otherwise shown on the drawings, identified by "Miss Utility", or specified in the Contract Documents, test pits will not be measured but shall be incidental to the proposed utility work. If directed by the Owner, measurement for test pits will be made on the basis of the volume of material actually removed from within the limits specified by the County.

5.0 BASIS OF PAYMENT

Payment for test pit excavation performed to establish the location of existing utilities shown on the Plans shall not be paid as it is considered incidental to the proposed work.

If directed by the Owner, payment for test pits will be made at contingent prices established in the bid proposal. The price bid shall include furnishing all labor, material, equipment, and incidentals necessary to perform the traffic control, excavation, backfill, compaction and surface restoration or pavement patch for the test pit.

**SECTION 02050
REMOVAL OR ABANDONMENT OF EXISTING UTILITIES**

1.0 GENERAL

A. Description

1. Removal or abandonment of existing utilities and underground structures shall include, but not necessarily be limited to, the removal, salvage, demolition in place, abandonment, or other disposition of existing utilities, underground structures, or other facilities shown on the plans, encountered in the course of the work, and/or as directed by the County and in accordance with the Contract Documents.
2. All materials resulting from demolition work, except as indicated or specified otherwise, shall become the Contractors property. Salvaged materials specified to remain the property of the County shall be transported to another location designated by the County.

B. Related Work Included Elsewhere

1. Trench Excavation, Backfill, and Compaction: Section 02250
2. Water Mains: Section 02660
3. Gravity Sanitary Sewer and House Connections: Section 02700
4. Sanitary Sewer Manholes: Section 02710
5. Cast-in-Place Concrete: Section 03300
6. Mortar: Section 04100
7. Brick Masonry: Section 04200

C. Quality Assurance

The County will inspect all materials and work to insure compliance with the Contract Documents.

2.0 MATERIALS

A. General

Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.

REMOVAL OR ABANDONMENT OF EXISTING UTILITIES

02050-2

B. Materials Furnished by the County

Not Applicable.

C. Contractor's Options

None

D. Detailed Material Requirements

1. Borrow material for backfilling the space left by removal of facilities or backfilling abandoned structures shall meet the requirements specified in Section 02250.
2. Pipe plugs and caps for water main abandonment shall be as specified in Section 02660.
3. Pipe plugs for sewer main abandonment shall be a heavy-duty, conical-shaped, cast iron body sewer pipe plug with expandable rubber diaphragm with malleable iron wing nut.
4. Portland cement concrete for abandonment of utilities shall be Mix No. 1 as specified in Section 03300.
5. Mortar shall be as specified in Section 04100.
6. Brick for pipeline and structure bulkheads shall be sewer brick as specified in Section 04200.

3.0 EXECUTION

A. General

1. Utilities to be abandoned or removed shall not be abandoned or removed until all required proposed utility work is installed and tested to the complete satisfaction of the Director. Furthermore, the Contractor shall notify the Director at least three (3) days prior to beginning the abandonment or removal.
2. The area over the existing facility to be removed shall be excavated and, after removal or abandonment as specified, backfilled and compacted in accordance with Section 02250.
3. Brick construction shall be as specified in Section 04200 and as specified herein.
4. Rubbish and debris shall be removed from the site unless otherwise directed so as to not allow accumulations inside or outside the project site. Materials that cannot be removed daily shall be stored in areas approved by the County.

REMOVAL OR ABANDONMENT OF EXISTING UTILITIES

02050-3

B. Removal

Where indicated on the Plans, or directed by the County, existing utility pipelines and/or appurtenances shall be removed by the Contractor.

C. Abandonment

1. Sanitary Sewers 18-inch Diameter and Smaller

- a. All open ends of abandoned sewer pipe shall be sealed by setting the mechanical plug in the pipe followed by concrete fill as shown in the standard detail. Existing manhole channels and benches shall be reconstructed as necessary with brick and mortar to provide a smooth transition within the manhole.
- b. Abandon sewer services by removing the vertical stack to a minimum depth of 4 feet below finish grade. The stack shall be detached by saw cutting. A sewer plug shall be installed on the abandoned vertical stack and encased in concrete a minimum of 12-inches around all sides of the stack. Backfill shall be as specified in Section 02250.

2. Sanitary Sewers 18-inch Diameter and Larger

- a. All open ends of abandoned sewer pipe shall be sealed by constructing a minimum 20-inch thick brick and mortar or concrete bulkhead.
- b. Where a sewer is to be abandoned while the adjacent manhole is to remain active the Contractor shall seal (watertight) the pipeline opening in the manhole with a minimum 20-inch thick brick and mortar or concrete bulkhead. Existing manhole channels and benches shall be reconstructed as necessary with brick and mortar to provide a smooth transition within the manhole.

3. Sanitary Manholes

- a. Frames and covers of abandoned manholes will remain the property of Harford County. They shall be removed from the structure and transported to a designated location.
- b. The Contractor shall remove the structure to at least three feet (3' - 0") below finished grade in accordance with the standard detail.
- c. Pipe openings within the manhole shall be sealed in accordance with the Standard Details.

4. Water Mains and Appurtenances

Where indicated on the Plans, or directed by the County, the Contractor shall abandon existing water mains and/or appurtenances as follows:

- a. The section of water main remaining in service shall be capped or plugged and strapped and/or buttressed in accordance with the Contract Documents.
- b. When abandoning water mains 20-inches in diameter and larger, construct a 20-inch thick brick and mortar or concrete bulkhead, or plug, or cap each end of the abandoned sections. All open ends of abandoned water pipe shall be sealed.
- c. For water mains smaller than 20-inch diameter, install plugs or caps at each end of the abandoned sections.
- d. Abandon water services by exposing the corporation stop at the main, turning stop off, disconnecting the service line from the corporation stop, inserting a plug or cap on the exposed end of the corporation stop, encasing corporation in 6 inches of concrete, and backfill excavation to finished grade. Water services larger than two inches in diameter shall have the valve at the main removed, the service capped, and encased in 12-inches of concrete.
- e. The Contractor shall remove all structures to a minimum depth of three feet below finished grade, break or drill holes in the bottom of the structure to provide drainage, and backfill the structure as specified in Section 02250.
- f. Fire hydrants shall be returned to the Division of Water and Sewer Maintenance office at 3111 Philadelphia Road, Abingdon, Maryland.

4.0 METHOD OF MEASUREMENT

A. Removal

Measurement for removal of existing utilities and appurtenances will be made horizontally along the centerline of the pipe for each size and type of pipe removed without deduction for valves or fittings. Measurement for removal of existing structures will be made on the basis of the count or number of structures removed.

B. Abandonment

Measurement for abandonment of existing utilities and underground structures will be made on the basis of the count or number of pipeline sections and/or structures abandoned.

**SECTION 02110
CLEARING AND GRUBBING**

1.0 GENERAL

A. Description

1. Clearing and grubbing shall include, but not necessarily be limited to, clearing areas of trees, brush, shrubs, down timber, rotten wood, other vegetation, debris and rubbish, as well as removal of fences and incidental structures; and grubbing or removing from the ground all stumps, roots and stubs, brush, organic materials, and debris, as shown and as specified in the Contract Documents and within the limits of disturbance.
2. For developer projects, the Contractor shall be responsible for acquiring all required permits associated with tree removal and tree trimming. For capital projects, the Contractor shall obtain a permit for any tree clearing outside of the L.O.D. and within the State Highway Administration right-of-way from the Maryland Department of Natural Resources prior to construction.

B. Related Work Included Elsewhere

None

C. Quality Assurance

The County will inspect the work to insure that it is performed in accordance with the Contract Documents.

2.0 MATERIALS

Not applicable.

3.0 EXECUTION

A. Limits

1. General
 - a. Unless otherwise indicated in the Contract Documents, all trees and other growth within the drainage and utility easement or rights-of-way shall be removed. In certain situations, designated trees may be required to be saved and shall be designated on the construction drawings.

- b. Within the limits indicated on the Contract Documents to be cleared and grubbed, the County has the right to designate trees and other growth which the County may desire to leave standing. Unless otherwise shown or specified, the entire width and length of easements shall be cleared and grubbed.
- c. The clearing and grubbing operation shall be completed in its entirety within 100 linear feet in advance of any water and sewer utility construction.

B. Unsuitable Materials

Note that after the clearing and grubbing operations are completed, unsuitable materials such as unstable formations, root mat, or swamp muck encountered below the surface of the ground must also be removed and properly disposed.

C. Salvaged Materials

When indicated, such materials as leaf mold or other organic materials above the surface of the ground and suitable for use as mulch or topsoil shall be salvaged and stockpiled.

D. Trees, Shrubbery and Plants

On County capital projects, the Contractor shall schedule a meeting with the County project manager and inspector to review which trees, shrubs, and vegetation shall not be disturbed. The County will discuss which trees, shrubbery, and plants which are not to be removed, and the Contractor shall protect them from any damage, as outlined in the "General Provisions." Where trees which are left standing are trimmed or become scarred by the Contractor's operations, the cuts or scars shall be repaired by the Contractor. All trimming and repairs shall be done by skilled workmen and in accordance with good tree surgery practices under the supervision of a tree expert licensed by the State of Maryland.

E. Burning

If allowed, the Contractor shall obtain the appropriate permits to allow the burning of trees, brush, trash, or other perishable materials. If burning is prohibited by the Fire Marshall, the Contractor shall remove these materials and dispose of them off-site in permitted disposal facilities.

F. Disposal Locations

Perishable materials and debris shall be removed from the site easement or right-of-way and disposed of at locations off the project and outside the limits of view from the project by the Contractor. The Contractor shall make all necessary arrangements with property owners, in writing, for obtaining suitable disposal locations, and furnish the County with a copy of the agreement. The cost involved shall be included in the price bid. The Contractor shall be responsible for obtaining all State and local permits for the disposal

locations and furnish the County with evidence indicating the sites are approved for disposal.

G. Fences

All fences within the easement or right-of-way that are identified to remain shall be removed as carefully as practicable and replaced so that it remains in a condition equal to or better than what existed prior to construction.

H. Excavation Areas

Within areas to be excavated, all imbedded stumps, root mats, etc., shall be removed to a depth of not less than 1-foot below the subgrade or slope surfaces. All depressions made below the subgrade or slope surfaces by the removal of stumps or roots shall be refilled with materials suitable for embankment and shall be compacted in accordance with the requirements in Section 02250.

4.0 METHOD OF MEASUREMENT

The amount of clearing and grubbing will not be measured.

5.0 BASIS OF PAYMENT

Payment for clearing and grubbing will not be made, as it shall be included in the unit quantity item for all pipe and structures installed.

**SECTION 02250
TRENCH EXCAVATION, BACKFILL AND COMPACTION**

1.0 GENERAL

A. Description

Trench excavation, backfill and compaction shall include, but not necessarily be limited to, the excavation, backfill, and compaction of trenches for pipelines, fire hydrants, valves, manholes, vaults and other structures shown on the Plans, and in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Test Pits: Section 02012
2. Removal and Abandonment of Existing Utilities: Section 02050
3. Aggregate Backfill: Section 02240
4. Boring and/or Jacking Pipe: Section 02300
5. Tunneling: Section 02400
6. Water Mains: Section 02660
7. Water Valves and Appurtenances: Section 02662
8. Water Services, Water Meter Settings and Vaults: Section 02664
9. Fire Hydrants: Section 02666
10. Gravity Sanitary Sewer and House Connections: Section 02700
11. Sanitary Sewer Manholes: Section 02710
12. Sanitary Sewer Force Mains: Section 02720

C. Quality Assurance

All materials removed from trench excavations and used for backfill will be subject to test by the County to determine the material's suitability for use as backfill.

2.0 MATERIALS

A. Materials Furnished by the County

The County will not furnish any materials for trench backfill other than those materials which are available from the trench excavation limits as shown on the Standard Details and the Contract Documents.

B. Contractor's Options

Not applicable.

C. Detailed Material Requirements

1. Material for backfills may be from on-site excavations (if of proper quality) or from borrow sources. The material shall be free from organic material, sludge, grit, trash, muck, roots, logs, stumps or frozen material and other deleterious substances. Except as otherwise specified or approved, the material shall not contain rocks or lumps larger than six inches in greatest dimension. The material shall not contain mica in quantities which, in the judgment of the County are sufficient to affect compaction characteristics. The use of any soil additive that in the judgment of the Director may adversely affect the proposed utility is strictly prohibited.

2. Material for Backfill shall be as follows:

- a. Select Material - Within public right-of-way, private roads and parking lots within drainage and utility easement, business, commercial, and industrially-zoned properties, areas supporting vehicular loads, and as specified herein or noted in the Contract Documents.

AASHTO Soil Classification Sieve Analysis (% passing)	A-1	A-2	A-3
No. 10 (2.0 mm)	50 max.	---	---
No. 40 (0.425 mm)	50 max.	---	51 min.
No. 200 (0.075 mm)	25 max	35 max.	10 max.
Typical Material	Stone fragment, gravel and sand	Silty or clayey gravel and sand	Fine sand

Additionally, the following material is allowable under the Unified Soil Classification System: GW and SW, or a well graded aggregate meeting the Maryland State Highway Administration requirements for roadway sub-base.

The maximum dry density shall be 105 lb/ft³ or greater as measured by AASHTO T-180, Method C. The liquid limit and plasticity index for the portion of material passing the No. 40 size shall not exceed 41 and 10 respectively.

- b. Suitable Material – All other areas not required under paragraph a. above.

The maximum dry density shall be 100 lb/ft³ or greater as measured by AASHTO T-180, Method C, unless the material has more than 35 percent retained on the No. 4 sieve in which case Method D shall be used. Suitable Material shall include all material designated as Select Material as well as material classified in the Unified Soil Classification System (USCS) as ML, CL, MH and CH.

- c. Structural Fill – Structural fill shall be placed and compacted against cast-in-place concrete structures in accordance with the requirements specified in the Contract Documents.
3. Use and Ownership of Excavated Material
- a. All Suitable Material excavated from utility trenches shall be used, as far as practicable, for backfill in trenches.
 - b. The Contractor shall properly store, stockpile and protect all materials that are to be reused in the work. The Contractor shall replace, at his own expense, material that was suitable when excavated, which has subsequently become unsuitable because of careless, neglectful, wasteful, or unprotected storage. The Contractor shall have no property right in any material taken from any excavation and no excavated material shall be wasted or otherwise removed from the project site without permission of the County. All unsuitable and surplus Suitable Material, as determined by the County, shall be removed from the excavation and disposed of off-site by and at the expense of the Contractor in accordance with all applicable Federal, State, and local regulations.
 - c. If insufficient suitable soils are available from excavation on the contract project, the Contractor may obtain suitable soils from sources designated in the Special Provisions, or from such sources within 300 yards of the site as may be approved by the County. If these sources do not supply sufficient suitable soils, the Contractor shall submit for inspection and test by the County borrow excavation sites from which such soils as may be required to complete the construction of excavation backfill on the contract project. Borrow Excavation shall be supplied and placed at the contract unit price or when not provided for in the contract at a negotiated price for "Extra Work".
4. Aggregate backfill for pipe and structure installation, bedding and trench backfill shall meet the gradation requirements specified herein and Section 02240.

3.0 EXECUTION

A. Surface Preparation

1. Sediment Control

The Contractor shall install all required sediment control devices in accordance with permits and all applicable Federal, State and local regulations.

2. Clearing and Grubbing

The Contractor shall clear and grub the surface over the line of the trench in accordance with the requirements of Section 02110.

3. Removing Pavement, Sidewalk, Curb, etc.

- a. Prior to removal, the Contractor shall saw-cut all existing pavement, sidewalk and curb. Jack hammering edges of pavement, sidewalk and curb removal is prohibited.
- b. The Contractor shall remove paving only to the width shown on the Standard Details, noted in the Special Provisions, or as directed by the County. When the Contractor removes paving for a greater width than is deemed necessary or disturbs paving, sidewalk, curbs, etc. due to settlement, slides, or cave-ins, or in making excavation outside the limits of the trench without written order of the County, the County will require the Contractor to replace the excess damaged area and may retain from payments due the Contractor such amounts required to permanently replace the excess material removed. The Contractor shall be responsible for repaving or surfacing roadbeds or replacing sidewalk, curbs, etc. that have failed, settled, or have been damaged at any time before expiration of the Contract maintenance period due to work or any other activities by the Contractor, his subcontractors, or suppliers.

4. Maintaining Traffic

The Contractor shall furnish all labor, tools, equipment, and materials required for the maintenance of traffic during construction in accordance with the traffic control plan or permits.

B. Trench Excavation

1. General

- a. Excavation for the installation of utilities shall be unclassified and shall consist of the excavation removal and/or disposition of all material encountered to the lines, grades, and sections shown on the Plans and/or the Standard Details, as specified, or as directed by the County.
- b. Unless otherwise indicated, excavation shall be by open cut, except that short sections of a trench may be tunneled, or the pipeline jacked, if, in the opinion of the County, the pipe can be safely and properly installed.
- c. Trenches shall be excavated and backfilled either by hand or by machinery. The Contractor shall have no claims, nor will extra compensation be allowed, for hand excavation or backfill which may be required by these Specifications or by the County for protection of existing utilities or structures.

2. Protection of Property and Structures

- a. The Contractor shall, at his own expense, sustain in place and protect from direct or indirect injury all existing facilities in the vicinity of the excavation, whether above or below the ground, or that may appear in the trench. The

Contractor shall be responsible for the implementation of protective measures associated with the presence or proximity of pipes, poles, tracks, walls, buildings, property markers, 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. The Contractor shall repair or replace damaged facilities at his expense.

- b. The Contractor shall be responsible to obtain any applicable local, State and Federal permits associated with dewatering. Dewatering means and methods shall be the responsibility of the Contractor.

3. Utility Adjustments

- a. All adjustments to utilities other than those owned by the County shall be performed by the utility owner.
- b. Adjustments to water services between the property line and the water main shall be performed by Harford County pre-qualified utility contractors. Adjustments between the property line and the house shall be performed in accordance with Harford County Plumbing Code. It shall be the Contractor's responsibility to obtain all permits necessary for the performance of this work.
- c. Adjustments to sanitary sewers within the County Easement or right-of-way shall be accomplished by a Harford County pre-qualified utility contractor. Adjustments to sanitary sewers outside the County Easement or right-of-way shall be performed in accordance with the Harford County Plumbing Code. It shall be the Contractor's responsibility to obtain all permits necessary for the performance of this work.

4. Obstructions Shown on Plans

- a. Certain information regarding the reputed presence, size, character, and location of existing underground utilities and structures has been shown on the Plans based upon available records. There is no certainty of the accuracy of this information, and it shall be considered by the Contractor in this light. If test pit data is not shown on the Plans, the Contractor shall excavate test pits in advance of his work in accordance with Section 02012 to locate existing utilities. The Contractor shall hereby distinctly understand that the County is not responsible for the correctness or sufficiency of the information given. The Contractor shall have no claim for delay or extra compensation on account of incorrectness of information given, or on account of the insufficiency or absence of information regarding obstructions. 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 underground facility is encountered that is not shown on the Plans.
- b. It shall be the responsibility of the Contractor to notify "MISS UTILITY," all municipal utilities, all utility line owners, and any other parties affected prior

to the beginning of work. It is the Contractor's responsibility to reference and maintain the location markings during the construction of the project. In the event that a utility location needs to be re-established by Harford County, the cost to provide this shall be borne by the Contractor.

5. Removing Obstruction

- a. Should the position of any pipe, conduit, or other structure above or below ground be such as, in the opinion of the County, to require its removal, realignment, or change due to the work to be done under the Contract, the work of removal, realignment, or change will be done as extra work, or will be done by the owner of the obstructions without cost to the Contractor; but the Contractor shall uncover and support the structures in the limits of his trench at his own expense before such removal, and before and after such realignment or change. Whether the obstruction is shown on the Plans or not, 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; however, if said structure is not shown on the Plans, time extension will be allowed if deemed to be warranted by the County.
- b. In the event that obstructions would delay the work of pipe installation, the Contractor may, with prior written County approval, be permitted to leave a gap in the work and return to fill the gap after the obstructions have been removed. The installation shall be completed by laying full pipe lengths and appropriate closure pieces.
- c. The Contractor shall not interfere with any persons, firms, or corporations or with the County in protecting, removing, changing or replacing pipes, conduits, poles, or other structures.
- d. In the event that the County has entered into any agreement with an affected utility owner or owners which will have an effect on the operations or financial responsibilities of the Contractor, the requirements of these agreements will be included in the Special Provisions of the Contract.

6. Change of Trench Location

- a. In the event the County directs that the location of a trench be changed to a reasonable extent from that proposed on the drawing on account of the presence of an obstruction, or from other cause, or if a changed location shall be authorized upon the Contractor's request, the Contractor shall not be entitled to extra compensation or to a claim for damages; provided that the change is made before the excavation is begun. If, however, such change, made at the direction of the County involves the abandonment of excavation already made, such abandoned excavation together with the necessary backfill, will be considered extra work and the Contractor shall be compensated accordingly. In the event that the trench is abandoned in favor of a new location, at the Contractor's request, the abandoned excavation and backfill shall be at the Contractor's expense.

- b. If an obstruction shall lie within the trench in such manner that the trench has to be excavated to extra width in order that sheeting or bracing may be properly placed, or in order that a structure to be placed in the trench may be properly built, such extra width of trench shall be classed as miscellaneous excavation. No sloping of sides of excavation, however, for the purpose of avoiding the necessity of placing sheeting or bracing, either in the presence or absence of obstructions, will be considered as excavation beyond pay limits.

7. Trench Width and Depth

- a. Trenches shall be excavated to the necessary width and depth as may be shown on the Plans or Standard Details, as specified in the Special Provisions, or as directed. The trench subgrade shall be such as to provide a uniform and continuous bearing and support for the pipe on solid undisturbed earth for the full length of each pipe, except for that portion at the bell hole. Any part of the bottom of the trench excavated below subgrade shall be backfilled with approved material and compacted in accordance with Contract Documents.
- b. Subgrade, in the case of pipe lines, shall be six (6) inches below the underside of the pipe barrel, where the pipe is laid on granular bedding. Where the pipe is laid on a natural foundation, subgrade shall be four (4) inches below the underside of the pipe barrel.
- c. The sides of the trenches shall be practically plumb and under no circumstances will they be permitted to be sloped except with the written approval of the County. Should the Contractor elect to slope or cut-back the sides of the trench, no additional payment will be made for extra excavation, backfill, restoration, or contingent items beyond the limits indicated on the Standard Details.
- d. Bell holes shall be excavated in the bottom of the trench to ensure that pipe has continuous bearing.
- e. Where sheeting or trench boxes are used, the maximum width shall be as noted in the Standard Details.

8. Length of Open Trench

- a. The Contractor shall keep the backfill operation to the top of trench for offsite and existing areas and to road subgrade in areas of new construction, within 100 feet of excavation and pipe laying operations. The County reserves the right to require the backfilling of open trenches over completed pipe lines if, in his judgment, such action is necessary; and the Contractor shall thereby have no claim for extra compensation, even though to accomplish said backfilling, he is compelled temporarily to stop excavation or other work at any place.
- b. All trenches shall be closed at the end of each work day.

