

**APPENDIX C**

**EROSION AND SEDIMENT CONTROL**

# UTILITY PLAN FOR: SIDEWINDER RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA



# INTEGRITY

## FEDERAL SERVICES

CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • PLANNING

148 S. Queen Street, Suite 201 • Phone: 304-725-8456  
Martinsburg, WV 25401 • [www.ifs-ae.com](http://www.ifs-ae.com)

SYSTEM OWNER/OPERATOR  
CHARLES TOWN UTILITY BOARD  
661 S. GEORGE ST.  
CHARLES TOWN, WV 25414  
(304)724-3281



Know what's **below**.  
**Call** before you dig

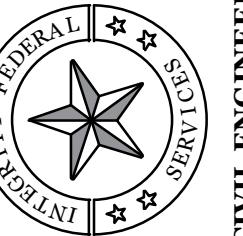
| Sheet List Table |                                              |
|------------------|----------------------------------------------|
| Sheet Number     | Sheet Title                                  |
| 01               | COVER SHEET                                  |
| 02               | GENERAL NOTES                                |
| 03               | WATER DETAILS                                |
| 04               | WVDOH NOTES AND DETAILS                      |
| 05               | PAVING DETAILS                               |
| 06               | OVERALL PLAN VIEW                            |
| 07               | WATER LINE PLAN AND PROFILE                  |
| 08               | WATER LINE PLAN AND PROFILE                  |
| 09               | WATER LINE PLAN AND PROFILE                  |
| 10               | WATER LINE PLAN AND PROFILE                  |
| 11               | WATER LINE PLAN AND PROFILE                  |
| 12               | WATER LINE PLAN AND PROFILE                  |
| 13               | WATER LINE PLAN AND PROFILE                  |
| 14               | EROSION AND SEDIMENT CONTROL NOTES & DETAILS |
| 15               | EROSION AND SEDIMENT CONTROL NOTES & DETAILS |

**VICINITY MAP**

SCALE: 1"=2,000'

Map details include:

- Waterline Construction:** Indicated by a dashed line with cross-ticks.
- Roads:** WV Route 1, 26, 28, 901, 99, 983, 979, 908, 907, 905, 904, 903, 16, 19, 18, 17.
- Geographic Features:** Turkey Run, Middleway Pike, Old Middleway Road.
- Scale:** 1"=2,000'



**INTEGRITY**  
**FEDERAL SERVICES**



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SEAL:

|           |                                    |
|-----------|------------------------------------|
| 1.        | REVISIONS PER WIDOW COMMENTS       |
| 2.        | REVISIONS PER WIDOW COMMENTS       |
| 3.        | REVISIONS PER WIDOW COMMENTS       |
| 4.        | REVISIONS PER WIDOW COMMENTS       |
| 5.        | REVISIONS FOR WIDOW RE-APPLICATION |
| REVISIONS |                                    |
|           |                                    |
|           |                                    |
|           |                                    |

COVER SHEET

# SIDEWINDER RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA

## LIST OF APPROVALS

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS:  
PERMIT # \_\_\_\_\_  
DATED: \_\_\_\_\_

WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES  
STATE HEALTH PERMITS BUREAU FOR PUBLIC HEALTH:  
PERMIT # : 21,281  
DATE: 04-25-2024

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WW/NPDES PERMIT # : \_\_\_\_\_

## REVISIONS

| NO. | SHEET NUMBER AND REVISION DESCRIPTION               | DATE       |
|-----|-----------------------------------------------------|------------|
| 1.  | ALL SHEETS-REVISIONS PER WVDH COMMENTS              | 05/16/2023 |
| 2.  | SHEETS 2, 6-12 - REVISIONS PER WVDH COMMENTS        | 06/05/2023 |
| 3.  | SHEETS 3, 7 - REVISIONS PER WVDH COMMENTS           | 06/15/2023 |
| 4.  | SHEETS 5, 6, 7 - REVISIONS PER WVDH COMMENTS        | 08/29/2023 |
| 5.  | SHEETS 1, 12-15 - REVISIONS FOR WVDH RE-APPLICATION | 11/13/2025 |

|        |                       |
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| SCALE: | HORIZ.: N/A<br>VERT.: |
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DATE: AUGUST 2023

OB: 3138-0102

DRAWN: RJP | CHECK: JPG

ADD: C-GI-001.DWG

ICS:

**SHEET:**

01 OF 15

GENERAL NOTES:

1. THE PROPOSED SITE IMPROVEMENTS FOR 'SIDEWINDER RAW WATERLINE' INCLUDE, BUT ARE NOT LIMITED TO, THE CONSTRUCTION OF APPROXIMATELY 8,800' OF WATERLINE.
2. THE TOPOGRAPHIC CONTOUR INTERVAL IS TWO (2) FEET. TOPOGRAPHIC INFORMATION WAS COMPILED FROM A FIELD TOPOGRAPHIC SURVEY PERFORMED BY FOX AND ASSOCIATES IN MAY OF 2022.
3. CHANGES OR REVISIONS IN CONSTRUCTION PLANS AND SPECIFICATIONS SHALL NOT BE MADE UNLESS FIRST APPROVED BY CHARLES TOWN UTILITY BOARD AND/OR OTHER APPROPRIATE AGENCIES.
4. APPROPRIATE EASEMENTS SHALL BE GIVEN TO CHARLES TOWN UTILITY BOARD FOR THE PURPOSE OF MAINTAINING WATERLINES AND FACILITIES.
5. INSTALLATION AND MAINTENANCE OF WATERLINES SHALL BE IN ACCORDANCE WITH THE WEST VIRGINIA DEPARTMENT OF HEALTH AND CHARLES TOWN UTILITY BOARD REGULATIONS.
6. WATER LINES SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND UTILITY CONNECTION LOCATIONS.
7. ALL WATER LINES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4.0'.
8. SEE SHEET 01 FOR LEGEND OF SYMBOLS USED HERIN.

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 811 OR 1-800-245-4848 A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR OTHER EARTH DISTURBING ACTIVITIES WITHIN PUBLIC RIGHT-OF-WAYS OR WITHIN AREAS SERVED BY UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE PRESENCE OF ANY UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
2. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE IS NO EVIDENCE OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL ON THIS PROPERTY. THERE ARE NO KNOWN CEMETERIES, ARCHEOLOGICAL SITES, NATURAL FEATURES, NOR HISTORIC SITES LISTED, OR DETERMINED TO BE ELIGIBLE, OR WHICH THE OWNER HAS REASON TO BELIEVE MAY BE ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES WITHIN THE CONSTRUCTION LIMITS.
3. INTEGRITY FEDERAL SERVICES DOES NOT CERTIFY TO THE LOCATION OF OR THE EXISTENCE OF ANY EXISTING UNDERGROUND UTILITIES. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THIS DOES NOT CONSTITUTE A GUARANTEE OF THEIR ACTUAL LOCATIONS OR THAT THEY HAVE ALL BEEN SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY THEIR FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLAN, THEY SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND INSURE THE CONTINUANCE OF SERVICE. IF NECESSARY, THE SITE PLAN WILL BE MODIFIED TO ELIMINATE THE CONFLICT AT THE DEVELOPER'S EXPENSE.
4. INTEGRITY FEDERAL SERVICES DOES NOT CERTIFY TO THE SUB-SURFACE CONDITIONS OF THE SITE, THE LOCATION OF UNDERLYING ROCK, OR THE LOCATION OF POTENTIAL SINKHOLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES TO VERIFY SUB-SURFACE CONDITIONS PRIOR TO BEGINNING ANY CONSTRUCTION. IF SINKHOLES ARE FOUND IN THE FIELD, REMEDIATION WILL BE REQUIRED AS SPECIFIED BY THE WVDEP AND/OR A QUALIFIED GEOTECHNICAL ENGINEERING FIRM.
5. EROSION AND SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO ANY CONSTRUCTION. REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR PHASING AND DETAILS.
6. ALL LAND, ON OR OFF SITE, WHICH IS DISTURBED BY THIS DEVELOPMENT, AND WHICH IS NOT BUILT UPON OR SURFACED, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION.
7. DEVELOPMENT OF THE SITE INCLUDING CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE TO CURRENT CHARLES TOWN UTILITY BOARD, AND THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS STANDARDS AND SPECIFICATIONS.
8. ALL TESTS, STUDIES, ETC., REQUIRED DURING CONSTRUCTION WILL BE CARRIED OUT BY A THIRD PARTY ENGINEERING FIRM AND PAID FOR BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS REQUIRED FOR CONSTRUCTION.
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING THE RIGHT-OF-WAY, AND IT IS THE CONTRACTORS RESPONSIBILITY TO CLEAN STREETS OF MUD AND/OR ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN AND DUST FREE CONDITION AT ALL TIMES.
11. THE CONTRACTOR SHALL NOTIFY OPERATORS WHO MAINTAIN EXISTING UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.
12. THE CLIENT, CONTRACTOR, AND/OR SURVEYOR SHALL BE RESPONSIBLE FOR NOTIFYING INTEGRITY FEDERAL SERVICES OF ANY CONDITIONS FOUND IN THE FIELD THAT VARY FROM WHAT IS SHOWN ON THE APPROVED PLANS. OBSERVATIONS REGARDING APPARENT INCONSISTENCIES IN THE PLANS SHALL BE BROUGHT TO INTEGRITY FEDERAL SERVICES'S ATTENTION FOR VERIFICATION PRIOR TO TAKEOUT.
13. THE CLIENT AND CONTRACTOR ARE RESPONSIBLE FOR REVIEWING THE PLANS PRIOR TO CONSTRUCTION AND NOTIFYING INTEGRITY FEDERAL SERVICES OF ANY CIRCUMSTANCES FOUND WITHIN THESE PLANS IN NEED OF VERIFICATION SO THAT APPROPRIATE REVISIONS CAN BE MADE, IF WARRANTED.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH PERFORMANCE OF ITS WORK AND THE WORK OF ITS SUBCONTRACTORS. INTEGRITY FEDERAL SERVICES SHALL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
15. THE CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY EXISTING CONDITIONS AND GRADES PRIOR TO STARTING CONSTRUCTION.
16. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL APPLICABLE VEGETATION, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR COORDINATING ANY DISCONNECTION AND/OR ABANDONMENT OF EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND ABANDONING ALL EXISTING WELLS AND/OR SEPTIC DRAIN FIELDS AND COORDINATING THEIR ABANDONMENT WITH THE HEALTH DEPARTMENT
17. ALL PROPOSED GRADES AS SHOWN HEREIN ARE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLAN.
18. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF ONE (1) FOOT SIX (6) INCHES BETWEEN CROSSINGS OF ALL UTILITY LINES UNLESS OTHERWISE NOTED.
19. THE APPROVAL OF THESE PLANS SHALL IN NO WAY GRANT PERMISSION BY THE APPROVING JURISDICTION FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
20. WHERE THE ORDINANCES DIFFER BETWEEN LOCAL, STATE, AND FEDERAL REQUIREMENTS, THE MOST RESTRICTIVE SHALL APPLY.
21. CONTRACTOR TO REFERENCE GEOTECHNICAL REPORT OR A PROFESSIONAL ENGINEER OR CERTIFIED TECHNICIAN FOR SUITABLE BACKFILL MATERIAL REQUIREMENTS AND COMPACTION REQUIREMENTS. CBR TESTS SHALL BE PERFORMED PRIOR TO DETERMINATION OF FINAL SUBGRADE ELEVATION FOR PAVEMENT AREAS. SOILS TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED PAVEMENT SECTION THICKNESS PRIOR TO CONSTRUCTION. ALL SUBGRADE SHALL BE COMPACTED TO THE PERCENTAGES OF MAXIMUM DRY DENSITY (AASHTO T99C) UNLESS OTHERWISE DIRECTED BY AN APPROVED GEOTECHNICAL REPORT.

