PROPOSAL FORM

BALTIMORE COUNTY
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
TOWSON, MARYLAND

Division of Construction Contracts Administration

Contract Number 23206 WX0
WATER DESIGN PROJECT
Joppa Road 20-Inch Water Main Replacement
at Fairmount Avenue to LaSalle Road
Towson – District 9c6
Workday Number PROJ-10000519
Job Order Number 231-203-0006-0782

CONTRACT BASED ON SEPTEMBER 2023
STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS
AND STANDARD DETAILS FOR CONSTRUCTION

Bidders Information

A pre-bid meeting **ONLY** for Prevailing Wage & Local Hiring and MWBE requirements will be held on Wednesday, December 3, 2025 at 10:00 a.m. EST via WebEx.
Phone-In (Audio Only) 1-415-655-0001, Meeting Number 2306 164 0106##.
Video Conference go to https://signin.webex.com/join Meeting Number 2306 164 0106, Password **MgPSNvTx243**, for Webex link go to:
www.baltimorecountymd.gov/departments/public-works/engineering/contracts/current-solicitations

Last day for questions will be Tuesday, January 6, 2026 at 4:00 p.m. EST. Questions should be emailed to Pawan Poudel at ppoudel@baltimorecountymd.gov and Barbara Wentworth at bwentworth@baltimorecountymd.gov Erin McKenna-Streyle emckenna-streyle@baltimorecountymd.gov.

Baltimore County Prevailing Wage and Local Hiring Affidavit, Wage Rates & Requirements **see pages 168-175**
(Contract Disclosure): "***Wage rates that are in effect as of the contract solicitation date will be the wage rates through the duration of the project***"

MBE/WBE Requirements & Forms **see pages 176-190**

THIS PROPOSAL FORM INCLUDES AND INCORPORATES ALL DOCUMENTS AND INFORMATION REFLECTED, LISTED, AND/OR REFERENCED IN THIS TABLE OF CONTENTS, AND ALL SUCH DOCUMENTS AND INFORMATION ARE PART OF AND INCORPORATED INTO THE CONTRACT DOCUMENTS.

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S E C T I O N I

INFORMATION FOR BIDDERS

ELECTRONIC SUBMITTAL PROCESS

To be considered, Bids (Section IV – Proposal) shall be received by the bid closing date and time to the following email address dpwbid@baltimorecountymd.gov. The contract number and company name should be referenced in the Subject Line of the email. Bids may not be submitted by any other means. Bids that are mailed or otherwise delivered to the Purchasing Division (including emails which indicate links to locations where the bid may be downloaded) and/or emails sent to any other Baltimore County email address will not be accepted.

Late Bids will not be considered. Bidders are strongly encouraged not to wait until the last minute to submit bids. The time stated on the auto-receipt (described below) will be definitive of the time of receipt. Bids received after the deadline will not be accepted. Bidders are advised that the County cannot receive email attachments greater in size than twenty-five (25) megabytes and this size limitation may be further reduced by requirements of the Bidder's email provider which are beyond the control of the County. Bidder should consider separating any large bid attachment into multiple parts and emailing each part separately. In such case, Bidder will note that each email is *1 of 2*, *2 of 2*, etc. Multiple part bids will not be considered unless all parts are received by the bid closing date and time.

After submitting a Bid to dpwbid@baltimorecountymd.gov, and upon successful receipt by the County thereof, Bidder will receive an auto-receipt email. This receipt is proof that the bid has been received by the Division of Construction Contracts Administration and should be retained for Bidder's records. In the case of a bid submitted in multiple parts as described above, an auto-receipt email will be generated for each part. The County has no obligation to consider any Bid for which an auto-receipt was not generated.

As with any system, power outages or technology problems may arise that are outside of the County's control and could affect your submission. The County will not be held accountable for such issues that may delay the transmission of any Bid.

NOTE: Electronic copy of the Bid Bond will be accepted at bid opening. The apparent low bidder is required to submit the original Bid Bond within ten (10) days after the bid opening to the Division of Construction Contracts Administration, 111 West Chesapeake Avenue, Room 300B, Towson, Maryland 21204.

INSTRUCTIONS AND SPECIFICATIONS

Refer to the enclosed proposal sheets for quantities to be bid upon. All proposals submitted on the attached form must give the price in clear figures for each item of the proposed work and be signed by the bidder with his name and address. Bidders must not change any item in the proposal for which a price has been stipulated by the County. Any change will cause rejection of the proposal.

NOTE: STATEMENT UNDER OATH FORM TO ACCOMPANY BID as per Baltimore County Purchasing Act 65-98, Section 15-94 and 15-95 which requires that the enclosed affidavit (see Proposal Affidavit pages in Section IV) be completed and submitted as part of the sealed bid.

Proposals made on any other than the attached form will not be considered. All papers included in, bound thereto, or attached to the Proposal Form are necessary parts thereof and shall not be detached, separated, or altered in their intent.

Changes in the phraseology of the proposal, additions, or limiting provisions will render the proposal informal or void and may cause its rejection.

All right is hereby reserved by the Purchasing Agent to reject any or all proposals and to waive formalities and technicalities as the interest of the County may require.

No successful bidder may withdraw his bid within **NINETY (90)** days after the opening thereof.

The successful bidder will be required to be bonded to Baltimore County, Maryland to the sum of One Hundred per Cent (100%) of the amount of his proposal or proposals according to the form of bond hereto attached for projects in excess of $25,000.00.

This Proposal must be accompanied by a Bid Bond in an amount of 5% of the bid, the exact amount to be determined by the difference between the low bid and the next lowest bid if two or more bids are received, or 5% of the bid if one bid is received. This guarantees payment of the amount thus determined in case of a default in any matter specified as required before award or in any matter resulting in failure to execute and deliver an Agreement, together with Payment and Performance Bonds, after award. The Bid Bond must be in the form accompanying the Proposal executed by a Surety licensed in the State of Maryland. The Surety must be currently rated "B" or better by the A. M. Best Company, and the bid must be in an amount less than, or equal to, the underwriting limitation contained in Department of Treasury Circular 570 as amended at the time of the underwriting.

All work to be performed under this contract shall be done under strict compliance with Baltimore County Department of Public Works and Transportation September 2023 Standard Specifications for Construction and Materials and Standard Details for Construction and any and all proposed revisions thereto as of the date of advertisement and copies of which are available on the County's website at www.baltimorecountymd.gov/departments/public-works/standards, and all of which are made a part hereof and incorporated herein (collectively, the "Specifications").

If the bidder to whom an award is made shall fail to execute the contract and bond hereto attached and as herein provided, the award may be annulled and the contract awarded to the lowest responsible bidder who has consented to a time extension, and such bidder shall fulfill every stipulation embraced herein as if he were the original party to whom the award was made, or the Purchasing Agent may reject all of the bids as the interest of the County may require.

The Bid Bond of the three lowest bidders is deemed to be effective until the execution and delivery of the Contract Agreement, together with Payment and Performance Bonds for projects in excess of $25,000.00 or until rejection of all bids, whereupon Surety is deemed relieved of all further obligations under the bid bonds provided.

Bidders must examine the drawings and specifications carefully and must make a personal examination of the location and nature of the proposed work. In case doubt shall arise as to the meaning or intent of anything shown on the drawings or comprised in the specification, inquiry shall be made of the Director of Public Works and Transportation at least five (5) days prior to the date of

bid opening. The submission of the Proposal shall indicate that the bidder thoroughly understands the drawings and the terms of the Specifications.

To better ensure fair competition and to permit a determination of the lowest bidder, unresponsive bids or bids obviously unbalanced may be rejected by the Purchasing Agent.

Bidders are required to fill out the total price column and total their proposals so that the result of the bidding, barring possible arithmetical errors, will be known at once. Any errors in computations will be corrected by the Engineer when the proposals are canvassed. Where the unit price and the total price are at variance, the unit price will prevail.

Bidders must be prepared to complete the work within the time stated in the proposal.

NOTE: ONLY CONTRACTORS FORMALLY PRE-QUALIFIED WITHIN THE ADVERTISED WORK CLASSIFICATION BY THE DIRECTOR OF PUBLIC WORKS AND TRANSPORTATON OF BALTIMORE COUNTY 10 CALENDAR DAYS PRIOR TO BID OPENING WILL BE ELIGIBLE TO SUBMIT BIDS.

Contracts for work under this proposal will obligate the contractors and subcontractors not to discriminate in employment practices. Bidders must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive the award of the contract. Successful bidders must be prepared to comply in all respects with the Contract Provisions regarding nondiscrimination.

Baltimore County has adopted a Minority Business Enterprise (MBE) program and Women's Business Enterprise (WBE) Program. The percentage of participation applies to the contract amount awarded to the Contractor. Qualified minority subcontractors are those certified as being a Minority Business Enterprise by the following:

1. Maryland Department of Transportation Certification Committee (MDOT)

2. City of Baltimore, Minority Business Certification Council

Projects funded by the Federal Highway Administration are limited to the certification listed under #1 (MDOT).

More detailed information regarding the County's MBE/WBE Program can be obtained from the County MBE Office, telephone (410) 887-3407. See Executive Order dated December 6, 2022. MBE/WBE Participation Summary and Forms A, B, C, D and E enclosed in this proposal booklet.

NOTE: If you do not complete and submit the enclosed forms with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer **NON-RESPONSIVE** and accordingly the **COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD**.

The County reserves the right to require the low bidder to produce evidence indicating that the company's financial condition is equal to, or better than, that enjoyed by the company at the time of prequalification. This additional information may be in the form of a financial statement or other evidence satisfactory to the Office of Budget and Finance.

Bidders' attention is directed to the requirement that a permit must be obtained from the Baltimore County Bureau of Highways and Bureau of Traffic Engineering prior to cutting any County

road for the purpose of obtaining sub-surface soils information, and permission must be obtained from the State Highways Administration prior to making any openings in a State road.

Under no circumstances shall a bidder enter upon any property outside a County or State road for the purpose of securing sub-surface soils information until permission is received from the property owner. The fact that the County has obtained a utility easement does not give the bidder the right to enter upon the property.

Prevailing index price of asphalt cement/ton $630.00.

INCLEMENT WEATHER POLICY: If Baltimore County General Government Offices are open or open with liberal leave the day the bids are due, the bids are due as stated in the bid documents (date and time). **ONLY** when the Baltimore County General Government Offices are **OFFICIALLY CLOSED** the day the bids are due, the bid date will be postponed and an Addendum will be issued the next business (or next day buildings are officially open) day the county offices are open with the new bid date and time.

BID TABULATIONS: All bid tabulations will be confidential until after final award, at which time the total bid amounts for all bidders, as well as the complete bid tabulations for the top three (3) bidders, can be inspected by others when requested in writing pursuant to the Maryland Public Information Act.

ALTERNATIVE SOURCES OF CONTRACT BONDS: In the event your company is unable to qualify for bonding through a traditional commercial surety company, you may qualify for the required bonds through the State of Maryland, Department of Commerce (DOC). The **Maryland Small Business Development Financing Authority (MSBDFA, pronounced Mis-Bid-Fa)**, an agency of DOC, operates a Surety Bond Program designed to assist small businesses, based in Maryland, that are unable to obtain adequate bonding on reasonable terms in the commercial marketplace. MSBDFA provides bid, payment and performance bonds for contracts funded by government agencies, regulated utilities and private entities. The penal sums of the bonds are limited to the aggregate amount of $2,500,000 and companies may pre-qualify for multiple bonds within pre-approved terms and conditions. MSBDFA also provides lines of credit, term loans and loan guarantees to help qualified businesses purchase equipment and real property, make improvements to leased property, refinance existing debt and assist them with their working capital needs. For more information on how to apply, you may contact: Meridian Management Group, Inc. (MMG), (the Program's Manager), 826 E. Baltimore Street, Baltimore, Maryland 21202, Telephone: (410) 333-4270. Or visit their website at www.mmgcapitalgroup.com for information, applications and a checklist of required documents and reports that must accompany the application.

S E C T I O N I I

SPECIAL PROVISIONS

MAINTENANCE BOND

Per the Baltimore County Department of Public Works and Transportation September 2023 Standard Specifications for Construction and Materials, Section GP – 4.10 (C) states, the contractor is required to post a maintenance bond in the amount of five (5) percent of the total cost of the contract or withhold five (5) percent retainage for two (2) years from the date of Final Acceptance.

BALTIMORE COUNTY, MARYLAND

BOND NO. _____

CONTRACT NO. _____

MAINTENANCE BOND

THIS MAINTENANCE BOND is entered into on this _____ day of _____, 20____, by and between _____ as principal ("Principal") and _____, a business entity that is authorized to transact business in the State of Maryland and is organized and existing under the laws of the State of _____, as surety ("Surety"), are held and firmly bound unto Baltimore County, Maryland, a body corporate and politic of the State of Maryland ("County"), as Obligee.

WHEREAS, the above-named Principal has entered into a written contract known as Contract Number _____ dated _____, 20___ with Obligee for _____ (the "Agreement"), the terms of which are hereby incorporated by reference; and

WHEREAS, Principal has completed construction under the Agreement; and

WHEREAS, the Agreement includes a warranty on the quality of the Work performed that runs for a period of two (2) years from the date of the County's final acceptance and that runs for two (2) additional years beyond the repair date if any repair is done during the warranty period; and

WHEREAS, Principal is required to cause this instrument to be executed and delivered to Obligee as security for maintenance during the warranty period in an amount equal to 5% of the total value of the Contract.

NOW, THEREFORE, the Principal and Surety are held and firmly bound unto the Obligee in the sum of $_____ Dollars ($ _____), lawful money of the United States of America, for the payment of which sum of money the Principal and Surety do bind themselves and their personal representatives, legal representatives, successors, and assigns, jointly and severally, firmly by this maintenance bond.

The conditions of this bond are as follows:

1. The Principal shall, for a period of two (2) years from and after the date of completion and acceptance of same by Obligee, replace all defects arising in the Work, whether resulting from defective materials, equipment, design furnished or workmanship. After such period, this obligation shall be null and void; otherwise it shall remain in full force and effect.

2. In the event of a default on the part of the Principal that may be the subject of a claim under this bond, Obligee shall mail, by certified mail, to Surety at the address listed below, a written statement that a claim is being made under the bond and, with substantial accuracy, the amount of the claim. Surety shall have no obligation to Obligee under this bond until the notice of claim is mailed.

3. When the Obligee has satisfied the condition of Paragraph 2 that a notice of claim be mailed, the Surety shall promptly and at the Surety's expense send an answer to Obligee within 30 days after the date of the claim. The answer shall state the amounts that are undisputed and the basis for challenging any amounts that are disputed. The answer shall be accompanied by payment (or arrangements for immediate payment) of any undisputed amounts.

4. Surety expressly waives any right to receive notice of extensions of time or alterations or modifications to the Agreement that may be granted by Obligee and agreed upon by Principal, and any such extensions, alterations, or modifications shall not affect the obligation of the Surety under this bond.

5. This bond is a specialty governed by the twelve-year statute of limitations period set forth in the Annotated Code of Maryland Courts and Judicial Proceedings §5-102.

WITNESS OR ATTEST:

_____

_____
(Principal – Contractor Name)

By:_____

Type Name:_____

Type Title: _____

Date: _____

_____
(Surety)

_____

By:_____

Type Name:_____

Type Title:_____

Type Address:_____

_____

Date:_____

SPECIAL PROVISIONS

GENERAL SPECIAL CONDITIONS

1. Location and Description of the Water Main Work

The work to be completed under this Contract includes all labor, materials, and equipment necessary to furnish and install various diameter ductile iron water mains along Joppa Road from Fairmount Avenue to LaSalle Road, including valves, valve vaults, fire hydrants, fittings, service connection renewals, pressure testing, disinfection, connection to existing water mains, and appurtenances at the locations shown on the Contract Drawings. As part of the work, all existing service connections that are currently served from the existing water main in Joppa Road (and side streets) shall be replaced from the new replacement water main to the existing meter boxes. The Engineer on the job site will determine whether to use the existing meter vault or replace it, depending on its condition. After the installation of the water main connections and services, the existing water mains in Joppa Road will be abandoned in place.

The site is located in central Baltimore County along Joppa Road in the Towson area. The project includes, but is not limited to, the construction of the following water mains and appurtenances:

- 6,315 linear feet of 20-inch water main
- 68 linear feet of 16-inch water main
- 312 linear feet of 12-inch water main
- 371 linear feet of 8-inch water main
- 525 linear feet of 6-inch water main
- 102 linear feet of 4-inch water main
- Eleven (11) 6-inch fire hydrants
- Forty one (41) 4-inch thru 20-inch gate valves and vaults
- Sixteen (16) 3/4-inch through 1-inch water service reconnections
- 500 linear feet of 3/4-inch copper water service pipe
- 110 linear feet of 1-inch copper water service pipe

All ductile iron water main pipe on this project will have bonded coatings and full cathodic protection. Cathodic protection shall be installed as shown on the plans. The cost for for all coatings and cathodic protection shall be included in the prices bid for the proposed ductile iron water main pipe items.

All ductile iron water main pipe shall be special thickness class 54 in accordance with the latest ANSI/AWWA C151/A21.51. Ductile iron fittings shall meet the latest ANSI/AWWA C110/A21.10 and ANSI/AWWA C153/A21.53. Interior surfaces of all ductile iron pipe and fittings shall be cleaned and cement-mortar-lined at the pipe casting facility with the double thickness cement-mortar lining applied in conformance with the ANSI/AWWA C104/A21.4, latest revisions.

External pipe surfaces (including all piping, joints, valves, fittings, hydrant piping, etc.) shall be coated in accordance with Section 1012 Corrosion Control.

Contract incorporates the use of insulating corporation stops for all service connections 3/4-inch through 1-inches in diameter.

2. Engineer

REMOVE the definition of "Engineer" in General Provision GP-1.03 "Organizational Definitions" listed in the Baltimore County Department of Public Works and Transportation September 2023 "Standard Specifications for Construction and Materials and Standard Details for Construction and Materials" and REPLACE with the following:

Engineer - *One of the following engineering executives:*
Director of Public Works
Deputy Director of Public Works
Chief, Division of Construction Contracts Administration
Chief, Bureau of Engineering & Construction

Any delegation of the Engineer's authority must be authorized in writing by any one of the above listed officials, and such delegation of authority will pertain only to the specific contract and/or contracts shown by the authorization. The title of the specific official will appear in those cases within these specifications where the word "Engineer" as defined herein is not sufficiently specific.

3. Contractor Staging Area(s)

All staging area(s) shall be obtained by the Contractor at his expense. No separate payment will be made for the costs associated with the Contractor staging area(s). All work, materials, labor, etc. required for this item will be considered incidental to the work required under this Contract.

4. Specifications

All water main and services work on this project shall conform to the Baltimore County Department of Public Works and Transportation September 2023 Standard Specifications for Construction and Materials and Standard Details for Construction and Materials" dated September 2023 and as amended, and the Standard Details for Construction, dated September 2024 and as amended, and the Special Provisions included in this Contract book.

In any and all cases of conflict between the Standards and the Contract Documents, the Contract Documents shall govern but only to the extent of such conflict. Any reference in

the water main portion of the Contract Documents made to a Standard Number shall refer to Baltimore County's Book of Standards unless otherwise noted.

Any discrepancies found between the Contract Drawings and the Specifications or any inconsistencies in the Contract Drawings or Specifications shall be reported immediately to the Engineer, in writing who promptly will correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his/her discovery of such inconsistencies, discrepancies, or ambiguities prior to corrections directed by the Engineer, will be done at the Contractor's risk. In case of discrepancy or omission, the Engineer will determine the intent of the design in issuing clarifying or corrective instructions.

All materials and coatings that come in contact with drinking water shall be tested and certified to NSF/ANSI 61 Drinking Water System Components-Health Effects and certified to be lead free in accordance with NSF/ANSI 61 – Annex G.

5. Sheeting and Shoring

No separate payment will be made for the cost of furnishing, installing and removing build-in-place support of excavation system. All work, materials, labor, etc. associated with furnishing, installing and removing built-in-place support of the excavation system will be considered incidental to the work required under this Contract. Sheeting and shoring may be left in place at 2-feet below finished grade. In addition, no separate payment will be made for the cost of temporary or permanent supporting and/or protecting of any existing utilities within the excavation.

6. Construction Stakeout

The Contractor shall retain a surveyor licensed in the state of Maryland to furnish, set and maintain all construction stakeout associated with this project as required to establish proper line and grade for the proposed water mains and interconnections. Survey controls, survey control sketches, and stakeout data for the water main are to be provided upon the Engineer's request to the Contractor. A lump sum payment item is included in the proposal for Construction Stakeout.

Construction Stakeout will not be measured but will be paid for at the Contract lump sum price. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. Payment of the Contract lump sum price will be prorated and paid in equal amounts on each monthly estimate. The number of months used for prorating will be the number estimated to complete the work.

7. Service Connections

At the beginning of the project, the Contractor shall coordinate with the Engineer to carry out a field survey of all existing water service connections as shown on the Contract Drawings. All existing water service connections which are non-copper including but not

limited to lead, galvanized or brass shall be replaced in their entirety from the new service corporation on the new water main to the existing meter vault with copper pipe of like size (min. 3/4 – inch through 2 - inch), or ductile iron pipe of like size (4-inch through 8-inch). Existing meter vaults, frames and covers, and meter settings affected by the renewal of service connections shall be replaced only when directed by the Engineer. Existing water services shall be abandoned. Services may be renewed by either "open-cut" or "trenchless" construction methods. If the existing service from the corporation is copper, the Contractor shall tie into the existing copper as directed by the Engineer. Usually this will be at the closest copper tie-in location.

The costs associated with the abandonment of the existing water mains shall be considered incidental to this work, and shall be at no additional cost to the County. This shall include the abandonment of existing valves and vaults with compacted graded aggregate base (GAB) and surface restoration.

8. Sequence of Construction and Valve Shutdowns

A general sequence of operation is shown on the Contract Drawings. The Contractor shall submit a detailed sequence of construction operations for review and approval prior to the start of construction. All water valve closures must be coordinated with Baltimore City Department of Public Works and the City's current designated Contractor (i.e. Wachs Water Services). The Contractor must work with the Inspector and the Baltimore City inspector to complete the valve shutdown request form which is included as part of the Appendices for these Special Provisions.

Only Baltimore City or the City's current designated Contractor (i.e. Wachs Water Services) shall operate valves to shutdown water mains. The Contractor shall submit the "Contractor Shutdown Request Form" as per the instructions in the attached form, at least seven (7) working days in advance of any necessary valve operations.

The Contractor must be aware that the City of Baltimore cannot and will not guarantee a watertight shut down. It may be necessary for excavations to be pumped to maintain a reasonable amount of water, in the excavation, to allow the construction to take place. All costs associated with coordination with the City, Wachs, etc. and pumping/dewatering shall be included in the appropriate bid items, as it will be considered incidental to the work. All chlorinated water pumped out of any excavation must be routed to a sanitary manhole or de-chlorinated for disposal.

9. Maintenance of Traffic

The Contractor shall be responsible for the fabrication, installation, and maintenance of all traffic control devices. Said devices shall be in accordance with the Manual on Uniform Control Devices. The Contractor shall also be required to furnish additional signs should conditions warrant at no additional cost to the County. Regarding the control of traffic

through the work areas in all Baltimore County roads, the Contractor shall follow the general guidance provided in the Traffic Control Plans included with the contract drawings.

The Contractor shall refer to the Traffic Control Plans, Notes and Details for the locations where night work, or daytime work is allowed and/or required. As stated in the Traffic Control Plans, lane closures in the Baltimore County roads are typically limited only to the hours of 9 AM to 3 PM. However, tie-in work shall be scheduled during night time hours. Contractor may also request to carry out night time work in commercial areas within the project limits. The Engineer will consider such requests in a case by case basis and if applicable approve or disapprove. No additional payment will be made to the Contractor for limited daytime hours, night time hours, or weekend hours.

Once the Contractor has received the Notice-to-Proceed, The Baltimore County Division of Traffic Engineering shall inventory the existing permanent traffic control devices throughout the construction area on Baltimore County roads. Should it be necessary for devices to be removed by Contractor's forces and/or his/her sub-contractor during construction, the Contractor shall be responsible for the storage of these devices. Should they become damaged, defaced, lost, etc. the Contractor will be billed for the replacement of these permanent devices. The Contractor will also be responsible for the re-installation of any permanent devices removed during construction.

The following conditions will apply to the project areas on all Baltimore County roadways during construction:

a) A minimum single lane of traffic shall be maintained at all times.

b) At the end of each workday, the Contractor is required to complete the following:

   i. Backfill and/or plate over all open excavations so that two lanes of traffic are maintained.

   ii. Remove all equipment and material from the traveled portion of the roadway. All equipment and materials shall be stored in such a manner as to not obstruct sight distance at any driveway or intersecting road.

   iii. Cover or remove all signs referring to single-lane operation. It may be necessary for the Contractor to provide "STEEL PLATES AHEAD" signs on each approach to the construction area, if appropriate, or as directed by the inspector for the project.

c) All steel plates must have identification on them.

d) Within County's Right-of-Way, if steel plates are to be left in any roadway longer than seven (7) calendar days, the steel plates will be recessed as to be flush with the riding surface.

e) If steel plates are laid side by side for any reason, they shall be tack welded together, as directed by the County Inspector.

If steel plates are installed within the Right-of-Way, the following additional conditions will apply during construction:

a) All steel plates shall be flat, shall be at least one (1) inch thick, and shall be held in place with pins. Steel plates shall be large enough to allow a minimum of one (1) foot of bearing on the sides of the trench or open cut excavation. Steel plates shall be welded along abutting edges if required by the Engineer.

b) All steel plates shall be recessed in order that the plate surface is flush with the road surface. No cold mix well be placed around steel plates at any time. There shall be no lateral movement of the individual steel plates when vehicles cross the plates.

c) If the Contractor elects to bridge a trench or open cut excavation within paved areas of the construction area with steel plates, the Contractor shall notify the Engineer forty-eight (48) hours in advance of placement of any steel plates. If multiple plates are required to cover an open cut excavation, the Contractor shall also submit a detailed plan to the Engineer showing the placement of all steel plates and the proposed support system if required. The Engineer shall approve this detailed plan prior to any installation or use of steel plates by the Contractor. The County reserves the right to require that a registered Professional Engineer, licensed in the State of Maryland, sign and seal the plan. Steel plate locations in public roads shall be subject to speed restrictions as directed by Baltimore County.

d) The Contractor shall place appropriate signs at the locations of all steel plates. These signs shall conform to MD MUTCD specifications. Spacing of these signs shall be approved by the Engineer and shall be determined by field conditions.

e) The Contractor shall be responsible for maintaining the surface of steel plates in the case of wet or slippery weather. At the direction of the Engineer, the Contractor shall spread sand and/or salt to maintain tire traction on the surface of the plates.

f) The Contractor shall provide the Engineer with the names and phone numbers of at least two (2) contact persons who shall be available for the duration of the steel plate installation to respond to problems or emergencies involving the steel plates or its support system. If a problem or an emergency occurs with a steel plate in a public road that requires immediate attention, County forces will correct the issue. The County shall withhold payment to the Contractor for related items to compensate for any costs incurred by the County.

g) Inspections of steel plates must occur twice-daily using approved Baltimore County inspection report.

h) The maximum consecutive length of steel plates shall not exceed 100 feet.

i) Any steel plate placed between December 1 - March 30 must have pre-approval from Baltimore County and paving restoration plan must be in place.

All existing driveway access must always be maintained. Access to all businesses shall be maintained during the specific business hours for each one.

Unless otherwise noted and directed by the Engineer, all existing pavement markings shall remain in place during and after construction or it shall be replaced immediately in-kind. This will include both temporary and permanent pavement markings required. All costs associated with temporary markings are to be included in the bid item for Maintenance of Traffic. Permanent pavement markings are to be paid as separate bid items.

All traffic signal systems shall remain in place and operational during and after construction. Baltimore County shall operate and maintain the traffic signals, loop detectors and traffic cameras as required. Care shall be exercised when working adjacent to traffic signal facilities. Baltimore County having jurisdiction over the traffic signals involved must be notified a minimum of three (3) business days before the start of construction work in order to coordinate any work to be performed near Baltimore County traffic signal facilities. All loop detectors shall be replaced once paving is complete at no additional cost as this work is considered to be incidental to the item listed for Maintenance of Traffic.

10. Payment for Maintenance of Traffic

The Bid Item for Maintenance of Traffic (MOT) shall include all engineering and work which is related to the development and application of Traffic Control Plan(s) as well as all related items of work (including: furnishing, placement, maintenance, removal and relocation of devices and the necessary labor, tools, equipment, and incidentals such as lighting, drums, cones, barricades, STOP/SLOW paddles, flags, vest, and Traffic Manager) for which a specific Bid Item has not been established to ensure the desired result of a safe and efficient work zone area. Temporary traffic signs shall be included in the Bid Item for Maintenance of Traffic. All work associated with the pavement marking plan, removal of existing pavement markings, and temporary/permanent pavement markings shall be included in this Bid Item.

a) Traffic Manager

The Contractor shall assign the foreman as Traffic Manager for this Contract. The Traffic Manager shall be responsible for properly implementing traffic control devices and for maintenance surveillance on all aspects of traffic control safety as directed by the Engineer and in accordance with the Traffic Control

Plans included with the Contract Drawings and the Maryland Manual on Uniform Traffic Control Devices (MD MUTCD) 2011 Edition and all supplements and revisions.

11. Trench and Paving Restoration

Refer to the details on Water Sheet No. 20 in the Contract Drawings.

The Contractor shall carry out the following requirements while carrying out the Trench and Paving Restoration:

- Graded Aggregate Base (GAB) shall meet the Baltimore County Standard Specification for Construction and Materials Section 901 "Aggregate".
- Geotextile filter fabric shall be placed between the sub-base material and the GAB in accordance with the Baltimore County Standard Specifications.
- Cold patch will not be allowed on this project, unless authorized by the Engineer.
- Place and compact temporary patching for maintenance of traffic on a daily basis except when otherwise directed to use methods judged reasonable by the Engineer. Give minimal regard to seasonal constraints, recognizing the nature of a temporary patch and its relation to the early restoration of traffic. All temporary repairs shall be maintained at the Contractor's expense until permanent pavement restoration is completed and accepted by the Engineer.
- All costs associated with handling, stockpiling, transporting, placing, and compacting all backfill materials (both GAB and native material around anodes) shall be considered incidental to all appropriate utility bid items in this Contract and no separate payment will be made.
- All costs associated with the furnishing and installation of Aggregate used for maintenance of traffic shall be considered incidental to all appropriate utility bid items in this Contract and no separate payment will be made.
- The Contractor shall obtain written approval from the Engineer prior to beginning any permanent patching.
- If pavement is wet, the Contractor shall work at his/her own discretion on Baltimore County roadways.
- The excavation and the refill required to locate a connection to an existing utility shall be paid for under the Contract Bid price/s for the contingent Test Pit Excavation item/s.

- For temporary trench repair the Contractor shall install Hot Mix Asphalt Superpave 19.0 mm – PG64S-22, Level 2 Low ESALs. Depth of temporary repair shall match the existing paving with a minimum thickness of 2" anticipated.
- For permanent trench repairs the Contractor shall mill 2" and overlay with 2" of Hot Mix Asphalt Superpave 12.5 mm – PG64S-22, Level 2 Low ESALs the Contactor should match the existing paving with a minimum thickness of 3" of base paving anticipated.
- Asphalt pavement for Temporary Trench Repairs and Permanent Repairs with the Mill and Overlay will be measured and paid for at the Contract unit price per ton. The payment will be full compensation for saw cutting, milling, grinding, removal, disposal, trimming of the existing pavement, subgrade preparation, placing all materials including tack coat, steel plates, emergency filler, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.
- No separate payment will be made for the removal of existing pavement markings and placement of temporary pavement markings associated with the water work. All costs associated with this work shall be considered incidental to the bid item for Maintenance of Traffic. Permanent pavement markings are to be paid as separate bid items.
- Steel plates are considered incidental to any Contract Construction and/or Work and shall not be measured for payment. No payment shall be made to the Contractor for the use or installation of any steel plates and their support system or for any temporary or permanent trench or paving repair/s required by the County that is related to the use of steel plates.
- The County will not pay for saw cutting and removal of existing pavement, subgrade, and/or concrete base material beyond the limits shown on the Contract Documents, as applicable. In addition, there will be no additional payment for GAB material and asphalt pavement due to an increase in the limits of restoration caused by improper use of the Contractor's equipment and/or methods. However, subject to approval by the Engineer, the County will pay for these materials under Contingent Items (as applicable) only when there is no fault and/or or neglect by the Contractor.
- In cases where water service connections cannot be placed by trenchless methods and where any excavation that crosses more than one lane of traffic, the Contractor shall mill and over lay 20 feet on both sides of the trench. In cases where two or more road crossings are within 50 feet or less apart in the existing paved area, the Contractor shall mill and overlay the existing paved surface in a homogeneous area to encompass all such crossings.

12. Contingent Bid Items

Bid items that are identified as "Contingent Bid Items" are established for the sole purpose of obtaining unit costs on pay items that may be incorporated into the project. The Engineer shall have sole discretion in determining whether and to what extent such items will be incorporated into the project. The Engineer may order incorporation of such items at any location within the Contract and at any time during the work. Neither the Contractor nor his/her subcontractor shall make claims for additional compensation because of any increase/decrease in quantities, or the complete elimination of such items.

13. Contingent Bid Item for Trench Rock Excavation with Proper Disposal

The Contractor shall consider the presence of rock materials when developing his/her bid prices. For the purposes of classified excavation, trench rock shall be defined as material encountered in trench excavation larger than 1 cubic yard that cannot be excavated in a trench using a Caterpillar Model 325D hydraulic excavator or equivalent with a rock bucket.

There is one (1) geotechnical report provided as part of the Contract Documents. Contractor shall make his/her own interpretation as to the presence of rock based on those reports. Contractor shall include the costs associated with the rock excavation as part of the water installation (as they are considered incidental to the Bid Item) in those areas identified in the Contract Documents. No separate payment will be made for the removal of rock where records indicate the presence of rock.

If the Contractor finds rock, as defined herein, at locations where no reasonable indication for the presence of rock exists as identified by the geotechnical reports, then the excavation, removal and disposal of the rock material will be paid under the Contingent Bid Item.

Trench rock excavation includes up to 6 inches over-excavation below the required excavation depth. Rock shall be quantified by measuring the extent of rock in the trench, not by measuring the volume of removed rock. This definition of trench rock does not include materials such as hardpan, loose rock, concrete or other materials that can be removed by means other than drilling and blasting, but which for reasons of economy in excavating the Contractor chooses to remove by drilling and blasting. In any event, the work will be performed only upon the written direction of the Engineer.

Trench Rock Excavation with Proper Disposal (Contingent) will measured and paid at the contingent bid item price per cubic yard of material removed and disposed of, on a contingent basis. Payment will be full compensation for material, equipment, and work

required for drilling, blasting, excavating, loading, hauling, and disposal of the rock material.

14. Estimated Quantities

With the exception of those items identified as "Contingent" Bid Items, the quantities shown for all unit bid items are based upon the best information at the time of bidding and are established for the purpose of obtaining a bid price. The quantities for all items may be increased or decreased or eliminated without any adjustments to the Contract unit price bid and shall not be considered as a basis of claim by the Contractor against Baltimore County resulting from any quantity changes.

15. Acceptable Resilient Wedge Gate Valves 4-inch through 12-inch

Manufacturer	Valve
American Flow	Series 2500
Kennedy Valve Co.	Ken-Seal NRS
M&H	Style 4067 NRS
Mueller	A-2361 Model
U.S. Pipe	A-USP2 NRS
Clow	F 6100 Series

16. Number of turns and orientation for Resilient Wedge Gate Valves

Valve Size	Number of Turns
4, 6, 8, 10 and 12-inches (Vertical)	Three (3) times the nominal diameter plus three (3) turns

17. Acceptable Coupling Manufacturers:

a) Krausz USA — Hymax® Coupling (6”-12”)
b) Mueller Co. — MaxiFit – MFC Coupling (4”-12”)
c) Smith-Blair, Inc. — Quantum – 461 Series Coupling (4”-12”)

18. Removal and Replacement of Concrete Sidewalk & Curb and Gutter

Concrete sidewalks & curbs and gutters shall be removed to the nearest contraction or expansion joint. Care shall be used to avoid damage to sidewalks & curbs and gutters that are to remain in place. All new concrete shall tie-in to the nearest joint or as directed by the Engineer.

Concrete sidewalks shall be replaced with the same material, construction, and finish as the originals. All disturbed sections shall be replaced in their entirety to the nearest joint. Any expansion joint material removed shall be replaced at the original locations. Existing concrete edges shall be cleaned prior to placement of concrete. The finished concrete elevation, texture, and color shall conform to the adjacent concrete surfaces.

Unless otherwise directed, curb and gutter shall be replaced with new concrete curb and gutter of the same cross-section and at the same top of curb elevation and flow line as that removed. Any expansion joint material removed shall be replaced at the original locations. Existing concrete edges shall be cleaned prior to placement of concrete. The finished curb

and gutter cross-section, elevations, texture, and color shall conform to the adjacent concrete surfaces.

Removal and replacement of concrete sidewalk will be measured for payment by the square foot, complete in place. Removal and replacement of concrete curb and gutter will be measured for payment by the linear foot, complete in place.

Sidewalk removal and replacement will be paid for at the contract unit price per square foot, which price will be full compensation for removal and disposal of existing concrete sidewalk; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.

Removal and Replacement of Concrete Curb and Gutter will be measured for payment by the linear foot, complete in place. Curb and gutter removal and replacement will be paid for at the contract unit price per linear foot, which price will be full compensation for removal and disposal of existing concrete curb and gutter; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.

19. Non-Detectable Tape for Restrained Joint Pipe

On all new ductile iron pipe with restrained joints, including any 6" hydrant lead line, the Contractor shall install new non-detectable tape on the top of pipe and in accordance with the following specifications and requirements. The Contractor must submit the shop drawings for approval prior to ordering.

All costs associated with the furnishing and installation of such non-detectable tape shall be considered incidental to all appropriate utility bid items in this Contract and no separate payment will be made.

Restrained Joint Pipe Tape

a) Description
   i. Material: Non-detectable type, low density, virgin grade polyethylene, acid and alkali resistant; minimum wetting tension: 35 dynes/cm, ASTM D2578.
   ii. Tape size: 6-inch width, 4 mils thickness.
   iii. Printing: Two lines with minimum 1-inch height letters with "No-Dig Symbol" following each cycle of text.
      1. First Line: "CAUTION-RESTRAINED JOINT PIPE" repeated every 20 to 24 inches.
      2. Second line: "CALL DPW AT 410-396-7870."
   iv. Colors:
      1. Tape: APWA Red.
      2. Lettering: Permanent Black.

b) Approved manufacturers:

i. Empire Level Manufacturing Corporation, Utility Products Division, Shieldtec Underground Warning Tape.
ii. Blackburn Manufacturing Co., Inc., Non-Detectable Underground Utility Warning Tape.
iii. Reef Industries Inc., Terra Tape Standard Non-Detectable.
iv. Mutual Industries, Non-Detectable Underground Marking Tape.
v. Pro-line Safety Products (A Division of Pro-Pak Ind., Inc.), Standard Non-Detectable.
vi. Or Approved Equal.

20. Connections

The Contractor shall make connections to existing work when and as directed by the Engineer. Upon being notified by the Engineer, the Contractor shall notify the consumers in the area to be affected by the shut-off. Baltimore City forces shall operate all valves involved in the work. The Contractor must complete the connections with the greatest possible speed in order to minimize public inconvenience. When the Contract Documents require that connections be made at night and/or during the weekend, the costs to make such connections shall be included in the original Price Bid and no additional compensation will be provided. If the Contractor must remove existing buttresses in order to make connections, he/she shall do this work without additional compensation.

21. Buttresses, Anchorages and Thrust Blocks

Where restrained joints are not used, place buttresses behind all caps, horizontal bends and branches unless otherwise directed by the Engineer. Anchorages shall be placed beneath vertical bends. Buttresses, anchorages, and thrust blocks must be of concrete and steel, as required. Extend them to solid, undisturbed soil and construct in accordance with the Standard Details or as shown on the Contract Drawings.

The Contractor shall coat bare steel shapes, plates, and bars with two (2) coats of heavy mastic containing synthetic elastomeric additives in a mixed solvent. The mastic shall bond firmly to dry, clean and contaminant-free steel surfaces (to be wire brushed before coating) without the use of a primer; shall have high electrical resistance; and shall be totally resistant to aliphatic hydrocarbons. Apply the first coat of mastic to a dry film thickness of 10-12 mils. Allow this coat to dry for one hour, or until it is dry to the touch. Apply a second coat to the same dry coat thickness as the first. Backfill only after the second coat is dry to the touch.

22. Soil Borings

The Engineer has conducted subsurface test borings in the area where the work will be performed. Resultant data obtained from these borings along with the full geotechnical evaluation report is included as part of the Appendices for these Special Provisions.

It shall be understood that this information was obtained and prepared for design purposes and is not guaranteed to be more than a general indication of the material likely to be found adjacent to the bore holes, and that the County does not warrant that material encountered beneath the ground surface is homogenous or uniform. This report is for informational purposes only and shall not be considered as part of the contract documents. The data in this report may not be adequate for the Contractor's estimating purposes. All bidders are advised to independently evaluate, or to have the data and interpretations independently evaluated by someone qualified in this technical field before using for bidding purposes because the bidder is solely responsible for this evaluation. Conclusions and recommendations included in the geotechnical information are not intended to restrict the Contractor from selecting the methods for dewatering, excavating, removal of rock, refill and compaction and/or sheeting and shoring. The Contractor is solely responsible for selecting/utilizing the appropriate methods for this work.

Bidders shall determine to their own satisfaction the actual subsurface conditions including the character and type of soil, rock and other material he/she will encounter in the conduct of the work at no additional cost to the County. Information and data, and any reference to information and data, in these Contract Documents are available for the Contractor's information and for whatever use the Contractor may find therefore. The subsurface and other physical data, such as those mentioned herein and contained in the Contract Documents, or otherwise made available to the Contractor by the Engineer, are not intended as representations or warranties. It is expressly understood that neither the County nor the Engineer will be responsible for the completeness or accuracy thereof, or for any deductions, interpretations, or conclusions drawn thereof.

23. Existing Utilities

All known subsurface lines, pipes, conduits, and structures are shown on the Contract Drawings. These utilities are shown based upon the best available plans and maps. The locations have not all been verified by test pits and Baltimore County assumes no responsibility for the accuracy of the Contract Drawings. In any area where the Contractor must make connections to or cross existing subsurface facilities, it shall be his/her responsibility to test pit the utilities and verify the locations, sizes, clearances and elevations to his/her satisfaction. In the event that utilities are not found located as shown on the Contract Drawings, the Contractor shall notify the Engineer so that an evaluation can be made as to the magnitude and methods of any adjustments on the Contract Drawings. The Test Pit reports are included as part of the Appendices for these Special Provisions as information only, subject to field verification by the Contractor.

The Contractor shall be solely responsible for all damage to underground and aboveground utilities encountered in any manner during construction. When crossing and working near existing utilities, it shall be the Contractor's responsibility to properly support and maintain the operation of the utilities. Extreme care shall be exercised in excavation and backfill

operations. The Contractor shall correct at his own expense all damage caused to existing utilities.

The Engineer may direct placement of additional fittings in addition to those shown on the Contract Drawings as required to avoid existing utilities or obstructions encountered when opening the trench. Compensation for this work will be paid under the appropriate contingent bid item listed. Restrained joints shall be included in these items. These items are for 16" and 20" diameter mechanical joint 45-degree bends which may become necessary to complete the installation.

24. Certification of Materials and Installations

The Contractor shall furnish certification for the following items:

a) Gate valves
b) Fire hydrants
c) Pipeline Coating and/or wrapping

Certification shall be provided from each manufacturer, or from an approved testing laboratory, that all material used in the work is in accordance with these and all referenced specifications.

25. Existing Water Service Connection Pipe Materials

The Contractor shall document the existing pipe material (i.e. lead, galvanized steel, pvc, etc.) for all water service connections on the final as-built drawings. This work will be considered incidental to the preparation of the as-built documents.

CATEGORY 200
GRADING
SECTION 206 – REMOVAL OF EXISTING PAVEMENT, SIDEWALK, PAVED DITCHES, CURB OR COMBINATION CURB AND GUTTER

206.04 MEASUREMENT AND PAYMENT.

INSERT: The following:

206.04.03 Removal and Replacement of Pavement with Underlying Concrete Base Up To 12-Inches Thick (Contingent) will be measured and paid in square yards by the surface area of existing pavement with concrete base actually removed and disposed of properly prior to removal. Payment will be full compensation for full depth saw cutting of pavement, breaking, hauling, disposing of jointed plain concrete pavement base, and for all material, labor, equipment, tools, and incidentals necessary to complete the work including replacement of the pavement in kind.

CATEGORY 300
DRAINAGE & UTILITY CONSTRUCTION

SECTION 302 – SELECTED BACKFILL

302.04 MEASUREMENT AND PAYMENT.

INSERT: The following:

Geotextile fabric for each type will be measured and paid for at the Contract unit price per square yard. Overlaps and seams will not be measured for separate payment. The accepted quantity of geotextile will be paid for at the contract unit price per square yard, which price shall be full compensation for furnishing, placing, lapping, or seaming material and for all materials, labor, tools, equipment, and incidentals necessary to complete the work.

CATEGORY 300
DRAINAGE & UTILITY CONSTRUCTION

SECTION 351 – WATER MAIN CONSTRUCTION

ADD the following to section **351.04 MEASUREMENT AND PAYMENT**:

Concrete encasement of existing sanitary sewers (as shown on the Drawings) shall be paid for under the Fixed Price Item listed for **Mix No. 1 Concrete**. Price shall include excavation, backfill and compaction, dewatering, shoring/support of the existing sanitary sewer, formwork, concrete, finishing, restoration and all work necessary for the encasement of the existing sanitary sewer/s.

Furnishing and installation of all corrosion components and full cathodic protection (as specified in Section 1012) for new ductile iron pipe and fittings shall not be measured and paid separately but will be considered incidental to the appropriate ductile iron pipe bid items in this Contract.

Contingent items have been set for additional 16" and 20" diameter restrained ductile iron mechanical joint 45 degree pipe fittings for cases where the Engineer directs the Contractor to install additional pipe fittings as required to avoid existing utilities or other conflicts. These items shall be measured and paid for on a case-by-case basis as approved by the Engineer.

CATEGORY 300
DRAINAGE & UTILITY CONSTRUCTION

SECTION 353 – WATER HOUSE SERVICE, WATER METER SETTING, AND VAULTS

ADD the following to section **353.01 DESCRIPTION**:

All existing service connections that are currently served from the existing water main in Joppa Road (and side streets) shall be replaced from the new replacement water main to the existing meter boxes. The Engineer on the job site will determine whether to use the existing meter vault or replace it, depending on its condition.

CATEGORY 300
UTILITY CONSTRUCTION

SECTION 372 - CORROSION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. Installation of corrosion control components shall be in accordance with the following specifications and the details contained in the Contract Documents. All installation practices and components shall be approved by the Engineer.

B. The corrosion control for all ductile iron pipe (this includes all piping, joints, valves, fittings, etc.) will include an external protective coating in accordance with the below specifications, electrical continuity (joint bonding), electrical isolation (insulating flanges, insulating couplings, linked rubber seals, and insulating corporation valves), sacrificial (magnesium) prepackaged anodes, and corrosion control test facilities.

C. Upon completion of the work, the Engineer shall test, operate, inspect, and survey the installed work. Any and all repairs or replacement of defective or improperly installed corrosion control/corrosion monitoring systems shall be corrected by the Contractor at no additional cost to the Owner.

1.02 REFERENCES

The following is a list of the Standards referenced in this Section.

A. American Society for Testing and Materials (ASTM)

1. ASTM A48: Specification for Gray Iron Castings

2. ASTM D149: Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

3. ASTM D257: Test Methods for D-C Resistance or Conductance of Insulating Materials

4. ASTM D471: Test Methods for Rubber Property-Effect of Liquids

5. ASTM D570: Test Method for Water Absorption of Plastics

6. ASTM D638: Test Method for Tensile Properties of Plastics

7. ASTM D1000: Test Methods for Pressure-Sensitive Adhesive-Coated Tapes

Used for Electrical and Electronic Applications

8. ASTM D1505: Test Method for Density of Plastics by the Density-Gradient Technique

9. ASTM D4542: Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers

10. ASTM E96: Test Methods for Water Vapor Transmission of Materials

11. ASTM F1249: Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor

12. ASTM G8: Test Method for Cathodic Disbonding of Pipeline Coatings

13. ASTM G14: Test Method for Impact Resistance of Pipeline Coatings (Falling Weight Test)

14. ASTN G17: Test Method for Penetration Resistance of Pipeline Coatings (Blunt Rod)

15. ASTM G95: Test Method for Cathodic Disbonding of Pipeline Coatings (Attached Cell Method)

B. Society for Protective Coatings (SSPC)

1. SSPC SP3: Surface Preparation Specification No. 3, Power Tool Cleaning

1. SSPC SP5: Surface Preparation Specification No. 5, White Metal Blast Cleaning

C. NACE International (NACE)

1. RP0274: High-Voltage Electrical Inspection of Pipeline Coatings Prior to Installation

2. SP0169: Control of External Corrosion of Underground or Submerged Metallic Piping Systems

3. SP0188: Discontinuity (Holiday) Testing of Protective Coatings

D. American Water Works Association (AWWA)

1. AWWA C209: Cold-Applied Tape Coating for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines

2. AWWA C210: Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

2. AWWA C214: Tape Coating Systems for the Exterior of Steel Water Pipelines

3. AWWA C216: Heat-Shrinkable Cross-Linked Polyolefin Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines

4. AWWA C222: Polyurethane Coatings for the Interior and Exterior of Steel Water Pipe and Fittings

E. NSF International

1. NSF 61 Drinking Water System Components - Health Effects

F. US Department of Transportation

1. US DOT H-20: Roadway Delineation Practices Handbook

1.03 SUBMITTALS

A. Catalog cuts of all materials to be installed shall be required and shall be submitted for approval.

B. Pipe and casing pipe coating, handling and testing procedures, and quality assurance procedures shall be required and shall be submitted for approval.

C. Test procedures for verifying electrical isolation at insulating flanges and insulating corporation valves shall be required and submitted for approval.

1.04 DOCUMENTATION OF CATHODICALLV PROTECTED WATER MAIN INSTALLATION

A. For this project the corrosion control for all ductile iron pipe (this includes all piping, joints, valves, fittings, etc.) will include an external protective coating in accordance with the specifications, electrical continuity (joint bonding), electrical isolation (insulating flanges, linked rubber seals, and insulating corporation valves), sacrificial (magnesium) prepackaged anodes, sacrificial zinc ribbon anodes, and corrosion control test facilities.

B. It is important for the County to ensure that new cathodically protected water mains and service lines are constructed in strict accordance with the requirements and practices specified in the Contract Documents and as approved by the Engineer. Even small variations between the execution of the work and that which is specified could

have detrimental effects on the cathodic protection system's ability to perform its designed function.

C. Before any work is performed, the Contractor shall schedule a demonstration session of all cathodic protection practices to be implemented while executing the work. The demonstration session shall be scheduled during regular office hours and must include the personnel responsible for the work as assigned by the Contractor. All installation practices and components shall be witnessed, and approved by the Engineer and his/her designated representative. The demonstration session shall go over but not be limited to the following:

1. Hoisting of pipe
2. Holiday testing,
3. Coating repair in pipe body,
4. Bell and spigot joint field coating,
5. Mechanical joint field coating,
6. Insulating flange field coating,
7. Polyethylene mesh separator pad,
8. Thermite welds,
9. <= 2-inches service connection coating,
10. Insulating flange and insulating corporation electrical insulation test

D. To verify that cathodically protected water mains have been properly installed, color photographs shall be taken by the Contractor to document the installation of cathodically protected water mains prior to backfilling operations. Each element shall have corresponding station marked up with light or dark colored crayon as applicable.