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- c. The excavation of all trenches shall be fully completed at least one full pipe length in advance of pipe installation, unless otherwise authorized.

9. Responsibility for Condition of Excavation

The Contractor shall be responsible for the condition of all excavations made by him.

10. Trench Support

- a. The support of the trench shall be the sole responsibility of the Contractor.
- b. The Contractor shall support the sides and ends of all excavations wherever necessary with braces, sheeting, shoring or stringers, trench boxes, or other acceptable excavation support systems. All trench support systems shall be installed by men skilled in such work and shall be so arranged that it may be withdrawn as backfilling proceeds, without injury to the utility or structure constructed or to any roadbed, adjacent structure or property.
- c. All timbering in excavations, trench boxes, or excavation support systems shall be withdrawn as the backfilling is being done, except where and to such extent as the County shall order in writing that said timbering or excavation support system be left in place or where the County permits the trench support to be left in place at the Contractor's expense and upon his request. The Contractor shall cut off any sheeting left in place 2 feet below finished grade and shall remove the material cut off without compensation therefore.
- d. Wherever necessary, in running sand, or soft ground, or for the protection of any structure or property, sheeting shall be driven without extra compensation to such a depth below the bottom of the trench as may be required or directed. Where directed by the County to leave sheeting in place, payment will be made under the appropriate contingent item.
- e. All work shall be performed in accordance with the latest applicable Federal, State, and local safety and health regulations.

11. Drainage and Dewatering

- a. The Contractor shall grade the site as necessary to prevent surface water ponding or from flowing into the trench or other utility excavations and shall provide all necessary temporary surface drainage and keep the same operating to the satisfaction of the County until permanent drainage or finished grading and permanent surface stabilization has been completed.
- b. It shall be the Contractor's responsibility to adequately control water that may be present in the excavation. He shall provide for the disposal of water removed from excavations in such a manner not to cause damage to public or private property or to any portion of the work completed or in progress or cause any impediment to the use of any area by the public; nor shall the Contractor discharge any flushing or ground water or any material of any

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nature into existing sanitary sewer system during the construction of the facilities. All water shall be discharged through an approved sediment control device. The costs of dewatering trench excavations will not be paid for directly, but will be included in prices bid for other related items.

12. Excavation Below Subgrade

- a. The Contractor shall, without additional compensation, before any pipe or appurtenance is installed, fill all unauthorized depressions or irregularities in the bottom of the trench or tunnel with aggregate fill.
- b. Where the bottom of the trench, at subgrade, is in unstable or unsuitable material, excavation shall be carried to such depth as ordered by the County. The trench bottom shall be restored to subgrade with aggregate fill. Excavation and backfill for removal of unsuitable material will be paid for under the appropriate contingent item.

C. Backfill

1. The Contractor shall backfill all trenches as rapidly as practicable after the installation of the utility therein, or after the excavation has served its purpose.
2. Subgrade to 2'-0" above top of pipe: Unless otherwise noted in the Construction Drawings, Specifications or Permits, backfill material shall be carefully placed around and to a depth of two feet over the pipe. These initial lifts shall be carefully placed and hand-tamped in four inch layers. Care should be exercised in this operation to insure that the alignment of the utility is not disturbed.
3. 2'-0" above top of pipe to top of trench: The remainder of the trench may be backfilled in layers not exceeding the specified compaction lift depths. However, if lift thickness is followed and the specified compaction is not obtained based on the testing during backfilling, the Contractor shall, at his own expense, remove, replace, and retest as many times as is required to obtain the specified compactions. In backfilling the remainder of the trench, stones of not more than 6 inches in largest dimension which have been taken out in excavating may be mixed with earth in an amount not exceeding 25% of the backfill volume. Stones of larger size or in greater quantities shall not be used, unless directed by the County. The Contractor shall not permit excavations to be used for the disposal of refuse.
4. In paved areas, the Contractor shall furnish and backfill the trench as per the requirements of the governing regulatory agency, and/or Contract Documents.
5. Should additional material be required for backfilling in excess of that obtained from excavation, the Contractor shall obtain Borrow material from off-site sources, to complete the trench backfill.
6. Use of frozen backfill material is prohibited.
7. Pipe, structures, appurtenances and backfill material shall not be laid upon frozen soil or aggregate.

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D. Compaction

1. In unimproved areas (areas not identified in paragraph 2 below), compaction shall be accomplished as follows for the remaining depth of trench: Suitable Material shall be placed in maximum 2 foot layers or as approved by the County and compacted in such a manner that a completely dense refill is obtained which is free of voids and not susceptible to undue settlement or depression.
2. Soil compaction, certified by a soils testing company will be required under the following conditions, unless otherwise shown on the Construction Drawings, noted in the Specifications or required in the permit:
 - a. Road Right-of-Ways, Roadways, driveways, parking lots, sidewalks and other easement areas with vehicular loads; and all business, commercial or industrial property.

The remaining trench depth up to a depth of two feet below sub-base shall be backfilled with Suitable Material and mechanically tamped in layers not to exceed twelve inches to not less than 92% of the maximum density at optimum moisture content as determined by the Modified Proctor Method, AASHTO Designation T-180. The remaining trench shall be backfilled with Select Material (top 1-foot) shall be compacted to not less than 97 percent of the maximum dry density determined as noted above. All compaction must comply with the aforementioned or the latest edition of the governing applicable road code or permit whichever is most stringent. In some circumstances, lawn and landscaped areas may require the above compaction standards.
 - b. Residentially Zoned Property (Maintained lawn and landscaped areas)

The remaining trench depth shall be backfilled with Suitable Material and mechanically tamped in layers not to exceed twelve inches to not less than 85% of the maximum density at optimum moisture content as determined by the Modified Proctor Method, AASHTO Designation T-180.
3. Insofar as the specifications for mechanical tamping equipment or methods are concerned, no specific requirements are included in these Specifications other than that the use of any particular type of equipment is subject to the approval of the County and that the County has the right to judge if equipment is unsuitable for the uses intended. The Contractor shall be cognizant that use of hand-tamping equipment may be required around existing utilities.
4. For developer projects, the developer or contractor shall inspect and test the soil compaction utilizing a County-approved soils testing company to ensure the requirements are met in paragraph 2 above. A full-time soils testing technician shall be on-site performing compaction tests during all backfilling operations. The following shall be required of the soils testing company:
 - a. Prior to construction, perform modified Proctor Test T-180 on bag samples of proposed backfill material for the purpose of obtaining moisture-density relationship curves (Proctor curves). The soils technicians inspecting the backfilling operations shall have the proctor curves with them at all times.

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- b. Monitor and document all backfill operations that are subject to compaction certification.
- c. The soils technicians shall assure each lift meets the compaction requirements noted on the construction drawings. Testing shall occur at least once each day on every lift, with the spacing of the tests not to exceed 100 feet. The moisture and density of the soil shall be tested by either the sand cone method or by nuclear density gauge. The soils technician shall notify the contractor if any lift does not meet the compaction requirements. The contractor shall then re-compact the backfill as necessary until the minimum compaction has been achieved. The soils technician shall note the station and depth of each test and re-test with results. The contractor shall not proceed until the minimum compaction requirements have been met.
- d. The soils technician shall provide the County Inspector with copies of the reports on a daily basis on the day the testing occurred.
- e. The soils technician shall take moisture tests of the backfill material a minimum of twice daily. If the tested soil moisture will prevent the required density, the technician shall immediately notify the Contractor. The Contractor shall then take the necessary steps to modify the soil moisture to acceptable levels that will achieve the minimum compaction requirements without the use of additives.
- f. The soils technician shall determine if the backfill material meets the requirements of the Standard Specifications.

For capital projects, Harford County will retain the services of a soils testing company at the County's expense.

E. Maintenance of Backfilled Trench

- 1. All backfilled trenches shall be maintained in an acceptable condition by and at the expense of the Contractor for a period of twelve (12) months following the date of conditional acceptance of the work.
- 2. If the Contractor fails to fill depressions in the backfilled trench within 24 hours after the receipt of notice from the County, the County may refill said depressions and the cost thereof shall be retained from any monies due the Contractor, under the Contract. In case of emergency, the County may refill any dangerous depression or protect with lights wherever necessary without giving previous notice to the Contractor; and the cost of so doing shall be retained from any monies due to become due the Contractor under the contract.
- 3. The Contractor shall be responsible for any injury or damage that may result from lack of maintenance of any refilled excavation at any time prior to final acceptance of the Project.

4.0 METHOD OF MEASUREMENT

A. Trench Excavation, Backfill and Compaction

Trench excavation, backfill, and compaction will not be measured as a separate item, but will be included with other items of work contained in the Bid Documents.

5.0 BASIS OF PAYMENT

A. General

1. No separate payment will be made for trench excavation, backfill, and compaction. The cost shall be included in the price bid for installing pipe, or constructing the various appurtenances included in the Contract. The bid prices shall include furnishing all labor, tools, equipment, and materials necessary to complete the work as shown and specified in strict accordance with the Contract Documents.
2. Payment will be made for contingent items when approved by the County.

B. Trench Excavation, Backfill and Compaction

In addition to the work listed above, trench excavation, backfill, and compaction shall also include the traffic control, removing, storing, and rehandling of surface materials over the trench, including paving; the scoring of existing paving in a straight and uniform line; the excavation of all materials encountered in the trench including excavation at manholes, structures, vaults, and other appurtenances that may be shown or required, and any extra excavation necessary for sheeting or bracing or installation of other excavation support systems; the backfilling and compaction of trenches; the removal and disposal of unsuitable and/or surplus material; and all other incidental items to complete the work.

**SECTION 02300
BORING AND/OR JACKING PIPE**

1.0 GENERAL

A. Description

Boring and/or jacking pipe shall include, but not necessarily be limited to, furnishing and installing carrier pipe and/or casing pipe beneath railways, roadways, or other locations indicated on the Plans and in accordance with the Contract Documents. The work consists of the furnishing of a trenchless installation which serves as a casing for utilities. The trenchless excavation shall be installed to the lines and grades shown on the Construction Drawings. The Contractor shall be responsible for selecting a method suitable for the conditions to be encountered and to assure no disturbance to the existing surface.

B. Related Work Included Elsewhere

1. Aggregate Backfill: Section 02240
2. Trench Excavation, Backfill, and Compaction: Section 02250
3. Water Mains: Section 02660
4. Water Services and Appurtenances: Section 02664
5. Gravity Sanitary Sewer and House Connections: Section 02700
6. Sanitary Sewer Force Mains: Section 02720

C. Quality Assurance

The County will inspect all materials before, during, and after installation to ensure compliance with the Contract Documents.

D. Railroad Crossings

No work shall begin without a fully executed Agreement between the County and the Railroad. The Contractor is required to read and adhere to all terms and conditions of the Agreement. The Contractor shall furnish and install all materials specified in the Agreement.

2.0 MATERIALS

A. Materials Furnished by the County

The County will not furnish any materials for boring and/or jacking pipe.

**SECTION 02700
GRAVITY SANITARY SEWER AND HOUSE CONNECTIONS**

1.0 GENERAL

A. Description

Sanitary sewer installation shall include, but not necessarily be limited to furnishing all labor, materials, and services necessary to install pipe, fittings, miscellaneous structures of concrete or brick masonry, and appurtenances for gravity sewer and house connections, of the size and type shown, in accordance with the Contract Documents.

B. Related Work Specified Elsewhere

1. Trench Excavation, Backfill and Compaction: Section 02250
2. Sanitary Sewer Manholes: Section 02710
3. Precast Concrete Structures: Section 03400
4. Mortar and Masonry Grout: Section 04100
5. Unit Masonry: Section 04200
6. Miscellaneous Metals: Section 05500

C. Quality Assurance

The County will inspect all materials before, during and after installation to ensure compliance with the Contract Documents.

2.0 MATERIALS

A. General

1. Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.
2. To minimize the number of joints, only standard manufacturers length of pipe shall be furnished and installed for all sanitary sewer mains and house connections unless otherwise indicated on the Plans, or as approved by the County.

B. Pipe Symbols

For convenience and standardization, the various types of pipe are designated on the plans by the following symbols:

CISP -	Cast iron soil pipe
DIP -	Ductile iron pipe
PVC -	Polyvinyl chloride pipe

C. Materials Furnished by the County

1. The County will not furnish any materials for gravity sanitary sewer and house connections.
2. Unless otherwise noted in the "Special Provisions", the County will make water available from its potable water system for pipeline testing at no charge to the contractor for one test only. The Contractor shall contact the Division of Water and Sewer to coordinate its use. If subsequent testing is required, the Contractor will purchase additional water from the County's system.

D. Contractor's Options

1. The Contractor may furnish Polyvinyl chloride (PVC), or ductile iron pipe (DIP) for sewers equal to or smaller than 24-inch diameter unless specified otherwise in writing by the County.
2. The Contractor shall furnish ductile iron pipe (DIP) for sewers greater than 24-inch diameter unless specified otherwise in writing by the County.
3. The Contractor may furnish precast, cast-in-place, or masonry construction for miscellaneous sanitary sewer structures unless specified otherwise in writing by the County.

E. Detailed Material Requirements

1. Polyvinyl Chloride Sewer Pipe (PVC) and Fittings
 - a. Polyvinyl chloride (PVC) pipe and fittings 4-inch and 6-inch diameter must comply with ASTM D 3034 and F1336 and have a minimum wall thickness of SDR 26. Pipe and fittings 8-inch through 15-inch diameter must comply with ASTM D 3034 and F1336 and have a minimum wall thickness of SDR 35. Pipe and fittings 18-inch through 24-inch diameter shall meet the material requirements of ASTM F679 and F1336 and have a minimum pipe stiffness of 115 psi. All PVC compounds for all sizes shall comply with ASTM D 1784 and have a minimum cell classification of 12454B.
 - b. All pipe and fittings must be manufactured with a locked-in gasket.

- c. All pipe and fittings for standard sewer house connections shall be heavy wall having a wall thickness of SDR 26.
 - d. All pipe and fittings for drop sewer house connections shall be PVC with a wall thickness of SDR 26, including 45° wye fitting on the main.
 - e. Alternatively, the drop sewer house connection may be constructed of ductile iron pipe, in which case the entire run of sewer main to which the drop connects must be constructed of either ductile iron pipe or PVC C900 pipe meeting the detailed material requirements of section 02660.
2. Ductile Iron Pipe (DIP) and Fittings and Cast Iron Fittings
- a. Pipe
 - (1) Ductile iron pipe (DIP) and fittings shall conform to ANSI/AWWA C150/A21.50 in matters of design and ANSI/AWWA C151/A21.51 for materials. Pipe thickness shall conform to the Special Thickness Class 52 minimum or as shown on the Plans. The outside surfaces shall be bituminous coated.
 - (2) The Contractor shall be cognizant of available ductile iron fittings which adapt to PVC SDR-35.
 - b. Interior Linings

Ductile iron pipe, ductile iron fittings and cast iron fittings shall be cement-lined in accordance with AWWA C104, double thickness. This lining shall be sealed with a bituminous seal coat. The outside surfaces shall be bituminous coated.
3. Cast Iron Soil Pipe and Fittings
- Cast iron soil pipe and fittings for sanitary house connections outside the public right-of-way or on risers shall meet material requirements of ASTM A74, service weight or heavier with mechanical, or gasketed joints.
4. Pipeline Plugs for Testing
- Pipeline plugs shall be rubber gasketed or ribbed, watertight, airtight to the extent required by air testing requirements of this Section, cannot be dislodged by testing pressure (internal or external), and of an approved design.

5. Detector Tape

Detector Tape shall be 3 inches wide (minimum) nonmetallic green plastic tape lettered "sewer" in black graphics.

3.0 EXECUTION

A. Preparation

1. Trench excavation, backfill, and compaction, and pipe bedding and haunching shall be as specified in Section 02250.
2. Prior to start of utility installation, all rights-of-way shall be graded to within ± 0.2 feet of the proposed subgrade in paved areas and finished grade in unpaved areas.
3. Trench Water: The pipeline trench excavation shall be dewatered sufficiently to allow pipe joints to be made under dry conditions. No joint shall be made under water. In the event significant groundwater is encountered during construction, the Director may require the Owner and/or Contractor to prepare a corrective plan of action for review and approval by the County.
4. Laying Pipe in Freezing Weather: No pipe shall be laid upon a foundation into which frost has penetrated, nor at any time when there is danger of ice formation or frost penetration at the bottom of the excavation. In freezing weather, open trench length shall be kept to a minimum and the excavation promptly backfilled after the pipe had been installed.
5. Pipe Bedding: Each pipe shall be bedded on a solid foundation acceptable to the County and in accordance with the Standard Details. Bedding shall be installed to insure that joints are properly made and the pipe is firmly supported the full length of the barrel. All sewer mains and services shall be installed with a minimum of six inches of aggregate bedding below the pipe invert, meeting the gradation requirements of AASHTO M43, size number 57. Aggregate bedding shall be installed to grade prior to laying of pipe sections.

B. Pipe Installation

1. All pipe shall be installed in accordance with the approved manufacturers written instructions, Harford County Standards, and as specified herein. These recommendations, if more restrictive than that shown in the Standard Details shall include maximum trench width, bedding requirements, backfill material, and compaction, where applicable. In addition, the following shall apply unless otherwise noted:

- a. Polyvinyl chloride sewer pipe (PVC) shall be installed in accordance with the Standard Details and the recommendations of Uni-Bell.
 - b. Ductile iron pipe (DIP) and cast iron soil pipe shall be installed in accordance with the Standard Details and the recommendations of the Ductile Iron Pipe Research Associations.
2. Equipment for Handling Pipe: Proper and suitable tools and appliances as approved for safe and convenient handling and joining of pipes shall be used.
 3. Pipe Installation: Pipe shall be carefully handled and lowered into the trench. Pipe shall be installed with special care to insure that each joint is watertight, has met the required manufacturer's insertion depth, and has no shoulder or unevenness of any kind along the inside of the pipeline. No wedging or blocking will be permitted in installing any pipe unless directed by written order or permission in writing is obtained from the County.
 4. Pipe Setting and Protection: No pipe shall be brought into position until the preceding length has been thoroughly bedded and secured in place. Care shall be used to assure water tightness and prevent damage to, or disturbing of, the joints during the refilling process. After pipes have been installed and joints have been made, there shall be no walking on or working over the pipe, except as may be necessary in tamping the backfill material, until the backfill is at least 2 feet over the top of the pipe.
 5. Cleaning Pipe: The pipes shall be thoroughly cleaned before being installed and shall be kept clean until acceptance of the completed work. Open ends of all pipelines shall be provided with a stopper carefully fitted to keep dirt and other substances from entering. This stopper shall remain in place at all times when installation is not in progress.
 6. Cutting Pipe: Whenever a pipe requires cutting, to fit into the line or bring it to the required location, the work shall be performed by an approved method that leaves a smooth, square end. Cut PVC pipe ends shall have burrs removed and the end beveled to match factory bevel. Field spigots shall be stop-marked with a felt tip marker or wax crayon for the proper length of assembly insertion.
 7. Alignment of Pipe: A calibrated, precise sewer pipe laser shall be used to align the pipe to the proper grade. The Contractor is responsible to continuously monitor the line and grade in each pipe run between structures. It is the Contractor's responsibility to maintain proper calibration of the equipment throughout the duration of the project.

8. Jointing Pipe
 - a. General

Before any joints are made in the trench, the Contractor shall demonstrate to the County by making a sample joint that methods he will employ conform with the Specifications, will secure a watertight joint, and that the workmen whom he intends to use for this work are familiar with the requirements for making proper joints.
 - b. Push-On Gasketed Joints

Prior to making gasketed joints, both mating pipe ends and the gasket shall be cleaned of all foreign material. The gasket shall then be inserted in or stretched over the cleaned gasket seat and lubricant applied as recommended by the manufacturer and approved by the County. The pipe ends shall be carefully aligned and pushed together to meet the required manufacturer's insertion depth. There shall be no shoulder or unevenness of any kind along the inside of the pipeline. In all cases, the spigot shall be inserted into the previously laid and seated bell, in order to minimize the potential of gasket roll, to prevent the bell dragging and pushing soil into the joint, and to prevent the need to undercut the pipe to lay the bell. All bells shall be laid uphill.
 - c. Other methods of jointing pipe will be given consideration by the County, provided the Contractor furnishes evidence that the proposed method is equal to or better than the specified methods, and further, provided that the proposed method has been successfully used and that the joint has previously been manufactured by the company from whom the Contractor proposes to purchase pipe.
 - d. All jointing and workmanship shall be in accordance with the manufacturer's recommendations as approved by the County.
9. Detector Tape: Install visual detection tape 18 inches above all mains.
10. Connections to existing work shall be made by the Contractor in the presence of the County at such a time and in such manner as directed and approved by the County. Shut-off operations will not be allowed. The Contractor shall complete the connections with the greatest possible speed and all work will proceed without interruption until the connection operation is complete. When specified in the "Special Provisions", the Contractor shall make connections at night.

C. Sanitary House Connections

1. Sanitary house connection branch fittings shall be located where designated by the contract documents and/or the County. Short pieces of sewer pipe shall be field-cut to meet this condition as approved. The Contractor shall have available at the construction site factory approved equipment to machine and adapt the field-cut end to standard couplings and jointing materials.
2. Sanitary Sewer Taps: All taps made into sanitary sewer lines shall be made by an approved hole-cutting method in accordance with the manufacturer's recommendations. Every effort shall be made to prevent entrance of foreign matter into the pipe during the tapping procedure.
3. Backfill for the support of Y-branches and bends shall be placed as shown in the Standard Details, or as directed.

D. Field Tests

1. General
 - a. All portions of the sewers and appurtenances shall be tested. The County shall have the final decision as to the method or methods used, i.e. water infiltration, water exfiltration, air, mirror, or combination of these.
 - b. After installation, sanitary sewers and sanitary house connections will be inspected by the County with the assistance of the Contractor for compliance with these specifications. Inspections and tests will not be conducted until the section of pipeline being inspected and tested has been backfilled, dewatering pumps have been removed from the area, and the ground water has stabilized.
 - c. The Contractor shall schedule all tests with the County at least 2 working days in advance of the test, and shall conduct all tests in the presence of the County. On County Capital Projects, the County will witness one test at no cost the Contractor. Should the pipeline fail the first County witnessed test, the Contractor shall reimburse the County for all costs resulting from such additional tests so required until the pipeline passes the test(s). The Contractor shall also reimburse the County for the cost of inspection if the Contractor is not prepared for any test, or for additional tests required.
 - d. Sewer mains may not contain any debris, silt, earth, gravel, rock, or other foreign material prior to field testing. Each manhole run shall be flushed by the Contractor with sufficient quantities of potable water to flush all material within the sewer main prior to performing any tests. The downstream manhole shall be plugged and the flushing water and debris shall be

collected within this manhole. The Contractor shall completely remove the water and all stones, silt, sediment, debris and foreign material from the manhole. The flush water and debris may not extend beyond one or more manhole runs which collectively add up to 400 feet. Flush water may not be re-used for subsequent manhole runs. Potable water from the county water system shall be quantified in gallons by the Contractor and provided to the Division of Water and Sewer Maintenance personnel at the time of testing. At no time may flush water or debris be introduced into the existing County sewage collection system. The Contractor shall be responsible for all labor, material, equipment and other associated costs of cleaning the sewer mains to the satisfaction of the County.