STANDARD W.V.D.O.H. NOTES:

1. ALL UTILITIES, INCLUDING ALL POLES, ARE TO BE RELOCATED AS NECESSARY AT EITHER THE DEVELOPER OR UTILITY OWNER'S EXPENSE PRIOR TO CONSTRUCTION.
2. THE DEVELOPER IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH OCCUR AS A RESULT OF PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO EXISTING RIGHT-OF-WAY.
3. OPEN CUTTING OF PAVED OR SURFACE TREATED STATE ROADS IS NOT PERMITTED UNLESS APPROVED BY THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION.
4. THE DEVELOPER IS RESPONSIBLE FOR ALL TRAFFIC CONTROL.
5. IF APPLICABLE, A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE FONDING OF ANY WATER IN THE ROADWAY.
6. OVERLAY OF EXISTING PAVEMENT SHALL BE A MINIMUM OF 1.5". ANY COSTS ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
7. STORMWATER DITCHES SHALL BE SEEDED AND MULCHED TO ACHIEVE STABILIZATION. ADDITIONAL DITCH LININGS SHALL BE PROVIDED IF WARRANTED TO ACHIEVE STABILIZATION.
8. ALL TRAFFIC CONTROL SIGNS AND THE MAINTENANCE OF TRAFFIC SHALL COMPLY WITH THE STANDARDS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION.
9. IF APPLICABLE, ALL GUARDRAILS SHALL BE IN ACCORDANCE WITH WVDOH STANDARD DETAILS BOOK VOLUME 1. THE GUARDRAIL POST SHALL BE PRESSURE-TREATED.
10. CONTRACTOR SHALL CONTACT WVDOH AT LEAST 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN WVDOH RIGHT-OF-WAY.

GENERAL C.T.U.B. UTILITY NOTES:

1. REFER TO THE CHARLES TOWN UTILITY BOARD (CTUB) WATER SYSTEM SPECIFICATIONS DATED APRIL 2015, SANITARY SEWER SYSTEM SPECIFICATIONS DATED MAY 2016, AND THE LATEST MODIFICATIONS OR REVISIONS THERETO, FOR WATER MAIN AND SANITARY SEWER CONSTRUCTION METHODS, MATERIALS, FIELD QUALITY CONTROL, AND FOR ALL DETAILS AND SPECIFICATIONS FOR ALL WATER LINES AND SANITARY SEWER LINES TO BE SERVED BY THE CHARLES TOWN UTILITY BOARD.
2. SEPARATION OF WATER MAINS / SANITARY SEWERS: ALL NEW WATER MAINS SHALL CONFORM TO THE WEST VIRGINIA BUREAU FOR PUBLIC HEALTH, OFFICE OF ENVIRONMENTAL HEALTH SERVICES, ENVIRONMENTAL ENGINEERING DIVISION, PUBLIC WATER SYSTEM DESIGN STANDARDS 64CSR77 10.7 SEPARATION OF WATER MAINS, SANITARY SEWERS AND STORM SEWERS INCLUDING:
  - A. PARALLEL INSTALLATION - WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
  - B. CROSSINGS - WATER MAINS SHALL CROSS ABOVE SEWERS AND SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND TOP OF THE SEWER. AT CROSSINGS, ONE FULL LENGTH (20 FEET) OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
  - C. HORIZONTAL SEPARATION - A MINIMUM OF 10 FEET SEPARATION BETWEEN SEWER LINES AND WATER LINES MUST BE MAINTAINED. IN CASES WHERE THE 10 FEET MINIMUM CANNOT BE MAINTAINED, THE SEWER PIPE SHALL BE 18" LOWER THAN THE WATER LINE AND CONSTRUCTED OF A PRESSURE TYPE PIPE. WHEN LINES ARE PLACED WITHIN 5 FEET OF EACH OTHER, PERMANENT IDENTIFICATION TAPE MUST BE BURIED DIRECTLY ABOVE THE LINES DENOTING "SEWER LINE" OR POTABLE WATER LINE.
  - D. VERTICAL SEPARATION - A MINIMUM OF 18" OF SEPARATION BETWEEN THE TOP OF THE SEWER LINES AND THE BOTTOM OF WATER LINES MUST BE MAINTAINED. IN CASES WHERE THE 18" CANNOT BE MAINTAINED, THE SEWER LINE SHALL CROSS AT MIDPOINT OF A 20' LONG JOINT OF THE WATER LINE AND BE CONSTRUCTED OF PRESSURE TYPE PIPE. A SEWER LINE SHALL NOT BE CONSTRUCTED OVER TOP OF A WATER LINE. IF THE STANDARD VERTICAL INSTALLATION REQUIREMENTS CANNOT BE MAINTAINED, THE SEWER LINE SHALL BE ENCASED SO THAT THE CASING EXTENDS AT LEAST 15 FEET EACH SIDE OF THE CROSSING WITH A MINIMUM OF 18" VERTICAL SEPARATION.
3. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN THE WATER DISTRIBUTION SYSTEM AND A SANITARY SEWER SYSTEM; ANY PIPES, PUMPS, HYDRANTS OR TANKS WHEREBY UNSAFE WATER OR OTHER CONTAMINATING MATERIALS MAY BE DISCHARGED OR DRAWN INTO THE SYSTEM.
4. PIPE BEDDING - NO. 8 OR NO. 10 LIMESTONE SHALL BE USED FOR ALL PIPE BEDDING UNLESS OTHERWISE APPROVED BY CTUB. ALL WATER MAIN, SANITARY SEWER MAIN AND SANITARY LATERALS SHALL BE INSTALLED WITH MINIMUM 6" BEDDING BELOW PIPE AND 12" OVER PIPE.
5. REFER TO THE CTUB WATER SYSTEM & SEWER SYSTEM SPECIFICATIONS, AND THE LATEST MODIFICATIONS OR REVISIONS THERETO, FOR:
  - A LIST OF MATERIALS REPRESENTING THE MINIMUM REQUIREMENTS ACCEPTABLE FOR USE BY CTUB.
  - ALL PIPE, FITTINGS, AND OTHER RELATED MATERIALS USED IN THE CONSTRUCTION OF LINES
  - FIRE HYDRANT STANDARDS AND SPECIFICATIONS
  - DISINFECTING NEW AND REPAIRED WATER MAINS. (ALL NEW WATER MAINS SHALL BE DISINFECTED BEFORE THEY ARE PLACED IN SERVICE. ALL WATER MAINS TAKEN OUT OF SERVICE FOR INSPECTING, REPAIRING, OR OTHER ACTIVITY THAT MIGHT LEAD TO CONTAMINATION OF WATER SHALL BE DISINFECTED BEFORE THEY ARE RETURNED TO SERVICE)
  - GRAVITY SEWER CONSTRUCTION METHODS & PIPELINE TESTING.
  - MANHOLES SUBMITTALS, DELIVERY, STORAGE & HANDLING, INSPECTION, PREPARATION, CONSTRUCTION METHODS, AND VACUUM TESTING.
  - CAST IN-PLACE CONCRETE SPECIFICATIONS AND REQUIREMENTS.