Separate photographs shall be provided for each of the following:

1. Push-on Joints:
   a. One image taken above the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   b. One image taken below the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   c. Two images for each side of the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   d. One image taken above the coated joint complete with bond cables
   e. One image taken below the coated joint complete with bond cables
   f. Two images for each side of the coated joint complete with bond cables

2. Mechanical Joints:
   a. One image taken above the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   b. One image taken below the joint after application of primer and filler material

before application of first layer of tape and before installation of bond cables
c. Two images for each side of the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
d. One image taken above the coated joint complete with bond cables
e. One image taken below the coated joint complete with bond cables
f. Two images for each side of the coated joint complete with bond cables

3. Flange Insulating Joints:
   a. One image taken above the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   b. One image taken below the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   c. Two images for each side of the joint after application of primer and filler material before application of first layer of tape and before installation of bond cables
   d. One image taken above the coated joint complete with bond cables
   e. One image taken below the coated joint complete with bond cables
   f. Two images for each side of the coated joint complete with bond cables

4. Service Connections (*= 2-inches):
   a. One image taken above the service connection after application of primer and filler material and before application of first layer of tape
   b. One image taken below the service connection after application of primer and filler material and before application of first layer of tape
   c. Two images, one for each side of the service connection after application of primer and filler material and before application of first layer of tape
   d. One image taken above the coated service connection
   e. One image taken below the coated service connection
   f. Two images, one for each side of the coated service connection

5. Appurtenances:
   a. One image taken above the appurtenance after application of primer and filler material and before application of first layer of tape
   b. One image taken below the appurtenance after application of primer and filler material and before application of first layer of tape
   c. Two images, one for each side of the appurtenance after application of primer and filler material and before application of first layer of tape
   d. One image taken above the appurtenance complete with bond cables
   e. One image taken below the appurtenance complete with bond cables
   f. Two images for each side of the appurtenance complete with bond cables

6. Test Stations:
   a. Two images showing the location of the test station as installed. One from above and the second one from a distance away that allows viewing of

proximity features.

7. Anode Stations:
   a. Four images showing the location of the anodes and electrodes as installed to include the weld points to main.

8. Structures:
   a. One image taken from above the structure showing the piping arrangement within the structure.
   b. Two images for each of the penetrations where the water main enters the structure.

Additionally, photographs shall be taken at 40-foot intervals (maximum) along pipe centerline (upstream or downstream) showing the progression of pipe laying operations immediately prior to backfllling.

In the event the photographs depict improper installation and/or a damaged coating, or missing images are not identified the Engineer will direct the Contractor to carry out repairs at the identified locations at no additional cost to the County.

Contract shall provide photographs as cut and paste files onto a Word document (maximum 4 images to a page). Digital photography shall be 2.1-megapixel density or greater. Contractor shall save digital page files in PDF format. On each page of photos, provide the following information:

1. Name of Project
2. Submittal Sequential Numbering (i.e. 20001 WX0 DWI 0001, 2000 I WX0 DWI 0002, etc.)
3. Station Range (water centerline stationing)
4. Orientation of View
5. Date & Time image was taken: unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph
6. Service size, station, and address (when applicable)
7. Type of appurtenance and station (when applicable)
8. Type of Fitting and station (when applicable)
9. Type of Joint and station (when applicable)
10. Name of individual who took photograph

Frequency: The Contractor shall take photographs daily while water line work is being carried out, with a cutoff date associated with each application for payment. No payment will be processed without the submittal of applicable progress photographs for the corresponding period. Along each respective Application for Payment, the Contractor shall submit the following to the inspector:

1. A complete set of digital image electronic files of the Progress Record Documentation (PRD) on a CD-ROM corresponding for the payment period, identifying the electronic media with date photographs. (i.e. PRD 06.01.20 thru 06.30.20)
2. Two hard copies of files bound in two (2) 3-in three-ring binders each printout inside three-holed plastic sleeves.

Measurement and Payment: There will be no separate measurement or payment for the Documentation of Water Main Installation. The cost will be incidental and shall be included in the unit prices bid per linear foot of the various sizes of pipe laid as provided for in the Bid Schedule for this Contract.

PART 2 - EXTERNAL COATING SYSTEMS FOR DUCTILE IRON PIPE

2.01 GENERAL

A. External pipe surfaces (including all piping, joints, valves, fittings, hydrant piping, etc.) shall be coated. Predominant method to be shop application. The piping shall receive an exterior coating in the pipe manufacturer's shop or at a separate applicator's facility.

B. All components of the coating system shall be manufactured by a single supplier to assure compatibility of individual components.

C. Field applied coatings to be limited to repairing damage to shop coating; coating exposed metal at joints, fittings, valves, bond and test wire connections; and other appurtenances that are not shop coated.

D. Extent of piping to be shop coated and extent to be field coated shall be clearly identified in Contractor’s material and quality assurance submittals. Quality assurance submittals shall include pipe coating, handling and testing procedures.

E. All coatings used on project shall be as specified herein, unless otherwise approved by the Engineer prior to bidding. All products comprising completed coating system to be compatible and the same products to be used throughout the project. Pipe surfaces that will come in contact with potable water inside the pipeline (e.g. spigot ends of bell and spigot joints) to be coated with materials having NSF-61 certification.

2.02 SHOP APPLIED MATERIALS FOR DUCTILE IRON PIPE

The external coating for ductile iron pipe shall comply with one of the following coating systems:

A. 100 percent solids polyurethane, with the following minimum properties, or approved equal:

1. Adhesion to steel (SSPC SP5): 1,300 to 1,800 psi.

2. Cathodic disbondment (ASTM G8 or G95): <10 mm rad.

3. Resistivity: $1x10^{14}$ ohms per cm^2 minimum.

4. Dielectric strength (ASTM D149): > 200 volts per mil.

5. Water Absorption (ASTM D471): < 3% (no absorption below surface).

6. Solids Content (Solids by Volume): 99%.

7. Volatile Organic Compounds (VOC's): 0.08 lbs. per US gallon.

8. Final coating shall have a nominal dry film thickness of 35 mils with a minimum dry film thickness of 30 mils.

9. Coating shall be Corropipe II TX-15 as manufactured by Madison Chemical Industries or approved equal.

B. Three-layer tape wrap system with the following minimum properties, or approved equal:

1. Primer: A liquid primer composed of butyl, tackifiers, and other ingredients to protect against soil oxidation and bacteria growth. Total solids shall be 20% (plus or minus 2%) by weight.

2. Innerwrap: A two component extruded black tape consisting of polyethylene and butyl rubber adhesive specially designed to conform to the particular pipe material being coated. The innerwrap shall have the following properties:

   a. Thickness: 20 mils (9 mils polyethylene backing, 11 mils butyl rubber adhesive).
   b. Adhesion to primed steel: 20 oz/in width (ASTM D1000).
   c. Tensile strength: 30 lbs./in width (ASTM D1000).
   d. Water vapor transmission rate: <0.2 gm/100 in^2/24 hr.
   e. Dielectric strength: 21 kV (ASTM D149).
   f. Insulation resistance: 1,000,000 M Ohms (ASTM D257).
   g. Tape width: As recommended by coating manufacturer.

3. Middlewrap: A two component extruded grey tape consisting of polyethylene and butyl rubber adhesive. The middlewrap shall contain stabilizers and inhibitors to resist the destructive effects of ultra-violet light. The middlewrap shall have the following properties:

   a. Thickness: 30 mils (25 mils polyethylene backing, 5 mils butyl rubber

adhesive).
b. Adhesion to backing: 45 oz/in width.
c. Tensile strength: 60 lbs./in width (ASTM D1000).
d. Abrasion resistance: Excellent (ASTM D1000).
e. Water vapor transmission rate: <0.2 gm/100 in^2/24 hr.
f. Dielectric strength: 23 kV (ASTM D149).
g. Insulation resistance: 1,000,000 M Ohms (ASTM D257).
h. Tape width: As recommended by coating manufacturer.

4. Outerwrap: A two component extruded white tape consisting of polyethylene and butyl rubber adhesive. The outerwrap shall contain stabilizers and inhibitors to resist the destructive effects of ultra-violet light. The outerwrap shall have the following properties:

a. Thickness: 30 mils (25 mils polyethylene backing, 5 mils butyl rubber adhesive).
b. Adhesion to backing: 45 oz/in width.
c. Tensile strength: 60 lbs./in width (ASTM D1000).
d. Abrasion resistance: Excellent (ASTM D1000).
e. Water vapor transmission rate: <0.2 gm/100 in^2/24 hr.
f. Dielectric strength: 23 kV (ASTM D149).
g. Insulation resistance: 1,000,000 M Ohms (ASTM D257).
h. Tape width: As recommended by coating manufacturer.

5. Coating system shall be YGIII as manufactured by Polyken Technologies or approved equal.

C. Polyolefin (extruded butyl rubber adhesive with polyethylene top coat) system with the following minimum properties, or approved equal:

1. Compounded butyl rubber adhesive coating with less than 0.1% water absorption. Nominal thickness 10 mils.

2. Top coat: High density polyethylene resin top coat that is spirally extruded onto adhesive coating in multiple layers to form a seamless bonded coating. The polyethylene top coat shall have the following properties:

a. Nominal thickness: 40 mils.
b. Density: >0.95 (ASTM D1505).
c. Elongation: >600% (ASTM D638).
d. Tensile strength: <2800 psi (ASTM D638).

3. Total coating system shall have the following properties:

a. Thickness: 50 mils (40 mils polyethylene top coat, 10 mils butyl rubber adhesive).
b. Impact resistance: >60 inch lbs. (ASTM G14).

c. Cathodic disbondment: 6 mm radius (ASTM G8 OR G95).
d. Water absorption: 0.06% (ASTM D570).

4. Coating system shall be Pritec as manufactured by Bredero Price Company or approved equal.

2.03 APPLICATION OF SHOP APPLIED MATERIALS TO DUCTILE IRON PIPE

The coating applicator, regardless of the location where the coating is applied, shall be certified as qualified by the coating manufacturer. The coating applicator must abide by and follow all manufacturer's application specifications for the coating system. All components of the coating system shall be manufactured by a single supplier to assure compatibility of individual components.

2.04 SURFACE PREPARATION PRIOR TO COATING

The exterior surface of the piping shall be cleaned in accordance with the coating manufacturer's recommendations.

2.05 CERTIFICATION OF EXTERNAL COATING

The pipe or fitting manufacturer or coating applicators, as appropriate, will test and certify the exterior coating prior to shipping to the project site. When the pipe or fitting arrives at the job site, the Contractor shall visually inspect the pipe or fitting, and repair any and all damage as directed by the coating manufacturer and in accordance with these specifications.

2.06 INSPECTION OF EXTERNAL COATING

A. Immediately prior to installation of the pipe or fitting, the Contractor shall perform ALL of the following:

1. Step One - Visually inspect all exterior coatings on pipe, fittings, specials, and closures for holidays and other defects.

2. Step Two - All visual holidays and defects if any, shall be repaired by the Contractor as directed by the coating manufacturer and in accordance with this specification and to the satisfaction of the Engineer.

3. Step Three - The coating must be tested, REGARDLESS if there are no visual defects, with a holiday detector by the Contractor. This electrical holiday test shall be in accordance with NACE RP0274 or SP0188 as recommended by the coating manufacturer and must be witnessed by the County Inspector. Holiday detectors shall be manufactured by Tinker and Razor or approved equal.

4. Step Four - If any holidays are detected by the required holiday test than

they shall be immediately repaired as mentioned in step two.

5. Step Five - Repeat the holiday test after the coating is repaired.

6. Step Six - Repeat step four and five until there are no holidays detected. Enter in a log that this pipe has successfully passed the holiday test on the date and time it was successfully performed. Each pipe should be assigned a number that corresponds to the stationing on this project. The County Inspector must approve the successful holiday testing and sign off on the log sheet.

7. Step Seven - Once the coating on the pipe or fitting is free of holidays and the Holiday Testing Log has been signed off by the County Inspector, the piping or fitting may be installed in the trench.

B. In addition, the County Inspector at any time after the pipe has passed the above required holiday testing, may order additional holiday testing should he suspect or visually see defects in the coating caused by the actions of the Contractor during the handling or installation of the pipeline.

C. The Contractor shall ensure that he coordinates with the County Inspector to complete the Holiday Detection Daily Field Report for each segment of pipe to be tested. Failure to do so may result in the stoppage of the Work. The Holiday Detection Daily Field Report is included at the end of this Section.

D. All costs associated with holiday testing shall be incidental and be included in the unit price bid for each sized pipeline.

2.07 FIELD APPLIED MATERIALS FOR COATING REPAIRS

Shop applied coatings that are damaged in transit or during handling shall be repaired prior to backfilling. The field applied repair coatings shall be as recommended by the shop applied coating manufacturer and shall be entirely compatible with the original coating system. The field coating repairs shall be performed in accordance with all recommendations of the coating manufacturer.

2.08 FIELD APPLIED MATERIALS FOR COATING DUCTILE IRON PIPE JOINTS

A. Joint Wrap and Repair Tape: A two component extruded tape consisting of polyethylene and butyl rubber adhesive in accordance with AWWA C209. The tape shall contain stabilizers and inhibitors to resist the destructive effects of ultra-violet light. The joint wrap and repair tape shall have the following properties:

1. Thickness: 35 mils (6 mils polyethylene backing, 29 mils butyl rubber adhesive).

2. Adhesion: 12 lb-ft/in width (ASTM D1000).

3. Tensile strength: 27 lbs./in width (ASTM D1000).

4. Water vapor transmission rate: <0.2 gm/100 in^2/24 hr.

5. Dielectric strength: 26 kV (ASTM D149).

6. Insulation resistance: 1,000,000 M Ohms (ASTM D257).

7. Tape width: As recommended by the coating manufacturer.

2.09 PROTECTION OF COATING SYSTEMS DURING CONSTRUCTION

A. At all times during construction of the pipeline, the Contractor shall take every precaution to prevent damage to the protective coating. No metal tools or heavy objects shall be permitted to come into contact unnecessarily with the finished coating. Workmen shall not be permitted to walk on the coating, except when absolutely necessary and approved by the Engineer, in which case, they shall wear shoes with rubber or composition soles and heels or other suitable footwear which will not damage the coating.

B. Externally coated pipe shall be hoisted from the trench side to the trench by means of a minimum of two 18-inch wide belt slings of sufficient strength to handle the weight of the piping safely.

C. Any and all coating damage shall be repaired with specified coating repair materials prior to installation.

2.10 TRANSPORTATION, HANDLING AND STORAGE OF COATED PIPE

A. Pipe shall be handled in accordance with AWWA C214 and in such a manner as to protect the pipe and the coating from damage.

B. At the pipe coating plant, if forklifts are used, all bearing surfaces of a forklift apparatus shall be padded with suitable padding material. Web slings may also be used at the pipe manufacturer's plant.

C. At the project site, the pipe shall only be handled with slings. Metal chains, cables, tongs, forklifts or other equipment likely to cause damage to the coating, will not be permitted. Web slings shall be a type that will not damage the coating. When pipe is handled with slings, there shall be a minimum of two slings. Slings shall be a minimum of 18 inches wide and of sufficient strength to handle the weight of the pipe safely. Slings shall not pass through the pipe. Hooks on the end of the pipe shall not be allowed. Handling equipment, materials, and procedures shall be submitted to the Engineer for approval. If possible, the pipe should be handled from cutback ends.

D. Storing of the coated pipe shall be on padded 12-inch wide (minimum) skids or select loamy or sand dirt berms, or suspended from cutback ends, where possible. In urban areas, the pipe shall be suspended on padded skids or skids placed at cutback areas. Where skid chucks are used in contact with coated pipe, they shall be padded with several layers of carpeting. Padded chucks shall be placed such that coated pipe is nested on the skid rather than the chuck. Coated pipe shall not be laid on pavement without benefit of padding at contact points. In preparation for transporting pipe, the use of web slings is necessary for tie downs.

E. If cables or chains are used during transportation, they shall be properly padded with approved, suitable material as required to protect the coating from damage while in transit. Use of a padded horizontal separator strip between successive rows of pipe is necessary to prevent damage to the pipe coating, i.e.: strips of rug material over all contact areas where pipe will rest.

PART 3 – CORROSION CONTROL MATERIALS

3.01 PREPACKAGED MAGNESIUM ANODES

A. Each anode shall have a nominal weight of 20 pounds, excluding backfill. The anode shall be 56.75 inches long by 2.75 inches wide by 2.75 inches high.

B. Composition of the anode shall be as follows:

Aluminum	0.010% Maximum
Manganese	0.50 to 1.30%
Copper	0.02% Maximum
Nickel	0.001% Maximum
Iron	0.03% Maximum
Silicon	0.05% Maximum
Other	0.05% Each
Magnesium	Remainder

C. The 20-pound anodes shall be vibratory packaged in permeable cardboard boxes that shall be 71 inches long by 4.5 inches wide by 4.5 inches tall.

D. The cardboard box shall contain a minimum of 45 pounds of backfill for 20-pound anodes. The backfill material shall have the following composition:

Hydrated Gypsum	75%
Bentonite	20%
Sodium Sulfate	5%

E. The anode and backfill shall be prepackaged into a single unit, in a vibrated cardboard box as described above. The box shall contain centering devices to maintain the anode in a centered position surrounded fully by the special backfill. A minimum of 10 feet of AWG No. 12 solid copper wire with TW insulation (black) shall be attached to the anode. Wire to anode attachment shall be by silver solder and sealed to prevent any moisture penetration. The anode system shall be as manufactured by Stuart Steel Protection Company or approved equal.

3.02 TEST BOXES

The flush mount test box shall consist of a nonconductive terminal board mounted in a locking cast iron lid and collar (suitable for placement in heavy traffic areas) and a plastic shaft. The test box shall pass U.S. DOT H-20 roadway load test. The cast iron of the lid and collar shall meet or exceed ASTM A48 Class 25 specification. The test box lid to be made of cast iron with B-DPW cast into the lid design and painted yellow. The lid shall feature a cast-in pentagonal bolt to lock into the cast iron cover. The cast iron collar to be at least 2.75 inches high with lugs cast inside to accept the locking lid and to accept a 1-inch cast iron repaving adapter with original lid. The plastic shaft is to be made of ABS (acrylonitrile butadiene styrene), 18 inches long with a flared bottom to resist sinking in soil. The plastic shaft shall have a 5-inch inner diameter. The plastic shaft is to be riveted to the cast iron collar. The test block shall be made of nonconductive PVC (polyvinyl chloride) plastic. The terminal board shall contain a minimum of seven terminals, using 0.25 inch by 20 thread nickel-plated machine screws and nuts. The terminal board shall fit into the lid using hangers cast inside the lid. (C.P. Test Services, Inc. or approved equal).

3.03 TEST STATION CONCRETE

Concrete for the flush-mounted test station slabs shall be Baltimore County Mix No.1 in accordance with the Standard Specification, Section 902, Table 902A.

3.04 TEST STATION TERMINAL LUGS

Test station terminal lugs shall be one-hole, compression terminal lugs for 0.25-inch bolt size.

3.05 CURRENT MEASURING SHUNT

Test station shunts shall be constructed to fit the terminal posts for the specified test station. The resistance shall be 0.01 ohm with a current capacity of 8 amperes. The shunt shall be as manufactured by Cott Manufacturing Company Model "Yellow" or approved equal.

3.06 REFERENCE ELECTRODES

The reference electrode shall be a permanent copper/copper sulfate reference electrode designed for a minimum life of 20 years. The electrode shall have a 2-inch diameter by 8 inches long, schedule 80 PVC body or a 2-inch diameter by 7 inches long, high impact resistant Lexan tube, and a minimum overall package size of 6-inch diameter by 10 inches long. The reference electrode shall be prepackaged in a permeable cloth bag with special copper/copper sulfate reference electrode backfill. Lead wire shall be of sufficient length to reach the test station terminals without splicing. The lead wire shall be AWG No. 14 stranded copper wire with either HMWPE or RHH-RHW insulation. The wire insulation shall be black. The lead wire shall be attached to the electrode core with the manufacturer's standard connection. The connection shall be stronger than the wire. Splicing of the reference electrode lead wire shall not be permitted under any circumstances.

3.07 WIRE

A. All wiring, excluding wire provided with the magnesium anodes or reference electrodes, shall be stranded copper wire of the AWG wire size and color shown in the Details.

B. Wire for bonded joints shall be single conductor, stranded copper with high molecular weight polyethylene (HMWPE) insulation (black). Wire size shall be AWG No. 2 for piping larger than 36-inch, AWG No. 4 for 16-inch through 36-inch piping, and AWG No. 6 for piping smaller than 16-inch.

C. Wire for test stations shall be single conductor, stranded copper wire with 600-volt HMWPE or THWN insulation as required (colors as shown on the Details).

D. Anode header cables shall be single conductor, stranded copper with high molecular weight polyethylene (HMWPE) insulation (black). Wire size shall be AWG No. 8.

3.08 THERMITE WELD EQUIPMENT

Thermite weld molds and charges shall be suitable for the sizes and types of materials and shapes encountered. Adapter sleeves shall be utilized for all thermite welds. Pin brazing shall not be used to attach bond wires and/or test wires to the piping.

3.09 COATING FOR THERMITE WELDS

A. Thermite welds to steel casings, and cast and/or ductile iron pipe are to be coated with a prefabricated assembly specially designed for covering cathodic protection wire connections to piping and fittings. The prefabricated assembly shall consist of the following components:

1. Top plastic sheet formed with an igloo shaped dome and entry tunnel for the lead wire;

2. A special elastomeric compound in the plastic dome firm enough to resist flow at normally encountered application and operating temperatures, but soft enough to mold itself around and completely cover the irregular welded profile;

3. A double row of parallel, flexible serrations on either side of the dome to assist with conforming around small diameter pipe;

4. A base of black unbacked elastomeric tape with exceptional adhesive properties for bonding firmly to a surface when used with the appropriate primer.

5. Caps shall be as manufactured by Royston Laboratories Division, Model Handy-Cap or approved equal. The appropriate primer as required by the elastomeric cap manufacturer shall be used. Primer for the Royston Handy-Cap shall be as manufactured by Royston, Model Roybond 747 Primer.

3.10 INSULATING FLANGE COMPONENTS

Insulating materials shall include an insulating gasket, insulating sleeves and insulating washers. The insulating gasket shall be "Linebacker" Type "E" with a G-10 retainer and nitrile "quad" ring seal. The insulating sleeves shall be 1/32 inch thick spiral wound mylar nitrile “quad” ring seal. The insulating washers shall be G-10 and installed on both sides of the flange. Steel washers shall also be used between the insulating washers and the bolts and nuts and between the insulating washers and the flange. The pressure rating for the insulating flange materials shall be greater than the design pressure of the piping.

3.11 INSULATING CORPORATION VALVES

The insulator for water services less than 4 inches in diameter shall consist of a brass fitting with a nylon insulator. The insulating corporation valve shall be as manufactured by Mueller Company, Insulated Model 300 Corporation Ball Valve or approved equal.

3.12 EXTERNAL COATING SYSTEM FOR INSULATING FLANGES, INSULATING COUPLINGS, AND INSULATING CORPORATION VALVES

A. Insulating flanges, insulating couplings, and insulating corporation valves shall receive an exterior tape wrapping in the field. The coating applicator must abide by and follow all manufacturer's application specifications for the coating system. All components of the coating system shall be manufactured by a single supplier to assure compatibility of individual components. The coating system shall be manufactured by Trenton Corporation, Denso North America, or an approved equal. The coating materials shall include:

1. Primer: A blend of microcrystalline wax, plasticizer, and corrosion inhibitors having a paste-like consistency, designed to displace moisture, penetrate rust and wet the surface, ensuring adhesion of the tape. The primer shall be Trenton Wax-Tape Primer or approved equal.

2. Filler Putty: A cold applied anti-corrosive moldable filler material used to even the contours of irregular fittings and surfaces. The filler putty shall have the following properties:

    a. Specific gravity: 1.15.
    b. Density: 24 cu in/lb.
    c. The filler putty shall be Trenton Fill-Putty or approved equal. Filler putty shall be used at all irregular surfaces to provide a smooth surface for the application of the innerwrap and outerwrap.

3. Innerwrap: A non-woven, non-stitch bonded synthetic fabric saturated with a blend of microcrystalline wax, plasticizer, and corrosion inhibitor (no clay fillers). The inner tape shall have the following properties:

    a. Thickness: 70 to 90 mils.
    b. Dielectric strength: 170 volt/mil.
    c. The innerwrap shall be Trenton #1 Wax-Tape or approved equal.

4. Outerwrap: A white, resin coated, woven fiberglass fabric. The outerwrap shall have the following properties:

    a. Thickness: 0.005 inch.
    b. Tensile strength (per one-inch width): 85 lb. min.
    c. Tape width: 6 inches.
    d. The outerwrap shall be Trenton Glas-Wrap or approved equal.

3.13 POLYETHYLENE MESH SEPARATOR PAD

The mesh separator pad shall be a medium density flexible polyethylene mesh pattern webbing pad, nominal thickness 160 mils. Separator pad shall be as manufactured by Stuart

Steel Protection Company Model Stuart Diamond Rockstop or approved equal.

3.14 MASTIC

A. The field applied external coating shall be applied mastic with the following properties:

1. Composition: A pyrobituminous resin processed by homogenization with inhibitive pigments and aromatic solvents.

2. Electrical volume resistivity: 2.12 X 10^{13} ohms-cm.

3. Percent solids: 58.6% by volume, 68.2% by weight.

4. Service temperature: 0 to 250^0 F.

5. Weight per gallon: 9.42 pounds.

6. Specific gravity: 1.13.

7. Flash point: 44^0 F – seta closed cup.

8. Color: black.

B. The mastic coating shall be applied only where specifically required by the specifications. The mastic coating shall be used for field coating ductile iron pipe that will be in direct contact with poured concrete. The mastic coating shall be Roskote R28 Rubberized Mastic or approved equal.

3.15 COMPRESSION CONNECTORS

Compression connectors shall be specially manufactured for splicing copper cables together. the connectors shall be copper and shall be Type YC-C as manufactured by Burndy Corporation or approved equal.

3.16 ELECTRICAL TAPE

Conformable watertight sealant having a dielectric strength not less than 15kV for a 1/8 inch thick layer. Tape shall be Scotch 88 Vinyl Tape and Scotch C130 Rubber Tape or approved equals.

3.17 ELECTRICAL COATING COMPOUND

The electrical coating compound shall be brush applied material formulated for sealing vinyl tape. The electrical coating compound shall be Scotchkote Electrical Coating as manufactured by 3M Company or approved equal.

3.17 LINKED RUBBER SEAL

The linked rubber seal shall consist of a belt of interconnected rubber links connected together with zinc plated carbon steel hardware. The linked rubber seal shall be manufactured by Thunderline Corporation or an approved equal.

PART 4 - EXECUTION

4.01 THERMITE WELDING

A. All thermite welds shall be made as shown on the Drawings and in accordance with the manufacturer's recommendations using the proper combination of equipment for the pipe and wire size being welded. All welding materials and equipment shall be the product of a single manufacturer.

B. Assure that the area where the attachment is to be made is absolutely dry. Remove mill coating, dirt, grime and grease from the pipe or fitting surface at the weld location by wire brushing or by the use of suitable safety solvents. Clean a 2.5-inch square area of the pipe or fitting surface at the weld location to a bright shiny surface, free of all serious pits and flaws by use of a mechanical grinder.

C. Prepare the wire for welding by assuring that the cable is absolutely dry. The cable shall be free of dirt, grease and other foreign products. Cut the cable in such a way as to avoid flattening or forcing out of round. To prevent deformation of the cable, cut the cable with cable cutters. Remove the insulation in a manner that will avoid damage to strands. Install adapter sleeves for all bonds and test wires prior to welding. Either prefabricated factory sleeved joint bonds or bond wire with formed sleeves made in the field are acceptable. Hold the cable at an approximate 30-degree angle to the pipe surface when welding.

D. When the weld has cooled, remove the weld slag and test the weldment for strength by striking a sharp blow with a two-pound hammer while pulling firmly on the wire. Reweld unsound welds and retest weldments. Thoroughly clean mold and mold covers after completion of each weld to assure that no slag will penetrate into the next weld.

E. After soundness of the weld has been verified, thoroughly clean with a stiff wire brush and coat. Thermite welds to ductile iron pipe shall be coated with a plastic cap filled with elastomeric material. The elastomeric cap shall extend on all four sides beyond the cleaned area. Apply primer over the entire weld area and over the entire area where the elastomeric cap will be placed. Push the dome of the prefabricated cap containing elastomeric material firmly into weld area. Lift the wire away from the pipe and apply the elastomeric material completely around and underneath the wire. Push the wire back down on the pipe. Follow all manufacturer's instructions for

installing prefabricated caps. Repair pipe coating as recommended by the pipe coating manufacturer.

F. Pin brazing is not an acceptable alternative to thermite welding.

4.02 BONDED JOINTS

A. All new ductile iron pipe joints, including those on pipe, fittings, valves and branch connections, except those specified to be insulated, shall be bonded with insulated copper cables as shown on the Drawings. All bond cables shall be thermite welded to the pipe or fitting as described above.

B. All joints shall be bonded with two HMWPE insulated copper cables. Wire size shall be AWG No. 2 for piping larger than 36-inch, AWG No. 4 for 16-inch through 36-inch piping, and AWG No. 6 for piping smaller than 16-inch.

4.03 PREPACKAGED MAGNESIUM ANODES

A. Prepackaged magnesium anodes shall be installed where indicated. Prior to installation, remove all shipping covers from the anode (the prepackaged cardboard box shall not be removed). Install the anodes in existing soils (free from rocks, roots, organic material, trash or other debris) and backfill with a minimum of 6 inches of existing soil (as described above). Do not install the anode in sand, rock or gravel backfill. Provide a minimum anode spacing of two feet from other pipelines. Pre-soak the anode with 5 gallons of water after placement, but prior to backfilling.

B. At anode test stations and anode lead wires shall be buried a minimum of two feet below grade. Handle wire with care. Splice the AWG No. 12 solid copper wire supplied with the anode to an AWG No. 8 HMWPE stranded copper cable through the use of a compression connector as shown. Tape the splice with three layers of high voltage rubber splicing tape (50% overlap), followed by three layers of vinyl electrical tape (50% overlap). Terminate the ends of the AWG No. 8 anode header cable in the test boxes utilizing the terminal lugs and shunts as indicated.

C. At fire hydrant test stations, anode lead wires shall be buried a minimum of two feet below grade. Handle wire with care. Route the AWG No. 12 solid copper wire supplied with the anode to the test box as shown. Terminate the ends of the anode lead wires in the test boxes utilizing the terminal lugs and shunts as indicated.

4.04 TEST STATIONS

A. Install test stations at the locations indicated. Test boxes are to be located directly over the pipeline except in areas that would place the test station in a roadway. Locate these test stations to the closest point just off the edge of the road.

B. Attach test wires as indicated using the proper thermite welding equipment and charges specified for the wire size and respective pipe material. Follow all procedures as outlined in 4.01 above.

C. All test station wires shall be routed a minimum of two feet below finished grade. Maintain sufficient slack in the test wires so that the wires can extend a minimum of 18 inches from the test box. Connect the test wires to the test station terminal block with one-hole, compression terminal lugs for 0.25-inch bolt size. Install a shunt and a copper shorting strap to connect the anode leads to the pipe lead where indicated on the Drawings.

D. Test boxes shall be set in poured concrete, two feet on each side and six inches thick reinforced with 4 inch by 4 inch - W2.1 by W2.1 welded wire fabric. The flush mounted test box lids shall be free of concrete and not cemented over.

E. Test wires shall be routed under the roadway to the test box through conduit.

4.05 REFERENCE ELECTRODESS

Install reference electrodes at the test stations indicated. The reference electrodes shall be installed at an approximate depth of six inches below the bottom of the pipe trench. Native trench material shall be used to backfill the reference electrode for a minimum of six inches. Prior to installation, remove the plastic shipping cover from the reference electrode. The cloth bag containing the special backfill shall remain intact.

4.06 CLEARANCE TO OTHER STRUCTURES

Twelve inches of natural clearance shall be maintained to other structures, where possible. When 12 inches of clearance cannot be maintained, install a flexible polyethylene mesh webbing pad around the new piping and secure with non-metallic tape.

4.07 INSULATING FLANGES AND INSULATING CORPORATION VALVES

A. Insulating flanges, insulating couplings, and insulating corporation valves shall be installed where shown on the Drawings. The CONTRATOR shall carefully align and install the insulating components according to the insulator manufacturer's instructions. Before backfilling, the Contractor shall test each insulator for electrical isolation. If the insulator is not properly isolated, the Contractor shall, at his expense, repair or replace all defective components. The Contractor shall test the repaired insulator. This process will continue until the insulator is tested to be properly isolated. The insulator shall then be coated as described in 4.08 below. After coating, the Contractor shall test each insulator for electrical isolation. If the insulator is not properly isolated, the Contractor shall, at his expense, repair or replace all defective components. The Contractor shall test the repaired and recoated insulator. This process will continue until the coated insulator is tested to be properly isolated.

B. If the insulator is not immediately backfilled after verification of effective isolation of the coated insulator, it shall be retested for effective isolation immediately prior to backfilling. If the insulator is not properly isolated, the Contractor shall, at his expense, repair or replace all defective components. The Contractor shall test the repaired and recoated insulator. This process will continue until the coated insulator is tested to be properly isolated. The properly isolated insulator shall then be immediately backfilled.

C. The Contractor shall retest the insulating flanges and insulating couplings for effective isolation immediately after backfilling. If the insulator is not properly isolated, the Contractor shall, at his expense, expose and repair or replace all defective components. The Contractor shall test the repaired and recoated insulator. This process will continue until the coated insulator is tested to be properly isolated. The properly isolated insulator shall then be immediately backfilled. The Contractor shall retest the insulator for effective isolation immediately after backfilling. This process will continue until the coated insulator is tested to be properly isolated.

D. The coated insulator shall be tested for electrical isolation as part of the final acceptance testing conducted by the Engineer. Any and all insulators that fail the final acceptance test for isolation shall be excavated and repaired by the Contractor at no additional cost.

4.08 COATING OF INSULATING FLANGES AND INSULATING CORPORATION VALVES

A. Insulating flanges, insulating couplings, and insulating corporation valves, including all isolation components, shall be fully coated for a minimum of 12 inches on either side of the flange, coupling, or corporation valve. The insulator shall be coated after verification of proper electrical isolation. The insulator shall be coated as described below.

1. Clean the surface of the insulator, and all of its components by power tool cleaning in accordance with the SSPC SP3. Follow all surface preparation recommendations of the coating manufacturer.

2. Apply a uniform coat of the primer to the external surface of the insulator, and all of its components including; bolts, nuts, etc. The primer shall extend a minimum of twelve inches on either side of the insulator.

3. Apply filler mastic to all irregular surfaces of the insulator to assure a smooth profile for application of the inner tape coating.

4. Apply innerwrap to the insulator, and its components in a spiral fashion with a minimum overlap of 55%. The innerwrap shall extend a minimum of twelve inches on either side of the insulator.

5. Apply outerwrap to the insulator, and its components in a spiral fashion with a minimum overlap of one inch. The outerwrap shall be applied with sufficient tension to provide continuous adhesion of the outerwrap tape. Install test facilities at the insulating flanges as shown on the Drawings.

4.09 INSULATING FLANGES AND INSULATING CORPORATION VALVES ISOLATION EFFECTIVENESS TESTING

A. Test electrical effectiveness of each dielectric insulator after installation and before coating and after coating as required in 4.07 and 4.8 above. Testing of insulating flanges and insulating couplings shall also be conducted immediately after backfilling. All data shall be recorded and submitted to the Engineer for approval before the insulator is backfilled and immediately after it is backfilled. THE ELECTRICAL ISOLATION TESTING DESCRIBED HERE IS CRITICAL AND MUST BE PERFORMED AS DESCRIBED AND AT THE TIMES REQUIRED BY THIS SPECIFICATION.

1. Insulator Tests:

a. Use a high-frequency isolation tester (Gas Electronics Insulator Tester(TM) Model 601 or 702) manufactured specifically for this purpose, AND

b. Measuring electrical potential across and on both sides of the insulator before, during and immediately after application of a direct test current to the pipe on one side of the insulator of no less than 0.5 ampere. Documented data for test b shall include all potentials and applied test current.

c. Acceptance Criteria:

1) High frequency isolation tester: "Acceptable", "Satisfactory" or other similar direct meter reading, AND

2) Electrical potential/applied current: Static potential difference across insulator of no less than 0.1 volt before application of test current; a positive potential shift on the side of the insulator where current is applied, and a negative potential shift on the side of the insulator opposite of where current is applied.

4.10 CONCRETE BUTTRESSES, SUPPORT BLOCKS, ANCHOR BLOCKS, AND OTHER CONCRETE STRUCTURES

Position reinforcing steel used in the construction of support blocks, anchor blocks, and any and all other concrete structures so that they are not in contact with the piping. Maintain a minimum of 2 inches of clearance between the piping and all reinforcement steel or other metallic components. Under no circumstances shall metallic pipe be in contact with reinforcing steel.

4.11 PENETRATION OF CONCRETE STRUCTURES

When penetrating a concrete slab (wall or floor), install a linked rubber seal between the pipe and the concrete slab sleeve. Install the linked rubber seal in accordance with the manufacturer's recommendations. The linked rubber seal is to be installed to isolate the piping from direct contact to the concrete and to seal the area of the pipe penetration from water intrusion. Under no circumstances shall metallic pipe be in contact with reinforcing steel. Linked rubber seals are not required for prefabricated “dog house” vaults.

PART 5 - POST INSTALLATION TESTING

5.01 TESTING

A. Prior to substantial completion, the Engineer will perform post installation testing of all corrosion control components.

B. Defective or Improperly Installed Components

1. Insulating flanges, insulating couplings, and insulating corporation valves that test effective by the Contractor prior to backfilling and immediately after backfilling that are not effective isolators during the post installation testing shall be excavated and repaired by the Contractor at no additional cost to the Owner.

2. The repair or replacement of any defective or improperly installed systems shall be the sole responsibility of the Contractor. Any and all repairs or replacement of defective or improperly installed corrosion control systems shall be performed by the Contractor at no additional cost to the Owner.

BALTIMORE COUNTY
DEPARTMENT OF PUBLIC WORKS
HOLIDAY DETECTION DAILY FIELD REPORT

TEST DATE: _____

PROJECT: Joppa Road 20-inch Water Main Replacement CONTRACT #: 23206-WXO

CONTRACTOR: _____

LOCATION: _____

PIPE SIZE: _____(IN) PIPE MATERIAL: _____ COATING: _____

COATING THICKNESS: _____(MILS) COATING MANUFACTURER: _____

TESTER USED: _____ TEST VOLTAGE: _____

SUMMARY OF TESTS: _____

PIPE NUMBER	STATION		INITIAL TEST RESULTS (# OF HOLIDAYS)	RETEST REQUIRED (Y/N)	RETEST RESULTS (# OF HOLIDAYS)	SKETCH
	FROM	TO				

NAME OF TESTER: _____

SIGNATURE: _____

COUNTY INSPECTOR SIGNATURE: _____

DATE REPORT RECEIVED: _____

119

CATEGORY 500
PAVING

INSERT: The following:

SECTION 554 - THERMOPLASTIC PAVEMENT MARKINGS

All other references in this section refer to the Maryland State Highway Administration's 2023 MDOT SHA Standard Specifications for Construction and Materials.
https://www.roads.maryland.gov/mdotsha/Pages/sscm.aspx?PageId=853&lid=SSP

554.01 DESCRIPTION
Furnish and apply thermoplastic pavement marking material to roadway surfaces as specified and as directed.

554.02 MATERIALS
Thermoplastic is a durable material. Select thermoplastic pavement markings from the Qualified Products List (QPL).

Thermoplastic Pavement Markings	951.04
Glass Beads	951.09

554.03 CONSTRUCTION.
Refer to 549.03.

554.03.01 Quality Control. Refer to 549.03.01.

554.03.02 Quality Assurance. Refer to 549.03.02.

554.03.03 Cleaning Pavement Surfaces. Refer to 549.03.07.

554.03.04 Quality Control Test Strip. Refer to 549.03.09.

554.03.05 Application Equipment.
(a) Kettles. Use equipment that has oil or air jacketed kettles for uniform melting and heating of the thermoplastic material, is equipped with an automatic thermostatic device to provide positive temperature control, and conforms to the requirements of the National Board of Fire Underwriters (NBFU), the National Fire Protection Association (NFPA), and State and local authorities.
(b) Agitation. Use equipment that provides continuous mixing and agitation of the material in the kettle, constructed so that all mixing and conveying parts, (including the application apparatus) maintains the material at the specified temperature and constructed to prevent clogging of the applicator conveying parts between the reservoir and the application apparatus.
(c) Capacity. Use vehicle mounted equipment capable of holding a minimum of 600 lb. of molten thermoplastic material for longitudinal line application.
(d) Temperature Gauges. Use temperature gauges that have been calibrated every six months and submit a copy of the calibration certification per the QCP.
(e) Footage Counters. Use calibrated footage counters to measure pavement markings and submit notarized calibration certification per the QCP.

(f) Usage Counters. Use equipment that is equipped with material usage counters and printers or measure tanks manually using equipment manufacturer certified tables. Use beginning and ending quantities to calculate thickness of applied lines and record daily.
(g) Bead Dispenser. Use a pressurized bead dispenser or other mechanical conveying method not dependent upon gravity for uniform application of glass beads for each material dispenser.
(h) Material Dispenser. Use a material dispenser that can apply all longitudinal markings at multiple width settings ranging from 5 to 12 in. as demonstrated by the quality control strip and as specified. Reconduct the quality control strip whenever the guns are repositioned or adjusted after the initial quality control strip.
(i) Maneuverability. Use a vehicle that is mobile and maneuverable to produce straight lines, standard curves in true arcs, and capable of cleanly cutting off the ends of markings.
(j) Cleanliness. Thoroughly clean all parts of the equipment of foreign or different colored material prior to the introduction of a new batch of material.

554.03.06 Application. Use vehicle mounted equipment to apply markings at the location, width, and type of marking specified and as directed. Apply to bare pavement or over existing thermoplastic per the manufacturer's recommendations. Do not place thermoplastic material over longitudinal joints; offset 2 in. or as directed.
Use small equipment capable of heating, agitation and applying glass beads to apply thermoplastic markings to gore areas, crosswalks, small intersections, roundabouts, wide markings, transverse markings and other areas that preclude the use of vehicle mounted equipment.
(a) Ambient Conditions. Apply material when ambient and surface temperatures are at least 50 F and rising at the time of application.
(b) Moisture in Pavement. MSMT 729. Do not apply material if test is positive for moisture.
(c) Temperature. Apply thermoplastic material when the molten material temperature is between 400 and 440 F unless otherwise recommended by the manufacturer, and approved.
(d) Primer. Use a primer that is compatible with the thermoplastic material and recommended by the thermoplastic manufacturer when thermoplastic material is applied to portland cement concrete surfaces.
(e) Thickness. MSMT 729. The pavement markings shall yield a solid of 90 mils above the roadway surface. Variation from this range will be used for the price adjustment specified herein.
(f) Glass Beads. MSMT 729. Apply standard glass beads to the surface of the molten thermoplastic at the minimum rate of 7 to 9 lbs. per 100 square feet.
(g) Color. MSMT 729.
(h) Retro reflectance. MSMT 729. The minimum retro reflectance shall be 150 millicandelas/lux/square meter for yellow and 250 millicandelas/lux/square meter for white.
(i) Widths. Refer to 549.03.04.
(j) Alignment. Refer to 549.03.05.
(k) Layout Markings. Refer to 549.03.06.

554.03.07 Curing. Refer to 549.03.10.

554.03.08 Observation Period. Refer to 549.03.11.

554.03.09 Submittals. Supply MSDS, Product Data Sheets, and QCPs.

554.04 MEASUREMENT AND PAYMENT.
Refer to 549.04. Payment will be full compensation for all pavement preparation, furnishing and placing of markings, testing, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Thermoplastic Pavement Marking lines will be measured and paid for at the Contract unit price per linear foot for the color and width specified.
Thermoplastic Pavement Marking Legends (letters and numbers) and Symbols will be paid for at the Contract unit price per square feet.

554.04.01 Price Adjustment for Film Thickness. The unit price for Thermoplastic Pavement Markings will be per striped linear foot based on MSMT 729 calculations for thickness, and will be adjusted in conformance with the following:

MIL THICKNESS*	PERCENT OF PAYMENT - UNIT PRICE
90- (a)(b)	100
80-89	90
70-89	80
Less than 70	Retrace to achieve a thickness of 90 mils.

(a) The Engineer may require the removal of excess material thickness.
(b) Removal of excess material and retracing pavement markings shall be performed at no additional cost to the Owner.
*Material thickness less glass bead allowance.

951.04 THERMOPLASTIC PAVEMENT MARKINGS.
Thermoplastic pavement markings shall be homogeneously composed of pigment, filler, resins, glass beads and conform to the following.

951.04.01 Composition.

COMPONENT	TEST METHOD	COLOR	
		WHITE	YELLOW
Binder, % min	Certified	18.0	18.0
Premixed Reflective Beads, % min	MSMT 614	30.0	30.0
Titanium Dioxide, % min	X-Ray Fluorescence	10.0	N/A
Calcium Carbonate Inert fillers, % max	D 34	42.0	*
Yellow Pigment, % —	—	N/A	*

* Amount of yellow pigment, calcium carbonate and filler shall be at the option of the manufacturer.

(a) Restrictions. Thermoplastic pavement markings shall not contain any hazardous material listed in CFR 40, Section 261.24, Table 1. Diarylide type pigments shall only be used when the pavement marking material application temperature does not exceed 392 F.

(b) Binders. Binder shall be alkyd consisting of maleic modified glycerolester of resin and other plasticizers.

(c) Titanium Dioxide. Rutile type.

(d) Inner Mix Glass Beads. Refer to 951.09. Glass beads shall not contain more than 200 parts per million when tested in accordance with EPA Methods 3052, 6010B and 6010C.

951.04.02 Properties.

(a) Physical Properties.

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Bond Strength, psi min.	T250	180
Softening Point, F		215 ± 15
Low Temperature Stress Resistance	T 250	No Cracks
Abrasion Resistance	MSMT 614	0.5 g. Loss, max

(b) Specific Gravity. The specific gravity of the white and yellow pavement marking material shall be 1.7 to 2.2 when tested per MSMT 614.

(c) Color. After heating for 4 ± 0.5 hours at 425 ± 3 F, the thermoplastic shall meet E 1347 and the following.

(1) Production. The color of the cured thermoplastic material film shall match the Federal Standard 595 Color chips when compared by instrumental measurement.

(2) Control. Control color matching determinations will be made using a Pacific Scientific Color Machine, and an observation angle of 2°, and the CIE Chromaticity Coordinate Color Matching System under light source Illuminate C, with the following tolerances permitted between the standard chip and the cured thermoplastic film sample.

	WHITE Color No. 37925		YELLOW Color No. 38907	
	X	Y	X	Y
Standard Chip	0.310	0.330	0.480	0.450
Delta Tolerance	± 0.020	± 0.020	± 0.030	± 0.030

(d) Reflectance.

COLOR	TEST METHOD	DAYLIGHT REFLECTANCE at Degree	PERCENT Min.
White	Fed Std 595 No. 37925	45 - 0	80
Yellow	Fed Std 595 No. 38907	45 - 0	50

(e) Yellowing Index. E 313. The yellowing index of the white material shall not exceed 8 prior to QUV and 15 after QUV.

951.04.05 Certification. TC-1.03. The manufacturer shall certify that any pavement marking batch supplied conforms to all applicable specifications and shall provide a statement certifying that any material supplied is identical in composition to the material submitted for NTPEP testing. The same code name used in the published report from the test deck must identify the product. Failure to certify will be grounds for batch rejection.
Certification shall also contain the following.

(a) Manufacturer's name.
(b) Manufacturer's address.
(c) Material color.
(d) Manufacture date (mm-dd-yy).
(e) Lot or batch identification number.
(f) Lot/batch size.
(g) Material Safety Data Sheets.

951.04.06 Production Facility.

(a) The manufacturer shall provide a facility capable of producing thermoplastic pavement markings in the quantity and quality specified; subject to approval.

(b) The manufacturer shall provide a laboratory capable of performing the required tests, subject to approval.

951.04.07 Packaging. Label each container with the following information.

(a) Manufacturer's Name and Address.
(b) Material color and component type, if applicable.
(c) Manufacture date (mm-yy).
(d) Lot or batch identification number.

951.05 THERMOPLASTIC PAVEMENT MARKINGS - 40-mil HIGH BINDER.
Thermoplastic material shall be composed of a homogeneous mixture of pigment, filler, resins and glass beads and shall conform to the following.

951.05.01.

(a) Composition.

COMPONENT	TEST METHOD	COLOR	
		WHITE	YELLOW
Binder, % min	Certified	25.0	25.0
Premixed Reflective Beads, % min	MSMT 614	25.0	25-40 MIL.0
Titanium Dioxide, % min	X-Ray Fluorescence	10.0	N/A
Calcium Carbonate Inert fillers, % max	D 34	42.0	*
Yellow Pigment, % —	—	N/A	*

(b) Restrictions. Pavement marking paint shall not contain any hazardous material listed in CFR 40, Section 261.24, Table 1. Diarylide type pigments shall only be used when the manufacturer or pavement marking material application temperature does not exceed 392 F.

(c) Binders. The binder shall be alkyd consisting of maleic modified glycerolester of resin and other plasticizers.

(d) Titanium Dioxide. Rutile type.

(e) Inner Mix Beads. Refer to 951.09. Glass beads shall not contain more than 200 parts per million when tested in accordance with EPA Methods 3052, 6010B and 6010C.

951.05.02 Properties.

(a) Physical Properties.

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Bond Strength, psi min.	T250	180
Softening Point, F		215 ± 15
Low Temperature Stress Resistance	T 250	No Cracks
Abrasion Resistance	MSMT 614	0.5 g max. loss

(b) Specific Gravity. MSMT 614. The specific gravity of the white and yellow pavement marking material shall be 1.7 to 2.2.

(c) Color. E 1347. After heating for 4 ± 0.5 hours at 425 ± 3 F, the thermoplastic shall be as specified and the following.

(1) Production. The color of the cured thermoplastic material film of the production sample shall match the Federal Standard 595 Color chips specified when compared by instrumental measurement.

(2) Control. Control color matching determinations will be made using a Pacific Scientific Color Machine, and an observation angle of 2°, and the CIE Chromaticity Coordinate Color Matching System under light source Illuminate C, with the following tolerances permitted between the standard chip and the cured thermoplastic film sample.

	WHITE Color No. 37925		**YELLOW Color No. 38907**	
	X	Y	X	Y
Standard Chip	0.310	0.330	0.480	0.450
Delta Tolerance	± 0.020	± 0.020	± 0.030	± 0.030

(3) Reflectance.

COLOR	**TEST METHOD**	**DAYLIGHT REFLECTANCE at Degree**	**PERCENT MIN**
White	Fed Std 595 No. 37925	45 - 0	80
Yellow	Fed Std 595 No. 38907	45 - 0	50

(d) Yellowing Index. E 313. The yellowing index of the white material shall not exceed 8 prior to QUV and 15 after QUV testing.

951.05.05 Certification. The manufacturer shall certify in accordance with TC-1.03 that any pavement marking batch supplied complies with all applicable specifications and conforms to the formulation identified by the same product code or name placed on the NTPEP test deck from which it was approved. The same code or name as used in the published report from that test deck must identify the product. Failure to certify will be considered grounds for product batch rejection. Certification shall also include the following.

(a) Manufacturer's name.
(b) Manufacturer's address.
(c) Material color.
(d) Manufacture date f (mm-dd-yy).
(e) Lot or batch identification number.
(f) Lot/batch size.
(g) Material Safety Data Sheets.

951.05.06 Production Facility.

(a) The manufacturer shall provide a facility capable of producing thermoplastic pavement markings in the quantity and quality specified.
(b) The manufacturer shall provide a laboratory capable of performing the required tests.