- e. Control and/or treatment of the discharge of chlorinated water used for flushing, cleaning, or testing operations shall comply with all current applicable local, state, and federal regulations. Costs associated with the control or treatment procedures shall be the Contractor's responsibility.
- f. Harford County Water and Sewer will allow repairs to sewer mains on a very limited basis, if the main does not pass the pressure test. Repairs to sewer mains will be allowed with gasketed PVC couplings only. There shall be no more than one repair within any running 125 feet section in any given manhole run. If the number of identified air leaks exceed the above requirement, then new pipe shall be laid instead of additional PVC couplings. Upon completion of construction and successful testing, there shall be no more than one repair within any running 125 feet section in any given manhole run.

2. Materials

- a. When specific test of materials are called for in the referenced standards and specifications, the County has the option of requiring that any or all of these tests be performed.
- b. Polyvinyl chloride (PVC) pipe and couplings shall be homogeneous throughout and free from visible cracks, bubbles, blisters, holes, foreign inclusions, cuts or scrapes on inside or outside surfaces or other imperfections which may impair the performance or life of the pipe. Each pipe shall be straight-to-within 1 1/4 inch per 20-foot length of pipe when uniformly supported along its entire length, and shall have a true circular cross-section to within $\pm 1/64$ inch.
- c. Cast iron soil pipe, ductile iron pipe (DIP), and ductile iron and cast iron fittings shall be sound and without defects that might impair its service.

3. Visual Inspection

- a. All equipment necessary for the inspection will be furnished by the County, however, the Contractor shall provide assistance as may be required to enable the County to perform the inspection.
- b. The County will inspect all sanitary sewers for alignment, grade, leakage, and condition. The inspection may be conducted by crawling or walking through the pipeline, using mirrors to reflect light through the pipeline, or closed circuit television equipment.
 - 1) If a mirror test is used, the pipe alignment will be acceptable if it is sufficiently true and straight to allow passage of the reflected light with an image of a "full moon".
 - 2) The pipeline shall be installed on a continuous grade so it does not pond or trap water anywhere along the line.
 - 3) No visible infiltration will be allowed. Any water leakage into the system sufficient to constitute any noticeable trickle or dribble shall be corrected.

4. Acceptance Testing

a. General

- 1) The Contractor shall furnish all labor, tools, materials, and equipment necessary to perform the specified tests. Testing shall be conducted only after the section of sewer has passed the visual inspection.
- 2) Generally sewers will be tested from manhole to manhole or from manhole to terminus of the pipeline if there is no manhole at the other extremity. Sewers shall only be tested after the brick channel and bench have been installed. Testing shall be by low pressure air and/or infiltration/exfiltration as specified herein and/or as determined by the County.
- 3) If the sanitary sewer or sanitary house connection fails any test specified herein, the Contractor shall, at his own expense, repair or replace any defective component and retest the failed section or component until all requirements are met. Defective material shall be replaced.
- 4) All equipment used for testing shall be approved by the County.

b. Low Pressure Air Test

Sanitary sewers 24-inch diameter and smaller and attached sanitary house connections shall be tested with low pressure air in accordance with the following procedures. Testing may only occur after the brick channel and bench have been completed.

- 1) Test plugs shall be supplied and installed by the Contractor within the pipeline at each manhole. Each plug shall be securely braced.
- 2) If the pipeline to be tested is expected to be below the ground water table, the County may visually inspect the trench prior to backfilling to determine the elevation of the groundwater table. All gauge pressures for the test shall be increased by an amount to provide 4 psig above the back pressure due to ground water submergence over the end of the probe to a maximum of 6 psi in the pipe system to be tested.
- 3) If the air pressure required for the test is greater than 6 psig, the pipeline shall not be air tested, but shall be tested for infiltration in accordance with method indicated in Paragraph C, which follows.
- 4) The Contractor shall add air slowly to the portion of the pipeline under test until the internal pressure is raised to 4.0 psig greater than the average back pressure of any groundwater above the pipe's invert.
- 5) The Contractor shall not allow personnel in manholes after the air pressure is increased in the sewer. If the test plug is suspected of leaking, the Contractor shall first relieve the pressure before any adjustments are made to eliminate air leakage at the plug. The Contractor may pre-coat the plug with a soap solution to check for leakage.
- 6) The Contractor shall allow the air temperature to stabilize for at least 2 minutes by adding only the amount of air required to maintain 4.0 psig above groundwater back pressure. After this 2 minute period, the Contractor shall completely disconnect the hose and compressor from the section being tested to assure no additional air is added to the pipeline.
- 7) The time required for the pressure to drop 1 psig will be observed and recorded. Pipelines which fail to maintain the stipulated pressure for a period equal to or greater than the holding time shown

in the table at the end of this Section shall be deemed to have failed the low pressure air test and will not be accepted by the County.

- 8) The portion of the line being tested will be acceptable if the time required in minutes for the pressure to decrease from 4.0 to 3.0 psig shall not be less than the time shown for the given diameters in the following table:

Pipe Diameter in Inches	Minutes
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5

- 9) Air testing may be required for pipe diameters greater than 24 inch when specified by the Engineer and approved by Harford County.

c. Infiltration/Exfiltration Tests

- 1) Sanitary sewers 24-inch in diameter and larger and sewers in which air testing is not specified or required shall be subjected to either infiltration or exfiltration tests as determined by the County. Testing may be conducted from manhole to manhole, or between more than two manholes, however, the length to be tested shall not exceed 700 feet. Minimum test duration shall be 24 hours unless otherwise directed by the County. Testing shall be conducted in accordance with ASTM C 969 as modified herein.
- a) Infiltration test shall be made by measuring the amount of water infiltrating into the pipeline section at the lower end of the section being tested by means of a weir installed in the pipe or by other measurement method approved by the County.
- b) Exfiltration test shall be made by plugging the lower manhole, filling the pipeline section with water to a level of at least 2 feet above the crown of the pipe at the upstream end of the section being tested or 2 feet above groundwater level whichever is greater and measuring the water level drop in

the manhole at the end of the specified test period. Pipelines shall be filled with water for at least 24 hours immediately before the test.

c) Test Criteria

The maximum leakage allowance in the completed sewer lines shall not be greater than 25 gallons per inch diameter per mile per twenty-four hours. Note that this is a rate and does not in any way prescribe or infer the length of the line to be included in each test section.

d. Deflection Testing

In addition to other tests detailed in this Section, PVC sanitary sewers may be tested for deflection (reduction in vertical inside diameter). Testing shall be performed by passing a 5% undersized GO/NO-GO mandrel or sewer ball through the pipeline or measuring deflection continuously by using a deflectometer. Maximum allowable deflection shall be 5%.

e. Closed-Circuit Television Inspection

The County retains the right to inspect sewer mains by means of robotically controlled closed circuit television cameras.

4.0 METHOD OF MEASUREMENT

A. Sanitary Sewers

Measurement for furnishing and installing sanitary sewers will be made horizontally along the center line of the pipe for each size and type of pipe without deduction for wye or drop connections. The inside lengths of manholes and junction chambers will be deducted.

B. Sanitary House Connections

Measurements for furnishing and installing sanitary house connections will be made horizontally along the center line of pipe for each size and type of pipe from the center line of the sewer to the end of the house connection without deduction for wyes, bends, cleanouts, plugs, or other fittings.

5.0 BASIS OF PAYMENT**A. General**

1. Payment will be made at the unit and/or lump sum prices bid. The prices bid shall include furnishing all labor, tools, equipment, and materials necessary to complete the work as shown and specified, in strict accordance with the Contract Documents.
2. The price(s) bid for furnishing and installing sanitary sewers and sanitary house connections shall include trench excavation, backfill, compaction, and incidental items as specified in Section 02250.
3. Payment will be made for contingent items when approved by the County.

B. Sanitary Sewers

Payment for furnishing and installing sanitary sewers, complete and in place, will be made per linear foot of the size and type of pipe installed. The price(s) bid shall include traffic control, furnishing and installing of all pipe, fittings, plugs, stoppers, and jointing materials; connection to existing pipelines, structures, or manholes; testing; providing an approved spoil site, and disposing of all spoil or excess materials, aggregate bedding, and backfill shown on Standard Detail S-1; all environmental and erosion or sediment control; restoration of all disturbed areas; and incidental items to complete the sanitary sewers.

C. Sanitary House Connections

Payment for furnishing and installing sanitary house connections complete and in place will be made per linear foot of the size and type of pipe installed. The price(s) bid shall include traffic control, furnishing and installing all pipe, fittings, vertical riser, cleanout, cap, plugs, precast concrete blocks where required, jointing materials; connection to sewer branch fittings; testing; providing an approved spoil site, and disposing of all spoil or excess materials; aggregate bedding, and backfill shown on Standard Detail S-22; all environmental and erosion or sediment control work including off-site requirements at spoil storage or borrow sites; restoration of all disturbed areas; and incidental items to complete the sanitary house connection.

**SECTION 02710
SANITARY SEWER MANHOLES**

1.0 GENERAL

A. Description

Sanitary sewer manhole installation shall include, but not necessarily be limited to, furnishing and installing sanitary sewer manholes and miscellaneous structures of concrete or brick masonry built to the shapes and dimensions shown and in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Trench Excavation, Backfill, and Compaction: Section 02250
2. Sanitary Sewers: Section 02700
3. Cast-in-Place Concrete: Section 03300
4. Precast Concrete Structures: Section 03400
5. Mortar: Section 04100
6. Brick Masonry: Section 04200

C. Quality Assurance

The County will inspect all materials delivered to the job-site. Any pre-cast concrete sections which are not in compliance with the required dimensions; which are not true, square, plumb, symmetrical; which have honey-combing; cracks, chips; which do not have smooth surfaces; or otherwise have visible material defects shall be rejected and removed from the project site. Rejected materials may not be repaired but shall be replaced with new products.

2.0 MATERIALS

A. General

1. Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.

B. Materials Furnished by the County

The County will not furnish any materials for sanitary manholes.

C. Contractor's Options

1. The Contractor may furnish polypropylene, or plastic-coated steel for manhole steps.
2. Standard sanitary manholes shall be precast construction; however, the Contractor may furnish cast-in-place, or masonry construction for miscellaneous sanitary sewer structures with the approval of the County.

D. Detailed Material Requirements

1. Granular bedding beneath manhole bases shall meet the gradation requirements of AASHTO M43, Size Number 57, as specified in Section 02240.
2. Portland cement concrete for cast-in-place structures shall be as specified in Section 03300, mix number as indicated on the Standard Details or the Plans.
3. Precast manhole bases, risers, cone sections, grade rings, and precast utility structures shall be as specified in Section 03400.
4. Joints shall be "O" ring compression type meeting the requirements of ASTM C-443.
5. Non-shrink grout shall be as specified in Section 04100.
6. Mortar for brickwork and grade rings shall be as specified in Section 04100.
7. Brick for manhole inverts and miscellaneous structures shall be sewer brick as specified in Section 04200.
8. Frames and covers shall be as shown in the Standard Details and as specified in Section 05500.
9. Manhole steps shall be as per the Standard Details. The plastic coated type shall be manufactured using a minimum 3/8-inch diameter steel reinforcing rod meeting the requirements of ASTM A 615, as a core. The plastic coating shall meet the requirements of ASTM 2146, Type II, Grade 4375B.
10. Force main discharge manholes and above grade manholes shall be seal-coated to the limits noted on the Standard Details with 16 mils of a coal tar polyamide epoxy.
11. Manhole-to-Pipeline Connectors
 - a. Cast-in-place type connectors shall be:
 - 1) A Banded-boot type for sewer grades greater than 18% and less than 46.5%.

- 2) A compression type for sewer grades less than 18%.
 - b. For doghouse type manhole applications a banded-boot type connector shall be used.
 - c. Mechanically wedge-in-place type connectors shall be used for cored openings.
12. Manholes shall have sealant between the manhole and the manhole frame. The sealant shall be mastic rope, type B, 3/4 inch minimum diameter, butyl based, meeting requirements of AASHTO M 198.
13. The stainless steel insert dish for manholes shall be manufactured of materials resistant to corrosion from atmospheres containing hydrogen sulfide and dilute sulfuric acid. The insert body shall be 18 GA, 304 stainless steel. The manufacturer must furnish a load test verification showing a load test failure in excess of 3,000 lbs. The insert shall contain gas relief valves designed to release a pressure of .5 to 2.0 psi and have a water leakdown rate no greater than 5 gallons per 24 hours. The handle shall be able to withstand a pull of 500 lbs. without breakage.

3.0 EXECUTION

A. General

1. Precast sections shall be transported and handled with proper equipment to protect the units from damage. Sections shall be handled by means of lifting inserts embedded in the concrete. All pre-cast concrete unit construction shall consist of new and un-used products, free from defects. Repairs to pre-cast concrete units shall be strictly prohibited, before, and after shipment. Pre-cast concrete units damaged as a result of installation shall be removed and disposed of by the Contractor at no cost to the County and not returned to the project site. Damaged pre-cast units shall be replaced with new un-used pre-cast units from the same manufacturer. Injection of grout sealant in the surrounding soils to correct joint leakage is prohibited.
2. Excavation, foundation preparation, backfill, and compaction shall be as specified in Section 02250.
3. Manholes and drop connections shall be installed in accordance with the Standard Details and as specified herein.
4. Miscellaneous structures shall be constructed where shown and as indicated on the Plans or as directed by the County.
 - a. Cast-in-place concrete construction shall be as specified in Section 03300.
 - b. Brick construction shall be as specified in Section 04200.

5. Pipelines connected to manholes and other structures shall have a pipe joint between 3 and 7 feet from the exterior wall of the structure.
6. All new openings in existing manholes shall be core drilled in a manner acceptable to the manhole manufacturer and the County.
7. A stainless steel insert dish shall be installed within all manholes where the edge of the cover is five (5) feet or less to the face of the curb. They shall also be installed in manholes that lie within the vertical sumps of roadways, swales, or ditches and as directed by the County.

B. Manhole Installation

1. Manholes, frames and covers shall be installed as pipeline installation progresses. The manhole vertical axis shall be plumb and directly over the centerline of the pipeline unless otherwise shown or directed.
2. Manhole joints shall be watertight. The exterior of all joints below grade on new manholes shall be fully wrapped with a minimum 12-inch wide wrapping product specifically designed to prevent ground water infiltration at manhole joints. The wrapping product shall be designed for adhesion to concrete surfaces and shall meet the approved materials list. Installation of the wrap shall be in accordance with the manufacturer instructions. The wrap shall be centered over the manhole joint.
3. Grade rings shall be set on a full bed of mortar.
4. Channels for receiving and passing water shall be formed in the bottom of manholes as shown or directed. All such channels shall be lined with sewer brick. Channels shall slope smoothly and evenly and a channel bench constructed to the height of the crown of the highest pipe. Channels and a watertight plug shall be installed in the manhole for future extensions where shown on the Plans or directed by the County.
5. Pipes shall be cut flush with the inside wall of the manhole.
6. The frame and cover shall be installed in accordance with the Standard Details.
7. Parging of the interior brick surfaces will not be permitted.

C. Curing

1. Manhole channels and benches shall receive a minimum twenty-four (24) hour cure time prior to being subjected to sewage flow. The County reserves the right to adjust this curing period if deemed necessary.

D. Tests

The construction of new manholes shall provide for a watertight interior, free of infiltration of groundwater and inflow of surface storm water runoff. After construction and during the one-year maintenance period there shall be no leakage or seepage of water into the manhole from defects related to materials and workmanship. All new manholes shall be vacuum tested as follows:

1. Vacuum Testing of New Manholes

Vacuum testing procedures shall be performed in accordance with ASTM C1244 with the following clarifications and modifications.

- a. Vacuum testing shall be performed by a utility testing company approved by Harford County Water and Sewer Maintenance Department. The vacuum tests shall be performed after subgrade is within plus or minus 0.2 feet. Harford County retains the right to require additional vacuum tests if it believes other construction activities have damaged the integrity of the manhole.
- b. The brick bench and channel does not have to be installed at the time of vacuum testing.
- c. The manhole shall be fully backfilled prior to performing the vacuum test.
- d. Prior to testing, all lift holes shall be plugged with mortar. All pipes and pipe stubs entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
- e. The test head shall be placed at the top of the manhole in accordance with the recommendation of the testing apparatus manufacturer. A vacuum of 10 inches of mercury shall be drawn on the manhole. Then the valve on the vacuum line of the test head shall be closed and the time measured to drop the vacuum to 9 inches of mercury. The manhole is acceptable if the time for the vacuum to drop from 10 to 9 inches of mercury is equal to or greater than that shown in the following table:

Manhole Depth	Manhole Diameter (ft.)				
	4	5	6	7	8
	Time (Seconds)				
<4	10	13	16	19	23
6	15	20	25	29	34
8	20	26	33	38	45
10	25	33	41	48	56
12	30	39	49	57	67
14	35	46	57	67	78
16	40	52	67	76	89
18	45	59	73	86	100
20	50	65	81	95	111
22	55	72	89	105	122
23	59	78	97	114	133

- f. If the vacuum test does not pass, the manhole shall be excavated and the joints examined for source(s) of the failure. The joints shall be properly cleared of foreign matter and gaskets checked. The manhole sections shall be re-set as necessary until the passing of the vacuum tests.

E. Protection During Pavement Operations

The Contractor shall provide whatever means necessary to prevent damage to manholes during paving operations and to prevent soil, gravel, asphalt and construction debris from entering sanitary manholes and sewer mains during paving operations.

The County reserves the right to require the Contractor to perform additional vacuum tests if it believes the manhole was damaged from paving or other construction activities. All damaged manhole sections shall be replaced and re-tested at the Contractor's expense. Any frames and covers and brick work damaged or pushed off-center from paving or other construction activities shall be re-set to the satisfaction of the County at no expense to the County.

The Contractor shall recognize that any debris entering sanitary manholes from sewer, road or other construction is strictly prohibited. Prior to the operational walkthrough, all soil, gravel, asphalt and other construction debris shall be completely removed from the manhole and sanitary sewer.

4.0 METHOD OF MEASUREMENT

A. Sanitary Sewer Manholes

Measurement for furnishing and installing sanitary sewer manholes will be made per vertical foot for the number of each type constructed, as shown on the Standard Details. Measurement will be made from the lowest point in the manhole invert to the highest external point on the top of the manhole frame and cover.

B. Drop Connections

Measurement for drop connections will be made for the number and type constructed. The manhole on which the drop structure is constructed will be measured and paid for separately as described above.

C. Miscellaneous Structures

Measurement for miscellaneous structures will be made for the number of each type of unit constructed in accordance with the Contract Documents or as directed.

5.0 BASIS OF PAYMENT

A. General

1. Payments will be made at the unit and/or lump sum prices bid. The prices bid shall include furnishing all labor, tools, equipment, and materials necessary to satisfactorily complete the work as shown, specified, and in strict accordance with the Contract Documents.
2. The price(s) bid for furnishing and installing sanitary sewer manholes shall include the following:
 - a. Trench excavation, backfill, compaction, and incidental items as specified in Section 02250.
 - b. Furnishing and installing granular bedding for manhole foundation as shown on the Standard Details and as required elsewhere in the Contract Documents.
3. Payment will be made for contingent items when approved by the County.

B. Sanitary Sewer Manholes

Payment for sanitary sewer manholes will be made per each type and size (diameter) of manhole installed. The price(s) bid shall include traffic control, furnishing and installing all precast, masonry, or cast-in-place concrete units, waterproofing, reinforcing bars, ladder rungs, metal frames and covers; all testing; providing an approved spoil site, and disposing of all spoil and excess materials; all environmental and erosion or sediment control work including off-site requirements at spoil storage or borrow sites; restoration of all disturbed areas, and incidental items to complete the manholes.

C. Manhole Drop Connections

Payment for drop connections will be made per type and size constructed as shown, specified, and directed. The price(s) bid shall include furnishing and installing all pipe, fittings, precast concrete, concrete encasement, aggregate and incidental items to complete the drop connection.

SANITARY SEWER MANHOLES

02710-8

D. Miscellaneous Structures

Payment for miscellaneous structures will be made for each structure constructed to limits shown on the Contract Documents and shall be full compensation for furnishing all items necessary to satisfactorily complete the work.

E. Waterproofing

No separate payment will be made for waterproofing, but will be considered incidental to unit prices bid.

**SECTION 02720
SANITARY SEWER FORCE MAINS**

1.0 GENERAL

A. Description

Sanitary sewer force main installation shall include, but not necessarily be limited to, furnishing and installing pressure rated pipe, fittings, and appurtenances of size and type shown on the Plans, installed on firm foundation true to line and grade and in accordance with the Contract Documents.

B. Related Work Specified Elsewhere

1. Trench Excavation, Backfill, and Compaction; Section 02250.
2. Precast Concrete Utility Structures; Section 03400.

C. Quality Assurance

1. Materials

The County will inspect all materials before, during and after installation to ensure compliance with the Contract Documents.

2.0 MATERIALS

A. General

1. Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.
2. To minimize the number of joints, only standard manufacturers length of pipe shall be furnished and installed for all sanitary sewer mains and house connections unless otherwise indicated on the plans, or as approved by the County.

B. Pipe Symbols

For convenience and standardization, the various types of pipe are designated on the plans by the symbols noted in Section 02660, entitled "Water Mains".

**SECTION 02800
RESTORATION****1.0 GENERAL****A. Description**

Restoration shall include, but not necessarily be limited to all clean up and disposal of waste materials and the restabilization of disturbed areas including paved areas, non-paved areas, concrete improvements, street signs, mail boxes, fences, trees, shrubs and other improvements whether shown in the Contract Documents or not.

B. Related Work Included Elsewhere

1. Test Pits: Section 02012
2. Removal or Abandonment of Existing Utilities: Section 02050
3. Clearing and Grubbing: Section 02110
4. Aggregate Backfill: Section 02240
5. Trench Excavation, Backfill and Compaction: Section 02250
6. Boring and/or Jacking Pipe: Section 02300
7. Tunneling: Section 02400
8. Turf Establishment: Section 02820
9. Sodding: Section 02830
10. Soil Stabilization Matting: Section 02850
11. Cast-In-Place Concrete: Section 03300

C. Quality Assurance

The County will inspect all materials before, during and after installation to ensure compliance with the Contract Documents.

2.0 MATERIALS

A. General

Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.

B. Materials Furnished by the County

The County will not furnish any materials for restoration other than those acceptable materials which are available from the trench excavation limits as shown on the Contract Documents.

C. Contractor's Options

Not applicable.

D. Detailed Material Requirements

Not applicable.