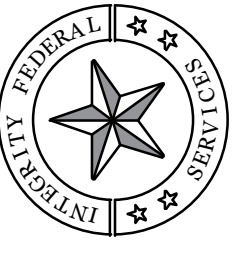
WATER:

1. INSTALLATION OF MAINS:
  - A. BEFORE ANY PIPE IS INSTALLED IN TRENCHES, IT SHALL BE INSPECTED FOR DAMAGE AND THE INSIDE OF THE PIPE SHALL BE SWABBED TO REMOVE LOOSE DIRT AND FOREIGN OBJECTS. NO DAMAGED PIPE WILL BE PERMITTED TO BE INSTALLED.
  - B. BEDDING: CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN THE TRENCH FOR ALL BURIED PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. STONES FOUND IN THE TRENCH SHALL BE REMOVED FOR A DEPTH OF AT LEAST 6" BELOW THE BOTTOM OF THE PIPE. SEE TYPICAL WATER LINE TRENCH DETAIL.
  - C. COVER: ALL WATER MAINS SHALL BE COVERED WITH A MINIMUM OF 48" OF EARTH COVERING TO PREVENT FREEZING. ALL MAINS LESS THAN 8" IN DIAMETER AND WITHIN 5 FEET OF A HEAVILY TRAVELED HIGHWAY SHALL HAVE A MINIMUM OF 42" OF COVERING.
  - D. BLOCK: ALL TEES, BENDS, PLUGS AND HYDRANTS SHALL BE PROVIDED WITH TIE RODS OR JOINTS DESIGNED TO PREVENT MOVEMENT.
  - E. PRESSURE AND LEAKAGE TESTING: ALL TYPES OF INSTALLED PIPE SHALL BE PRESSURE TESTED AND LEAK TESTED IN ACCORDANCE WITH AWWA STANDARD C600. DEVELOPER SHALL SUBMIT PLAN OF PROPOSED TESTING.
  - F. DISINFECTION: ALL NEW, CLEANED OR REPAIRED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651. THE SPECIFICATIONS SHALL INCLUDE MICROBIOLOGICAL TESTING OF ALL WATER MAINS.
  - G. ALL NON-METALIC MAINS SHALL BE PROVIDED WITH TRACER WIRE OR METALLIC TAPE; AS DIRECTED BY CTUB.
2. WATER SERVICE LINES SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON BUILDING ARCHITECTURAL DRAWINGS AND UTILITY CONNECTION LOCATIONS.

GOV'T. AGENCIES/UTILITIES:

- WATER & SEWER  
CHARLES TOWN UTILITY BOARD  
661 S. GEORGE STREET, SUITE 101  
CHARLES TOWN, WV 25414  
(304) 725-2316
- ELECTRIC  
THE POTOMAC EDISON COMPANY  
18444 NORTHWESTERN TURNPIKE  
AUGUSTA, WV 26704  
(800) 686-0011
- TELECOMMUNICATIONS  
FRONTIER COMMUNICATIONS  
1108 N. MILDRED STREET  
RANSON, WV 25438  
(304) 728-8500
- GAS  
MOUNTAINEER GAS  
67 AERO STREET  
MARTINSBURG, WV 25401  
(800) 834-2070
- TRANSPORTATION  
WEST VIRGINIA DIVISION OF HIGHWAYS,  
DISTRICT FIVE  
2120 NORTHWESTERN TURNPIKE  
BURLINGTON, WV 26710  
(304) 289-3521
- OTHER  
MISS UTILITY  
5608 MACCORKLE AVE. SW  
SOUTH CHARLESTON, WV 25309  
(800) 245-4848 OR 811

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SEAL:

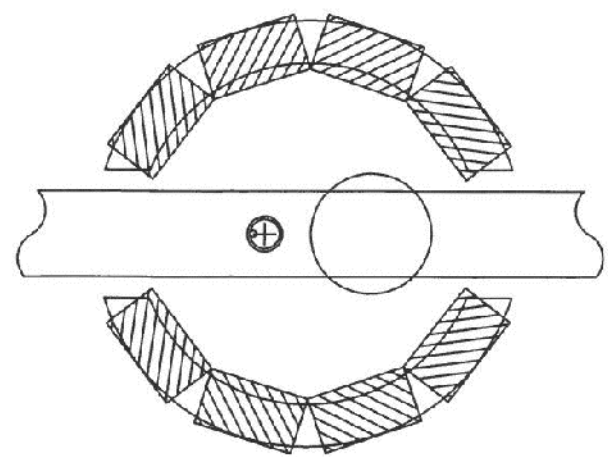
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| 1. | REVISIONS PER WVDOH COMMENTS       |  |  |  |           |  |
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| 4. | REVISIONS PER WVDOH COMMENTS       |  |  |  |           |  |
| 5. | REVISIONS FOR WVDOH RE-APPLICATION |  |  |  |           |  |
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GENERAL NOTES

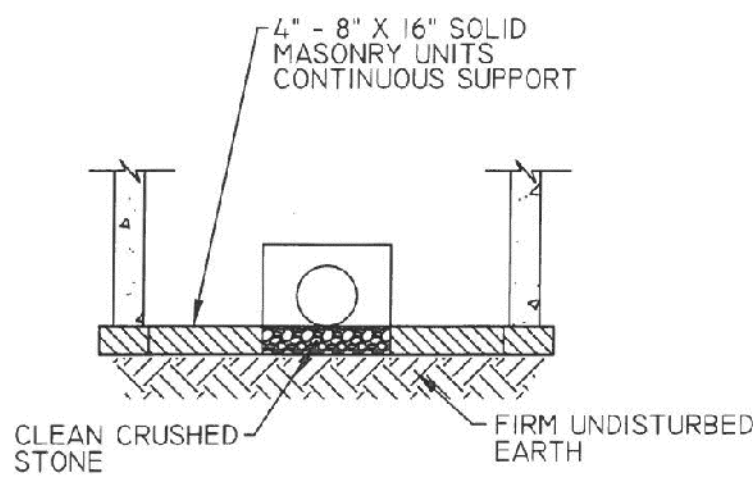
SIDEWINDER  
RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA

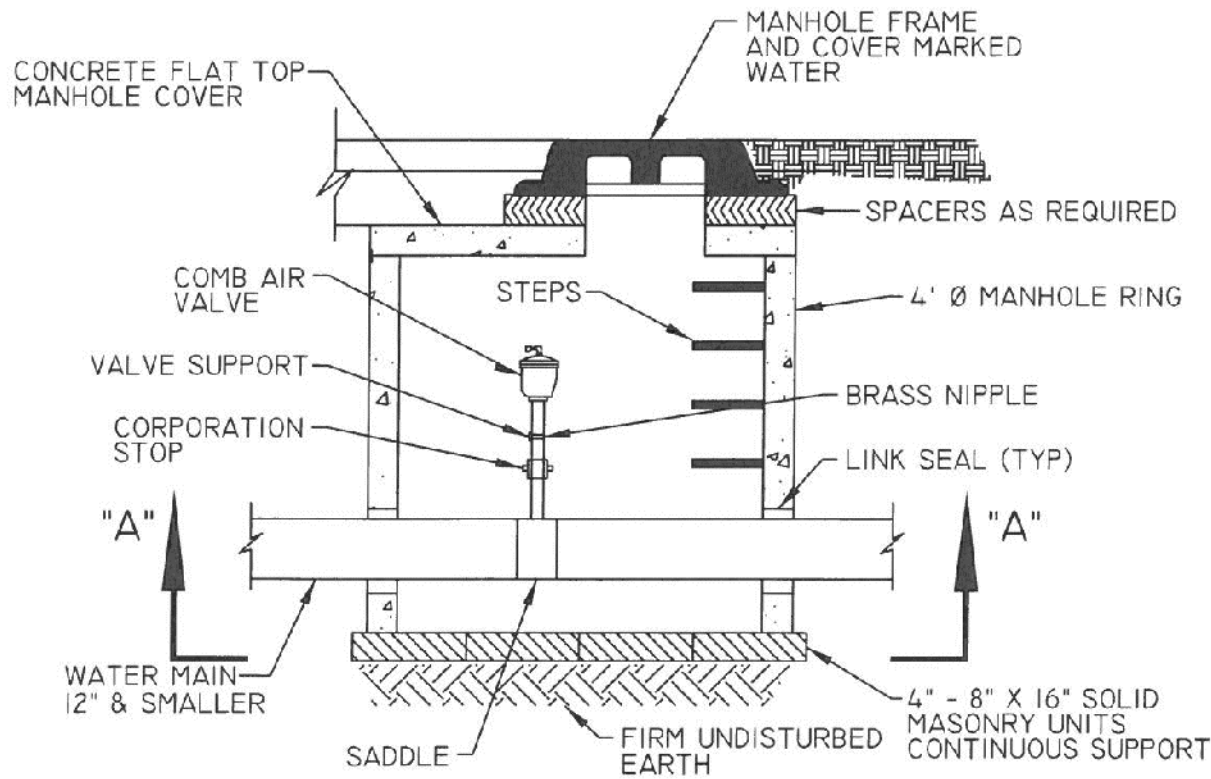
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PLAN