951.05.07 Packaging. Label each container with the following information.
(a) Manufacturer's Name.
(b) Place of Manufacture.
(c) Color of Material and Component Type, if applicable.
(d) Date of Manufacture (month-year).
(e) Batch or Lot Identification Number.

951.06 PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.
The material shall be highly durable retroreflective polymeric materials designed for use as transverse lines, numbers, legends, symbols and arrow markings subjected to high traffic volumes and severe wear conditions such as shear action from crossover or encroachment.

(a) The material shall adhere to all asphalt pavement and portland cement concrete (PCC) pavement surfaces and any existing pavement markings when applied per the manufacturer's recommendations.

(b) The material shall be capable of conforming to pavement contours, breaks and faults, shall not be affected by weather conditions, and shall remain in place on pavement surfaces without being displaced by traffic.

(c) The material shall have a minimum shelf life of one year.
The material shall conform to the requirements of the MdMUTCD and the following:

(a) Composition. Refer to the relevant sections of M 249. The material shall consist of polymeric materials, pigments, binders and glass beads distributed throughout the entire cross-sectional area.
Restrictions. The combined total of lead, cadmium, mercury and hexavalent chromium shall not exceed 100 ppm when tested by X-ray diffraction, ICP, or comparable method capable. Non-leachable lead-based pigments will not be permitted. Diarylide type pigments shall only be used when the manufacturer's recommended application temperature does not exceed 392 F.
(b) Color. Federal Standard 595 color chip Nos. 17886 for white and 13538 for yellow.
(c) Frictional Resistance. E 303. The surface of the applied material shall provide a minimum average skid resistance value of 50 BPN when tested as specified.
(d) Patching. The material shall be capable of use for patching worn areas of the same type.
(e) Thickness. The minimum thickness without adhesive shall be 120 mils.
(f) Adhesion. C 666, Method B. The material shall retain a minimum of 65 percent adhesive bond after 100 freeze-thaw cycles.
(g) Beads. M 247, Type I.
(1) Refractive Index. MSMT 211.
(2) Acid Resistance. MSMT 211. 15 percent of the beads (maximum) shall show formation of a distinct opaque white layer on the entire surface.
Field Testing. Materials selected for use on Baltimore County roads shall be field tested for performance at AASHTO regional test facilities, such as National Transportation Product Evaluation Program (NTPEP). The materials shall meet a minimum retained reflectance of 100 mcd/m^2/lux after evaluation testing.
Materials performing satisfactorily throughout the test period will be placed on the Qualified Products List (QPL) maintained by the Office of Materials Technology.
Certification. TC-1.03. Samples submitted for testing shall be accompanied by the manufacturer's certified analysis. Any marking materials supplied shall be identical in composition to the material submitted for initial testing.

CATEGORY 600
SHOULDERS

SECTION 610 – SIDEWALKS

610.04 MEASUREMENT AND PAYMENT.

INSERT: The following:

610.04.07 ***Remove and Replace Existing Concrete Driveway and/or Apron*** will be measured and paid in square yards of finished concrete. Driveways formed in conjunction with standard curb, and curb and gutter, shall be measured in square yards as follows:

1) In length from face to face of the curb at the back edge of the driveway.
2) In width from the back edge of the driveway to the back edge of the curb extended.

The price shall include all labor, equipment, and material for excavation, removal, and disposal of existing concrete, backfilling, stone bedding, expansion material, formwork, finishing, curing, etc. for a complete in place installation as shown in Standard Plates R-15, R15A, R-15B, R-19, and installed at the locations as shown on the construction drawings and/or as directed by the County Engineer.

CATEGORY 900
MATERIALS

SECTION 921 – MISCELLANEOUS

INSERT: The following:

921.14 PITCHER FILTERS:

Pitcher filters and replacement cartridges shall be provided to customers where a non-copper (lead, brass, galvanized, etc.) water service is replaced and comply with the following requirements:

a) Water pitchers must be at minimum two (2) quart volume for home use with internal water filtration system with replaceable filter cartridges.
b) Water pitcher must have a minimum of a six (6) month limited warranty.
c) Water pitcher must have a built-in filter change indicator.
d) Filter must have a minimum of forty (40) gallon filter life.
e) Water pitcher and filter must be Certified NSF/ANSI Standard 53: Cadmium, Lead, Mercury and VOCs and Standard 42: Aesthetic Effects (class I particulate removal)

921.14.01 MEASUREMENT AND PAYMENT

PITCHER FILTER WITH SIX MONTHS OF REPLACEMENT CARTRIDGES – will be measured and paid for at the Contract unit price per each. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. This includes reproducing and distributing the educational materials to be provided to the customer. All items shall be provided to customers at the same time and neatly in an appropriate bag or box.

APPENDICES

APPENDIX A

Geotechnical Evaluation Report

GEOTECHNICAL SUBSURFACE INVESTIGATION REPORT

Joppa Road 20” Water Main Replacement
Baltimore County, Maryland
Baltimore County Contract No. 23206 WX0

PREPARED FOR:

The Wilson T. Ballard Company
17 Gwynns Mill Court
Owings Mills, Maryland 21117

PREPARED BY:

AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706

February 13, 2024

AB CONSULTANTS, INC.
9450 Annapolis Road
Lanham, Maryland 20706

Ph: (301) 306-3091
Fax: (301) 306-3092
www.abconsultantsinc.com

Engineers Planners Surveyors Support Services

February 13, 2024

Attn: Mr. Omar Muhammad, PE
The Wilson T. Ballard Company
17 Gwynns Mill Court
Owings Mills, Maryland 21117

REF: Report of Subsurface Investigation and Studies for
Joppa Road 20" Water Main Replacement
Baltimore County, Maryland
Baltimore County Contract No. 23206 WX0
AB Job No. 2019372-02

Dear Mr. Muhammad:

AB Consultants, Inc. (ABC) is pleased to submit this soil report containing the results of the geotechnical investigation for the above-referenced project. To obtain information of the subsurface conditions, a total of eight (8) 15-feet deep soil borings were drilled and six (6) pavement cores were performed at the site. The purpose of this study was to explore the subsurface conditions for the proposed water main replacement project. The following report sections discuss the results of field and laboratory studies, design recommendations and construction methods for the proposed improvements.

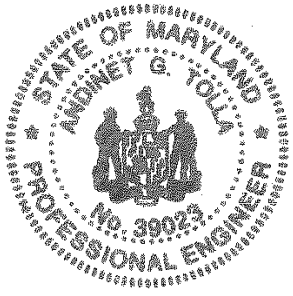
All samples obtained from soil test borings will be retained in our laboratory for a period of thirty (30) days from the date of this report. They will be available for inspection during this period. After that time, the samples will be discarded.

It has been a pleasure serving you on this project. If you have any questions regarding this report, or if we can be of further service in any way, please contact us.

Very truly yours,
AB Consultants, Inc.

Fu Guo, P.E.
Project Engineer

Andinet Tolla, P.E.
Project Manager



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1.0 INTRODUCTION

1.1 General

This report presents the results of the subsurface exploration and laboratory tests performed for the proposed 20" water main replacement project along Joppa Road, between Fairmount Avenue and La Salle Road, in Towson, Maryland. Based on the information provided, approximately 6264 linear feet of existing 20" water main will be replaced. In addition, five (5) valve vaults are proposed. Pipeline replacement by open cut method is anticipated. This subsurface study was conducted for The Wilson T. Ballard Company and has been performed in general accordance with our revised proposal dated February 14, 2023.

1.2 Scope of Work

The investigation of existing subsurface soil conditions at the site consisted of the following:

- Evaluating existing pavement sections by coring.
- Planning and executing subsurface exploration programs to evaluate soil and ground conditions for the transmission water main replacement project.
- Performing soil laboratory tests on soil samples obtained from the borings.
- Providing a geotechnical report that includes field findings, laboratory test results and geotechnical recommendations.

1.3 Site Location

The field study was performed along Joppa Road, between Fairmount Avenue and La Salle Road, in Towson, Maryland.

2.0 FIELD ACTIVITIES AND SUBSURFACE EXPLORATION

2.1 Pavement Cores

The purpose of pavement coring is to determine the existing pavement thickness and subgrade materials encountered, and to provide a summary of field results for the pavement study. A portable core drill machine with a 4-inch diameter diamond core drill bit was utilized to obtain the samples. A total of six (6) pavement cores were retrieved on December 8, 2023. The results of the field findings are summarized in Appendix F.

2.2 Soil Borings

To obtain information of the subsurface conditions, a total of eight (8) soil borings were drilled to the proposed depth between February 1st and 7th, 2024. Soil borings were staked out in the field by ABC; in addition, all field drilling operations were managed and supervised by ABC. A site location map and boring plans are included in Appendix B and C, respectively.

2.3 Subsurface Investigation

Borings for this project were drilled utilizing a CME-45 series truck-mounted drill rig. Test borings were advanced using hollow-stem augers and soil samples were obtained using the Standard Penetration Test (SPT) procedure in accordance with ASTM D1586. SPT samples were obtained from each boring at depth intervals of 2.5 feet for the top ten feet, and at 5-foot intervals, thereafter. A representative portion of each split spoon sample was placed in a glass jar and was transported to our laboratory. In addition, bulk samples were collected at all locations.

In the split-barrel sampling procedure, a 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer, free falling a distance of 30 inches. The blows required to advance the sampling spoon to a specified distance are reported as the penetration resistance values. The values are shown on the boring logs at the depths of their occurrence. The N-value is the sum of standard penetration resistance values that advanced through the last 12 inches of sampling. The N-value is an indication of the relative density of in-place granular soils and, to a lesser degree of accuracy, the consistency of cohesive soils.

Groundwater levels were monitored in all borings. Samples obtained from the borings were inspected by a geotechnical engineer and the field logs were edited accordingly. The final logs indicating the encountered subsurface conditions are included in Appendix D.

3.0 LABORATORY TESTING PROGRAM

3.1 Laboratory Testing Program

Laboratory tests were performed on selected representative samples. Natural moisture contents were performed on all soil samples, and the results are included in the

boring logs. Atterberg limits, sieve analysis and modified proctor tests were conducted on selected samples. Atterberg limit results are shown in the boring logs at their corresponding sample depths. Gradation curves, Atterberg limits, and proctor results are presented in Appendix E.

3.2 Laboratory Results

Results of modified proctor laboratory tests are summarized in the following table. Other pertinent soil data are presented in the boring logs and Appendix E.

RESULTS SUMMARY OF MODIFIED PROCTOR TESTS								
Boring No.	Sample Depth (ft)	Atterberg Limits			Passing #200 Sieve (%)	Modified Proctor Test		Soil Classification
		LL	PL	PI		Max. Dry Density (pcf)	Opt. Moist. Content (%)	
SB-1	2 to 6	Non-plasticity			20.6	106.2	12.7	SM/A-2-4
SB-3	1 to 6	Non-plasticity			22.1	114.3	12.0	SM/A-2-4
SB-5	2 to 6	Non-plasticity			58.4	120.0	9.8	ML/A-4
SB-8	5 to 8	Non-plasticity			57.6	126.3	10.2	ML/A-4

4.0 GENERAL SITE AND SUBSURFACE CONDITIONS

4.1 Site Condition

Soil borings and pavement cores were drilled on Joppa Road between Fairmount Avenue and La Salle Road in Towson, Maryland. In general, single-family residential homes and commercial buildings are found in the immediate vicinity. Utilities in the area include water, sanitary sewer, gas, stormwater, and a combination of underground and overhead electric & communication lines. The existing pavement throughout the study area is in fair condition with some areas exhibiting different types and levels of distress including longitudinal and transverse cracking and roadway patching of various sizes.

4.2 Site Geology

According to *the Maryland Geological Map published by The Maryland Geologic Survey (1968)*, the project site appears to be located within the Baltimore Gneiss, Upland Deposits (Western Shore) and Setters Formation. Baltimore Gneiss consists of biotite-quartz-feldspar gneiss and biotite-hornblende gneiss; amphibolite widespread but subordinate; texturally varied; granitic gneiss, veined gneiss, augen gneiss, banded gneiss, and migmatite, in places complexly intermingled; age 1,1000 million years by

radiogenic dating. Layered paragneiss in Baltimore City southeast of Relay Quartz Diorite. Upland Deposits (Western Shore) consists of gravel and sand, commonly orange-brown, locally limonite-cemented; minor silt and red, white, or gray clay; (includes Brandywine, Bryn Mawr, and Sunderland Formations of earlier reports); lower gravel member and upper loam member in Southern Maryland; thickness 0 to 50 feet. Setters Formation consists of three members, the upper member consists feldspathic mica schist and mica gneiss; total thickness 200 to 500 feet. Middle member: Impure quartzite interstratified with thin beds of mica schist; total thickness 200 to 500 feet. And Lower member: Medium-grained, feldspathic mica schist; locally granitized; total thickness 200 to 500 feet.

4.3 Subsurface Soil Condition

Various soil types were grouped into the major zones noted on the boring logs. A brief explanation of the terms and notes used in the logs is included with this report. The stratification lines designating the interfaces between earth materials on the boring logs are approximate; in situ, the transitions may be gradual. Detailed soil descriptions and depth of various soil strata are given in the boring logs, together with SPT blow counts with corresponding depth. In general, the encountered soils are grouped into major types and summarized as follows:

Pavement — Asphalt pavement with a thickness ranging between 6 and 9 inches was encountered in all boreholes.

Fills: — Fills consisting of tan, light tan, dark brown, brown, gray, and dark gray silty sand, sandy clay, sandy silt and clayey sand materials were encountered underneath the Pavement in all borings. These types of soils extended to various depths ranging from 2.5- to 5.5-ft below existing grade. N-values for this soil type ranged from 10 to 46 blows per foot (bpf).

Type I: — *Sandy Silt:* Dark gray, greenish gray and light tan sandy silt material was encountered in boring SB-5 and SB-8 and extended to 6-ft and 12-ft below existing grade, respectively. N-values for this soil type ranged from 10 to 17 bpf.

Type II — *Silty Sand:* Brown, tan, gray, light gray, light tan, and reddish-brown silty sand with gravel and mica was encountered in all borings and extended to completion depths. N-values for this soil type ranged from 6 bpf to spoon refusal (more than 51 bpf).

4.4 Groundwater Observations

The boreholes were observed for the presence and level of groundwater while drilling and immediately after completion of drilling operations. As noted on the boring logs, groundwater was not encountered in any of the borings. Water level observations are presented along the left side of the boring logs, near the bottom. Fluctuations in the level and quantity of groundwater may occur due to variations in rainfall, temperature, soil permeability and other factors not evident at the time of the water level measurements recorded on the boring logs.

5.0 ANALYSIS AND RECOMMENDATIONS

5.1 Thrust Restraints

The thrust forces in the pipelines due to hydrostatic and hydrodynamic forces should be restrained by using thrust blocks. Thrust forces occur in pipelines where the direction or size of the pipe changes, therefore it is necessary to provide thrust blocks at bends, reducers, tees, wyes connections and dead ends. Structures, such as thrust blocks, may bear on the undisturbed native soil. Water main pipes may be embedded on undisturbed soil approximately four (4) to twelve (12) feet below the existing ground surface.

Based on the soil boring information, the engineering properties of the encountered soils at, or about, the expected water main elevation are summarized in the following table. Soil parameters are based on laboratory results, empirical correlation between the SPT and laboratory data, and published information.

SUMMARY OF ENCOUNTERED SOIL PROPERTIES						
Location	Soil Type	USCS	N-Value Range	Range of Effective Unit Weight, γ (pcf)	Range of Friction Angle, ϕ (deg.)	Friction Angle b/n Soil and DIP*, fc (deg.)
SB-1 (4' to 12')	Type II	SM	11 to 12	110 to 115	26 to 30	18
SB-2 (4' to 12')	Type II	SM	6 to 9	110 to 115	24 to 28	17
SB-3 (4' to 12')	Type II	SM	25 to >51	120 to 125	30 to 34	21
SB-4 (4' to 12')	Type II	SM	6 to 18	110 to 115	26 to 30	18
SB-5 (4' to 12')	Type I/ Type II	ML/SM	10 to 25	110 to 115	26 to 30	18
SB-6 (4' to 12')	Fill/ Type II	SM	12 to 26	110 to 115	26 to 30	18
SB-7 (4' to 12')	Fill/ Type II	ML/SM	8 to 14	110 to 115	26 to 30	18
SB-8 (4' to 12')	Fill/ Type I	SC/ML	12 to 17	110 to 115	26 to 30	18

Loose silty sand material was encountered in boring SB-2, this material shall be undercut and replaced. The provided stratification designation for each group is approximate; in situ the transitions may be gradual and different layers may be encountered.

5.2 Valve Vault

Based on provided plan, a total of five (5) valve vaults are proposed for this project. Bottom elevations of the vaults were not available during this report preparation. With the anticipated light structural loads, the subgrade found in natural soil or engineered fill could be utilized. Where the bottom of the vaults at subgrade is in rock, excavation shall be carried at least 6 inches below the specified subgrade with a minimum of 4 inches under bells. The trench bottom shall be restored to subgrade with earth or granular material. If loose material is encountered, the material should be undercut on the order of 2-ft underneath the vault removed, replaced and compacted with stone fill, such as 57 stone.

Installation of the valve vaults should be performed in accordance with the Baltimore County Public Works Standard Specifications for Construction and Materials. A qualified geotechnical engineer or his representative should confirm the soil strength at the location of each proposed structure prior to the placement of any structure.

5.3 Trench Stability / Excavation Support

It is anticipated that the trench excavation will be required during open cut installation and vault installations. All excavations should be performed in accordance with the latest Occupational Safety and Health Administration (OSHA) requirements. The OSHA soil classification designates cohesive soil with an unconfined compressive strength of 1.5 ton per sq. ft or greater are considered as Type A. Type B soils are cohesive soil with an unconfined compressive strength greater than 0.5 ton per sq. ft but less than 1.5 tons per sq. ft; granular cohesionless soils; or previously disturbed soils. Type C soils are cohesive soil with an unconfined compressive strength of 0.5 ton per sq. ft, granular soils including gravel sand and loamy sand, submerged soils, or submerged rock that is not stable. Due to the general nature of soils encountered, the maximum allowable side slopes for unsupported/free-standing short-term excavation less than 20 feet deep in Type C soils is 1.5 horizontal to 1 vertical (1.5H:1V or 34 degrees) is recommended for this project.

For the design of any temporary retaining systems, it is recommended that a lateral earth pressure of 40 psf per foot depth be used above the water table. Below the water table, it is recommended that a lateral earth pressure of 80 psf per foot depth be employed. Allowances should also be made for any surcharge loads adjacent to the retaining structures.

5.4 Backfill

All trench backfill material should be consisting of approved material conforming to the requirements of Baltimore County Public Works Standard Specifications for Construction and Materials. Backfills should be compacted to a minimum of 92 percent of maximum dry density and 95 percent maximum dry density in the top one (1) foot. The determination of maximum dry density of the fill should be according to AASHTO T-180 and the field moisture content of the fill should be within 2± percent of its optimum. The

nominal loose thickness of each lift of fill material should be six (6) inches. Each lift should be properly compacted, tested and approved prior to placing subsequent lifts.

5.5 Construction Considerations

Groundwater may be encountered during construction. Dewatering to lower the groundwater level for the excavation may utilize a temporary well point system or other suitable means. To allow construction in the dry and to maintain a stable excavation bottom, the dewatering system should maintain the groundwater level within the structure excavation at a minimum of 2 ft below the bottom of the proposed excavation. The excavation must comply with all local, state, and federal requirements for worker safety.

Positive surface drainage should be established at the start of work, be maintained during construction and following completion of the project to prevent surface water ponding and subsequent saturation of subgrade soils. Any seepage into the construction excavation could be controlled by pumping from sump pits. During site preparation, surface runoff should be directed away from the construction areas.

6.0 GENERAL COMMENTS

The soil classifications presented in this report are based upon the data obtained from the soil borings performed at indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur across the site. The nature and extent of such variations may not become evident until construction. If variations do occur, the conclusion and recommendations of this report should then be reviewed by an ABC geotechnical engineer in light of the new information.

This report has been prepared for the exclusive use of our client for the specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified or verified in writing by the ABC geotechnical engineer of record.

APPENDIX

A. General Notes

B. Vicinity Map

C. Boring and Coring Plans

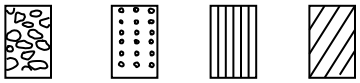
D. Boring Logs

E. Lab Test Results

F. Pavement Core Summary

A. GENERAL NOTES

Drilling and Sampling Symbols



Gravel Sand Silt Clay

Split Spoon (SS) Auger Cutting (AU) Shelby Tube (ST) Rock Core (RC)

N = Standard penetration, blows per foot of a 140 lbs hammer for 30" drop
RQD = Rock Quality Designation
LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index

Cohesionless Soils

If the sand or silt content of a soil is great enough, the soil becomes non-cohesive or semi-cohesive. The soil classification becomes SAND or SILT with the other soil constituents being modifying.

Based on N-Value

0 to 4 Blows…….Very Loose
5 to 9 Blows…….Loose
10 to 29 Blows…….Medium Dense
30 to 59 Blows…….Dense
Over 60 Blows…….Very Dense

Cohesive Soils

If clay content is sufficient so that clay dominates soil properties, then CLAY becomes the major soil constituent as modifier. Other minor soil constituents may be added according to classification breakdown for cohesion less soils: i.e. silty clay, trace of some sand, trace of gravel.

Based on N-Value

0 to 3 Blows…….Very Soft
4 to 5 Blows…….Soft
6 to 16 Blows……...Firm
16 to 30 Blows……..Stiff
30 to 60 Blows……..Very Stiff
Over 61 Blows……..Hard

Based on Penetrometer Value

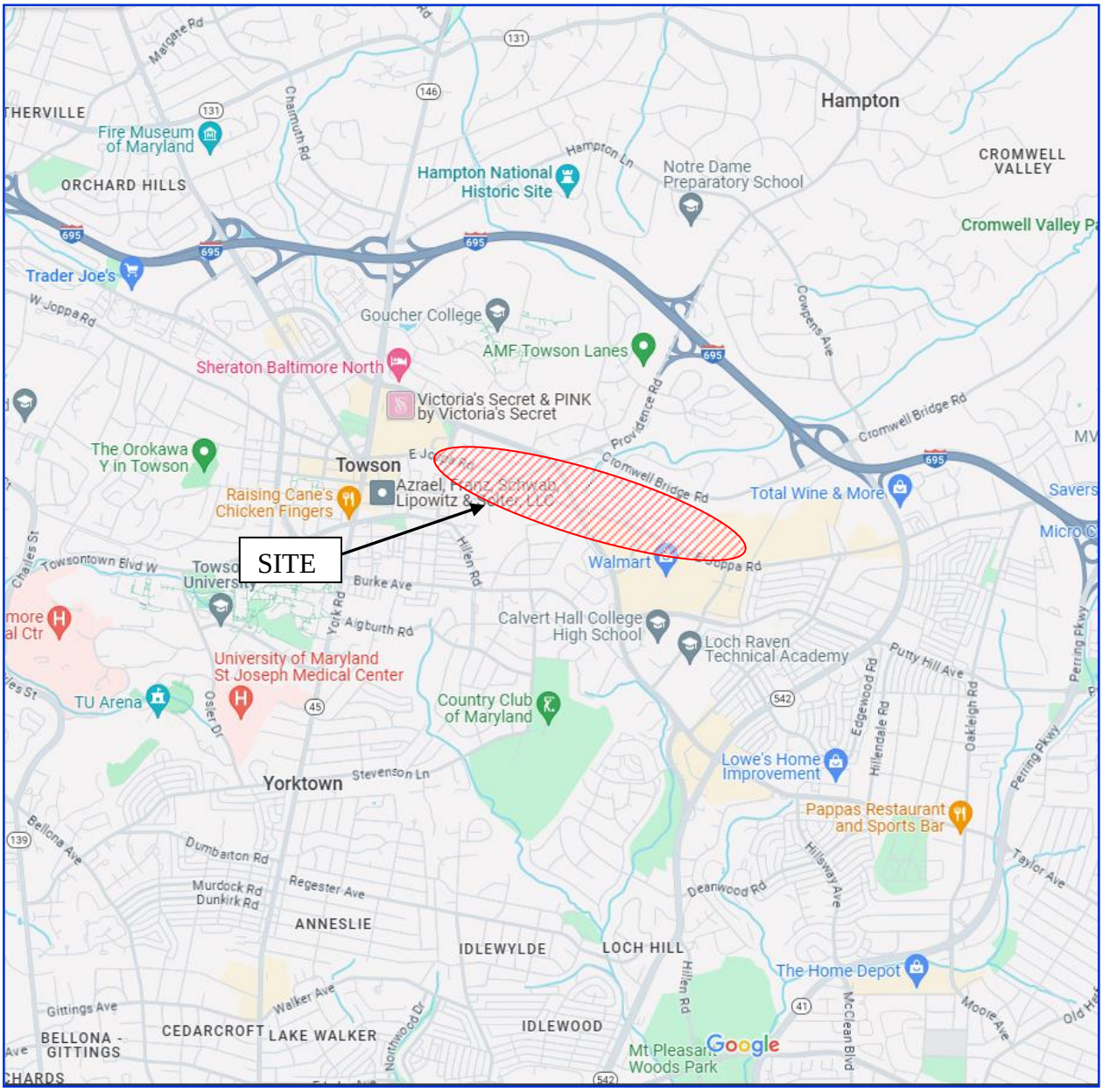
Below 0.25……...Very Soft
0.25 to 0.49……..Soft
0.50 to 0.99……..Firm
1.00 to 1.99……..Stiff
2.00 to 3.99……..Very Stiff
Over 4.00……Hard

Quantity Modifiers

Term	% of Dry Weight
trace	0 to 10
little	11 to 20
some	21 to 35
and/with	36 to 50

Particle Size Identifications

Boulder ……..Over 8 inch diameter
Cobbles……...3 inch to 8 inch
Gravel……...Coarse……1 inch to 3 inch
Medium…….1/2 inch to 1 inch
Fine……....4.75 mm to 1/2 inch
Sand……....Coarse……....2 mm to 4.75 mm
Medium…….0.425 mm to 2 mm
Fine……....0.075 mm to 0.425 mm
Silt/Clay…….....Below 0.075 mm



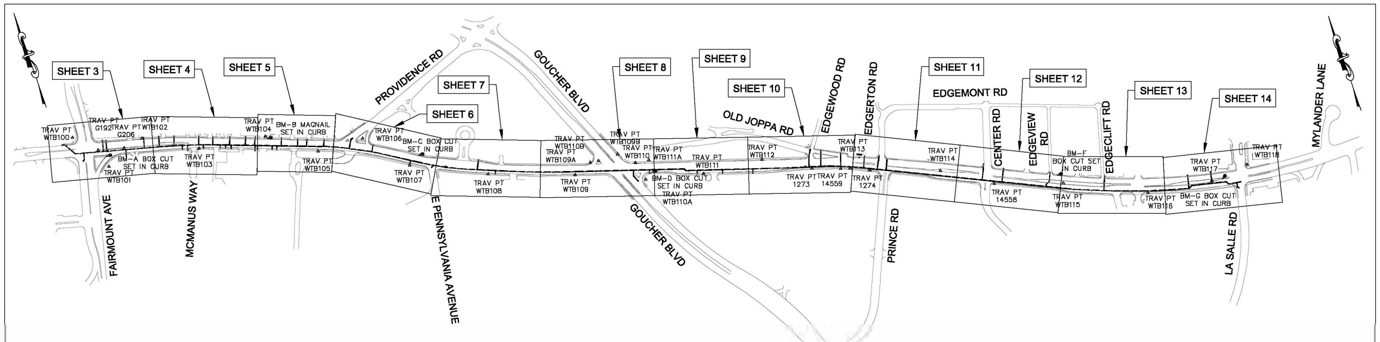
B. VICINITY MAP

Joppa Road 20" Water Main
Replacement Baltimore County, Maryland

CONTRACT #: 23206 WX0
JOB NO.: 2019372-02
SCALE: N.T.S.
DATE: 12/22/2023

C. BORING and CORING PLANS

JOPPA ROAD
20" WATER MAIN REPLACEMENT



VICINITY MAP
1" = 300'

GENERAL NOTES:

1. ALL 4", 6", 8", 12" AND 20" WATER MAINS SHALL BE DUCTILE IRON PIPE CL. 54 AS PER ANSI/AWWA C150/A21.51-09. SEE SHEET 14 FOR PIPE TRENCHING AND PAVEMENT RESTORATION DETAILS. THE CONTRACTOR SHALL INSTALL NON-DETECTABLE TAPE ON THE NEW PIPE. REFER TO SPECIAL PROVISIONS FOR DETAILS. ALL DUCTILE IRON WATER MAINS AND FITTINGS 12" AND SMALLER TO BE POLYETHYLENE ENCASED, ZINC COATED DUCTILE IRON PIPE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA STANDARD C105, METHOD A AND FIELD COAT UP TO 5 FEET ON EITHER SIDE OF CONNECTION, AS FIELD EXPOSURE PERMITS AND OVERLAP POLYWRAP FROM NEW DUCTILE IRON PIPE

2. DUCTILE IRON FITTINGS SHALL MEET LATEST AWWA C110/A21.10 AND AWWA C153/A21.53 (PRESSURE RATING SHALL BE AS SPECIFIED)

3. WORKING HOURS WILL OCCUR AT NIGHT AND OCCUR TYPICALLY BETWEEN 9 PM TO 5 AM.

4. ON NEW OR RELOCATED FIRE HYDRANT INSTALLATIONS, A NEW LOCK-ON TYPE OR TEE WILL BE INSTALLED AND THE 6-INCH VALVE WILL BE BOLTED TO THE LOCK-ON TEE UNLESS OTHERWISE INDICATED. THE 6-INCH HYDRANT LEAD, VALVE AND THE HYDRANT WILL BE RESTRAINED TO EACH OTHER BY RESTRAINING GLANDS.

5. ALL FITTINGS SHALL BE INSTALLED WITH MEGA-LUG OR APPROVED EQUAL TYPE RESTRAINED JOINTS. RESTRAINED JOINTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS. COST TO BE INCLUDED IN THE PRICE BID FOR THE 4-INCH, 6-INCH, 8-INCH, 12-INCH AND 20-INCH WATER MAINS.

6 ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE BALTIMORE COUNTY DATUM, NAVD 88. ALL COORDINATES SHOWN ON THE PLANS ARE BASED ON THE BALTIMORE COUNTY GRID SYSTEM, NAD 83/91

7 THE EXISTING UTILITIES AND OTHER EXISTING FEATURES THAT ARE SHOWN ON THE PLANS ARE APPROXIMATE, FROM THE BEST AVAILABLE RECORDS AND THE ACCURACY AND THE COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO AND DISTURBANCE OF EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT LEAST 4 DAYS IN ADVANCE OF ANY CONSTRUCTION (PH: 1-800-257-7777). ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.

8 THE CONTRACTOR SHALL VACUUM TEST PIT TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES AND STORM DRAINS TO BE CROSSED OR CONNECTED, 60 FEET MINIMUM IN ADVANCE OF LAYING PIPE. MAINTAIN 1' MIN. CLEAR AT ALL SHA FACILITY CROSSINGS.

9 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINIMIZING THE TRACKING OF DIRT AND MUD ONTO ROADS AND PUBLIC RIGHT-OF-WAY. CONSTRUCTION ENTRANCES TO EASEMENTS MAY BE INSTALLED IF APPROVED BY THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR, AND SHALL BE PROVIDED AT NO ADDITIONAL COST. THE CONTRACTOR SHALL CLEAN UP ALL DIRT AND/OR MUD TRACKED ONTO ROADS IMMEDIATELY BY VACUUMING, SCRAPING AND/OR SWEEPING; WASHING THE ROADWAY TO REMOVE MUD IS NOT ACCEPTABLE UNLESS WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE

10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, TO ADJUST THE LOCATIONS OF FITTINGS AND THE ELEVATION OF THE PIPELINES AS NECESSARY DUE TO ACTUAL FIELD CONDITIONS. ALL DEFLECTED PIPES SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND BALTIMORE COUNTY STANDARDS, WHICHEVER IS MORE CONSERVATIVE. ALL ELEVATIONS OF PROPOSED PIPING REFER TO INVERT OF PIPE UNLESS OTHERWISE INDICATED. ALL WATER MAINS SHALL HAVE A MINIMUM OF FOUR FEET OF COVER EXCEPT WHERE SPECIFIED.

11. THE CONTRACTOR SHALL OPEN ONLY THE SECTION OF THE TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE DAY. THE END OF THE PIPE SHALL BE PLUGGED OR CAPPED AND PLATED OVER AT THE END OF EACH WORK DAY. COLD PATCH IS NOT ALLOWED AND STEEL PLATING SHALL NOT EXCEED 100 FEET.

12. LOCATION OF HOUSE CONNECTIONS INCLUDING METERS ARE SHOWN FOR INFORMATION ONLY. FINAL LOCATIONS FOR NEW/OR REPLACEMENT SERVICES WILL BE DETERMINED IN THE FIELD. ALL HOUSE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE BALTIMORE COUNTY STANDARD SPECIFICATIONS AND DETAILS. CONTRACTOR SHALL VERIFY THE SIZE OF ALL HOUSE CONNECTIONS PRIOR TO ORDERING AND INSTALLING COPPER PIPE. INSTALL INSULATING CORPORATION STOPS FOR ALL SERVICE CONNECTIONS ¾" TO 2" IN DIAMETER.

13 CONTRACTOR SHALL FIELD VERIFY HOUSE CONNECTION MATERIAL. IF COPPER, CONNECT TO EXISTING HOUSE CONNECTION LINE, CLOSEST TO EXISTING MAIN. IF GALVANIZED, RECONNECT HOUSE CONNECTION TO EXISTING METER

14 COST ASSOCIATED WITH ABANDONMENT OF THE EXISTING WATER MAIN AND WATER SERVICE, SHALL BE CONSIDERED INCIDENTAL AND SHALL BE AT NO COST TO THE COUNTY. THIS SHALL INCLUDE THE REMOVAL AND ABANDONMENT OF EXISTING VALVES AND VAULTS WITH COMPACTED GRADED AGGREGATE BASE (GAB) AND PAVEMENT REPAIR

15. REMOVAL OF EXISTING WATER MAIN, VALVES AND FITTINGS INCLUDING CONCRETE BUTTRESSES, IF ANY, SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE WATER MAIN AND PRICE OF REMOVAL OR ABANDONMENT SHALL BE INCLUDED IN THE BID FOR WATER MAINS.

16. CONSTRUCT THIS PLAN ACCORDING TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROLS" THE MDE "2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME I & VOLUME II". THE MDOT SHA "FIELD GUIDE FOR EROSION AND SEDIMENT CONTROL" THE ANNOTATED CODE OF MARYLAND. THE CODE OF MARYLAND (COMAR) 26.17.01 AND 26.17.02, ALL REVISIONS THERE OF, AND AS SPECIFIED, KEEP A COPY OF THE 2011" MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ON SITE AT ALL TIMES PERFORM VEGETATIVE STABILIZATION ACCORDING TO THOSE STANDARDS AND ALL SPECIFIED

17. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO SPECIFICALLY MENTION ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK

18 ALL STORM DRAIN APPURTENANCES, DITCHES, ETC., SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION AND SHALL BE PROTECTED BY THE CONTRACTOR FROM SEDIMENT RUNOFF. EXCAVATED MATERIAL SHALL NOT BE PLACED IN OR OBSTRUCT DRAINAGE DITCHES. DITCHES AND OTHER STORM DRAIN FACILITIES SHALL BE RETURNED TO ORIGINAL CONDITION FOLLOWING CONSTRUCTION. DURING TRENCH DEWATERING OPERATIONS NO WATER SHALL BE DISCHARGED DIRECTLY ACROSS THE GROUND OR INTO AN EXISTING BODY OF WATER OR STREAM WITHOUT FIRST FLOWING THROUGH AN APPROVED PORTABLE SEDIMENT TANK.

19. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS WHILE EXCAVATING NEAR POWER AND TELEPHONE UTILITY POLES

20. ONLY BALTIMORE CITY PERSONNEL SHALL OPERATE EXISTING VALVES OR NEW VALVES AFTER THEY ARE PLACED IN SERVICE. THE CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 14 WORKING DAYS PRIOR TO THE PROPOSED SHUTDOWN. IF THE INSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410-887-3531

21. ALL CONNECTIONS AND SHUT DOWNS SHALL BE COORDINATED WITH BALTIMORE CITY. NO WORK SHALL BEGIN UNLESS ALL TOOLS, EQUIPMENT AND MATERIALS NECESSARY FOR THE TIE-IN CONNECTION WORK ARE ON-SITE AND APPROVED BY THE ENGINEER. NO ADDITIONAL COMPENSATION FOR NIGHT OR WEEKEND SHUTDOWN

22. THE COST FOR CONSTRUCTING UNDER AND/OR OVER ANY EXISTING UTILITIES AND UTILITY SERVICE HOUSE CONNECTIONS INCLUDING GAS, ELECTRIC, CABLE STORM DRAINS, WATER, AND SEWER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE 4-INCH, 6-INCH, 8-INCH, 12-INCH AND 20-INCH WATER MAIN. WHEN CROSSING EXISTING UTILITIES, CONTRACTOR SHALL BRACE, SUPPORT AND/OR PROTECT SUCH UTILITIES

23. "FULL TRENCH COMPACTION" IS REQUIRED FOR ALL TRENCHES LOCATED WITHIN THE EXISTING ROAD AND/OR ROAD RIGHT-OF-WAY AND SHOULD BE PERFORMED UNDER MD SPECIFICATION #578.01 USING TWO (2) FOOT CUTBACK WITH MILL AND OVERLAY. SEE TRENCH DETAIL ON SHEET 15.

24. SUBMITTALS ON MATERIALS FOR THIS PROJECT SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. ALSO THIS SHALL INCLUDE THE APPROVAL OF THE SHA OFFICE OF MATERIALS FOR SOURCE OF SUPPLY MATERIAL.

25 CONTRACTOR IS STRONGLY URGED TO VISIT THE JOB SITE PRIOR TO SUBMITTING BID.

26 CONTRACTOR SHALL FILL ALL ABANDONED EXISTING WATER MAINS WITH FLOWABLE FILL (CLSM) AND INSTALL BULKHEADS OR APPROVED CAP WHERE PIPES HAVE BEEN CUT, IN ACCORDANCE WITH SPECIAL PROVISIONS SECTION 1011. PRICE TO BE INCLUDED IN BID FOR 4", 6", 8", 12, AND 20" WATER MAINS.

27 NOTIFY BALTIMORE CITY BUREAU OF WATER AND WASTEWATER AT 410-396-7870, 72 HOURS BEFORE STARTING CONSTRUCTION

28 NOTIFY WATER AND WASTEWATER MAINTENANCE DIVISION AT 410-396-7807 AT LEAST THREE (3) DAYS PRIOR TO STARTING CONSTRUCTION.

29. WHILE WORKING THROUGH A SIGNALIZED INTERSECTION, TRAFFIC SIGNAL SHALL BE PLACED ON FLASH MODE AND FLAGGERS MUST BE PRESENT. FLASHING BEACONS WITHIN PEDESTRIAN REFUGE ISLANDS MUST REMAIN IN SERVICE; ALL IMPACTS TO THE FLASHING BEACONS SHALL BE RESTORED BEFORE THE END OF THE DAY.

30 CONTRACTOR SHALL MAINTAIN A 60" WIDTH PEDESTRIAN PATH WHEN IMPACTING SIDEWALKS

31 CONTRACTOR SHALL REPLACE IMPACTED PAVEMENT MARKINGS IN KIND. EXISTING LINE STRIPPING IS THERMOPLASTIC AND CENTER TURN LANE HAS PLOWABLE RAISED PAVEMENT MARKINGS

32 CONTRACTOR SHALL LOCATE ALL EXISTING SEWER HOUSE CONNECTIONS AND WITH THE APPROVAL OF THE ENGINEER, ADJUST THE WATER MAIN PROFILE DUE TO FIELD CONDITIONS.

33. ALL SHUTDOWNS FOR THE TIE-INS OF THE WATER MAIL SHALL BE BRIEF, AFFECTING THE LEAST POSSIBLE SERVICES AND BETWEEN 9:00 PM AND 6:00 AM ON WEEKENDS OR AS DIRECTED BY THE ENGINEER

34. ALL BUSINESSES AND RESIDENTS SHALL BE INFORMED AT LEAST SEVEN DAYS PRIOR TO SHUTDOWN OF THEIR SERVICES

35. THE LOCATION OF FIRE HYDRANTS SHOWN ON THE PLAN ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE ULTIMATE LOCATION IN RESPECT TO THE FACE OF CURB FOR EACH FIRE HYDRANT WITH THE ENGINEER. ENGINEER SHALL APPROVE EVERY HYDRANT LOCATION PRIOR TO WORK BEING CARRIED OUT.

36 STANDARD PRACTICES TO FOLLOW FOR CHLORINATED WATER DISCHARGES

A. HIGHLY CHLORINATED WATER TO BE DISCHARGED INTO THE SANITARY SYSTEM ON THE SITE (I.E., 8-INCH SANITARY SEWERS) WILL BE LIMITED TO A RATE NOT TO EXCEED 50 GALLONS PER MINUTE (GPM). (COST TO BE INCLUDED IN PRICE OF ITEMS BID)

B. ALL THE DISCHARGES WILL BE RESTRICTED TO DRY WEATHER AND NOT LESS THAN 24 HOURS AFTER ANY RAIN EVENT.

C. TD MEET FEDERAL REGULATORY REQUIREMENTS, THE CONTRACTOR AND THE INSPECTOR SHALL DOCUMENT THE DATE, RATE AND DURATION OF THE CHLORINATED WATER DISCHARGE INTO THE SEWER SYSTEM. THE WATER DESIGN SECTION MUST SUBMIT THIS DOCUMENTATION TO THE SEWER DESIGN SECTION FOLLOWING THE COMPLETION OF ALL CHLORINATED WATER DISCHARGES FOR THIS PROJECT.

D. THE CONTRACTOR MUST NOTIFY THE SEWER DESIGN SECTION AT 410-887-3730 AND THE BUREAU OF UTILITIES AT 410-887-7415 OF THE EXACT LOCATIONS OF THE PLANNED DISCHARGE, ONE (1) WORKING DAY PRIOR TO DISCHARGE OF ANY CHLORINATED WATER TO SANITARY SEWER.

SHEET NO.	DESCRIPTION
WATER 1	TITLE SHEET
WATER 2	ADDITIONAL NOTES
WATER 3 TO WATER 14	WATER MAIN PLAN
WATER 15	DETAILS

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/91
VERTICAL – NAVD 88

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

CITY OF BALTIMORE
REVISION – CITY OF BALTIMORE

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 45662 EXPIRATION DATE 10/21/2024

30% DESIGN SUBMITTAL 9-26-2023

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

DESIGN BY: MLD
CONTRACT COMPLETIONBOX
BUREAU OF ENGINEERING AND CONSTRUCTION | HIGHWAYS | STRUCTURES
PLAN SCALE: NTS

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION
20" WATER MAIN REPLACEMENT
JOPPA ROAD
FROM FAIRMOUNT AVENUE TO LA SALLE ROAD
TITLE SHEET
SUBDIVISION: TOWSON
ELECTION DIST. NO.: 09

SHEET DESIGNATION: WATER SH 1 OF 15
CONTRACT NUMBER: –
JOB ORDER NUMBER: –
SHEET 1 OF 15
DRAWING NUMBER

EMERGENCY MANAGEMENT NOTES

1. DPW INSPECTORS WILL NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) OF ANY PLANNED WATER OUTAGE. (CONTACT: FIRE_ADO OR 410-307-2052.)
2. DPW INSPECTORS WILL NOTIFY BALTIMORE CITY'S 311 OF ANY PLANNED WATER OUTAGE.
3. FOR OUTAGES AFFECTING MORE THAN 200 SERVICES AND/OR THAT ARE MORE THAN EIGHT (8) HOURS IN DURATION, CONTRACTORS WILL NOTE IN THEIR PLANS TO NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) AND THE OFFICE OF EMERGENCY MANAGEMENT BY EMAIL AND BY PHONE. (emergencymanagement@baltimorecountymd.gov and 410-887-5996.)

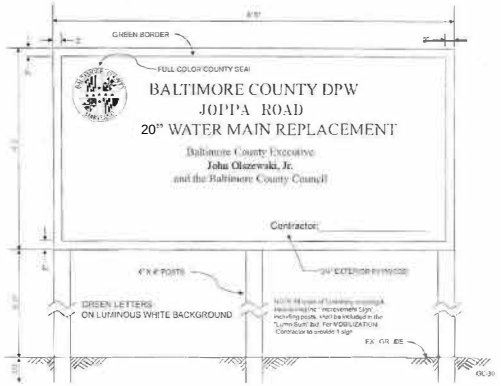
LEGEND

- RMT #C — RIGHT OF WAY MONUMENT
- PC — PAVEMENT CORE
- SB — SOIL BORING
- EX. 12" W C.I.P. (DRWG# 430731) — EXISTING CONDITIONS
- PROP. 24" WATER — PROPOSED CONDITIONS
- PIPE TO BE ABANDONED

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/91
VERTICAL – NAVD 88

MDE NOTES

1. DISINFECTION OF MAINS AND BACTERIOLOGICAL SAMPLING REQUIREMENTS.
   A. THE COMPLETED WATER MAINS MUST BE DISINFECTED AND TESTED IN ACCORDANCE WITH THE LATEST VERSION OF AWWA STANDARD C651.
   B. AFTER DISINFECTION, A SAMPLE SHALL BE COLLECTED AFTER THE REQUIRED MINIMUM TIME PERIOD. SAMPLES MUST BE COLLECTED BY A STATE-CERTIFIED SAMPLER AND ANALYZED AT A STATE-CERTIFIED LABORATORY. THE SAMPLE RESULTS MUST BE REVIEWED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER SUPPLY PROGRAM, WHICH WILL GIVE AUTHORIZATION TO PLACE THE MAINS INTO SERVICE.
   C. A COPY OF THE SAMPLE RESULTS SHALL BE SENT WA EMAIL TO: STEPHANIE.EATINGER@MARYLAND.GOV
2. NSF NOTE:
   A. IN ACCORDANCE WITH CODE OF MARYLAND REGULATIONS (COMAR) 26.04.01.33, DIRECT AND INDIRECT ADDITIVES, SUPPLIERS OF WATER SHALL ONLY USE PRODUCTS (ANY MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY) THAT MEET THE APPLICABLE AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL (ANSI/NSF) STANDARDS FOR DIRECT OR INDIRECT DRINKING WATER ADDITIVES. THE PRODUCTS CAN ALSO BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY THE ANSI FOR SUCH TESTING (I.E., INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS RESEARCH AND TESTING, ONTARIO CA, UNDERWRITERS LABORATORY, NORTHBROOK IL, AND WATER QUALITY ASSOCIATION, LISLE IL).
3. LEAD-FREE MATERIAL NOTE:
   A. IN COMPLIANCE WITH COMAR 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417(A)(4)(B), MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT, WHICH WENT INTO EFFECT IN MARYLAND IN JANUARY 2021.



NOTES:

1. ONE (1) SIGN WILL BE PLACED NEAR FAIRMOUNT AVENUE AS DESIGNATED BY AREA ENGINEER.
2. ONE (1) SIGN WILL BE PLACED NEAR LASALLE ROAD AS DESIGNATED BY AREA ENGINEER.
3. PAYMENT FOR SIGNS WILL BE INCLUDED IN MOBILIZATION BID ITEM.

CONTRACT COMPLETION BOX	
Contractor:	
Date Completed:	
Inspector:	
Pipe Material (Pressure Only)	

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE :

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 45882 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD — THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

DESIGN BY: MD | DRAWN BY: MAB | CHKD BY: OM

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES							
DATE REVIEWED:								

DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS
PLAN SCALE:	1"=50'	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES
PROFILE SCALE:	HORZ. 1"=50' VERT. 1"=5'	

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

NOTES AND DETAILS

SUBDIVISION: TOWSON — ELECTION DIST. NO.: 09

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 2 OF 15	

JOB ORDER NUMBER
–
SHEET 2 OF 15
DRAWING NUMBER
–
FILE NO.: 25

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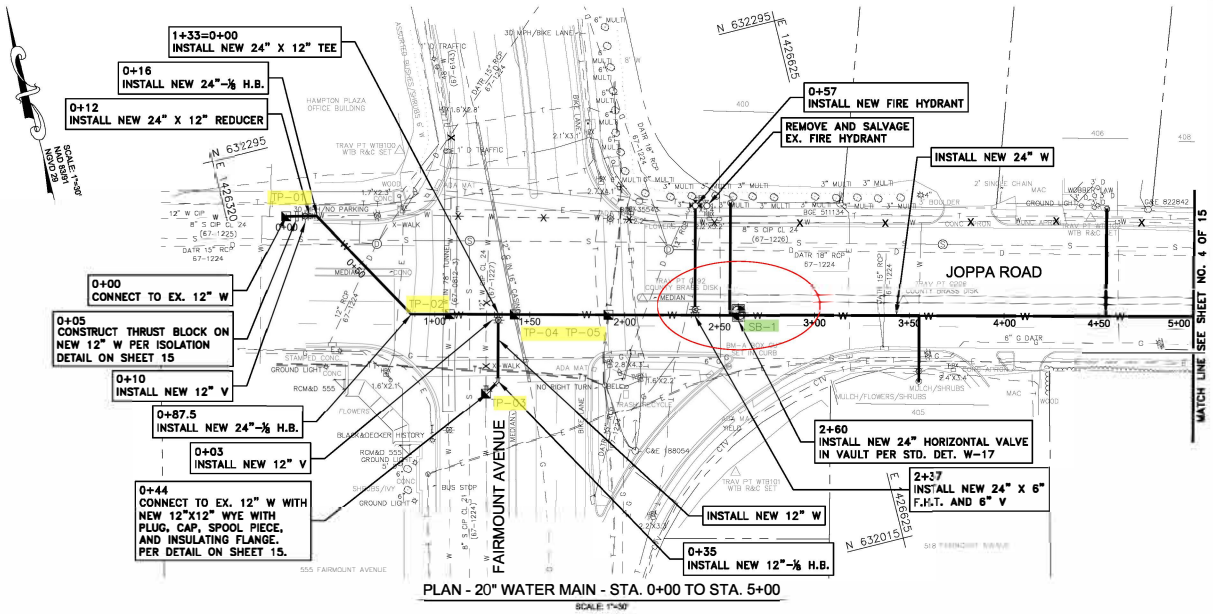

PLAN - 20" WATER MAIN - STA. 0+00 TO STA. 5+00

SCALE 1"=50'

PROPOSED TEST PITS	
TP-01	12" WATER
TP-02	48" WATER IN 78" TUNNEL
TP-03	12" WATER
TP-04	12" GAS IN 16" CASING
TP-05	TELECOM

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

GRAPHIC SCALE

SCALE: 1"=30'

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45055 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY DATE

DESIGN BY: MH

DRAWN BY: MAS

CHKD BY: CM

REVISION	BY	DATE	F.M.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

DRAWING SCALE	
PLAN SCALE	1"=50'
PROFILE SCALE	HORIZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS	
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	
BUR. OF ENGINEERING & CONSTRUCTION	
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

SUBDIVISION: TOWSON

PLAN - STA. 0+00 TO STA. 5+00

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 3 OF 15	
DRAWING NUMBER	
FILE NO.	