3.0 EXECUTION

A. General

After the completion of backfilling, all materials not used therein shall be removed and disposed of in such a manner and at such point or points as shall be approved or directed by the County; and all roads, sidewalks, and other places on the line of the work shall be left free of debris, clean, and in good order. Said cleaning-up shall be done by the Contractor without extra compensation; and if he shall fail to do such work within twenty four hours after receipt of notice, the County may arrange to have the cleaning-up done by others; and the cost shall be retained out of the monies due or to become due to the Contractor under the Contract. In case of emergency, the County may restore or remove and dispose of materials wherever necessary without giving previous notice to the Contractor, and the cost of doing so shall be retained from any monies due to become due the Contractor under the contract.

B. Paved Areas

1. Immediately upon completion of the trench backfill and compaction as previously specified, the Contractor shall provide graded aggregate subbase, temporary bituminous surfacing material as per the Contract Documents and/or direction of the governing regulatory agency.

RESTORATION

02800-3

2. Weather permitting, the Contractor shall remove and dispose of the temporary surfacing materials, cut-back the edge of the existing pavement as per the Contract Documents, and permanently patch-pave the area as specified in the Contract Documents and/or governing agency direction. This shall be done within 30 calendar days after backfilling and compacting the trench as described in the paragraph above or within the time period specified by the governing agency.

C. Concrete Improvements

Sidewalks, curbs, combination curb and gutter, drive aprons, and other concrete improvements removed, soiled, or damaged by the Contractor's activities shall be cleaned or replaced by the Contractor in kind, or as directed by the County and/or Contract Documents without extra compensation.

D. Non-paved Areas

1. Immediately upon completion of the trench backfill and compaction as previously specified, the Contractor shall temporarily stabilize the area in accordance with the Contract Documents.
2. Weather permitting, within 14 days after the completion of trench backfill and compaction, the Contractor shall permanently stabilize the area with seeding and mulching or sodding, as noted in the Contract Documents.

E. Street Signs, Mail Boxes, Fences, Shrubs, Trees, and Other Improvements

1. Existing street signs and traffic control devices stored or relocated by the Contractor will be reset by the Contractor after construction in the area is complete and the work approved by the County.
2. In case of emergency, the County may reset street signs and traffic control devices wherever necessary without giving previous notice to the contractor; and the cost of doing so shall be retained from any monies due to become due the contractor under the contract.
3. Mail boxes shall be carefully removed by the Contractor to the extent required to permit construction operations and as directed by the Postal Service. It shall be the Contractor's responsibility to temporarily reset mail boxes during construction to maintain service until the boxes are permanently reset in their original locations or at locations designated by the Postal Service. The Contractor shall comply with all Postal Service regulations regarding the location and height of all mail boxes disturbed by his activities.

RESTORATION

02800-4

4. Existing fences, paper boxes, signs, property markers, and other similar items shall be carefully removed by the Contractor to the extent required to permit construction operations and as directed by the County. The Contractor shall safely store all items during the time that they are down and when possible, re-erect them in the original locations or at locations designated by the County.
5. Shrubs, hedges, and other plantings shall be transplanted with sufficient earth to insure that no damage to their major root system occurs. After transplanting has been accomplished, it shall be the Contractor's responsibility to water all plants until their growth is established.

4.0 METHOD OF MEASUREMENT

Restoration will not be measured.

5.0 BASIS OF PAYMENT

Restoration will not be paid for as a separate item but is considered incidental to other items of work. Payment will be included in other related items of work and will constitute full compensation for all labor, equipment, tools, and incidentals necessary to complete the required work.

SECTION 02820
TURF ESTABLISHMENT

1.0 GENERAL

A. Description

Lawn Restoration shall include, but not necessarily be limited to, topsoil, soil preparation, seeding, fertilizing, mulching, liming as required, over seeding, and refertilizing all areas disturbed by construction and where designated for lawn restoration in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Clearing and Grubbing: Section 02110
2. Sodding: Section 02830
3. Soil Stabilization Matting: Section 02850

C. Quality Assurance

The County will inspect all materials before, during and after installation to insure compliance with the Contract Documents.

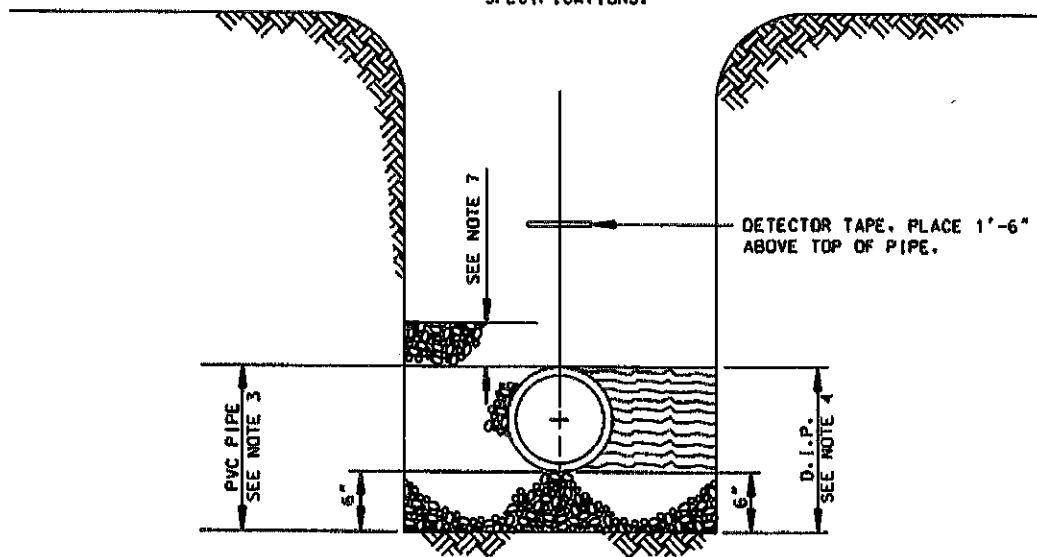
D. Establishment of Vegetation within Wetland Areas

Permanent soil stabilization measures within wetland and wetland buffers, and other environmentally sensitive areas shall be performed in strict accordance with the Maryland Department of the Environment and/or Army Corps of Engineers Wetlands and Waterways Permit. The turf establishment requirements herein do not pertain to special conditions associated with wetland areas.

E. Turf establishment shall be performed by a professional landscape contractor in which over fifty percent of their business is landscape work. The Contractor shall provide evidence of landscapers work history and references for Harford County review and approval prior to the work being performed.

F. The Contractor and landscape subcontractor shall obtain and file at the work site a copy of the Maryland Turf Grass Law and Regulations and Maryland Seed Law and Regulations available from the Maryland Department of Agriculture.

NOTE:
TRENCH TO BE
COMPACTED AS PER
SPECIFICATIONS.



SECTION
NO SCALE

NOTES:

1. UNLESS NOTED OTHERWISE, ALL ROAD REPAIR SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE HARFORD COUNTY OR MARYLAND STATE ROAD CODE.
2. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER AND COUNTY APPROVAL.
3. PVC PIPE: SHALL RECEIVE AASHTO M43, NO.57 AGGREGATE.
4. D.I. PIPE: SHALL BE INSTALLED ON 6" AASHTO M43, NO.57 AGGREGATE AND HAVE APPROVED COMPACTED BACKFILL MATERIAL CONSOLIDATED TO TOP OF PIPE.
5. SANITARY FORCE MAINS SHALL BE INSTALLED AS PER STANDARD DETAIL, W-1.
6. PROVIDE CONTINUOUS BEARING FOR FULL LENGTH OF PIPE.
7. AGGREGATE SHALL CONTINUE TO 6" ABOVE TOP OF PIPE WHEN USING P.V.C. WITH DEPTH OF COVER GREATER THAN 14'.



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

Robert B. Cooper

STANDARD SEWER DETAILS

PIPE BEDDING

ISSUED 7/1/98

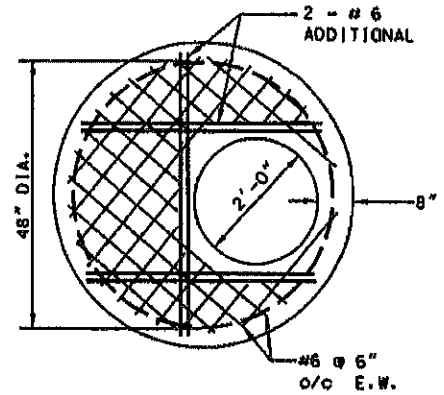
REVISED _____

REISSUED 3/15/09

PLATE S-1

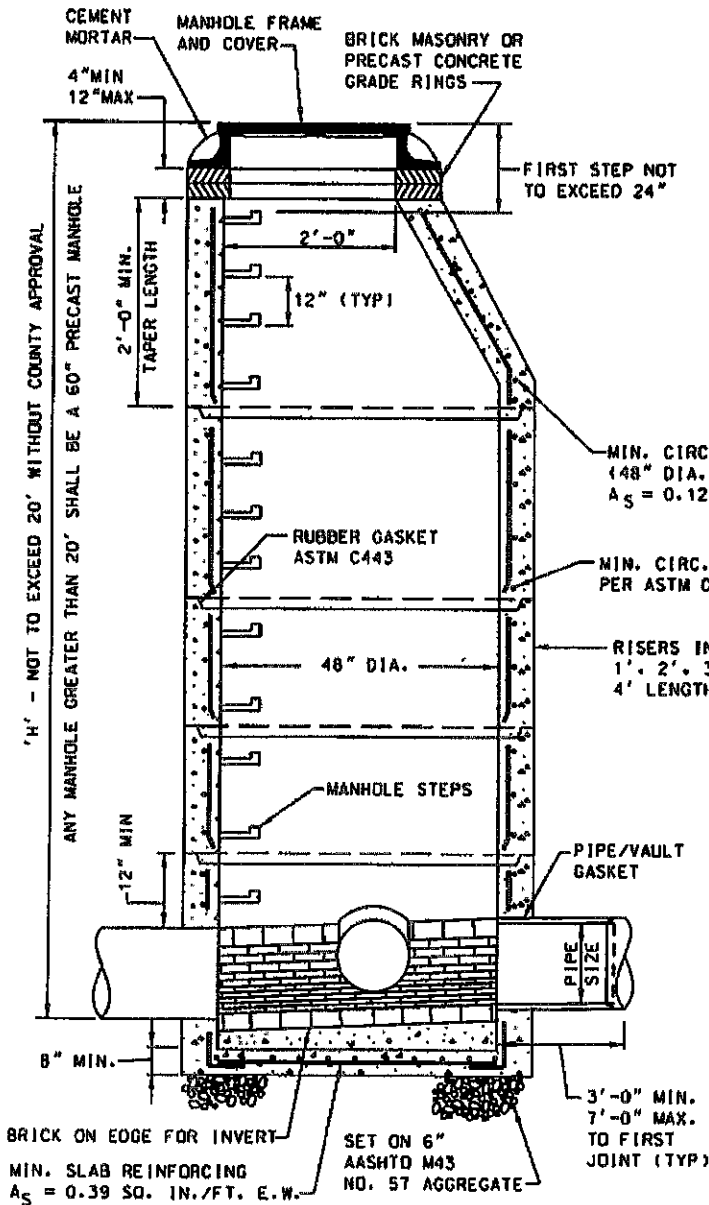
NOTES:

- EXCEPT AS NOTED, MANHOLE TAPERS, RISERS, AND BASES SHALL BE FURNISHED IN STRICT ACCORDANCE WITH ASTM DESIGNATION C478 (LATEST) FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
- CONCRETE FOR PRECAST CONSTRUCTION SHALL BE 4,000 PSI. MIN
- REINFORCING FOR TYPE A-3, SAME AS TYPE A-2.
- MANHOLE STEPS SHALL BE SPACED AS SHOWN IN A SINGLE VERTICAL ALIGNMENT. THE STEPS SHALL NOT BE STAGGERED.
- TOP OF BENCH TO MATCH CROWN OF PIPE.
- NO INTERIOR SURFACES SHALL RECEIVE PARGING WITHOUT COUNTY APPROVAL.
- GRADE RINGS SHALL BE SET ON A FULL BED OF MORTAR.

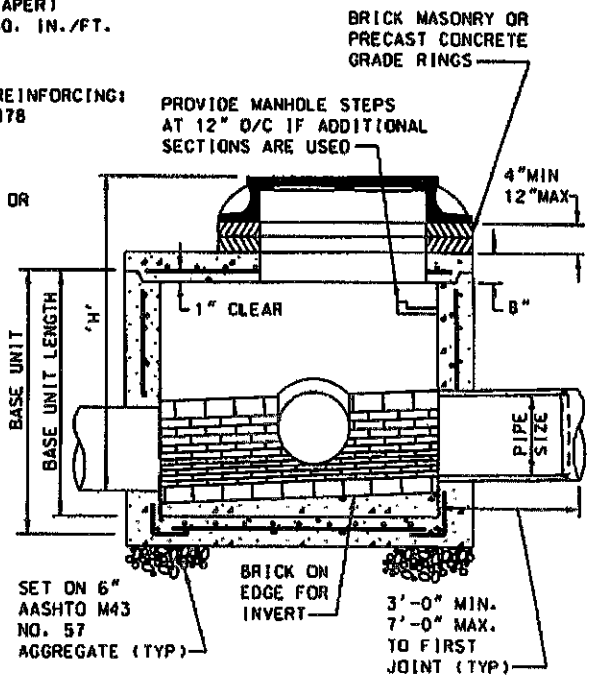


SLAB REINFORCING FOR TYPE A-3 PRECAST MANHOLE

PIPE SIZE	BASE UNIT LENGTH-MIN.	MIN. H FOR A-2 MAX H FOR A-3
8"	2' - 0"	5' - 0"
12" TO 15" DIA.	3' - 0"	6' - 0"
18" TO 21" DIA.	4' - 0"	7' - 0"



48" TYPE A-2



SHALLOW PRECAST MANHOLE

48" TYPE A-3



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

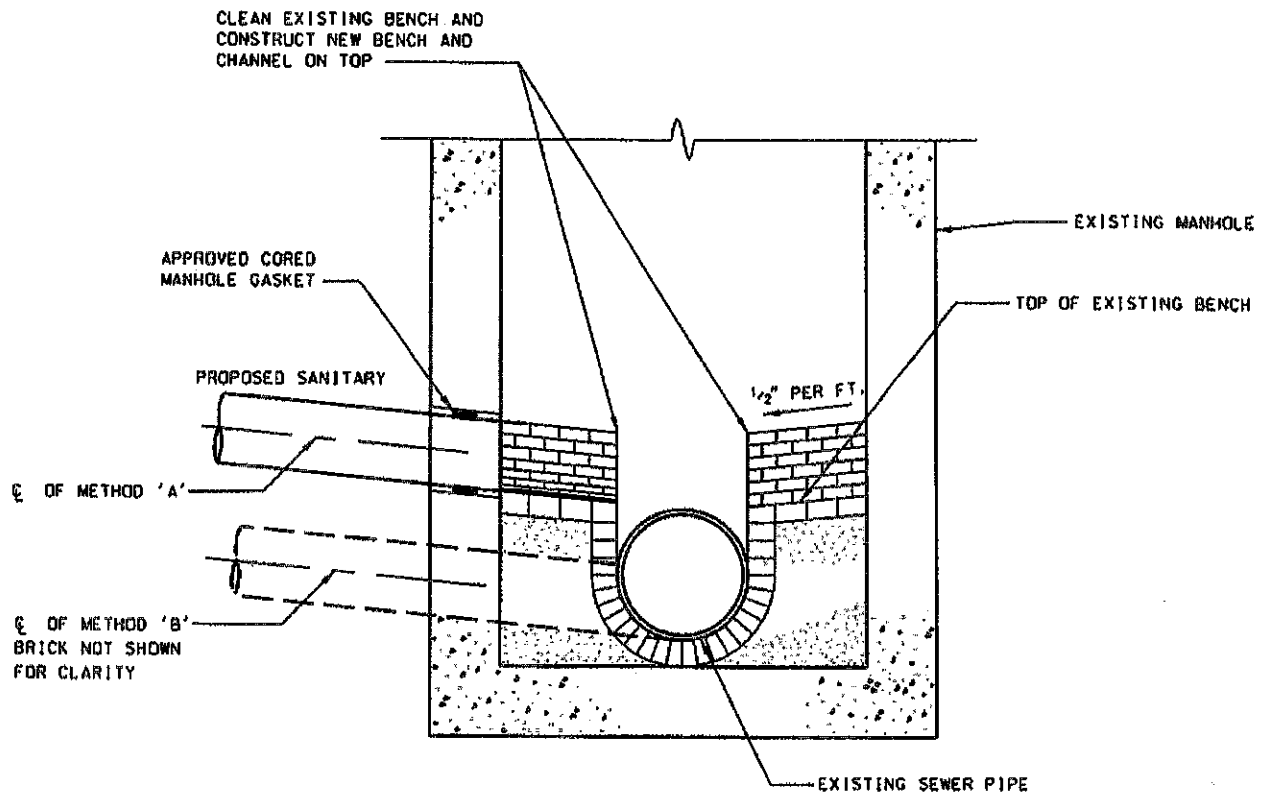
Robert P. Cooper

STANDARD SEWER DETAILS

**48" PRECAST MANHOLE
FOR 21" PIPE AND SMALLER**

ISSUED 7/98
REVISED 4/17/01
REISSUED 3/15/09

PLATE S-2



NOTES:

1. PRIOR TO CONNECTING TO EXISTING MANHOLE, AN INSPECTION WILL BE PERFORMED BY COUNTY PERSONNEL TO DETERMINE WHETHER THE EXISTING MANHOLE REQUIRES ANY REHABILITATION.
2. INVERT OF PROPOSED SANITARY TO BE CHanneled AS PER STANDARD DETAILS.
3. NEW OPENING SHALL BE CORED AND SEALED.
4. METHOD 'B' IS DEFINED AS CONNECTING TO EXISTING MANHOLE BELOW EXISTING BENCH. WHEN USING METHOD 'B', THE ENTIRE BRICK CHANNEL AND BENCH SHALL BE REMOVED AND RE-CONSTRUCTED TO SUIT THE PROPOSED INCOMING SEWER. FLOW SHALL BE EITHER BYPASS PUMPED OR A FLEXIBLE SLEEVE INSTALLED DURING THE WORK. METHOD 'B' SHALL BE USED ONLY WHEN SPECIFICALLY APPROVED BY THE COUNTY.



HARFORD COUNTY, MD
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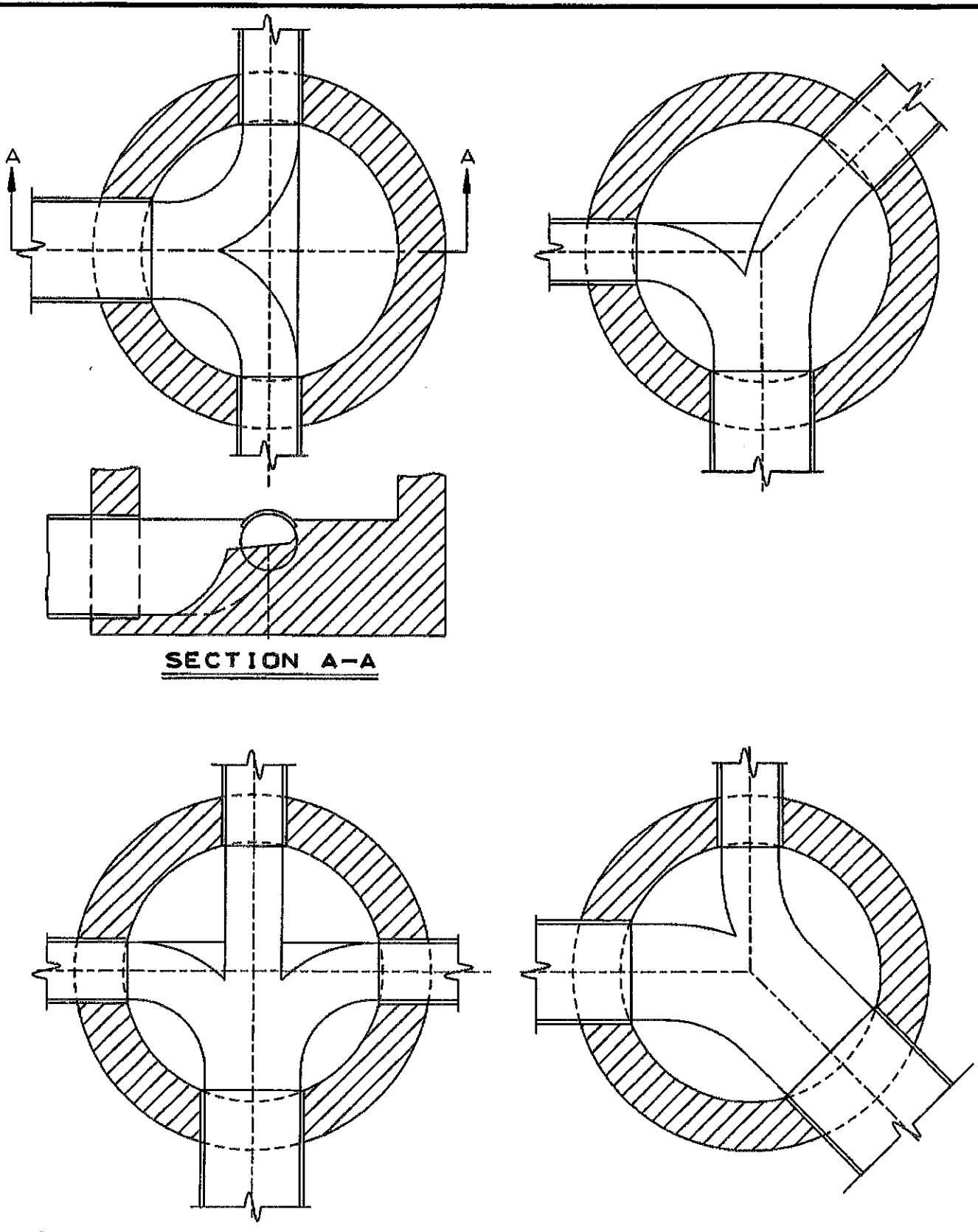
Robert B. Cooper

