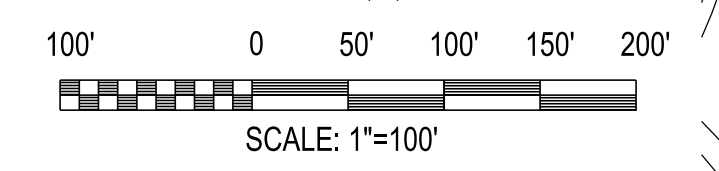
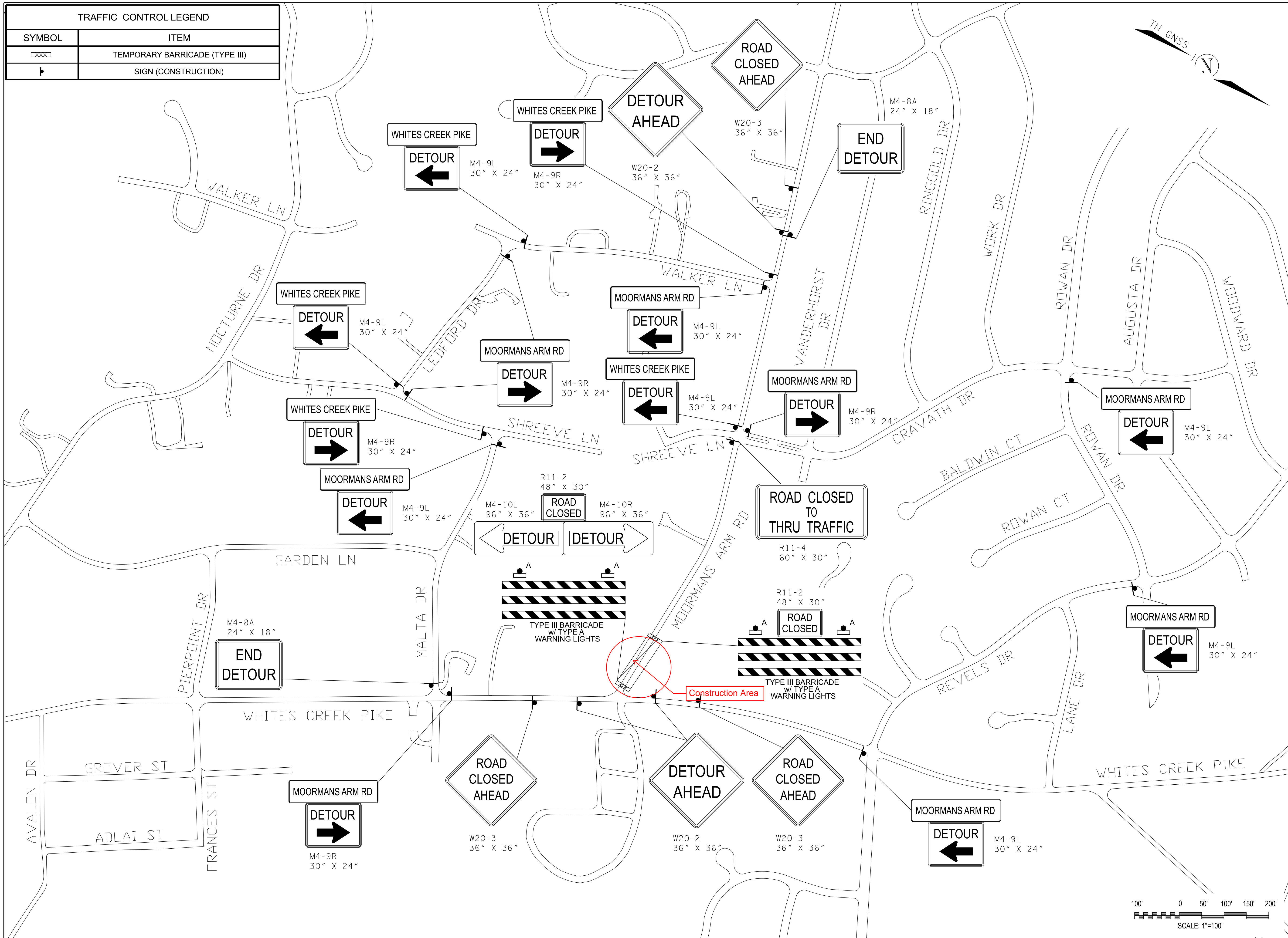


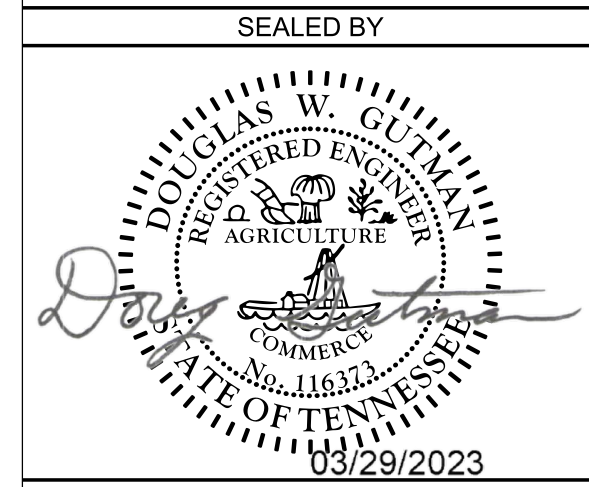
| TRAFFIC CONTROL LEGEND | |
|------------------------|--------------------------------|
| SYMBOL | ITEM |
| | TEMPORARY BARRICADE (TYPE III) |
| | SIGN (CONSTRUCTION) |



| FILE NO. | MOORMANS ARM |
|----------------|--------------|
| DATE: | 03-29-2023 |
| DESIGNED BY: | DJD |
| DRAWN BY: | DJD |
| CHECKED BY: | DWG |
| REVISION BLOCK | |
| DATE: | |
| DATE: | |
| DATE: | |

CONSOR ENGINEERS, LLC
 25 LINDSLEY AVENUE, NASHVILLE, TN 37210
 (615) 425-2000

SEALED BY



METROPOLITAN GOVERNMENT
 OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
 METRO WATER SERVICES
 MAINTENANCE DIVISION

MOORMANS ARM ROAD STORMWATER IMPROVEMENTS

TRAFFIC CONTROL PLAN

SCALE: 1" = 100'

SHEET 08 OF 11



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

JOHN COOPER
MAYOR

NASHVILLE DEPARTMENT OF TRANSPORTATION
AND MULTIMODAL INFRASTRUCTURE

INSTRUCTIONAL BULLETIN NO. 2022-3 (Revised) **Multimodal Access Closure Policy Update**

Instructional Bulletin No. 2022-3 is hereby revised effective on 9/20/2022. These revisions are being made to clarify the previous policy bulletin as a result of questions and to address internal Department operations and workflow. The following list outlines the substantive portion of this revision:

- The intent of this policy is to prohibit the continuous closure of multimodal pathways in the public rights of way for a period of seven (7) days or more. The word “continuous” was added to clarify that this policy does not apply to permit requests for discrete locations where the total amount of time the closure will be in place is less than seven (7) days.
- The terminology describing the process in which those seeking an exemption from this policy was changed from “variance” to “exception”. This revision was made to prevent confusion and/or false assumption between this and other processes referred to as variances.
- An additional paragraph was added to provide more guidance to those seeking a permit for work less than seven (7) days. These permit request will require traffic control plans, however only those submitted through the exception process will require plans stamped and signed by a licensed engineer.
- The body established by the Director to support the review of those seeking an exemption for closures seven (7) days or more is being clarified as an advisory committee. All policy exceptions are at the sole discretion of the Director. The advisory committee will provide technical support and industry feedback.

Effective immediately, all newly permitted construction activities closing a multimodal pathway of travel in Metro Nashville’s right-of-way for a continuous period of seven (7) days or more will be explicitly prohibited. All ongoing currently permitted work will be under review by the Nashville Department of Transportation & Multimodal Infrastructure (NDOT).

To provide for the safety, health, and welfare of the citizens of Davidson County, this policy update seeks to ensure all modes of transportation including traffic lanes, sidewalks, bikeways, pedestrian crossing and bridges, and bus stops remain open and in good condition. NDOT will limit right-of-way closures to keep its infrastructure in a state free from obstruction and in good working order.

For work that impacts multimodal pathway travel for a period of less than 7 days, a traffic control plan must be submitted at the time of the permit application. This plan should outline the layout of required the MUTCD traffic control signage and an alternate travel pathway that meets ADA standards. Traffic control plans for closures less than 7 days are not required to be stamped by a licensed engineer.

The Nashville Department of Transportation and Multimodal Infrastructure (NDOT) has the discretion to move the effective date to the end of the year after review on a case-by-case basis. If the applicant believes that the inability to utilize Metro right-of-way for more than seven days will constitute an undue burden to completion of a construction project, the applicant may submit a request for an exception. Under the authority and discretion of the Director, NDOT may grant exceptions on a case-by-case basis. The Director will create an advisory committee to support providing industry feedback during the exception process. Please refer to the enclosed exception request guidelines and application template for further process details.



Brad Freeze, PE
Chief Engineer/Assistant Director

August 19, 2022 (Revised 9/20/2022)

FAQ

Who does this new policy apply to?

The Multimodal Access Closure Policy applies to all new permit applicants seeking to close multimodal paths of travel in the public right-of-way for a continuous period of seven (7) days or more. The policy also applies to current permit holders looking to renew right-of-way permits for seven (7) days or more. For example, if a current permit holder has a 30 day sidewalk closure permit, once that permit expires, the permit holder will work with NDOT to assess closure needs and will either receive a permit for less than 7 days, or if necessary, may request an exception as outlined in this policy.

How does the policy affect construction projects that have been permitted but have not yet begun?

Permits that have been issued prior to August 19, 2022 will be honored for the permitted amount of time. Once the permit has expired, closures will be subject to the new policy.

How does this policy affect construction projects that are seeking a permit for future construction?

This policy will impact future contractors seeking to obtain a construction easement permit in that they would not be allowed to close a multimodal path of travel without the approval of an exception.

What recourse exists if a construction firm maintains they need to use the public right-of-way to implement a project?

Any entity maintaining a need to close multimodal access in the public right-of-way for a continuous period of seven (7) days or more may apply for an exception through the process described herein. The exception will be considered by NDOT and approved or denied by the Director on a case-by-case basis.

Guidelines for Submitting a Multimodal Access Closure Exception For Public Right-of-Way

Section 1 – General Notes

Prior to any permit approval that requires temporary right-of-way closures impacting multimodal access facilities within Davidson County, the project owner shall submit a construction package to the Nashville Department of Transportation and Multimodal Infrastructure (NDOT) for review. If any parts listed below are missing and/or incomplete, the package will be immediately rejected. It is therefore recommended that the owner prepare the exception requirements at the conceptual stage of the project. This will allow both NDOT and the owner to understand all requirements needed for the project before any permitting is granted.

NDOT will have the authority to reject any exception application for any reason deemed necessary. Under such circumstances, the fee will not be reimbursed, and a second, and possible subsequent, submittal will be required until all requirements are met. Applying for an exception does not guarantee that the proposed project closures will be approved by NDOT.

See Section 2 for fees and the following Application Form and Checklist.

Section 2 – Fee Requirements

1st Submittal: \$500

2nd and Subsequent Submittals: \$250

MULTIMODAL ACCESS CLOSURE EXCEPTION APPLICATION FORM AND CHECKLIST

Submittal Date: 1/4/24 New Submittal Re-Submittal No: _____

Related Building Permit No: _____

Project Name: Stormwater System Improvements for Moormans Arm Road

Street Name Location: Moormans Arm Road

Between: White Creek Pike And: Buena vista Pike

Applicant Name: Walker Building Group

Address: 2617 Locust Street

Phone: 615-961-0622 Fax: _____ Contact: Mark Raymer

Email: Mraymer@walkerbuildinggroup.com

Project Description: 2 Slab Bridges

Start Date: 1/2/24 End Date: 5/1/24 Project Length: 5 months

Describe Type of Closure: Full Road Closure 24 Hours

Provide Reasons why Project cannot be completed without closures and what other options were considered (attach documents as needed): Excavation I will be to wide for street plates

PROJECT INFORMATION CHECKLIST:

Included Not Applicable

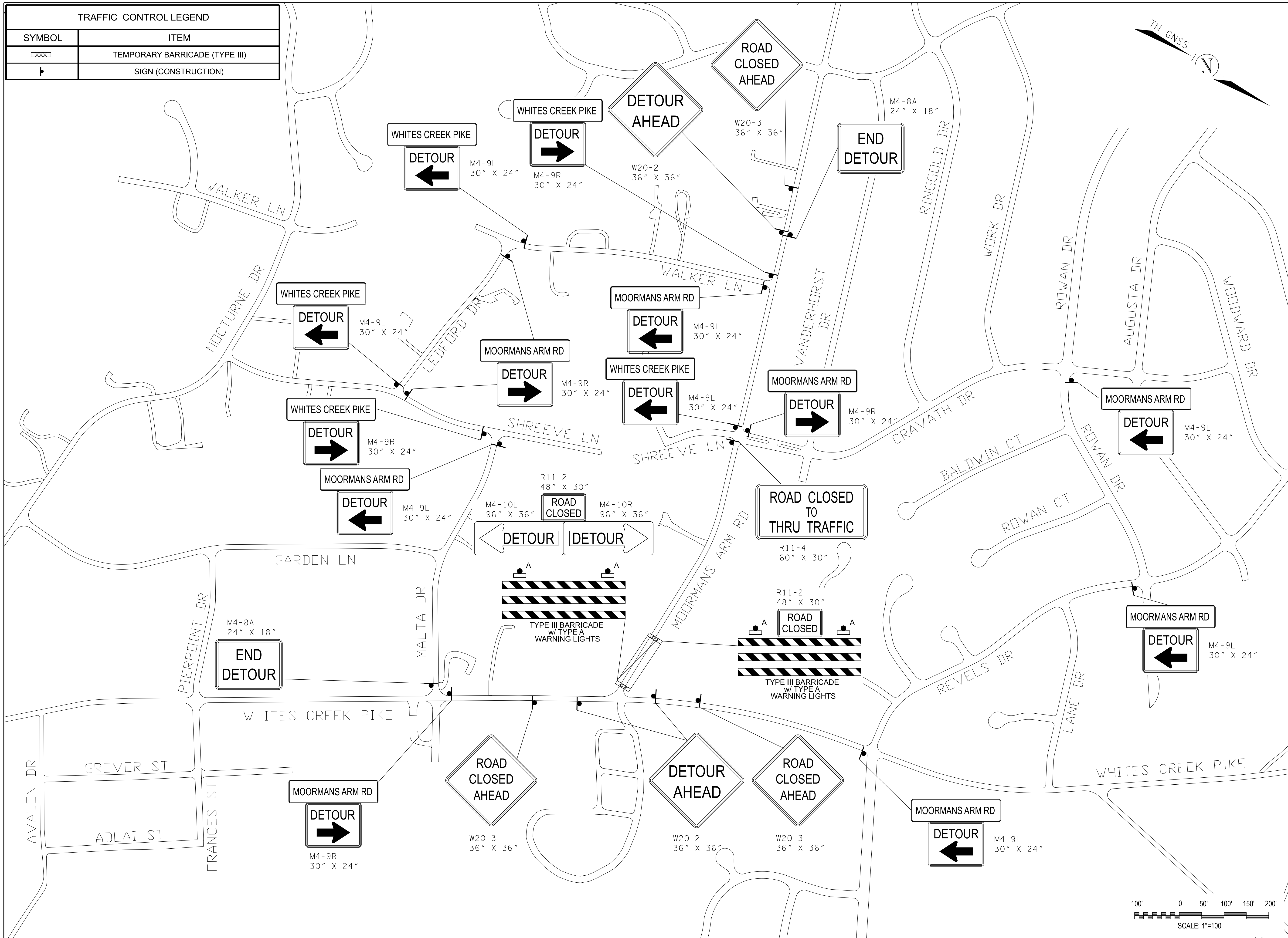
- | | | |
|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Project Vicinity Map with Project Area shown, street names, property information, existing pavement and striping, gutter and building locations, north arrow, and scale. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Planned work hours included. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Exact location and dimensions of the construction work zone shown. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | If multiple phases are necessary, include perimeter impact of each phase, phase number, anticipated work hours and phase duration. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Details on construction activity and equipment being used as part of construction included for each phase. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Specify if any on-street parking, and/or metered parking, is to be restricted and if bus zone will need to be relocated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Specify if trash pickup will be impacted. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide information on all utility work and utility connections. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | List all affected residents, businesses, agencies, and schools and any conversations/agreements taken place. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Show ongoing construction projects within vicinity of proposed project impact. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide plan to address conflicts with other nearby projects. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Provide traffic control plan for each phase of construction (see traffic control checklist for more information). |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide information on work vehicle parking locations. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show construction trucks ingress/egress to project location. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide information on any traffic signals, traffic signal loops, and traffic signal cabinets in close proximity to project. |

TRAFFIC CONTROL PLAN CHECKLIST:

Included Not Applicable

- | | | |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | All temporary traffic control plans shall be designed in accordance with the most recent ADA regulations and requirements of the Manual of Uniform Traffic Control Devices. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Clearly show the locations of all existing signs (including speed limit) as well as the proposed signs for each construction phase. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show the location of all existing pedestrian paths and pedestrian detour route of each stage of construction. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show dimensions of travel lane width, shoulder width, sidewalk of each phase, and overall roadway width along the length of affected area. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show all existing striping and markings to remain, to be removed, and all proposed striping and markings for each construction stage. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide detour plan clearly showing detour route for any roadway or pedestrian/bike path closures. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Specify placement of all temporary traffic control devices. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Specify spacing of all temporary traffic control devices. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show all existing traffic signals and streetlights in the work zone location. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Lighting provided for all pedestrian detour routes. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Provide minimum eleven (11) foot travel lanes at all times. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show size, height, and location of all channelizing devices, warning lights, flag trees, barriers, etc. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Label all taper lengths and widths. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Provide locations of police officers for each phase as needed. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Temporary Traffic Control Plan has been stamped and signed by a TN licensed Civil Engineer. |

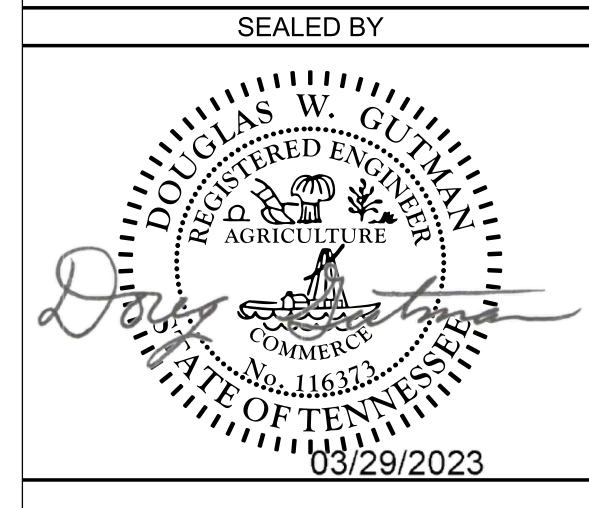
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| DRAWN BY: | DJD |
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| DATE: | |
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SEALED BY



METROPOLITAN GOVERNMENT
 OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
 METRO WATER SERVICES
 MAINTENANCE DIVISION