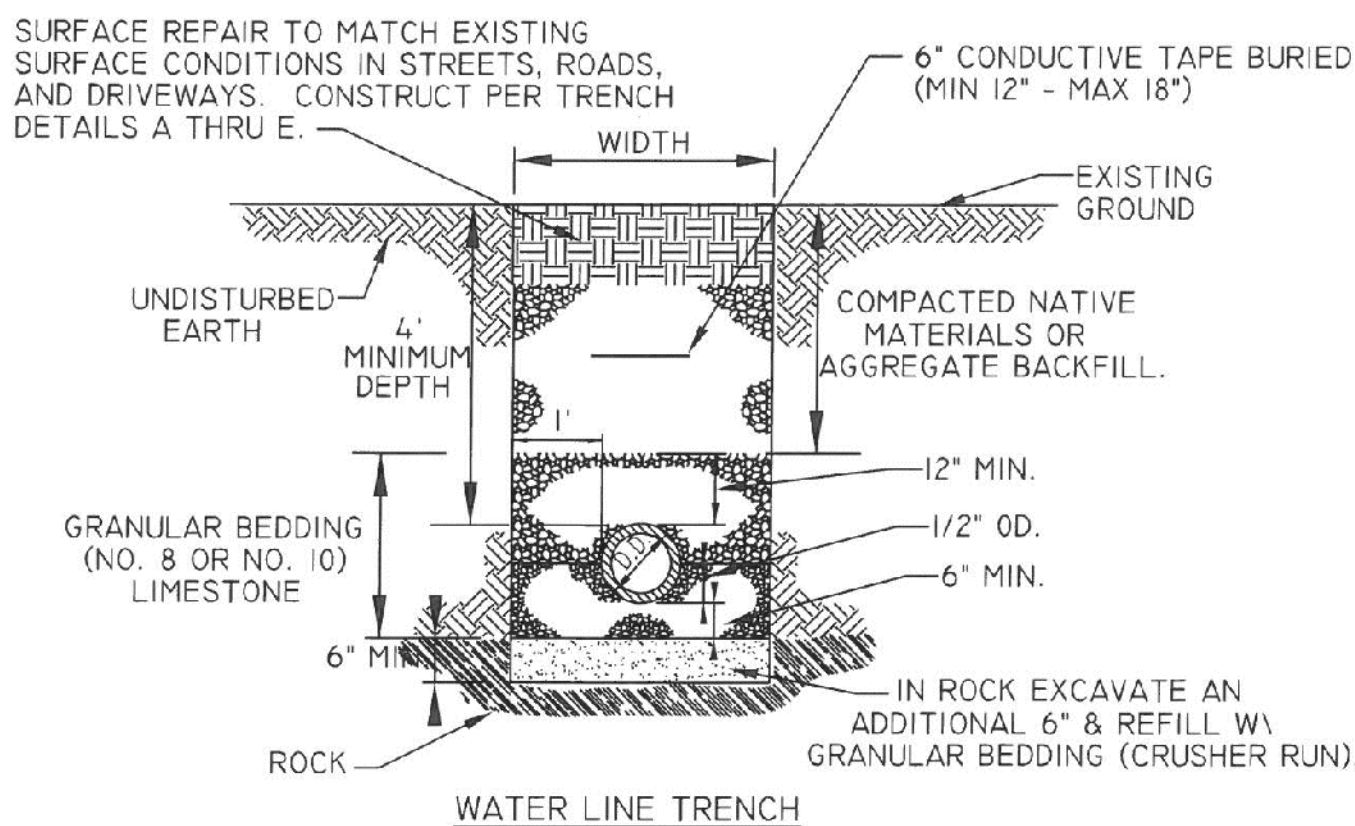
SECTION A - A



AIR RELEASE &  
VALVE  
DETAIL

Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

STANDARD DETAIL NO.  
**W-2**  
NOT TO SCALE  
APRIL 2015



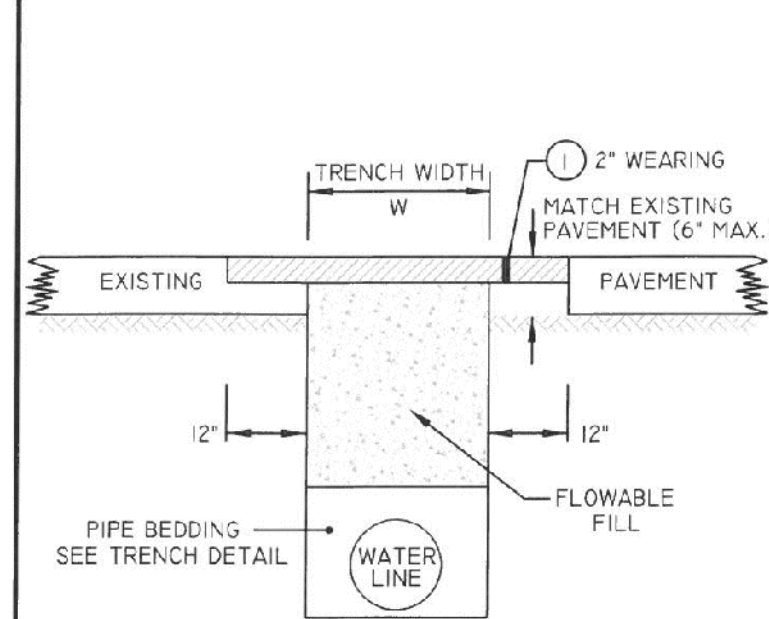
NOTES:

1. W = MAXIMUM PERMISSIBLE TRENCH WIDTH, BASED UPON, W = O.D. + 2L, UNLESS APPROVED BY THE ENGINEER.
2. TRENCHES TO BE SHEETED AND BRACED AS REQUIRED.
3. PROVIDE BEARING FOR FULL LENGTH OF BARREL, DIG HOLES FOR THE BELL.
4. BACKFILL TO BE COMPACTED IN 6" LAYERS TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE (+2%) IN ROADS AND STREETS. COMPACT TO MATCH EXISTING GROUND IN OTHER AREAS.
5. MAINTAIN MINIMUM OF 4' OF COVER TO THE TOP OF PIPE.
6. A CASING PIPE SHALL BE REQUIRED IN ROAD CROSSINGS WHERE SHOWN ON PLANS
7. ALL WATER LINES REQUIRE PERMIT FROM APPLICABLE REGULATORY ENTITIES. PERMIT REQUIREMENTS SUPERCEDE WHAT IS SHOWN ON THIS DETAIL.

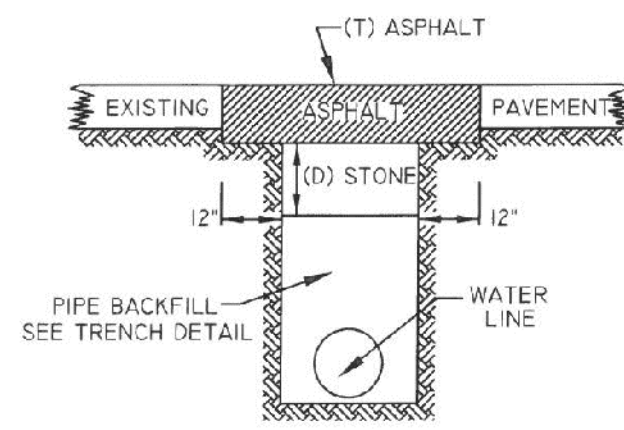
Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

WATER LINE  
TRENCH  
DETAIL

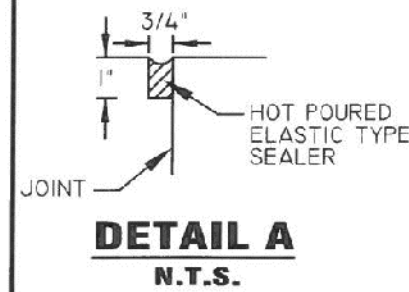
STANDARD DETAIL NO.  
**W-9**  
NOT TO SCALE  
APRIL 2015



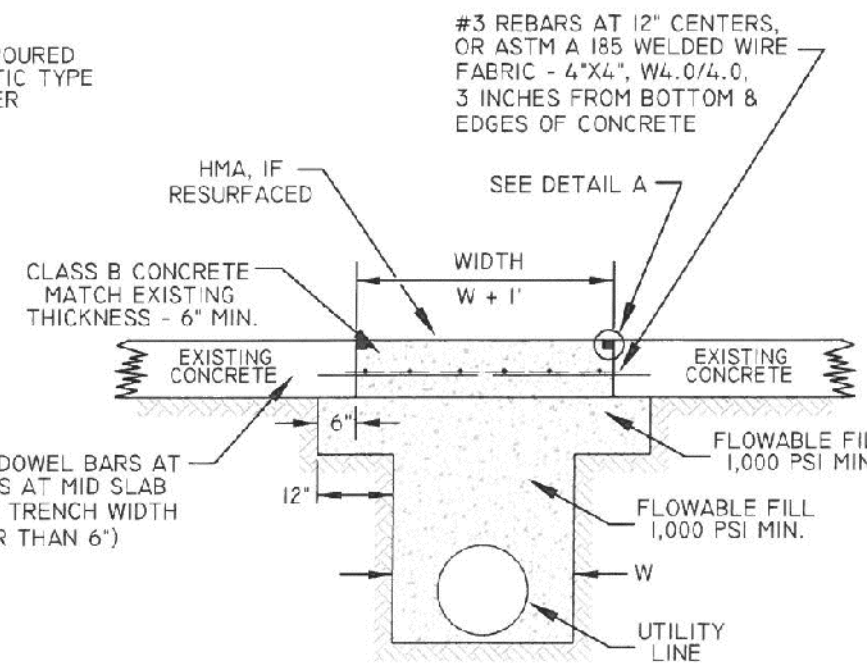
TYPE A TRENCH REPAIR  
ASPHALT PAVEMENT  
W/ FLOWABLE FILL



TYPE B TRENCH REPAIR  
ASPHALT PAVEMENT



DETAIL A  
N.T.S.