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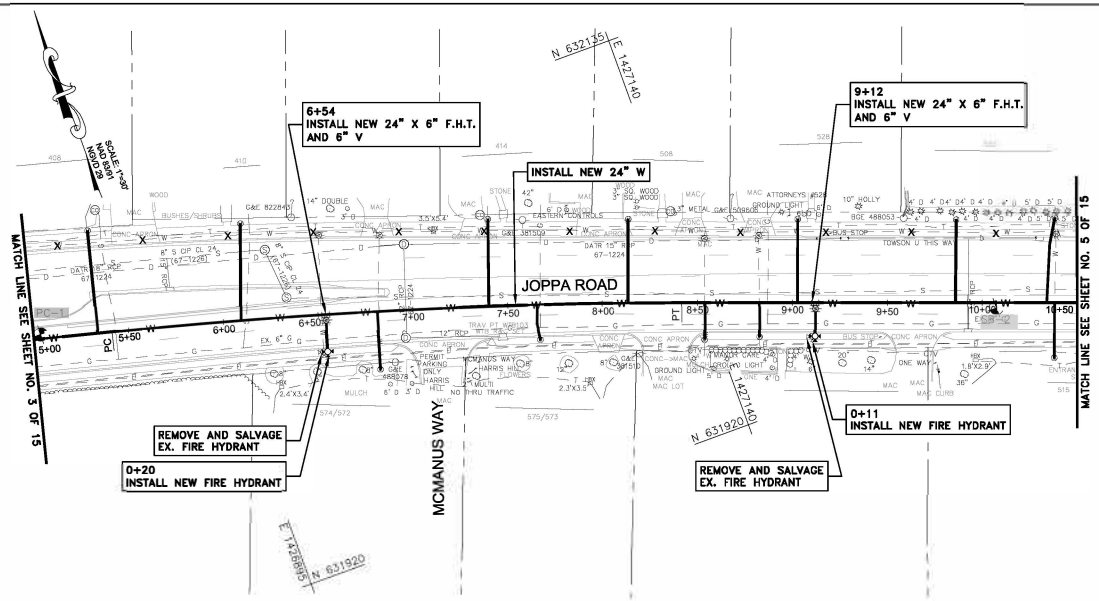

PLAN - 20" WATER MAIN - STA. 5+00 TO STA. 10+50

SCALE: 1"=30'

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 40952 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: MB
DRAWN BY: MAB
CHKD BY: OM

REVISION	BY	DATE

F.W.A. NO.	KEY SHEET	POSITION SHT
E.O.W. NO.		

DRAWING SCALE	
PLAN SCALE	1"=40'
PROFILE SCALE	HORIZ. 1"=40' VERT. 1"=10'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

PLAN – STA. 5+00 TO STA. 10+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

GRAPHIC SCALE
SCALE: 1"=30'

CONTRACT COMPLETION DATA
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

SHEET DESIGNATION	CONTRACT NUMBER
	JOB ORDER NUMBER
	SHEET 4 OF 15
	DRAWING NUMBER
	FILE NO.

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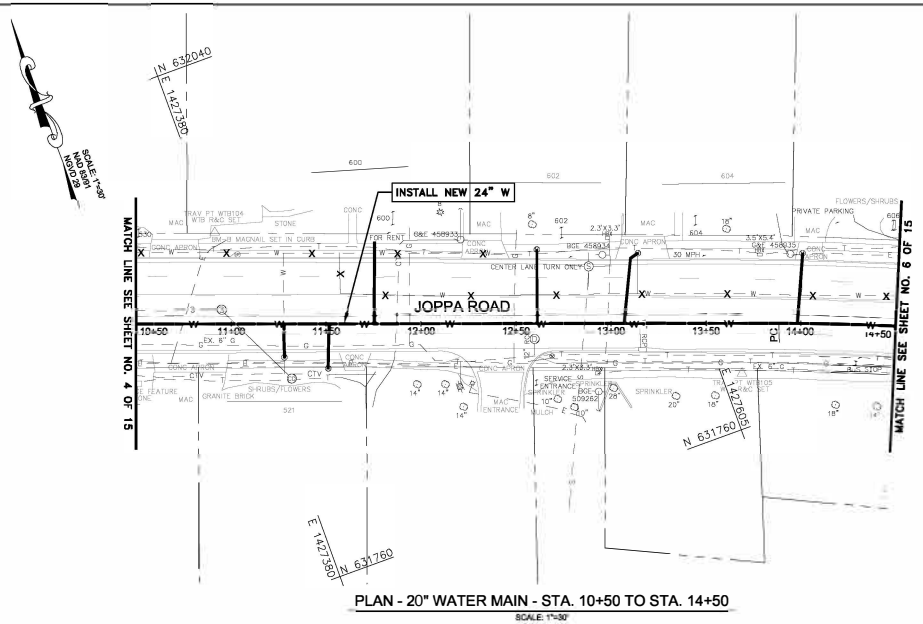

PLAN - 20" WATER MAIN - STA. 10+50 TO STA. 14+50

SCALE: 1"=30'

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 45952 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: MB
DRAWN BY: MAB
CHKD BY: OM

REVISION	BY	DATE

P.W.A. NO.
E.O.W. NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE 1"=40'
PROFILE SCALE HORZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

PLAN – STA. 10+00 TO STA. 14+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

GRAPHIC SCALE
SCALE: 1"=30'

CONTRACT COMPLETION DATE
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

SHEET DESIGNATION	CONTRACT NUMBER
	JOB ORDER NUMBER –
	SHEET 5 OF 15
	DRAWING NUMBER –
	FILE NO.

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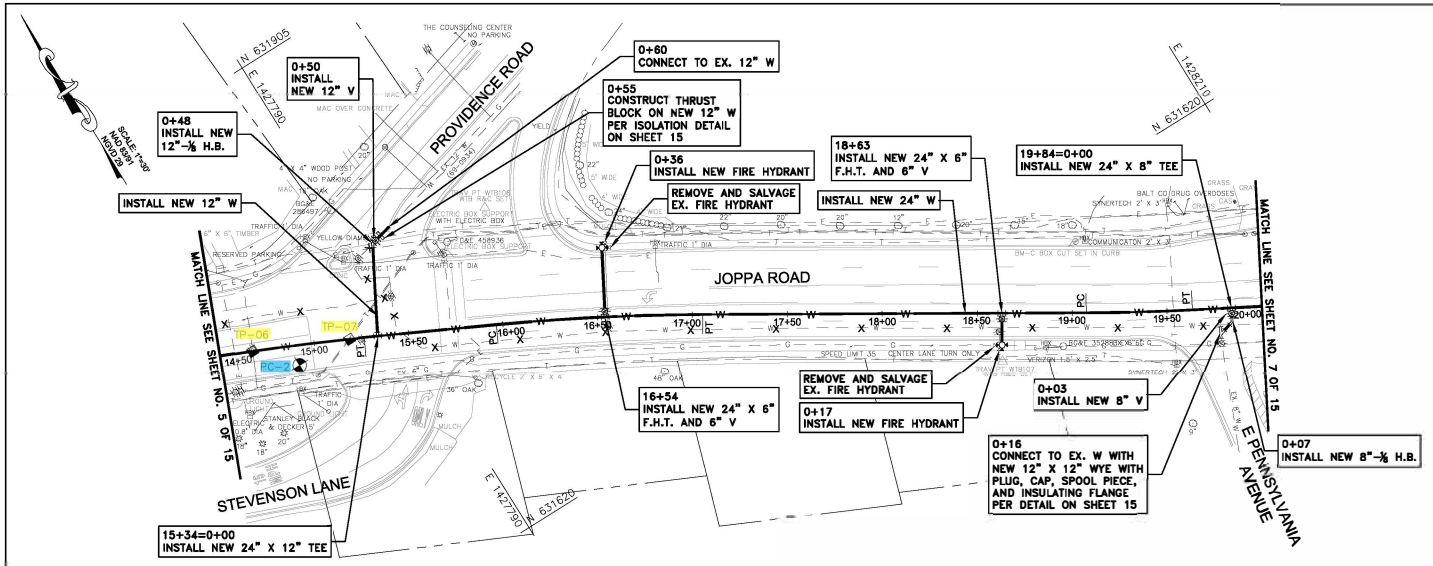

PLAN - 20" WATER MAIN - STA. 14+50 TO STA. 20+00

SCALE: 1"=50'

PROPOSED TEST PITS	
TP-06	6" GAS
TP-07	TELECOM

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

GRAPHIC SCALE

SCALE: 1"=50'

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45055 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

REVISION	BY	DATE

F.W.A. NO. | KEY SHEET | POSITION SHT | R.O.W NO.

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWERS	WATER
DESIGN BY: MS						
DRAWN BY: MAS						
CHKD BY: CM						
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES					
DATE REVIEWED:						

DRAWING SCALE	
PLAN SCALE	1"=50'
PROFILE SCALE	VERT. 1"=5' HORIZ. 1"=50'

DEPARTMENT OF PUBLIC WORKS	
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	
BUR. OF ENGINEERING & CONSTRUCTION	FIELD ENGINEER
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

PLAN - STA. 14+50 TO STA. 20+00

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 6 OF 15	
DRAWING NUMBER	
FILE NO.:	

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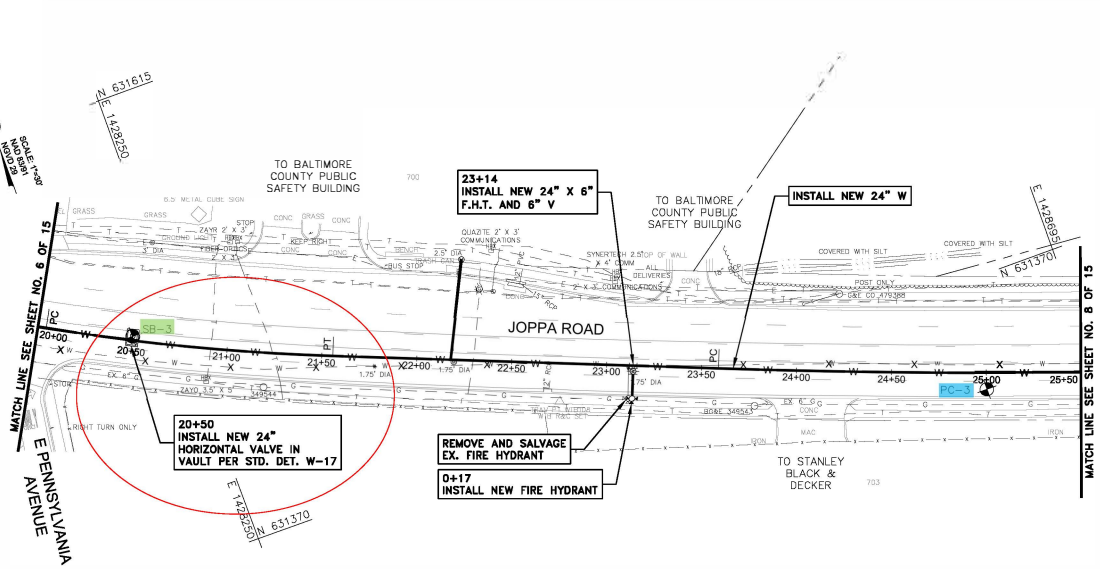

PLAN - 20" WATER MAIN - STA. 20+00 TO STA. 25+50

SCALE: 1"=50'

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45982 DON DATE 10/21/24

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: MU
DRAWN BY: MAS
CKED BY: CM

REVISION	BY	DATE	F.H.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

DRAWING SCALE	
PLAN SCALE	1"=50'
PROFILE SCALE	HORZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

SUBDIVISION: TOWSON

PLAN – STA. 20+00 TO STA. 25+50

ELECTION DIST. NO.:09

CONTRACT COMPLETION BOX

Contractor:

Date Completed:

Inspector:

Pipe Material (Pressure Only)

SHEET DESIGNATION	CONTRACT NUMBER
	JOB ORDER NUMBER –
	SHEET 7 OF 15
	DRAWING NUMBER –
	FILE NO. 26

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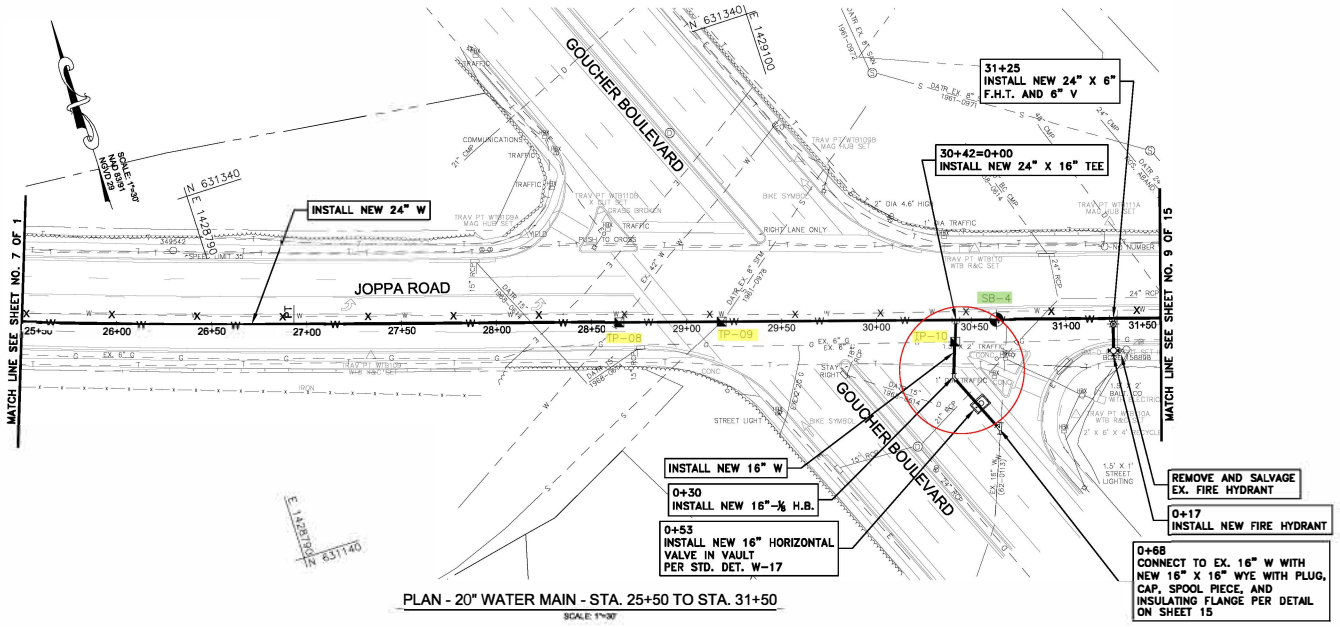


PLAN - 20" WATER MAIN - STA. 25+50 TO STA. 31+50

SCALE: 1"=30'

PROPOSED TEST PITS	
TP-08	42" WATER
TP-09	8" SEWER FORCE MAIN
TP-10	16" WATER

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45982 EXPIRATION DATE 10/31/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY

DATE

30% DESIGN SUBMITTAL 9-26-2023

DATE

REVISION	BY	DATE

F.M.A. NO. R.O.W NO.

KEY SHEET POSITION SHT

DRAWING SCALE	
PLAN SCALE	1"=40'
PROFILE SCALE	HORIZ. 1"=40' VERT. 1"=4'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DESIGN BY: MH							
DRAWN BY: MAH							
CHKD BY: CM							
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

PLAN - STA. 25+50 TO STA. 31+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

CONTRACT COMPLETION BOX

Contractor:

Date Completed:

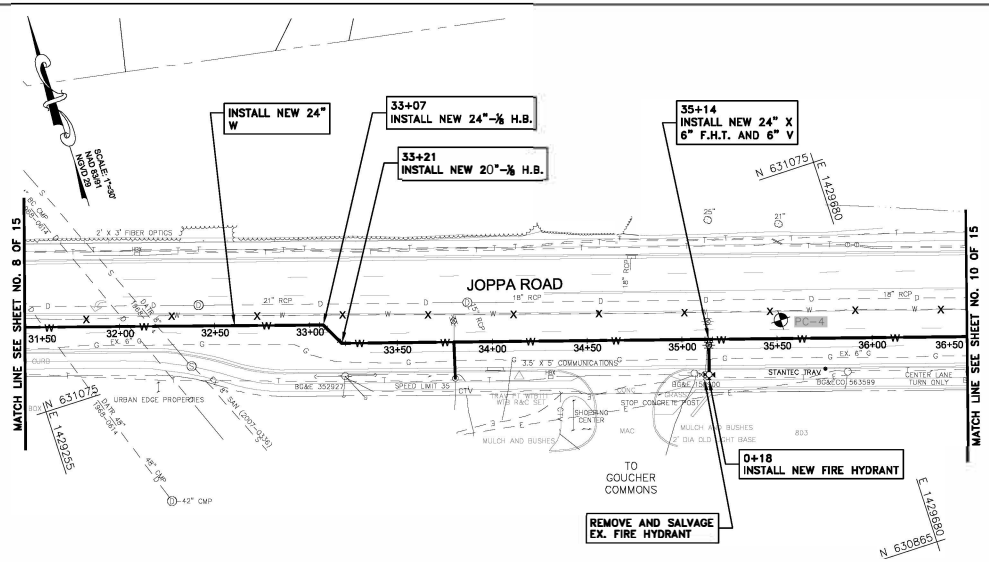
Inspector:

Pipe Material (Pressure Only)

SHEET DESIGNATION	CONTRACT NUMBER
	JOB ORDER NUMBER -
	SHEET 8 OF 15
	DRAWING NUMBER -
	FILE NO. 20

BALTIMORE COUNTY MARYLAND

DWG. FILENAME: T:\Baltimore County Utilities\800-1220 Joppa Road\DWGS\gPS-0008_JOPPA.dwg



PLAN - 20" WATER MAIN - STA. 31+50 TO STA. 36+50

SCALE: 1"=30'

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

CONTRACTOR COMPLETION DATE

Contractor:

Date Completed:

Inspector:

Pipe Material (Pressure Only)

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND; LICENSE NO. 40952 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY:
DATE:

DESIGN BY: MB
DRAWN BY: MAB
CHCD BY: OM

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
E.O.W. NO.		

DRAWING SCALE	
PLAN SCALE	1"=40'
PROFILE SCALE	HORZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES							SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

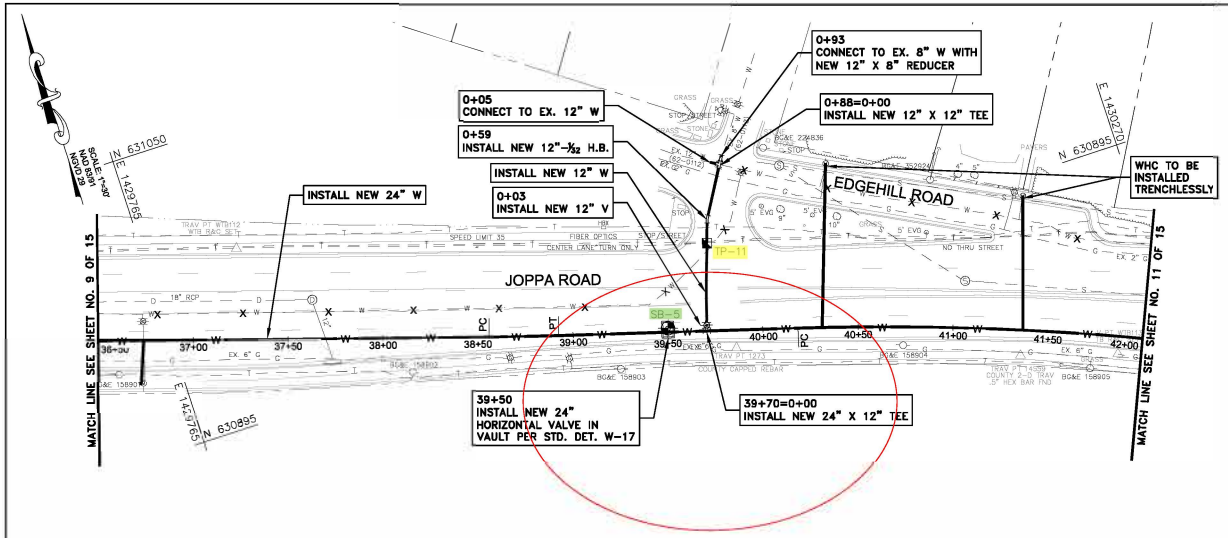
PLAN – STA. 31+50 TO STA. 36+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 9 OF 15	
DRAWING NUMBER	
FILE NO.	

DWG. FILENAME: T:\Baltimore County Utilities\800-1200 Joppa Road\DWGS\xrTD-8001_JOPPA.dwg



PLAN - 20" WATER MAIN - STA. 36+50 TO STA. 42+00

SCALE 1"=50'

PROP. TEST PITS	
TP-11	TELECOM

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

GRAPHIC SCALE

30 20 10 0 30

SCALE 1"=30'

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45055 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

DESIGN BY: MU

DRAWN BY: MAS

CHKD BY: CM

REVISION	BY	DATE	F.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

DRAWING SCALE	
PLAN SCALE	1"=50'
PROFILE SCALE	VERT. 1"=5' HORIZ. 1"=50'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

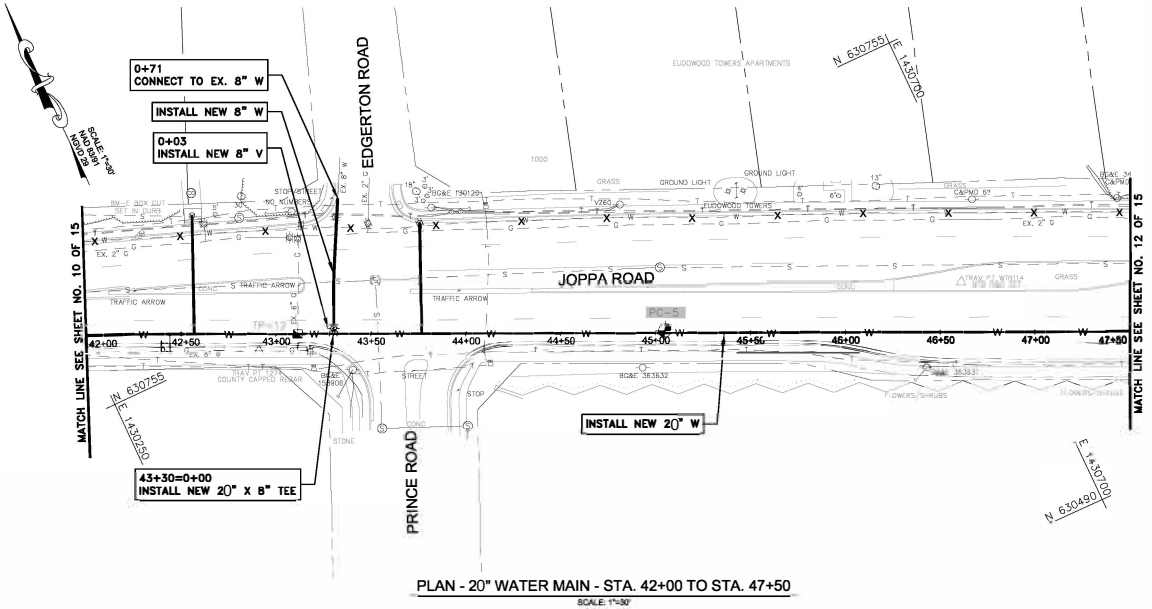
SUBDIVISION: TOWSON

PLAN - STA. 36+50 TO STA. 42+00

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 10 OF 15	
DRAWING NUMBER	
FILE NO.	

DWG. FILENAME: T:\Baltimore County Utilities\600-699-20-20 Joppa Road\DWGS\gPS-0608_JOPPA.dwg



PLAN - 20" WATER MAIN - STA. 42+00 TO STA. 47+50

SCALE: 1"=30'

PROPOSED TEST PITS	
TP-12	6" CAS

CITY OF BALTIMORE

SEE DRAWING XXXX-XXXX
FOR ORIGINAL SIGNATURES

REVISION - CITY OF BALTIMORE

SEE DRAWING XXXX-XXXX
FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND; LICENSE NO. 45952 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: MB
DRAWN BY: MAB
CHKD BY: OM

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
E.O.W. NO.		

DRAWING SCALE	
PLAN SCALE	1"=40'
PROFILE SCALE	HORZ. 1"=40' VERT. 1"=10'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX
FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES							SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

CONTRACT COMPLETION DATE

Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

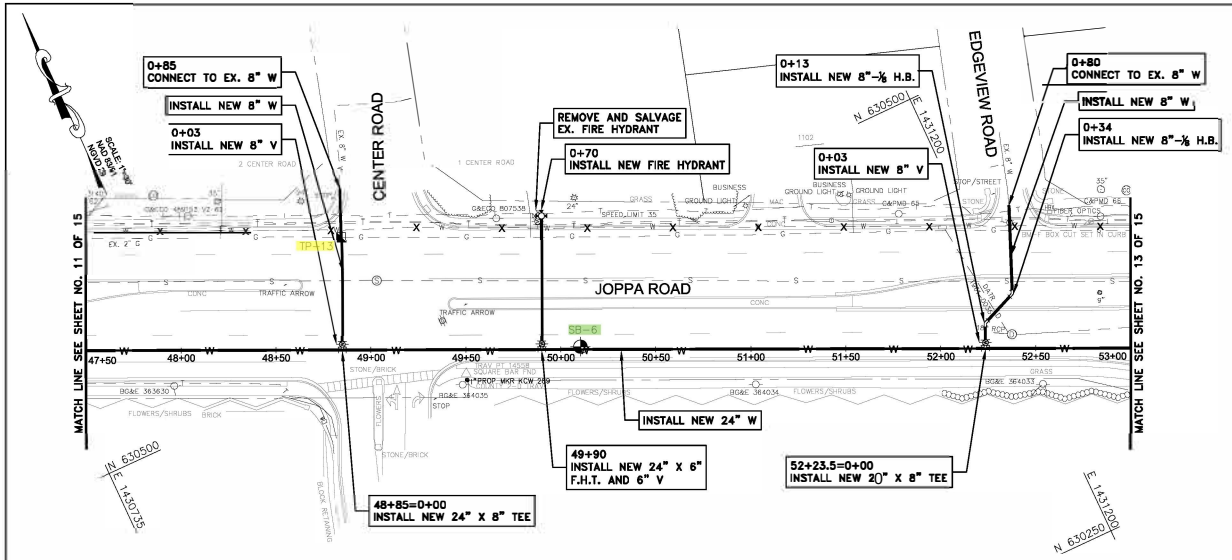
PLAN - STA. 42+00 TO STA. 47+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 11 OF 15	
DRAWING NUMBER	
FILE NO.	

DWG. FILENAME: T:\Baltimore County Utilities\800-1200 Joppa Road\DWGS\WSD-1001_JOPPA.dwg



PLAN - 20" WATER MAIN - STA. 47+50 TO STA. 53+00

SCALE: 1"=50'

PROPOSED TEST PITS	
TP-13	2" GAS

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45052 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

DESIGN BY: MU

DRAWN BY: MAS

CHKD BY: CM

REVISION	BY	DATE	F.M.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

DRAWING SCALE	
PLAN SCALE	1"=50'
PROFILE SCALE	HORIZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

PLAN – STA. 47+50 TO STA. 53+00

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

CONTRACT COMPLETION BOX	
Contractor:	
Date Completed:	
Inspector:	
Pipe Material (Pressure Only)	

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	–
SHEET 12 OF 15	
DRAWING NUMBER	–
FILE NO.	

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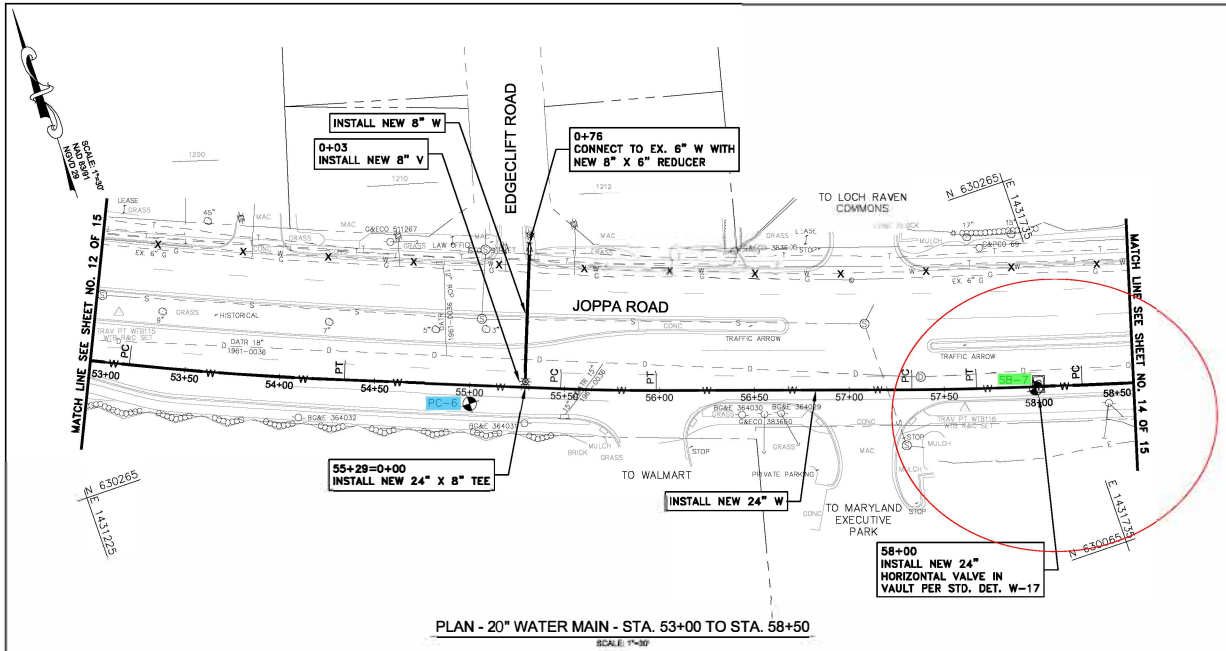


PLAN - 20" WATER MAIN - STA. 53+00 TO STA. 58+50

SCALE: 1"=30'

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

GRAPHIC SCALE

30 20 10 0 30

SCALE 1"=30'

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE:

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 45055 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

DESIGN BY: MU

DRAWN BY: MAS

CHKD BY: CM

REVISION	BY	DATE

F.W.A. NO.

R.O.W NO.

KEY SHEET

POSITION SHT

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						

DRAWING SCALE	
PLAN SCALE	1"=40'
PROFILE SCALE	HORIZ. 1"=40' VERT. 1"=4'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

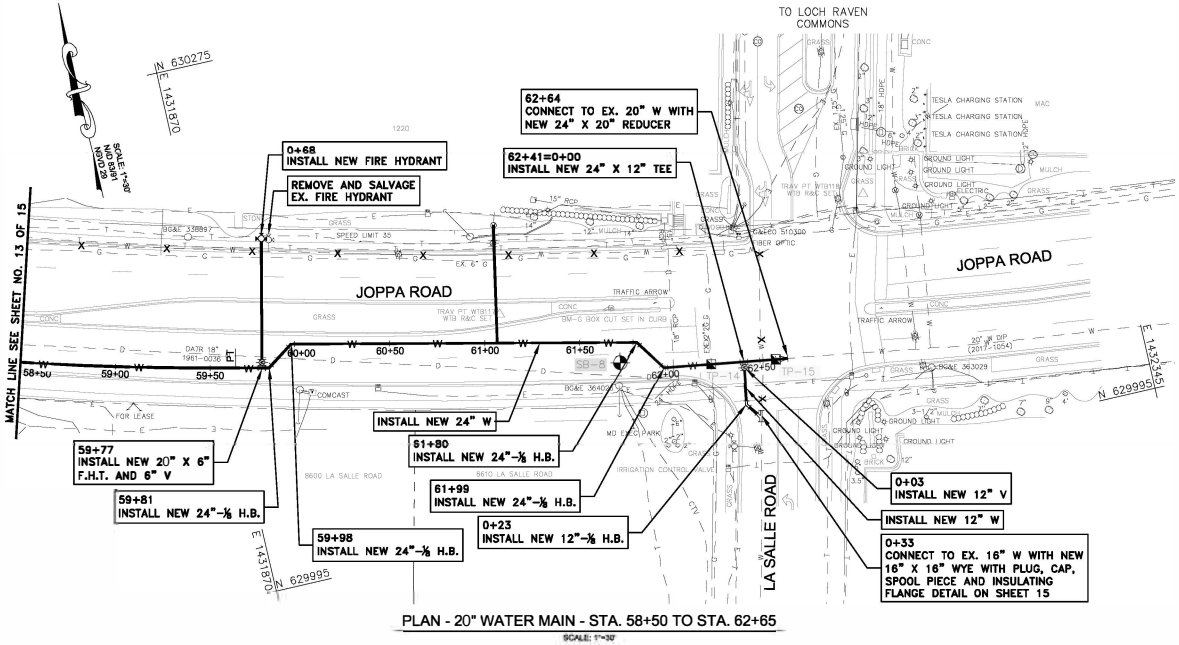
PLAN - STA. 53+00 TO STA. 58+50

SUBDIVISION: TOWSON

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	
SHEET 13 OF 15	
DRAWING NUMBER	
FILE NO.	

DWG. FILENAME: T:\Baltimore County Utilities\800-1200 Joppa Road\DWGS\gPS-0011_JOPPA.dwg



PLAN - 20" WATER MAIN - STA. 58+50 TO STA. 62+65

SCALE: 1"=30'

PROP. TEST PITS	
TP-14	2" GAS
TP-15	20" WATER

CONTRACT COMPLETION DATE

Contractor:

Date Completed:

Inspector:

Pipe Material (Pressure Only)

GRAPHIC SCALE

30 20 10 0 30

SCALE: 1"=30'

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

SEAL

30% DESIGN SUBMITTAL 9-26-2023

DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND; LICENSE NO. 40952 EXPIRATION DATE 10/21/24

ENGINEER: OMAR MUHAMMAD

THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY: DATE:

DESIGN BY: MB

DRAWN BY: MAB

CHKD BY: OM

REVISION	BY	DATE

P.W.A. NO.

E.O.W. NO.

KEY SHEET

POSITION SHT

DRAWING SCALE

PLAN SCALE 1"=40'

PROFILE SCALE HORZ. 1"=50' VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING XXXX-XXXX FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

20-INCH WATER MAIN REPLACEMENT

JOPPA ROAD

FROM FAIRMOUNT AVENUE TO LA SALLE ROAD

SUBDIVISION: TOWSON

PLAN – STA. 58+50 TO STA. 62+64

ELECTION DIST. NO.:09

SHEET DESIGNATION	CONTRACT NUMBER
JOB ORDER NUMBER	–
SHEET 14 OF 15	
DRAWING NUMBER	–
FILE NO.	

DWG. FILENAME: T:\Baltimore County Utilities\800-1200 Joppa Road\DWGS\p85-0012_JOPPA.dwg

D. BORING LOGS

Project No. 2019372-02

LOG OF BOREHOLE SB-1

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.8		9" Asphalt								
		Dry, Medium Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)								
2.5										
		Dry to Moist, Medium Dense, Light Gray to Tan, SILTY SAND (SM) with mica								
		20-12-10 N=22	1	SS	9/18 50%	2				
5		5-5-7 N=12	2	SS	10/18 56%	8				
		4-5-7 N=12	3	SS	12/18 67%	13				
10		3-5-6 N=11	4	SS	14/18 78%	15			33	
		5-7-11 N=18	5	SS	18/18 100%	14				
15										
15.0										
		- End of Boring @ 15 ft								
		- Borehole was backfilled upon completion								

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, Caved in 9.5 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/1/24	FINISHED:	2/1/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 2019372-02

LOG OF BOREHOLE SB-2

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG		SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.8		9" Asphalt									
		Dry, Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)	24-34-12 N=46	1	SS	8/18 44%	2				
2.5		Moist, Loose to Medium Dense, Reddish Brown, SILTY SAND (SM) with mica	5-4-5 N=9	2	SS	8/18 44%	17				
5			2-2-4 N=6	3	SS	6/18 33%	16			39	
10			5-3-4 N=7	4	SS	17/18 94%	14				
15			5-10-10 N=20	5	SS	18/18 100%	11				LL = NP PL = NP PI = 0
15.0		- End of Boring @ 15 ft - Borehole was backfilled upon completion									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, Caved in 9 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/1/24	FINISHED:	2/1/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-3

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.8		9" Asphalt								
		Dry, Medium Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)								
2.5										
		Dry, Medium Dense to Very Dense, Brown and Gray, SILTY SAND (SM) with mica								
		22-11-11 N=22	1	SS	6/18 33%	2				
		10-10-15 N=25	2	SS	6/18 33%	8				
5										
		12-24-39 N=63	3	SS	7/18 39%	8			24	
		24-49-50/5"	4	SS	10/17 59%	3				
10										
		50/5"	5	SS	5/5 100%	6				
15										
15.0										
		- End of Boring @ 15 ft								
		- Borehole was backfilled upon completion								

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, Caved in 9 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/2/24	FINISHED:	2/2/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-4

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.6	7" Asphalt									
	Dry, Medium Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)	12-7-11 N=18	1	SS	8/18 44%	4				
2.5	Dry, Loose to Medium Dense, Light Gray to Light Tan, SILTY SAND (SM) with mica and gravel	5-3-3 N=6	2	SS	6/18 33%	6				
5		5-7-9 N=16	3	SS	8/18 44%	9				
		6-8-10 N=18	4	SS	10/18 56%	12			17	
10										
		5-7-11 N=18	5	SS	14/18 78%	13				
15										
15.0										

- End of Boring @ 15 ft

- Borehole was backfilled upon completion

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, Caved in 9.5 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/6/24	FINISHED:	2/6/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-5

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG		SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.5		6" Asphalt									
		Dry, Medium Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)	8-8-7 N=15	1	SS	14/18 78%	10				
3.0											
		Moist, Medium Dense, Light Tan, SANDY SILT (ML)	3-4-6 N=10	2	SS	12/18 67%	29			87	
5											
6.0											
		Moist, Medium Dense to Very Dense, Light Tan to Light Gray, SILTY SAND (SM) with mica	4-7-8 N=15	3	SS	14/18 78%	18				LL = NP PL = NP PI = 0
			5-10-15 N=25	4	SS	16/18 89%	15				
10											
			20-35-45 N=80	5	SS	16/18 89%	10				
15											
15.0											
		- End of Boring @ 15 ft									
		- Borehole was backfilled upon completion									

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, Caved in 10 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/6/24	FINISHED:	2/6/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-6

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
		6" Asphalt 10" Gravel Base								
1.3		Dry, Firm, Dark Brown and Brown, SANDY CLAY (CL) with gravel (Fill)								
		12-6-5 N=11	1	SS	8/18 44%	4				
3.0		Moist, Medium Dense, Gray and Brown, SILTY SAND (SM) with mica and gravel (Fill)								
		2-5-7 N=12	2	SS	14/18 78%	15				
5.5		Dry, Medium Dense, Brown to Tan, SILTY SAND (SM) with mica and gravel								
5		14-12-14 N=26	3	SS	18/18 100%	9				
		7-13-13 N=26	4	SS	14/18 78%	7			19	
10										
		11-12-12 N=24	5	SS	16/18 89%	8				
15										
15.0		- End of Boring @ 15 ft - Borehole was backfilled upon completion								

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, Caved in 9 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/6/24	FINISHED:	2/6/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-7

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES: BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.6 7" Asphalt											
Moist, Firm, Gray, SANDY CLAY (CL) with trace of gravel (Fill)			7-4-6 N=10	1	SS	9/18 50%	20				
3.0											
Moist, Medium Dense, Tan, SANDY SILT (ML) (Fill)			3-5-9 N=14	2	SS	12/18 67%	19			60	
5.5		5									
Moist, Medium Dense to Loose to Medium Dense, Tan to Gray to Light Tan, SILTY SAND (SM) with mica			6-7-9 N=16	3	SS	16/18 89%	16			40	
			3-3-5 N=8	4	SS	10/18 56%	20				
		10									
			5-6-7 N=13	5	SS	14/18 78%	15				
15.0		15									
- End of Boring @ 15 ft											
- Borehole was backfilled upon completion											

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, Caved in 10 ft	@ 0 Hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	2/7/24	FINISHED:	2/7/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

Project No. 2019372-02

LOG OF BOREHOLE SB-8

CLIENT: The Wilson T. Ballard Company

PROJECT: **Joppa Road 20" Water Main Replacement**

ARCHITECT/ENGINEER:

SITE: **Baltimore County, Maryland**

SURFACE ELEV.:

		GRAPHIC LOG	DEPTH (FT)	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.6	7" Asphalt											
	Dry, Medium Dense, Light Tan, SILTY SAND (SM) with gravel (Fill)			19-15-8 N=23	1	SS	7/18 39%	3				
3.0												
	Moist, Medium Dense, Dark Gray, CLAYEY SAND (SC) with mica (Fill)			2-5-8 N=13	2	SS	10/18 56%	13				
5.5			5									
	Moist, Medium Dense, Dark Gray, SANDY SILT (ML)			4-6-11 N=17	3	SS	9/18 50%	19				
8.0												
	Moist, Medium Dense, Greenish Gray, SANDY SILT (ML) with mica			3-5-7 N=12	4	SS	12/18 67%	28			54	
12.0			10									
	Moist, Loose, Brown, SILTY SAND (SM) with mica			4-4-5 N=9	5	SS	18/18 100%	23				
15.0			15									
	- End of Boring @ 15 ft											
	- Borehole was backfilled upon completion											

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, Caved in 10 ft	@ 0 Hrs

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STARTED:	2/7/24	FINISHED:	2/7/24
DRILL CO.:	ABC	DRILL RIG:	Truck CME-45
DRILLER:	W.M.	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

E. LAB TEST RESULTS

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
SB-1	1.0							1.8			
SB-1	3.5							8.0			
SB-1	6.0							13.0			
SB-1	8.5				9.5	33		14.9			
SB-1	13.5							14.0			
SB-2	1.0							1.5			
SB-2	3.5							16.6			
SB-2	6.0				19	39		16.1			
SB-2	8.5							14.4			
SB-2	13.5	NP	NP	NP				10.6			
SB-3	1.0							2.0			
SB-3	3.5							8.1			
SB-3	6.0				9.5	24		7.7			
SB-3	8.5							3.1			
SB-3	13.5							5.7			
SB-4	1.0							3.6			
SB-4	3.5							6.2			
SB-4	6.0							9.2			
SB-4	8.5				38	17		11.5			
SB-4	13.5							12.8			
SB-5	1.0							9.8			
SB-5	3.5				4.75	87		28.7			
SB-5	6.0	NP						17.8			
SB-5	8.5							14.5			
SB-5	13.5							9.9			
SB-6	1.0							4.2			
SB-6	3.5							15.0			
SB-6	6.0							8.5			
SB-6	8.5				9.5	19		6.6			
SB-6	13.5							7.7			
SB-7	1.0							19.6			
SB-7	3.5				9.5	60		18.9			
SB-7	6.0				9.5	40		15.6			
SB-7	8.5							19.8			
SB-7	13.5							15.1			
SB-8	1.0							2.8			
SB-8	3.5							13.2			
SB-8	6.0							18.8			
SB-8	8.5				9.5	54		28.1			
SB-8	13.5							22.7			

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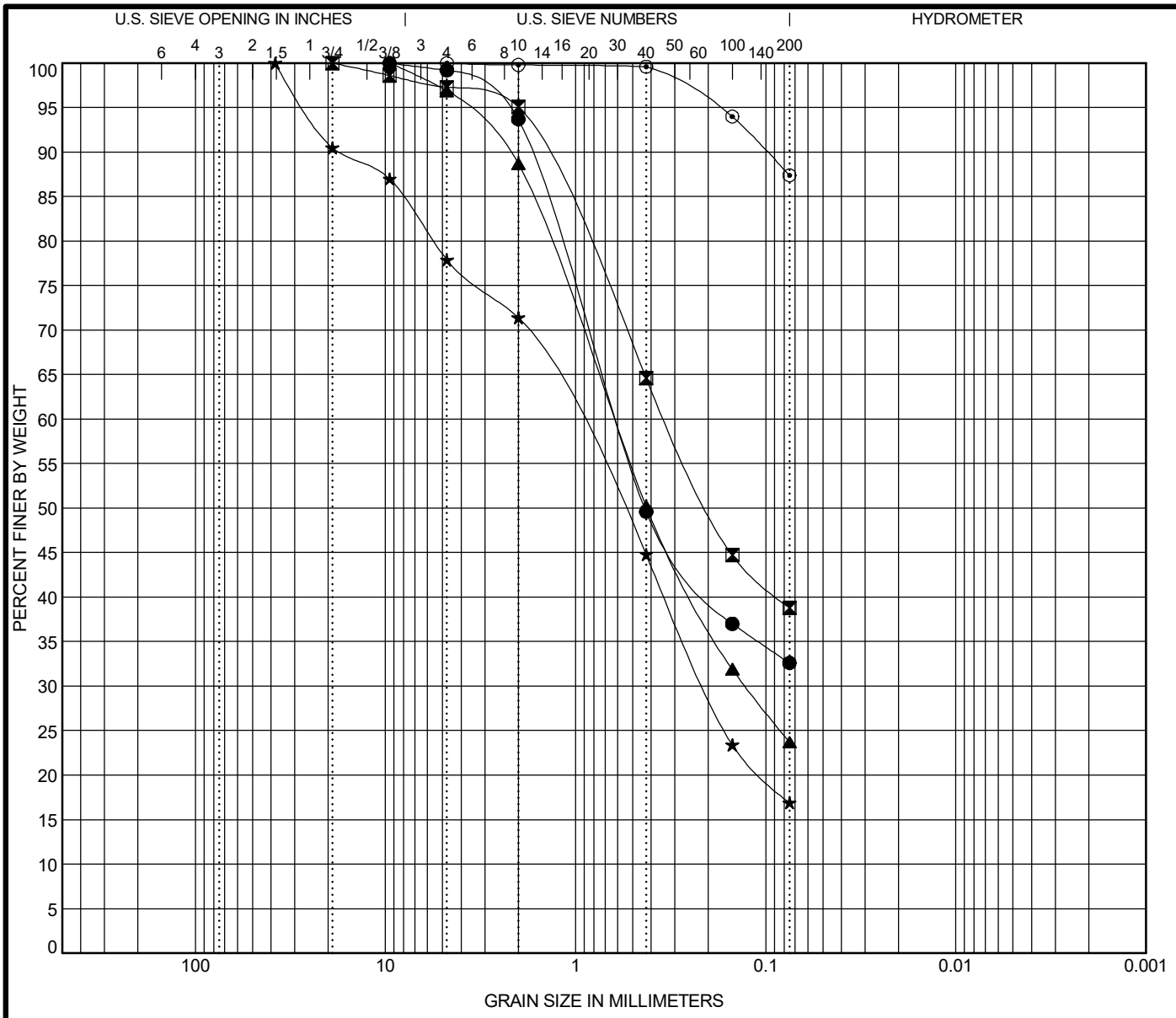
Summary of Laboratory Results

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

US LAB SUMMARY 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	SB-1	8.5						
⊠	SB-2	6.0						
▲	SB-3	6.0						
★	SB-4	8.5						
⊙	SB-5	3.5						

	Specimen Identification		D100	D60	D50	D30	%Gravel	%Sand	%Silt	%Clay
●	SB-1	8.5	9.5	0.612	0.431		0.8	66.6	32.6	
⊠	SB-2	6.0	19	0.334	0.198		2.7	58.5	38.8	
▲	SB-3	6.0	9.5	0.63	0.42	0.128	3.1	73.2	23.7	
★	SB-4	8.5	38	1.03	0.575	0.207	22.1	61.0	16.9	
⊙	SB-5	3.5	4.75				0.0	12.6	87.4	

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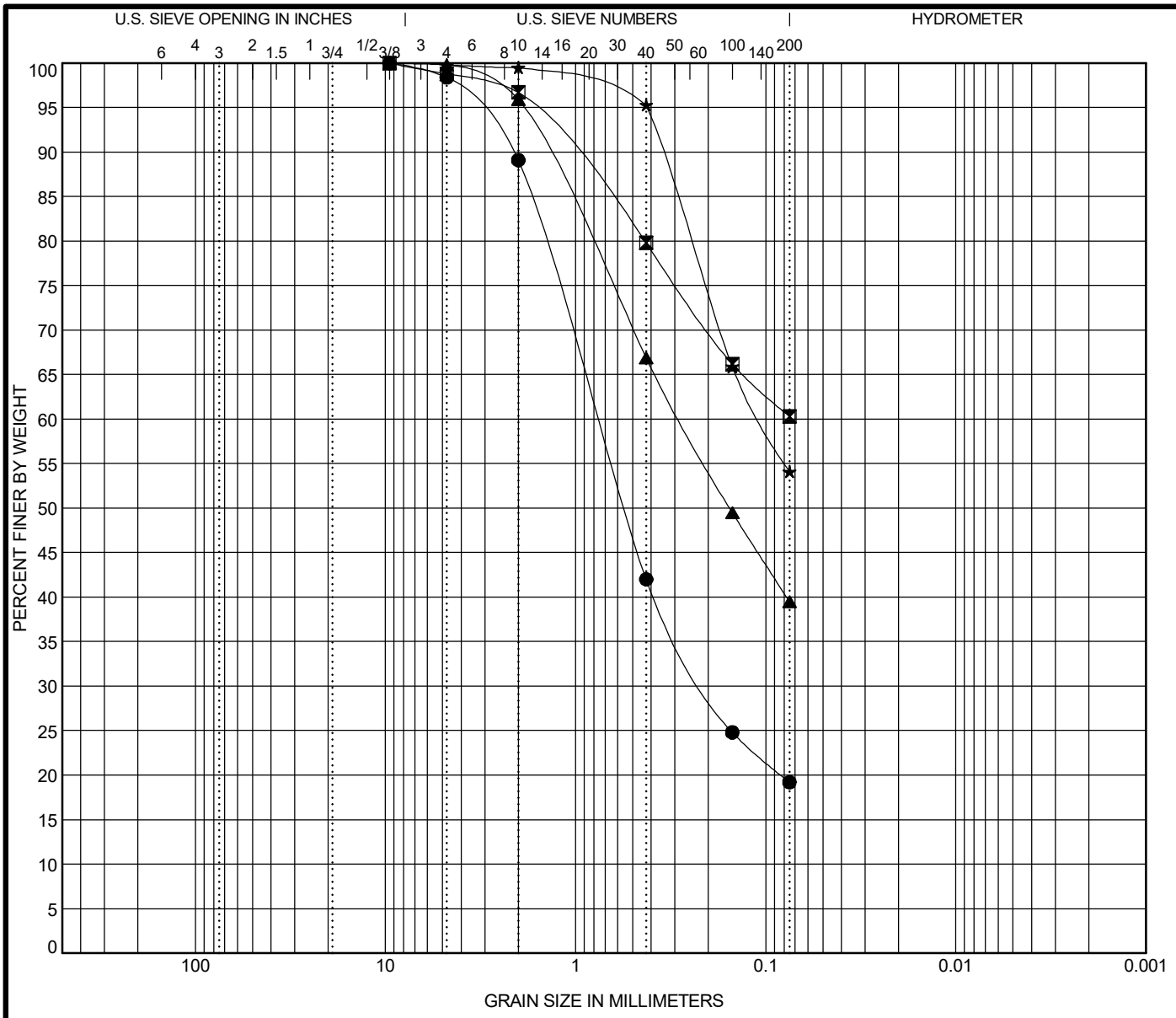
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

US GRAIN SIZE 2019372-02 JOPPA RD WMR.GPJ AB CONS.GDT 2/13/24



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	SB-6	8.5						
⊠	SB-7	3.5						
▲	SB-7	6.0						
★	SB-8	8.5						

	Specimen Identification		D100	D60	D50	D30	%Gravel	%Sand	%Silt	%Clay
●	SB-6	8.5	9.5	0.768	0.553	0.206	1.6	79.2	19.2	
⊠	SB-7	3.5	9.5				1.2	38.5	60.3	
▲	SB-7	6.0	9.5	0.281	0.155		0.2	60.3	39.5	
★	SB-8	8.5	9.5	0.106			0.2	45.7	54.1	