**MOORMANS ARM
 ROAD
 STORMWATER
 IMPROVEMENTS**

TRAFFIC CONTROL PLAN

SCALE: 1" = 100'

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE DEPARTMENT OF WATER AND SEWERAGE SERVICES

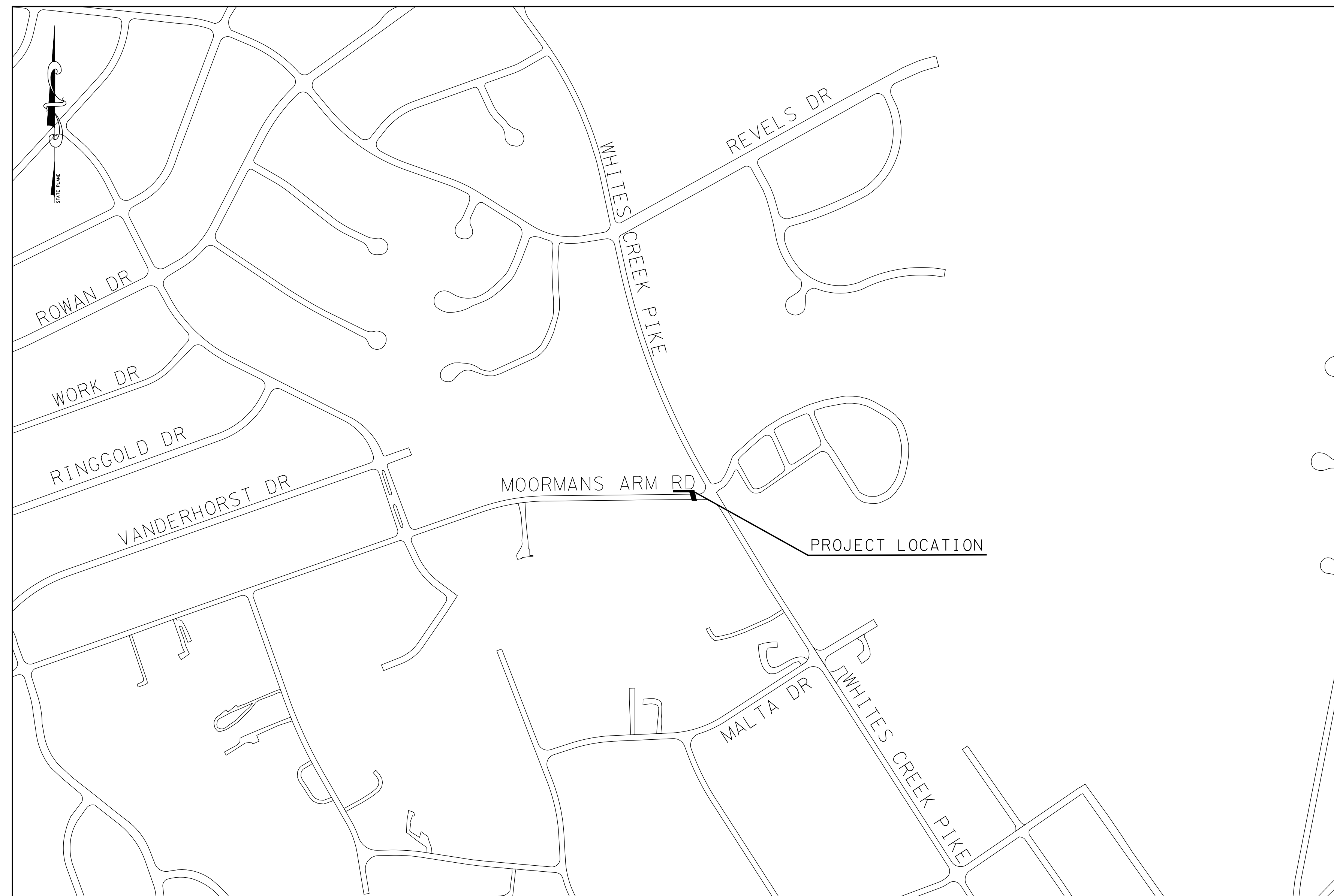
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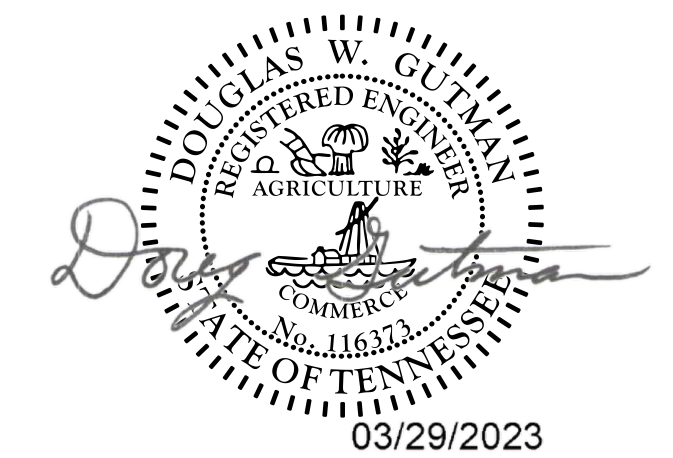
| SHEET NO. | SHEET NAME |
|-----------|--|
| 1 | COVER SHEET |
| 2 | GENERAL NOTES |
| 3 | PRESENT LAYOUT & DEMOLITION PLAN |
| 4 | PROPOSED LAYOUT |
| 5 | BRIDGE LAYOUT & WINGWALL ELEVATIONS (BOX-04) |
| 6 | BRIDGE LAYOUT & WINGWALL ELEVATIONS (BOX-05) |
| 7 | EROSION PROTECTION PLAN |
| 8 | TRAFFIC CONTROL PLAN |
| 9 | UTILITY NOTES AND DETAILS |
| 10 | UTILITY LAYOUT |
| 11 | STANDARD DETAILS |

DAVIDSON COUNTY DISTRICT 2

MOORMANS ARM ROAD AT WHITES CREEK PIKE STORMWATER SYSTEM IMPROVEMENTS



MWS PROJECT NUMBER:
23-SWC-131



CONSOR ENGINEERS, LLC
25 LINDSLEY AVENUE, NASHVILLE, TN 37210
(615) 425-2000

SCALE: 1"=300'

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT REQUIREMENTS OF TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, METROPOLITAN DEPARTMENT OF WATER AND SEWERAGE SERVICES STORMWATER MANAGEMENT MANUAL, AND THE NASHVILLE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND DETAILS.
2. WATER LINE LOCATIONS WERE ESTIMATED FROM VALVE BOXES AND WATER METERS LOCATED BY SURVEYORS AND FROM BASE MAPPING PROVIDED BY WHUD. WATER LINES MAY BE LOCATED BY TENNESSEE ONE CALL PRIOR TO THE SURVEY IN SOME CASES. WATER LINES THAT WERE LOCATED BY TENNESSEE ONE CALL WILL BE NOTED ON THE EXISTING SITE PLAN(S). POTENTIAL CONFLICTS WITH MAIN SEWER LINES WERE ESTIMATED BY ASSUMING A CONSTANT SLOPE FROM THE UPSTREAM MANHOLE TO THE DOWNSTREAM MANHOLE. THE LOCATION OF SANITARY SERVICE LINES WERE ESTIMATED FROM AS-BUILT DRAWINGS PROVIDED BY WHUD, AND CLEAN-OUTS LOCATED BY THE SURVEYORS, IF PRESENT. USE APPROXIMATE LOCATION OF SEWER SERVICE LINES AS GUIDANCE ONLY. LOCATION MAY OR MAY NOT BE ACCURATE. ADDITIONAL SERVICE LINES MAY BE PRESENT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND PROTECTING UTILITIES PROPOSED TO REMAIN. CONSOR ENGINEERS, LLC ASSUMES NO RESPONSIBILITY FOR ACCURACY OR COMPLETENESS OF THIS INFORMATION. REPAIRS AND/OR REPLACEMENTS TO ANY UTILITIES DAMAGED BY CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.
3. THE CONTRACTOR SHALL USE TRAFFIC CONTROL METHODS AS APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, THE NASHVILLE DEPARTMENT OF TRANSPORTATION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
4. THE CONTRACTOR SHALL COORDINATE, KNOW, AND HAVE WORK SCHEDULED FOR ALL APPLICABLE UTILITY RELOCATIONS PRIOR TO PROJECT WORK BEGINNING. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF SCHEDULE.
5. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY OWNER'S REPRESENTATIVE OF DIFFERING CONDITIONS PRIOR TO PROCEEDING WITH WORK.
6. THE CONTRACTOR SHALL REPAIR ALL DAMAGE TO STREETS, YARDS, MAILBOXES, FENCES, SIGNS, DRIVEWAYS, TREES, LANDSCAPING, IRRIGATION SYSTEMS, ETC. AT NO ADDITIONAL COST TO OWNER.
7. ALL DRIVEWAY REPAIRS SHALL MATCH EXISTING DRIVEWAYS IN WIDTH, DEPTH, AND MATERIAL UNLESS OTHERWISE SPECIFIED.
8. ALL PROPOSED ASPHALT TO GRADE TO NEW INLET(S).
9. EROSION AND SEDIMENT (E&S) CONTROL MEASURES TO BE INSTALLED PER METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY BEST MANAGEMENT PRACTICES (BMP), LATEST EDITION.
10. ONCE WORK HAS STARTED, THE CONTRACTOR SHALL PURSUE WORK DILIGENTLY UNTIL COMPLETE.
11. AREAS DESIGNATED FOR MILLING (COLD PLANING) SHALL BE SAW CUT TO A DEPTH OF TWO INCHES (2"). ALL OTHER JOINTS SHALL BE SAW CUT TO FULL DEPTH (ASPHALT AND CONCRETE) UNLESS OTHERWISE SHOWN ON THE PLANS OR CONTRACT DOCUMENTS.
12. THE UNIT PRICE BID FOR EACH ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION OF THE ITEMS SHOWN ON THE PLANS, IN THE DETAILS AND TYPICAL SECTIONS, AND AS CALLED OUT IN THE STANDARDS AND SPECIFICATIONS.
13. ALL PIPE SHALL BE BACKFILLED WITH #57 OR #67 CRUSHED STONE WHEN UNDER ANY PAVED OR RIGID SURFACE, PER METRO STANDARD DETAIL DR-180, DR-270a/b, DR-271a/b, AND/OR ST-272 AS APPLICABLE. WHEN NOT UNDER PAVEMENT, ALL PIPE SHALL BE BACKFILLED WITH #57 OR #67 CRUSHED STONE TO AT LEAST SIX INCHES (6") ABOVE THE PIPE, PER METRO STANDARD DETAIL DR-180.
14. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY ARRANGEMENTS MADE WITH PROPERTY OWNERS THAT ARE ADJACENT TO ANY PROPOSED WORK. THIS INCLUDES ARRANGEMENTS FOR UTILIZING PRIVATE PROPERTY FOR STORAGE (EQUIPMENT OR EXCAVATED MATERIALS), PARKING AREA, OR ACCESS. ALL COSTS ASSOCIATED WITH THIS WORK WILL NOT BE PAID FOR.
15. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ACCESS TO RESIDENCES AND BUSINESSES, AND SHALL BE REQUIRED TO KEEP ONE (1) LANE OF TRAFFIC OPEN AT ALL TIMES FOR THRU TRAFFIC AND EMERGENCY VEHICLES/EQUIPMENT.
16. THE CONTRACTOR SHALL ASSURE THAT ALL SERVICES THROUGH THIS CONTRACT SHALL BE COMPLETED IN FULL COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION, AS HAS BEEN ADOPTED BY METRO.
17. METRO WATER SERVICES WILL RETAIN OWNERSHIP OF ALL EXISTING DRAINAGE STRUCTURE GRATES THAT ARE NOT BEING UTILIZED FOR THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL DELIVER THE GRATES TO MWS STORMWATER MAINTENANCE YARD, 1607 COUNTY HOSPITAL ROAD. CONTACT JOE FEDUN AT 615-862-4164 FOR ACCESS AND SCHEDULING DELIVERY.

18. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS NEEDED FOR WORK, EXCAVATION, ROAD CLOSURE, ETC. FROM THE NASHVILLE DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR WILL BE REIMBURSED FOR NDOT PERMIT FEES. ALL WORK SHALL CONFORM TO THE MOST CURRENT NDOT REQUIREMENTS AND SPECIFICATIONS FOR PAVEMENT REPLACEMENT/PATCHING. REFER TO METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY STANDARD DETAILS ST-270a/b AND/OR ST-271a/b. ALL DRIVEWAY RAMP, SIDEWALKS, SIDEWALK RAMP, AND ROADWAY PAVEMENT REPLACEMENT WILL BE INSPECTED BY NDOT DURING AND AFTER CONSTRUCTION. IF THE NDOT INSPECTOR DETERMINES THAT CONSTRUCTION DOES NOT MEET CURRENT NDOT SPECIFICATIONS, THE CONTRACTOR SHALL DEMOLISH AND REPLACE ALL NON-COMPLIANT CONSTRUCTION AT NO ADDITIONAL COST TO METRO WATER SERVICES.
19. WHERE APPLICABLE, CONSTRUCTION SHALL CONFORM TO TDEC AQUATIC RESOURCE ALTERATION PERMIT PROGRAM REQUIREMENTS.
20. THE CONTRACTOR SHALL NOTIFY METRO WATER SERVICES CONSTRUCTION MANAGER OF ALL WATER LINE AND SANITARY SEWER RELOCATIONS. THE CONSTRUCTION MANAGER WILL COORDINATE PRE-CONSTRUCTION MEETINGS, ETC. AS NEEDED.
21. PLACEMENT OF SEED, MULCH, SOD, MATTING, AND TOPSOIL OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY AND EASEMENTS, ON PRIVATE PROPERTY, WILL NOT BE PAID FOR SEPARATELY. ALL COSTS ASSOCIATED WITH PLACEMENT OF THESE ITEMS ON PRIVATE PROPERTY, FOR ACCESS OF WORK AREA, OR MATERIAL STORAGE SHALL BE BORNE BY THE CONTRACTOR.
22. FOR BIDDING PURPOSES, THE CULVERT LENGTHS SHOWN ON THE PLANS ARE FROM CENTER TO CENTER OF STORM STRUCTURES, AND TO THE INLET OR OUTLET END OF PIPES WITH HEADWALLS. ACTUAL LENGTHS MAY BE SHORTER THAN DEPICTED ON THE PLANS. THE CONTRACTOR SHALL VERIFY REQUIRED LENGTHS WITH CONSTRUCTION MANAGER PRIOR TO PIPE INSTALLATION. PAYMENT WILL BE MADE FOR THE LINEAR FOOT OF CULVERT INSTALLED AND ACCEPTED. THE GROUTING OF THE ANNULUS AROUND ALL PIPE PENETRATIONS SHALL BE AN INCIDENTAL COST.
23. THE CONTRACTOR SHALL HAVE PROPERTY LINES AND EASEMENTS (EXISTING AND PROPOSED) LOCATED AND STAKED BY A LICENSED SURVEYOR PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A LICENSED SURVEYOR LAY OUT PROPOSED STRUCTURES, RETAINING WALLS, AND DITCH LINES; LAY OUT GRADE OR ALIGNMENT SENSITIVE CONSTRUCTION ITEMS; RELOCATE ANY PROPERTY BOUNDARY IRON PINS OR MONUMENTS THAT ARE DISTURBED DURING CONSTRUCTION; GENERATE STAMPED AS-BUILT DRAWING(S); REPLACEMENT OF DISTURBED IRON PINS AND/OR MONUMENTS; AND SUBMISSION OF STAMPED AS-BUILT DRAWING(S) BEFORE FINAL PAYMENT TO THE CONTRACTOR IS ISSUED. THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS, SEALED BY A LICENSED SURVEYOR IN ADOBE (PDF) FORMAT AND A DRAWING FILE IN AUTOCAD (DWG), VERSION 2016 (OR EARLIER) FORMAT. ALL WORK PERFORMED BY THE LICENSED SURVEYOR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR CONSTRUCTION STAKE, LINE, AND GRADE.
24. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH 29 CFR PART 1926, SUBPART P- EXCAVATIONS (LATEST EDITION).
25. ALL DRAINAGE STRUCTURES, BOX BRIDGES, BOX CULVERTS, RETAINING WALLS, AND OTHER MAJOR STRUCTURES SHALL BE DONE BY THE CAST-IN-PLACE METHOD. SHOULD THE CONTRACTOR ELECT TO USE PRE-CAST METHOD, THE CONTRACTOR SHALL BEAR ALL MODIFICATION/ADJUSTMENT/RELOCATION COSTS INCURRED FOR A COMPLETE INSTALLATION. THE GROUTING OF THE ANNULUS AROUND ALL PIPE PENETRATIONS SHALL BE AN INCIDENTAL COST.
26. ALL COSTS (INCLUDING LABOR, MATERIAL, EXCAVATION, INCIDENTALS, AND EQUIPMENT) NECESSARY TO PERFORM THE WORK AS SHOWN AND DESCRIBED IN THE DRAWINGS, STANDARD DETAILS, AND SPECIFICATIONS FOR WHICH A SEPARATE PAY ITEM IS NOT INCLUDED SHALL BE MERGED INTO PAY ITEMS SHOWN.
27. ALL MAJOR DRAINAGE STRUCTURES WILL REQUIRE QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) IN ACCORDANCE WITH TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION), PART 6, SECTION 604. A MAJOR DRAINAGE STRUCTURE, FOR THIS PURPOSE, WILL BE DEFINED AS ANY STRUCTURE REQUIRING REINFORCING STEEL. THIS WILL INCLUDE ALL BOX CULVERTS, SLAB BRIDGES, RETAINING WALLS, VERTICAL WALLED CHANNELS, INLETS, JUNCTION BOXES, AND HEADWALLS/ENDWALLS FOR PIPE DIAMETERS ≥ FORTY-EIGHT INCHES (48"). CONSTRUCTION ITEMS REQUIRING WELDED WIRE FABRIC, SUCH AS SIDEWALKS AND SWALES, WILL NOT REQUIRE QUALITY CONTROL FIELD TESTING. THE CONTRACTOR WILL BE FULLY RESPONSIBLE FOR RETAINING AN APPROVED INDEPENDENT TESTING LABORATORY TO PERFORM ALL REQUIRED CONCRETE STRENGTH AND FIELD TESTING AND FOR SUBMITTING THE RESULTS OF SUCH TESTING TO THE CONSTRUCTION MANAGER.
28. ALL PRECAST DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH THE CURRENT TDOT SOP 5-3, MANUFACTURE AND ACCEPTANCE OF PRE-CAST DRAINAGE STRUCTURES, NOISE WALL PANELS, AND EARTH RETAINING WALL PRODUCTS FOR QUALITY AND ASSURANCE PURPOSES ONLY. NOTE THAT ALL PRE-CAST DRAINAGE STRUCTURES SHALL HAVE A "QC" STAMP OR ETCHING ON PRODUCT. ALL PRODUCTS USED SHALL BE ON THE CURRENT TDOT QUALIFIED PRODUCT LIST (QPL), LOCATED AT <http://www.tn.gov/tdot/topic/qualified-products>. THE PRODUCERS AND/OR SUPPLIERS SHALL BE ON THE CURRENT TDOT PRODUCER/SUPPLIER REPORT LOCATED AT <https://www.tdot.tn.gov/applications/producersupplier>.