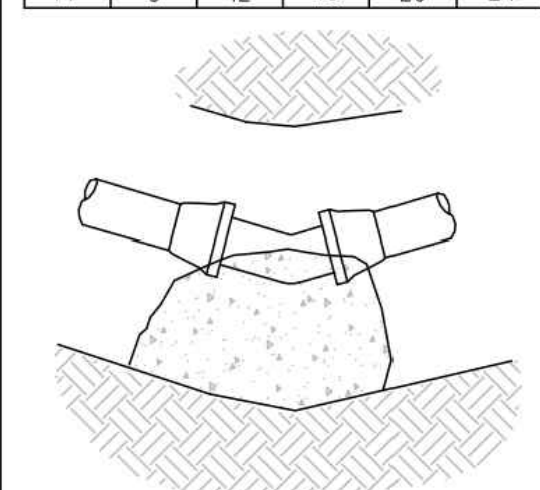
TYPE D TRENCH REPAIR  
CONCRETE SIDEWALK OR  
DRIVEWAY TRENCH REPAIR

Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

TYPES A, B, & D  
TRENCH REPAIR  
DETAILS

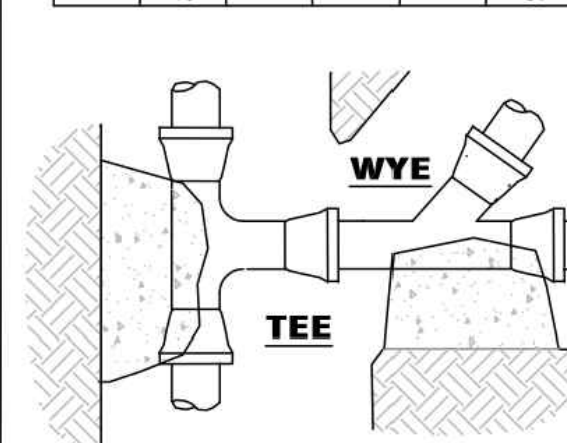
STANDARD DETAIL NO.  
**W-10**  
NOT TO SCALE  
APRIL 2015

| 22.5 & 45 DEGREE CONTACT AREA (SF) |     |     |     |     |     |
|------------------------------------|-----|-----|-----|-----|-----|
| PIPE SIZE                          | 100 | 150 | 200 | 250 | 300 |
| 2                                  | 1   | 1   | 1   | 1   | 1   |
| 4                                  | 1   | 1   | 2   | 2   | 2   |
| 6                                  | 2   | 2   | 3   | 4   | 5   |
| 8                                  | 3   | 4   | 5   | 7   | 8   |
| 10                                 | 4   | 6   | 8   | 10  | 12  |
| 12                                 | 5   | 9   | 12  | 15  | 18  |
| 14                                 | 8   | 12  | 16  | 20  | 24  |



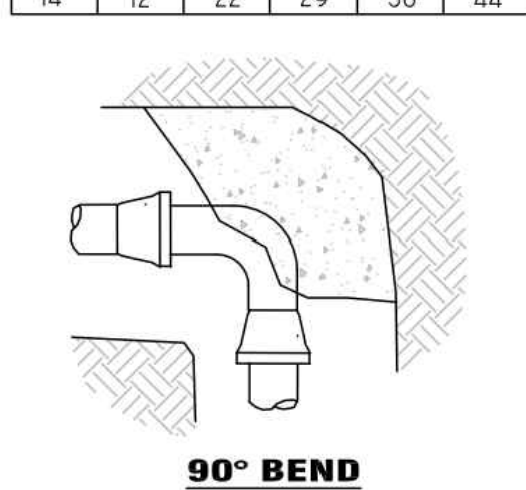
22.5° & 45° BENDS

| TEE CONTACT AREA (SF) |     |     |     |     |     |
|-----------------------|-----|-----|-----|-----|-----|
| PIPE SIZE             | 100 | 150 | 200 | 250 | 300 |
| 2                     | 1   | 1   | 1   | 1   | 1   |
| 4                     | 1   | 2   | 2   | 2   | 3   |
| 6                     | 2   | 3   | 4   | 5   | 6   |
| 8                     | 4   | 5   | 7   | 9   | 10  |
| 10                    | 5   | 8   | 11  | 13  | 16  |
| 12                    | 7   | 12  | 15  | 19  | 23  |
| 14                    | 10  | 16  | 21  | 26  | 31  |



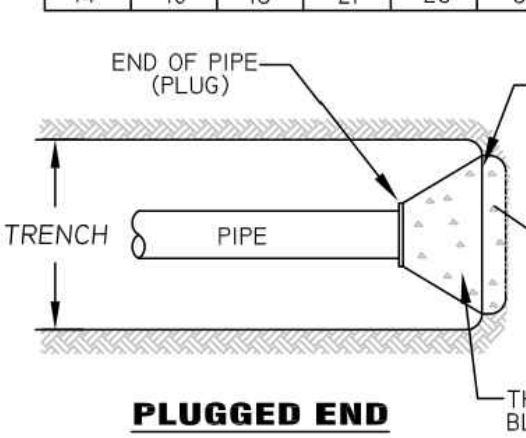
SAME CONTACT AREA AS TEE

| 90 DEGREE BEND CONTACT AREA (SF) |     |     |     |     |     |
|----------------------------------|-----|-----|-----|-----|-----|
| PIPE SIZE                        | 100 | 150 | 200 | 250 | 300 |
| 2                                | 1   | 1   | 1   | 1   | 1   |
| 4                                | 2   | 2   | 3   | 3   | 4   |
| 6                                | 3   | 4   | 5   | 7   | 8   |
| 8                                | 5   | 7   | 10  | 12  | 15  |
| 10                               | 7   | 11  | 15  | 19  | 22  |
| 12                               | 9   | 16  | 21  | 27  | 32  |
| 14                               | 12  | 22  | 29  | 36  | 44  |



90° BEND

| PLUGGED END CONTACT AREA (SF) |     |     |     |     |     |
|-------------------------------|-----|-----|-----|-----|-----|
| PIPE SIZE                     | 100 | 150 | 200 | 250 | 300 |
| 2                             | 1   | 1   | 1   | 1   | 1   |
| 4                             | 1   | 2   | 2   | 2   | 3   |
| 6                             | 2   | 3   | 4   | 5   | 6   |
| 8                             | 4   | 5   | 7   | 9   | 10  |
| 10                            | 5   | 8   | 11  | 13  | 16  |
| 12                            | 7   | 12  | 15  | 19  | 23  |
| 14                            | 10  | 16  | 21  | 26  | 31  |



PLUGGED END

THRUST BLOCK GENERAL NOTES

1. ALL CONCRETE SHALL BE 3000 P.S.I. (AE)
2. THRUST BLOCKS SHALL BE IMBEDDED IN UNDISTURBED SOIL.
3. SOIL BEARING CAPACITY IS ASSUMED AT 3000 LB. SQ. FT. FOR WEAKER SOILS THRUST BLOCK AREAS SHALL BE INCREASED AS REQUIRED.
4. WRAP PIPE WITH POLYETHYLENE TO PREVENT CONTACT BETWEEN PIPE AND THE CONCRETE.

PIPE BUTTRESS  
DETAILS

Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

STANDARD DETAIL NO.  
**W-13**  
NOT TO SCALE  
APRIL 2015

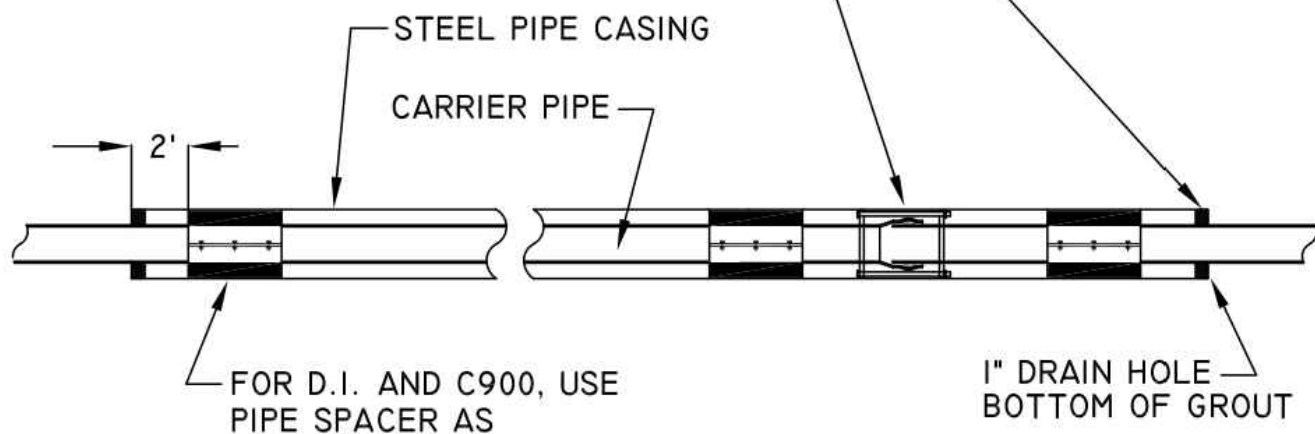
CASING SCHEDULE FOR C900, DI, OR  
DI TR FLEX RESTRAINED JT 350 PSI

| CARRIER PIPE DIA. (IN.) | MIN. CASING PIPE DIA. (IN.) | NOM. WALL THICKNESS |
|-------------------------|-----------------------------|---------------------|
| 4                       | 10                          | 0.313               |
| 6                       | 12                          | 0.313               |
| 8                       | 16                          | 0.313               |
| 10                      | 18                          | 0.375               |
| 12                      | 20                          | 0.375               |

NOTE: SDR 35 PVC, CASING FOR 4" CARRIER IS 12" DIA. AND FOR 6" CARRIER IS 16" DIA. OTHER SIZE SDR 35 ARE SAME AS ABOVE. STEEL CASING SHALL BE USED WITH SPECIFIED MINIMUM YIELD STRENGTH OF AT LEAST 35,000 PSI.