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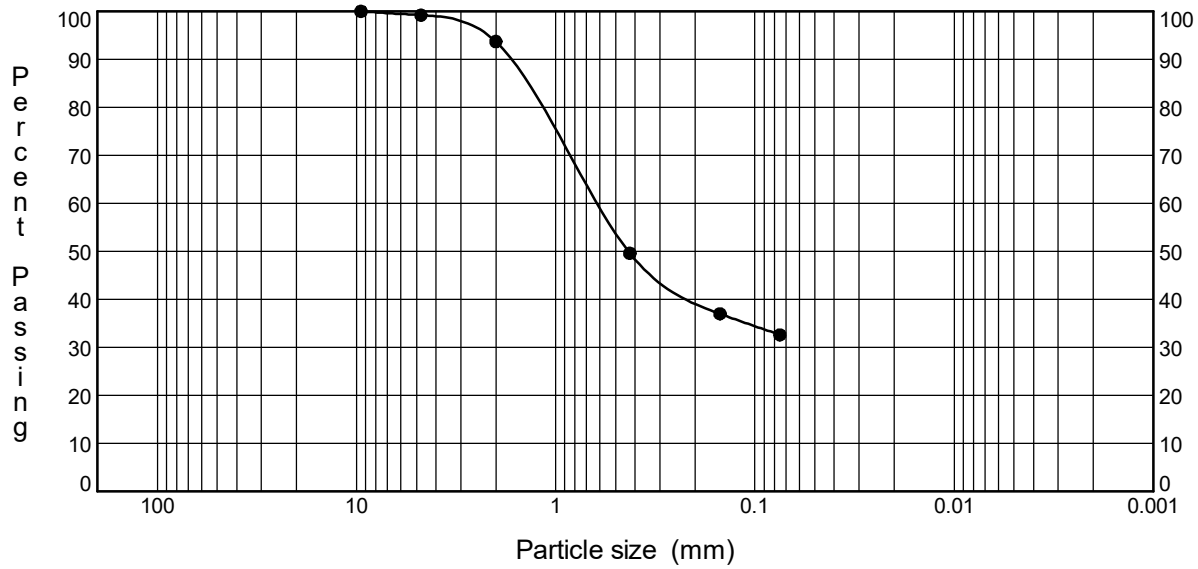
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

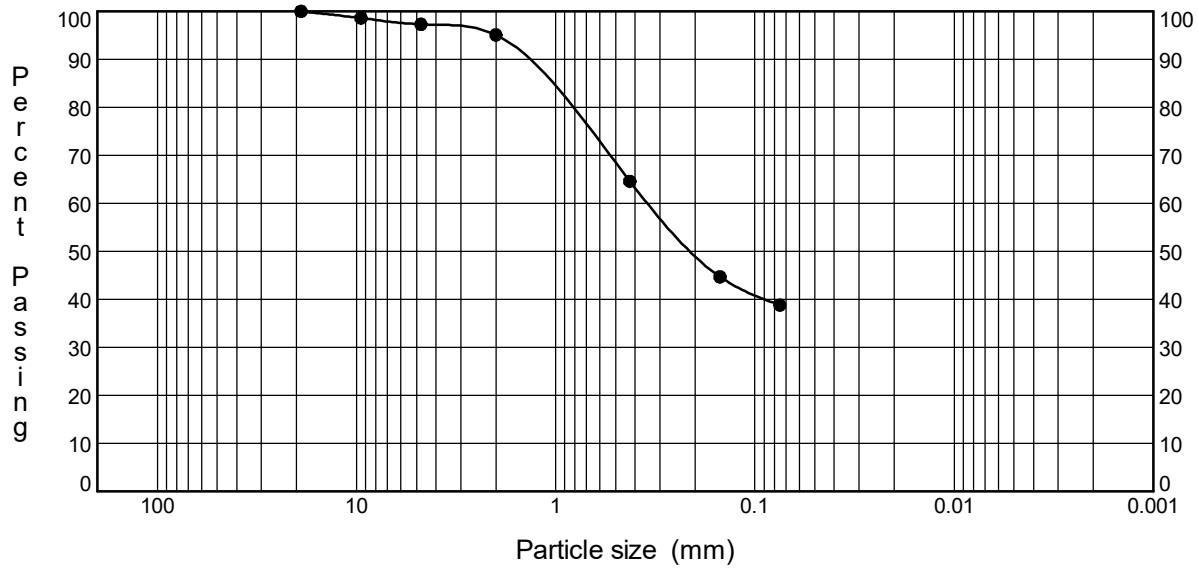
US GRAIN SIZE 2019372-02 JOPPA RD WMR.GPJ AB CONS.GDT 2/13/24

BOREHOLE NO. **SB-1** DEPTH **8.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **SB-2** DEPTH **6.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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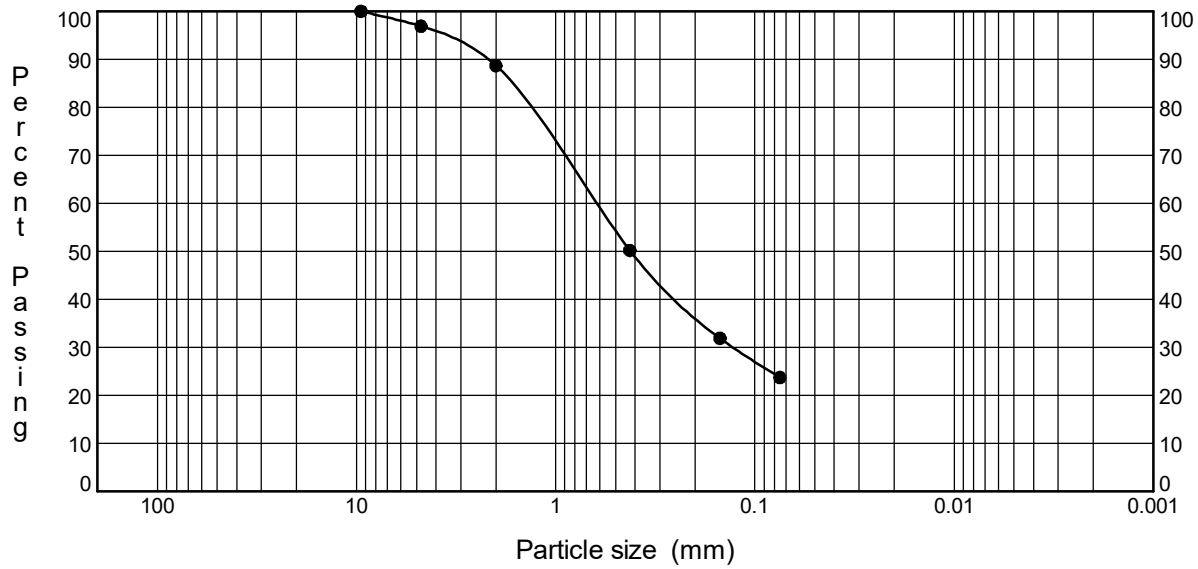
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

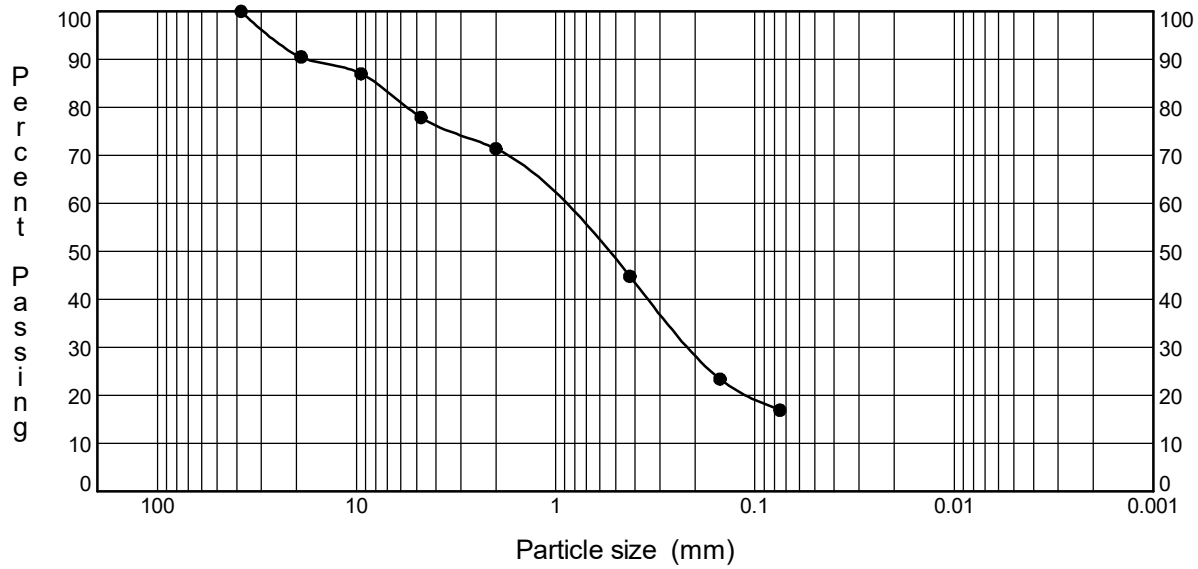
US GSD DOUBLE 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

BOREHOLE NO. **SB-3** DEPTH **6.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **SB-4** DEPTH **8.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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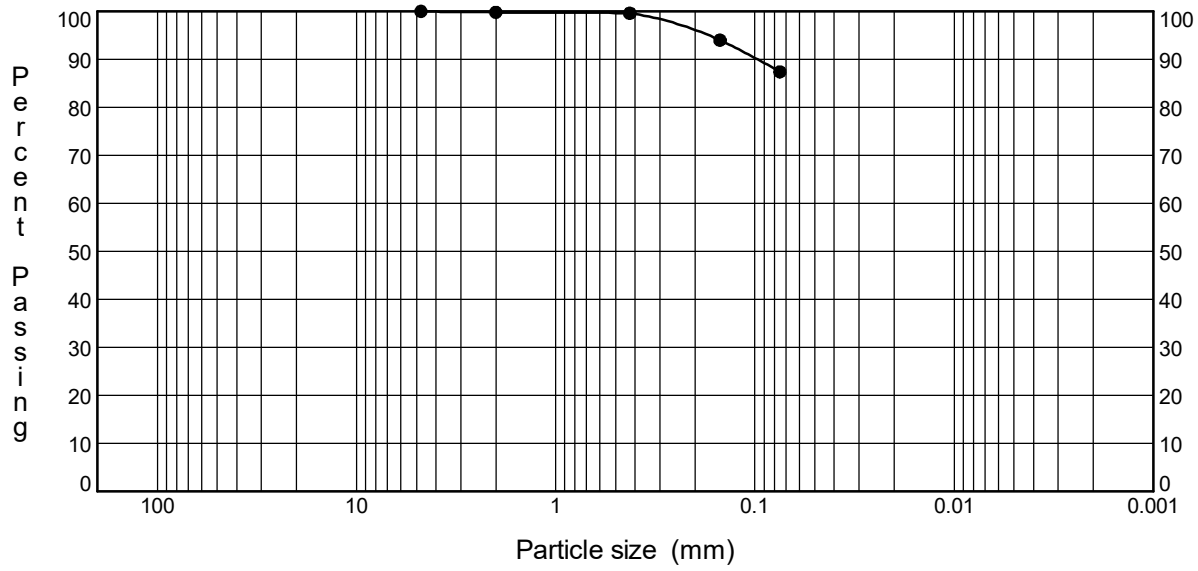
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

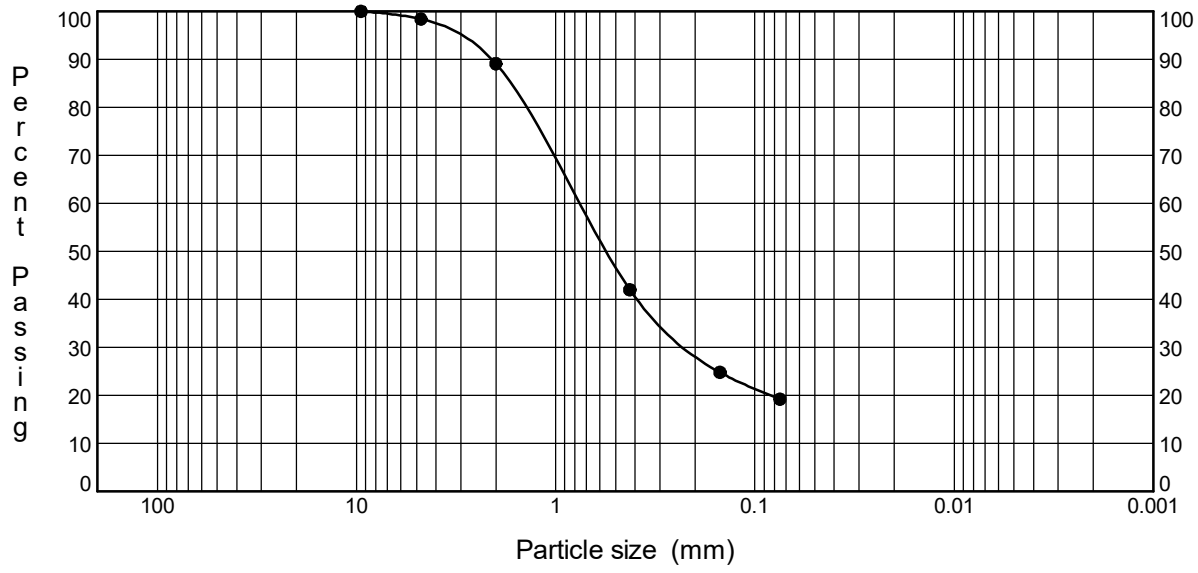
US GSD DOUBLE 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

BOREHOLE NO. **SB-5** DEPTH **3.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **SB-6** DEPTH **8.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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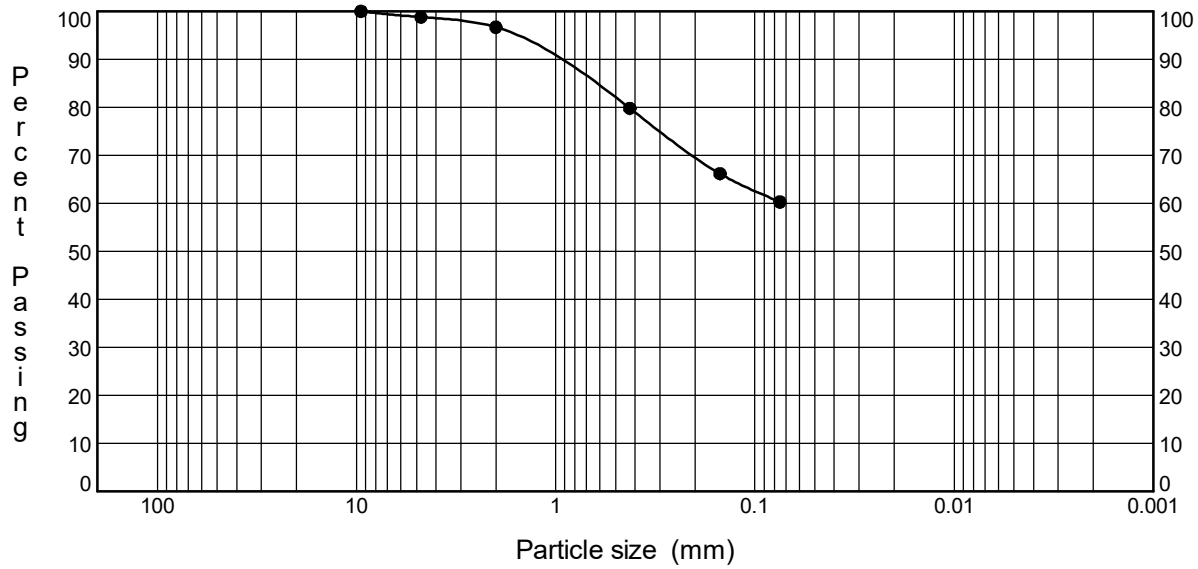
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

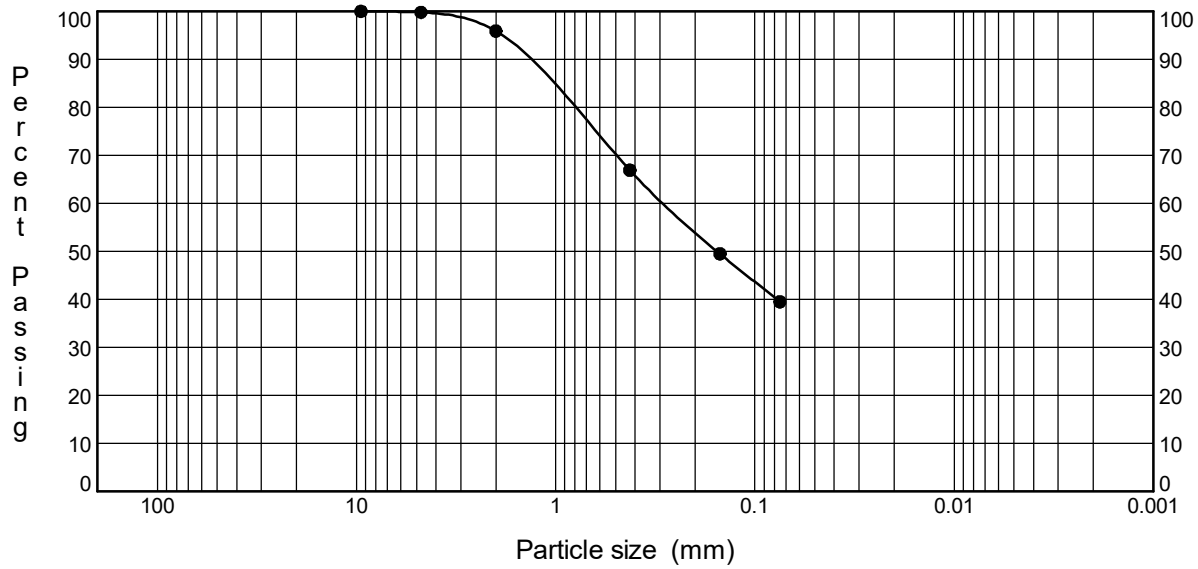
US GSD DOUBLE 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

BOREHOLE NO. **SB-7** DEPTH **3.5**



Cobbles	Gravel: coarse	Gravel: fine	Sand: coarse	Sand: medium	Sand: fine	Silt	Clay

BOREHOLE NO. **SB-7** DEPTH **6.0**



Cobbles	Gravel: coarse	Gravel: fine	Sand: coarse	Sand: medium	Sand: fine	Silt	Clay

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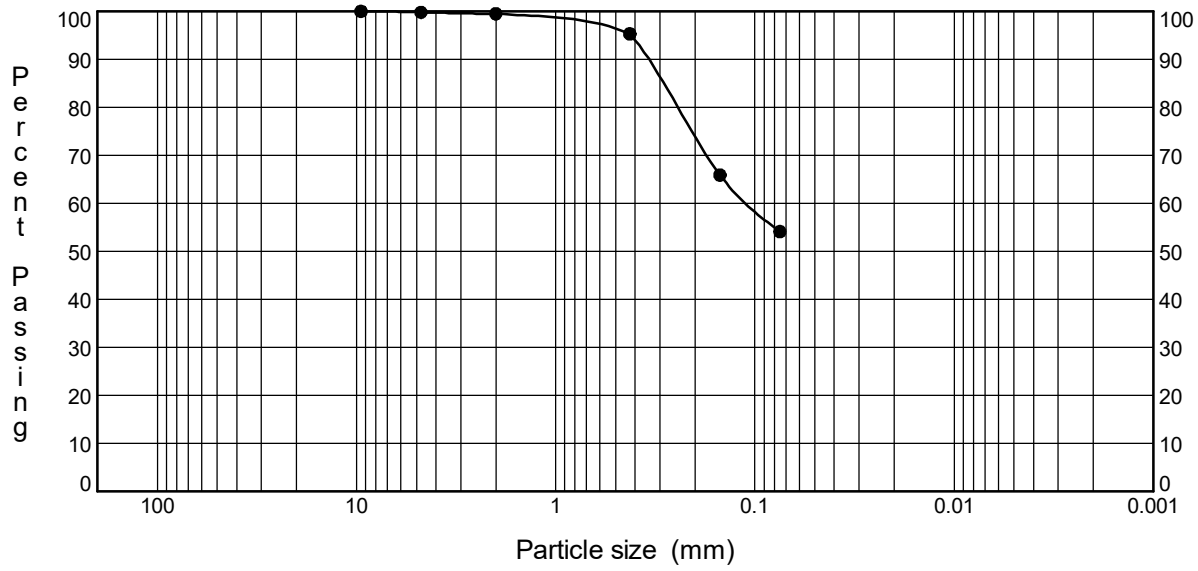
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

US GSD DOUBLE 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

BOREHOLE NO. **SB-8** DEPTH **8.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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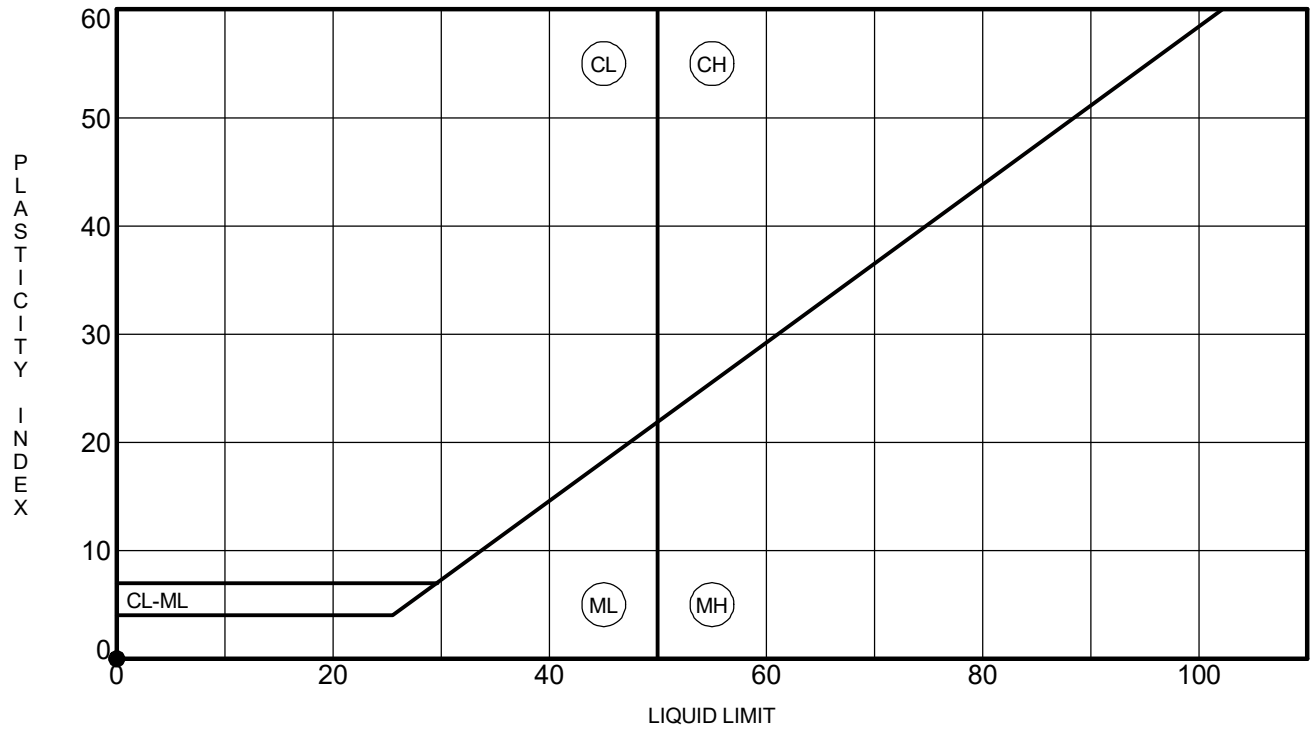
GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

US GSD DOUBLE 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**SB-2**	**13.5**	**NP**	**NP**	**NP**		

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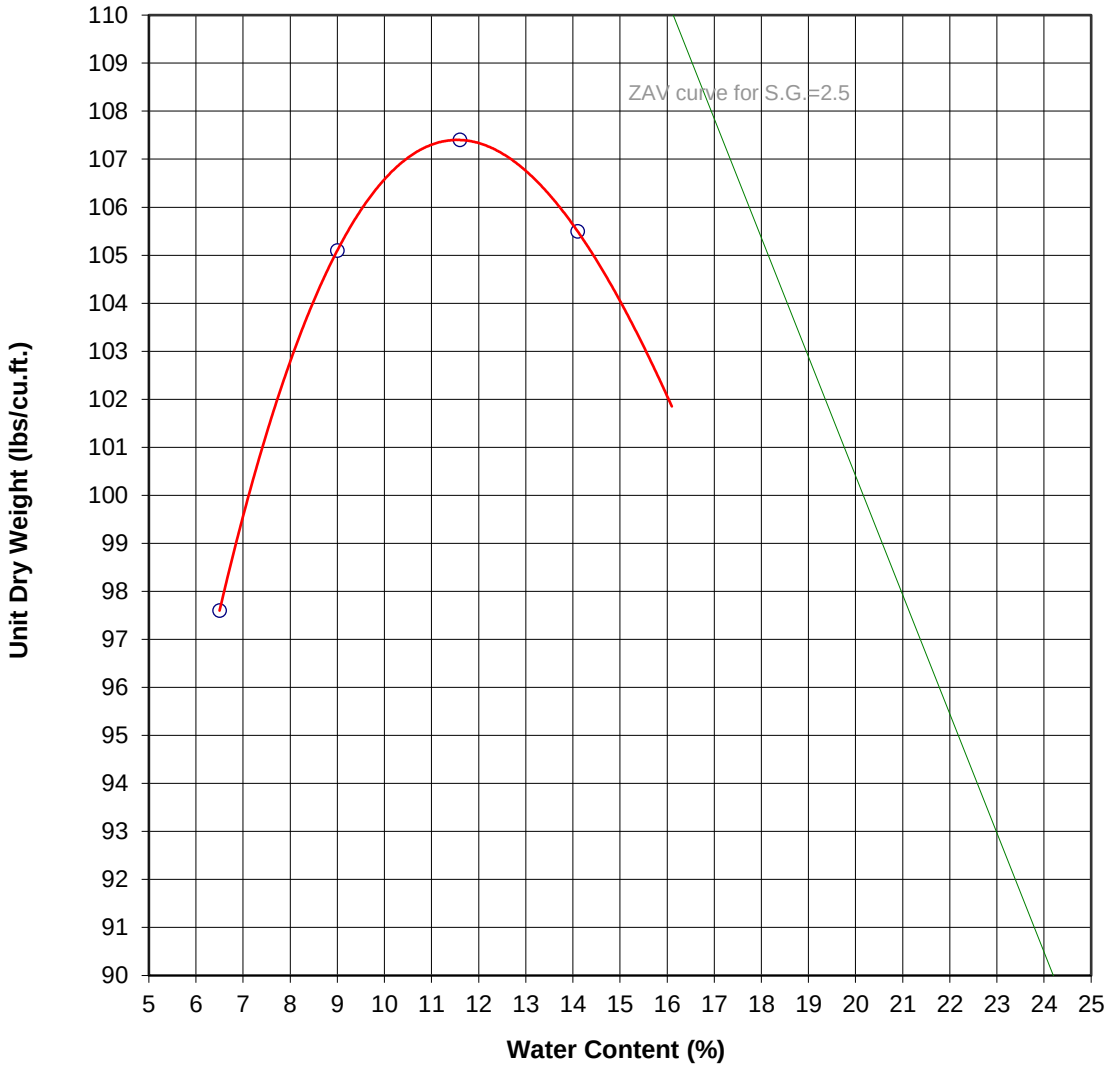
ATTERBERG LIMITS' RESULTS

CLIENT: The Wilson T. Ballard Company
PROJECT NO.: 2019372-02
PROJECT: Joppa Road 20" Water Main Replacement
SITE:
Baltimore County, Maryland

US ATTERBERG_LIMITS 2019372-02 JOPPA RD WMR.GPJ AB_CONS.GDT 2/13/24

LABORATORY COMPACTION TEST RESULT

Modified Effort (ASTM D1557 / AASHTO T180)



Sample Description: Tan Silty Sand with mica and trace of gravel

Classification: SM / A-2-4

Test Method: A

Soil Engineering Properties

Liquid Limit: Non-Plasticity

Plastic Limit: Non-Plasticity

Plasticity Index: Non-Plasticity

Proctor Data and Results

Max. Unit Dry Weight **106.2** lbs/cu.ft.

Opt. Water Content **12.7** %

Corr. Max. Unit Dry Weight **n/a**

Corr. Opt. Water Content **n/a**

Gradation	
Sieve No.	% Passing
3"	100.0
1 1/2"	100.0
3/4"	100.0
3/8"	97.5
4	94.2
10	88.4
40	35.1
200	20.6

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Job No.: 2019372-02

Project: Joppa Road Water Main Replacement

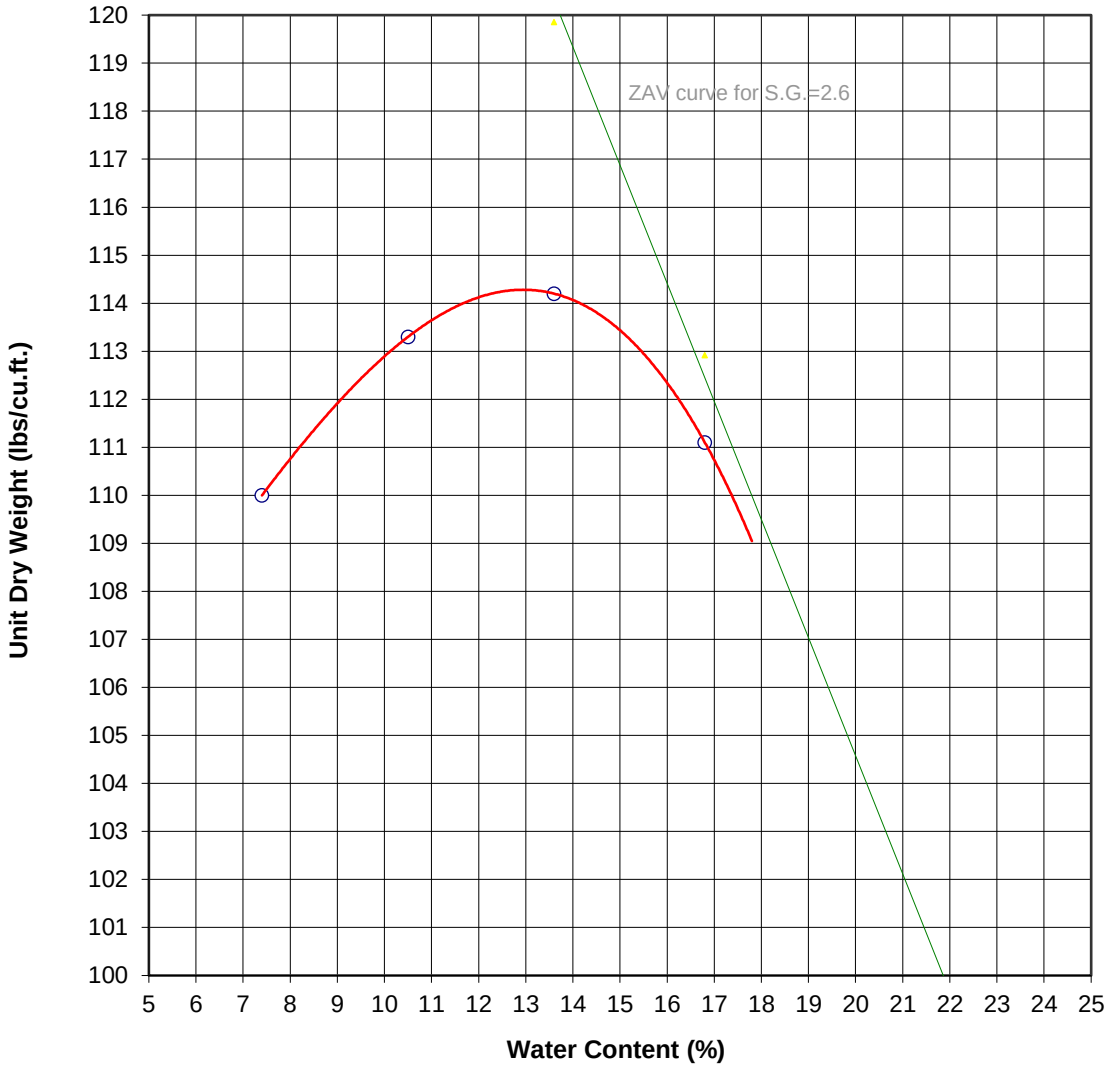
Sample No.: Bag (2 to 6 ft)

Sample Location: SB-1

Test Date: 2/12/2024

LABORATORY COMPACTION TEST RESULT

Modified Effort (ASTM D1557 / AASHTO T180)



Sample Description: Brown Silty Sand with mica and little gravel

Classification: SM / A-2-4

Test Method: A

Soil Engineering Properties

Liquid Limit: Non-Plasticity

Plastic Limit: Non-Plasticity

Plasticity Index: Non-Plasticity

Proctor Data and Results

Max. Unit Dry Weight: **114.3** lbs/cu.ft.

Opt. Water Content: **12.0** %

Corr. Max. Unit Dry Weight: **n/a**

Corr. Opt. Water Content: **n/a**

Gradation	
Sieve No.	% Passing
3"	100.0
1 1/2"	100.0
3/4"	100.0
3/8"	93.5
4	89.7
10	84.6
40	40.6
200	22.1

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Job No.: 2019372-02

Project: Joppa Road water Main replacement

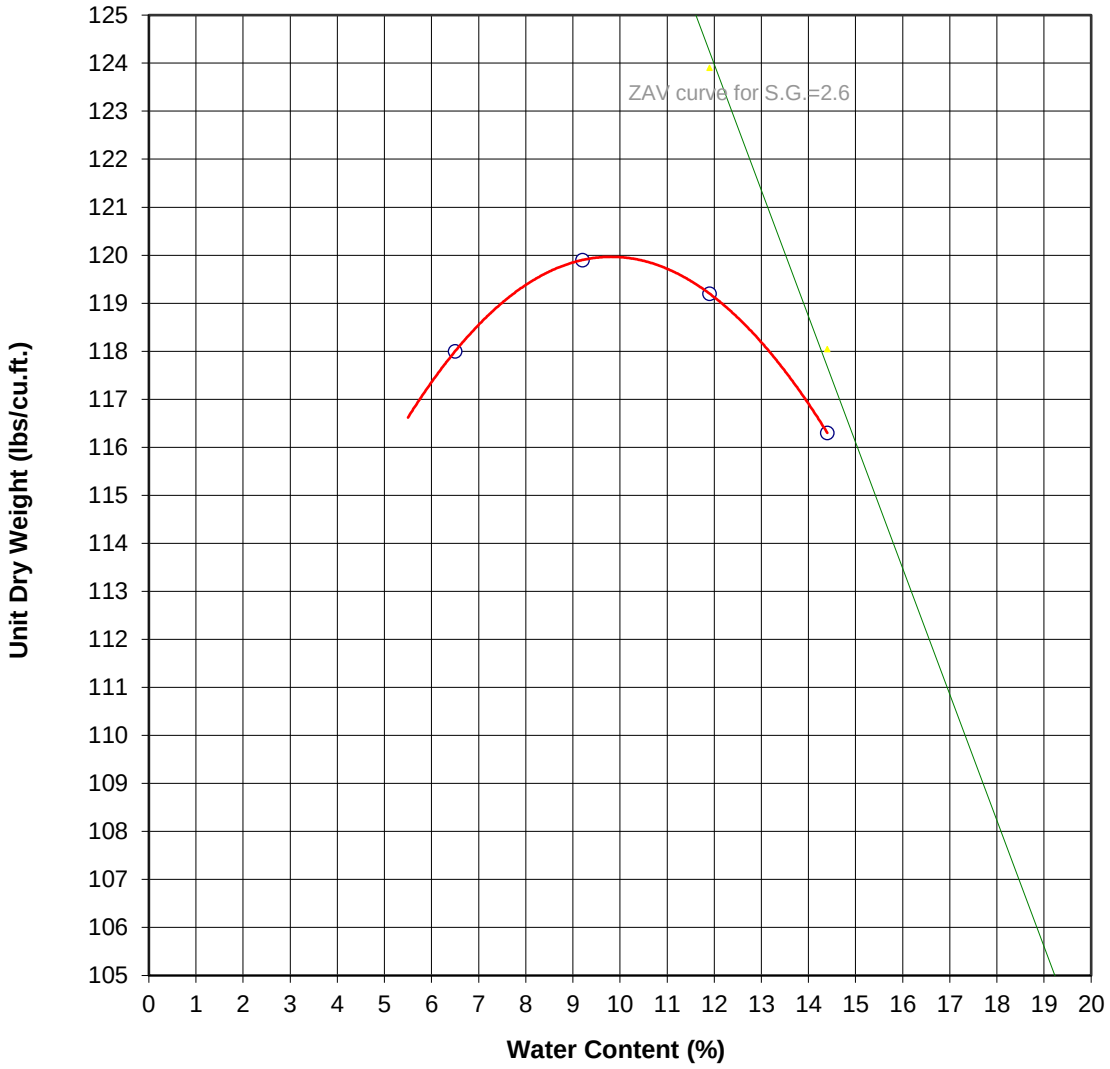
Sample No.: Bag (1 to 6 ft)

Sample Location: SB-3

Test Date: 2/12/2024

LABORATORY COMPACTION TEST RESULT

Modified Effort (ASTM D1557 / AASHTO T180)



Sample Description:	Light Tan Sandy Silt with trace of gravel	
Classification:	ML / A-4	
Test Method:	A	
Soil Engineering Properties		
Liquid Limit:	Non-Plasticity	
Plastic Limit:	Non-Plasticity	
Plasticity Index:	Non-Plasticity	
Proctor Data and Results		
Max. Unit Dry Weight	120.0	lbs/cu.ft.
Opt. Water Content	9.8	%
Corr. Max. Unit Dry Weight	n/a	
Corr. Opt. Water Content	n/a	

Gradation	
Sieve No.	% Passing
3"	100.0
1 1/2"	100.0
3/4"	100.0
3/8"	95.7
4	92.6
10	90.1
40	85.9
200	58.4

AB CONSULTANTS, INC.
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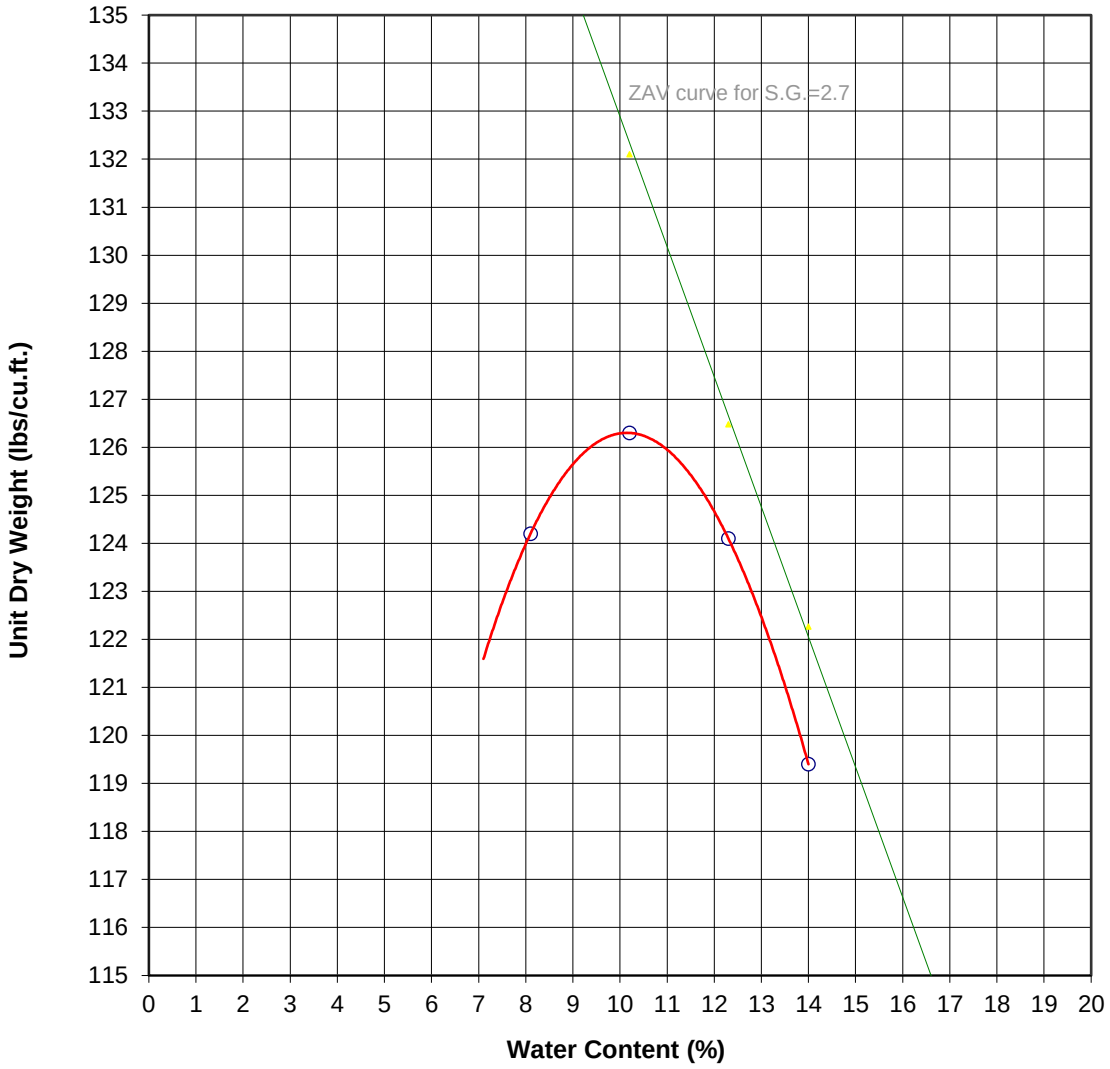
Job No.:	2019372-02
Project:	Joppa Road water Main replacement
Sample No.:	Bag (2 to 6 ft)
Sample Location:	SB-5
Test Date:	2/2/2024

LABORATORY COMPACTION TEST RESULT

Modified Effort (ASTM D1557 / AASHTO T180)



Sample Description:	Brown and Dark Gray Sandy Silt with mica and trace of gravel	
Classification:	ML / A-4	
Test Method:	A	
Soil Engineering Properties		
Liquid Limit:	Non-Plasticity	
Plastic Limit:	Non-Plasticity	
Plasticity Index:	Non-Plasticity	
Proctor Data and Results		
Max. Unit Dry Weight	**126.3**	lbs/cu.ft.
Opt. Water Content	**10.2**	%
Corr. Max. Unit Dry Weight	**n/a**	
Corr. Opt. Water Content	**n/a**	

Gradation	
Sieve No.	% Passing
3"	100.0
1 1/2"	100.0
3/4"	100.0
3/8"	97.6
4	96.2
10	93.0
40	77.2
200	57.6

AB CONSULTANTS, INC.
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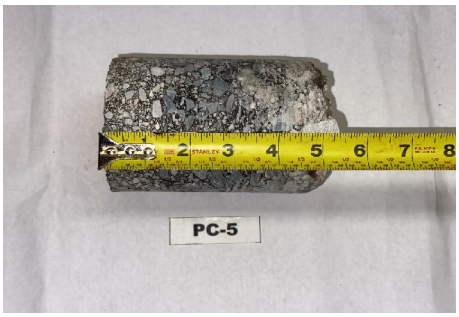
Job No.:	2019372-02
Project:	Joppa Road water Main replacement
Sample No.:	Bag (5 to 8 ft)
Sample Location:	SB-8
Test Date:	2/7/2024

F. PAVEMENT CORE SUMMARY

Coring Number	Pavement Thickness			Picture
	Asphalt (in.)	Stone Base (in.)	Total Thickness (in.)	
PC-1	9.5	10.5	20	
PC-2	6	13	19	
PC-3	6	7.5	13.5	
PC-4	6	9.5	15.5	

Coring Number	Pavement Thickness			Picture
	Asphalt (in.)	Stone Base (in.)	Total Thickness (in.)	
PC-5	5.25	10	15.25	
PC-6	5	12	17	

APPENDIX B

Test Hole Reports

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: WESLEY WITTBECKER

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
120 FEET NORTHWEST OF FAIRMOUNT AVENUE
TOWSON, MARYLAND 21286

CLIENT PROJECT • 2019-01

AB PROJECT • 2019372-02

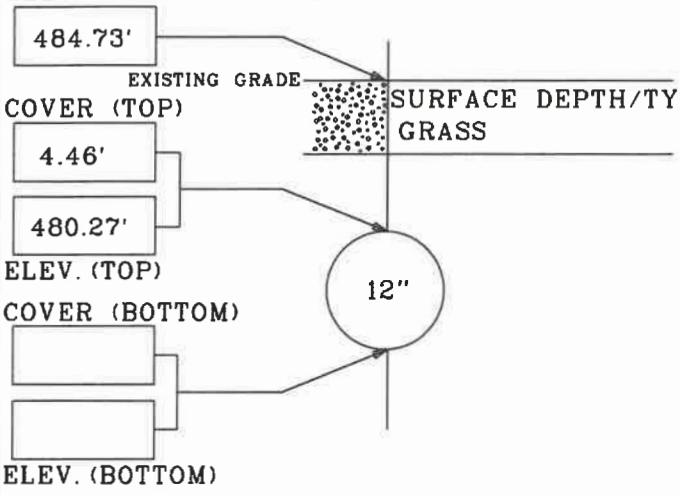
SHEET • 3 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-01 DATE DUG: 12-15-23

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BALTIMORE CITY 12" C/I WATER

ELEV. SURVEY MARKER



TYPE OF MARKER SET: HUB

AT EXISTING GRADE OF: GRASS

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

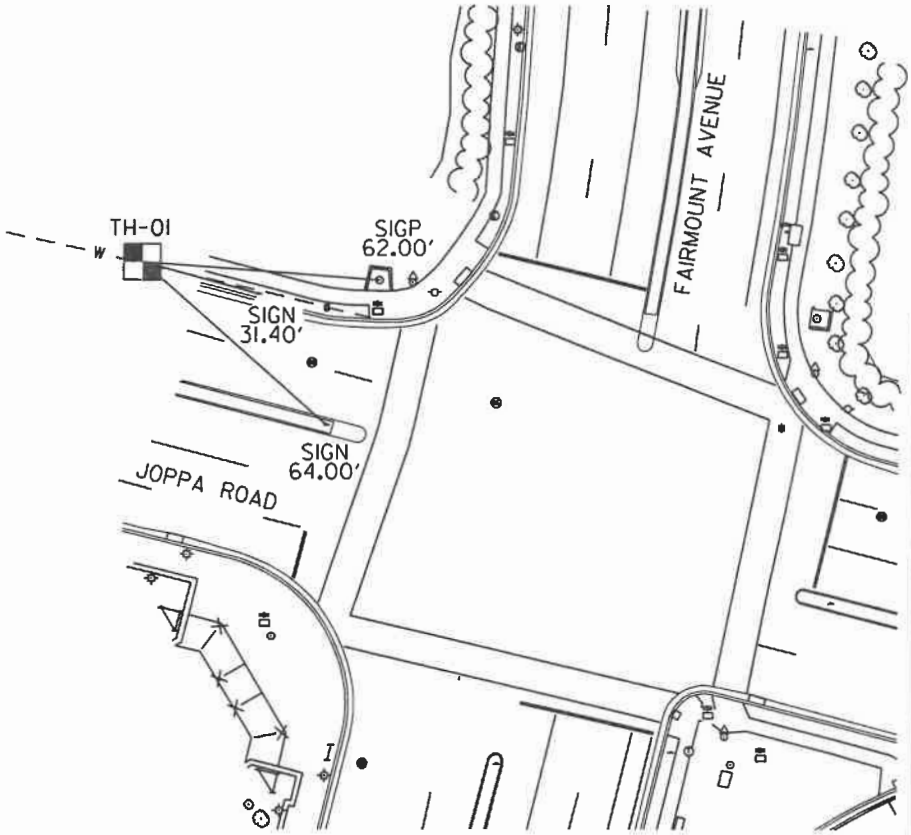
NORTHING: 632258.4796

EASTING: 1426349.1569

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: G192 ELEV.= 485.05'

NOTES: HUB SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-725-2650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR
EXP 10-4-2024

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: WESLEY WITTBECKER

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT FAIRMOUNT AVENUE
TOWSON, MARYLAND 21286

CLIENT PROJECT • 2019-01

AB PROJECT • 2019372-02

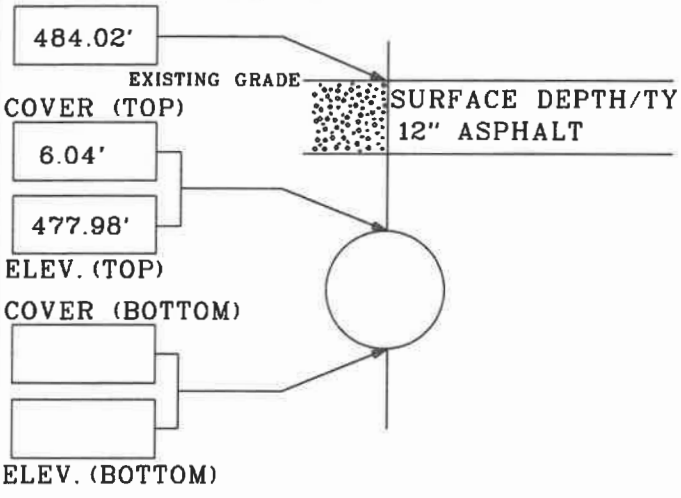
SHEET • 3 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-02 DATE DUG: 12-15-23

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BALTIMORE CITY UNKNOWN SIZE CONC. WATER

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

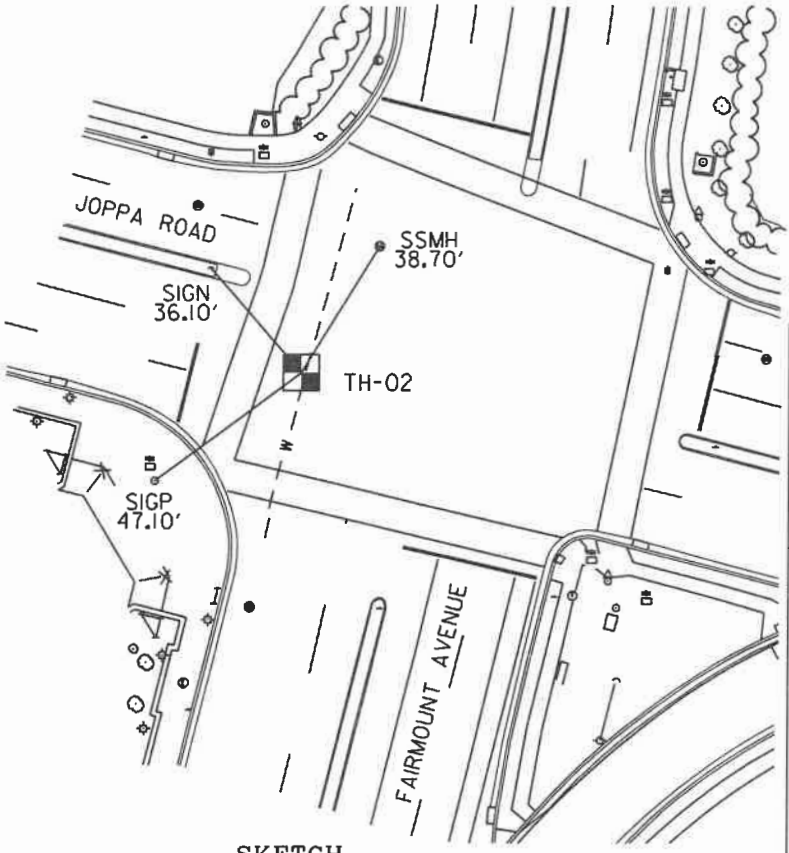
NORTHING: 632189.1249

EASTING: 1426421.0360

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: G192 ELEV.= 485.05'

NOTES: UNABLE TO VERIFY SIZE OF UTILITY DUE TO ITS LARGE SIZE. EXPOSED TOP OF WHAT APPEARS TO BE A CONCRETE TUNNEL.