29. TREE REMOVALS FOR LINEAR STORMWATER PROJECTS SHALL BE AT A TWO TO ONE REPLACEMENT RATIO. THIS POLICY WILL NOT APPLY TO THE REMOVAL OF TREES THAT ARE DEAD, DISEASED, INVASIVE, POTENTIALLY HAZARDOUS, BRADFORD PEAR (PYRUS CALLERYANA), OR ASH (FRAXINUS) SPECIES. TREES THAT CANNOT BE PLANTED NEAR THE REMOVAL SITE CAN BE PLANTED AT AN ALTERNATE LOCATION APPROVED BY MWS. HACKBERRIES WILL BE REPLACED ON A ONE TO ONE BASIS. REPLACEMENT TREES SHALL BE AT LEAST ONE INCH DIAMETER AT BREAST HEIGHT (DHB) AND SIX FEET IN HEIGHT FOR CANOPY SPECIES. DOWNWARD ADJUSTMENTS CAN BE MADE FOR UNDERSTORY AND ORNAMENTAL TREES. SUCH TREES SHOULD BE CHOSEN FROM THE URBAN FORESTRY RECOMMENDED LIST (<https://www.nashville.gov/Codes-Administration/Land-Use-and-Zoning-Information/Urban-Forestry/Tree-and-Shrub-List.aspx>) AND SHALL BE OF A FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION).

NASHVILLE DEPARTMENT OF TRANSPORTATION GENERAL NOTES:

1. ALL ASPHALT ROADWAY REPAIRS SHALL INCLUDE FULL LANE WIDTH RESURFACING.
2. ALL ASPHALT ROADWAY REPAIRS SHALL UTILIZE A 2-FOOT CUTBACK ON ALL SIDES EXCEPT THE EDGE OF PAVEMENT.
3. NEW UTILITY CUTS WILL BE MILLED AND PAVED TO ANY EXISTING UTILITY CUT OR DAMAGED PAVEMENT WITHIN 10 FEET. IF THE EXISTING CUT OR DAMAGED PAVEMENT IS LESS THAN 10 FEET IN LENGTH, THE EXISTING CUT SHALL ALSO BE MILLED AND PAVED.
4. ASPHALT REPAIR GREATER THAN 24-INCHES, ADJACENT TO CURB & GUTTER ALONG A ROADWAY SHALL HAVE FULL LANE WIDTH PAVING.
5. FLOWABLE FILL IS REQUIRED ON ALL DOWNTOWN STREETS, COLLECTORS, AND ARTERIAL STREETS. FLOWABLE FILL MAY ALSO BE REQUIRED ON OTHER STREETS AT THE DISCRETION OF THE UTILITY INSPECTORS.
6. ALL REPAIRS WILL HAVE A 1-YEAR WARRANTY.
7. PERMIT OFFICE WILL NEED TO BE NOTIFIED WHEN REPAIRS ARE FINISHED TO START WARRANTY PERIOD.
8. SEE NDOT STANDARDS 270 THROUGH 275. IF ANY CUTS ARE MADE IN THE ROADWAY, THE UTILITY CUT GUIDELINES MUST BE FOLLOWED. UTILITY CUT GUIDELINES CAN BE FOUND IN THE PERMIT OFFICE OR AT WWW.MPW.NASHVILLE.GOV/IMS/PAVING/DOCUMENTS/APPENDIX_D.PDF.

| | |
|--------------|--------------|
| FILE NO. | MOORMANS ARM |
| DATE: | 03-29-2023 |
| DESIGNED BY: | DJD |
| DRAWN BY: | DJD |
| CHECKED BY: | DWG |

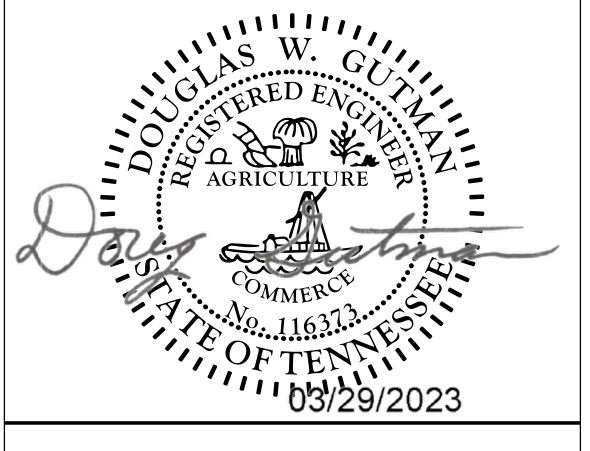
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CONSOR ENGINEERS, LLC
25 LINDSLEY AVENUE, NASHVILLE, TN 37210
(615) 425-2000

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METROPOLITAN GOVERNMENT
OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
METRO WATER SERVICES
MAINTENANCE DIVISION

**MOORMANS ARM
ROAD
STORMWATER
IMPROVEMENTS**

GENERAL NOTES

SCALE: N.T.S.

SHEET 02 OF 11

NO BOUNDARY SURVEY WAS PERFORMED BY CIVIC, INC. FOR THE PURPOSE OF THIS DRAWING. THIS SURVEY WAS DONE UNDER THE AUTHORITY OF T.C.A. 62-18-126 AND IS NOT A GENERAL PROPERTY SURVEY AS DEFINED UNDER RULE 0820-3-07. ANY BEARINGS SHOWN ARE REFERENCED TO THE TENNESSEE STATE PLANE COORDINATE SYSTEM.

COORDINATE VALUES ARE NAD/83 (2011) WITH NO DATUM ADJUSTMENT, AND ARE TIED TO THE TENNESSEE GEODETIC REFERENCE NETWORK. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

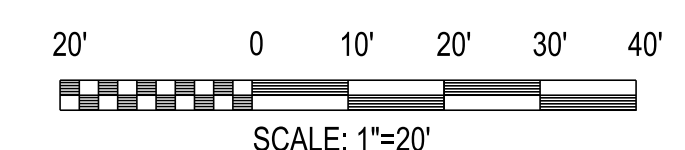
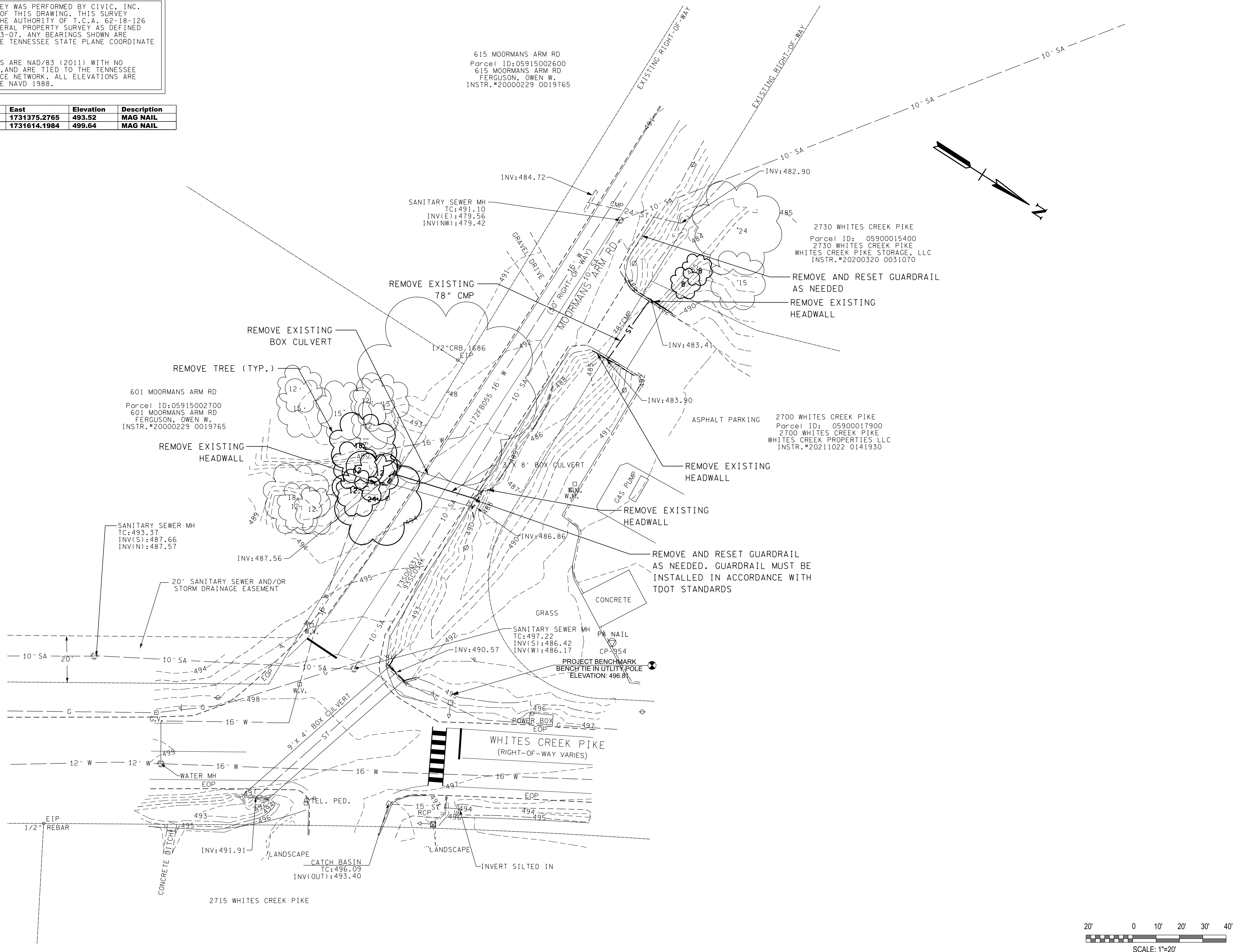
| Point | North | East | Elevation | Description |
|-------|-------------|--------------|-----------|-------------|
| 954 | 687152.9773 | 1731375.2765 | 493.52 | MAG NAIL |
| 1700 | 686893.6036 | 1731614.1984 | 499.64 | MAG NAIL |

615 MOORMANS ARM RD
Parcel ID: 05915002600
615 MOORMANS ARM RD
FERGUSON, OWEN W.
INSTR. #20000229 0019765

2730 WHITES CREEK PIKE
Parcel ID: 05900015400
2730 WHITES CREEK PIKE
WHITES CREEK PIKE STORAGE, LLC
INSTR. #20200320 0031070

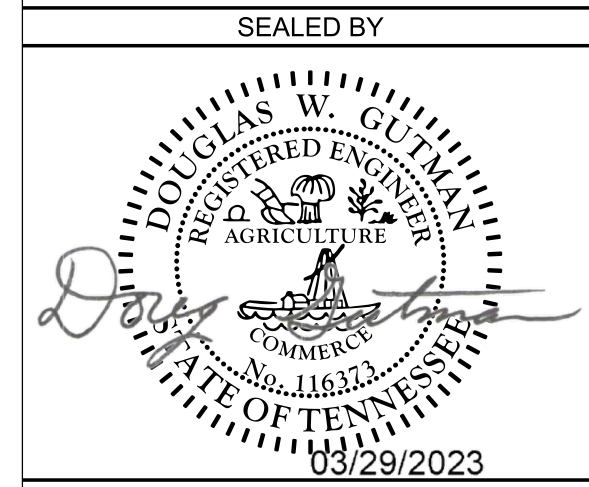
2700 WHITES CREEK PIKE
Parcel ID: 05900017900
2700 WHITES CREEK PIKE
WHITES CREEK PROPERTIES, LLC
INSTR. #20211022 0141930

601 MOORMANS ARM RD
Parcel ID: 05915002700
601 MOORMANS ARM RD
FERGUSON, OWEN W.
INSTR. #20000229 0019765



| FILE NO. | MOORMANS ARM |
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25 LINDSLEY AVENUE, NASHVILLE, TN 37210
(615) 425-2000



METROPOLITAN GOVERNMENT
OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
METRO WATER SERVICES
MAINTENANCE DIVISION

**MOORMANS ARM ROAD
STORMWATER IMPROVEMENTS**

PRESENT LAYOUT &
DEMOLITION PLAN

SCALE: 1" = 20'

SHEET 03 OF 11

615 MOORMANS ARM RD
 Parcel ID: 05915002600
 615 MOORMANS ARM RD
 FERGUSON, OWEN W.
 INSTR. #20000229 0019765

2730 WHITES CREEK PIKE
 Parcel ID: 05900015400
 2730 WHITES CREEK PIKE
 WHITES CREEK PIKE STORAGE, LLC
 INSTR. #20200320 0031070

EXTEND THE NORTHWEST WINGWALL OF THE
 12' X 4.5' SLAB BRIDGE TO THE SOUTHEAST
 WINGWALL OF THE 14' X 6' SLAB BRIDGE

INSTALL 12' X 4.5' SLAB BRIDGE
 (SEE SHEET 05 FOR DETAILS)

35' TEMPORARY CONSTRUCTION
 EASEMENT
 25' PERMANENT DRAINAGE
 EASEMENT
 20' PERMANENT DRAINAGE
 EASEMENT

INSTALL 14' X 6' SLAB BRIDGE
 (SEE SHEET 06 FOR DETAILS)

65' TEMPORARY CONSTRUCTION
 EASEMENT

ASPHALT PARKING
 Parcel ID: 05900017900
 2700 WHITES CREEK PIKE
 WHITES CREEK PROPERTIES, LLC
 INSTR. #20211022 0141930

15' PERMANENT DRAINAGE
 EASEMENT

35' TEMPORARY CONSTRUCTION
 EASEMENT

INSTALL APPROX. 69 LF OF
 GABION. SEE DETAIL ON SHEET 11.