FOR C900 OR D.I. FORCEMAIN, USE EBBA 1500 TD OR UNFLANGE 1390 SERIES TYPICAL AT EACH JOINT. FOR SDR 35 PVC, USE FORD UFRCS 1390 HARNESS RESTRAINT WITH SPACERS.

GROUT ENDS OF CASING CLOSED OR USE RUBBER BOOT END CLOSURE CASCADE STYLE CCES OR EQUAL.

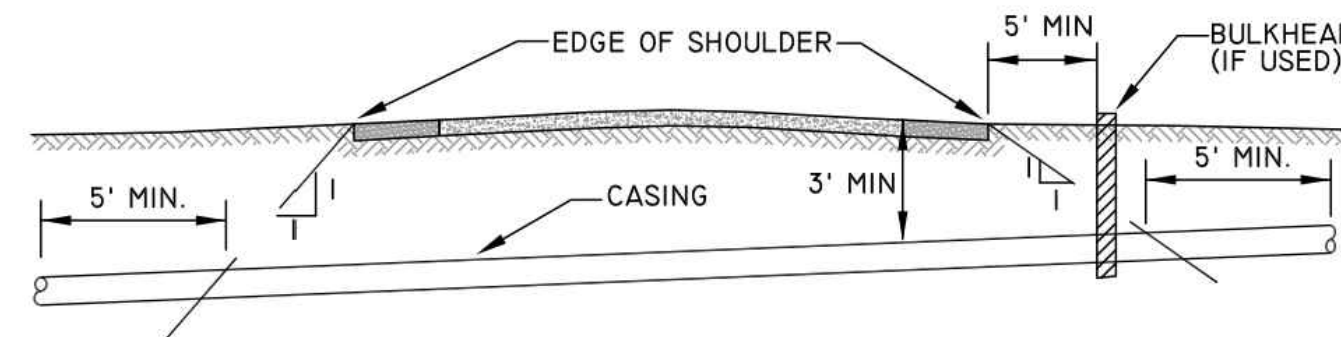


FOR D.I. AND C900, USE PIPE SPACER AS MANUFACTURED BY CASCADE WATERWORKS MFG. CO. OR EQUAL 1 FOR EVERY 10' OF CASING

Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

PIPE CASING  
DETAIL

STANDARD DETAIL NO.  
**W-14**  
NOT TO SCALE  
APRIL 2015

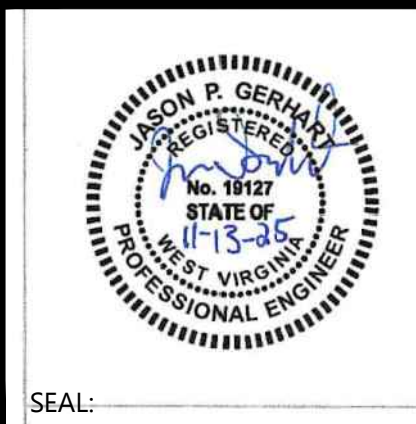


NOTE: PERMIT REQUIRED FROM WV DEPARTMENT OF HIGHWAYS IF CROSSING UNDER STATE ROAD. PERMIT REQUIREMENTS SUPERCEDE WHAT IS SHOWN ON THIS DETAIL.

Charles Town Utility Board  
832 S. GEORGE STREET, P.O. BOX 359, CHARLES TOWN, WV 25414  
PHONE: (304) 725-2316 • FAX: (304) 725-4313

PIPE CASING  
TYP. ROAD  
CROSSING SECTION  
DETAIL

STANDARD DETAIL NO.  
**W-15**  
NOT TO SCALE  
APRIL 2015



| REVISIONS |                                    |
|-----------|------------------------------------|
| 1.        | REVISIONS PER WIDTH COMMENTS       |
| 2.        | REVISIONS PER WIDTH COMMENTS       |
| 3.        | REVISIONS PER WIDTH COMMENTS       |
| 4.        | REVISIONS PER WIDTH COMMENTS       |
| 5.        | REVISIONS PER WIDTH RE-APPLICATION |

|        |                       |
|--------|-----------------------|
| SCALE: | HORIZ.: NTS<br>VERT.: |
| DATE:  | AUGUST 2023           |
| JOB:   | 3138-0102             |
| DRAWN: | RJP                   |
| CHECK: | JPG                   |
| CADD:  | C-CU-531.DWG          |
| NCS:   |                       |
| SHEET: |                       |

CONSTRUCTION ON THE DIVISION OF HIGHWAYS RIGHT OF WAY WILL CONFORM TO THE FOLLOWING  
THE FOLLOWING NOTES APPLY TO ALL PROJECT PLAN SHEETS

- TYPE A - STONE DRIVEWAY

Apply mainline pavement to the back of radius or to the ditchline, whichever is less.

TYPE B - STONE SIDEROAD

Apply mainline pavement to back of radius or a minimum of 25 ft. whichever is greater. If stone side-road on State System is on a steep downgrade which causes mud or stone to be transferred to the mainline, mainline paving is to be extended as listed in the table.

If driveway or sideroad is not listed in the table at the right, stone entrance is to be built up with shoulder stone to the prevailing shoulder width and slope. Asphalt is to be tapered from the mainline surface for paved entrances to avoid bumps and to assure that no adverse slopes result when adjacent shoulders are finished to the desirable slope.

## PAVING LOCATIONS

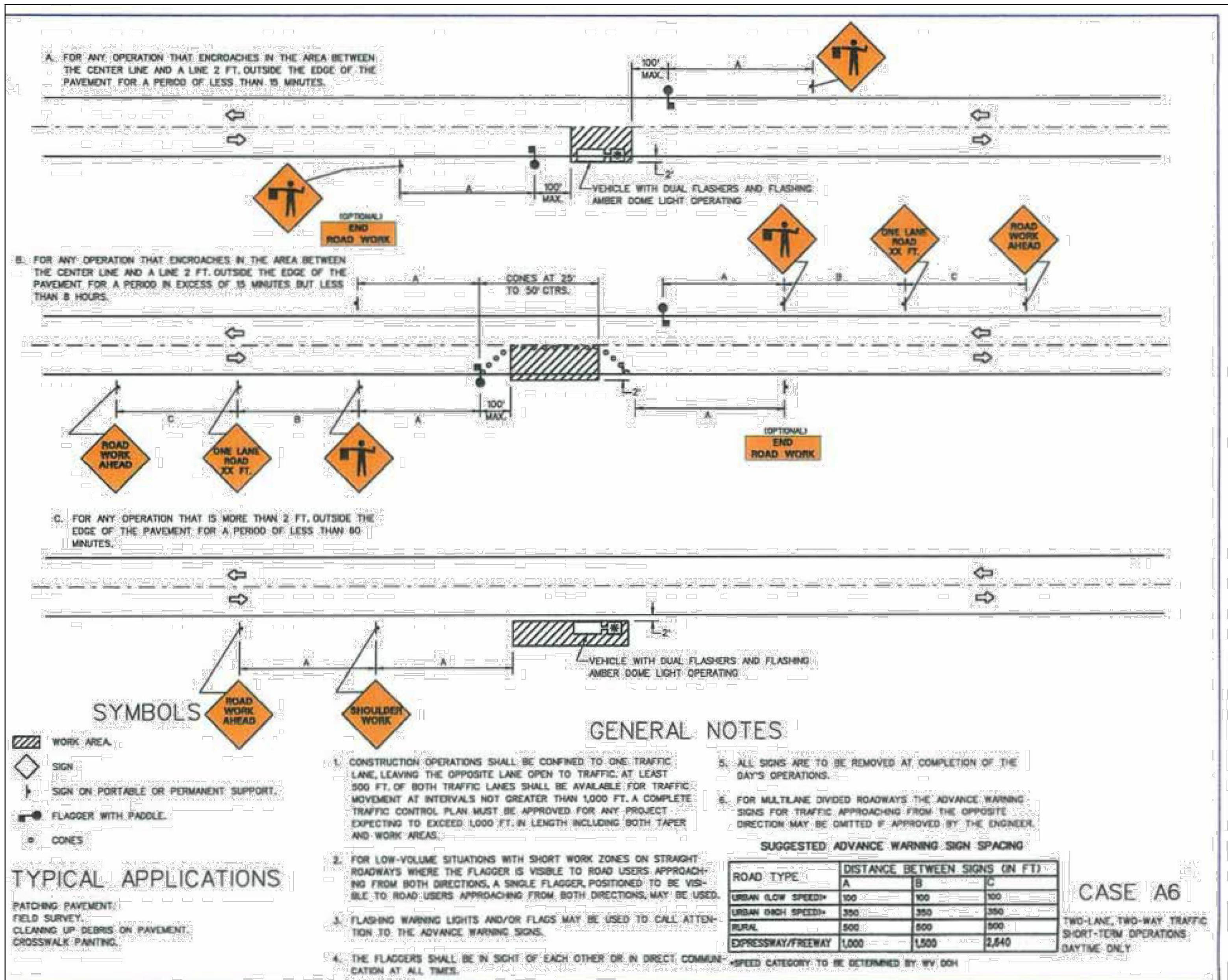
[illegible]

All approaches are to be tied-in with Asphalt as directed by the engineer. \_\_\_\_\_ tons of Asphalt have been allocated for approaches.