SKETCH
NOT TO SCALE:

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-728-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961

Exp 10/7/2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: FAIRMOUNT AVENUE
AT JOPPA ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

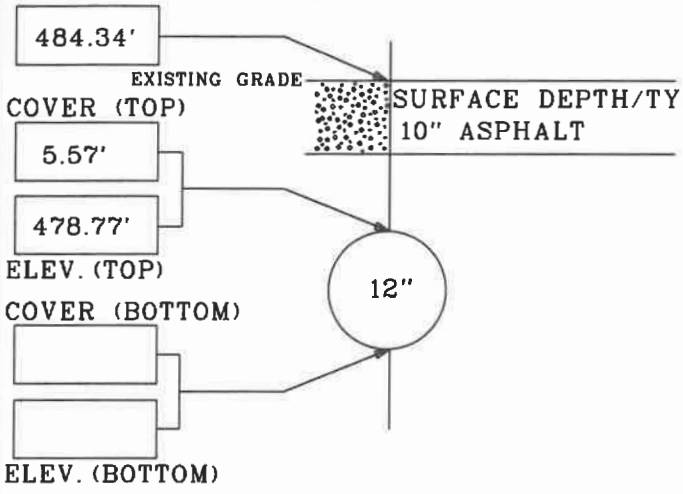
SHEET * 3 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-03 DATE DUG: 12-21-23

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BALTIMORE CITY 12" D/I WATER

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDERBERGER

TEST HOLE SURVEY INFORMATION

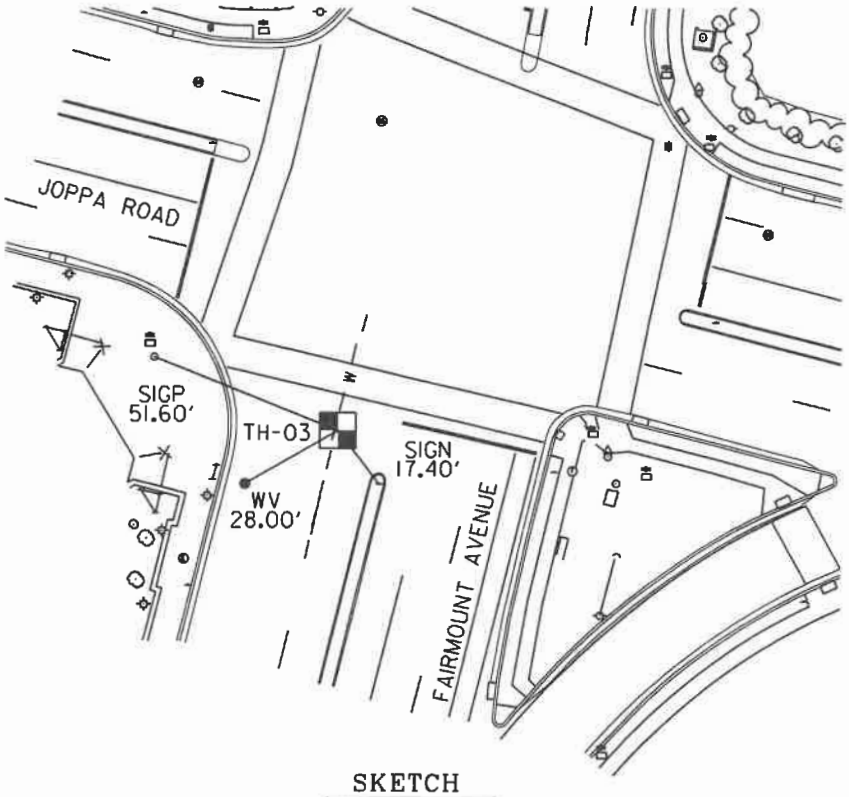
NORTHING: 632141.8473

EASTING: 1426430.9710

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: G192 ELEV.= 485.05'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT FAIRMOUNT AVENUE
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

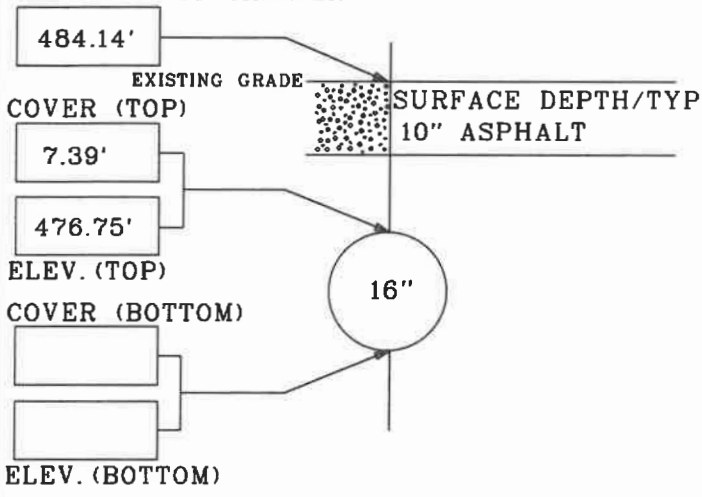
SHEET * 3 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-04 DATE DUG: 12-21-23

ANTICIPATED UTILITY: GAS

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BGE 16" C/I GAS

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

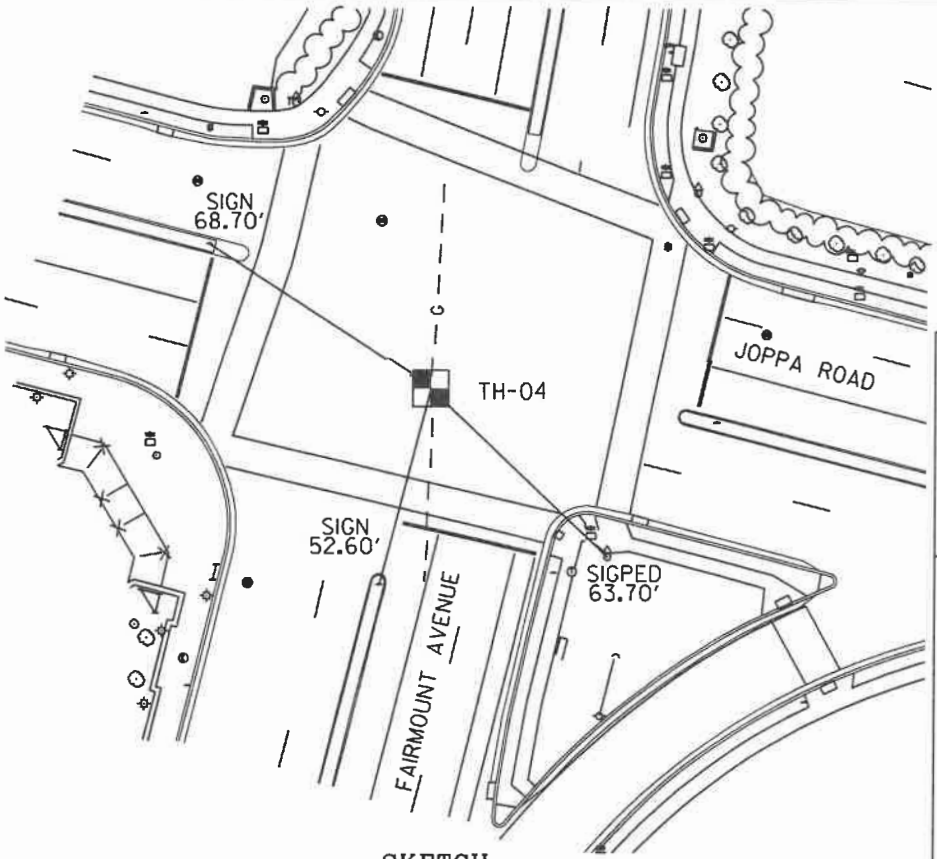
NORTHING: 632178.5333

EASTING: 1426455.3703

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: G192 ELEV.= 485.05'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

NAVD 88
NAD 83/91

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7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961

Exp 10/7/2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: WESLEY WITTBECKER

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT FAIRMOUNT AVENUE
TOWSON, MARYLAND 21286

CLIENT PROJECT • 2019-01

AB PROJECT • 2019372-02

SHEET • 3 OF 15 PLAN SCALE: 1"-30'

TEST HOLE NO: TH-05 DATE DUG: 12-15-23

ANTICIPATED UTILITY: TELEPHONE

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
MCI 18" H. X 14" W. CONC. TELECOM DUCT

ELEV. SURVEY MARKER

484.23'

EXISTING GRADE

COVER (TOP)

4.01'

480.22'

ELEV. (TOP)

COVER (BOTTOM)

5.48'

478.75'

ELEV. (BOTTOM)

SURFACE DEPTH/TYPE
10" ASPHALT

18"

14"

TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

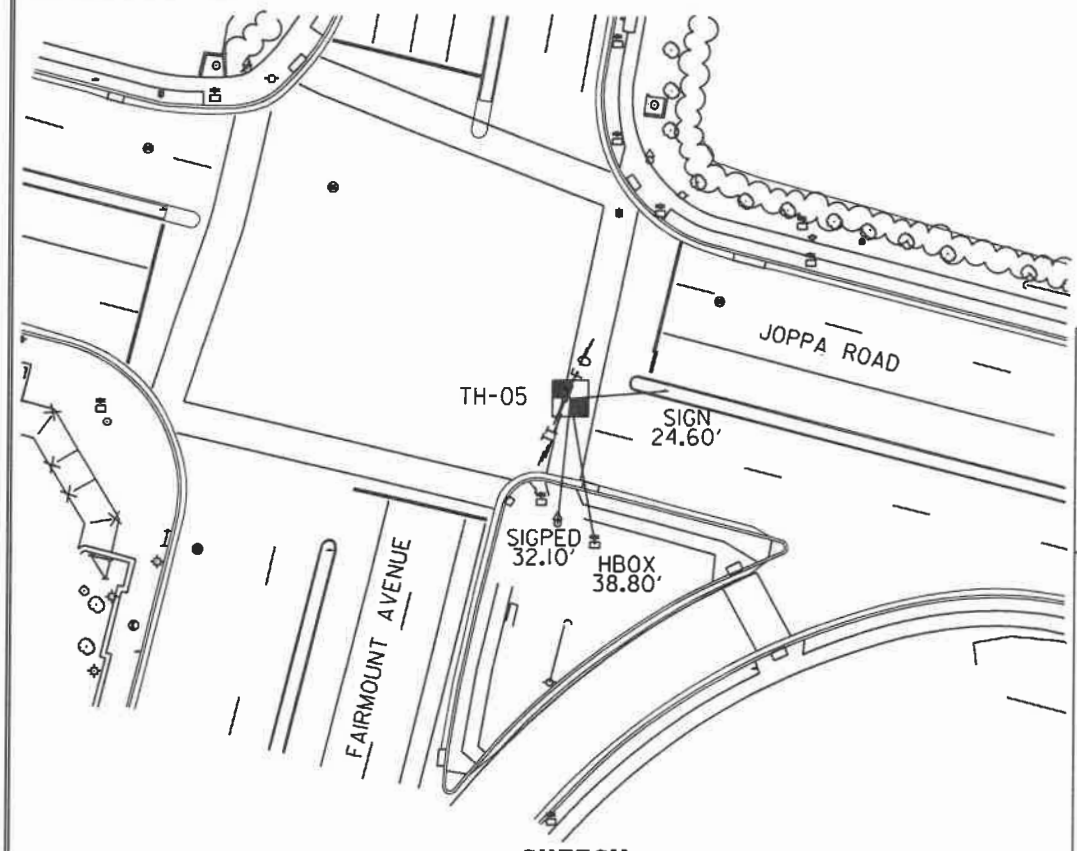
NORTHING: 632167.4852

EASTING: 1426504.2202

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: G192 ELEV.= 485.05'

NOTES: MAG. NAIL SET OVER CENTER OF DUCT BANK.



SKETCH
NOT TO SCALE

NAVD 88

NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
TEL - (443) 729-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT PROVIDENCE ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

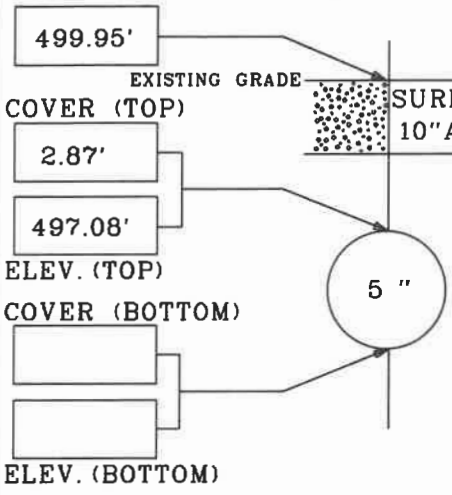
SHEET * 6 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-06 DATE DUG: 12-15-23

ANTICIPATED UTILITY: GAS

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BGE 5" W/S GAS

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

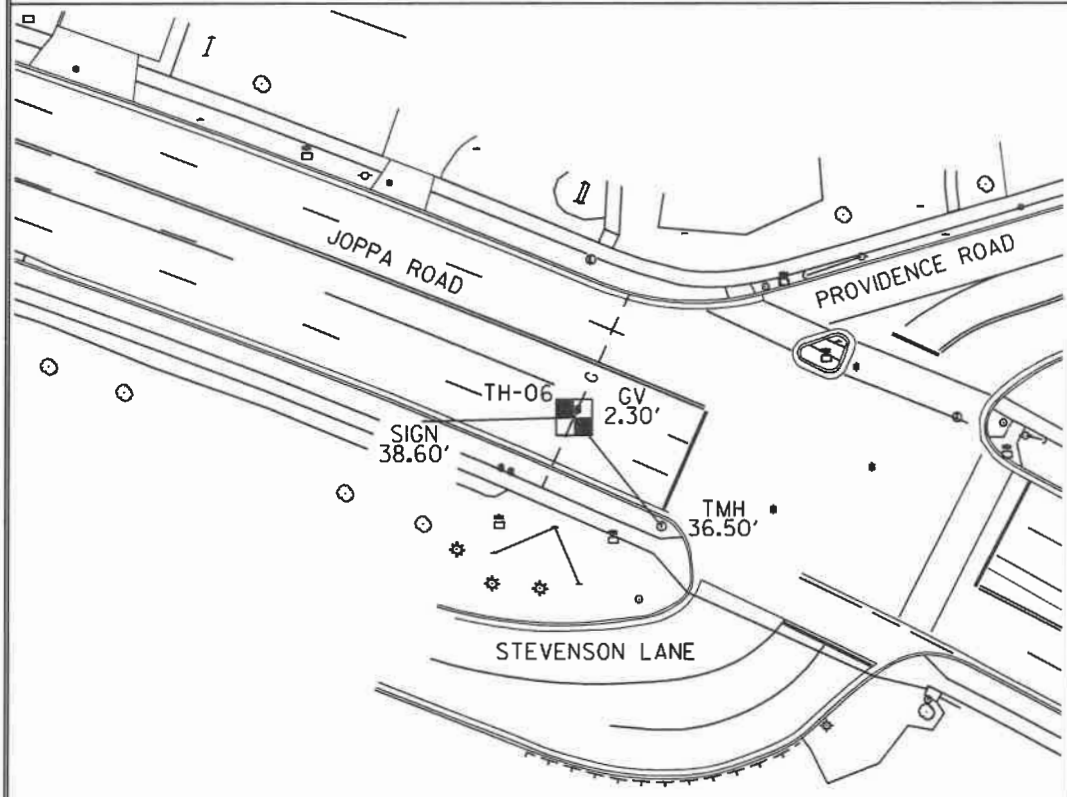
NORTHING: 631775.0809

EASTING: 1427715.3390

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: WTB106 ELEV.= 502.13'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



NAVD 88

NAD 83/91

SKETCH
NOT TO SCALE:

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-7650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR
EXP 10/4/2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT PROVIDENCE ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

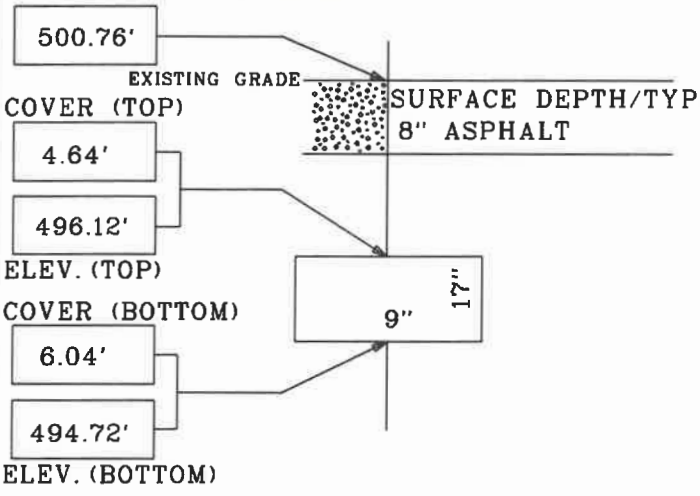
SHEET * 6 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-07 DATE DUG: 12-15-23

ANTICIPATED UTILITY: TELEPHONE

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
VERIZON 17" H. X 9" W. TERRACOTTA
TELE. DUCT

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

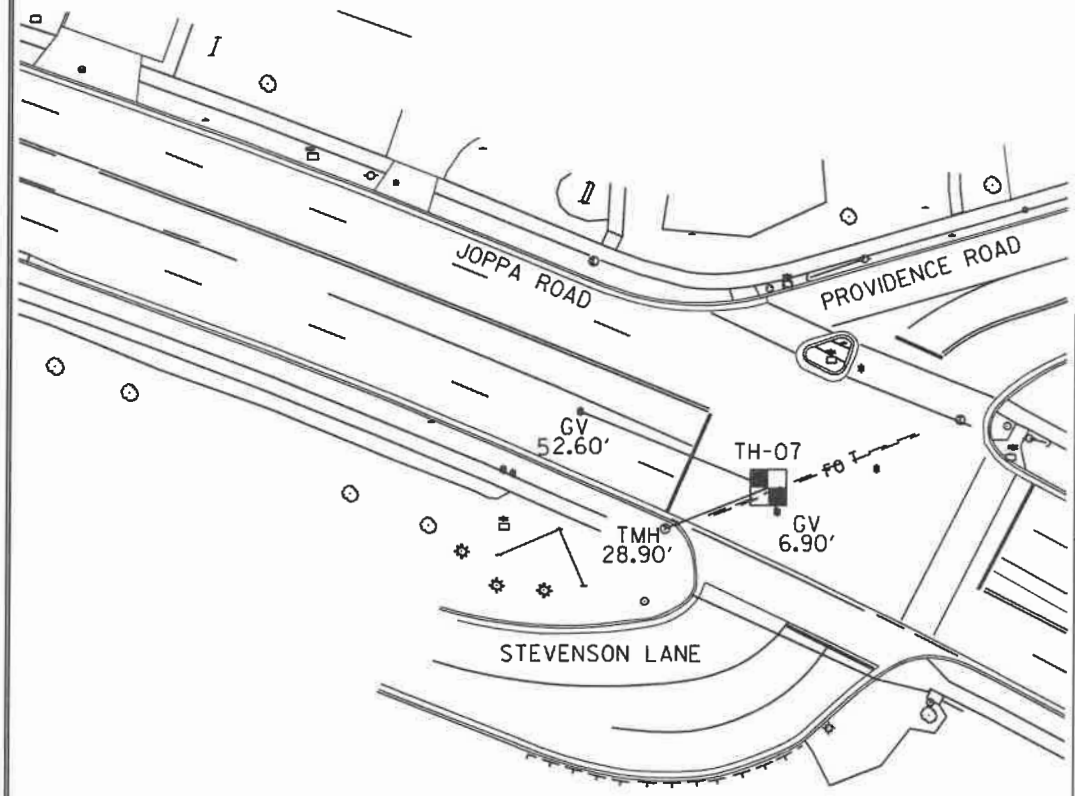
NORTHING: 631757.4725

EASTING: 1427765.1922

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: WTB106 ELEV.= 502.13'

NOTES: MAG. NAIL SET OVER CENTER OF DUCT BANK.



SKETCH
NOT TO SCALE

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2660

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT GOUCHER BOULEVARD
TOWSON, MARYLAND 21286

CLIENT PROJECT • 2019-01

AB PROJECT • 2019372-02

SHEET • 8 OF 15 PLAN SCALE: 1"-30'

TEST HOLE NO: TH-08 DATE DUG: 12-15-23

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
DRY SEE NOTES

ELEV. SURVEY MARKER

EXISTING GRADE

COVER (TOP)

SURFACE DEPTH/TYPE
10" ASPHALT

ELEV. (TOP)

COVER (BOTTOM)

ELEV. (BOTTOM)

TYPE OF MARKER SET: NONE

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

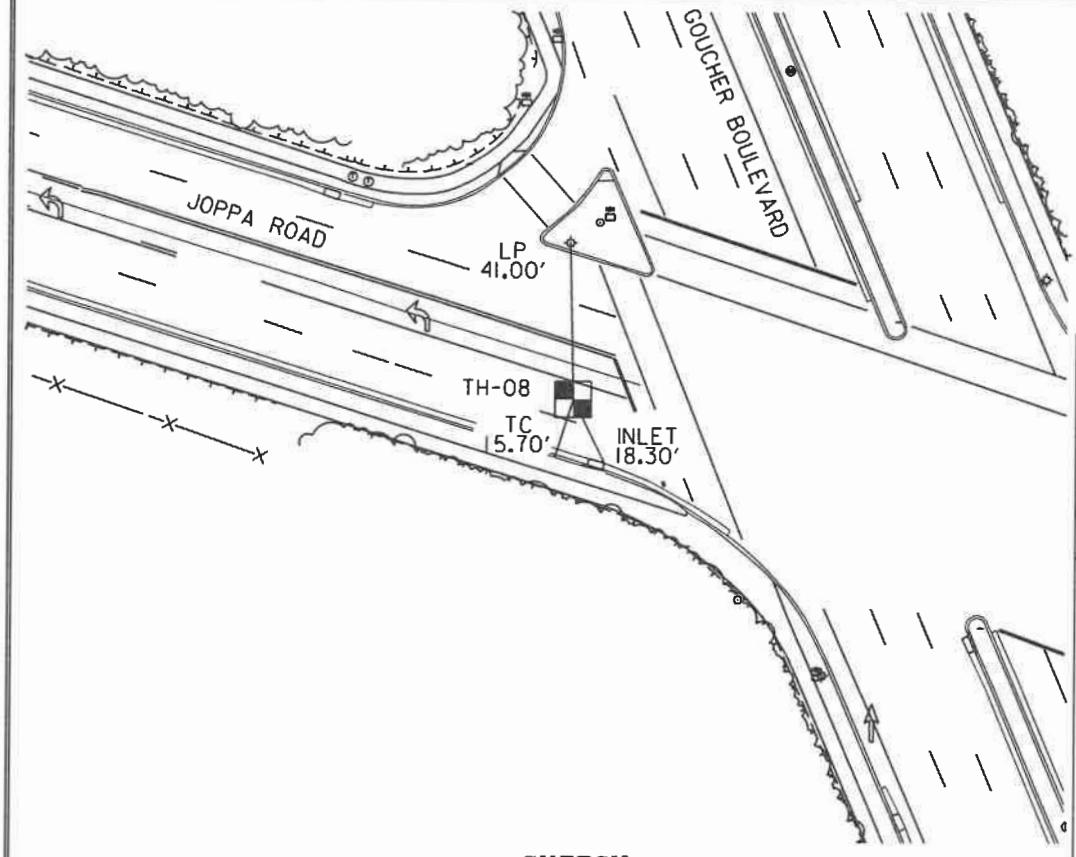
NORTHING: 631207.5444

EASTING: 1428986.8228

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: ELEV.-

NOTES: TEST HOLE HOLE EXCAVATED TO A DEPTH OF 14.23 FEET ON MISS UTILITY MARKS. NO UTILITY FOUND, NO SIGNAL DETECTED.



NAVD 88

NAD 83/91

SKETCH
NOT TO SCALE:

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-728-2650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT GOUCHER BOULEVARD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

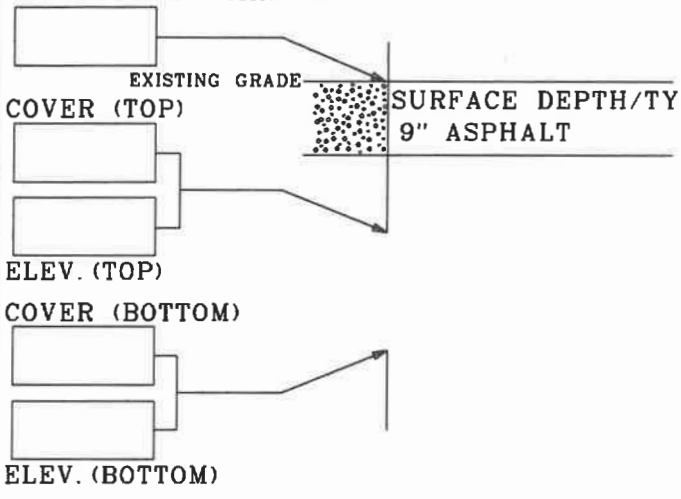
SHEET * 8 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-09 DATE DUG: 12-19-23

ANTICIPATED UTILITY: SANITARY FORCE MAIN

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
SEE NOTES.

ELEV. SURVEY MARKER



TYPE OF MARKER SET: NONE

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

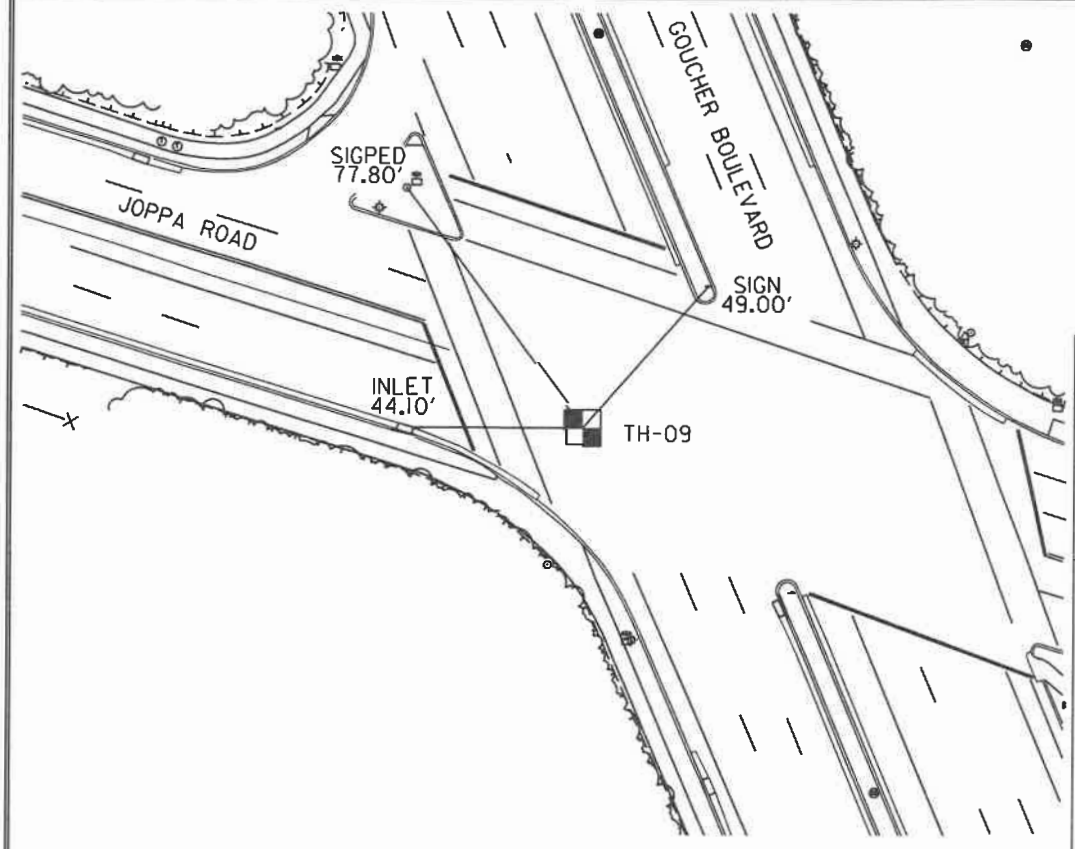
NORTHING: 631190.9584

EASTING: 1429039.1031

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: ELEV.=

NOTES: TEST HOLE EXCAVATED TO A DEPTH OF 11.66 FEET, HIT HARD SOIL. NO UTILITY FOUND.



NAVD 88

NAD 83/91

SKETCH
NOT TO SCALE:

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel. - (443)-779-2650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: GOUCHER BOULEVARD
80 FEET SOUTHEAST OF JOPPA ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

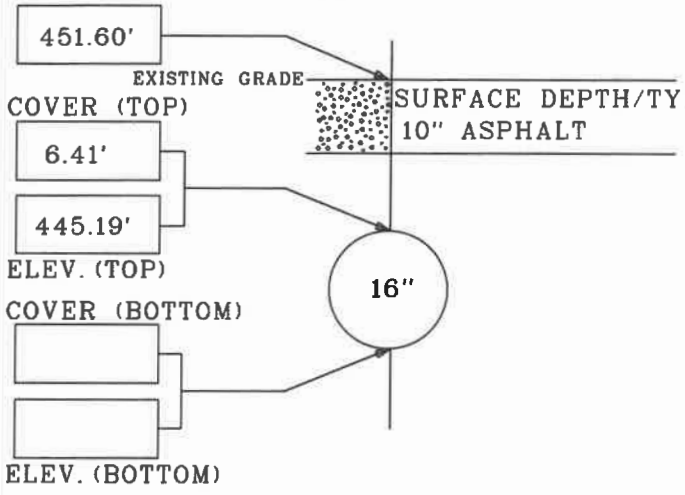
SHEET * 8 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-10 DATE DUG: 12-19-23

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BALTIMORE CITY 16" C/I WATER

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

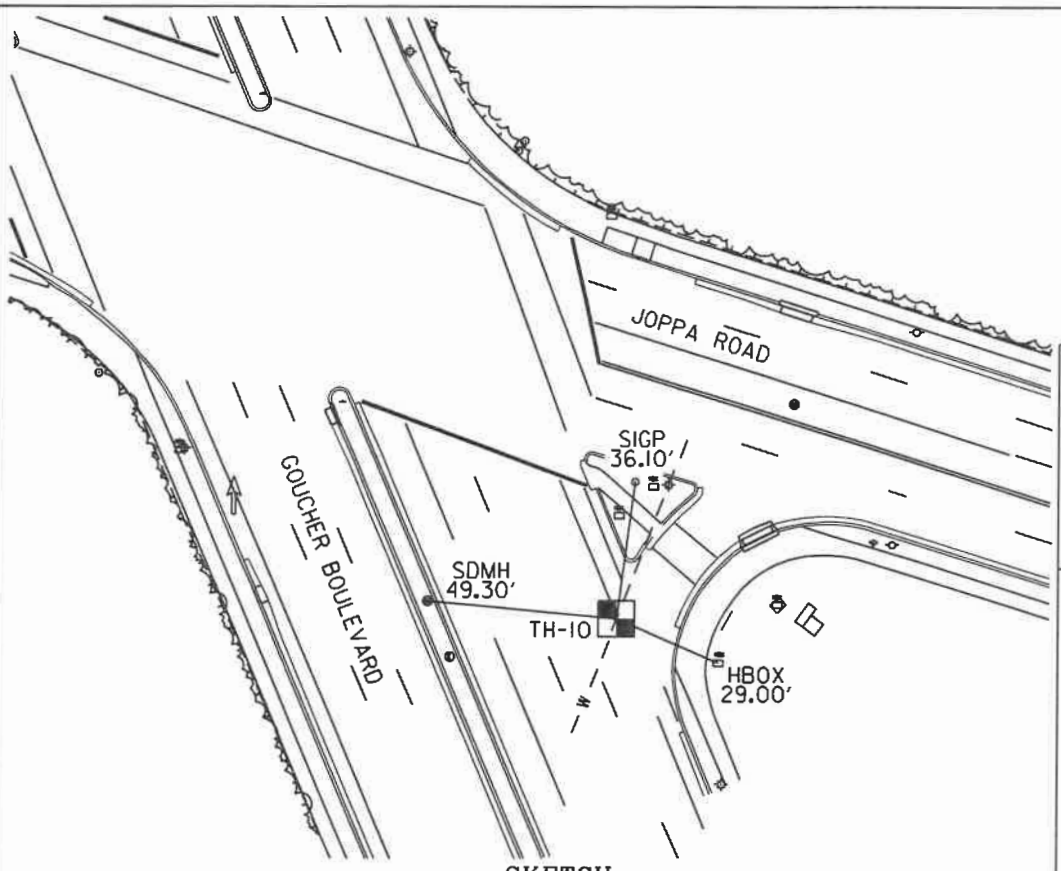
NORTHING: 631091.5351

EASTING: 1429164.7391

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: WTB110A ELEV.= 451.96

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR

Exp 10/7/2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT EDGEWOOD ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

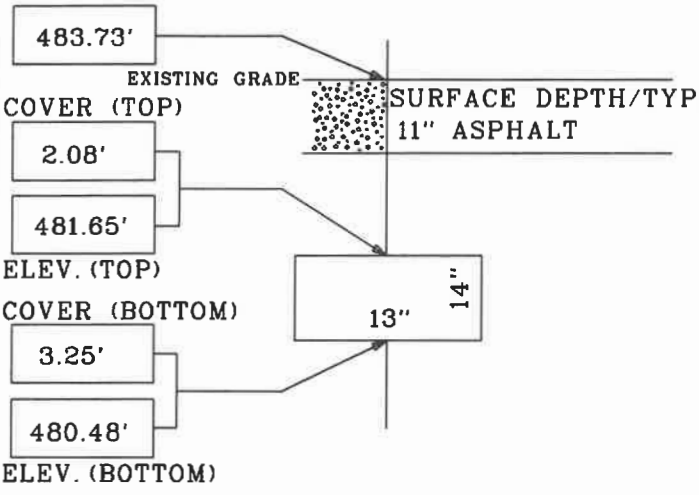
SHEET * 10 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-11 DATE DUG: 12-19-23

ANTICIPATED UTILITY: TELEPHONE

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
VERIZON 14" H. X 13" W. PLASTIC TELE. DUCT

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

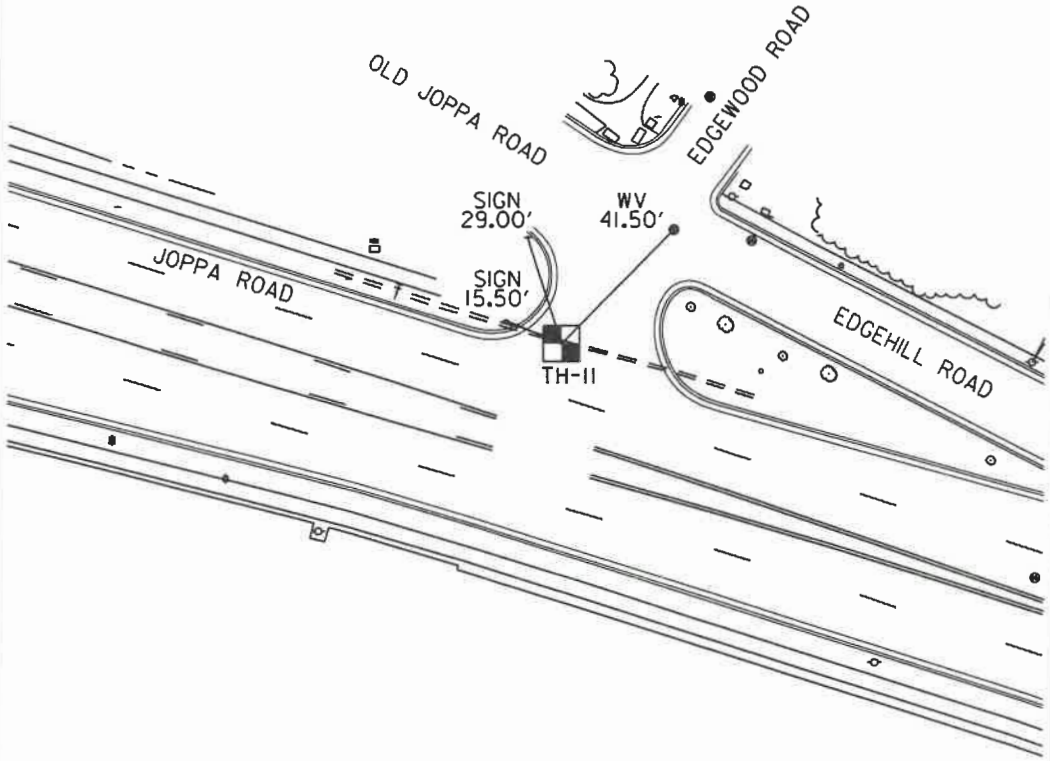
NORTHING: 630912.7492

EASTING: 1430048.5929

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: 1273 ELEV.= 485.07'

NOTES: MAG. NAIL SET OVER CENTER OF DUCT BANK.



NAVD 88

NAD 83/91

SKETCH
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7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
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STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961
Exp 10/4/2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT PRINCE ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

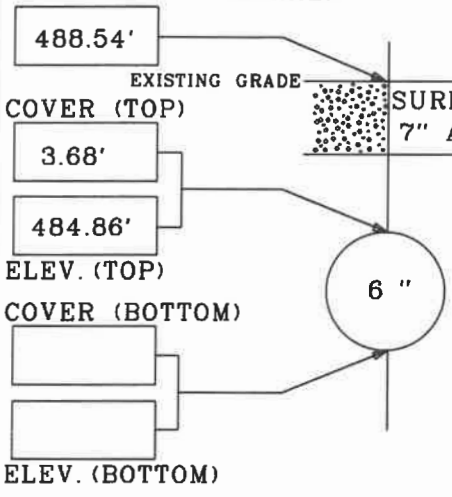
SHEET * 11 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-12 DATE DUG: 12-20-23

ANTICIPATED UTILITY: GAS

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BGE 6" W/S GAS

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

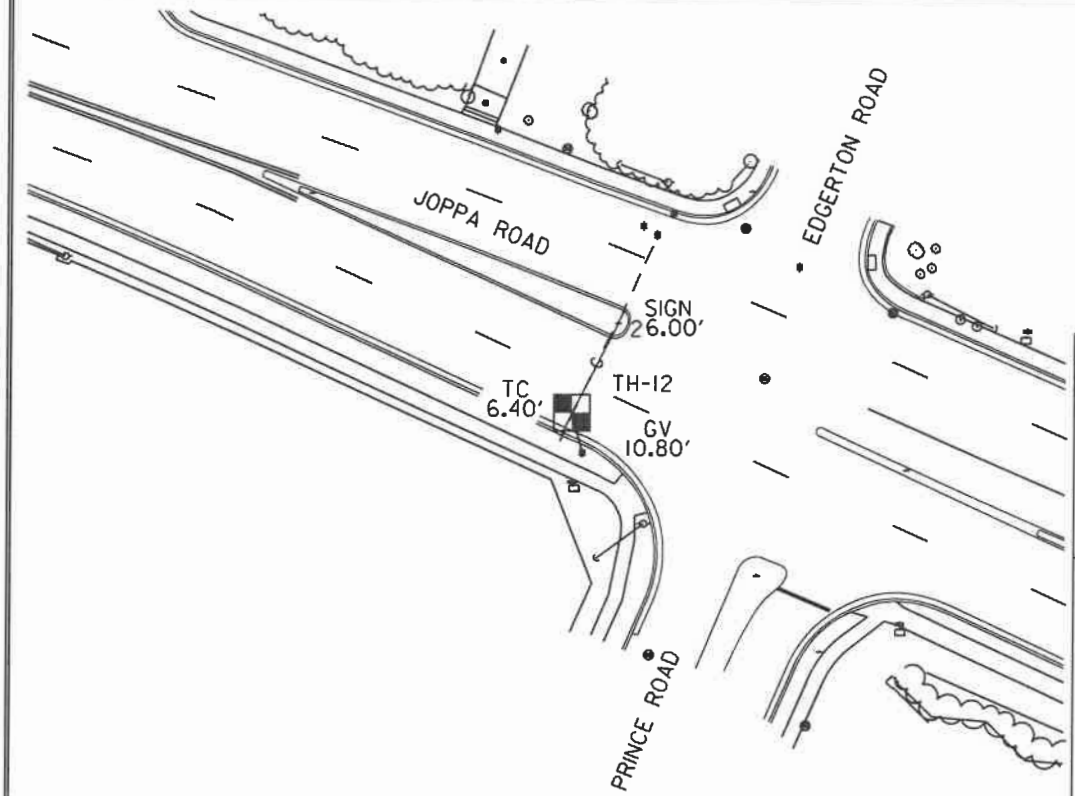
NORTHING: 630747.5874

EASTING: 1430352.5346

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: 1274 ELEV.= 488.82'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443) 729-2650

STATE OF MARYLAND
JACOB P. DEANER
21961
PROFESSIONAL LAND SURVEYOR

Exp 10-4-2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT CENTER ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT • 2019-01

AB PROJECT • 2019372-02

SHEET • 12 OF 15 PLAN SCALE: 1"-30'

TEST HOLE NO: TH-13 DATE DUG: 12-21-23

ANTICIPATED UTILITY: GAS

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BGE 6" W/S GAS

ELEV. SURVEY MARKER

493.07'

EXISTING GRADE

COVER (TOP)

3.56'

489.51'

ELEV. (TOP)

COVER (BOTTOM)

ELEV. (BOTTOM)

SURFACE DEPTH/TYPE
7" ASPHALT

6 "

TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

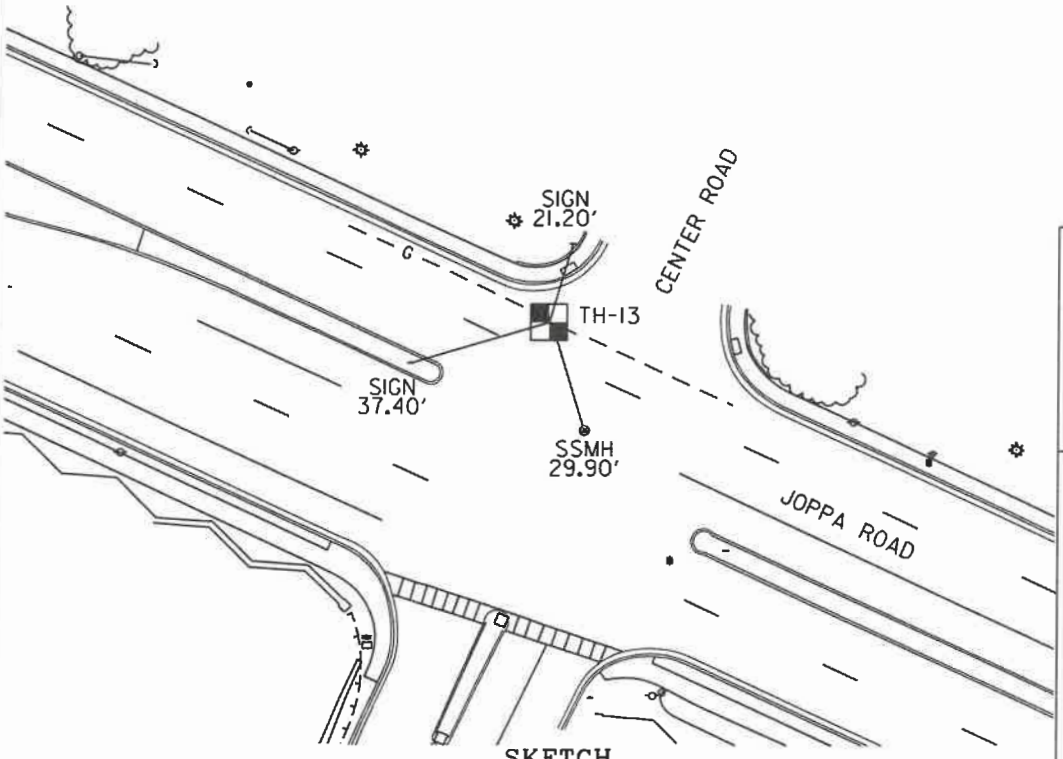
NORTHING: 630561.3144

EASTING: 1430896.6323

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: 14558 ELEV.- 493.80'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21951

Exp 10-7-2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT LASALLE ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

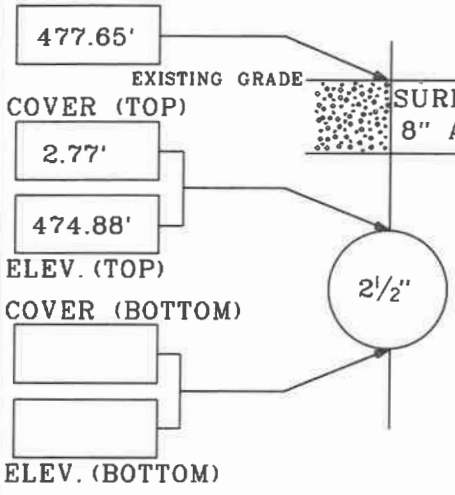
SHEET * 14 OF 15 PLAN SCALE: 1"=30'

TEST HOLE NO: TH-14 DATE DUG: 12-20-23

ANTICIPATED UTILITY: GAS

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BGE 2½" PLASTIC GAS

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

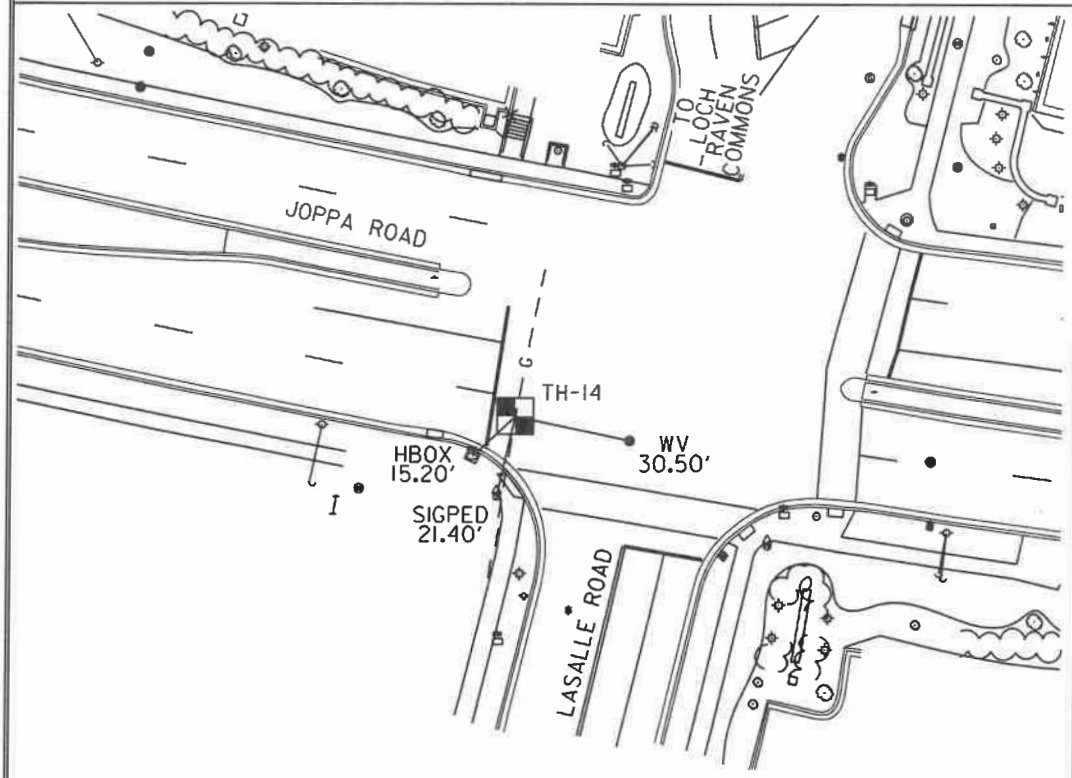
NORTHING: 630062.1047

EASTING: 1432120.3852

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: WTB118 ELEV.= 478.82'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel. - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
PROFESSIONAL LAND SURVEYOR
21961
Exp 10-9-2025

AB CONSULTANTS INC. UTILITY TEST HOLE REPORT

REPORT PREPARED BY: JACOB P DEANER

FOREMAN: NICK HEALEY

JURISDICTION: BALTIMORE COUNTY

LOCATION: JOPPA ROAD
AT LASALLE ROAD
TOWSON, MARYLAND 21286

CLIENT PROJECT * 2019-01

AB PROJECT * 2019372-02

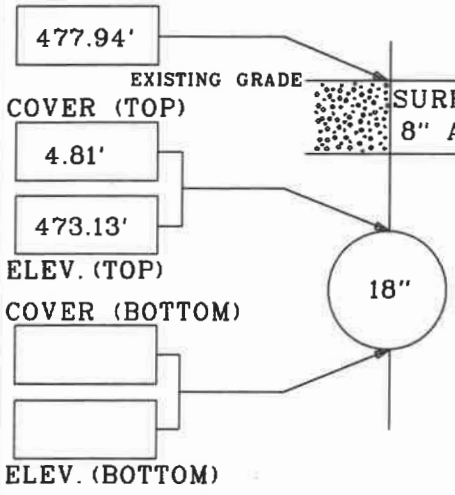
SHEET * 14 OF 15 PLAN SCALE: 1"-30'

TEST HOLE NO: TH-15 DATE DUG: 12-20-24

ANTICIPATED UTILITY: WATER

FOUND UTILITY: OWNER/SIZE/MATERIAL/TYPE
BALTIMORE CITY 18" C/I WATER

ELEV. SURVEY MARKER



TYPE OF MARKER SET: MAG. NAIL

AT EXISTING GRADE OF: ASPHALT

SURVEY PARTY CHIEF: RYAN WILDBERGER

TEST HOLE SURVEY INFORMATION

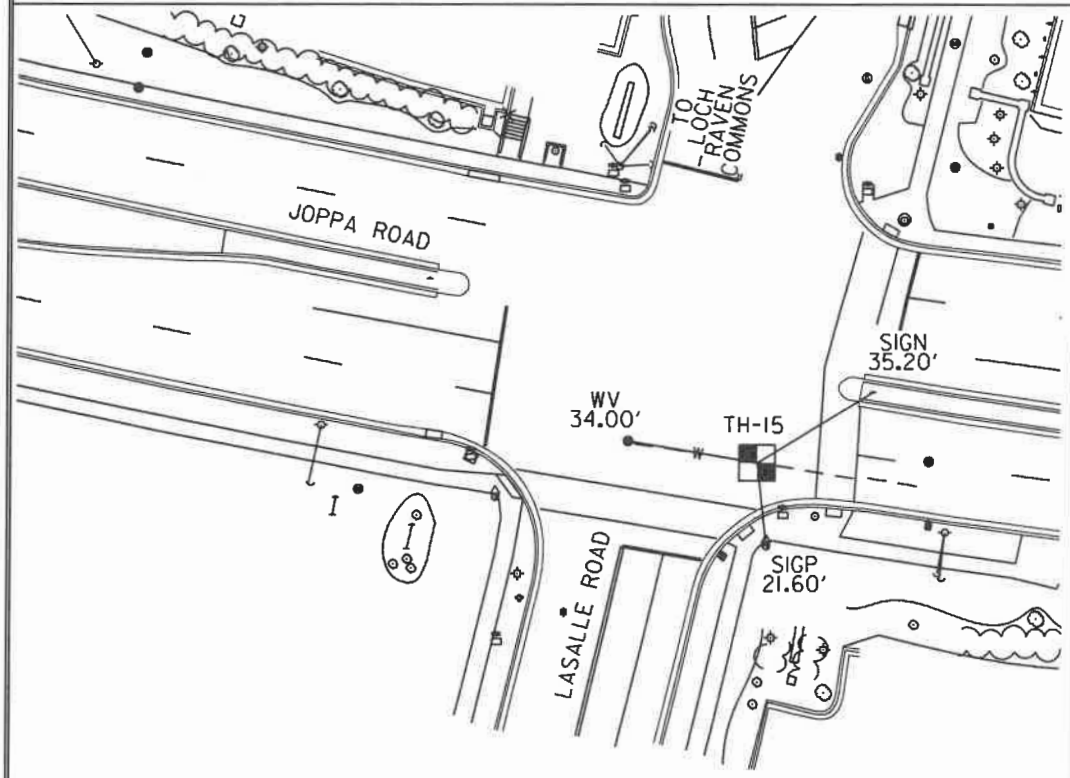
NORTHING: 630050.1640

EASTING: 1432183.7729

HORIZONTAL/VERTICAL CONTROL PROVIDED BY:
THE WILSON T. BALLARD COMPANY

BENCH MARK: WTB118 ELEV.= 478.82'

NOTES: MAG. NAIL SET OVER CENTER OF UTILITY.
SIZE NOTED IS THE OUTER DIAMETER OF THE UTILITY.