SANITARY SEWER MH
 TC: 493.37
 INV(S): 487.66
 INV(N): 487.57

REMOVE AND RESET
 GUARDRAIL AS NEEDED

20' SANITARY SEWER AND/OR
 STORM DRAINAGE EASEMENT

20' TEMPORARY CONSTRUCTION
 EASEMENT

SANITARY SEWER MH
 TC: 497.22
 INV(S): 486.42
 INV(W): 486.17

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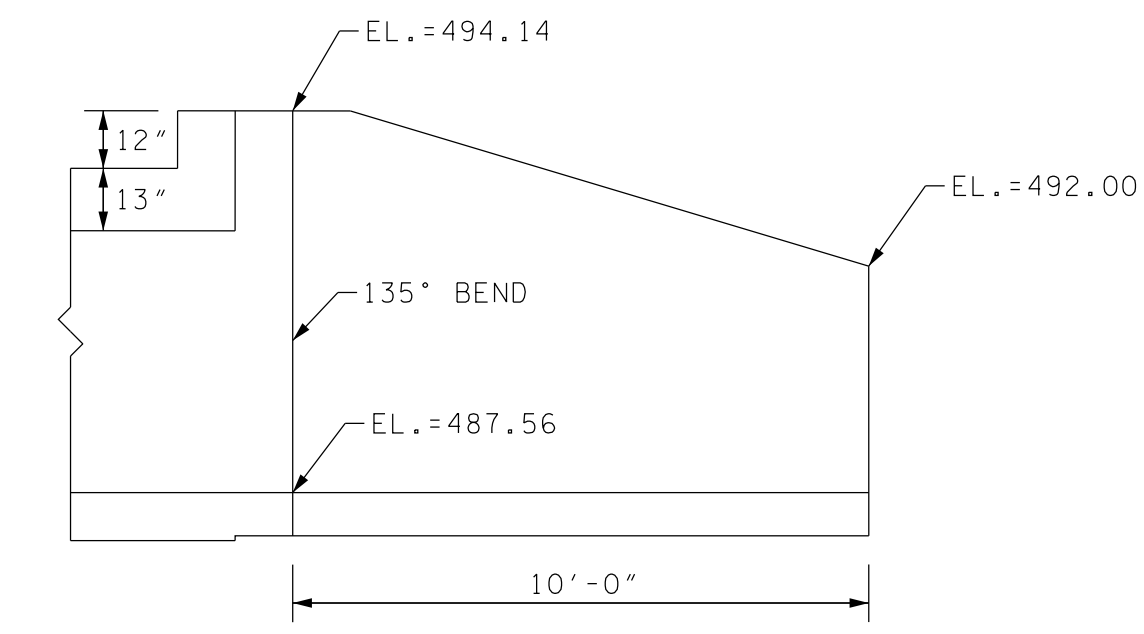
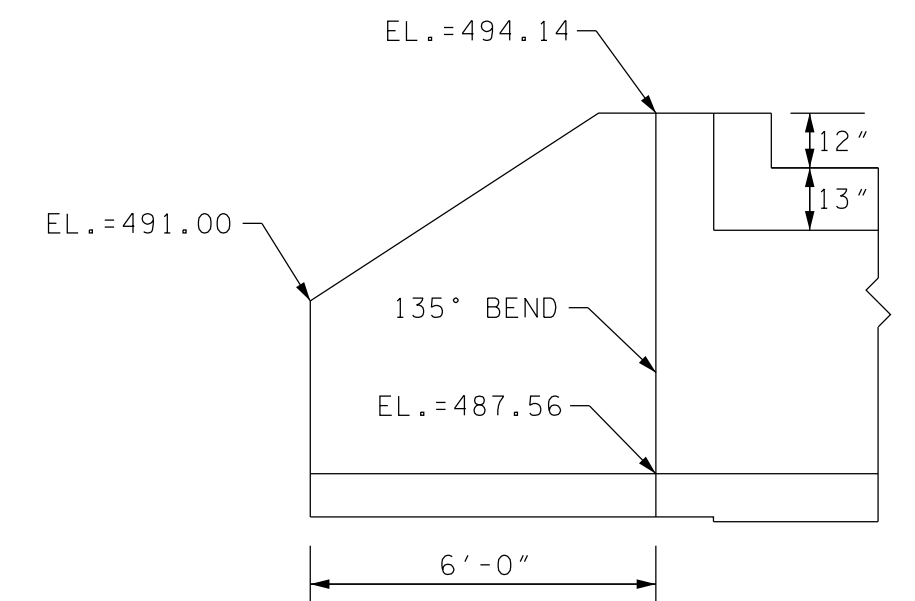
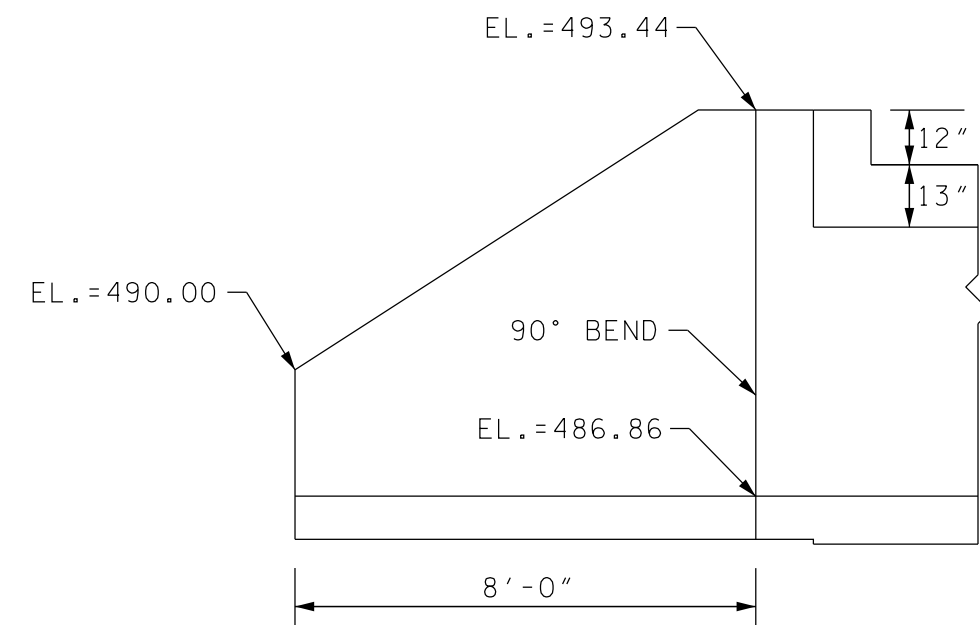
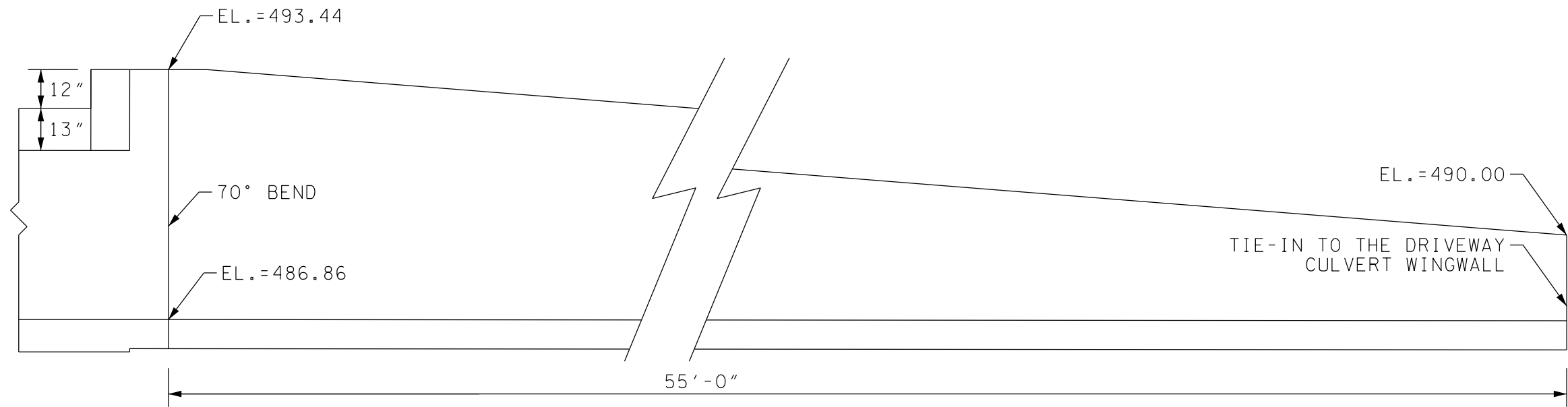
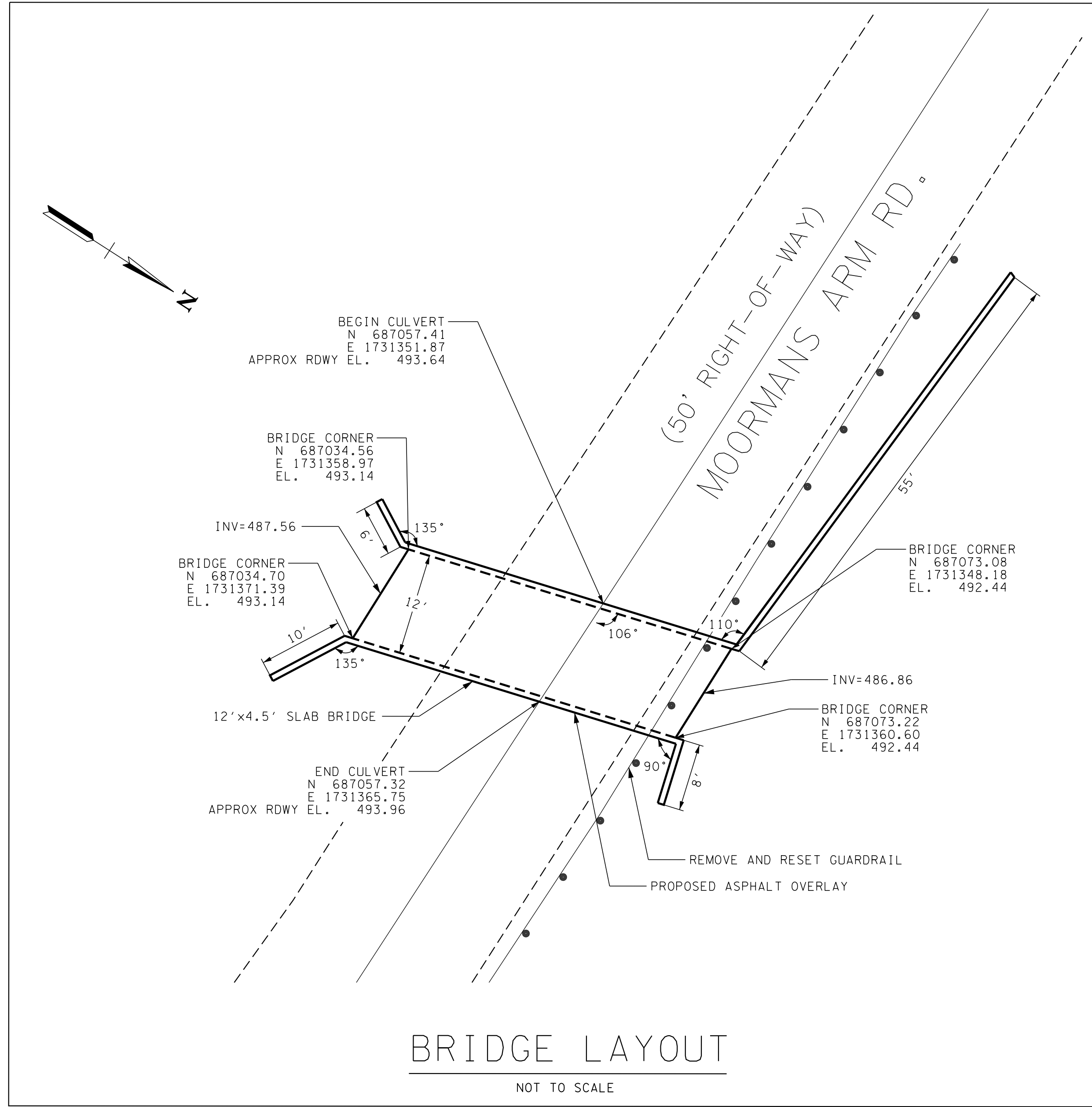
10' SA

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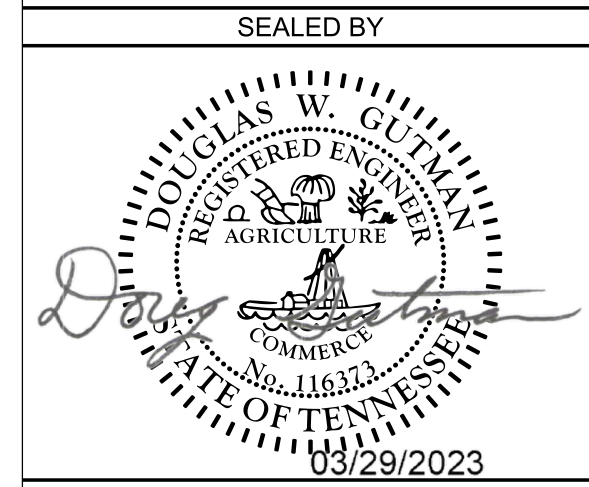
PROPOSED SLAB BRIDGE ACROSS MOORMANS ARM ROAD

| | |
|----------------|--------------|
| FILE NO. | MOORMANS ARM |
| DATE: | 03-29-2023 |
| DESIGNED BY: | DJD |
| DRAWN BY: | DJD |
| CHECKED BY: | DWG |
| REVISION BLOCK | |
| DATE: | |
| DATE: | |
| DATE: | |



- NOTES:**
1. THE DETAILS ARE INTENDED TO PROVIDE GUIDANCE AND ESTABLISH THE PROPOSED LAYOUT AND SHALL BE USED IN CONJUNCTION WITH TDOT STANDARD DRAWINGS WHICH SHOW THE REINFORCEMENT SCHEDULE AND ADDITIONAL DIMENSIONS AND DETAILS.
 2. THE TOP OF THE WINGWALLS SHALL BE LEVEL WITH THE TOP OF THE CURB.

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25 LINDSLEY AVENUE, NASHVILLE, TN 37210
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METRO WATER SERVICES
MAINTENANCE DIVISION

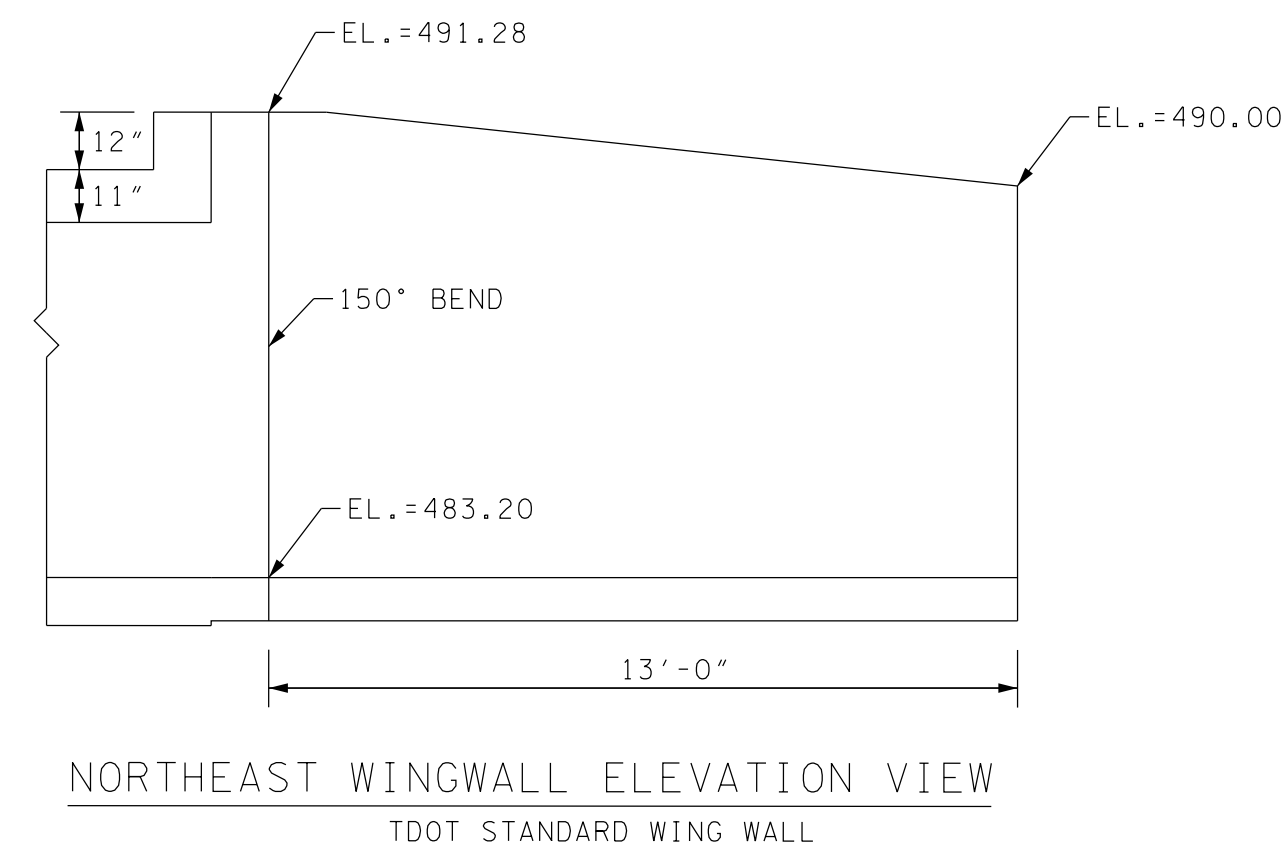
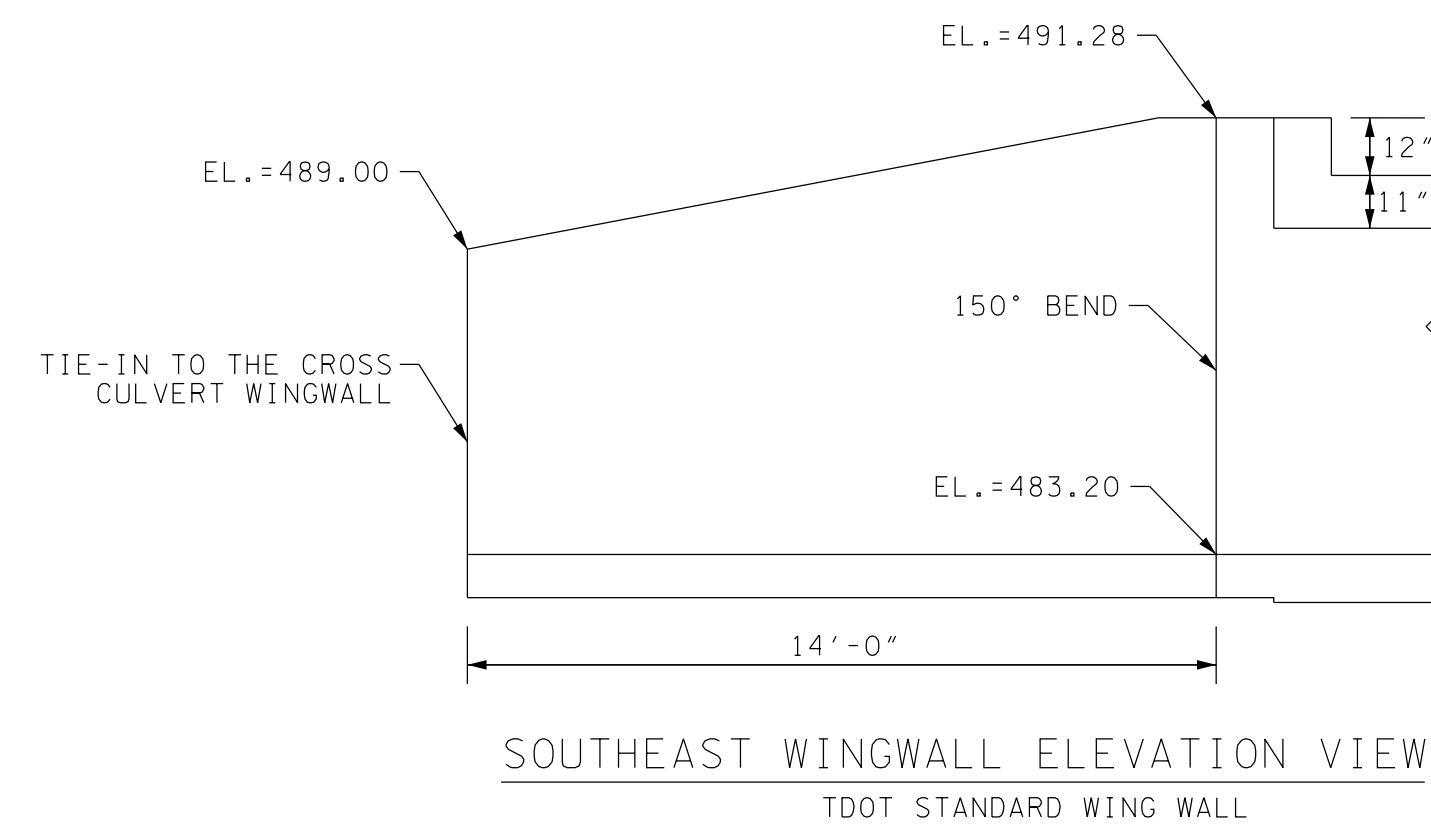
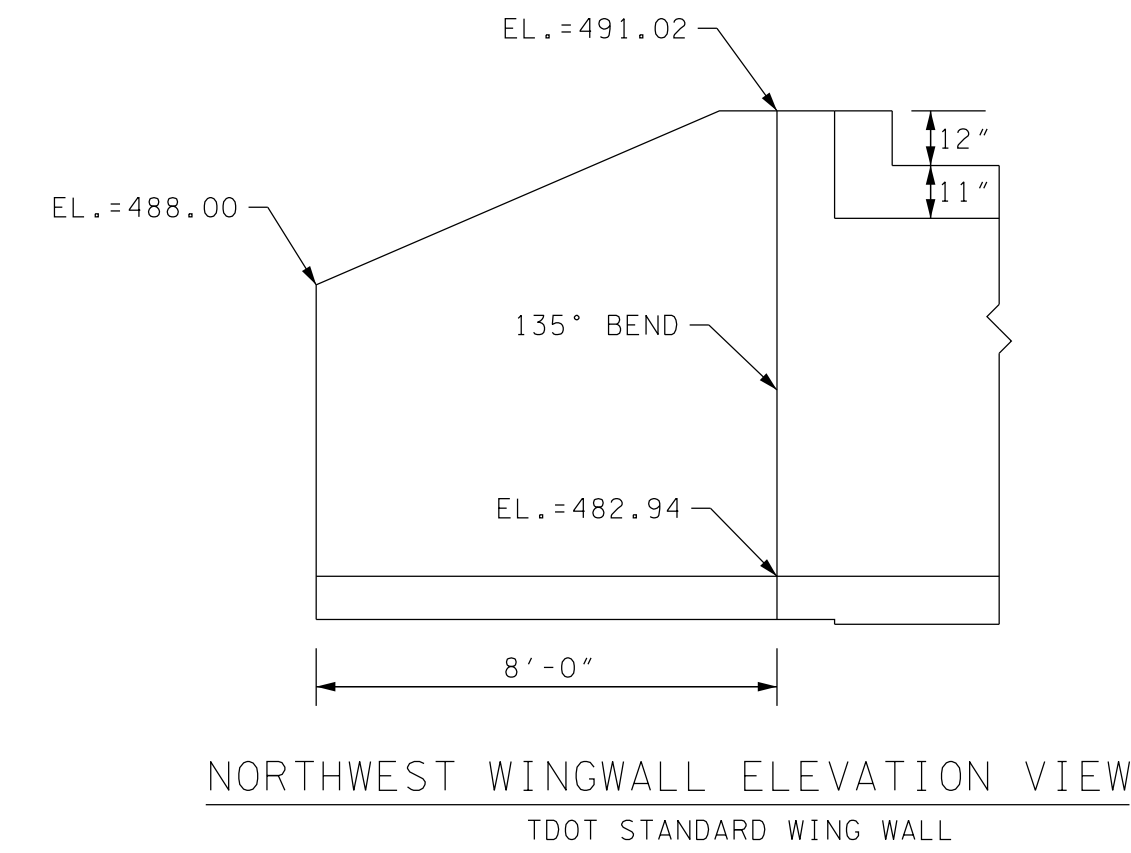
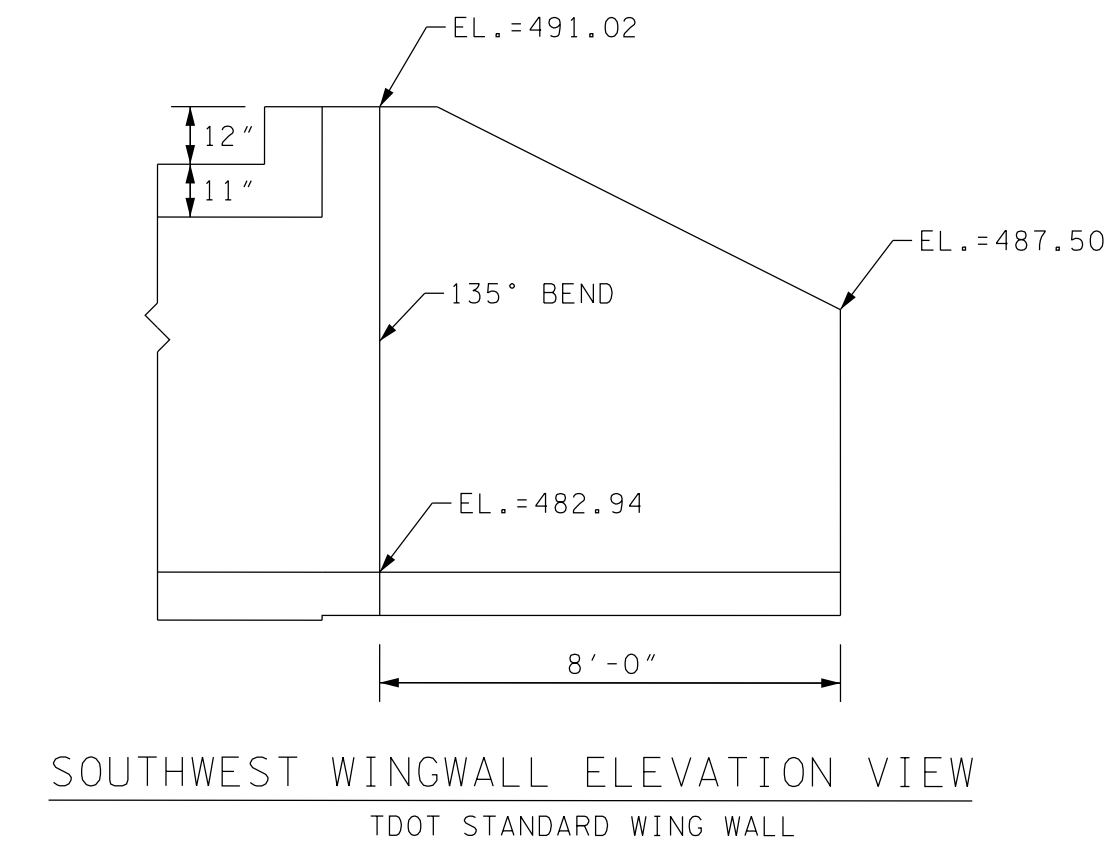
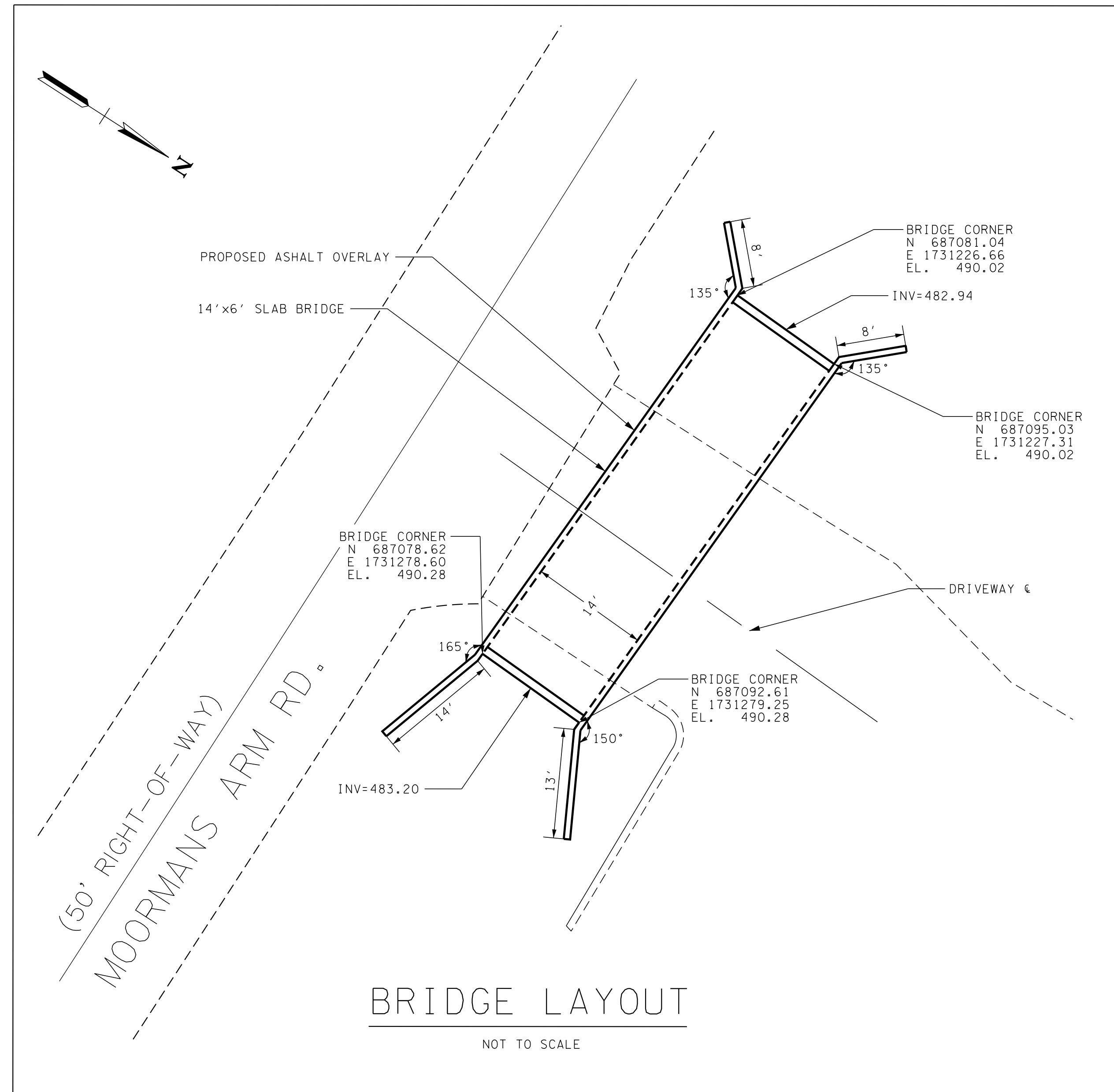
MOORMANS ARM ROAD
STORMWATER IMPROVEMENTS
BRIDGE LAYOUT & WINGWALL ELEVATIONS (BOX-04)