STANDARD SEWER DETAILS

**METHOD OF CONNECTION
TO EXISTING MANHOLE**

ISSUED 7/98
REVISED 11/26/03
REVISED 3/15/09

PLATE S-12



SECTION A-A



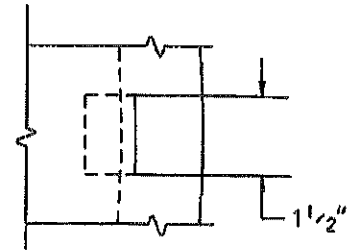
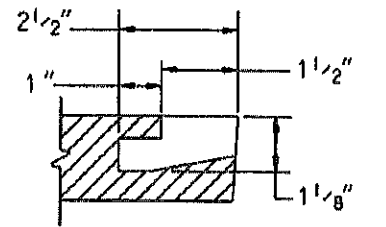
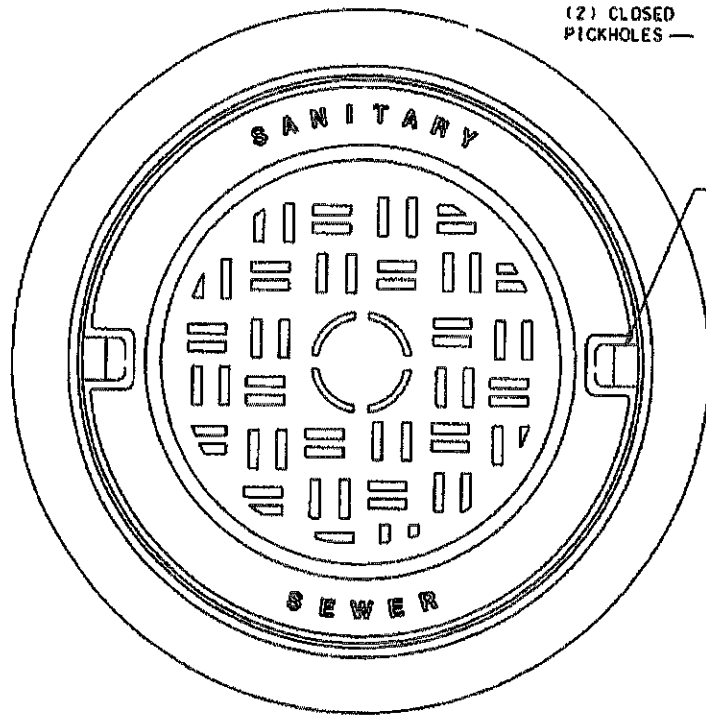
HARFORD COUNTY, MD
 DEPARTMENT OF
 PUBLIC WORKS

Robert B. Gofen

STANDARD SEWER DETAILS

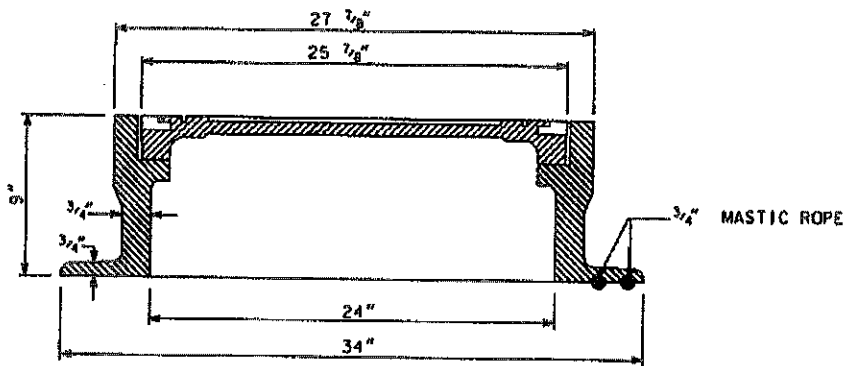
PLANS FOR
 MANHOLE CHANNELING

ISSUED	7/1/98
REVISED	
RE ISSUED	3/19/09
PLATE	S-13



**CLOSED PICKHOLE
DETAIL**

ND SCALE



- HEAVY DUTY
- MAT'L. ASTM A48 CL 30B

- MACHINE BEARING SURFACES
- MANUFACTURER'S MARKING ON FRAME AND COVER

- COVER WEIGHT: 170 LBS
- FRAME WEIGHT: 250 LBS

NOTES:

1. MANHOLES LOCATED IN PAVED AND LAWN AREAS SHALL BE CONSTRUCTED TO PROPOSED FINISH GRADE.



HARFORD COUNTY, MD
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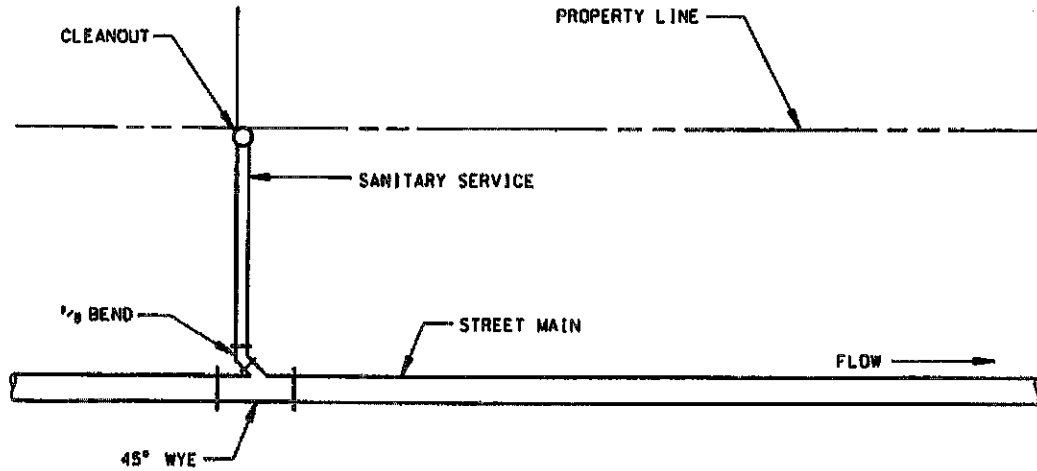
Robert B. Cooper

STANDARD SEWER DETAILS

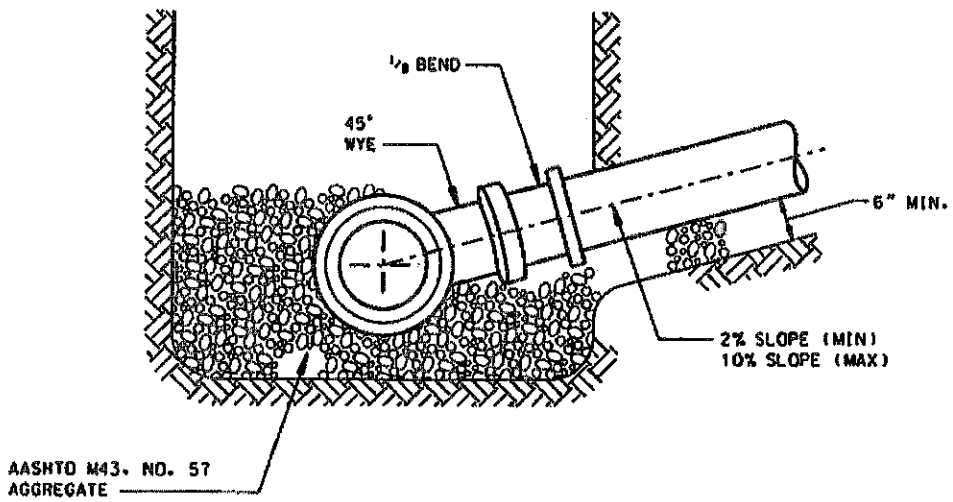
**STANDARD FRAME
AND COVER**

ISSUED	7/90
REVISED	4/17/01
REVISED	3/15/09

PLATE S-14



PLAN
NO SCALE



SECTION
NO SCALE



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

Robert P. Cooper

STANDARD SEWER DETAILS

**HOUSE SERVICE
CONNECTION
AT MAIN**

ISSUED 7/1/98

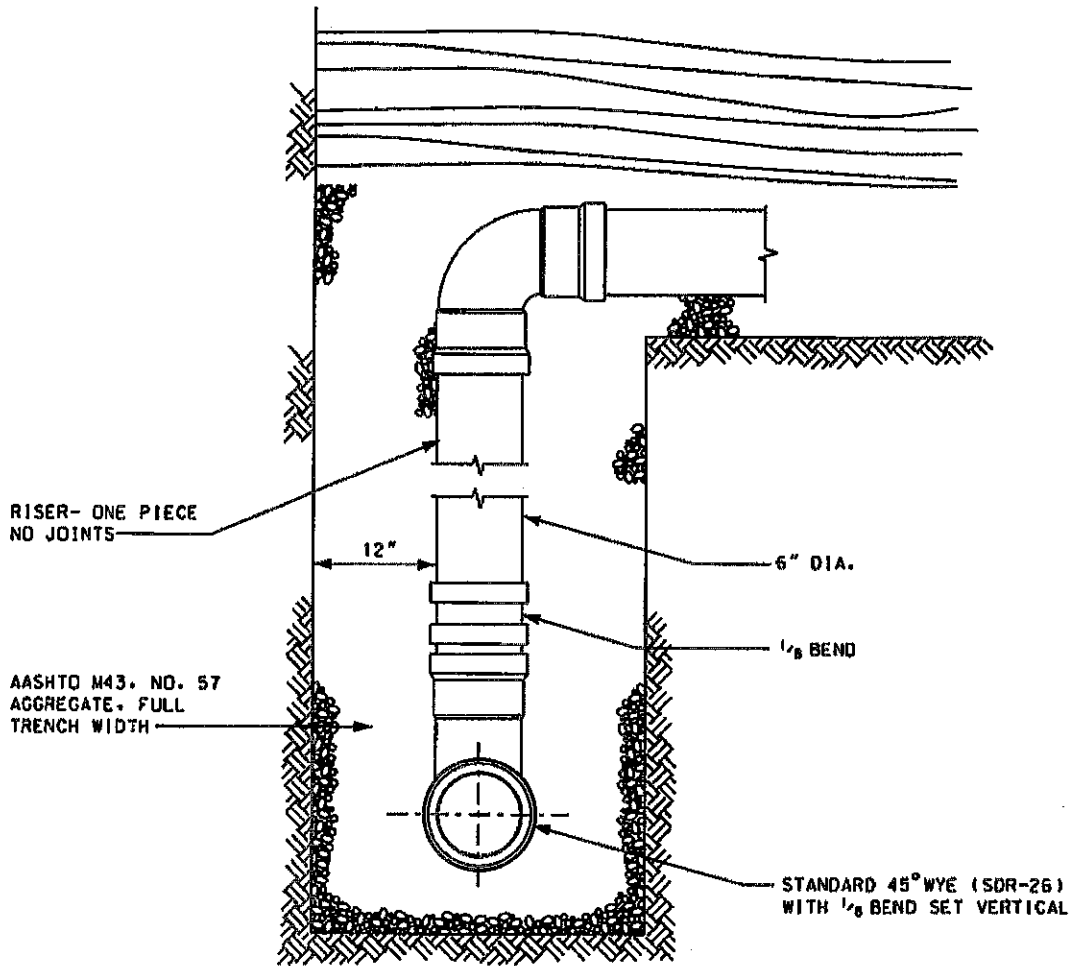
REVISED

REVISED 3/15/09

PLATE S-20

NOTES:

1. TRENCH TO BE COMPACTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
2. ALL PIPES AND FITTINGS SHALL BE SDR-26 FROM THE WYE ON THE MAIN TO THE CLEAN-OUT.



SECTION
NO SCALE



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

Robert Blooper

STANDARD SEWER DETAILS

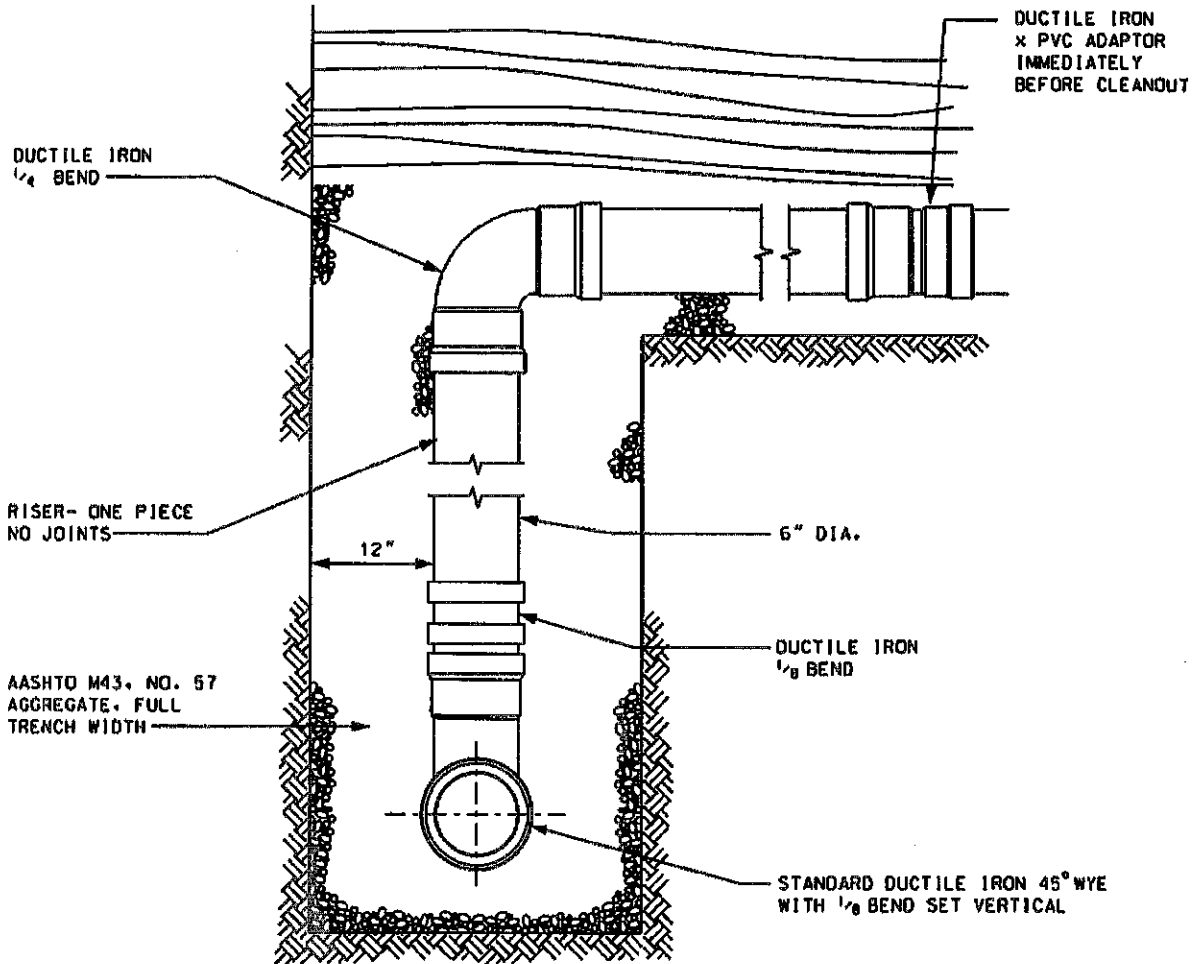
**PVC DROP HOUSE
SERVICE CONNECTION
AT MAIN**

ISSUED 7/1/98
REVISED 3/15/09
REVISED 4/15/10

PLATE S-21

NOTES:

1. TRENCH TO BE COMPACTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
2. ALL PIPES AND FITTINGS SHALL BE DUCTILE IRON FROM THE WYE ON THE MAIN TO THE CLEAN-OUT.
3. THE SEWER MAIN BETWEEN MANHOLES TO WHICH THIS CONNECTION IS MADE SHALL BE EITHER DUCTILE IRON OR C900 PVC PIPE.



SECTION
NO SCALE



HARFORD COUNTY, MD
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STANDARD SEWER DETAILS

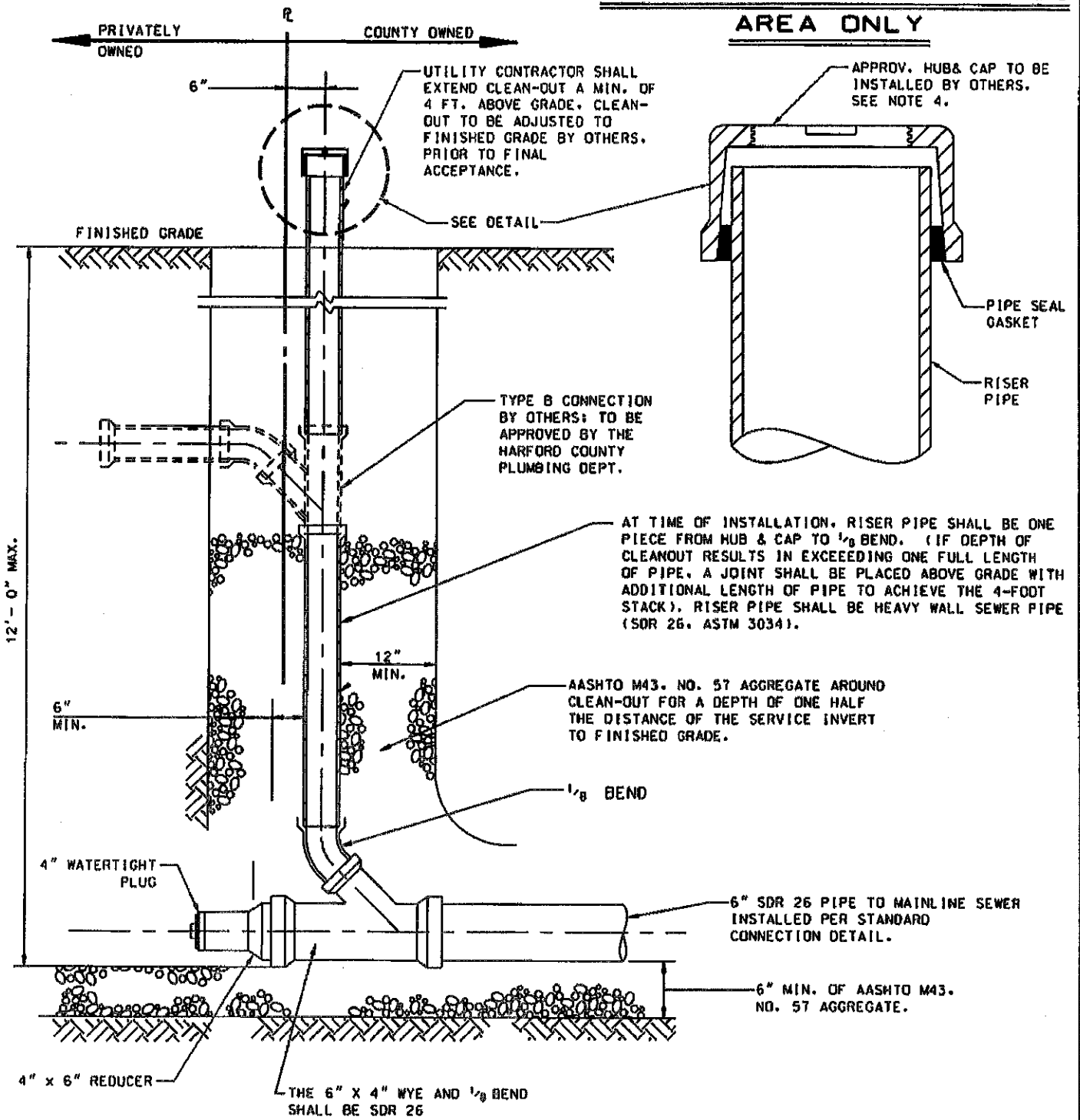
**DUCTILE IRON DROP HOUSE
SERVICE CONNECTION
AT MAIN**

ISSUED 4/16/10
REVISED _____
REVISED _____

PLATE S-21A

ELEVATION

DETAIL FOR NON-TRAFFIC AREA ONLY



NOTES:

1. ALL PIPE AND FITTINGS SHALL BE SDR 26.
2. CLEAN-OUTS ARE SUBJECT TO AIR TESTS. CONTRACTOR SHALL INSTALL APPROVED TEMPORARY AIR-TIGHT CAP OR PLUG. TAPE IS NOT ALLOWED.
3. ON LOTS WITH EXISTING HOMES. CONTRACTOR SHALL INSTALL APPROVED HUBS AND CAPS FLUSH WITH FINISHED GRADE.
4. CLEANOUTS SHALL NOT BE CONSTRUCTED SO THAT THEY WILL END UP IN SIDEWALKS, STEPS OR DRIVEWAYS.



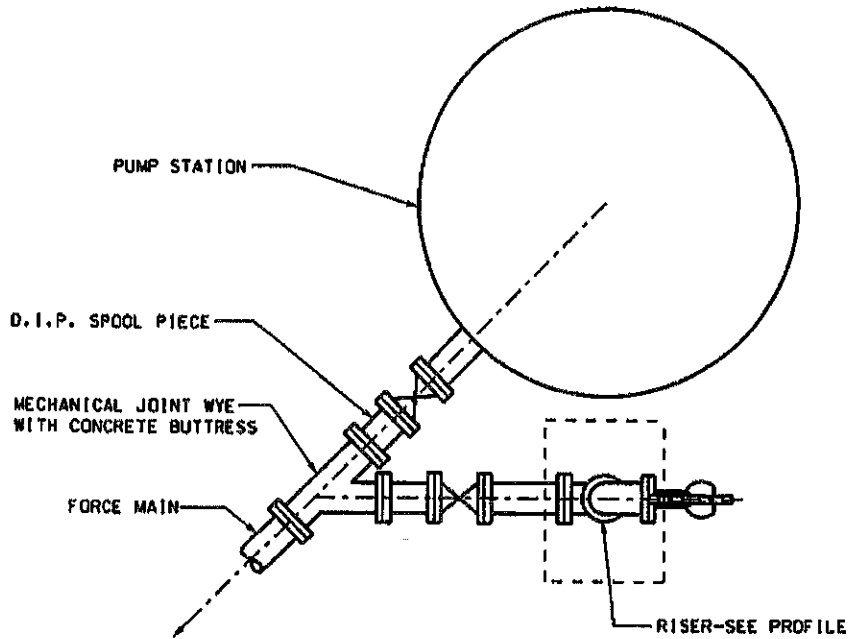
HARFORD COUNTY, MD
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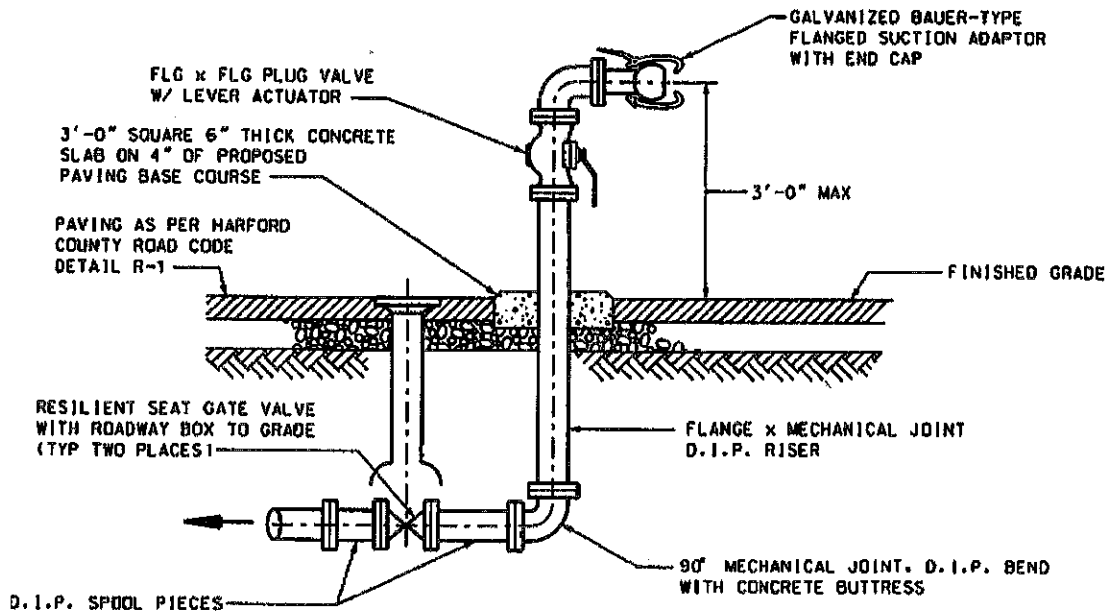
STANDARD SEWER DETAILS

**HOUSE SERVICE
CONNECTION CLEAN-OUT**

ISSUED	7/98
REVISED	5/11/06
REVISED	3/15/09
REVISED	4/16/10
PLATE	S-22



PLAN
NO SCALE



PROFILE
NO SCALE

NOTES:

1. THIS DETAIL IS FOR CONCEPT ONLY. PIPE LOCATION AND SIZES WILL BE AS DESIGNED BY THE ENGINEER, AND APPROVED BY THE DIVISION OF WATER AND SEWER.
2. ALL BURIED JOINTS SHOWN IN THIS DETAIL SHALL HAVE MECHANICAL JOINT RESTRAINTS AND BUTTRESSES.