SKETCH
NOT TO SCALE:

NAVD 88
NAD 83/91

AB CONSULTANTS, INC.
7020 TUDSBURY ROAD
BALTIMORE, MARYLAND 21244
Tel - (443)-729-2650

STATE OF MARYLAND
JACOB P. DEANER
21981
PROFESSIONAL LAND SURVEYOR

Exp 10/9/2026

APPENDIX C

Valve Shutdown Request Form

Baltimore City & Baltimore County
Contractor Shutdown Request Form

Date Form Submitted _____ Submittal # _____

Please note that the following request form ***must be emailed ten (10) working days*** prior to requested shutdown date. Please email request to **Natassia.Landefeld@baltimorecity.gov**

and copy: **Kris.Carter@baltimorecity.gov**
Jonathan.Cohen@baltimorecity.gov
DWalker@baltimorecity.gov

If you have any questions, or need additional assistance, please call **Ms. Landefeld** at **410-709-8289**.

General Information

☐ Contract ☐ Developer's Agreement (Check One)	Charge No: (For Contract Only)	Contract / D.A. Name & Number:

Contact Information **(Team listed below is responsible for 72 hours advanced public notifications of water outages)**

☐ Resident Engineer or ☐ Field Inspector Name: (Check One)		Resident Engineer or Field Inspector Phone #: Email:
Contractor Name:	Contractor Phone #:	Contractor Email:
Field Contact Name:		Field Contact Phone #:

Shutdown Information

In the event of inclement weather or other cancellations, please contact Natassia to reschedule. Please allow at least 72 hours for the new date.

Requested Date / Time	
Description of Work	
Location of Construction (address and/or street from point A to point B) ☐ Copy of Relevant D.A./ Contract Drawing Attached	
Estimated Time of Water Work Construction	
Number of Services Affected	
Significant Consumers Affected	

_____ _____ _____

Resident Engineer / Field Inspector

Contractor

Date

APPENDIX D

BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION & SUSTAINABILITY STORMWATER MANAGEMENT VARIANCE

See Section III Permits Page 147

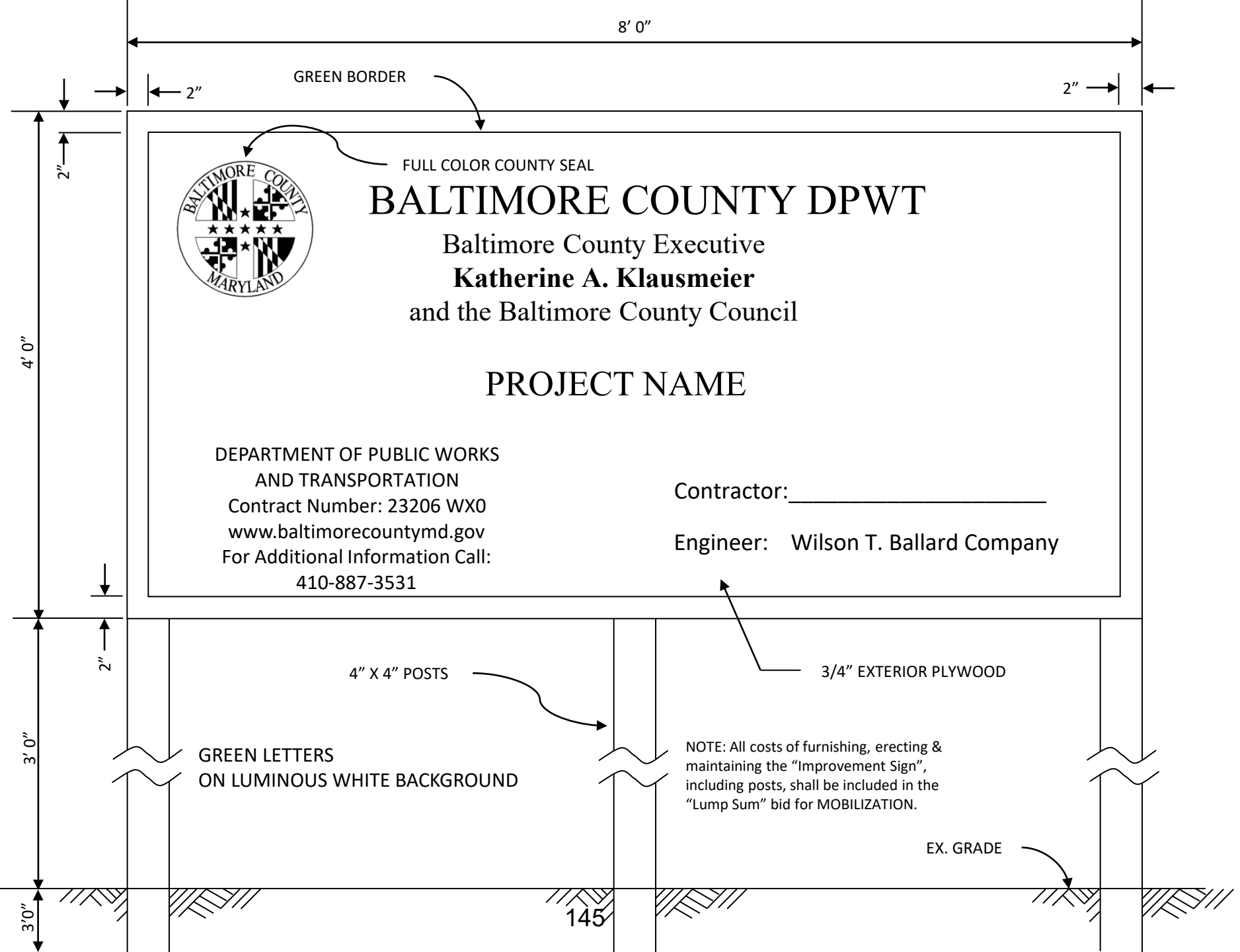
APPENDIX E

PERMITS

See Section III Permits Pages 148-155

APPENDIX F

CONSTRUCTION SIGN


8’ 0”
GREEN BORDER
2”
2”
2”
FULL COLOR COUNTY SEAL
BALTIMORE COUNTY DPWT
Baltimore County Executive
Katherine A. Klausmeier
and the Baltimore County Council
PROJECT NAME
DEPARTMENT OF PUBLIC WORKS
AND TRANSPORTATION
Contract Number: 23206 WX0
www.baltimorecountymd.gov
For Additional Information Call:
410-887-3531
Contractor:_____
Engineer: Wilson T. Ballard Company
4’ 0”
2”
3/4” EXTERIOR PLYWOOD
4” X 4” POSTS
3’ 0”
GREEN LETTERS
ON LUMINOUS WHITE BACKGROUND
NOTE: All costs of furnishing, erecting & maintaining the “Improvement Sign”, including posts, shall be included in the “Lump Sum” bid for MOBILIZATION.
EX. GRADE
3’0”

S E C T I O N I I I

Permits

KATHERINE A. KLAUSMEIER
County Executive

HORACIO TABLADA, *Director*
Department of Environmental Protection and Sustainability

May 20, 2025

The Wilson T. Ballard Company
17 Gwynns Mill Court
Ownings Mills, MD 21117
Attn: Omar Muhammad

RE: Joppa Road 20-inch Water Main Replacement from Fairmount Avenue to LaSalle Road
Stormwater Management Variance
Loch Raven Reservoir Watershed
Project I.D. M240085
Tracking Number: 06-25-4338

Dear Omar Muhammad;

This office has reviewed the information submitted and finds that a stormwater management variance can be granted for this project under Section 33-4-113 (a) (2) of Title 4 of the Baltimore County Code. Section 33-4-113 (a) (2) allows a stormwater management variance to be granted if there are exceptional circumstances such that strict adherence to the provisions of the design standards would result in unreasonable hardship or practical difficulty and not fulfill the intent of the regulations.

This project is for the installation of 6,300 linear feet of 20-inch ductile iron water main, including shorter section of smaller diameter water main connections by cut and cover. The existing cover conditions will be re-established once the water mains are installed. Although the disturbed area is in excess of 5,000 square feet, there will be no increase in impervious area or runoff resulting from the project.

Please contact Abiy Geleta, P.E. at 410-887-3768 should you have any questions.

Very truly yours,

Kritty Udhin, P.E., Manager
Stormwater Management

KU:ag

c:

Baltimore County, Maryland
Department of Permits, Approvals, and Inspections
BUILDING PERMIT

Permit Number: CEN25-000054

Permit Type: Commercial Environmental

Sub Type: Grading

Date Issued: 08/03/2025

Expiration Date: 08/02/2027

Property Information

Property Address: Joppa Rd from Fairmount Ave to La Salle Rd

City, State, Zip: TOWSON, MD 21204

Tax ID:

District:

Existing Use:

Proposed Use:

Is this property located in a Floodplain:

Sprinkler to be Installed?:

Plumbing Work?:

Electrical Work?:

Lot Size and Setbacks

Size:

Set Backs - Front Yard:

Set Backs - Rear Yard:

Set Backs - Right Side Yard:

Set Backs - Left Side Yard:

Owner Information

Owner: Baltimore County DPW&T

Owner Address: 111 West Chesapeake Avenue, Towson, MD, 21204

Tenant:

Applicant: Omar Muhammad

C. Pete Gutwald, AICP, Director

E. John Bryan, Building Engineer

***Please log into your account to get up-to-date information regarding the permit process and related inspections. Refer to the Permit Number when making inquires.**

Baltimore County, Maryland
Department of Permits, Approvals, and Inspections
BUILDING PERMIT

Permit Number: CEN25-000054

Permit Type: Commercial Environmental

Sub Type: Grading

Date Issued: 08/03/2025

Expiration Date: 08/02/2027

Building Permit Contractor

Name of Contractor: TBD

Phone Number:

Address:

City, State, Zip: , ,

Is Owner Contractor?:

Building Permit Information

Description of Work: Grade 42,120SF for water main replacement. Permit expires two years from date of issue. No construction to begin until pre-construction meeting. Failure to comply will result in penalties. Schedule your pre-construction meeting in your portal

C. Pete Gutwald, AICP, Director

E. John Bryan, Building Engineer

***Please log into your account to get up-to-date information regarding the permit process and related inspections. Refer to the Permit Number when making inquires.**

BALTIMORE COUNTY, MARYLAND
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
ENVIRONMENTAL AGREEMENT

RECEIVED
MAR 3 . 2025
Baltimore County Environmental Finance Administration

All grading and stormwater management permit application numbers should be included on this Environmental Agreement (EA). Please return completed form with ORIGINAL signatures to EPS, 111 W. Chesapeake Avenue, Room 319, Towson, MD 21204.

ENVIRONMENTAL AGREEMENT for:

Project Name: 20-in Water Main Replacement
E. Joppa Rd from Fairmount Ave to La Salle Rd.

J.O. 231-203-0067-0782, C# 23206-WXO
Plat Reference: N/A
Tax Acct. No. N/A
Total Estimated Cost: N/A
(All Environmental Securities)

Grading Permit # CEN25-000054
Stormwater Management Permit # N/A
EIR Plan #'s N/A

THIS ENVIRONMENTAL AGREEMENT, NUMBER EA-2025-00053 made this _____day of_____, 20__ by and between Baltimore County Department of Public Works and Transportation hereinafter referred to as the applicant, party of the first part, and BALTIMORE COUNTY, MARYLAND, a political subdivision of the State of Maryland, hereinafter referred to as the County, party of the second part.

WHEREAS, the applicant agrees to implement all environmental measures as set forth in this agreement, at no cost to the County, including:

	AMOUNT	APP./DATE
a. Grading, erosion and sediment control Required performance security amount	N/A	
b. Storm water management Required performance security amount (List facilities separately)	N/A	
c. Forest conservation Required performance security amount	N/A	
d. Forest buffer mitigation Required performance security amount	N/A	
e. Wetland mitigation Required performance security amount	N/A	
f. Chesapeake Bay Critical Area Mitigation Required performance security amount	N/A	
g. Other (Specify) Required performance security amount	N/A	

Now, THEREFORE, THIS AGREEMENT WITNESSETH:
THAT, for and in consideration of the provisions and benefits herein contained, the parties do hereby agree as follows:

1. The applicant agrees:

a. To implement all required environmental measures for this project in accordance with applicable permits, plans and performance requirements.

b. To post security(ies) with the County as required in Baltimore County Code Section 32-4-312, in accordance with applicable time frames and procedures specified in the Baltimore County Code and the Department of Environmental Protection and Sustainability Policy, Rules and Regulations Manual.

c. To process any request(s) for reduction to security(ies) in accordance with Baltimore County Code Section 32-4-313 and the Department of Environmental Protection and Sustainability Policy, Rules and Regulations Manual.

WITNESS the signatures of:

Date: 3/28/2025 Signed: Lisa K Eicholtz (Seal)

Printed Name: Lisa K. Eicholtz Title, if applicable: Deputy Director, DPWT

Witness Signature: _____ Address: County Office Building

Witness Printed Name: _____ 111 W. Chesapeake Ave., Suite 307 Towson MD

Email: Leicholtz@baltimorecountymd.gov

Phone: 410-887-3788

APPROVED

By _____ Apr. 1, 2025
Director of Environmental Protection and Sustainability DATE
Horacio Tablada

Rev. 2, March 1, 2017
EPS>Shared>Reference Material

WATER AND/OR SEWERAGE CONSTRUCTION PERMIT

Permit No.: 24-12-1049 **Date Issued: 07/18/2025**
Permit Fee: N/A **Expiration Date: 07/18/2028**

This permit authorizes Baltimore County Department of Public Works & Transportation to construct a water main together with all appurtenances, at the site of Joppa Road from Fairmount Avenue to Lasalle Road, Baltimore County, in accordance with an application dated April 5, 2024 and received by the Maryland Department of the Environment on April 24, 2024 titled in part:

BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
20-INCH WATER MAIN REPLACEMENT
E. JOPPA ROAD FROM FAIRMOUNT AVENUE TO LA SALLE ROAD
BALTOMORE COUNTY CONTRACT NO. 23206-WXO
BALTIMORE COUNTY J.O. NO. 231-203-006-0782
SHEETS NO. 1 THROUGH 35 OF 35, SC 1 THROUGH 10 OF 10
AND SPECIAL PROVISIONS

THIS PERMIT IS ISSUED SUBJECT TO THE ATTACHED FOLLOWING CONDITIONS:

Note: This permit may be suspended or revoked upon a final, unreviewable determination that the permittee lacks, or is in violation of federal, state or local approval necessary to conduct the activity authorized by this permit.

Walid Saffouri, P.E., Program Administrator
Engineering & Capital Projects Program
Water and Science Administration

1800 Washington Boulevard | Baltimore, MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258
www.mde.maryland.gov

GENERAL CONDITIONS FOR WATER OR SEWERAGE CONSTRUCTION PERMIT

- The structural adequacy and expected performance characteristics of the various components are not certified by this permit.

- This permit is not transferable.

- A copy of this permit must be posted at the work site during construction.

- This permit will expire, if not specifically extended, unless the construction authorized under this permit has been initiated. The permit will then remain valid for the remainder of construction for a period of up to five years from the start of construction.

- If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provision shall be considered severed and deleted from this permit.

- Persons violating the requirements of this permit are subject to penalties of up to $1000 per day as set forth in Environment Article 9-268 and 9-334 through 9-342, Annotated Code of Maryland.

- A copy of the plans and specifications, authorized for use under this permit, shall be made available at the work site during construction of this project. A revised construction permit in accordance with COMAR 26.03.12 is required prior to making substantive changes or material alteration to the construction authorized under this permit.

- The owner shall secure all Federal, State or local permits, including approval of Sedimentation and Erosion Control Plans that may be required before starting the construction of the project.

- The owner shall insure that this project is inspected during the progress of construction to assure substantial compliance with the approved plans and specifications. A log and construction records shall be maintained by the inspector and may be requested for review at any time by this office.

- The project engineer of the Maryland Department of the Environment (the 'Department') shall be notified prior to the start of construction.

- Inspectors of the Department shall be afforded access to the project site, at reasonable times and upon presentation of credentials:

  a. to inspect construction authorized under this permit and to determine compliance with applicable regulations;
  b. to have access to and copy any records required to be kept by this permit and by applicable regulations; and
  c. to obtain any photographic documentation or evidence.

- Within 60 days after completion of construction, a copy of as-built drawings and the attached construction completion certificate (page 3 of this permit) shall be submitted to the Department. Where construction was completed in accordance with the original plans approved under this permit, the submittal of as-built drawings will not be required.

- The owner shall maintain a permanent record of the as-built drawings, or the original plans if as-built drawings are not required.

GENERAL CONDITIONS (CONTINUED)

- Pursuant to Labor & Employment Article 9-201, the owner shall ensure that the contractor and subcontractors involved in the construction of this project must carry workers' compensation insurance for their employees. If the owner determines to perform the project construction by his/her labor force, the owner shall provide the same. If the entity, undertaking the project construction, is not covered by a workers' compensation policy, a Certificate of Compliance shall be submitted and approved by the Workers' Compensation Commission before initiation of the construction.

- Approval must be obtained from the Department before this project may be placed into service. Any exception allowing partial use of this project shall have the prior written approval of the Department. Approval may be obtained pursuant to the following procedure:

  a. Where large political subdivisions, commissions, authorities etc. have their own inspection capabilities (satisfactory to the Department), the attached construction completion certificate shall be completed by the director of Public Works or similar responsible person and submitted to the Department.

  b. Where an acceptable local construction inspection program does not exist, the attached construction completion certification shall be completed by a Professional Engineer licensed to practice in the State of Maryland (preferably the same engineer whose seal and signature appear on the plans approved under this permit) and submitted to the Department.

  c. Upon receipt of the signed certificate, the Department shall, within (30) working days of the receipt, 1) issue an approval, 2) require further review and on-site inspection or 3) reject the construction certification. Approval shall be automatic for projects that have not received some form of written notification from the Department within (30) working days of receipt of the signed certificate.

24-12-1049
Permit Number

Preeti
Preeti Shrestha
Project Engineer
Engineering & Capital Projects Program

WATER AND SEWER CONSTRUCTION COMPLETION CERTIFICATION

The undersigned certifies that the construction authorized by this permit has been completed and inspected and that it substantially meets the terms of Environment Article 9-204, Annotated Code of Maryland.

Signature	Title	Date

The above project has been accepted by the Department within the terms of Environment Article 9-204, Annotated Code of Maryland.

Authorized Official	Date

Complete this certificate and return to:
Maryland Department of the Environment
Engineering & Capital Projects Program (ECPP)
Office of Budget and Infrastructure Financing
1800 Washington Boulevard
Baltimore, MD 21230

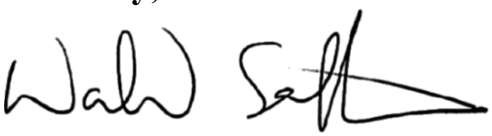
06/2022

NOTICE

Prior to starting construction, please notify Preeti Shrestha, Project Engineer, by email at Preeti.shrestha@maryland.gov. Upon completion of the project, the construction must be certified with the signed permit returned to this office along with a set of as-built drawings.

Should you have any questions concerning the permit or its conditions, please contact me at (410) 537-3757 or at walid.saffouri@maryland.gov.

Sincerely,



Walid Saffouri, P.E., Program Administrator
Engineering and Capital Projects Program
Water and Science Administration

1800 Washington Boulevard | Baltimore, MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258
www.mde.maryland.gov

SECTION I V

Proposal

This Section to be Completed by Time of Bid

SECTION – IV
PROPOSAL

DESCRIPTION OF WORK

Bid Opening via Teleconference WebEx Tuesday, January 20, 2026 at 10:30 a.m. EST
WebEx Phone Number 1-415-655-0001, Access Code Number 2305 981 1625##.

Begin Work Within Fifteen (15) Days After NOTICE TO PROCEED

Working Calendar Days for Completion: FOUR HUNDRED FIFTY (450)

Liquidated and Other Damages: FIVE HUNDRED DOLLARS ($500.00) PER WORKING DAY.

Cost Group "G $10,000,001 to $15,000,000)" (Prequalified contractors with a Cost Group restriction must bid within the dollar amount stated on their Certificate of Prequalification).

Work Classification: F-2 with a prequalified A-2 prequalified subcontractor

TO BALTIMORE COUNTY, MARYLAND: The work includes all labor, materials, and equipment necessary to furnish and install various diameter ductile iron water mains along Joppa Road from Fairmount Avenue to LaSalle Road, including valves, valve vaults, fire hydrants, fittings, service connection renewals, pressure testing, disinfection, connection to existing water mains, and appurtenances at the locations shown on the Contract Drawings. **Towson – District 9c6.**

The following listed Drawing Number(s) are collectively the "Drawings", and are hereby incorporated in the Contract.

Job Order Number	Workday Number	Drawing Number(s)
231-203-0006-0782	PROJ-10000519	2023-2794 thru 2023-2837

A pre-bid meeting will be held on Wednesday, December 3, 2025 at 10:00 a.m. EST via WebEx.
Phone-In (Audio Only) – 1-415-655-0001, Meeting Number 2306 164 0106##
Video Conference – Meeting Number 2306 164 0106, Password **MgPSNvTx243**,
go to https://signin.webex.com/join,or for the WebEx link go to
www.baltimorecountymd.gov/departments/public-works/engineering/contracts/current-solicitations

Last day for questions will be Tuesday, January 6, 2026 at 4:00 p.m. EST. Questions should be emailed to Pawan Poudel at ppoudel@baltimorecountymd.gov and Barbara Wentworth at bwentworth@baltimorecountymd.gov and Erin McKenna-Streyle emckenna-streyle@baltimorecountymd.gov.

NOTE: No successful bidder may withdraw their bid within NINETY (90) days after the opening thereof.

The Contractor hereby declares that it has carefully examined the solicitation, plans and specifications, form of contract, Special Provisions and Drawings (collectively the "Contract Documents"). The Contractor also hereby declares that it has carefully examined the September 2023 "Standard Specifications for Construction and Materials" and "Standard Details for Contraction", collectively the "Applicable County Law" and any and all Department of Public Works and Transportation revisions thereto as of the date of advertisement. The Contract Documents, the Applicable County Law and the Department of Public Works and Transportation revisions thereto are collectively the "Specifications" and are incorporated herein. Copies of any and all Department of Public Works and Transportation revisions including but not limited to the General Conditions Building Projects, are available online at www.baltimorecountymd.gov/departments/public-works/standards. Also, the Contractor has, to its satisfaction, examined the locality of the proposed work and agrees to furnish all labor, tools, materials, machinery, equipment, and other means of construction called for in the manner provided in the Specifications for the prices shown on the next page(s) and as evidenced by Contractor's signature on the last page thereof.

SCHEDULE OF PRICES

NOTE: The Bidder shall fill out this Proposal, write in the unit prices in clear numerals, and make the extensions.

For complete information concerning these items, see Specifications and contract forms.

CONTRACT PROPOSAL

JOPPA ROAD 20-INCH WATER MAIN REPLACEMENT
CONTRACT NUMBER: 23206 WX0
WORKDAY NUMBER: 10000519
JOB ORDER NUMBER: 231-203-006-0782
WORKING DAYS: 450

CONTRACTOR: _____
ADDRESS: _____
PHONE: _____

BID ITEM	COMM. CODE		DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	130850		MOBILIZATION	LS	1		$
2	120500		MAINTENANCE OF TRAFFIC	LS	1		$
3	110330		ENGINEERS OFFICE NO. 3	LS	1		$
4	130840		CONSTRUCTION STAKEOUT	LS	1		$
5	WRITE-IN		20 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	6,315		$
6	WRITE-IN		16 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	68		$
7	WRITE-IN		12 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	312		$
8	WRITE-IN		8 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	371		$
9	WRITE-IN		6 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	525		$
10	WRITE-IN		4 INCH DUCTILE IRON PIPE AND FITTINGS WITH CATHODIC PROTECTION - CLASS 54	LF	102		$
11	836200		20 INCH GATE VALVE AND VAULT - VERTICAL	EA	5		$
12	836160		16 INCH GATE VALVE AND VAULT - VERTICAL	EA	1		$
13	836120		12 INCH GATE VALVE AND VAULT - VERTICAL	EA	5		$

14	836080		8 INCH VALVE AND VAULT - VERTICAL	EA	8		$
15	836060		6 INCH VALVE AND VAULT - VERTICAL	EA	16		$
16	836040		4 INCH VALVE AND VAULT - VERTICAL	EA	6		$
17	847060		6 INCH FIRE HYDRANT, FURNISH AND INSTALL	EA	11		$
18	843020		1 INCH COPPER WATER SERVICE AND FITTINGS	LF	110		$
19	843010		3/4 INCH COPPER WATER SERVICE AND FITTINGS	LF	500		$
20	842020		1 INCH WATER SERVICE TAP AND CORPORATION	EA	2		$
21	842010		3/4 INCH WATER SERVICE TAP AND CORPORATION	EA	14		$
22	899210		HOT MIX ASPHALT FOR TEMPORARY TRENCH REPAIR - STAGE 1	TON	2,200		$
23	899200		HOT MIX ASPHALT FOR TEMPORARY TRENCH REPAIR - STAGE 2	TON	4,400		$
24	WRITE-IN		MILLING ASPHALT PAVING MINIMUM 2"	SY	24,576		$
25	WRITE-IN	C	REMOVAL AND REPLACEMENT OF PAVEMENT WITH UNDERLYING CONCRETE BASE UP TO 12-INCHES THICK	SY	306		$
26	899300		REMOVE AND REPLACE EXISTING CONCRETE SIDEWALK	SF	440		$
27	899350		REMOVE AND REPLACE EXISTING CURB AND GUTTER	LF	80		$
28	899243		REMOVE AND REPLACE EXISTING CONCRETE DRIVEWAY AND/OR APRON	SY	17		$
29	WRITE-IN		5 INCH SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	1,485		$
30	WRITE-IN		5 INCH SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	4,050		$
31	WRITE-IN		THERMOPLASTIC PAVEMENT MARKINGS AND LEGENDS AND SYMBOLS	LF	650		$
32	388067		INLET PROTECTION - CURB	EA	25		$
33	704345		PLACING FURNISHED TOPSOIL 4 INCH DEPTH	SY	60		$

34	707301		SEEDING	SY	60		$
35	WRITE-IN	C	FURNISH AND INSTALL ADDITIONAL 20" MJ RESTRAINED DUCTILE IRON 1/8 BENDS	EA	8		$
36	WRITE-IN	C	FURNISH AND INSTALL ADDITIONAL 16" MJ RESTRAINED DUCTILE IRON 1/8 BENDS	EA	8		$
37	WRITE-IN	C	REPLACEMENT OF WATER METER SETTINGS-ALL SIZES	EA	2		$
38	WRITE-IN	C	REPLACEMENT OF WATER METER FRAME, COVER AND VAULT-ALL SIZES	EA	2		$
39	WRITE-IN	C	TRENCH ROCK EXCAVATION WITH PROPER DISPOSAL	CY	250		$
40	WRITE-IN	C	GAB FOR TRENCH REPAIR	TON	4,000		$
41	WRITE-IN	C	GEOTEXTILE CLASS SE	SY	10,000		$
42	800080	C	CALCIUM CHLORIDE	TON	2		$
43	WRITE-IN	C	PITCHER FILTER WITH SIX MONTHS OF REPLACEMENT CARTRIDGES	EA	5		$
44	109110	F	TEST PIT EXCAVATION / CONVENTIONAL EXCAVATION METHODS	CY	130	$360.00	$46,800.00
45	109205	F	CLASS 3 EXCAVATION/SELECT BACKFILL - PROPER DISPOSAL OF UNSUITABLE MATERIAL	CY	170	$130.00	$22,100.00
46	109305	F	BORROW FOR BACKFILLING TRENCHES - PROPER DISPOSAL OF UNSUITABLE MATERIAL	CY	200	$80.00	$16,000.00
47	109405	F	MIX NO. 1 CONCRETE	CY	20	$600.00	$12,000.00
TOTAL COST FOR CONTRACT							$

_____

TOTAL COST FOR CONTRACT IN WORDS

_____ _____

OFFICER SIGNATURE TITLE

PROPOSAL AFFIDAVIT

1. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the [title]_____and the duly authorized representative of [business]_____(the "Business") and that I possess the legal authority to make this Affidavit on behalf of myself and the Business for which I am acting.

2. PROPOSAL CERTIFICATION

THE UNDERSIGNED HEREBY ACKNOWLEDGES receipt of the following Addenda (list by number and date):

_____

_____

Accompanying this Proposal is a Bid Bond in an amount of 5% of the bid, the exact amount to be determined by the difference between the low bid and the next lowest bid, if two or more bids are received, or 5% of the bid if one bid is received. This guarantees payment to Baltimore County of the amount thus determined as liquidated damages in case of default in any matter specified as required before award or in any matter resulting in failure to execute and deliver an Agreement, together with Payment and Performance Bonds, after award.

3. AFFIRMATION REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the Business, nor any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies (as is defined in Section 16-101(f) of the State Finance and Procurement Article of the Annotated Code of Maryland), has been convicted of, or has had probation before judgment imposed pursuant to Section 6-225 of the Criminal Procedure Article of the Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows [indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the Business]:

_____

_____

4. AFFIRMATION REGARDING OTHER CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the Business, nor any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies, has:

(1) Been convicted under state or federal statute of a criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract, fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property;

(2) Been convicted of any criminal violation of a state or federal antitrust statute;

(3) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. §1961, et seq., or the Mail Fraud Act, 18 U.S.C. §1341, et seq., for acts arising out of the submission of bids or proposals for a public or private contract;

(4) Been convicted of a violation of the State Minority Business Enterprise Law, Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;

(5) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsection (1), (2), (3), or (4) above;

(6) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract;

(7) Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described above, except as follows [indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the Business, and the status of any debarment]:

_____

_____

5. AFFIRMATION REGARDING DEBARMENT

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the Business, nor any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows [list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceeding, the name(s) of the person(s) involved and their current positions and responsibilities with the Business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension]:

_____

_____

6. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES

I FURTHER AFFIRM THAT:

(1) The Business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and

(2) The Business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows: [you must indicate the reasons why the affirmations cannot be given without qualification]:

_____

_____

.

7. SUB-CONTRACT AFFIRMATION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the Business, has knowingly entered into a contract with a public body under which a person debarred or suspended under Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction.

8. AFFIRMATION REGARDING COLLUSION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the Business, nor any of its officers, directors, members or partners, nor any of its employees, have in any way:

(1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;

(2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or offeror or of any competitor, or otherwise take any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted;

(3) Colluded with anyone to obtain information concerning the bid that would give the Business an unfair advantage over others.

9. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

The Business affirms that it is aware of, and will comply with, the provisions of Sections 14- 101 through 14-108 of the Election Law Article of the Annotated Code of Maryland, which require that every person who makes, during any 12-month period, one or more contracts, with one or more Maryland governmental entities involving cumulative consideration, or at least $200,000.00, shall file with the State Board of Elections certain specified information to include disclosure of attributable political contributions in excess of $500 during defined reporting periods.

l0. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The Business is a _____ *(State)* (Corporation), (LLC), (Partnership), (Sole Proprietor/Individual), (Other:_____), that it **is** registered in accordance with the Corporations and Associations Article of the Annotated Code of Maryland, that it **is** in good standing in the State of Maryland, and that it **has** filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is:

Name: _____

Address: _____

_____

(If none, so state)

(2) Except as validly contested, the Business has paid, or has arranged for payment of, all taxes due the State of Maryland and Baltimore County, and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Employment Security Administration, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

11. CONTINGENT FEES

I FURTHER AFFIRM THAT:

The Business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for the Business, to solicit or secure the Contract, and that the Business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee or other consideration contingent on the making of the Contract.

12. NONDISCRIMINATION IN EMPLOYMENT STATEMENT

I FURTHER AFFIRM THAT:

During the performance of any contract awarded of which this affidavit is a part:

(1) The Business will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin, marital status, sexual orientation, genetic information, or disability unrelated in nature and extent so as to reasonably preclude the performance of the employment, or because of the individual's refusal to submit to a genetic test or make available the results of a genetic test. The Business will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age, national origin, marital status, sexual orientation, genetic information, or disability unrelated in nature and extent so as to reasonably preclude the performance of the employment, or because of the individual's refusal to submit to a genetic test or make available the results of a genetic test. Such action shall include, but not be limited to the following: employment, promotion, upgrading, demotion or transfer, rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Business agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the owner setting forth provisions of this nondiscrimination clause.

(2) The Business will, in all solicitations or advertisements for employees placed by or on behalf of the Business, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, national origin, marital status, sexual orientation, genetic information, or disability unrelated in nature and extent so as to reasonably preclude the performance of the employment, or because of the individual's refusal to submit to a genetic test or make available the results of a genetic test.

(3) The Business shall send to each labor union or representative of workers with which the Business has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the owner, advising the said labor union or workers' representative of these commitments, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Business shall furnish, if requested by the County, a compliance report concerning our employment practices and policies in order for the County to ascertain compliance with the special provisions of this affidavit concerning nondiscrimination in employment.

(5) In the event of the Business's noncompliance with the nondiscrimination clause of this affidavit, the contract may be canceled, terminated, or suspended in whole or in part, and the Business may be declared ineligible for further County work.

(6) The Business shall include the special provisions outlined herein pertaining to nondiscrimination in employment in every subcontract, so that such nondiscrimination in employment provisions shall be binding on each subcontractor or vendor.

13. FOREIGN CONTRACTS

I FURTHER AFFIRM THAT:

The Business affirms that it is aware of, and will comply with, the provisions of Sections 10-2-110 Article 10. Finance, Title 2 – Purchasing, Baltimore County Code 2003, which requires that prior to the award of a contract for services under the provisions of this title, and during the entire term of a contract award, the bidder or vendor shall disclose to the County whether any services covered by the bid or contract, including any subcontracted services, will be performed outside the United States. The disclosure shall be made to the Office of Budget and Finance, Purchasing Bureau.

14. MINORITY BUSINESS ENTERPRISE AND FEMALE CONTRACTORS

THIS BUSINESS INTENDS to affirmatively seek out and consider minority business enterprises to participate in this contract as subcontractors and/or suppliers of materials and services.

THE UNDERSIGNED UNDERSTANDS AND AGREES: that any and all subcontracting of supplies and services in connection with this contract, whether undertaken before or after award of contract, will be in accordance with the Minority Business Enterprise and Female Contractor requirement included in the Bid Proposal package and incorporated herein as if fully set forth; and

THE UNDERSIGNED ALSO UNDERSTANDS AND AGREES that no subcontracting will be approved until Baltimore County has reviewed and approved the affirmative actions taken by this firm.

15. REQUIREMENTS FOR EXECUTING AFFIDAVIT & PROPOSAL

The Affidavit must be signed in ink in order for the bid to be accepted and that the Proposal must be typewritten or filled out in ink.

THE UNDERSIGNED ALSO UNDERSTANDS that:

Proposals submitted by an INDIVIDUAL must be signed by an individual.

Proposals submitted by a PARTNERSHIP must be signed by the partner who is legally authorized authority to bind the partnership. Attach a copy of the Partnership Agreement and a duly certified resolution evidencing the authority of the partner so signing on behalf of the partnership.

Proposals submitted by a CORPORATION must be signed by a legally authorized officer of the corporation and attested to by the Corporate Secretary. Attach a copy of the Articles of Incorporation, By-Laws and a duly certified Board Resolution evidencing the authority of the officer so signing on behalf of the corporation.

Proposals submitted by a LIMITED LIABILITY COMPANY must be signed by a legally authorized member of the company and attested to. Attach a copy of the Operating Agreement, Articles of Organization and a duly certified resolution evidencing the authority of the member so signing on behalf of the limited liability company.

NOTE: The contractor may file with the County a list of the names of those officers, partners or members, as applicable, having legal authority to execute documents on behalf of and legally bind the contractor, duly certified, as applicable and legally required, together with the aforesaid corporate documents, which shall remain in full force and effect until such time as the County Department of Public Works and Transportation, Construction Contract Administration is advised in writing to the contrary.

16. ACKNOWLEDGMENT

I ACKNOWLEDGE THAT this Affidavit is to be furnished to the County and may be distributed to units of (1) Baltimore County; (2) the State of Maryland; (3) other counties or political subdivisions of the State of Maryland; (4) other states; and (5) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this bid or proposal shall be construed to supersede, amend, modify or waive, on behalf of Baltimore County, or the State of Maryland or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the Business with respect to (a) this Affidavit, (b) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

WITNESS/ATTEST:

_____ By: _____

Name: _____

Date: _____ Title: _____

(Authorized Representative and Affiant)

BID BOND

Principal | **Business Address of Principal**

Surety

Obligee: **BALTIMORE COUNTY, MARYLAND**
A body corporate and politic

A Corporation of the State of _____ **and authorized to do business in Maryland**

Five Percent of Bid Amount **$** **5% of Bid**
Penal Sum of Bond [shall be determined pursuant to latest revised Specification / G.P. 2.07 (2000 Ed.)]

Joppa Road 20-Inch Water Main Replacement at Fairmount Avenue to LaSalle Road
Contract Name

23206 WX0
Contract Number/Proposal Item Number

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal, above named, and Surety, above named, and authorized to do business in the State of Maryland, are held and firmly bound unto the Obligee, above named, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that if the aforesaid Principal is the apparent low bidder and complies with all specified matters required before award or if the aforesaid Principal is awarded the contract, the said Principal will, within the time required, execute and deliver to the Obligee a formal contract and good and sufficient payment and performance bonds in the form provided by the Obligee, then, this obligation to be void; otherwise the Principal and Surety will, upon demand, pay unto the Obligee the entire Penal Sum of this Bid Bond as liquidated damages.

THE SURETY FURTHER GUARANTEES No Proposal will be considered unless accompanied by a guaranty of the amount specified in the Proposal in the form of either a certified check, bank cashier's check or a Bid Bond on the form provided therein or an exact facsimile thereof. The Bid Bond must be executed by a Surety that is, as of the date of the Bid: (a) licensed in the State of Maryland, (b) rated "B" or better by the A.M. Best Company, (c) on federal funded projects, authorized by the underwriting limitation contained in the U.S. Department of the Treasury Circular 570, as amended, to guaranty the amount of the Bid, and (d) in good standing as determined by the County's Engineer. The Bid Bond must guaranty payment to the County of liquidated damages as follows: (a) if only one Bid is received, the guaranteed payment shall be five (5%) percent of the Bidder's Bid amount, (b) if two or more Bids are received, the guaranteed payment shall be the difference between the Bidder's Bid amount and the next lowest Bid amount, subject to the limitation that the guaranteed payment not be greater than five (5%) percent of the Bidder's Bid amount. This Bid Bond is required in case the successful Bidder, after issuance of notice of Award, fails to comply, timely and completely, with each of the requirements set forth under Section GP-3.04.

Signed and sealed _____
Date

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In Presence of: **Individual Principal**

Witness: _____ **as to:** _____ **(SEAL)**

Print Name: _____ **Print Name:** _____

Corporate Principal

In Presence of:

_____
(Name of Corporation)

Witness: _____ **By:** _____

Print Name: _____ **Print Name:** _____ **(SEAL)**

Title: _____

Surety

_____
(Name of Surety)

Business Address: _____

Witness: _____ **By:** _____ Affix

Print Name: _____ **Print Name:** _____ Corporate

Title: _____ Seal

Revised
February 4, 2015

BALTIMORE COUNTY
PREVAILING WAGE AND LOCAL HIRING

AFFIDAVIT

(Project Name) _____
Proposal No.: _____
Project No.: _____

On behalf of_____, I do solemnly declare and affirm,
(Contractor)
under penalty of perjury, that to the best of my knowledge, information, and belief:

1. I have submitted all documentation in accordance with Baltimore County Code § 10-2- 506 and § 10-2-507 regarding the prevailing wage and local hiring laws and requirements of the prevailing wage guidelines located at (Prevailing Wage and Local Hire Laws), and acknowledge that I have read and agree to all provisions of said law, as amended, and have a continuing obligation to be compliant with the law and any changes to the law.

2. I shall not knowingly provide any false information relating to payroll documentation and/or hiring of local employees for capital improvement contracts that are subject to the prevailing wage and/or local hiring laws of Baltimore County. I further attest and certify that all documentation relating to the same will be accurate and complete and will remain accurate and complete on an ongoing basis, and will reflect the payroll and/or local hiring status of contractors, subcontractors, apprentices, and independent contractors performing work for the Contract (contract number_____). I acknowledge that I have been informed and am aware of the foregoing requirements and that I am authorized to make this certification on behalf of myself and all subcontractors and parties performing work pursuant to this Contract.

3. I certify and attest that I am an officer or agent of the Contractor or subcontractor who supervises the payment of employees. I understand and agree that all documentation related to prevailing wages and/or local hiring required by law shall be submitted to Baltimore County's Prevailing Wage Administrator or designee before any surety is released or final payment due under the terms of the Contract is made.

4. I further certify and attest that I will have personal knowledge of the wages paid to all employees of_____for work performed on the Contract and of all of the hours worked, and that I am an authorized agent of the Contractor and assume responsibility for my actions.

5. I further certify and attest that_____will comply with prevailing wage rates set by the State of Maryland as the same apply to the Contract and are a part of the bid documents and Contract, and that_____will comply with applicable local hiring requirements.

6. I attest and certify that, if the Contract is subject to the local hiring requirement under §10-2-507 of the Baltimore County Code, _____ will make best efforts to ensure that residents of Baltimore County constitute at least 51% of the new hires made for the Contract, subject to all exceptions allowable by law.

7. I certify and attest that, if the Contract is subject to prevailing wage requirements, no rebates or deductions will be made, directly or indirectly, from any wages paid in connection with the Contract, other than those provided for by law.

8. I certify and attest that, if awarded the Contract and if the Contract is subject to prevailing wage law, I will submit certified payroll to the County through its electronic compliance system or as instructed by the Prevailing Wage and Local Hire Unit.

9. I certify that if awarded the Contract, I will provide a list of subcontractors who will participate as a beneficiary of this project to the agency and the Prevailing Wage and Local Hire Unit at PrevailingWage@baltimorecountymd.gov.

10. I understand that no funds will be dispersed by the County until an Employment Analysis has been issued to the Prevailing Wage and Local Hire Unit in compliance with the local hire law. The Employment Analysis will include how many jobs will be required to complete the project; how many current employees are available to complete the project, and how many of those jobs will require new hires.

_____
Contractor/Bidder/Offeror

_____
By

_____
Printed Name

_____
Printed Title

_____
Date

_____
Phone

_____
License Number

_____
Business Email

BALTIMORE COUNTY, MARYLAND

Prevailing Wage and Local Hiring Contract Requirements and Policies

The Contractor and all Subcontractors must comply with the Prevailing Wage and Local Hiring Laws, contained in Baltimore County Code § 10-2-506 and § 10-2-507, respectively, as amended. Prevailing wage means the wage rate paid by employers that is determined by a governmental authority, based upon a particular geographic area, for a given class of labor and type of project. The County will use the prevailing wage established by the State of Maryland (the "State") Department of Labor for state funded construction contracts in the County at the time of award. These rates include the basic hourly rate and fringe benefits. Apprentices must be paid at least the rate that the State's Apprenticeship and Training Council sets for an apprentice in the trade involved, based on a percentage of the prevailing wage rate in that trade. Any Contractor that is subject to the prevailing wage or local hiring law will be required to agree to the below provisions:

For the purposes of these requirements, an employee means an apprentice, laborer or mechanic employed by a contractor or subcontractor on a capital improvement project with a value of over $300,000 or a County-subsidized capital project with a value over $5,000,000.

Capital Improvement Project does not include blanket order or open-end agreements, capital improvement projects subject to a federal or state prevailing wage law, awarded without competition; with another governmental entity; to the extent the contractor is precluded from compliance by the terms of any federal or state law, contract or grant; entered into pursuant to Baltimore County Code § 10-2-310(e); entered into as a joint or cooperative purchase; or entered into as an emergency purchase.

The purpose of a prevailing wage is to ensure that contractors institute local hiring practices for Capital Improvement contracts and Capital Projects under certain circumstances as required by law, and that the Contractor's employees who work on capital improvement contracts are paid the going rate for their services. The prevailing wage rates are established by the State of Maryland Department of Labor and apply to all of the Contractor's employees and any and all Subcontractors. The Contractor and all Subcontractors must comply with all of the requirements of the Prevailing Wage Law including, but not limited to, the following:

1. Pay employees the prescribed rate as annually established by the State's Department of Labor; the prevailing wage rates in effect on the date a solicitation is issued and will apply throughout the term of a contract resulting from that solicitation. Contractor or subcontractors may NOT split or subdivide a capital improvement contract, pay an employee through a third party, treat an employee as a subcontractor or independent contractor to avoid any requirement of the County's prevailing wage law; or employ an individual classified as a helper or trainee to perform direct and measurable work on a capital improvement contract.

2. Pay employees at a rate equal to or more than the prevailing wage rate currently in effect for the type of work performed.

3. Pay employees overtime for work (I) more than eight hours in any single calendar day; (II) more than 40 hours in a work week; or (III) on a Sunday or a legal holiday.

4. Classify employees in their proper work classification in conformance with the schedule established by the State's Department of Labor.

5. May only make fair and reasonable deductions that are (a) required by law; (b) authorized in a written agreement between an employee and contractor or subcontractor signed at the beginning of employment (any deductions taken from employee paychecks including healthcare, pension, 401K, IRA, etc., child/spouse support, or tax levies); and submitted by the contractor or subcontractor to the Director of the County's Prevailing Wage Program; or required or allowed by a collective bargaining agreement between a bona fide labor organization and a contractor or subcontractor.

> Electronically submit a certified copy of payroll records through the County's designated certified payroll and compliance system within 14 days after the end of payroll week ending date, to verify that Prevailing Wage rates have been paid to employees.

6. Backup documentation may be required upon demand from the County to be submitted for all 3rd party benefits being claimed, to include, but not limited to: *one month's healthcare transmittal showing employee name and amount company pays on their behalf, company vacation/sick policy, etc. or if Union, a Union transmittal for one month in which work has been performed*.

7. Retain records for a period of five (5) years after the work is completed and permit the Director of the County Prevailing Wage Program, or his/her designee, to inspect the payroll records at a reasonable time and as often as necessary.

8. Payroll records shall contain a statement signed by the contractor or subcontractor (including tiered subcontractors) certifying that the payroll records are complete and correct; the wage rates are not less than required by the Prevailing Wage Law; and the rate of pay and classification for each employee accurately reflects the work the employee performed.

9. All payroll records shall include the name, address, telephone number and email address of the contractor or subcontractor; the name and location of the job; and each employee's name, current address, unless previously reported; specific work classification; daily basic time and overtime hours; total basic time and overtime hours for the payroll period; rate of pay; fringe benefits by type and amount; and gross wages, and any deductions taken from employees' paychecks including, but not limited to, healthcare, pension/401K/IRA. Late submission of copies of any payroll records may be deemed deficient by the County until the required records are provided, and the County may postpone processing payments due under the Contract or under an agreement to finance the Contract.

10. Submit to random or regular audits and investigation of any complaint of a violation of the County's Prevailing Wage and Local Hiring Laws and requirements.

11. Make best efforts to fill at least 51% of new jobs required to complete the capital improvement contract or capital project with Baltimore County residents.

12. Submit monthly reports to the Director of the County's Prevailing Wage Unit relating to local hiring with respect to capital improvement contracts over $300,00 or County-subsidized capital construction projects receiving assistance over $5,000,000, that includes (a) the number of new hires needed for the contract or project, (b) the number of County residents hired during the reporting period, (c) the total number of all employees hired during the contract period, (d) best efforts made to fill open positions with County residents, and(e) 5) for new hires: name, last four (4) digits of the social security number, job title, hire date, address and referral source.

13. Agree that any and all disputes will be handled as set forth in the County's Prevailing Wage and Local Hire as a condition of award.

14. In the event the County determines that a provision of the Prevailing Wage and/or Local Hire Law has been violated, the County shall issue a written decision, including appropriate sanctions, and may withhold payment due the Contractor in an amount sufficient to pay each employee of the Contractor or any subcontractors the full amount of wages due under the Prevailing Wage Law, and an amount sufficient to satisfy a liability of the Contractor for liquidated damages as provided under the Prevailing Wage Law, pending a final decision on the violation by the County. The Contractor may appeal a written decision of the Director of the County's Prevailing Wage Unit that the Contractor violated a provision of the Prevailing Wage and/or Local Hire Law, to the Office of Administrative Hearings ("OAH"), within ten (10) working days after receiving a copy of the decision. OAH will conduct a hearing upon the receipt of a timely appeal. If no appeal, the decision of the Director of the County's Prevailing Wage Unit or his/her designee becomes final. A Contractor who is found to have violated the provisions of the Prevailing Wage or Local Hiring Laws intentionally, may not be awarded a County contract or work on any County project for a period of one year from the date of the OAH determination.

15. May not discharge, or otherwise retaliate against, an employee for asserting any right under the Prevailing Wage Law or for filing a complaint of a violation;

16. An aggrieved employee is a third-party beneficiary of the Contract and may by civil action recover the difference between the prevailing wage for the type of work performed and the amount actually received, with interest and a reasonable attorney's fee.

17. Each Contract subject to the Prevailing Wage and Local Hire Laws may specify the payment of liquidated damages to the County by the Contractor for any noncompliance with the Prevailing Wage and Local Law. Liquidated damages are:

a. $10 for each calendar day that the payroll records are late (payrolls are to be submitted no later than 14 days after the week ending date shown on Certified Payroll Record CPR); $20 for each day that an employee is misclassified and/or paid less than the prevailing

wage rate; and a civil penalty of $50 per violation of the requirement to post the prevailing wage rates at the work site.

b. $50 per month for each month the Local Hire report is not submitted by the last day of the existing month due.

These liquidated damages are solely related to prevailing wage and local hiring compliance and do not negate any other remedies available or set forth in the Contract, including delay damages or actual damages. These remedies are separate from, in addition to, and not in lieu of, any remedies available and set forth in the Contract, or at law, for other breaches or defaults under the Contract.

18. Where the initial Contract Sum is $300,000 or below, but it is subsequently increased and exceeds $300,000 due to an approved Contract Modification, the amount of any such Contract Modification that causes the Contract Sum to exceed $300,000 is subject to the Prevailing Wage and Local Hiring Laws.

19. The Contractor and all subcontractors must post a clearly legible statement of each prevailing wage rate in a prominent and easily accessible place at the Work Site during the entire time Work is being performed, in English and any other language that is primarily spoken by the employees, at the Work Site.

20. A contract may include the actual cost of health and dental insurance, pension or retirement plan, paid time off such as vacation or sick daysand life insurance. In calculating the cost per hour, divide the annual cost of benefits by 2,080 hours for each employee. Other benefits such as the use of a company vehicle, cell phones, lodging reimbursement, company owned tools **may not be credited towards the fringe benefit amount**.

21. All apprentices must be registered with the Maryland Apprenticeship and Training Council, V.A., or US DOL as well as be currently enrolled in, and attending appropriate classes, to which is considered “actively enrolled”. Only actively enrolled apprentices may be employed on the project at the apprentice prevailing wage rate.