SCALE: N.T.S.

SHEET 05 OF 11

PROPOSED SLAB BRIDGE UNDER DRIVEWAY @ 2700 WHITES CREEK PIKE

| | |
|----------------|--------------|
| FILE NO. | MOORMANS ARM |
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| DRAWN BY: | DJD |
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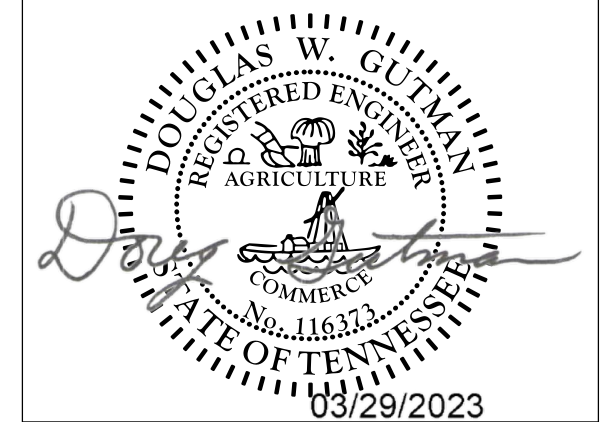


NOTES:

1. THE DETAILS ARE INTENDED TO PROVIDE GUIDANCE AND ESTABLISH THE PROPOSED LAYOUT AND SHALL BE USED IN CONJUNCTION WITH TDOT STANDARD DRAWINGS WHICH SHOW THE REINFORCEMENT SCHEDULE AND ADDITIONAL DIMENSIONS AND DETAILS.
2. A 1'x1' CURB SHALL BE INSTALLED ALONG THE TOP SLAB OF THE CULVERT IN ACCORDANCE WITH TDOT STANDARD DRAWING STD-17-8.
3. THE TOP OF THE WINGWALLS SHALL BE LEVEL WITH THE TOP OF THE CURB.

CONSOR ENGINEERS, LLC
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 METRO WATER SERVICES
 MAINTENANCE DIVISION

**MOORMANS ARM ROAD
 STORMWATER
 IMPROVEMENTS**

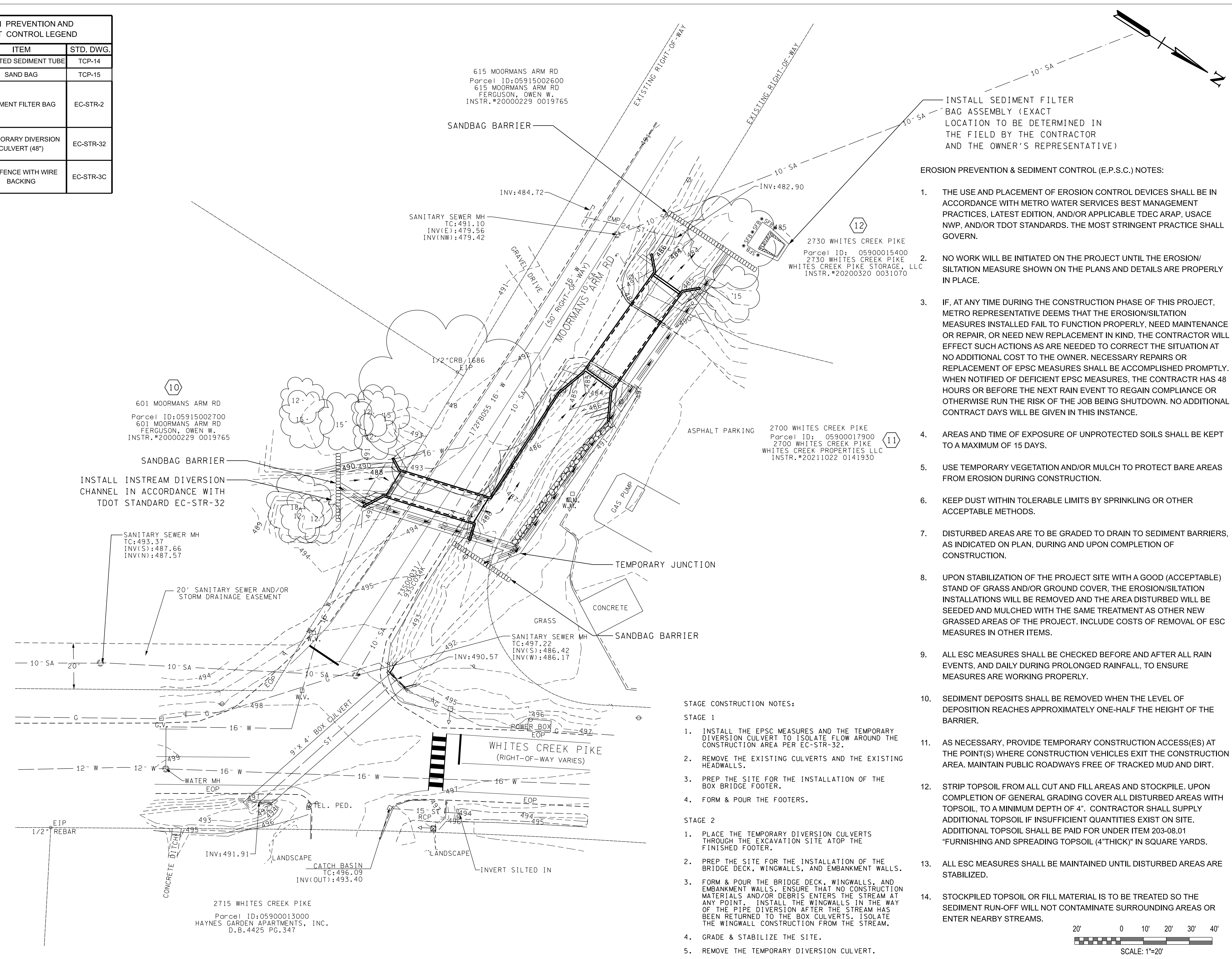
**BRIDGE LAYOUT &
 WINGWALL ELEVATIONS
 (BOX-05)**

SCALE: N.T.S.

SHEET 06 OF 11

| EROSION PREVENTION AND SEDIMENT CONTROL LEGEND | | |
|--|-----------------------------------|-----------|
| SYMBOL | ITEM | STD. DWG. |
| ** TUBE ** TUBE | WEIGHTED SEDIMENT TUBE | TCP-14 |
| | SAND BAG | TCP-15 |
| | SEDIMENT FILTER BAG | EC-STR-2 |
| | TEMPORARY DIVERSION CULVERT (48") | EC-STR-32 |
| * SFB * SFB * | SILT FENCE WITH WIRE BACKING | EC-STR-3C |

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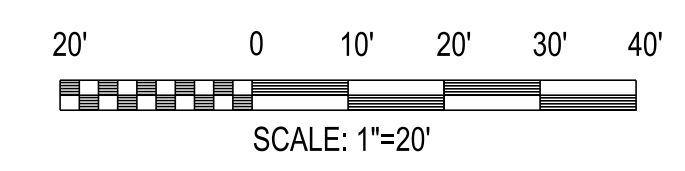
INSTALL SEDIMENT FILTER BAG ASSEMBLY (EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE)

EROSION PREVENTION & SEDIMENT CONTROL (E.P.S.C.) NOTES:

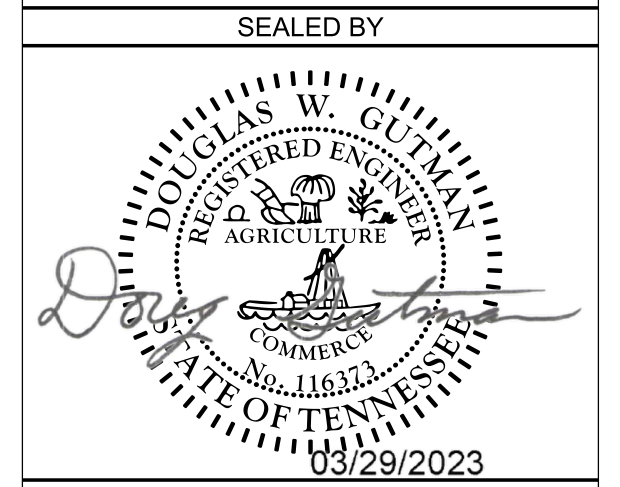
1. THE USE AND PLACEMENT OF EROSION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH METRO WATER SERVICES BEST MANAGEMENT PRACTICES, LATEST EDITION, AND/OR APPLICABLE TDEC ARAP, USACE NWP, AND/OR TDOT STANDARDS. THE MOST STRINGENT PRACTICE SHALL GOVERN.
2. NO WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURE SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
3. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, METRO REPRESENTATIVE DEEMS THAT THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER. NECESSARY REPAIRS OR REPLACEMENT OF EPSC MEASURES SHALL BE ACCOMPLISHED PROMPTLY. WHEN NOTIFIED OF DEFICIENT EPSC MEASURES, THE CONTRACTOR HAS 48 HOURS OR BEFORE THE NEXT RAIN EVENT TO REGAIN COMPLIANCE OR OTHERWISE RUN THE RISK OF THE JOB BEING SHUTDOWN. NO ADDITIONAL CONTRACT DAYS WILL BE GIVEN IN THIS INSTANCE.
4. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 15 DAYS.
5. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.
6. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE METHODS.
7. DISTURBED AREAS ARE TO BE GRADED TO DRAIN TO SEDIMENT BARRIERS, AS INDICATED ON PLAN, DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD (ACCEPTABLE) STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT. INCLUDE COSTS OF REMOVAL OF ESC MEASURES IN OTHER ITEMS.
9. ALL ESC MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL RAIN EVENTS, AND DAILY DURING PROLONGED RAINFALL, TO ENSURE MEASURES ARE WORKING PROPERLY.
10. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
11. AS NECESSARY, PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. MAINTAIN PUBLIC ROADWAYS FREE OF TRACKED MUD AND DIRT.
12. STRIP TOPSOIL FROM ALL CUT AND FILL AREAS AND STOCKPILE. UPON COMPLETION OF GENERAL GRADING COVER ALL DISTURBED AREAS WITH TOPSOIL, TO A MINIMUM DEPTH OF 4". CONTRACTOR SHALL SUPPLY ADDITIONAL TOPSOIL IF INSUFFICIENT QUANTITIES EXIST ON SITE. ADDITIONAL TOPSOIL SHALL BE PAID FOR UNDER ITEM 203-08.01 "FURNISHING AND SPREADING TOPSOIL (4" THICK)" IN SQUARE YARDS.
13. ALL ESC MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED.
14. STOCKPILED TOPSOIL OR FILL MATERIAL IS TO BE TREATED SO THE SEDIMENT RUN-OFF WILL NOT CONTAMINATE SURROUNDING AREAS OR ENTER NEARBY STREAMS.

STAGE CONSTRUCTION NOTES:

- STAGE 1
1. INSTALL THE EPSC MEASURES AND THE TEMPORARY DIVERSION CULVERT TO ISOLATE FLOW AROUND THE CONSTRUCTION AREA PER EC-STR-32.
 2. REMOVE THE EXISTING CULVERTS AND THE EXISTING HEADWALLS.
 3. PREP THE SITE FOR THE INSTALLATION OF THE BOX BRIDGE FOOTER.
 4. FORM & POUR THE FOOTERS.
- STAGE 2
1. PLACE THE TEMPORARY DIVERSION CULVERTS THROUGH THE EXCAVATION SITE A TOP THE FINISHED FOOTER.
 2. PREP THE SITE FOR THE INSTALLATION OF THE BRIDGE DECK, WINGWALLS, AND EMBANKMENT WALLS.
 3. FORM & POUR THE BRIDGE DECK, WINGWALLS, AND EMBANKMENT WALLS. ENSURE THAT NO CONSTRUCTION MATERIALS AND/OR DEBRIS ENTERS THE STREAM AT ANY POINT. INSTALL THE WINGWALLS IN THE WAY OF THE PIPE DIVERSION AFTER THE STREAM HAS BEEN RETURNED TO THE BOX CULVERTS. ISOLATE THE WINGWALL CONSTRUCTION FROM THE STREAM.
 4. GRADE & STABILIZE THE SITE.
 5. REMOVE THE TEMPORARY DIVERSION CULVERT.