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

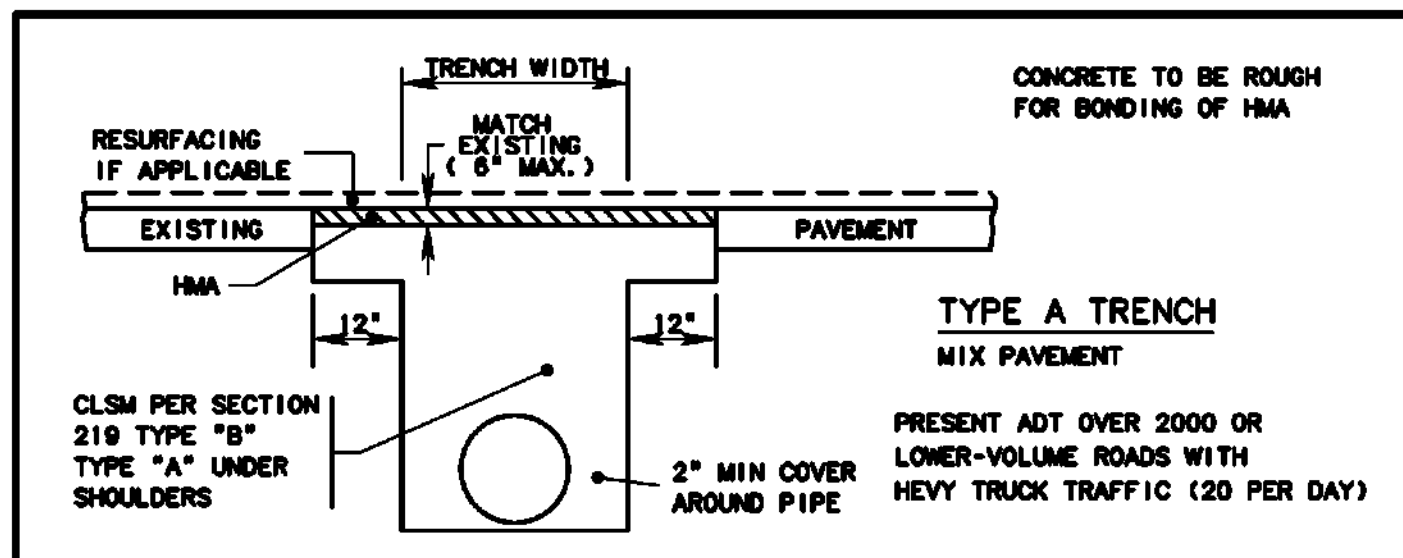
## DRIVEWAY AND SIDEROAD TREATMENT

| Public Roads Div. | State Dist. No. | State Project No. | Federal Project No. | County |
|-------------------|-----------------|-------------------|---------------------|--------|
| W.V.              |                 |                   |                     |        |



**NOTES:**

1. Types A, B, and C trenches to be used as applicable or not specified in the plans.
2. HMA thickness shown here are in addition to any resurfacing which may be included in this project. Trench to be completed before resurfacing.
3. Type of stone to be same as specified for base on this project and payment to be in tons or C.Y. as specified in those items. If such stone is not specified, cost is to be included in the unit price of pipe and stone to meet requirements of section 307 class I.
4. Payment for HMA to be in tons of material specified for the project. If such item are not specified cost is to be included in unit price of pipe. HMA base or patching and leveling may be used.
5. Cost of all labor, materials, and equipment to complete the work to the surface of the existing pavement in accordance with applicable detail(s) shall be included in the unit price for the pipe.
6. Where type A trenches are wider than 7' in existing bituminous pavement, concrete may be deleted if existing HMA thickness and 18" stone are restored.
7. Traffic is to be maintained at all times by the use of appropriate traffic control devices. Use of metal plates, having sufficient rigidity to span Type A trench, is required to prevent wheel loads from being transmitted to the CLSM. The plates are to be securely anchored to prevent movement caused by traffic. The plates are to be left in place until the CLSM has attained a 50% of its compressive strength. Cost of such plates is to be included in the unit price bid for pipe.



THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

## REPAVING PIPE TRENCHES

| Public Roads Div. | State Dist. No. | State Project No. | Federal Project No. | County |
|-------------------|-----------------|-------------------|---------------------|--------|
| W. V.             |                 |                   |                     |        |

WVDOH NOTES AND DETAILS

# SIDEWINDER RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA

|                    |                       |  |
|--------------------|-----------------------|--|
| SCALE:             | HORIZ.: NTS<br>VERT.: |  |
| DATE: AUGUST 2023  |                       |  |
| JOB: 3138-0102     |                       |  |
| DRAWN: RJP         | CHECK: JPG            |  |
| CADD: C-CU-531.DWG |                       |  |
| NCS:               |                       |  |
| SHEET:             |                       |  |

A circular professional engineer seal for Jason P. Gerhart. The outer ring contains the text "JASON P. GERHART" at the top and "PROFESSIONAL ENGINEER" at the bottom. Inside this, the word "REGISTERED" is at the top and "WEST VIRGINIA" is at the bottom. The center of the seal contains the text "No. 19127" and "STATE OF" above a handwritten signature and the number "11-13-25".

SEAL:

|    |                                   |
|----|-----------------------------------|
| 1. | REVISIONS PER WDOH COMMENTS       |
| 2. | REVISIONS PER WDOH COMMENTS       |
| 3. | REVISIONS PER WDOH COMMENTS       |
| 4. | REVISIONS PER WDOH COMMENTS       |
| 5. | REVISIONS FOR WDOH RE-APPLICATION |

# INTEGRITY

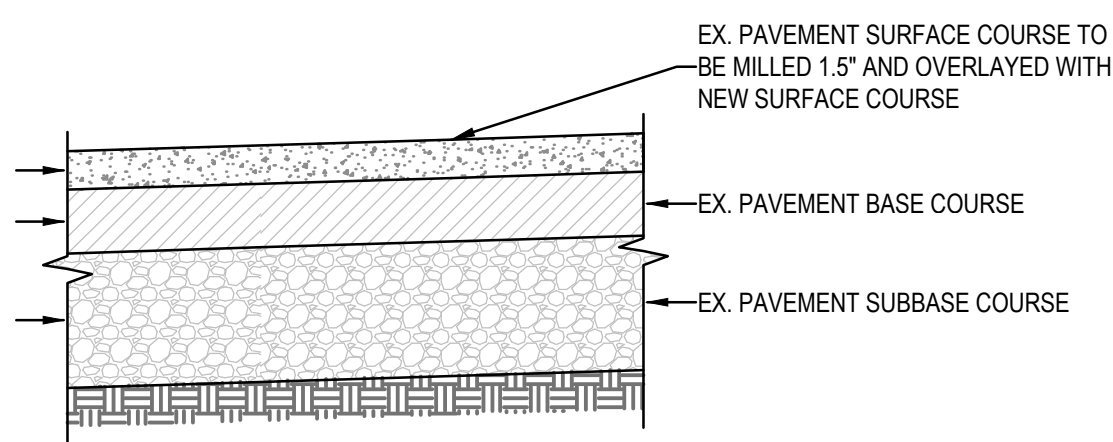
## FEDERAL SERVICES

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MILL AND OVERLAY DETAIL:

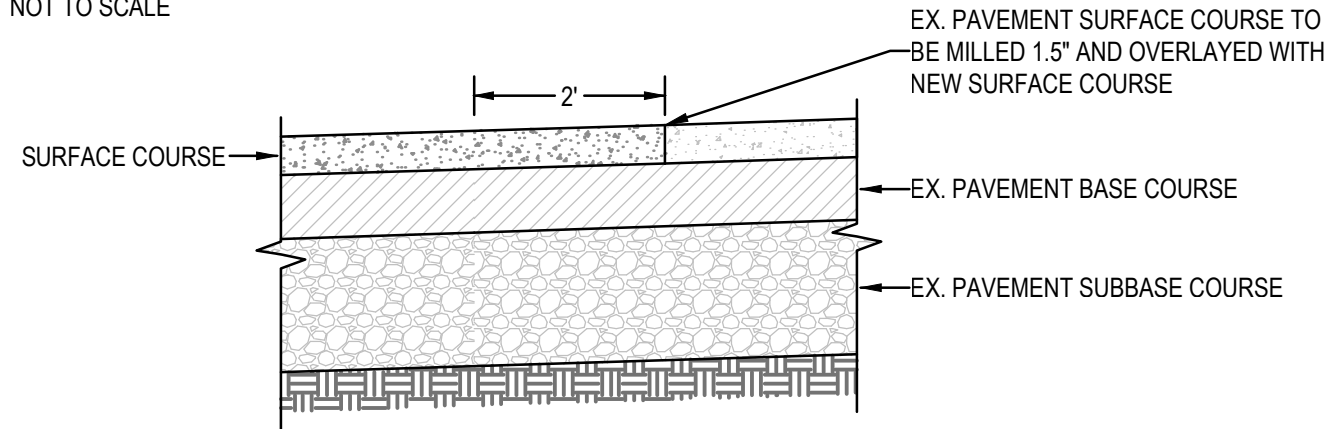
NOT TO SCALE



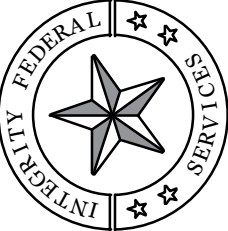
- NOTES:
1. MILL AND OVERLAY IS TO BE THE ENTIRE WIDTH OF THE ROAD.
  2. NEW PAVEMENT TO MATCH THE EXISTING CROSS SLOPE OF THE ROAD.