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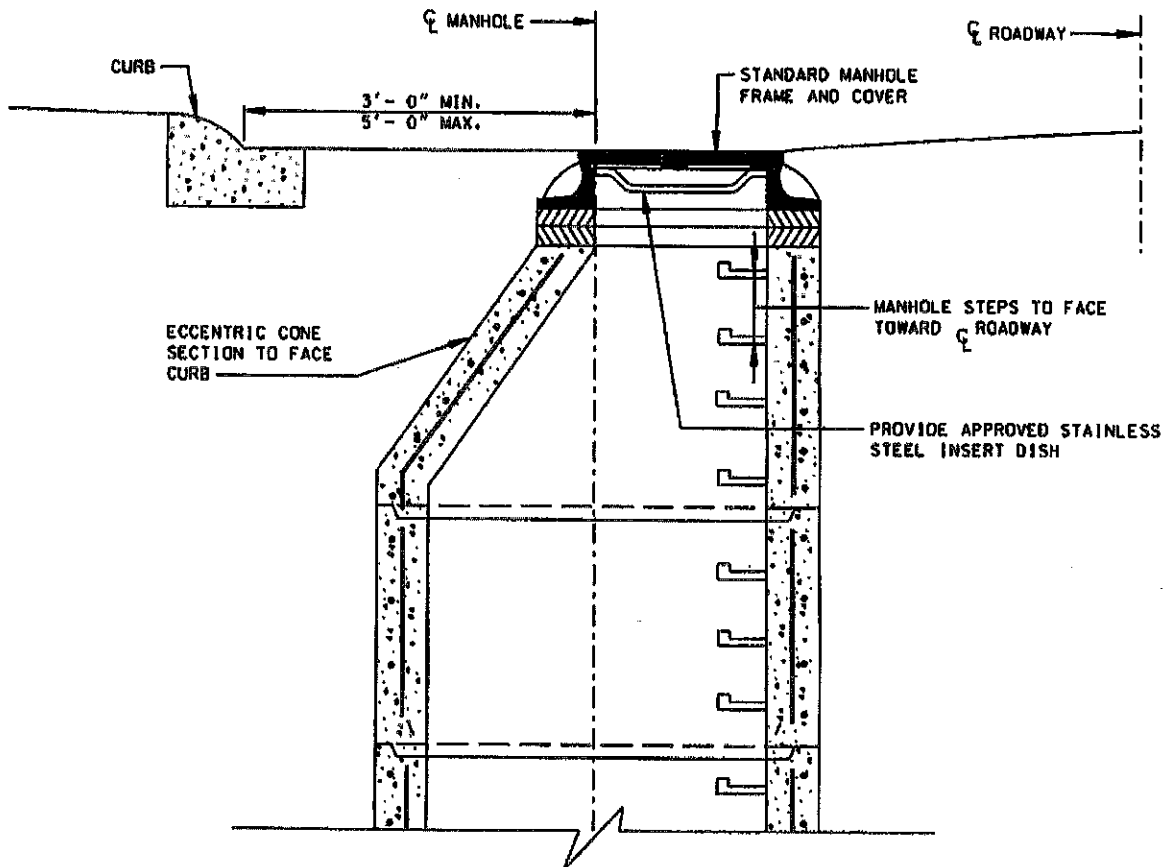
Robert P. Cooper


STANDARD SEWER DETAILS

PUMP AROUND

ISSUED 7/1/98
REVISED 3/15/09
REVISED

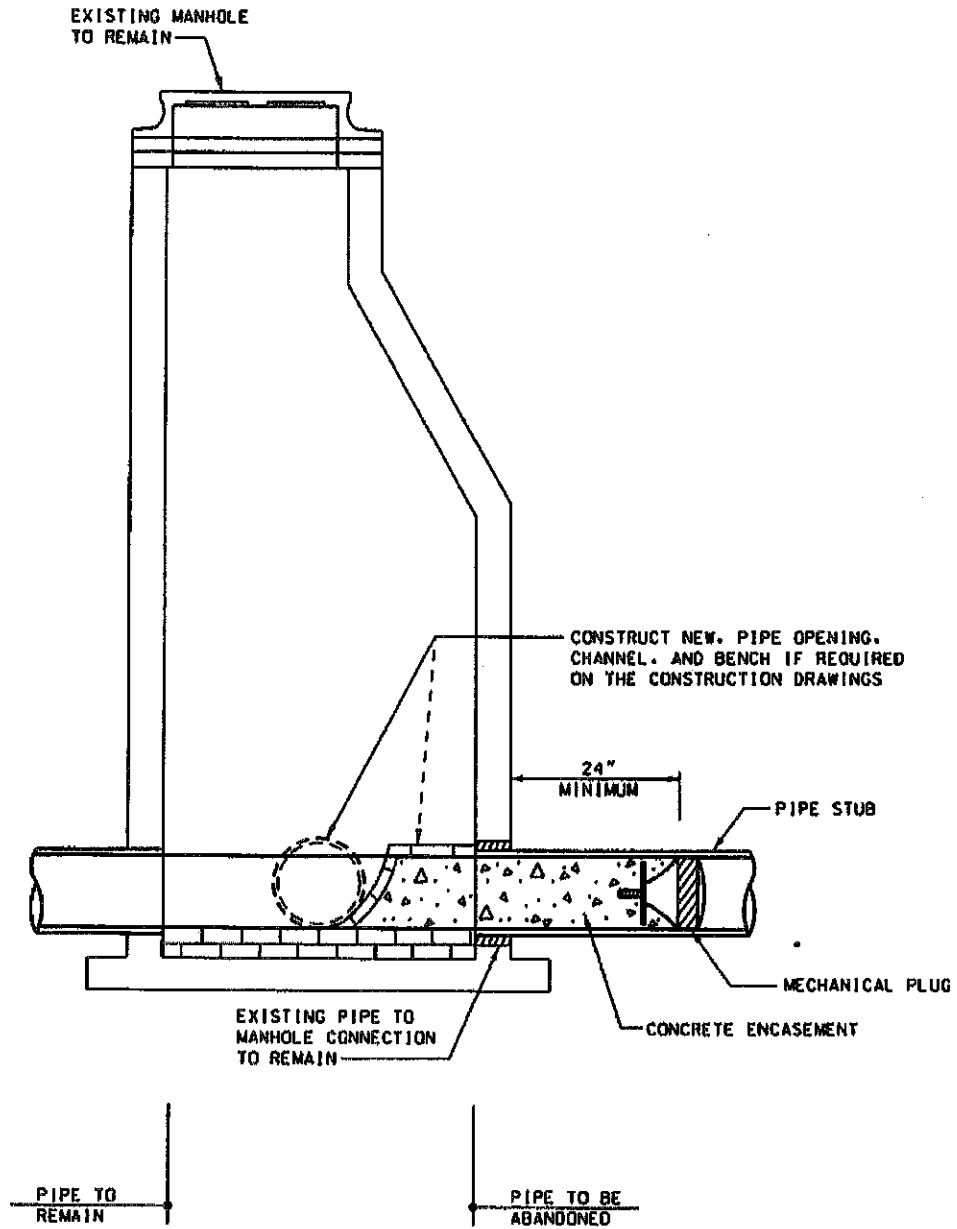
PLATE S-26




 <p>HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS</p> <p><i>Robert P. Cooper</i></p>	<p>STANDARD SEWER DETAILS</p>	<p>ISSUED 7/98</p>
	<p>PRECAST MANHOLE SETTING WITHIN 5 L.F. OF FACE OF CURB</p>	<p>REVISED 4/17/01</p> <p>REISSUED 3/15/09</p>
		<p>PLATE S-27</p>

NOTES:

1. FOR SEWERS 18" AND SMALLER DIAMETER, DISCONNECT SEWER AS SHOWN, INSERT MECHANICAL PLUGS AND PLACE CONCRETE ENCASEMENT.
2. FOR SEWER LARGER THAN 18" (INSTALL MASONRY BULKHEAD).
3. RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.
4. SEWER PLUGS SHALL BE IN ACCORDANCE WITH SECTION 02050 AND APPROVED MATERIALS LIST.

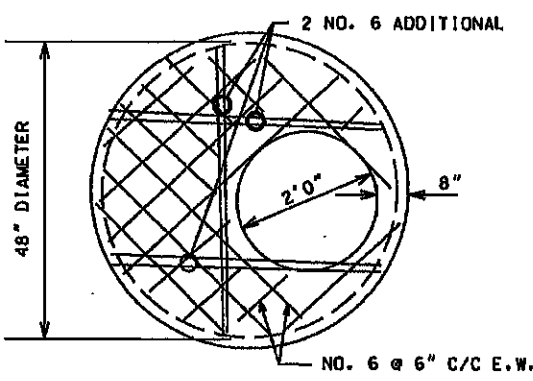


 <p>HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS</p> <p><i>Robert S. Cooper</i></p>	STANDARD SEWER DETAILS	ISSUED <u>3/15/09</u>
	ABANDONMENT OF PIPE AT MANHOLE	REVISOR _____ REVISOR _____
		PLATE <u>S-31</u>

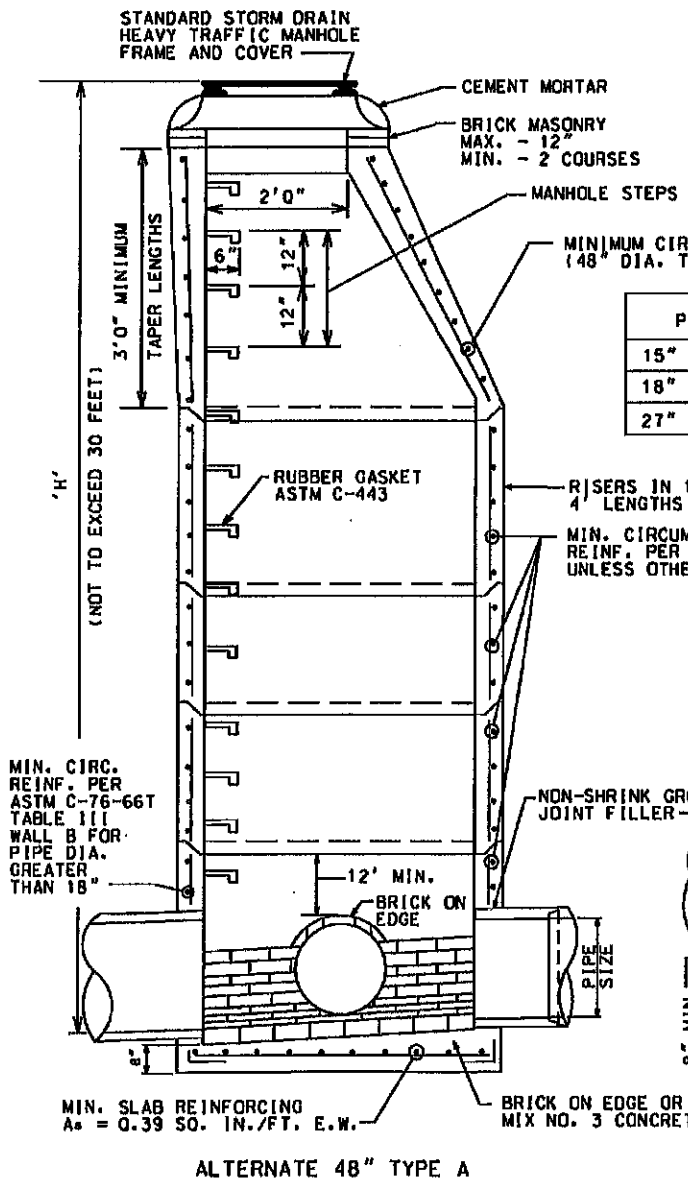
W. Hubon 5-2-00
 DIRECTOR OF PUBLIC WORKS DATE
W. Hubon 4/12/00
 DEP. DIRECTOR, PUBLIC WORKS DATE

NOTES:

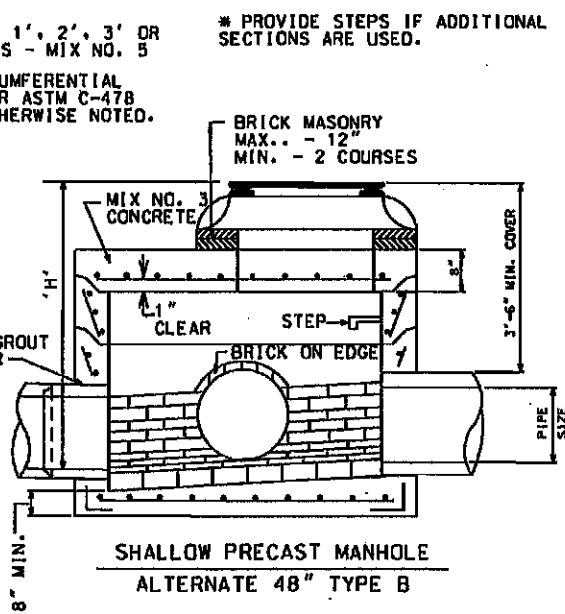
- EXCEPT AS NOTED, MANHOLE TAPERS, RISERS AND BASES SHALL BE FURNISHED IN STRICT ACCORDANCE WITH ASTM DESIGNATION C-478 (LATEST) FOR "PRECAST" REINFORCED CONCRETE MANHOLE SECTIONS".
- MANHOLE BASES SHALL BE OF MIX NO. 5 CONCRETE OR POURED IN-PLACE MIX NO. 3 CONCRETE OR 8" MIN. BRICK.
- PROVIDE A 1" DIAMETER WEEP HOLE 6" ABOVE CROWN OF PIPE OR AS DIRECTED.



SLAB REINFORCING
 TYPE B PRECAST MANHOLE



PIPE SIZE	MIN. MH BASE LENGTH	MIN. H FOR A MAX. H FOR B
15" DIAMETER	3'	6.5'
18" TO 24" DIA.	4'	7.5'
27" TO 36" DIA.	5'	8.5'



SHALLOW PRECAST MANHOLE
 ALTERNATE 48" TYPE B

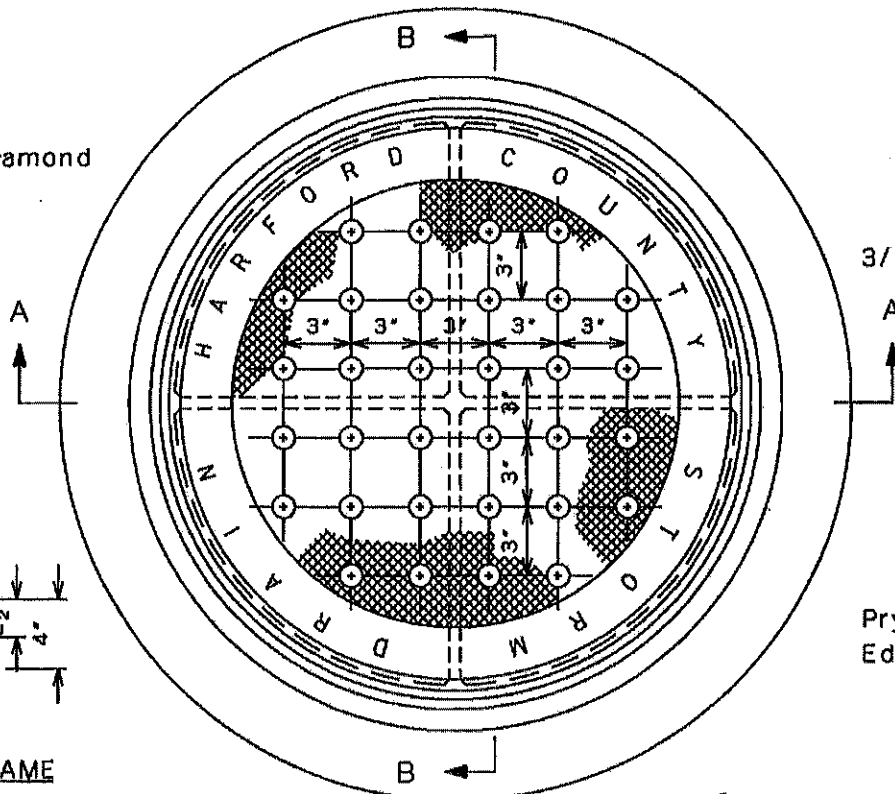


HARFORD COUNTY, MD
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 PUBLIC WORKS

PRECAST A & B MANHOLE
 (FOR PIPES 15" TO 36" HORIZONTAL DIAMETER)

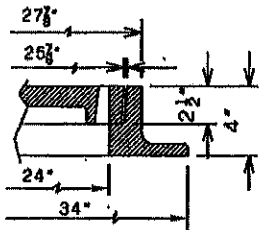
ISSUED 5-2-00
 REVISED _____
 REVISED _____
 PLATE D-43

Standard Diamond Grid

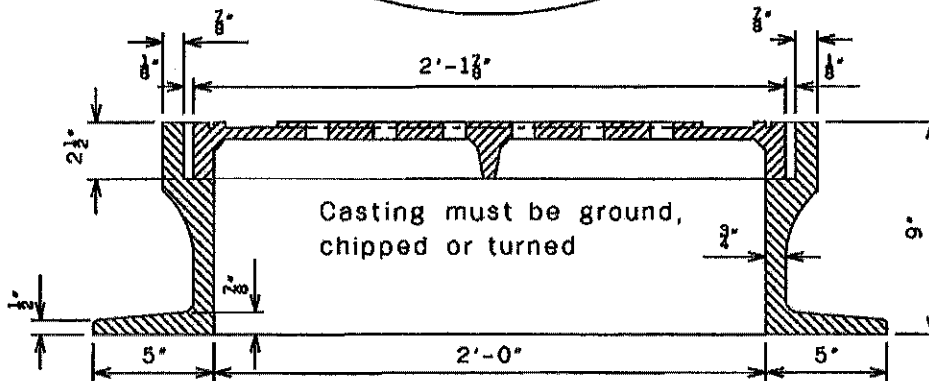


3/4" Dia. Holes

Pry Bar Holes On Edge of Cover

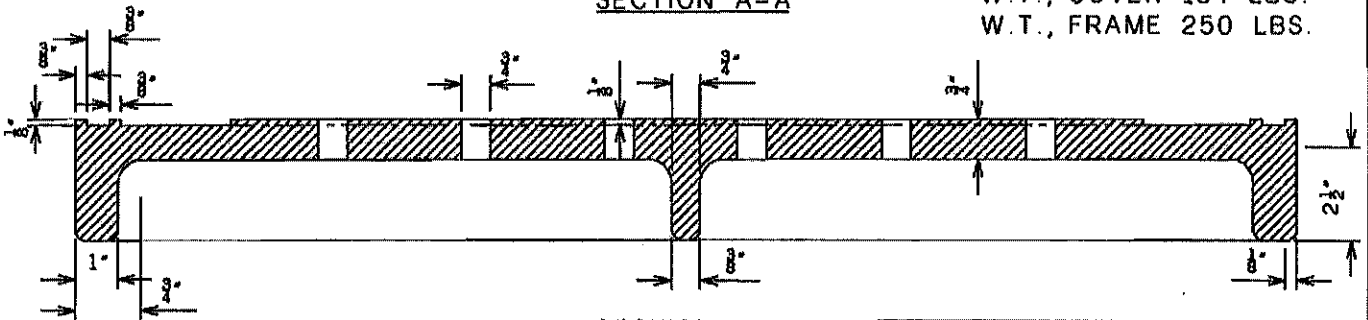


SHALLOW FRAME



SECTION A-A

W.T., COVER 134 LBS.
W.T., FRAME 250 LBS.



SECTION B-B

NOTE - Frame & Cover for 54" and larger bends and junction chambers shall be Dewey Bros. Inc. RCR- 62C or equal with lettering & hole as shown for 2'-0" Frame.

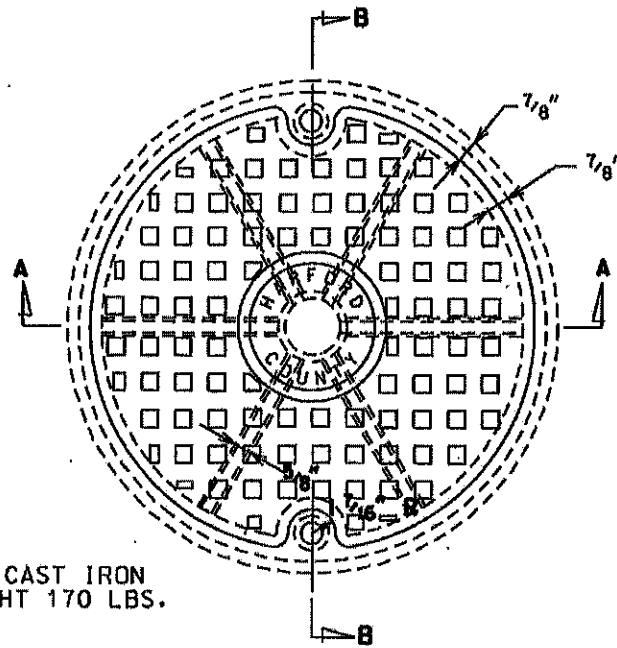
<i>[Signature]</i>	05-02-00
DIRECTOR OF PUBLIC WORKS	DATE
<i>[Signature]</i>	04-12-00
DEP. DIRECTOR, PUBLIC WORKS	DATE



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

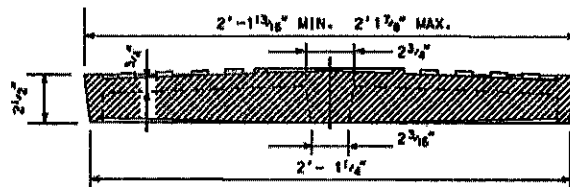
24"
HEAVY TRAFFIC MANHOLE
FRAME AND COVER

ISSUED	05-02-00
REVISED	
REVISED	
PLATE	D-49

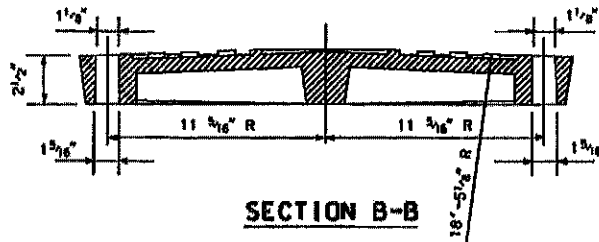


MATERIAL - CAST IRON
APPROX. WEIGHT 170 LBS.