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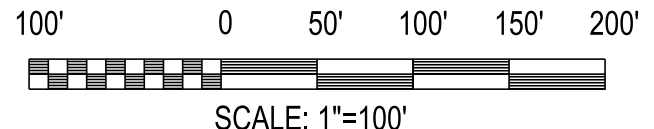
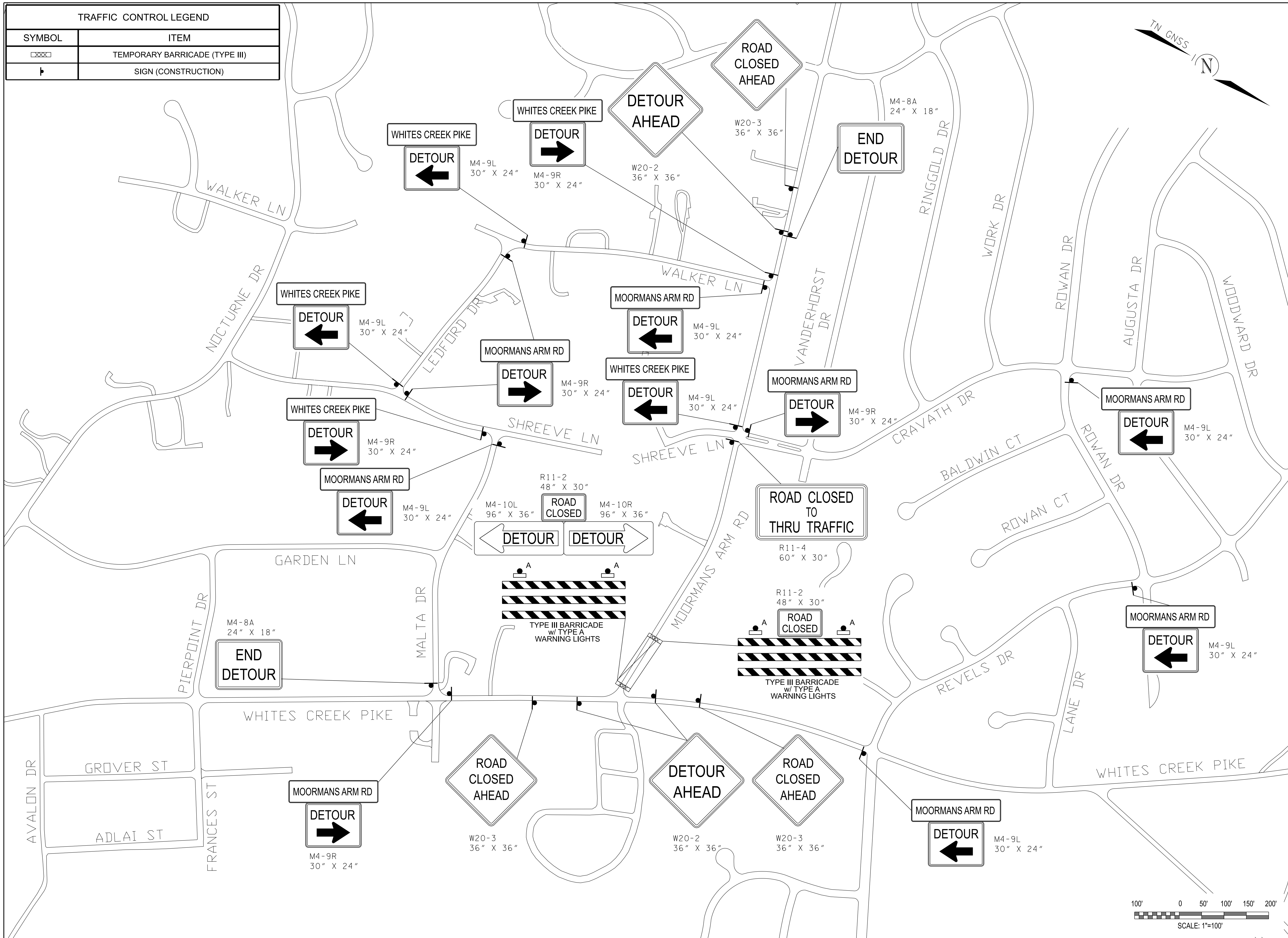
MOORMANS ARM ROAD STORMWATER IMPROVEMENTS

EROSION PROTECTION PLANS

SCALE: 1" = 20'

SHEET 07 OF 11

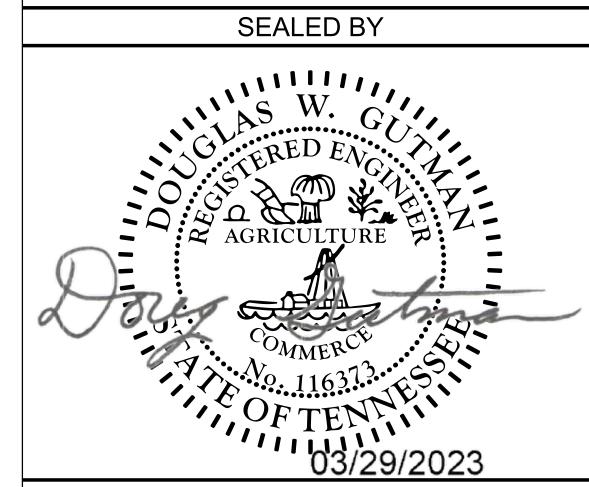
| TRAFFIC CONTROL LEGEND | |
|------------------------|--------------------------------|
| SYMBOL | ITEM |
| | TEMPORARY BARRICADE (TYPE III) |
| | SIGN (CONSTRUCTION) |



| FILE NO. | MOORMANS ARM |
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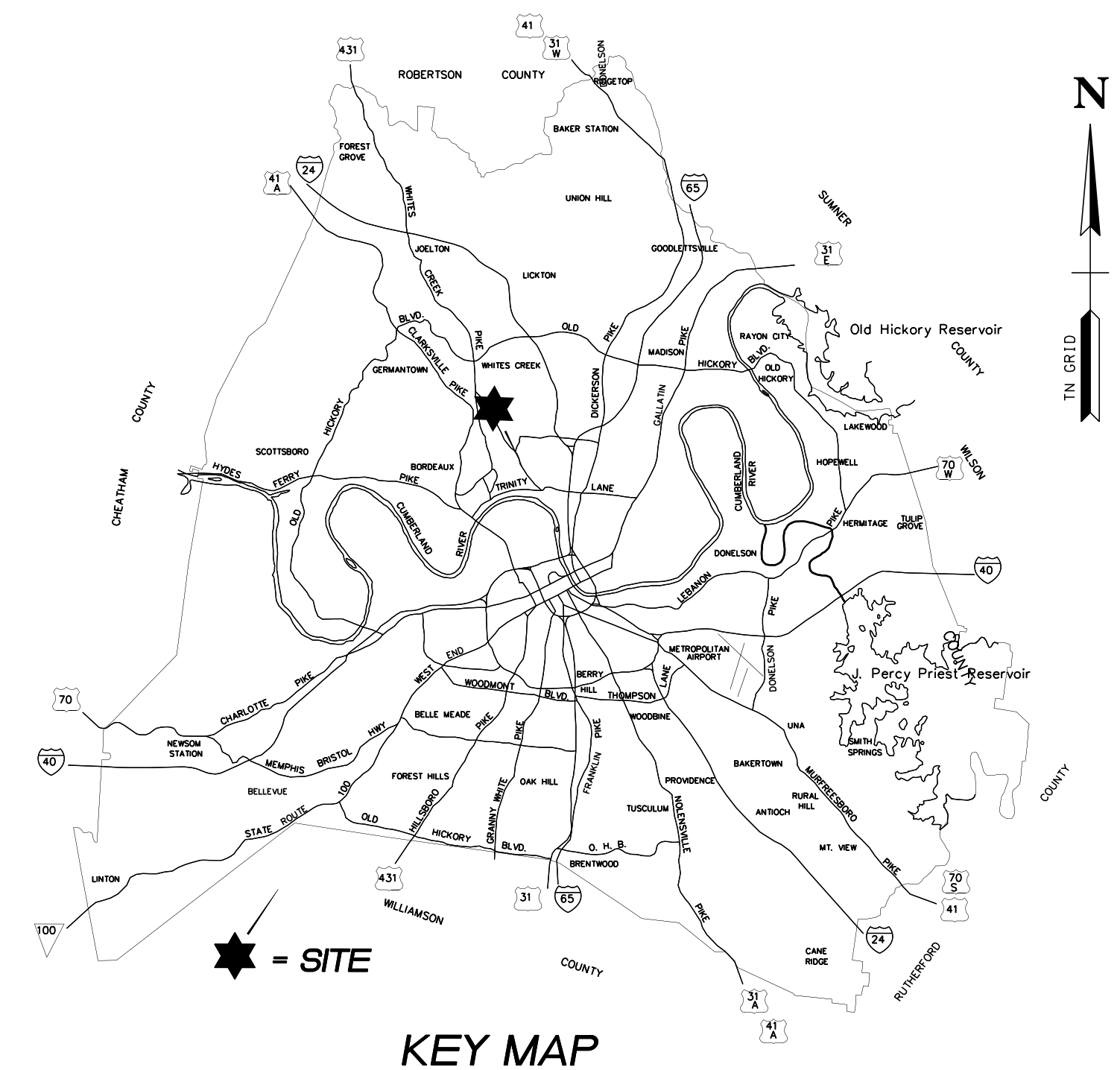
**MOORMANS ARM
 ROAD
 STORMWATER
 IMPROVEMENTS**

TRAFFIC CONTROL PLAN

SCALE: 1" = 100'

GENERAL NOTES:

- All water and sewer construction shall conform to the current standard specifications and details of the Metropolitan Government of Nashville and Davidson County Department of Water and Sewerage Services (MWS).
- The Contractor shall obtain and comply with all necessary standards and permits from any federal, state, and/or local authority having jurisdiction over any phase of construction associated with the project.
- The types and locations of existing utilities shown on the drawings are approximate and shall be independently verified by the Contractor. The Contractor shall be responsible for the location and preserving existing utilities prior to and during construction. Repairs or replacements to any MWS utility damaged by construction activities shall be the responsibility of the Contractor with no additional payment allowed.
- The Contractor shall bring to the attention of MWS and document any pre-existing damage or conditions prior to beginning work. Repairs or replacements to any items damaged by water and sewer construction activities shall be the responsibility of the Contractor with no additional payment allowed.
- Maintain proper vertical and horizontal separation between water and sanitary sewer mains. For more information, see TDEC Design Criteria for Sewage Works Section 2.4.1.2 Relation to Water Mains & Community Public Water Systems Design Criteria Section 9.2 Separation of Water Mains and Sewers. When a conflict exists and proper separation is not attainable, the Contractor shall coordinate with MWS for the necessary measures to ensure system integrity.
- The Contractor shall verify the size and material for each water service line and reconnect all live water services, whether indicated on the drawing or not, per MWS.
- Water service lines 2-1/2 inches in diameter and smaller shall be replaced from the water main to the meter with copper.
- Water service lines greater than 2-1/2 inches in diameter shall be replaced from the water main to the property line valve or meter with ductile iron pipe.
- Contact MWS if lead services are discovered. The Contractor shall follow the current MWS lead service replacement procedure. This may cause some delays and additional coordination. Replacement of lead service lines requires an additional sampling protocol that will delay the replacement of the service line until the protocol can be coordinated with the customer.
- When existing meter boxes require adjusting and/or relocating, water meters and shutoffs shall be a minimum of 24" not to exceed a maximum of 32" below finished grade.
- The Contractor is responsible for notifying MWS Inspection personnel prior to any work or connections being conducted on the MWS System.
- The Contractor shall not operate any valves on the existing water system and/or water mains placed in service without prior approval and only under the supervision of MWS. Operating valves shall be scheduled in writing by the Contractor and must be approved in advance by MWS.
- Metro Water Services will make every reasonable effort to isolate and shut down the flow of water when required for the work; however, there may be circumstances that prevent timely water shut downs such as: faulty valves, water main breaks, lack of forces due to higher priority situations, etc. The cost for Contractor standby time due to these types of delays is considered incidental and should be incorporated into the price of other bid items with no additional payment allowed.
- The Contractor shall not make connections to the existing water system until applicable tests, including: disinfection, hydrostatic, etc., have been performed and reported to MWS and found to be in compliance. Reduced Pressure Backflow Prevention Devices (RPBP) or dual check valves will be required on all test and fill lines needed for water main construction and must be approved by MWS.
- All pipe, pipe fittings, plumbing fittings, and fixtures including, but not limited to, coated or uncoated brass or bronze materials that could come in contact with drinking water shall be in accordance with the 2011 reduction of lead in drinking water act that amends the Safe Drinking Water Act, Section 1417 effective January 4, 2014. The following internet link provides further clarification and direction on the requirement: <http://nepis.epa.gov/adobe/pdf/p100grdz.pdf>.
- If a water main, or other MWS system component, requires relocation or addition and is not indicated on the approved drawings, the Contractor shall notify MWS immediately. Prior to relocation, the drawings shall require: modification depicting the relocation, approval from a registered professional engineer and the appropriate regulatory agencies, and a MWS based project number assigned.
- If a water service line is disconnected, the proper MWS disinfection protocol shall be implemented prior to the service line being reconnected to the existing water system.
- No discharge of wastewater or debris shall be released to the environment. Should the Contractor's actions cause an overflow or bypass of wastewater to the environment, site cleanup will be the responsibility of the Contractor consistent with MWS' Spill and Overflow Response Plan.
- Prior to implementing the plugging of any line, bypass pumping, or similar actions, the Contractor shall provide a detailed plan of approach to MWS for review and comment. MWS approval of any such plan does not relieve the contractor of the responsibility for the adequacy of the plan or proper execution.
- The Contractor shall complete all work in full compliance with the Metro Stormwater Management Regulations, so as to create no stormwater quality or quantity compliance issues. Illicit discharges of pollutants, either direct or indirect, to a storm sewer, stormwater conveyance, or stream within Metro Nashville Davidson County are prohibited, per Metro ordinance 15.64.205 (Non-Stormwater Discharges).



CONSTRUCTION DETAILS:

Contractor shall comply with all applicable and current MWS details located on the webpage. See Approved Construction Specifications and Details: (<https://www.nashville.gov/Water-Services/Developers/Water-and-Sewer.aspx>)

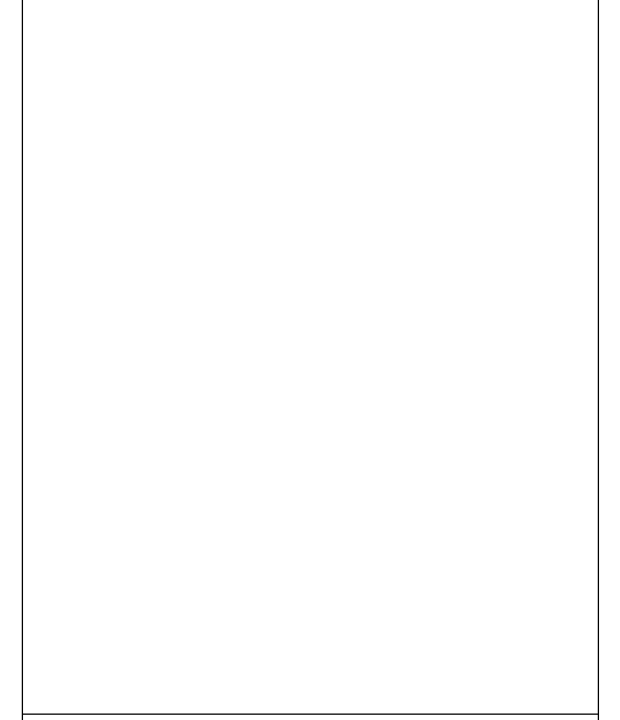
Applicable details of note for this project include:

- Water & Sewer Details
- WDET010 (Crossing under Obstructions)
 - WDET010A (Crossing under Box Bridge (Culvert))
 - WDET010B (Creek Crossing For Water Mains)
 - WDET010C (Thrust Collar (Reverse Kicker))
 - WDET011 (Service Line Detail)
 - SDET006 (Concrete Encasement)

| WATER & SANITARY SEWER: | | | UTILITY OWNERS | | |
|--|---|--|---|---|---|
| METRO WATER & SEWER 1600 2nd AVENUE NORTH NASHVILLE, TN 37208 CONTACT PERSON: MICHAEL MORRIS (615) 862-4570 michael.morris@nashville.gov | INSPECTION: METRO WATER & SEWER 1600 2ND AVENUE NORTH NASHVILLE, TN 37208 CONTACT PERSON: JUSTIN PENDLEY, PE (615) 862-4555 justin.pendley@nashville.gov | STORM WATER: METRO WATER & SEWER 1600 2nd AVENUE NORTH NASHVILLE, TN 37208 CONTACT PERSON: RICKY SWIFT (615) 862-4784 ricky.swift@nashville.gov | STREETS: NASHVILLE DEPT. OF TRANSPORTATION 740 SOUTH 5TH STREET NASHVILLE, TN 37206 CONTACT PERSON: MIKE DAVIS (615) 862-8760 mike.davis@nashville.gov | NASHVILLE DEPT. OF TRANSPORTATION: 750 SOUTH 5TH STREET NASHVILLE, TN 37206 CONTACT PERSON: RORY ROWAN (615) 862-8782 rory.rowan@nashville.gov | ADA: ADA COMPLIANCE DIVISION 730 2ND AVE S NASHVILLE, TN 37210 CONTACT PERSON: JERRY HALL (615) 862-8744 jerry.hall@nashville.gov |
| TELEPHONE: AT&T 333 COMMERCE ST., 23RD FLOOR NASHVILLE, TN 37201 CONTACT PERSON: WILL DAVENPORT (615) 801-6960 wd5635@att.com | ELECTRIC: NASHVILLE ELECTRIC SERVICE 1214 CHURCH STREET NASHVILLE, TN 37203 CONTACT PERSON: JON SIPES (615) 747-2530 jsipes@nespower.com | GAS: PIEDMONT GAS 83 CENTURY BLVD NASHVILLE, TN 37214 CONTACT PERSON: DON LAMONT NEVILS (615) 335-7929 don.nevils@duke-energy.com | CABLE: COMCAST 660 MAINSTREAM DRIVE NASHVILLE, TN 37228 CONTACT PERSON: GARY MCKINNEY (615) 244-7462 EXT. 1115332 NAS-NashvilleConstructionBetterments@comcast.com | FIBER: GOOGLE FIBER 1101 MCGAVOCK STREET, STE 200 NASHVILLE, TN 37203 CONTACT PERSON: RICK BOLTON (615) 888-2258 gfiber-bna-relocations@google.com | TELECOMMUNICATIONS: VERIZON 101 MOLLOY STREET NASHVILLE, TN 37201 CONTACT PERSON: DEREK DEE (615) 919-5470 derek.r.dee@verizon.com |

| | |
|--------------|--------------|
| FILE NO. | MOORMANS ARM |
| DATE: | 03-29-2023 |
| DESIGNED BY: | DJD |
| DRAWN BY: | DJD |
| CHECKED BY: | DWG |

| REVISION BLOCK | |
|----------------|--|
| DATE: | |
| DATE: | |
| DATE: | |



CONSOR ENGINEERS, LLC
 25 LINDSLEY AVENUE, NASHVILLE, TN 37210
 (615) 425-2000



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METROPOLITAN GOVERNMENT
 OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
 METRO WATER SERVICES
 MAINTENANCE DIVISION

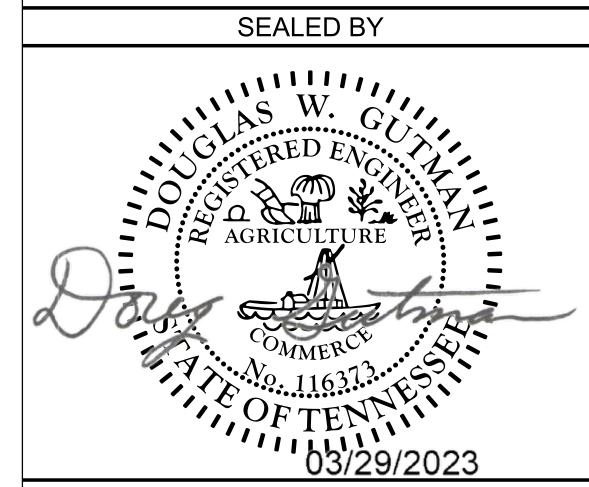
**MOORMANS ARM
ROAD
STORMWATER
IMPROVEMENTS**

UTILITY NOTES

SCALE: N.T.S.

| | |
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METROPOLITAN GOVERNMENT
 OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE
 METRO WATER SERVICES
 MAINTENANCE DIVISION

**MOORMANS ARM
 ROAD
 STORMWATER
 IMPROVEMENTS**

UTILITY LAYOUT

SCALE: 1" = 20'

SHEET 10 OF 11

615 MOORMANS ARM RD
 Parcel ID: 05915002600
 615 MOORMANS ARM RD
 FERGUSON, OWEN W.
 INSTR. #20000229 0019765

| Point | North | East | Elevation | Description |
|-------|-------------|--------------|-----------|-------------|
| 954 | 687152.9773 | 1731375.2765 | 493.52 | MAG NAIL |
| 1700 | 686893.6036 | 1731614.1984 | 499.64 | MAG NAIL |

POTENTIAL WATER MAIN CONFLICT:
 CONTRACTOR SHALL FIELD VERIFY PRIOR TO
 BEGINNING CONSTRUCTION AND NOTIFY THE
 ENGINEER IMMEDIATELY IF
 A CONFLICT IS PRESENT.