Classification	Modification Reason	Basic Hourly Rate	Borrowed From	Fringe Benefit Payment
BRICKLAYER	CR	$37.50	510	$14.78
CARPENTER	CR	$34.41		$14.49
CARPENTER - SHORING SCAFFOLD BUILDER	CR	$34.41		$14.49
ELECTRICIAN	CR	$47.00		$20.17
IRONWORKER - REINFORCING	CR	$30.70		$23.91
IRONWORKER - STRUCTURAL	CR	$36.50		$21.86
LABORER - AIR TOOL OPERATOR	AD	$26.12		$7.40
LABORER - ASPHALT PAVER	AD	$26.12		$7.40
LABORER - ASPHALT RAKER	CR	$18.80		$3.23
LABORER - BLASTER - DYNAMITE	AD	$26.12		$7.40
LABORER - BURNER	AD	$26.12		$7.40
LABORER - COMMON	CR	$18.80		$3.23
LABORER - CONCRETE PUDDLER	CR	$18.80		$3.23
LABORER - CONCRETE SURFACER	AD	$26.12		$7.40
LABORER - CONCRETE TENDER	CR	$18.80		$3.23
LABORER - CONCRETE VIBRATOR	CR	$18.80		$3.23
LABORER - DENSITY GAUGE	CR	$18.80		$3.23
LABORER - FIREPROOFER - MIXER	CR	$18.80		$3.23
LABORER - FLAGGER	CR	$18.80		$3.23
LABORER - GRADE CHECKER	CR	$18.80		$3.23
LABORER - HAND ROLLER	CR	$18.80		$3.23
LABORER - HAZARDOUS MATERIAL HANDLER	AD	$26.12		$7.40
LABORER - JACKHAMMER	CR	$18.80		$3.23
LABORER - LANDSCAPING	CR	$18.80		$3.23
LABORER - LAYOUT	CR	$18.80		$3.23
LABORER - LUTEMAN	CR	$18.80		$3.23
LABORER - MASON TENDER	AD	$26.12		$7.40
LABORER - MORTAR MIXER	CR	$18.80		$3.23
LABORER - PIPELAYER	AD	$26.12		$7.40
LABORER - PLASTERER - HANDLER	CR	$18.80		$3.23
LABORER - SCAFFOLD BUILDER	AD	$26.12		$7.40
LABORER - TAMPER	CR	$18.80		$3.23
MILLWRIGHT	CR	$38.61	025	$17.21
PAINTER - BRIDGE	CR	$44.18		$16.08
POWER EQUIPMENT OPERATOR - BACKHOE	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - BOOM TRUCK	CR	$30.04	510	$13.55
POWER EQUIPMENT OPERATOR - BROOM / SWEEPER	CR	$30.04		$13.55
POWER EQUIPMENT OPERATOR - BULLDOZER	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - CONCRETE PUMP	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - CRANE	CR	$41.00		$18.10
POWER EQUIPMENT OPERATOR - DRILL - RIG	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - EXCAVATOR	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - FORKLIFT	CR	$30.04		$13.55

POWER EQUIPMENT OPERATOR - GRADALL	CR	$34.00		$13.55
POWER EQUIPMENT OPERATOR - GRADER	CR	$34.00		$13.55
POWER EQUIPMENT OPERATOR - LOADER	CR	$33.00		$13.55
POWER EQUIPMENT OPERATOR - MECHANIC	CR	$34.00		$13.55
POWER EQUIPMENT OPERATOR - MILLING MACHINE	CR	$32.10		$13.55
POWER EQUIPMENT OPERATOR - PAVER	CR	$33.15		$13.55
POWER EQUIPMENT OPERATOR - ROLLER - ASPHALT	CR	$32.10		$13.55
POWER EQUIPMENT OPERATOR - ROLLER - EARTH	CR	$30.04		$13.55
POWER EQUIPMENT OPERATOR - SKID STEER (BOBCAT)	CR	$30.04		$13.55
POWER EQUIPMENT OPERATOR-VACUUM TRUCK	CR	$37.50		$14.85
STONE MASON	CR	$44.30	510	$21.22
TILE & TERRAZZO FINISHER	CR	$28.09	510	$12.59
TRUCK DRIVER - DUMP	CR	$23.83		$9.22
TRUCK DRIVER - LOWBOY	CR	$29.68		$10.51
TRUCK DRIVER - TACK/TAR TRUCK	CR	$29.39		$10.51
TRUCK DRIVER - WATER	CR	$29.39	027	$10.51

BALTIMORE COUNTY, MARYLAND

USE OF MINORITY BUSINESS ENTERPRISES AND WOMEN'S BUSINESS ENTERPRISES

IN
COUNTY CONTRACTS

MWBE Plan Package

Division of Diversity, Equity and Inclusion
The Jefferson Building
105 West Chesapeake Avenue
Towson, Maryland 21204
410-887-3407
www.baltimorecountymd.gov/go/mwbe

PROSPECTIVE BIDDERS/OFFERORS

Baltimore County Executive Order 2022-005 Use of Minority Business Enterprises and Women's Business Enterprises states:

SECTION 6. BID REQUIREMENTS.
(A)(l) All bidders shall submit a list of all subcontractors contacted in preparation of their bid package or proposal.
(2) The list shall include the service to be performed, bid amount, and the race/ethnicity/gender of the business owner(s).
(B)(l) All bidders shall submit a list of all subcontractors to be used on a county contract in the bid package.
(2) This list shall include all subcontractors (both MWBE and non-MWBE) used, the service to be performed, the total amount to be paid, and the race/ethnicity/gender of the owner.

If the solicitation includes a MWBE **subcontracting** goal, you **MUST** demonstrate **"Good Faith" effort** either by**:**

1. Complete and sign FORM A, FORM B (to include FORM B-Prime if MWBE Prime wishes to count towards the goal) and FORM C **listing all subcontractors** with the initial bid submission.
    a. *All Forms must be completed and signed. However, FORM C **MUST** be completed and signed by both the prime and the MWBE subcontractor.*

OR

2. If you are unable to meet any portion of the goal, you **MUST** do one of the following**:**

    a. If you are requesting a **partial waiver**, complete and sign FORM A with initial bid submission. FORM B (to include FORM B-Prime if MWBE Prime wishes to count towards the goal) and FORM C **(listing all subcontractors**). In addition, complete, sign and submit FORM D and FORM E **accompanied with all supporting documentation** for the portion of the goal that will not be achieved as specified on FORM A.
    b. If you are requesting a **full waiver**, complete and sign FORM A indicating your intent to request a full waiver **accompanied with a completed and signed FORM C listing all subcontractors**, FORM D and FORM E **accompanied with all supporting documentation**. **This MUST be submitted with the initial bid as specified on FORM A.**
    c. *All Forms must be completed and signed. FORM C and FORM D **MUST** be completed and properly signed **by both** the Prime **AND the MWBE subcontractor(s).***

NOTE: The MWBE **subcontracting** goal applies to **ALL** prime/general contractors including certified and non-certified minority and women owned firms. **However, a Minority-owned or a Women-owned prime may self-perform up to 50% of MWBE subcontracting goal set in the solicitation. The MWBE primes that wish to count towards the goal must list themselves on all appropriate forms.**

12/2023

BALTIMORE COUNTY, MARYLAND
MWBE PARTICIPATION SUMMARY

Executive Order: Minority Business Enterprises and Women Business Enterprises (MWBE) shall have the maximum opportunity to participate in the performance of contracts financed in whole, or in certain circumstances, in part with County funds. Accordingly, on December 6, 2022, the County Executive adopted the EXECUTIVE ORDER No. 2022-005 addressing MWBE participation in County contracts. The December 6, 2022 Executive Order may be found on the Baltimore County website at www.baltimorecountymd.gov/go/mwbe.

Each Contract: The County shall establish a minimum MWBE participation amount for each contract, as applicable.

Bidder/Offeror Responsibility: The bidder/offeror shall ensure that MWBE participation occurs in accordance with the contract requirements and the County Executive's Executive Order. All bidder/offerors shall ensure that MWBE have the maximum opportunity to compete for and perform County contracts, as applicable. Baltimore County, Maryland, and/or its bidder/offerors and contractors shall not discriminate on the basis of race, color, national origin, disability or sex in the award and performance of any County contract.

Mobilization Payments: For subcontractors, project start-up costs can also be significant. A subcontractor that has limited resources and access to credit may find that start-up expenses inhibit its ability to bid County contracts. Under circumstances where mobilization payments are approved for the prime contractor, the subcontractor should be paid an amount equal to their participation percentage no later than five (5) business days before they are required to mobilize to perform the contracted work.

Mobilization costs represent pre-contract costs incurred by a contractor to prepare a job site before the actual commencement of the contract. These costs can include movement of personnel and equipment to the project site and for the establishment of the Contractor's offices, buildings, and other facilities necessary to begin work.

APPROVED MWBE LISTINGS

Published compilations of approved and certified MWBE, contractors, subcontractors, material suppliers, etc. include:

DIRECTORY OF MINORITY BUSINESS ENTERPRISE (MDOT):

https://marylandmdbe.mdbecert.com

MINORITY BUSINESS DIRECTORY OF THE CITY OF BALTIMORE:

https://baltimorecity.diversitycompliance.com

BIDDER/OFFEROR'S ACTIONS

Seeking Firms:

The bidder/offeror will seek commitments by subcontract or otherwise from MWBE firms for supplies and/or services, any combined value of which equals or exceeds the required percentage of MWBE participation goal for the County contract. However a MWBE Prime that affirms its MWBE status on the Minority and/or Women Prime Participation Affidavit may count up to 50% of the goal.

Expenditures for Materials and Supplies:
A bidder/offeror may count toward its MWBE contract requirements all expenditures for materials and supplies obtained from MWBE suppliers and manufacturers, provided that the MWBE firm is furnishing and installing the materials and is certified to perform these services. If the MWBE firm is only being used as a supplier, wholesaler and/or regular dealer or is not certified to install the supplies/materials, for purposes of achieving the MWBE participation goal, you may only count sixty percent (60%) of the value of the subcontract for these supplies/products (60% Rule). To apply the 60% Rule, first divide the amount of the subcontract for these supplies/products only (not installation) by the total Contract value. Then, multiply the result by sixty percent (60%) and insert the percentage in the Percent of Total Contract field of Form B Subcontractor Participation Schedule.

BALTIMORE COUNTY, MARYLAND
MWBE PARTICIPATION SUMMARY

Information to be supplied: All bidder/offerors shall submit the following information to the County at the time of bid submission:

1. The name of an employee designated as the bidder/offeror's liaison to the County's Minority Business Enterprise Office.

2. The following forms shall be completed and submitted:
   - Certified MWBE Utilization and Fair Solicitation Affidavit (**Form A);** from among those names appearing in the Approved MWBE Listings (excepting Federal Highway Administration projects, which exclusively require DBE approved and certified by the Maryland Department of Transportation MBE Advisory Committee);
   - A Subcontractor Participation Schedule (**Form B**) completed by the prime contractor for each MWBE listed on the Form.
   - A MWBE Prime Participation Schedule (Form B-Prime) completed by a MWBE prime contractor if the firm wishes to self-perform up to 50% of the MBE/WBE goal.
   - A MWBE Disclosure and Participation Statement (**Form C**) completed and signed by the prime contractor and MWBE firm for each MWBE listed on the Form. Form C **must match** what is stated on Form B.

   - If applicable, MWBE Subcontractor Unavailable Certificate (**Form D**) completed and signed by the prime contractor and MWBE for each MWBE listed on the Form.

3. If applicable, MWBE Outreach Efforts - Compliance Statement (**Form E**) completed and signed by the Bidder/Offeror. The prime shall submit a list of all subcontractors.

4. For DPW contracts, if the bidder/offeror intends to fulfill the MWBE requirements by use of a joint venture, he/she must submit a Joint Venture Disclosure Affidavit (**Form D-EEO-006-A** and **B** showing the extent of MWBE participation. If a bidder/offeror intends to use a MWBE joint venture as a subcontractor to meet its MWBE requirements, the affidavit must be submitted through the bidder/offeror by the proposed subcontractors and signed by all parties.

5. If the bidder/offeror's proposed MWBE participation does not meet the MWBE contract requirements, information sufficient to demonstrate that the bidder/offeror has made every effort to meet the requirements must be submitted. (See DETERMINATION OF BID RESPONSIVENESS hereafter)

RECORDS AND REPORTS

Returning Records: The bidder/offeror must keep such records as are necessary to determine compliance with its MWBE utilization requirements:

1. The MWBE and non-minority contractors, type of work being performed, actual values of work and services.

2. Documentation of all correspondence, contacts, telephone calls, etc., to obtain MWBE services for the contract.

3. All prime contractors and MWBE sub-contractors are required to report monthly, by the 10th of each month, to the County through an online system called PRISM. If the contractor cannot submit his/her report on time, he/she will notify the County MWBE office and request additional time to submit the report. Failure of the contractor to report in a timely manner may result in a finding of noncompliance. The County in its sole discretion and/or upon written request may require additional reports regarding MWBE. In the event you are not able to enter your payments in PRiSM, a spreadsheet is attached for your use. Please be sure to list the PO for each invoice/ payment reported and include in your submission any corresponding documentation (e.g. copies of invoices or cancelled checks).

Retaining Records: All MWBE records must be retained for 3 years following the expiration or any earlier termination of the contract and shall be available for inspection and photocopying by the County.

Investigation and Notification: Whenever the County believes the bidder/offeror, contractor, or any subcontractor may not be operating in compliance with the MWBE requirements, the County may, in its sole discretion, conduct an investigation. If the County finds the bidder/offeror, contractor, or any subcontractor is not in compliance with the MWBE requirements, the County may exercise any and all rights and remedies available to the County, under the contract, at law or equity, as deemed applicable and appropriate by the County in its sole discretion.

BALTIMORE COUNTY, MARYLAND
MWBE PARTICIPATION SUMMARY

DETERMINATION OF BID RESPONSIVENESS

Request for Deviation: If the bidder/offeror is unable to procure from MWBE firms (by subcontract or otherwise), supplies and services, any combined value of which equals the required percentage of the total value of the contract, the bidder/ offeror may request, in writing, a deviation or waiver of the contract requirements. To obtain such a waiver, the bidder/ offeror must submit the following information at the time bids are due:

1. The request for waiver request shall include (1) a signed unavailability statement (Form D) executed by all MBEs and WBEs that the bidder/offeror solicited for participation and (2) Outreach Efforts/Compliance Statement (Form E) that demonstrates the bidder/offeror's good faith efforts to comply with the contract requirements, including copies of solicitation documentation to all potential subcontractors:

2. Emails, letters, facsimile transmittals and confirmations containing plans, specifications, and anticipated time schedule for portions of the work to be performed and meeting notes and agendas clearly identifying the certified MBE or WBE classification and dates that the bidder/offeror contacted each MWBE; and

3. Telephone logs containing names, addresses, dates, telephone numbers, work to be performed, anticipated time schedule and classification of certified MBEs and WBEs contacted.

Bid Rejection: The failure of any bidder/offeror (including the apparent low bidder/offeror) to provide a responsive MWBE Plan as required by the solicitation may result in the bidder/offeror being deemed non-responsive and the County's rejection of the bid.

Liquidated Damages If the County issues a notice of intent to awards contract to the apparent low bidder/offeror who provided a responsive MWBE Plan, but, if after said notice and before execution of Contract Documents, it is determined by the County that the apparent low bidder/offeror has failed to comply with the MWBE Plan, such failure may result in the recommendation by the appropriate Procurement Official to annul the award and forfeit the bidder/offeror's Proposal Guaranty to the County, not as a penalty, but as liquidated damages, it being acknowledged that actual damages will be difficult if not impossible to accurately measure. In addition, the County may proceed as it determines to be in its best interest, including but not limited to, the Notice of Award may be made to the next lowest responsive and responsible bidder/offeror or the work may be re-advertised.

Contract Breach: If, after execution of a County contract, the contractor becomes aware it may or will fail to fulfill the applicable MWBE requirements and/or may or will deviate from the contractor's bid response/contract terms, the contractor shall promptly advise the County of this in writing. Thereafter, the County will determine what action or remedy is appropriate on a case-by-case basis, in the County's sole discretion.

Approval Required for Changes: Any and all changes to the MWBE subcontractors or the type or amount of work to be performed by such subcontractors during the contract term must be mutually agreeable to the County and the contractor and shall be documented via a contract amendment, executed by legally authorized representatives of the County and the contractor.

Cooperation in Reviews: The bidder/offeror will cooperate with the County in any reviews of the contractor's procedures and practices with respect to MBE or WBE firms, which the County may from time to time conduct in its sole discretion.

Other: If the documents used to determine the contractor's efforts, achievement of, and/or the status of an MWBE requirement or fulfillment thereof contain false, misleading or misrepresented information, the contractor may be declared in breach of the contract and the County may take any and all actions and/or remedies available to the County under the contract, at law, or in equity. If an MWBE is disqualified by any public entity, including but not limited to, Baltimore City, the State or MDOT, at any time after award or during the term of the contract, the County may, in its sole discretion, require the prime contractor to promptly submit for County approval, the contractor's plans for fulfilling the required MWBE participation under the contract, and/or request such detail and additional information as the County, in its discretion deems appropriate.

PRIME CONTRACTOR MINORITY AND WOMEN PARTICIPATION AFFIDAVIT

A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the [title]_____and the duly authorized representative of [business]
_____ (the "Business") and that I possess the legal authority to make this Affidavit on behalf of myself and the Business for which I am acting.

B. AFFIRMATION REGARDING MINORITY AND WOMEN PARTICIPATION

I FURTHER AFFIRM THAT:

I am aware that, pursuant to the December 6, 2022 Executive Order of Baltimore County, Maryland, the following words have the meanings indicated.

(A) "Minority Business Enterprise" or "MBE" means a business enterprise that is owned, operated and controlled by one or more minority group members (African American, Hispanic American, Asian American, or Native American) who have at least 51% ownership and in which the minority group members have operational and managerial control, interest in capital and earnings commensurate with their percentage of ownership.

(B) "Women's Business Enterprise" or "WBE" means a business enterprise that is owned, operated and controlled by one or more women who have at least 51% ownership and in which the women have operational and managerial control, interest in capital and earnings commensurate with their percentage of ownership.

____ The Prime is a MBE ☐ or WBE ☐

☐ Maryland State Department of Transportation (MDOT) #_____

☐ City of Baltimore #_____

☐ Name Other Jurisdiction:_____#_____

☐ The ownership of the Noncertified MWBE business consists of___ ___% minorities and ___% women (for a total of____ %), each of which has operational and managerial control, interest in capital and earnings commensurate with their percent ownership.

_____ % African American_____% Hispanic American_____% Women
_____ % Asian American _____% Native American _____% Disadvantaged (DBE)

___The MWBE prime anticipates meeting up to 50% of the stated participation goal with its own workforce. **MWBE primes percentage must be stated on the MWBE PRIME PARTICIPATION SCHEDULE (FORM B-PRIME) to count towards the goal**.

___The prime anticipates ☐ does not anticipate ☐ utilizing subcontractors for_____% of the work of the contract requirements, of which it anticipates_____% will be MBEs and____% will be WBEs.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: _____ By:_____
(Authorized Representative and Affiant's Name and Title)

BALTIMORE COUNTY, MARYLAND
Certified MWBE Utilization and Fair Solicitation Affidavit
(FORM A)

This document must be completed and submitted with Bid/Proposal to Baltimore County.

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

* * * * * * * * * * * * * * *

I acknowledge the goal for solicitation # **23206 WX0** is a minimum of **25%**. This goal must be met by any combination of the MWBE subcontractors. However, for instances where the Prime is counting up to 50% of the goal, the remaining goal balance must be met by any combination of the MWBE subcontractors.

- The goal breakdown is as follows:
  - ____% Minority/Women Prime
  - ____ % for certified MBE-owned businesses and/or
  - ____ % for certified WBE-owned businesses.

I have made a good-faith effort to achieve this MWBE solicitation requirement. If awarded the contract, I will comply with this MWBE contract requirement and will continue to use my best efforts to increase MWBE participation during the contract term.

PLEASE CHECK ONE BOX (EITHER 1, 2, OR 3)

1 ☐ Prime has met the MWBE contract requirements for this solicitation and contract. I submit the Subcontractor Participation Form B and Form C, along with this Affidavit, which details how the Prime will achieve the contract requirements. Submit a complete list of all additional subcontractors

Or

2 ☐ After having made a good-faith effort to achieve the MWBE requirements, the Prime can only achieve partial success. I submit the Subcontractor Participation Form B, Form C, Form D and Form E along with this Affidavit, which details how the Prime will partially achieve the contract requirements. Submit a complete list of all additional subcontractors

I request a partial waiver and will meet the following MWBE participation goals:

- Partial waiver of MWBE subcontract participation:
  - ____% Minority/Women Prime
  - ____ % for certified MBE-owned businesses and/or
  - ____ % for certified WBE-owned businesses.

Or

3 ☐ After having made a good faith effort to achieve the MWBE requirements for this contract, the Prime is unable to achieve the requirements and/or sub requirements for this contract. I submit the MWBE Participation Form D and Form E, along with this Affidavit, which details the steps the Prime has taken in an attempt to achieve the contract requirements. Therefore, I request a full waiver.

IF YOU HAVE CHECKED BOX 2 OR 3, THE FOLLOWING IS APPLICABLE:

1) If a bidder is unable to comply with the goals established in a bid for a project, the bidder may submit a request for a waiver at the time of bid submission. However, occasions for granting waivers will be limited.

2) The request for waiver shall include documentation that demonstrates the bidder's good faith efforts to comply with the goals, including:
   a. Signed unavailability statements from all MBEs and WBEs that the bidder solicited for participation; and
   b. Copies of solicitation documentation to include the scope of services to be performed by the subcontractors accompanied with the following:
      i. Emails, letters, facsimile transmittals and confirmations containing plans, specifications, and anticipated time schedule for portions of the work to be performed and meeting notes and agendas clearly identifying the certified MBE or WBE classification and dates that the bidder contacted each; and
      ii. Telephone logs containing names, addresses, dates, telephone numbers, work to be performed, anticipated time schedule and classification of certified MBEs and WBEs contacted.
      iii. Responses from MWBE firms contacted to fulfill the goal.

As I have checked Box 2 or 3 of this Affidavit, I understand I must submit the following supporting documentation with the bid:

- *Subcontractor Participation Schedule* (Form B)
- *MWBE Subcontractor Disclosure and Participation Statement* (Form C)
- *MWBE Subcontractors Unavailable Certificate* (Form D) (if applicable)
- *MWBE Outreach Efforts – Compliance Statement* (Form E) (if applicable)

I acknowledge that the MWBE subcontractors/suppliers listed on the *Subcontractor Participation Schedule* (Form B) will be used to accomplish the percentage of MWBE participation that the Prime shall achieve. A fully executed Form C must match Form B.

In the solicitation of subcontract quotations or offers, MWBE subcontractors were provided the same information and amount of time to respond, as were non-MWBE subcontractors.

The solicitation process was conducted in such a manner so as to not place MWBE subcontractors at a competitive disadvantage to non-MWBE subcontractors.

I solemnly affirm under the penalties of perjury that this Affidavit is true to the best of my knowledge, information, and belief.

Bidder/Offeror Name	Phone Number
Address	Affiant Signature
Address (continued)	Printed Name & Title
E-mail address	Date

BALTIMORE COUNTY, MARYLAND
SUBCONTRACTOR PARTICIPATION SCHEDULE (FORM B)

**This document must be completed and submitted with Bid/Proposal to Baltimore County.*

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

Prime Name	**Prime Address, Telephone Number and Email**
Bid/Proposal Name and Number	**Project Location**
	Base Bid $_____
1. Subcontractor Name and Tax ID	**Subcontractor Address**
Telephone Number _____ **Email Address** _____ **Select One:** ☐ **MBE** ☐ **WBE** ☐ **SBE** ☐ **N/A** **Provide if Applicable:** ☐ **MDOT** ☐ **Baltimore City** **#**_____	**Minority Status (If applicable):** ☐ **African American** ☐ **Female** ☐ **Asian American Pacific** ☐ **Native American** ☐ **Asian American Sub-continent** ☐ **Hispanic American** ☐ **Supplier, Wholesaler and/or Regular Dealer - 60% Rule**
NAICS Code(s), Work to be Performed and Subcontract Dollar Amount	**Percent of Total Contract (See instructions on Page 1 of the MWBE PARTICIPATION SUMMARY for 60% rule)** _____%
2. Subcontractor Name and Tax ID	**Subcontractor Address**
Telephone Number _____ **Email Address** _____ **Select One:** **MBE** ☐ **WBE** ☐ **SBE** ☐ **N/A** ☐ **Provide if Applicable:** ☐ **MDOT** ☐ **Baltimore City** **#**_____	**Minority Status (If applicable):** ☐ **African American** ☐ **Female** ☐ **Asian American Pacific** ☐ **Native American** ☐ **Asian American Sub-continent** ☐ **Hispanic American** ☐ **Supplier, Wholesaler and/or Regular Dealer - 60% Rule**
NAICS Code(s), Work to be Performed and Subcontract Dollar Amount	**Percent of Total Contract (See instructions on Page 1 of the MWBE PARTICIPATION SUMMARY for 60% rule)** _____%
3. Subcontractor Name and Tax ID	**Subcontractor Address**
Telephone Number _____ **Email Address** _____ **Select One:** **MBE** ☐ **WBE** ☐ **SBE** ☐ **N/A** ☐ **Provide if Applicable:** ☐ **MDOT** ☐ **Baltimore City** **#**_____	**Minority Status (If applicable):** ☐ **African American** ☐ **Female** ☐ **Asian American Pacific** ☐ **Native American** ☐ **Asian American Sub-continent** ☐ **Hispanic American** ☐ **Supplier, Wholesaler and/or Regular Dealer - 60% Rule**
NAICS Code(s), Work to be Performed and Subcontract Dollar Amount	**Percent of Total Contract (See instructions on Page 1 of the MWBE PARTICIPATION SUMMARY for 60% rule)** _____%
Subcontractor Total Dollar Amount $_____	**Total Subcontractor Percent of Entire Contract** _____%
Form Prepared by: **Name/Date:** _____ **Title:** _____ **Email:** _____	**Reviewed and Accepted by Baltimore County Minority Business Enterprise Office** **Name** _____ **Title** _____ **Date** _____

MBE or WBE Prime Participation Total	_____%	$_____
MBE Subcontracting Participation Total	_____%	$_____
WBE Subcontracting Participation	_____%	$_____
Total MWBE Participation	_____%	$_____
Total SBE Participation	_____%	$_____

BALTIMORE COUNTY, MARYLAND

MWBE PRIME PARTICIPATION SCHEDULE
(Form B-Prime)

PLEASE COMPLETE AND SUBMIT THIS FORM TO ATTEST EACH SPECIFIC ITEM OF WORK THAT YOU AS THE MWBE PRIME FIRM WILL PERFORM USING ITS OWN WORKFORCE PERTAINING TO THE PERCENTAGE STATED ON THE SUBCONTRACTOR PARTICIPATION SCHEDULE (FORM B) FOR PURPOSES OF MEETING THE MWBE PARTICIPATION GOALS.

This document must be completed and submitted with Bid/Proposal to Baltimore County.

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

Provided that_____(Prime Contractor's Name) with Certification Number _____ is awarded the County contract in conjunction with Solicitation No._, such MWBE Prime Contractor intends to count the distinct, clearly defined portion of the work of the contract that the MBE/WBE Prime Contractor performs with its own forces toward fulfilling **up to fifty-percent (50%) of the MWBE participation goal**, at least $_____ which equals to___% of the Total Contract Amount for performing the following products/services for the Contract:

NAICS CODE	WORK ITEM, SPECIFICATION NUMBER, LINE ITEMS OR WORK CATEGORIES (IF APPLICABLE). FOR CONSTRUCTION PROJECTS, GENERAL CONDITIONS MUST BE LISTED SEPARATELY.	DESCRIPTION OF SPECIFIC PRODUCTS AND/OR SERVICES	VALUE OF THE WORK

MWBE PRIME CONTRACTOR

Signature of Representative:

_____

Printed Name and Title:_____

_____

Firm's Name: _____

Federal Identification Number: _____

Address: _____

_____

Telephone:_____

Email Address: _____

Certified Yes ☐ No ☐

Certifying Jurisdiction _____
Date:_____

MWBE PRIME CONTRACTOR

Minority Status:

☐ African American

☐ Hispanic American

☐ Women

☐ Asian American

☐ Native American

Reviewed and Accepted by Baltimore County Minority Business Enterprise Office

Name _____

Title _____

Date _____

Rev 12/2024

BALTIMORE COUNTY, MARYLAND

MWBE SUBCONTRACTOR DISCLOSURE AND PARTICIPATION STATEMENT (FORM C)

This document must be completed and submitted with Bid/Proposal to Baltimore County.

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

NOTE: ANY INCONSISTENCY BETWEEN THIS FORM AND FORM B *MWBE PARTICIPATION* MAY RENDER A BID/PROPOSAL NON-RESPONSIVE AND THE COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

Contract Name, Bid/Proposal Number: _____

Prime Contractor Name: _____

Name of MWBE Subcontractor: _____

_____ _____

Subcontractor Contact Name, Title Subcontractor Email Address

☐ MDOT ☐ Baltimore City

_____

Certification Number

☐ MBE ☐ WBE ☐ SBE ☐ N/A

1. NAICS Code(s), Work/Services to be performed by MWBE Subcontractor: _____

_____

Percent of Total Contract (See instructions on Page 1 of the MWBE PARTICIPATION SUMMARY for 60% rule)

2. Subcontract Amount: $ _____ or _____ % of the County contract cost.

3. Bonds - Amount and type required of Subcontractor if any: _____

4. MWBE Anticipated Commencement Date: _____ Completion Date: _____

Mobilization Cost Amount $_____

5. This is a MBE-Owned Business Firm: Yes _____ No _____

6. This is a WBE-Owned Business Firm: Yes _____ No _____

****

NOTE: If the Prime is notified that it will be awarded the above referenced contract, the undersigned MWBE subcontractor and Prime must enter into a subcontract for the work/service indicated above upon the Prime's execution of a contract for the above referenced project with Baltimore County, and provide a copy of the fully executed MWBE SUBCONTRACTOR PARTICIPATION NOTICE OF INTENT TO AWARD (FORM C-Subcontractor) accompanied with the anticipated Work Breakdown Schedule (providing the subcontractor's mobilization timeframe) to mwbe@baltimorecountymd.gov **within 10 calendar days of receipt by the Prime of FORM C- Subcontractor from the County.** The undersigned subcontractor is an MDOT or Baltimore City certified MWBE firm. The terms and conditions stated above are consistent with our agreements.

Signature of MWBE Subcontractor: _____ Date: _____

Prime's Printed Name and Title: _____ Email: _____

The terms and conditions stated above are consistent with our agreements.

Signature of Prime: _____ Date: _____

Revised 12/2024

BALTIMORE COUNTY, MARYLAND

MWBE –UNAVAILABILITY CERTIFICATE

(FORM D)

If applicable, this document must be completed and submitted with Bid/Proposal to Baltimore County.

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

1. It is hereby certified that the firm of _____
(Name of Minority firm)

located at _____
(Number) (Street)

_____
(City) (State) (Zip)

was offered an opportunity to bid on the _____ contract.

2. The _____ (MWBE Firm), is either unavailable for the work/service or unable to prepare a bid for this project for the following reason(s):

_____

_____

_____

_____ _____ _____
Signature of Subcontractor MWBE Representative Title Date

_____ _____ _____
MDOT/Baltimore City Certification # Email Address # Telephone #

3. PRIME'S SIGNATURE AND CERTIFICATION

I certify under oath that I contacted the Certified MWBE and they advised me that they are unavailable, unable to perform the work/services for the above-contract or failed to respond to repeated requests for a price proposal for the above-contract.

_____ _____ _____
Signature of Prime Title Date

Rev 12/2024

BALTIMORE COUNTY, MARYLAND
MWBE - OUTREACH EFFORTS - COMPLIANCE STATEMENT
(FORM E)

This document must be completed and submitted with Bid/Proposal to Baltimore County.

NOTE: If you do not complete and submit this form with your bid or offer to the County, the County may, in its sole discretion, deem your bid or offer NON-RESPONSIVE and accordingly the COUNTY WILL NOT CONSIDER YOU FOR CONTRACT AWARD.

In conjunction with the bid or offer submitted in response to Solicitation Number_____, I state the following:

1. Bidder/Offeror identified opportunities to subcontract in these specific work categories:

   _____
   _____
   _____
   _____

2. Attached to this form are copies of the solicitation documentation in accordance with Section 6 (E) Bid Requirements of the Executive Order, used to solicit certified MWBEs for the subcontract opportunities accompanied with the signed MWBE Subcontractor Unavailability Certificate (Form D).

   _____
   _____
   _____
   _____

3. Bidder/Offeror made the following attempts to solicit MWBEs:

   _____
   _____
   _____
   _____

_____
Signature – Bidder Offeror

_____
Print or Type Name of Firm

_____
Street Address

_____
City State Zip Code

_____
Date

JOHN A. OLSZEWSKI, JR.
County Executive

SEVETRA PEOPLES-BROWN
Executive Director
Chief of Diversity, Equity and Inclusion

To: Contractors/Consultants

From: Minority and Women Business Enterprise Office

Date: December 13, 2024

Subject: Compliance Reporting and Penalties

Baltimore County, Maryland (the "County") requires all Prime Contractors and all Subcontractors to submit payment reports by the 10th of each month through an online MWBE Compliance Portal (PRISM). The Portal can be found under Compliance Reporting for Primes and Subcontractors at www.baltimorecountymd.gov/ go/mwbe. In the event you are not able to enter your payments in PRiSM, a spreadsheet is attached for your use. Please be sure to list the PO for each invoice/ payment reported and include in your submission any corresponding documentation (e.g. copies of invoices or canceled checks).

The County has found that a number of companies are failing to file reports in a timely manner, which makes it difficult for the County to verify compliance. As a result, the County has determined to assess penalties for non-compliance, effective September 1, 2018, as follows:

(a) For failure to file timely monthly reports:
   a. Assessment of a late fee of $10 per day per task, up to a maximum of $1,500 per task; and/or
   b. For multiple violations, termination of the contract for convenience or for default, with the contractor suspended from participating in County contracts for five (5) years.

(b) For failure to meet MWBE requirements:
   a. Assessment of a penalty of up to 10% of the contract value; and/or
   b. Termination of the contract for convenience, with the contractor suspended from participating in County contracts for five (5) years together with assessment of a penalty of up to 10% of the contract value; and/or
   c. Termination of the contract for default together with assessment of a penalty of 10% of the contract value.

Each action and/or remedy described above is at the sole discretion of the County, and is in addition to any damages which the County may be entitled to under the contract.
This short video can be used as guidance on submitting the Prime to Subcontractor Payment Reporting:
http://stage.prismcompliance.com/etc/movies/vendor_contractpayment_tutorial.htm

If after contract expiration, it has been determined the MWBE firms named were not used or were under used, by the contractor and supporting documentation was not provided and approved by the County the contractor may be assessed a penalty of up to 10% of the contract value and/or suspended from participating in County contracts for 5 years.

Questions regarding this correspondence and/or the use of this system can be directed to the MWBE Office at mwbe@baltimorecountymd.gov or call (410) 887-3407.

Attachment: MWBE Payment Report Form
MWBE Payment Acknowledgement Form

Cc: File

S E C T I O N V

POST AWARD DOCUMENTS

This Section to be Completed by Successful Bidder after Award

CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT ("Contract"), IS MADE THIS _____ day of _____ 20_____, by and between Baltimore County, Maryland, a body corporate and politic ("County"), and _____, ("Contractor").

WITNESSETH, that the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the County, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work, services, and labor in fulfillment of the requirements of Contract Number **23206 WX0** "Project") in strict conformity with the solicitation, plans, specifications, special provisions, any and all addenda, and the proposal, at the prices named therein, and all of which are collectively the Proposal, and said Proposal is attached hereto and made a part thereof.

The Project shall be done in strict compliance with (i) the Proposal, (ii) the Baltimore County Department of Public Works and Transportation September 2023 "Standard Specifications for Construction and Materials" and "Standard Details for Construction" (iii) and any and all revisions thereto as of the date of advertisement, including but not limited to the General Conditions Building Projects, as applicable, and all of which (i-iii) are made a part hereof and incorporated herein (collectively, the "Specifications"). Contractor understands and agrees it is Contractor's responsibility and obligation to obtain a copy of the "Specifications" and agrees the Specifications are incorporated herein. Copies are available on the County's website at www.baltimorecountymd.gov/departments/public-works/standards.

The Project shall be subject to the inspection and approval of the Director of Public Works and Transportation for Baltimore County, or his authorized representative, and in the event any portion thereof shall be rejected by said Director or his representative as defective or unsuitable, then the said portion shall be removed and replaced and be performed anew to the satisfaction and approval of the said Director or his representative at the cost and expense of the Contractor.

THE CONTRACTOR AFFIRMS that it is aware of, and will comply with, the provisions of Sections 14-101 through 14-108 of the Election Law Article of the Annotated Code of Maryland, as the same may be amended from time to time, which require that every person who makes, during any 12-month period, one or more contracts, with one or more Maryland governmental entities involving cumulative consideration, of at least $200,000.00, to file with the State Board of Elections certain specified information to include disclosure of attributable political contributions in excess of $500 during defined reporting periods.

THE CONTRACTOR FURTHER COVENANTS AND AGREES that all the Project shall be furnished, performed and delivered, in every respect, to the satisfaction and approval of the Director of Public Works and Transportation, aforesaid, on or before the expiration of **FOUR HUNDRED FIFTY (450) WORKING DAYS** (the "Contract Period") after written notice has been given by the Director or their authorized representative to begin the work.

IT IS AGREED THAT TIME IS OF THE ESSENCE. In the event the Contractor fails to achieve Final Completion and Final Acceptance of the Contract work within the Contract Period specified herein, plus any extensions thereto agreed to in writing by a legally authorized representative of the County pursuant to the terms of this Contract, then Contractor shall pay the County the sum of **FIVE HUNDRED DOLLARS ($500.00)** as Liquidated Damages for each **WORKING DAY** after the expiration of the Contract Period, as may be extended by the County, until the Contractor achieves Final Completion and Final Acceptance of the Project.

_____
Contractor's Initials

_____
Date

IT IS FURTHER AGREED that:

(a) These Liquidated Damages are a reasonable estimate of the County's damages solely due to the public's loss of use of the Project during the delay period and is not a penalty.

(b) It is very difficult, if not impossible, to accurately measure the damages to the County due to the public's loss of use of the Project during the delay period.

(c) Notwithstanding GP 8.09 of the Baltimore County Standard Specification for Construction, in addition to the damages due to the public's loss of use of the Project during the delay period, the County is likely to incur additional direct costs during the delay period, including but not limited to, costs for construction management, consultants, architectural services, office trailer and supplies, utilities, County employees' time, County vehicles, and such other costs that the County will incur to continue administration of the construction and the Contract during the delay period, all of which will be monitored by the County, and if so required by the County, the Contractor shall pay such actual damages incurred during the delay period. THE PARTIES HERETO UNDERSTAND AND AGREE THAT CONTRACTOR'S OBLIGATION TO PAY THE COUNTY FOR ACTUAL DAMAGES DURING THE DELAY PERIOD SHALL BE IN ADDITION TO THE CONTRACTOR'S OBLIGATION TO PAY THE LIQUIDATED DAMAGES DUE TO THE PUBLIC'S LOSS OF USE OF THE PROJECT.

(d) The County shall have the right, but not the obligation, to deduct the Liquidated Damages due to the public's loss of use of the Project, and the County's actual costs and costs to continue administration of the construction and the Contract, from any monies due or any monies that may become due to the Contractor.

IT IS DISTINCTLY UNDERSTOOD AND AGREED that no claim for extra work, material or overhead not specifically provided for in the Contract will be allowed by the County, nor shall the Contractor do any work or furnish any materials not covered by this Contract and the Specifications, unless the same is ordered in writing by a legally authorized representative of the Department of Public Works and Transportation in accordance with the terms of the Contract. Any such work or materials which may be done or furnished by the Contractor without any such written order first being given shall be at said Contractor's sole risk, cost and expense and Contractor hereby covenants and agrees that without such written order, Contractor shall make no claim for compensation for work, materials, or overhead so done or furnished.

NOTWITHSTANDING GP 4.06 OF THE BALTIMORE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, IT IS SPECIFICALLY AGREED that the Contractor shall have no entitlement to damages arising out of delay, disruption, interference or hindrance from any cause whatsoever. However, this provision shall not preclude recovery or damages by the Contractor for hindrances or delays due solely to fraud or gross negligence on the part of the County or its agents.

IT IS FURTHER DISTINCTLY AGREED that the said Contractor shall not assign this Contract, nor any part thereof, nor any right to any of the monies to be paid hereunder, nor shall any part of the work to be done or material furnished under said Contract be sublet without the prior written consent of a legally authorized representative of the Department of Public Works and Transportation in accordance with the terms of this Contract. Further, the acceptance of the final payment by the Contractor shall effectuate a release in full of all claims against County and its officials, employees, representatives, and agents arising out of, or by reason of the Project and this Contract.

The Contractor shall review government issued identification and badge all employees of the Contractor and its subcontractors. The Contractor shall also review all federal forms, including but not limited to I-9's, for compliance as well as copies of all employment eligibility and identity documentation maintained to the extent required by law.

The Bonds, given by the Contractor in a sum equal to the total contract price of the Project in compliance with the terms and provisions of this Contract, are hereby attached and incorporated herein.

IT IS AGREED that in the event that the County is delayed or prevented from timely execution of this Contract, the Contractor releases County and agrees Contractor shall have no action, claim or demand against County therefore.

Contractor's Initials

Date

THE CONTRACTOR HEREBY FURTHER AGREES to receive the prices set forth in the Proposal incorporated herein as full compensation for the completion of the Project and, in all respects, to complete said Contract to the satisfaction of the County.

THE CONTRACTOR REPRESENTS AND WARRANTS:

(i) it is duly formed and validly existing under the laws of the State of _____;

(ii) it is in good standing in the State of Maryland;

(iii) it has the power and authority to consummate the obligations and responsibilities contemplated hereby, and has taken all necessary action to authorize the execution, delivery and performance required under this Contract;

(iv) the Contractor and the person executing this Contract for the Contractor each warrant that he/she is duly authorized by the Contractor to execute and seal this Contract on the Contractor's behalf;

(v) the warranties of merchantability and fitness for a particular purpose and use and warranties of title and against infringement, and all express warranties contained in this Contract, including but not limited to the Proposal (and any sample or model presented by Contractor and expressly accepted by the County) shall apply to the portion of this Contract pertaining to or for goods;

(vi) all representations and warranties made in the Proposal and herein remain true and correct in all respects when made, as of the date of this Contract, and throughout the term of this Contract; and

(vii) there exists no actual or potential conflict of interest between its performance under this Contract and its engagement or involvement in any other personal or professional activities and in the event such conflict or potential conflict arises during the term of this Contract, the Contractor shall immediately advise the County in writing thereof.

THE CONTRACTOR shall not disclose any documentation and information of any kind or nature disclosed to the Contractor in the course of its performance of duties hereunder without the express prior written consent of the County.

Those sections in this Contract which by their nature are intended to survive, including but not limited to, Contractor's representations and warranties, confidential information, and indemnification shall survive the termination of this Contract.

IN WITNESS WHEREOF, the Contractor has hereunto set its hand and seal the day and year first above written.

CONTRACTOR NAME: _____

WITNESS

FEDERAL TAX ID or SS #: _____

_____

By: _____ (Seal)

_____
Type (Print) Name

Name: _____

Title: _____ Date: _____

WITNESS:

BALTIMORE COUNTY, MARYLAND

_____
Executive Secretary

By: _____ Date: _____
D'Andrea L. Walker, County Administrative Officer

_____
Type (Print) Name

APPROVED FOR FORM AND LEGAL AND SUFFICIENCY* (Subject to execution by the duly authorized Administrative official and Chairperson of the County Council, as indicated).

APPROVED:

_____ Date: _____
Lauren T. Buckler, Director
Department of Public Works & Transportation

_____
Office of the County Attorney

*Approval of Form and Legal Sufficiency does not convey approval or disapproval of the substantive nature of this transaction. Approval is based upon typeset documents. All modifications require re-approval.

Rev. 09/2024

P E R F O R M A N C E B O N D Bond No._____

Principal	**Business Address of Principal**
Surety	**Obligee:** **BALTIMORE COUNTY, MARYLAND** A body corporate and politic

A Corporation of the State of _____ and authorized to do business in Maryland

Penal Sum of Bond (express in words and figures) DOLLARS $_____	
Joppa Road 20-Inch Water Main Replacement at Fairmount Avenue to LaSalle Road	_____ **20** _____
Contract Name	**Date of Contract**
23206 WX0	_____ **20** _____
Contract Number	**Date Bond Executed**

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL, above-named, and SURETY, above-named, and authorized to do business in the State of Maryland, are held and firmly bound unto the OBLIGEE, above-named, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, THE PRINCIPAL entered into a certain contract with the OBLIGEE described and dated as shown above and is required to provide this bond pursuant to Maryland State law and/or County law and the contract.

NOW, THEREFORE, if the aforesaid PRINCIPAL shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the OBLIGEE with or without notice to the SURETY, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the SURETY being hereby waived, then, this obligation to be void; otherwise to remain in full force and effect.

THE SURETY FURTHER GUARANTEES That it is (a) licensed in the State of Maryland, (b) rated "B" or better by the A.M. Best Company, (c) on federal funded projects, authorized by the underwriting limitation contained in the U.S. Department of the Treasury Circular 570, as amended, to guaranty the amount of the Bid, and (d) in good standing as determined by the County's Engineer. A Performance Bond is required for each and every Contract in excess of twenty-five thousand ($25,000). A Performance Bond shall be in the amount equal to at least one hundred (100%) percent of the Contract price. The fully executed Performance Bond shall be delivered by the Bidder to the Department's Division of Construction Contracts Administration no later than the time the Contract is to be executed by the Contractor.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and seal of each party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In Presence of: **Individual Principal**

Witness: _____ **as to:** _____ **(SEAL)**

Print Name: _____ **Print Name:** _____

Attest: **Corporate Principal**

_____
(Name of Corporation)

Witness: _____ **By:** _____ Affix

Print Name: _____ **Print Name:** _____ Corporate

Title: _____ Seal

Attest: **Surety**

_____
(Name of Surety)

Business Address: _____

Witness: _____ **By:** _____ Affix

Print Name: _____ **Print Name:** _____ Corporate

Title: _____ Seal

Reviewed for Baltimore County Requirements

_____
Office of the County Attorney

Revised
February 4, 2015

PAYMENT BOND

Bond Number_____

Principal | **Business Address of Principal**

Surety

Obligee: **BALTIMORE COUNTY, MARYLAND**
A body corporate and politic

A Corporation of the State of _____ and authorized to do business in Maryland

Penal Sum of Bond (express in words and figures) DOLLARS $_____

Joppa Road 20-Inch Water Main Replacement at Fairmount Avenue to LaSalle Road
Contract Name

_____ **20** _____
Date of Contract

23206 WX0
Contract Number

_____ **20** _____
Date Bond Executed

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL, above-named, and SURETY, above-named, and authorized to do business in the State of Maryland, are held and firmly bound unto the OBLIGEE, above-named, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, THE PRINCIPAL entered into a certain contract with the OBLIGEE described and dated as shown above and is required to provide this bond pursuant to Maryland State law and/or County Law and the contract.

NOW, THEREFORE, the condition of this obligation is such that if the aforesaid PRINCIPAL shall promptly make payments to all persons supplying labor and/or material to the PRINCIPAL and to any subcontractor of the PRINCIPAL in the prosecution of the work provided for in said contract and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the SURETY being hereby waived, then, this obligation to be void; otherwise to remain in full force and effect.

THE SURETY FURTHER GUARANTEES That it is (a) licensed in the State of Maryland, (b) rated "B" or better by the A.M. Best Company, (c) on federal funded projects, authorized by the underwriting limitation contained in the U.S. Department of the Treasury Circular 570, as amended, to guaranty the amount of the Bid, and (d) in good standing as determined by the County's Engineer. A Payment Bond is required for each and every Contract in excess of twenty-five thousand ($25,000). A Payment Bond shall be in the amount equal to at least one hundred (100%) percent of the Contract price. The fully executed Payment Bond shall be delivered by the Bidder to the Department's Division of Construction Contracts Administration no later than the time the Contract is to be executed by the Contractor.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and seal of each party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In Presence of: **Individual Principal**

Witness: _____ **as to:** _____ **(SEAL)**

Print Name: _____ **Print Name:** _____

Attest: **Corporate Principal**

_____
(Name of Corporation)

Witness: _____ **By:** _____ Affix

Print Name: _____ **Print Name:** _____ Corporate

Title: _____ Seal

Attest: **Surety**

_____
(Name of Surety)

Business Address: _____

Witness: _____ **By:** _____ Affix

Print Name: _____ **Print Name:** _____ Corporate

Title: _____ Seal

Reviewed for Baltimore County Requirements

_____
Office of the County Attorney

BALTIMORE COUNTY, MARYLAND

INSURANCE PROVISIONS

1. **GENERAL REQUIREMENTS**

1.1 Coverages Required:
Unless otherwise required by the specifications or the contract, the Contractor/Vendor shall purchase and maintain the insurance coverage's listed herein.

1.2 Certificate of Insurance:
Before starting work on the contract, or prior to the execution of the Contract on those bid, the Contractor/Vendor shall provide Baltimore County, Maryland with verification of insurance coverage evidencing the required coverages.

1.3 Baltimore County as Insured:
The coverage required, excluding Workers' Compensation and Employers' Liability and Medical Malpractice Liability/Professional Liability/Errors and Omissions Liability, must include Baltimore County, Maryland and its agents, employees, officers, directors, and appointed and elected officials as an additional insured.

1.4 Contractor's/Vendor's Responsibility:
The providing of any insurance herein does not relieve the Contractor/Vendor of any of the responsibilities or obligations the Contractor/Vendor has assumed in the contract or for which the Contractor/Vendor may be liable by law or otherwise.

1.5 Failure to Provide Insurance:
Failure to provide and continue in force the required insurance shall be deemed a material breach of the contract. The Contractor/Vendor must maintain the insurance coverages required under the terms and conditions on this Contract while this Contract is in effect including renewal and extension terms.

2. **INSURANCE COVERAGES**

2.1 General Liability Insurance

2.1.1 Minimum Limits of Coverage:
Personal Injury Liability and Property Damage Liability Combined Single Limit - $500,000 each occurrence.

2.1.2 Such insurance shall protect the Contractor/Vendor from claims which may arise out of, or result from, the Contractor's/Vendor's operations under the contract, whether such operations be by the Contractor/Vendor, any subcontractor, anyone directly or indirectly employed by the Contractor/Vendor or Subcontractor, or anyone for whose acts any of the above may be liable.

2.1.3 Minimum Coverages to be Included:
(a) Independent Contractor's coverage;
(b) Completed Operations and Products Liability coverage;
(c) Contractual Liability coverage.

2.1.4 Damages not to be Excluded:
Such insurance shall contain no exclusions applying to operations by the Contractor/Vendor or any Subcontractor in the performance of the Contract including but not limited to:
(a) Collapse of, or structural injury to, any building or structure;
(b) Damage to underground property; or
(c) Damage arising out of blasting or explosion.

2.2 Automobile Liability Insurance

2.2.1 Minimum Limits of Coverage:
Bodily Injury Liability and Property Damage Liability
Combined Single Limit - $500,000 any one accident.

2.2.2 Minimum Coverages to be Included:
Such insurance shall provide coverage for all owned, non-owned and hired automobiles.

2.3 Workers' Compensation and Employers' Liability Insurance

Such insurance must contain statutory coverage, including
Employers' Liability insurance with limits of at least:
Bodily Injury by Accident - $250,000 each accident
Bodily Injury by Disease - $500,000 policy limit
Bodily Injury by Disease - $250,000 each employee

2.4 Valuable Papers and Records Coverage and Electronic Data Processing (Data and Media) Coverage

Minimum Limits of Coverage:
$100,000 Per Claim and Each Occurrence
$100,000 in the Aggregate

2.5 Other

Such other insurance in form and amount as may be customary for the type of business being under taken by the Contractor/Vendor.