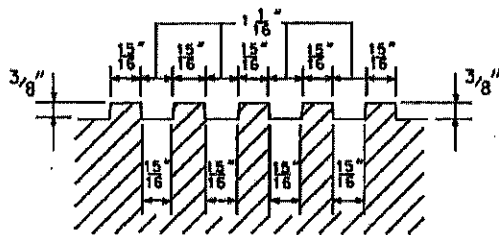
PLAN



SECTION A-A



SECTION B-B



DETAIL OF CORRUGATIONS

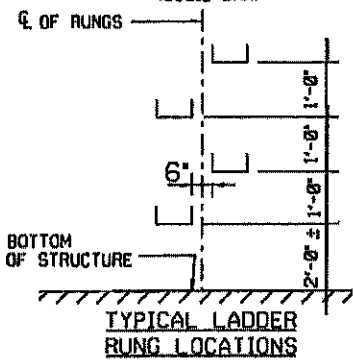
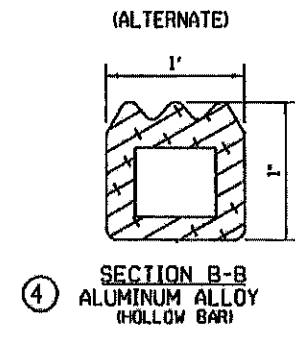
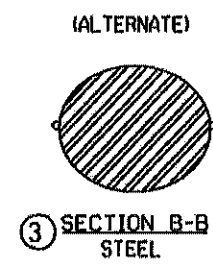
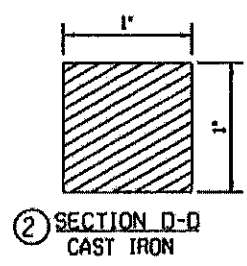
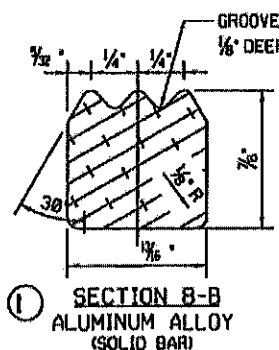
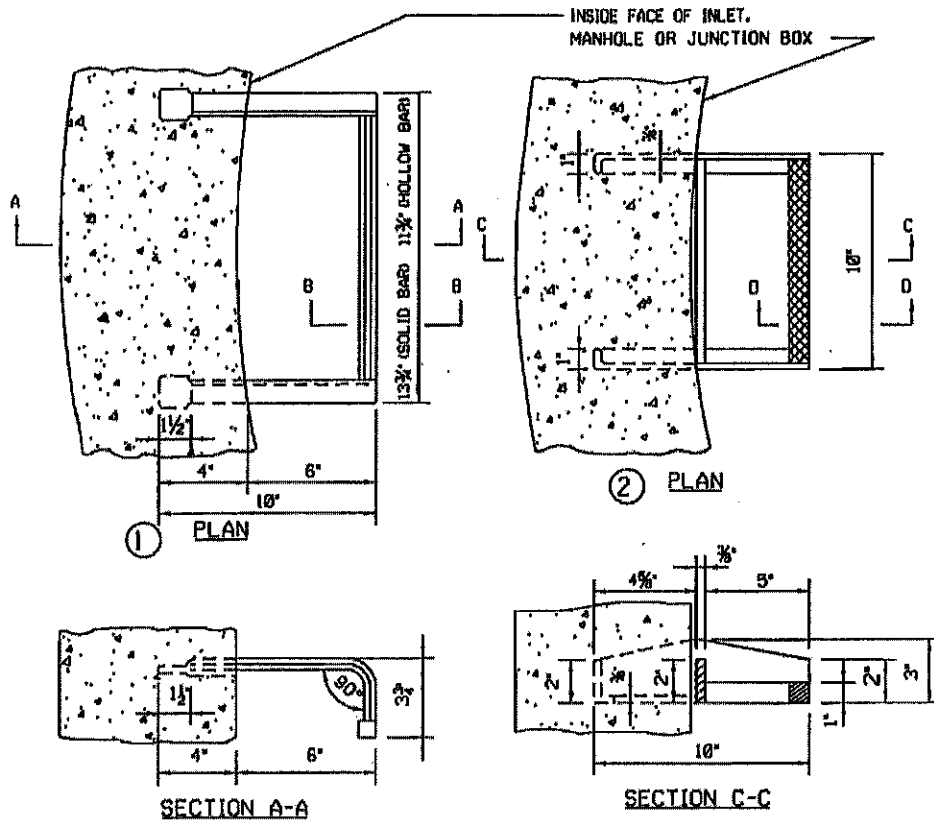
[Signature] 5-2-00
DIRECTOR OF PUBLIC WORKS DATE
[Signature] 4/12/00
DEP. DIRECTOR, PUBLIC WORKS DATE



HARFORD COUNTY, MD
DEPARTMENT OF
PUBLIC WORKS

STANDARD MANHOLE
TYPE A COVER

ISSUED 5-2-00
REVISED _____
REVISED _____
PLATE D-50



NOTE: METAL LADDER RUNGS ARE TO BE USED IN INLETS, MANHOLES AND JUNCTION BOXES OVER THREE FEET IN DEPTH OR AS DIRECTED BY THE ENGINEER. USED EITHER WITH BRICK OR CONCRETE CONSTRUCTION. (WHERE BRICK CONSTRUCTION IS EMPLOYED, THE MORTAR JOINTS SHALL BE ADJUSTED TO ACCOMMODATE LADDER RUNGS.) METAL LADDER RUNGS MAY BE COMPRISED OF ONE OF THE FOLLOWING.

- ALUMINUM ALLOY - SHALL CONFORM TO A.S.T.M. DESIGNATION B 221 ALLOY 6061-T6. THAT PORTION EMBEDDED IN THE STRUCTURE SHALL BE COATED WITH ZINC CHROMATE OR APPROVED EQUIVALENT COATING.
- CAST IRON - SHALL CONFORM TO A. S. T. M. A-48 CLASS 30 B
- STEEL - SHALL CONFORM TO A. S. T. M. DESIGNATION A-615 GRADE 40, GALVANIZED AFTER FABRICATION AS PER A. S. T. M. DESIGNATION A-153

[Signature]
 DIRECTOR OF PUBLIC WORKS

5-2-00
 DATE

[Signature]
 DEP. DIRECTOR, PUBLIC WORKS

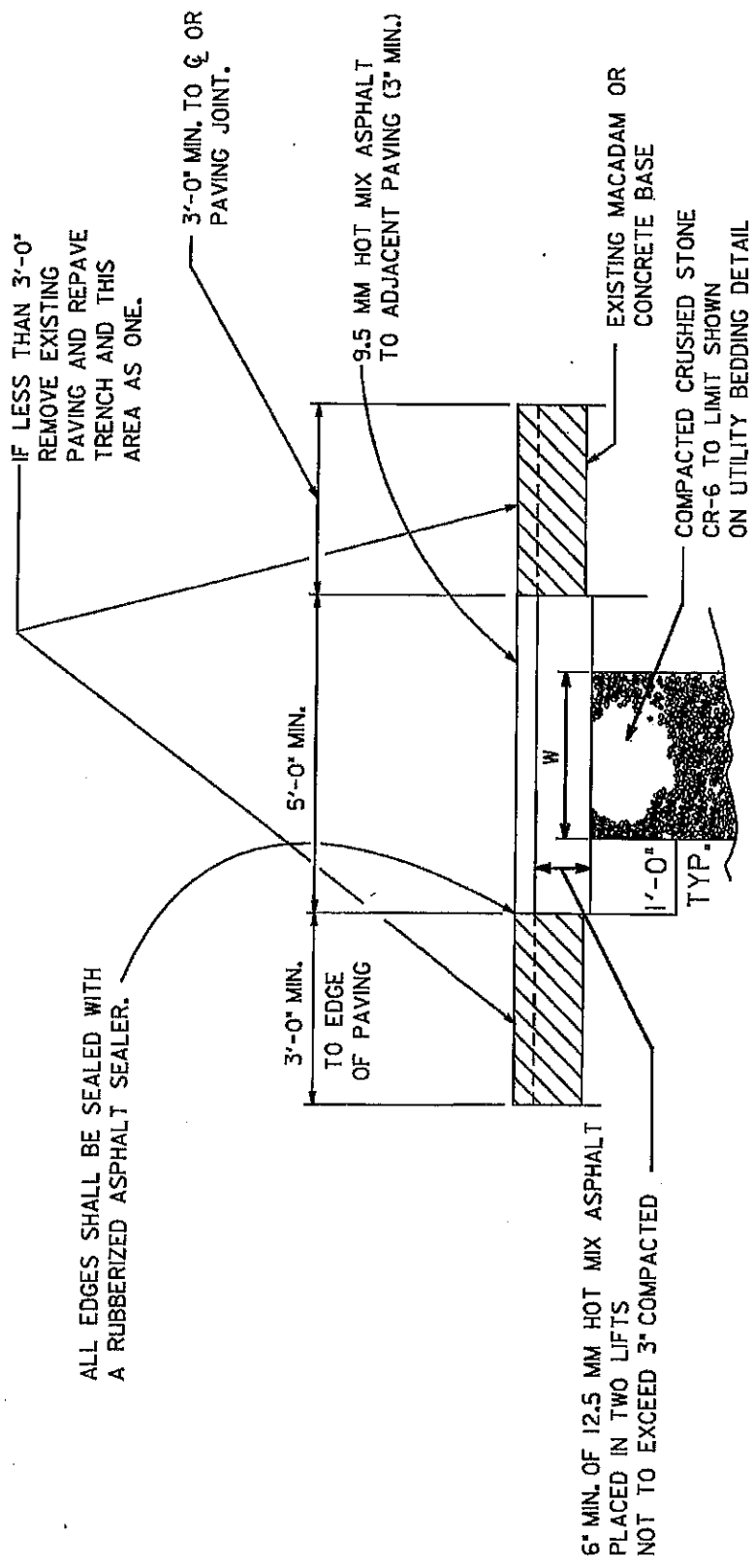
4/12/00
 DATE



HARFORD COUNTY, MD
 DEPARTMENT OF
 PUBLIC WORKS

MANHOLE & INLET STEP

ISSUED 5-2-00
 REVISED _____
 REVISED _____
 PLATE D-51



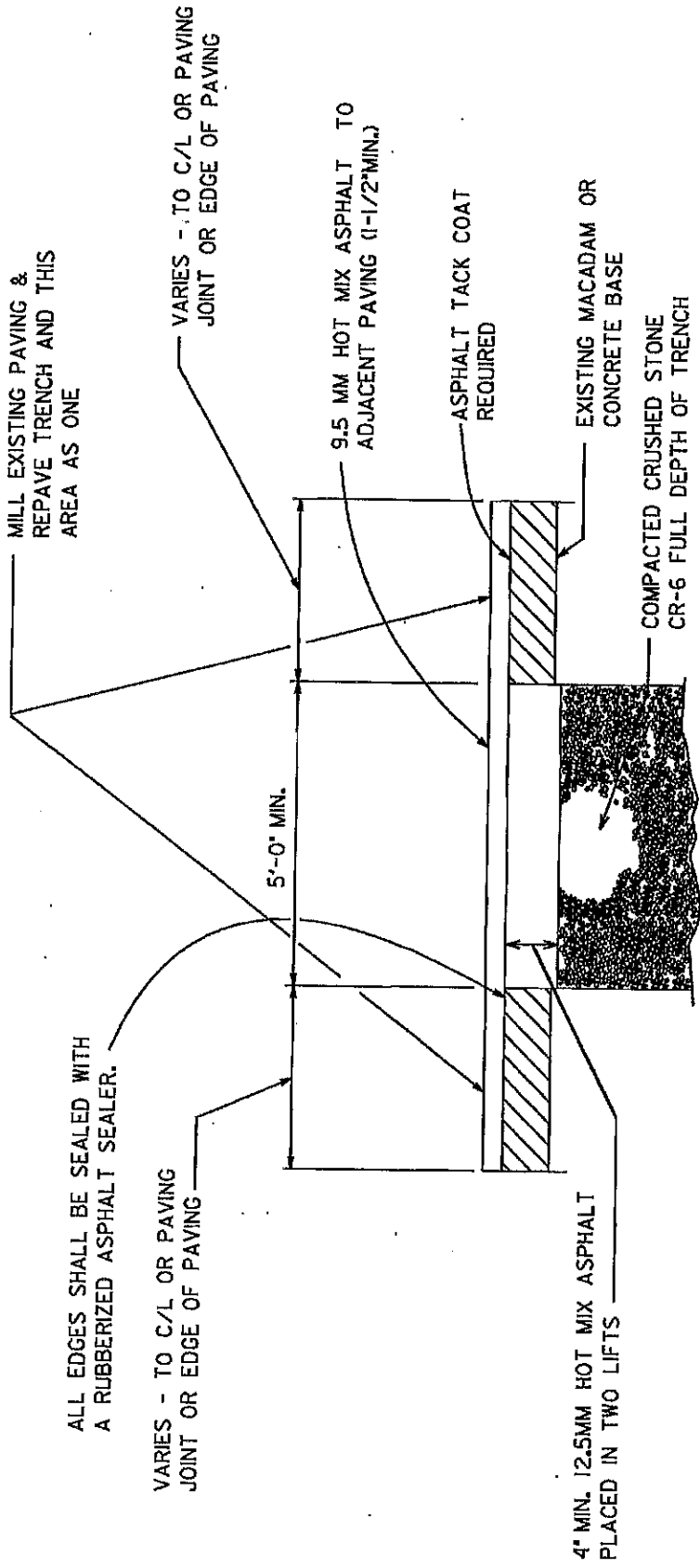
[Signature]
 DIRECTOR OF PUBLIC WORKS
 1/7/03 DATE

[Signature]
 DEP. DIRECTOR, PUBLIC WORKS
 1/7/03 DATE

ISSUED	1/7/03
REVISED	2/15/03
REVISED	5/31/07
PLATE	R-4

METHOD OF CUTTING AND REPAIRING OPENINGS IN EXISTING ROADWAYS

HARFORD COUNTY, MD
 DEPARTMENT OF
 PUBLIC WORKS



MILL EXISTING PAVING & REPAVE TRENCH AND THIS AREA AS ONE

VARIABLES - TO C/L OR PAVING JOINT OR EDGE OF PAVING

9.5 MM HOT MIX ASPHALT TO ADJACENT PAVING (1-1/2" MIN.)

ASPHALT TACK COAT REQUIRED

EXISTING MACADAM OR CONCRETE BASE

COMPACTED CRUSHED STONE CR-6 FULL DEPTH OF TRENCH

ALL EDGES SHALL BE SEALED WITH A RUBBERIZED ASPHALT SEALER.

VARIABLES - TO C/L OR PAVING JOINT OR EDGE OF PAVING

5'-0" MIN.

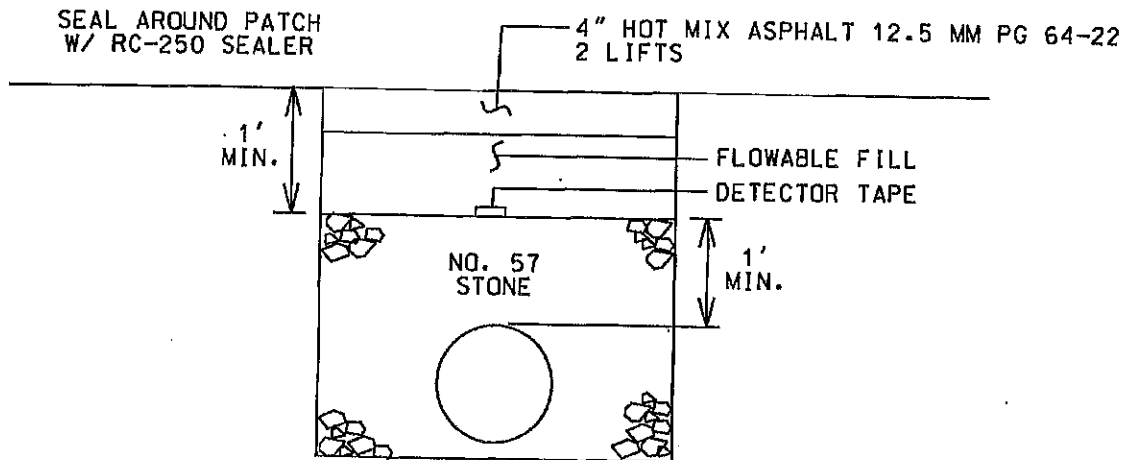
4" MIN. 12.5MM HOT MIX ASPHALT PLACED IN TWO LIFTS

John R. ...
 DIRECTOR OF PUBLIC WORKS
 5/18/06 DATE
 5/18/06 DATE
 DEP. DIRECTOR, PUBLIC WORKS

ISSUED 5/18/06
 REVISED 8/30/08
 REVISED
 REVISED
 PLATE R-5

MODIFIED
 METHOD OF CUTTING AND REPAIRING
 OPENINGS IN EXISTING ROADWAYS

HARFORD COUNTY, MD
 DEPARTMENT OF
 PUBLIC WORKS



NOTES:

FLOWABLE FLY ASH FILL FULL DEPTH (EXCLUDING 1' BEDDING) EXCEPT FOR LAST 4" OF HOT MIX ASPHALT SURFACE SHALL MEET AASHTO REQUIREMENTS.

TWO (2) TEST CYLINDERS TO BE PROVIDED TO HARFORD COUNTY MATERIALS AND TESTING SECTION AT 2220 ADY ROAD, FOREST HILL, MD 21050. PHONE NUMBER: 638-3562.

TRENCH TO BE COVERED WITH STEEL PLATES DURING THE CURING PERIOD OF 24 HOURS. PLATES SHALL BE PINNED AND RAMPED.

MAINTAIN ONE FOOT (1') VERTICALLY AND FIVE FEET (5') HORIZONTALLY FROM WATER AND SEWER LINES.

[Signature] 5-2-00
 DIRECTOR OF PUBLIC WORKS DATE
[Signature] 4/12/00
 DEP. DIRECTOR, PUBLIC WORKS DATE

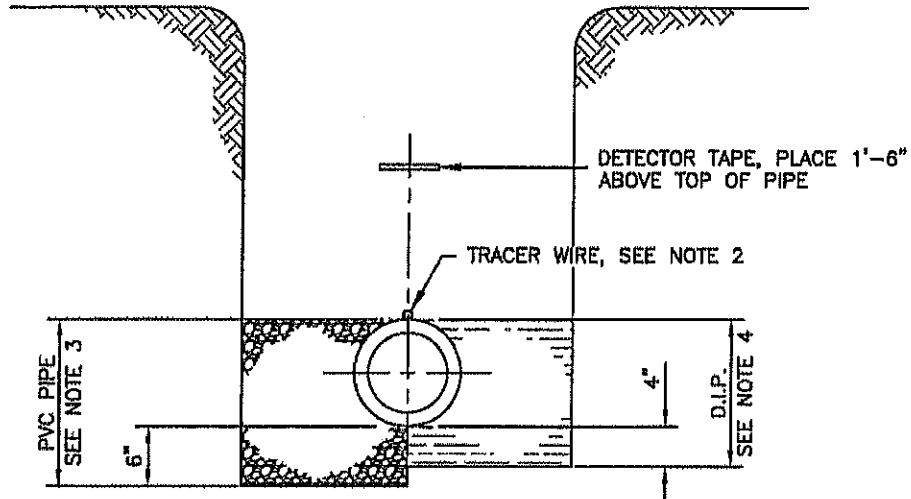


HARFORD COUNTY, MD
 DEPARTMENT OF
 PUBLIC WORKS

**METHOD OF CUTTING
 AND REPAIRING A ROAD**

ISSUED 5-2-00
 REVISED 5/31/07
 REVISED _____
 PLATE R-6


NOTE: TRENCH TO BE COMPACTED
AS PER SPECIFICATIONS.



SECTION

NOTES:

1. UNLESS NOTED OTHERWISE, ALL ROAD REPAIR SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE HARFORD COUNTY OR MARYLAND STATE ROAD CODE.
2. PROVIDE TRACER WIRE FOR ALL NON-METALLIC WATER MAINS, SEWER FORCE MAINS AND SERVICES, SEE DETAILS W-2, W-13 AND W-14.
3. PVC PIPE SHALL BE BACKFILLED WITH AASHTO M43, No. 57 AGGREGATE TO TOP OF PIPE.
4. DUCTILE IRON PIPE SHALL BE BEDDED IN LOOSE SOIL (4" MIN) AND HAVE APPROVED COMPACTED BACKFILL MATERIAL CONSOLIDATED TO TOP OF PIPE.
5. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER AND COUNTY APPROVAL.
6. PROVIDE CONTINUOUS BEARING FOR FULL LENGTH OF PIPE.

 <p>HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS</p> <p><i>[Signature]</i></p>	STANDARD WATER DETAILS	ISSUED <u>07/08</u>
	PIPE BEDDING	REVISED <u>11/10/14</u>
		PLATE <u>W-1</u>

ATTACHMENT D - BID SHEET

Item Description	Unit Cost	Extended Cost
Sewer manhole in line		
Sewer manhole at former lamphole		
12 inch sewer line – LF		
Sanitary house connections to main		
Bypass pumping		
Asphalt Repair Cost	\$/ton =	
Aggregate Base Repair Cost	\$/ton =	
Backfill Material		
# 57 Stone	\$/ton =	
CR-6 Stone	\$/ton =	
Undercut	\$/cubic yard	
Contingent Items		
De-watering trench		
Milling and paving westbound land		
Additional Sewer Pipe Repair Greater than 10' (10 feet) in Length (must include price for 12" PVC)		
Description	Unit Price (\$)	Extended Cost
0 to under 5 feet	\$/lineal foot	
5 to under 7 feet	\$/lineal foot	
7 to under 9 feet	\$/lineal foot	
9 to under 11 feet	\$/lineal foot	
11 to under 13 feet	\$/lineal foot	

Attachment E – Federal Labor Standards and Provisions

Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, 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. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the Journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Attachment F – Section 3 Clause, Compliance Bid Form

SECTION 3 CLAUSE

All Section 3 covered contracts shall include the following clause (referred to as the "Section 3 Clause"):

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, [12 U.S.C. 1701u](#) (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected by before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

MARYLAND CDBG PROGRAM | PROCUREMENT

SECTION 3 COMPLIANCE BID FORM

Name of Business: _____

Address of Business: _____

Type of Business: __ Corporation __ Partnership __ Sole Proprietorship __ Other

Business Activity: _____

_____ I am certified as a Section 3 Business. I have attached a Section 3 Business Certification.

OR

_____ I will subcontract 25% of the contract amount to one or more certified Section 3 Businesses. I have attached Section 3 Business Certifications for selected subcontractors.