601 MOORMANS ARM RD
 Parcel ID: 05915002700
 601 MOORMANS ARM RD
 FERGUSON, OWEN W.
 INSTR. #20000229 0019765

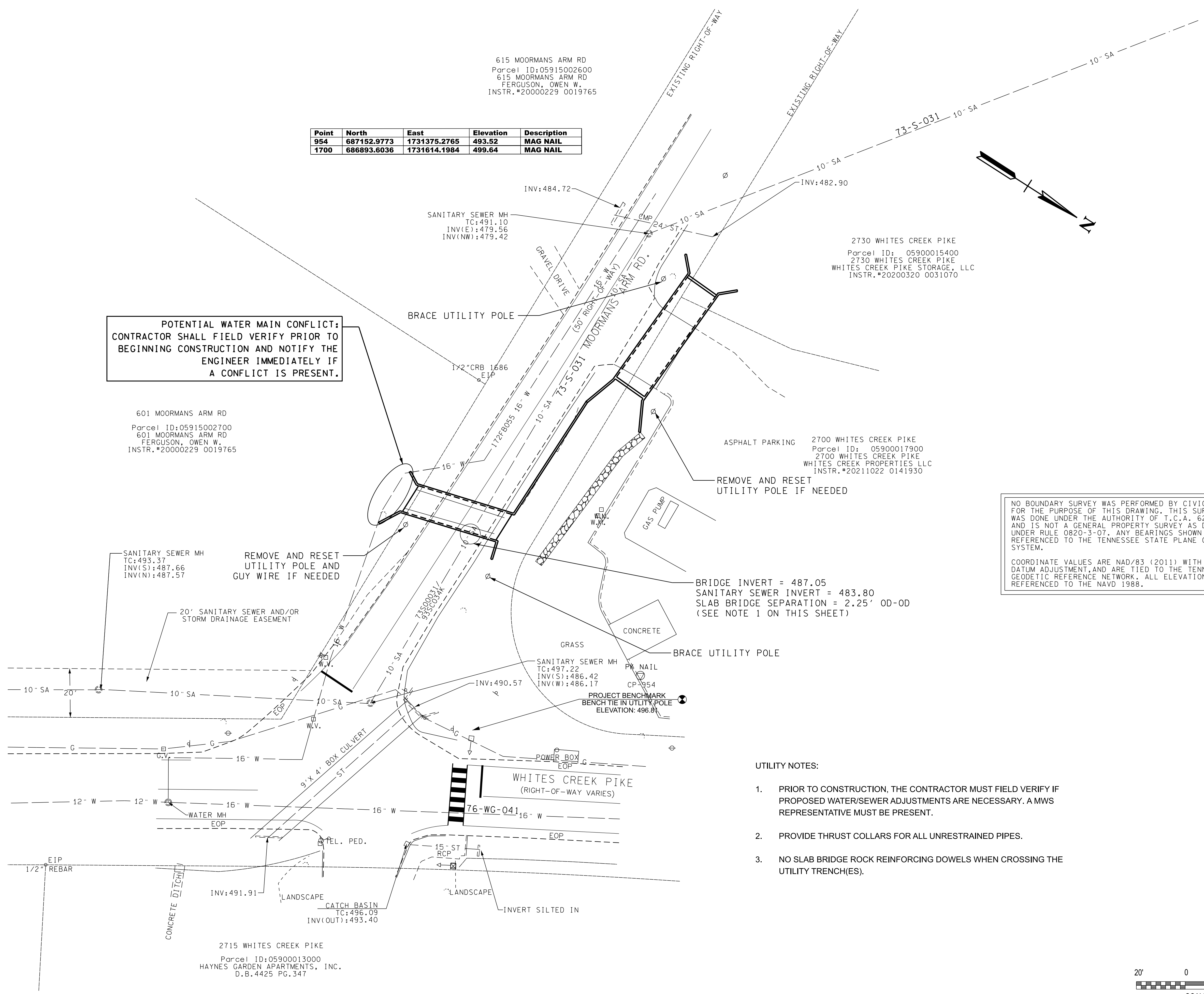
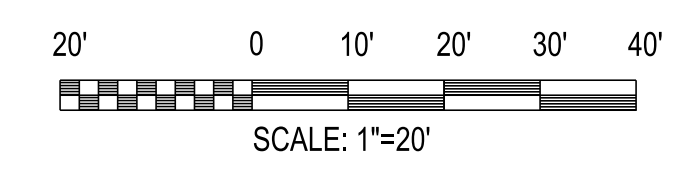
2730 WHITES CREEK PIKE
 Parcel ID: 05900015400
 2730 WHITES CREEK PIKE
 WHITES CREEK PIKE STORAGE, LLC
 INSTR. #20200320 0031070

2700 WHITES CREEK PIKE
 Parcel ID: 05900017900
 2700 WHITES CREEK PIKE
 WHITES CREEK PROPERTIES LLC
 INSTR. #20211022 0141930

NO BOUNDARY SURVEY WAS PERFORMED BY CIVIC, INC. FOR THE PURPOSE OF THIS DRAWING. THIS SURVEY WAS DONE UNDER THE AUTHORITY OF T.C.A. § 62-18-126 AND IS NOT A GENERAL PROPERTY SURVEY AS DEFINED UNDER RULE 0820-3-07. ANY BEARINGS SHOWN ARE REFERENCED TO THE TENNESSEE STATE PLANE COORDINATE SYSTEM.

COORDINATE VALUES ARE NAD/83 (2011) WITH NO DATUM ADJUSTMENT, AND ARE TIED TO THE TENNESSEE GEODETIC REFERENCE NETWORK. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

- UTILITY NOTES:
1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST FIELD VERIFY IF PROPOSED WATER/SEWER ADJUSTMENTS ARE NECESSARY. A MWS REPRESENTATIVE MUST BE PRESENT.
 2. PROVIDE THRUST COLLARS FOR ALL UNRESTRAINED PIPES.
 3. NO SLAB BRIDGE ROCK REINFORCING DOWELS WHEN CROSSING THE UTILITY TRENCH(ES).



STANDARD DETAILS:

Applicable details for this project include:

MWS/NDOT DETAILS:

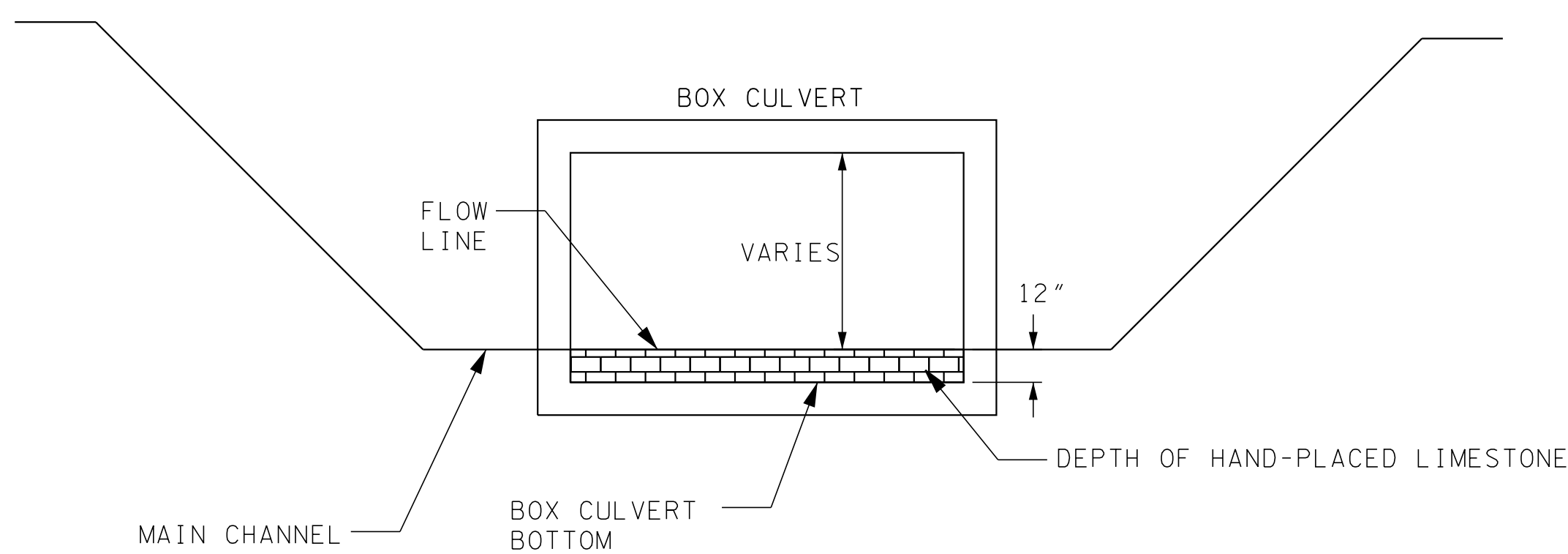
- DR-180 - TRENCH BACKFILL
- ST-252 - RESIDENTIAL MEDIUM DENSITY MINOR AND LOCAL STREET (50' ROW)
- ST-271A - RECESSED TRENCH REPAIR WITH CRUSHED STONE
- ST-324 - NEW CONSTRUCTION COMMERCIAL DRIVEWAY RAMP
- TCP-14 - WEIGHTED SEDIMENT TUBE
- TCP-15 - SAND BAG BARRIER

TDOT DETAILS:

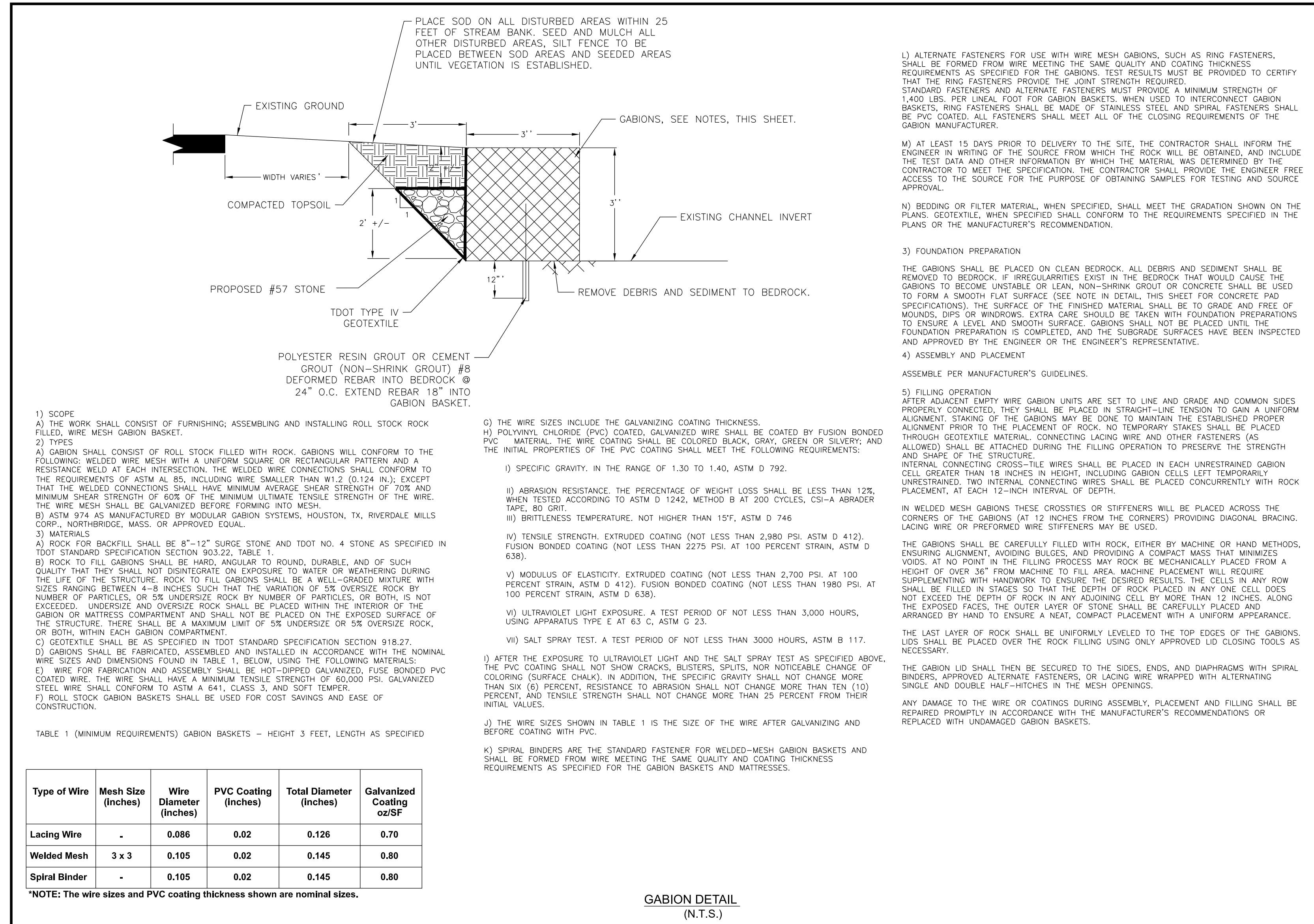
- EC-STR-2 - SEDIMENT FILTER BAG
- EC-STR-3C - SILT FENCE WITH WIRE BACKING
- EC-STR-32 - TEMPORARY DIVERSION CULVERTS
- STD-10-1 - MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS
- STD-17-1 - INDEX OF DRAWINGS
- STD-17-2 - TERMINOLOGY OF DRAWINGS
- STD-17-3 - GENERAL NOTES
- STD-17-4 - DESIGN SECTION LIMITS
- STD-17-5 - TYPICAL SECTION AND DETAILS
- STD-17-6 - TYPICAL ELEVATIONS
- STD-17-7 - CURB, RAIL & EDGE BEAM DETAILS - SKEW NOT LESS THAN 45 DEG.
- STD-17-8 - EDGE BEAM DETAILS FOR FILLS GREATER THAN 3'-6"
- STD-17-10 - TYPICAL WINGWALL DETAILS AND NOTES
- STD-17-11 - WINGWALL DIMENSIONS AND QUANTITIES
- STD-17-15 - WINGWALL & SPECIAL RETAINING WALL DESIGN SECTIONS
- STD-17-16 - WINGWALL DESIGN SECTION
- STD-17-17 - BACKFILL AND DRAINAGE DETAILS
- STD-17-18 - BACKFILL DETAILS
- STD-17-24 - WARPED SLOPE DETAIL
- STD-17-25 - STAGE CONSTRUCTION JOINT DETAIL (FILL ABOVE TOP OF SLAB NOT GREATER THAN 3'-6")
- STD-17-28 - END SECTION DETAILS
- STD-17-116 - SLAB BRIDGE, 1 BARREL AT 12', CLEAR HTS. 4'-6", 0-60' FILL
- STD-17-119 - SLAB BRIDGE, 1 BARREL AT 14', CLEAR HTS. 5'-7", 0-60' FILL
- S-GR31-1 - GUARDRAIL DETAILS
- S-GR31-1A - GUARDRAIL AND BLOCK-OUT DETAILS
- S-GRS-2 - SPECIAL CASE GUARDRAIL ATTACHMENT TO CONCRETE DECKS
- S-GRT-2 - TYPE 38 GUARDRAIL END TERMINAL
- S-GRT-2P - EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINALS
- S-GRT-3 - TYPE 21 GUARDRAIL TERMINAL
- S-GRA-3 - TYPE 13 GUARDRAIL ANCHOR
- S-PL-2 - SAFETY PLAN AT SIDE ROADS OR PRIVATE DRIVES

NOTES:

- 1) THIS DETAIL SHALL BE USED ON AN AS NEEDED BASIS. THE ENGINEER SHALL DECIDE IF A SUNKEN BOX CULVERT WILL BE CONSTRUCTED OR A SLAB BRIDGE WITH THE FOOTINGS CARRIED TO ROCK. THE DECISION SHALL BE BASED UPON THE RESULTS OF THE ROD SOUNDINGS THAT THE CONTRACTOR WILL PERFORM PER EACH PROPOSED BRIDGE LOCATION.
- 2) LIMESTONE SLAB ROCK SHALL BE HAND-PLACED IN 4" TO 6" PARTS, NOT MACHINE SPREAD. WORK SHALL BE PERFORMED "IN THE DRY". CONTRACTOR TO PROVIDE BYPASS FOR FLOW IF NECESSARY IN STRICT ACCORDANCE WITH INDIVIDUAL PROJECT ARAP.
- 3) LIMESTONE SLAB ROCK SHALL BE OBTAINED FROM A PERMITTED SOURCE AND APPROVED BY THE OWNER PRIOR TO INSTALLATION.
- 4) MATERIALS, LABOR, EQUIPMENT AND ALL INCIDENTALS TO INSTALL LIMESTONE SLAB ROCK SHALL BE PAID FOR UNDER ITEM NO. 209-03.47.



LIMESTONE SLAB ROCK CULVERT BOTTOM DETAIL
(TO BE USED WITH SUNKEN BOX CULVERTS)



- 1) SCOPE
 - A) THE WORK SHALL CONSIST OF FURNISHING; ASSEMBLING AND INSTALLING ROLL STOCK ROCK FILLED, WIRE MESH GABION BASKET.
 - 2) TYPES
 - A) GABION SHALL CONSIST OF ROLL STOCK FILLED WITH ROCK. GABIONS WILL CONFORM TO THE FOLLOWING: WELDED WIRE MESH WITH A UNIFORM SQUARE OR RECTANGULAR PATTERN AND A RESISTANCE WELD AT EACH INTERSECTION. THE WELDED WIRE CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185, INCLUDING WIRE SMALLER THAN W1.2 (0.124 IN.); EXCEPT THAT THE WELDED CONNECTIONS SHALL HAVE MINIMUM AVERAGE SHEAR STRENGTH OF 70% AND MINIMUM SHEAR STRENGTH OF 60% OF THE MINIMUM ULTIMATE TENSILE STRENGTH OF THE WIRE. THE WIRE MESH SHALL BE GALVANIZED BEFORE FORMING INTO MESH.
 - B) ASTM 974 AS MANUFACTURED BY MODULAR GABION SYSTEMS, HOUSTON, TX, RIVERDALE MILLS CORP., NORTHERIDGE, MASS. OR APPROVED EQUAL.
 - 3) MATERIALS
 - A) ROCK FOR BACKFILL SHALL BE 8"-12" SURGE STONE AND TDOT NO. 4 STONE AS SPECIFIED IN TDOT STANDARD SPECIFICATION SECTION 903.22, TABLE 1.
 - B) ROCK TO FILL GABIONS SHALL BE HARD, ANGULAR TO ROUND, DURABLE, AND OF SUCH QUALITY THAT THEY SHALL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING DURING THE LIFE OF THE STRUCTURE. ROCK TO FILL GABIONS SHALL BE A WELL-GRADED MIXTURE WITH SIZES RANGING BETWEEN 4-8 INCHES SUCH THAT THE VARIATION OF 5% OVERSIZE ROCK BY NUMBER OF PARTICLES, OR 5% UNDERSIZE ROCK BY NUMBER OF PARTICLES, OR BOTH, IS NOT EXCEEDED. UNDERSIZE AND OVERSIZE ROCK SHALL BE PLACED WITHIN THE INTERIOR OF THE GABION OR MATTRESS COMPARTMENT AND SHALL NOT BE PLACED ON THE EXPOSED SURFACE OF THE STRUCTURE. THERE SHALL BE A MAXIMUM LIMIT OF 5% UNDERSIZE OR 5% OVERSIZE ROCK, OR BOTH, WITHIN EACH GABION COMPARTMENT.
 - C) GEOTEXTILE SHALL BE AS SPECIFIED IN TDOT STANDARD SPECIFICATION SECTION 918.27.
 - D) GABIONS SHALL BE FABRICATED, ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE NOMINAL WIRE SIZES AND DIMENSIONS FOUND IN TABLE 1, BELOW, USING THE FOLLOWING MATERIALS.
 - E) WIRE FOR FABRICATION AND ASSEMBLY SHALL BE HOT-DIPPED GALVANIZED, FUSE BONDED PVC COATED WIRE. THE WIRE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 60,000 PSI. GALVANIZED STEEL WIRE SHALL CONFORM TO ASTM A 641, CLASS 3, AND SOFT TEMPER.
 - F) ROLL STOCK GABION BASKETS SHALL BE USED FOR COST SAVINGS AND EASE OF CONSTRUCTION.
 - 2) THE WIRE SIZES INCLUDE THE GALVANIZING COATING THICKNESS.
 - H) POLYVINYL CHLORIDE (PVC) COATED, GALVANIZED WIRE SHALL BE COATED BY FUSION BONDED PVC MATERIAL. THE WIRE COATING SHALL BE COLORED BLACK, GRAY, GREEN OR SILVERY; AND THE INITIAL PROPERTIES OF THE PVC COATING SHALL MEET THE FOLLOWING REQUIREMENTS:
 - I) SPECIFIC GRAVITY, IN THE RANGE OF 1.30 TO 1.40, ASTM D 792.
 - II) ABRASION RESISTANCE, THE PERCENTAGE OF WEIGHT LOSS SHALL BE LESS THAN 12%, WHEN TESTED ACCORDING TO ASTM D 1242, METHOD B AT 200 CYCLES, CSI-A ABRADER TAPE, 80 GRIT.
 - III) BRITTLINESS TEMPERATURE, NOT HIGHER THAN 15°F, ASTM D 746
 - IV) TENSILE STRENGTH, EXTRUDED COATING (NOT LESS THAN 2,980 PSI, ASTM D 412), FUSION BONDED COATING (NOT LESS THAN 2275 PSI, AT 100 PERCENT STRAIN, ASTM D 638).
 - V) MODULUS OF ELASTICITY, EXTRUDED COATING (NOT LESS THAN 2,700 PSI, AT 100 PERCENT STRAIN, ASTM D 412), FUSION BONDED COATING (NOT LESS THAN 1980 PSI, AT 100 PERCENT STRAIN, ASTM D 638).
 - VI) ULTRAVIOLET LIGHT EXPOSURE, A TEST PERIOD OF NOT LESS THAN 3,000 HOURS, USING APPARATUS TYPE E AT 63 C, ASTM G 23.
 - VII) SALT SPRAY TEST, A TEST PERIOD OF NOT LESS THAN 3000 HOURS, ASTM B 117.
 - 3) FOUNDATION PREPARATION

THE GABIONS SHALL BE PLACED ON CLEAN BEDROCK. ALL DEBRIS AND SEDIMENT SHALL BE REMOVED TO BEDROCK; IF IRREGULARITIES EXIST IN THE BEDROCK THAT WOULD CAUSE THE GABIONS TO BECOME UNSTABLE OR LEAN, NON-SHRINK GROUT OR CONCRETE SHALL BE USED TO FORM A SMOOTH FLAT SURFACE (SEE NOTE IN DETAIL, THIS SHEET FOR CONCRETE PAD SPECIFICATIONS). THE SURFACE OF THE FINISHED MATERIAL SHALL BE TO GRADE AND FREE OF MOUNDS, DIPS OR WINDROWS. EXTRA CARE SHOULD BE TAKEN WITH FOUNDATION PREPARATIONS TO ENSURE A LEVEL AND SMOOTH SURFACE. GABIONS SHALL NOT BE PLACED UNTIL THE FOUNDATION PREPARATION IS COMPLETED, AND THE SUBGRADE SURFACES HAVE BEEN INSPECTED AND APPROVED BY THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE.
 - 4) ASSEMBLY AND PLACEMENT

ASSEMBLE PER MANUFACTURER'S GUIDELINES.
 - 5) FILLING OPERATION

AFTER ADJACENT EMPTY WIRE GABION UNITS ARE SET TO LINE AND GRADE AND COMMON SIDES PROPERLY CONNECTED, THEY SHALL BE PLACED IN STRAIGHT-LINE TENSION TO GAIN A UNIFORM ALIGNMENT. STAKING OF THE GABIONS MAY BE DONE TO MAINTAIN THE ESTABLISHED PROPER ALIGNMENT PRIOR TO THE PLACEMENT OF ROCK. NO TEMPORARY STAKES SHALL BE PLACED THROUGH GEOTEXTILE MATERIAL, CONNECTING LACING WIRE AND OTHER FASTENERS (AS ALLOWED) SHALL BE ATTACHED DURING THE FILLING OPERATION TO PRESERVE THE STRENGTH AND SHAPE OF THE STRUCTURE. INTERNAL CONNECTING CROSS-TILE WIRES SHALL BE PLACED IN EACH UNRESTRAINED GABION CELL GREATER THAN 18 INCHES IN HEIGHT, INCLUDING GABION CELLS LEFT TEMPORARILY UNRESTRAINED. TWO INTERNAL CONNECTING WIRES SHALL BE PLACED CONCURRENTLY WITH ROCK PLACEMENT, AT EACH 12-INCH INTERVAL OF DEPTH.

IN WELDED MESH GABIONS THESE CROSSTIES OR STIFFENERS WILL BE PLACED ACROSS THE CORNERS OF THE GABIONS (AT 12 INCHES FROM THE CORNERS) PROVIDING DIAGONAL BRACING. LACING WIRE OR PREFORMED WIRE STIFFENERS MAY BE USED.

THE GABIONS SHALL BE CAREFULLY FILLED WITH ROCK, EITHER BY MACHINE OR HAND METHODS, ENSURING ALIGNMENT, AVOIDING BULGES, AND PROVIDING A COMPACT MASS THAT MINIMIZES VOIDS. AT NO POINT IN THE FILLING PROCESS MAY ROCK BE MECHANICALLY PLACED FROM A HEIGHT OF OVER 36" FROM MACHINE TO FILL AREA. MACHINE PLACEMENT WILL REQUIRE SUPPLEMENTING WITH HANDWORK TO ENSURE THE DESIRED RESULTS. THE CELLS IN ANY ROW SHALL BE FILLED IN STAGES SO THAT THE DEPTH OF ROCK PLACED IN ANY ONE CELL DOES NOT EXCEED THE DEPTH OF ROCK IN ANY ADJOINING CELL BY MORE THAN 12 INCHES. ALONG THE EXPOSED FACES, THE OUTER LAYER OF STONE SHALL BE CAREFULLY PLACED AND ARRANGED BY HAND TO ENSURE A NEAT, COMPACT PLACEMENT WITH A UNIFORM APPEARANCE.

THE LAST LAYER OF ROCK SHALL BE UNIFORMLY LEVELED TO THE TOP EDGES OF THE GABIONS. LIDS SHALL BE PLACED OVER THE ROCK FILLING USING ONLY APPROVED LID CLOSING TOOLS AS NECESSARY.

THE GABION LID SHALL THEN BE SECURED TO THE SIDES, ENDS, AND DIAPHRAGMS WITH SPIRAL BINDERS, APPROVED ALTERNATE FASTENERS, OR LACING WIRE WRAPPED WITH ALTERNATING SINGLE AND DOUBLE HALF-HITCHES IN THE MESH OPENINGS.

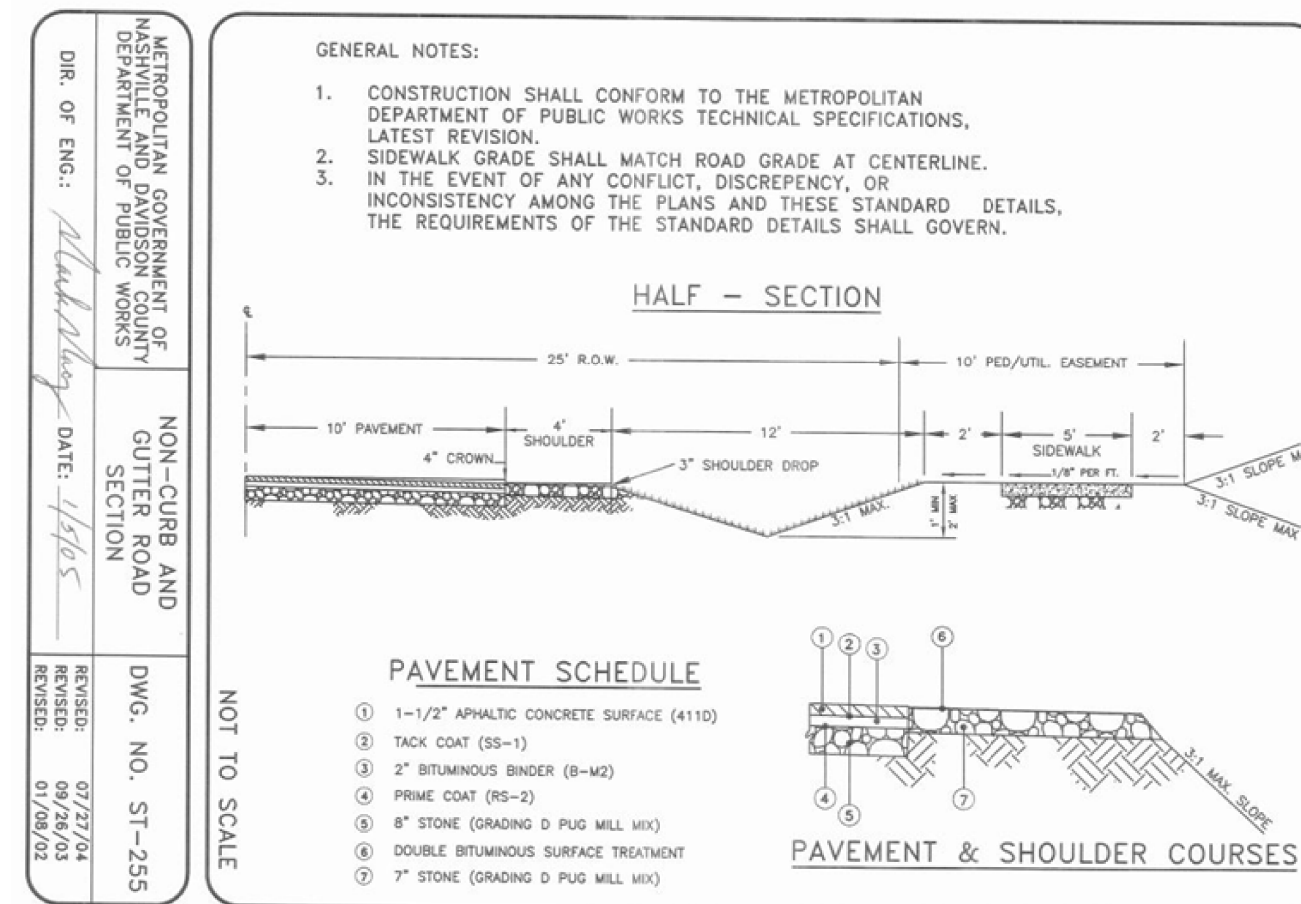
ANY DAMAGE TO THE WIRE OR COATINGS DURING ASSEMBLY, PLACEMENT AND FILLING SHALL BE REPAIRED PROMPTLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR REPLACED WITH UNDAMAGED GABION BASKETS.
 - 6) THE WIRE SIZES SHOWN IN TABLE 1 IS THE SIZE OF THE WIRE AFTER GALVANIZING AND BEFORE COATING WITH PVC.
 - K) SPIRAL BINDERS ARE THE STANDARD FASTENER FOR WELDED-MESH GABION BASKETS AND SHALL BE FORMED FROM WIRE MEETING THE SAME QUALITY AND COATING THICKNESS REQUIREMENTS AS SPECIFIED FOR THE GABION BASKETS AND MATTRESSES.

TABLE 1 (MINIMUM REQUIREMENTS) GABION BASKETS - HEIGHT 3 FEET, LENGTH AS SPECIFIED

| Type of Wire | Mesh Size (inches) | Wire Diameter (inches) | PVC Coating (inches) | Total Diameter (inches) | Galvanized Coating oz/SF |
|---------------|--------------------|------------------------|----------------------|-------------------------|--------------------------|
| Lacing Wire | - | 0.086 | 0.02 | 0.126 | 0.70 |
| Welded Mesh | 3 x 3 | 0.105 | 0.02 | 0.145 | 0.80 |
| Spiral Binder | - | 0.105 | 0.02 | 0.145 | 0.80 |

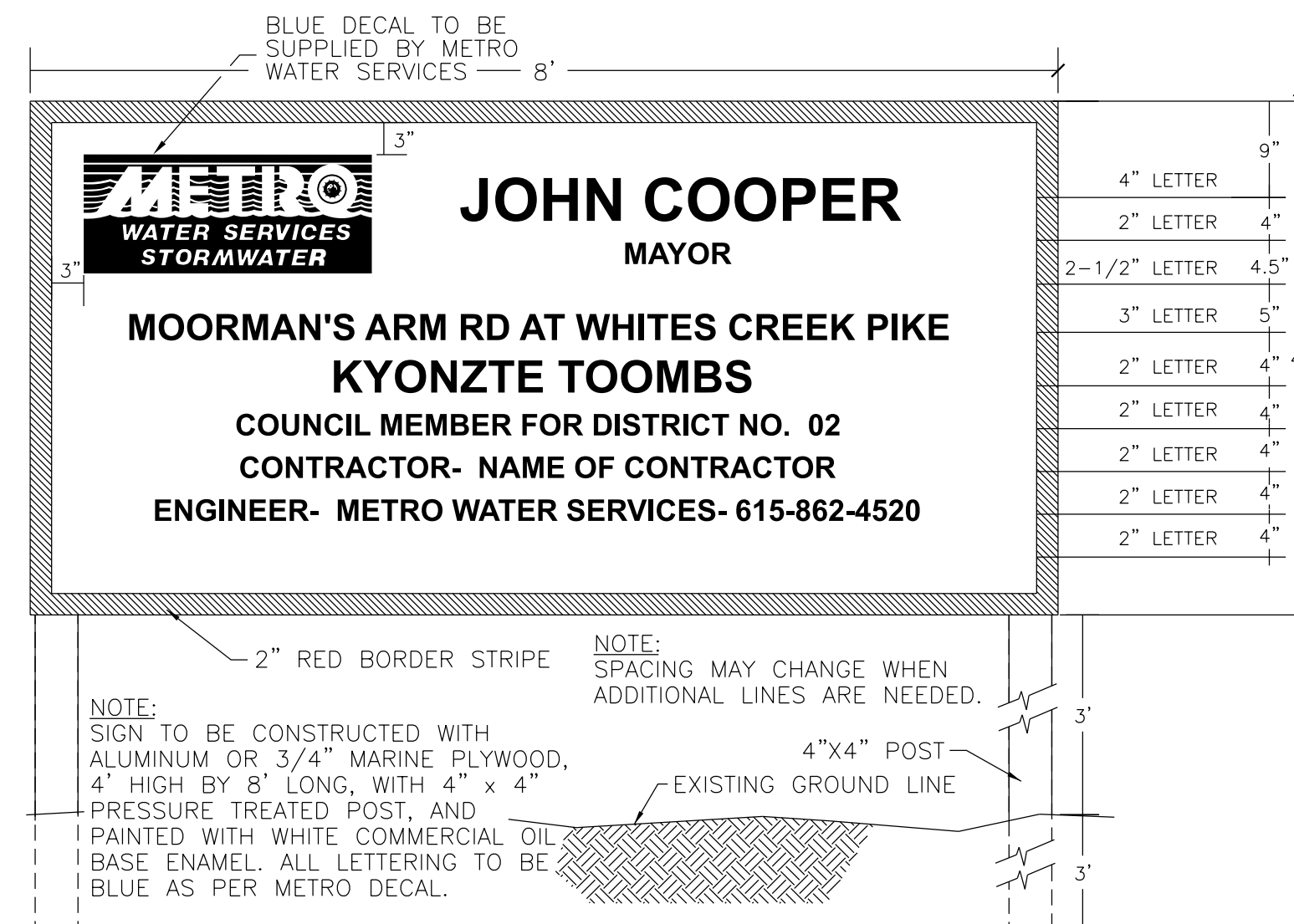
*NOTE: The wire sizes and PVC coating thickness shown are nominal sizes.

GABION DETAIL
(N.T.S.)



NOTES:

- 1) ASPHALT WIDTH SHALL MATCH EXISTING.
- 2) THE 4' SHOULDER SHALL BE OMITTED.

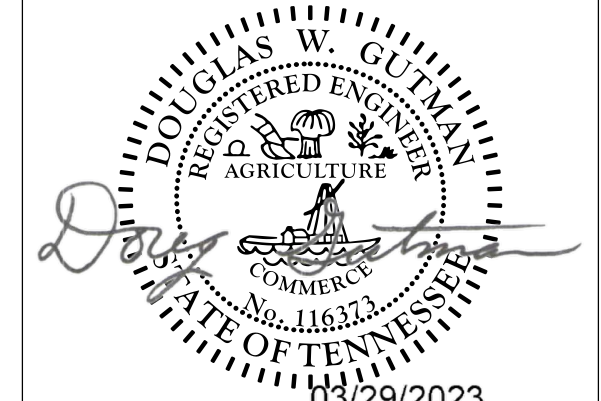


PROJECT SIGN DETAIL #1
(N.T.S.)

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METRO WATER SERVICES
MAINTENANCE DIVISION

**MOORMANS ARM
ROAD
STORMWATER
IMPROVEMENTS**

STANDARD DETAILS

SCALE: N.T.S.

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