OR

_____ I anticipate hiring _____ new employees under this contract, if awarded. I understand that if any new hires are required under this contract, I will need to comply with Section 3 hiring requirements.

I attest that the above information is true and correct.

Signature

Print Name

Title

Date

Attachment G – Conflict of Interest Disclosure

Conflict of Interest Disclosure
Contractor

All businesses submitting bids for projects and activities which include funding through the Maryland Community Development Block Grant Program must disclose any potential conflict of interest. A conflict of interest may occur if the business owner/principals are related to or have a business relationship with an employee, officer or elected official of The City of Havre de Grace. If it is determined there is a conflict of interest or potential conflict of interest you may not be selected even if your bid is determined to be the lowest, most qualified. The City of Havre de Grace can request for the State of Maryland CDBG Program to review and make a determination which could result in a waiver allowing for approval.

1. Are owner(s)/principal(s) ever been an employee, agent, consultant, officer, elected official or appointed official of The City of Havre de Grace? Yes No
If yes, please identify: _____

2. Are owner(s)/principal(s) related (including through marriage or domestic partnership) to an employee, agent, consultant, officer, elected or appointed official of The City of Havre de Grace?
 Yes No If yes, please identify: _____

3. Do owner(s)/principal(s) have a business or professional relationship with anyone identified under Question #1? Yes No
If yes, please identify: _____

I/We certify that the above information is true and correct. I/We understand that providing false statements or information is grounds for termination of assistance and is punishable under federal law.

Signed: _____ Date: _____

Name: _____ (Print)

Signed: _____ Date: _____

Name: _____ (Print)

**For all non-construction contracts and for single family housing rehabilitation only*

For Grantee Use Only:

CDBG Grant Number:	Date Received:
<input type="checkbox"/> Conflict of Interest does not exist <input type="checkbox"/> Conflict of Interest exists	
Date Sent to State:	<input type="checkbox"/> Waiver Granted <input type="checkbox"/> Waiver Denied

Attachment H – Wage Determination

General Decision Number: MD190018 01/04/2019 MD18

Superseded General Decision Number: MD20180032

State: Maryland

Construction Type: Heavy

County: Harford County in Maryland.

HEAVY CONSTRUCTION PROJECTS (including sewer/water construction).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

CARP0197-007 01/01/2018

	Rates	Fringes
CARPENTER (Form Work ONLY).....	\$ 26.66	14.68

CARP0219-002 05/01/2018

	Rates	Fringes
MILLWRIGHT.....	\$ 31.81	14.93

CARP0441-002 05/01/2018

	Rates	Fringes
PILEDRIVERMAN.....	\$ 30.18	15.03

* ELEC0024-002 12/02/2018

	Rates	Fringes
ELECTRICIAN.....	\$ 37.25	5.25%+16.19

ENGI0037-015 04/01/2017

	Rates	Fringes
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 24.79	11.90+a
OPERATOR: Bulldozer.....	\$ 27.75	11.90+a
OPERATOR: Drill.....	\$ 27.75	11.90+a
OPERATOR: Excavator		
120,000 lbs. and Under.....	\$ 27.75	11.90+a
Long and Ultra High Reach		
Excavators; Excavators		
Over 120,000 lbs.....	\$ 28.75	11.90+a
Mini-Excavators.....	\$ 26.85	11.90+a
OPERATOR: Gradall.....	\$ 28.75	11.90+a
OPERATOR: Grader/Blade.....	\$ 28.75	11.90+a
OPERATOR: Loader		
Front End Loaders 1 1/4		
yards and over.....	\$ 27.75	11.90+a
Front End Loaders 1 Yard		
and Under.....	\$ 26.85	11.90+a
OPERATOR: Mechanic.....	\$ 27.75	11.90+a
OPERATOR: Paver (Asphalt,		
Aggregate, and Concrete).....	\$ 27.75	11.90+a
OPERATOR: Piledriver.....	\$ 27.75	11.90+a
OPERATOR: Roller.....	\$ 26.85	11.90+a

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

IRON0016-013 04/01/2016

	Rates	Fringes
IRONWORKER, REINFORCING AND		
STRUCTURAL.....	\$ 28.48	19.45

LABO0710-002 04/01/2017

	Rates	Fringes
LABORER: Landscape.....	\$ 17.31	5.90
LABORER: Mason Tender -		
Cement/Concrete.....	\$ 18.47	5.90

PAIN0051-021 06/01/2018

	Rates	Fringes
PAINTER (Steel).....	\$ 38.03	12.28
PAINTER: Brush, Roller, and Spray.....	\$ 25.06	9.76

PLUM0486-015 04/01/2017

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 39.20	19.19

TEAM0570-002 06/01/2018

	Rates	Fringes
TRUCK DRIVER: Lowboy Truck.....	\$ 28.98	7.15+a+b+c

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

b. VACATION: Employees with 1 year of service - 2 week paid vacation

c. HEALTH AND WELFARE: \$916 per month

SUMD2010-071 07/08/2010

	Rates	Fringes
BRICKLAYER.....	\$ 18.70	0.00
CARPENTER, Excludes Form Work....	\$ 19.00	2.52
CEMENT MASON/CONCRETE FINISHER...\$	19.31	4.06
LABORER: Common or General.....\$	13.06	2.81
LABORER: Flagger.....\$	15.71	8.58
LABORER: Grade Checker.....\$	14.62	3.08
LABORER: Mason Tender - Brick...\$	15.93	7.83
LABORER: Pipelayer.....\$	14.16	2.04
OPERATOR: Backhoe.....\$	17.21	5.52
OPERATOR: Crane.....\$	22.00	8.85
OPERATOR: Piledriver.....\$	19.95	4.50
OPERATOR: Trackhoe.....\$	20.47	10.20

TRUCK DRIVER: Dump Truck.....\$ 11.84 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing

the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on

- a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

**Maryland Community Development Block Grant Program
Contractor Statement of Assurances and Certifications**

The contractor hereby assures and certifies that he/she will comply with the following requirements in the event that this bid is accepted. The contractor:

1. has reviewed the Federal Labor Standards Provisions, **Form HUD-4010**, and agrees to abide by all of the requirements, as they apply to the contract at hand;
2. will take reasonable steps to comply with the Section 3 provisions as they relate to hiring new workers and/or businesses for all contracts in excess of \$100,000 - 24 CFR § 135.32;
3. assures that if the contract exceeds \$10,000, reasonable steps will be taken to comply with the Equal Employment Opportunity provisions;
4. has not been declared ineligible from receiving Federal contracts during the past three years;
5. will comply with the Immigration Reform and Control Act of 1986 (IRCA) stipulating that the only persons who can be employed under the contract are persons that may legally work in the United States. The contractor is responsible for verifying the eligibility of all workers to be employed in the United States;
6. has no personal or business relationship with any employee, officer or elected official of the CDBG grant recipient, subrecipient or developer organization, which has the potential to result in a conflict of interest. Such relationships include marriage, domestic partnership of business or professional relationship with an employee, agent, consultant, officer, elected or appointed officer.
7. has not used federal funds to influence, or attempt to influence an officer or employee of any agency, Member of Congress, an officer or employee of Congress or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;
8. will provide access to the grantee, the State of Maryland, HUD, the subrecipient, developer, the Controller General of the U.S. , or their duly authorized representative any books, documents, papers, or records for the purpose of audit or examination;
9. will comply with all environmental standards, orders, or requirements under Clean Air Act, Clean Water Act, EO 11738, and EPA regulations for contracts, subcontracts and subcontracts greater than \$100,000;
10. will comply with all other reporting requirements and regulations as provided in the contract; and
11. will require compliance with these assurances and certifications of any subcontractor procured under this contract.

**Maryland Community Development Block Grant Program
Contractor Statement of Assurances and Certifications**

Contractor Name

Contractor Signature

Date

Subcontractor Name

Subcontractor Signature

Date

INFORMATION FOR BIDDERS

Project Description

The City of Havre de Grace intends to award a contract for the replacement of the deteriorated Sewer Line as defined in the contract documents.

This project, located on the 500 block of Warren Street between N. Stokes Street and N. Union Avenue, primarily includes replacing approximately 525 linear feet of the existing sewer line. This project involves the removal and replacement of existing sewer lines, sewer lamp hole, sewer lateral connections, asphalt concrete pavement, aggregate base, and excavation materials. Traffic control and transportation necessary for this project and other miscellaneous work are further described in these documents. All work shall be of first class quality, accomplished with proper equipment and construction methods per engineered plan(s) and as defined in the contract documents.

City reserves the right to remove, reduce, or increase the quantity of work items. The City reserves the right to reject any and or all bids, to waive informalities and to accept any proposal that it deems to be in the City's best interest.

Bid Submittal

Bids shall be submitted to the City of Havre de Grace, Office of Procurement by **2:00 PM local time, Friday, June 28, 2019**. Bids shall be submitted in duplicate on the forms provided in a sealed envelope marked "Bid for Project #19-SWR-01, "SEWER PROJECT - WARREN STREET." The Bidder shall ***submit two copies*** of the following documents with all blank spaces completed in black ink or typewritten: Bid Proposal, Bidder's General Information, and Non-Collusion Affidavit. The Contractor should retain a copy of the completed bid forms for their records.

Bid Opening

Bids will be opened and read aloud publicly where the bids were submitted, City of Havre de Grace City Hall, on the bid submittal date, immediately after the bid submittal time deadline. Bids submitted after this time will not be accepted and will not be opened or read aloud publicly.

Pre-Bid Meeting

A Pre-bid meeting will be held at the City Hall of Havre de Grace at **2:00 PM, Wednesday, June 19, 2019**. Attendance at this meeting is **mandatory** for prospective bidders.

or shall be accompanied by an authorization signed by the individual permitting the signature of the bid and other documents on behalf of that individual.

Note: Quantities of work items listed on the Bid Proposal Form are approximate and are for bidding purposes only. The Contractor shall be responsible for verifying the quantities, as well as the nature and complexity of the work in the field prior to bidding.

Modification and Withdrawal of Bids

Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

Bids to Remain Subject to Acceptance

All Bids will remain subject to acceptance for ninety (90) days after the day of the Bid opening, but City may, in its sole discretion, release any Bid and return the Bid security prior to the date.

Bid Award

The City of Havre de Grace intends to award this project based on the lowest responsible bid and reserves the right to make any decision with regard to bid award deemed to be in the best interest of the City.

The City reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if the City believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the City.

The City may conduct such investigations as the City deems necessary to assist in the evaluation of any Bid and to establish the responsibilities, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons, organizations to perform and furnish the Work in accordance with the Contract Documents to the City's satisfaction within the prescribed time.

If the Contract is awarded, it will be awarded to the lowest Bidder whose evaluation indicates that the award will be in the best interests of the Project. The Contract will not be split between Contractors.

In selecting the lowest responsive, responsible Bidder, consideration will be given not only to the financial standing but also to the general competency of the Bidder for the performance

of the Work covered by the Bid. To this end, each Bid shall be supported by a statement of the Bidder's experience as of recent date on the form entitled "Bidder's General Information," bound herein.

Upon award to the most responsive and responsible bidder, the bidder shall be required to provide to the engineer all material source submittals for construction materials being incorporated into the project. The engineer shall review the material source submittals for compliance with the contract documents, and approval must be granted by the engineer in writing prior to any material being incorporated into the project.

Bonds

For contracts in excess of \$100,000, the Bidder must submit a **100% Payment Bond** and **100% Performance Bond** in the amount of the contract.

Standard Documents

Portions of this project may take place within the State's right of way, and portions of the project will take place in the City's right of way. Construction Materials and Methods other than as specified in these contract documents shall be in accordance with the Maryland State Highway Administration Standard Specifications for Construction and Materials, 2008 or latest revision as amended by the Supplemental Specifications and Special Provisions, and these contract documents.

Erosion and Sediment Control practices for this project shall be in accordance with the Maryland Department of the Environment, Specifications for Soil Erosion and Sediment Control, 1994 or latest revision.

The Contractor will not be permitted to make substitutions for items specified on this project without written approval from the Engineer.

Measurement and Payment

Payments to the contractor will be made for the actual quantities of contract items performed in accordance with the contract documents less 10% retainage. Any increase or decrease of actual quantities with respect to the estimated quantities included on the bid proposal shall be addressed by change order and shall adjust the contract amount accordingly. The City without penalty may make additions and deductions of work. Payment for any item of work included on the bid proposal shall include the furnishings of all materials, labor, tools, equipment and incidentals necessary to complete the work in place and acceptable to the City's engineer.

Contract Duration

The intent is to begin construction on **September 16, 2019**, and completed by **October 31, 2019**. All dates are tentative and subject to change at the direction of the City. All work must be completed within **4 to 6 weeks** from project start date.

Familiarity with the Work

- A. Before submitting his/her bid, the Bidder shall examine carefully the site of work and the contract documents for the work contemplated: and it will be assumed that he/she has familiarized and satisfied himself/herself as to the conditions and obstacles to be encountered, as to the character, quality, and quantities of the work to be performed and materials to be furnished, and as to the requirements of the contract documents, and he/she must be prepared to execute a finished job in every regard, without any extra charge whatsoever, except as may be specifically provided for elsewhere in the contract documents.
- B. Before submitting a bid, each bidder shall, at his/her own expense, make such additional surveys and investigations as he/she may deems necessary to determine his/her bid price and performance of the work within the terms of the contract documents.

Familiarity with Laws, Permitting, etc.

- A. The Bidder is assumed to have made himself/herself familiar with all Federal, state, local, and municipal laws, ordinances, rules, and regulations, which in any manner affect those engaged for employed in the work, or the materials of equipment used in or upon the work, or in any way affect the work; and no plea of misunderstanding will be considered on account of the ignorance thereof. If the bidder shall discover any provisions in the contract documents, which is contrary to, or inconsistent with, any such a law, ordinances, rules or regulation, they shall forthwith report it to the owner in writing.
- B. Bidders are reminded that the actual construction within the limits of the project is subject to the requirements of the Harford Soil Conservation District pursuant to the authority of the Maryland Department of the Environment.
- C. The Contractor shall obtain all necessary permits to complete the work.
- D. Nondiscrimination in Employment – Bidders will be required to comply with the President's Executive Order No. 11246 and the provisions of Executive Order No. 10925

as included herein. The requirements for bidders and contractors under this order are explained in the specifications.

- E. Suspension and Debarment – Bidders shall not entertain the use of businesses that are listed on the “System for Award Management” (SAM) at www.SAM.gov in accordance with 2 CFR Part 1532 and Support B and C of 2 CFR Part 180.
- F. Bidders should note that this contract will include the following critical requirements as identified in the Contract Documents.
 - 1. Affirmative Action Program Requirements and Goals
 - 2. Certificate of Non-Segregated Facilities
 - 3. Specific Labor Standard Provisions
- G. Notice of Federal Wage Requirements – Contractors are required to comply with all laws pertaining to prevailing wage rates for the federal wages rates issued in accordance with the Davis Bacon Act.

BIDDER'S GENERAL INFORMATION

The Bidder shall furnish the following information. Additional sheets shall be attached as required. Failure to complete the Bidder's General Information may cause the Bid to be non-responsive and may cause its rejection.

1. BIDDER/CONTRACTOR'S name and street address:

2. CONTRACTOR'S telephone number: () _____
3. CONTRACTOR'S license number: _____
4. When organized: _____
5. If a corporation, where incorporated: _____
6. How many years have you been engaged in the contracting business under your present firm or trade name: _____
7. General character of work performed by your company:

8. Have you ever failed to complete any work awarded to you? _____ If so, where and why? _____
9. Have you ever defaulted on a contract? _____ If so, where and why?

10. Name of person who performed site review of the proposed Project for the Bidder:
Name: _____ Date of Site Review: _____
11. ATTACH TO THIS BID a financial statement, references, or other information, sufficiently comprehensive to permit the appraisal of Contractor's current financial condition.

indirectly employed by him and, also against any of the special hazards which may be encountered in the performance of this contract as enumerated in paragraph B below.

B. CONTRACTOR'S AND SUBCONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE.

1a. CITY OF HAVRE DE GRACE TO BE NAMED AS INSURED

The contractor shall obtain and keep in force during the term of the contract, Public Liability and Property Damage Insurance in companies and in form to be approved by the City of Havre de Grace. Said insurance shall provide coverage to the contractor, and subcontractor performing the work provided by this contract and the City of Havre de Grace. The City of Havre de Grace shall be named as an additional insured on said policy in so far as the work and obligations performed under the contract are concerned. The coverage so provided shall protect against claims for personal injuries, including accidental death, as claims for property damages which may arise from any act or omission of the City of Havre de Grace, the contractor or the subcontractor, of by anyone directly or indirectly employed by either of them.

1b. CITY OF HAVRE DE GRACE TO BE HELD HARMLESS AND INDEMNIFIED BY CONTRACTOR'S INSURANCE.

In addition to the insurance naming the City as additional insured, all of the contractor's insurance coverage shall contain a clause indemnifying and saving harmless the City of Havre de Grace, and their employees and agents from any and all liability of whatever nature arising from the work to be performed under the contract, including attorney's fees and costs in connection with the defense of such claims. The certificates of insurance furnished by the contractor shall spell out specifically that the above indemnification is guaranteed by the policy. An endorsement covering the City of Havre de Grace shall read in all policies as follows: "The City of Havre de Grace its officers, agents, servants and employees shall be held harmless and indemnified against any act or omission or condition or claim arising out of and during the performance of the work under this contract."

The above shall specifically cover Automobile and Property Damage Insurance including owned vehicles, hired vehicles and other non-owned vehicles.

2. AMOUNTS

All insurance shall be written for not less than any of the following limits of liability:

Bodily Injury Liability:	\$1,000,000.00 each person \$1,000,000.00 each occurrence \$2,000,000.00 aggregate products
Property Damage Liability:	\$500,000.00 each accident \$1,000,000.00 aggregate operations \$500,000.00 aggregate products \$500,000.00 aggregate contractual \$500,000.00 aggregate protective

C. SUBCONTRACTOR'S INSURANCE

The contractor shall either (1) require each of his subcontractors to procure and to maintain during the life of his subcontractor, subcontractor's Public Liability and Property Damage of the Type and in same amounts as specified in the proceeding paragraphs, or (2) insure the activities of his subcontractors in his own policy.

D. PROOF OF CARRIAGE OF INSURANCE

The contractor shall furnish the City of Havre de Grace with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. "The insurance covered by this certificate will not be cancelled or materially altered, except after ten (10) days written notice has been received by the City of Havre de Grace."

E. TIME TO PROVIDE PROOF OF INSURANCE

A copy of the insurance policy, containing all revisions as provided for, together with a copy of the endorsement as stated in this section shall be provided to the City within 15 days after receiving notice of award of contract. Failure to timely provide proof of insurance will be considered a breach of contract.

F. CONTRACTOR'S HOLD HARMLESS AGREEMENT

The contractor hereby agrees to save the City of Havre de Grace, its officers, agents and employees harmless from all loss or damage occasioned to it or to any third person or property by reason of any carelessness or negligence on the part of the City of Havre de Grace, the contractor, subcontractors, agents and employees in the performance of the contract and will, after reasonable notice thereof, defend and pay the expense of defending any suit which may be commenced against the City of Havre de Grace, its officer, agents and employees by any third person alleging injury by reason of such carelessness or negligence, and may be obtained will pay any judgment which against the City of Havre de Grace in such suit.

1. List 4 Projects completed in the last 4 years involving work of similar type and complexity. Please provide the following information in the blanks below: Owner, project title, size, contract amount, date completed, contact person, phone number, and e-mail address.

(1) Project Title and Date

Completed _____

Contract Price and Size _____

Name, Address, Telephone Number, and Email Address of Owner's
representative _____

(2) Project Title and Date

Completed _____

Contract Price and Size _____

Name, Address, Telephone Number, and Email Address of Owner's
representative _____

(3) Project Title and Date

Completed _____

Contract Price and Size _____

Name, Address, Telephone Number, and Email Address of Owner's
representative _____

(4) Project Title and Date

Completed _____

Contract Price and Size _____

Name, Address, Telephone Number, and Email Address of Owner's
representative _____

2. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City or appointed Representative in verification of the recitals comprising this Bidder's General Information.

Dated this _____ day of _____, 20__.

(NAME OF BIDDER)

By: _____

Title: _____

State of: _____ County of: _____

_____, being duly sworn, deposes and says that he/she answers to

(NAME OF ORGANIZATION)

The foregoing question and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____ day of _____,
20__.

Notary Public

My Commission Expires _____

NON-COLLUSION AFFIDAVIT

State of _____:

County of _____: s.s.

I state that I am _____ of _____
(TITLE) (NAME OF BIDDER'S FIRM)

and that I am authorized to make this Affidavit on behalf of my firm, and its owner, directors, and officers. I am the person responsible in my firm for the price(s) and amount of this Bid.

I state that:

- 1) The price(s) and amount of this Bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
- 2) Neither the price(s) nor the amount of this Bid, and neither the approximate price(s) nor approximate amount of this Bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.
- 3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this Contract, or to submit a bid higher than this Bid, or to submit any intentionally high or non-competitive bid or other form of complementary bid.
- 4) The Bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other non-competitive bid.
- 5) _____, its affiliates, subsidiaries, officers, directors, and
(NAME OF BIDDER'S FIRM)
employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that _____ understands and acknowledges that

(NAME OF BIDDER'S FIRM)

the above representations are material and important, and will be relied on by the City of Havre de Grace in awarding the Contract(s) for which this Bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the City of Havre de Grace of the true facts relative to the submission of bids for the Contract.

(NAME OF BIDDER)

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY

OF _____.

(NOTARY PUBLIC)

(MY COMMISSION EXPIRES)

BID PROPOSAL FORM

To OWNER: City of Havre de Grace
711 Pennington Avenue
Havre de Grace, Maryland 21078

From CONTRACTOR: _____

Project Name: Sewer Replacement – 500 Block of Warren Street

Project Number: #19-SWR-01

PROPOSAL:

The undersigned bidder has carefully examined the proposed work, along with all contract documents including the plans; and binds himself/herself on award to him/her by the City, under this proposal to execute in accordance with such award, a contract, of which contract, this proposal and said documents shall be a part; to provide all the necessary machinery, tools, labor, and other means of construction, and do all the work, and to furnish all the material necessary to perform and complete the said contract within the time as required by the said contract and specifications in accordance with the requirements of the City, and at the following named unit prices for the various items.

Bid Total \$ _____

Bid Total in Words

Bidder's Signature: _____

Title: _____

Date: _____

BID PROPOSAL
Bidder's Initials _____

ADDENDA:

The following list identifies the Addenda to the Contract Documents issued after the call for Bids and before the date fixed for receipt of Bids:

Addenda Number	Date of Issue	Number of Pages
_____	_____	_____
_____	_____	_____
_____	_____	_____

CONTRACT TIME:

Thirty (30) Calendar Days

This Proposal is hereby accepted by the City for the work described above.
This Agreement entered into by the City and the Contractor as of _____ day of _____
in the year of Two Thousand Nineteen.

City of Havre de Grace

Contractor

Signature

Signature – Legally Authorized Representative

Printed Name and Title

Printed Name and Title