PAVEMENT WEDGING DETAIL:

NOT TO SCALE



- NOTES:
1. SAW CUT EX. PAVEMENT. BOTTOM AND ALL SIDES OF SAW CUT TO BE PAINTED WITH BITUMINOUS MATERIAL PRIOR TO PLACING PAVEMENT SURFACE.
  2. CONTRACTOR SHALL ENSURE THAT NO WATER IS TRAPPED BETWEEN EXISTING AND PROPOSED PAVEMENT AFTER THE CUTTING OPERATIONS HAVE BEEN PERFORMED.



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SEAL:

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|-----------|------------------------------------|
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| 2.        | REVISIONS PER WIDTH COMMENTS       |
| 3.        | REVISIONS PER WIDTH COMMENTS       |
| 4.        | REVISIONS PER WIDTH COMMENTS       |
| 5.        | REVISIONS FOR WIDTH RE-APPLICATION |
|           |                                    |
|           |                                    |
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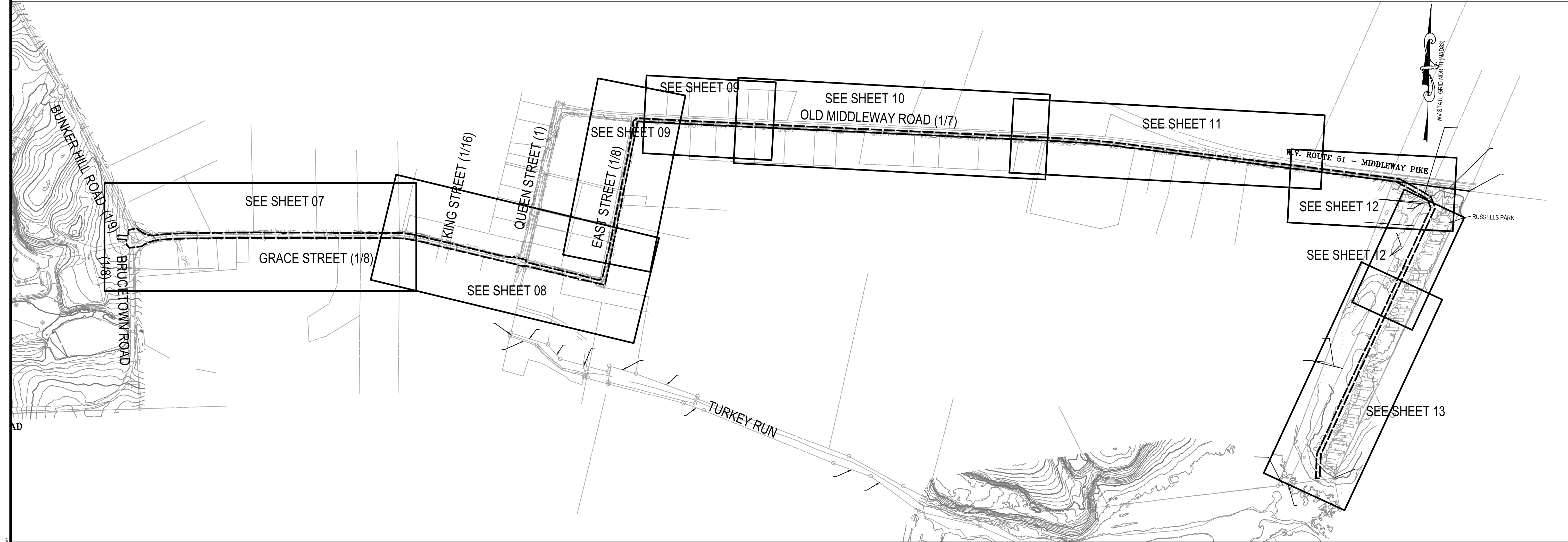
PAVING DETAILS

SIDEWINDER

RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA

|                    |                       |
|--------------------|-----------------------|
| SCALE:             | HORIZ.: NTS<br>VERT.: |
| DATE:              | AUGUST 2023           |
| JOB:               | 3138-0102             |
| DRAWN: RJP         | CHECK: JPG            |
| CADD: C-CU-531.DWG |                       |
| NCS:               |                       |
| SHEET:             | 05 OF 15              |



SCALE: HORIZ.: 1" = 250'  
VERT.:

DATE: AUGUST 2023

JOB: 3138-0102

DRAWN: RJP CHECK: JPG

CADD: C-CS-001.DWG

NCS:  
SHEET: 06 OF 15

OVERALL PLAN VIEW

**SIDEWINDER  
RAW WATER LINE**

JEFFERSON COUNTY, WEST VIRGINIA

1. REVISIONS PER WDOH COMMENTS

2. REVISIONS PER WDOH COMMENTS

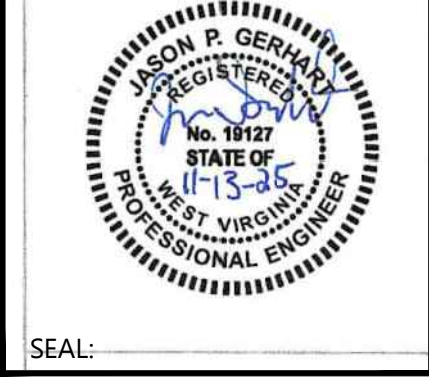
3. REVISIONS PER WDOH COMMENTS

4. REVISIONS PER WDOH COMMENTS

5. REVISIONS FOR WDOH RE-APPLICATION

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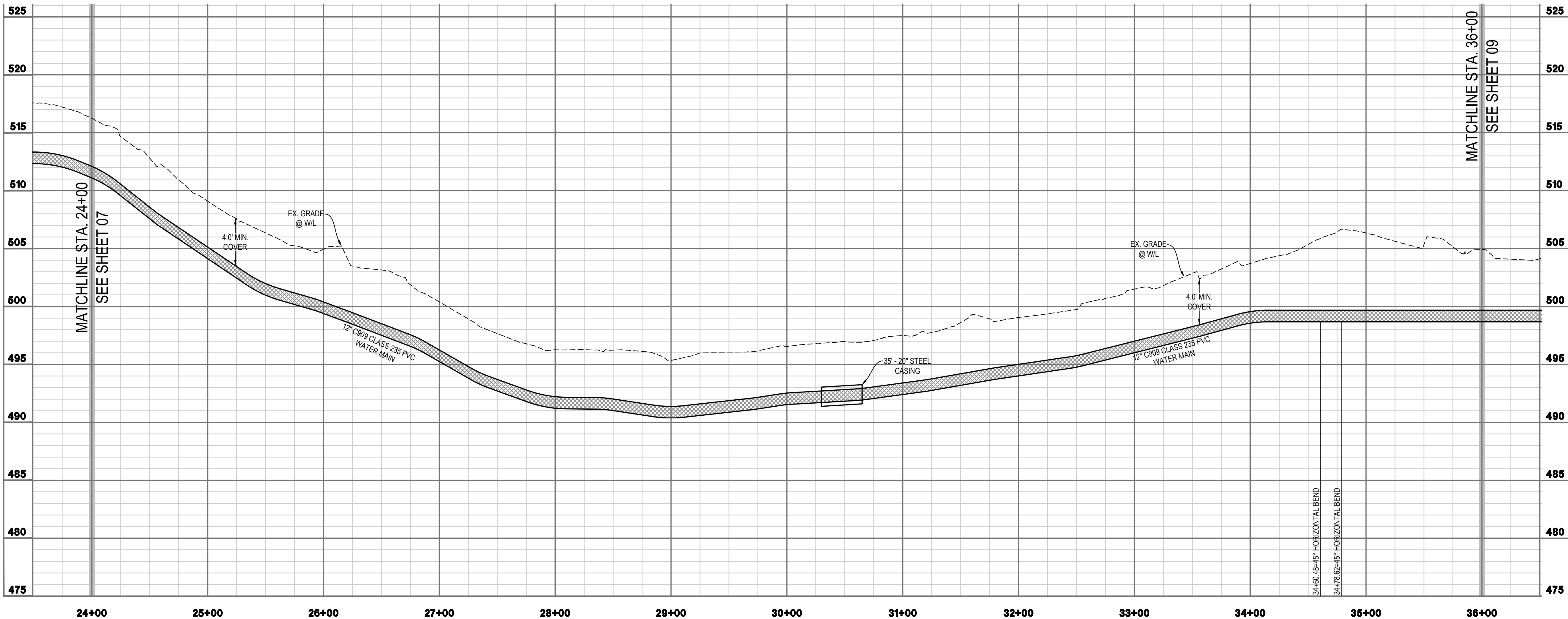
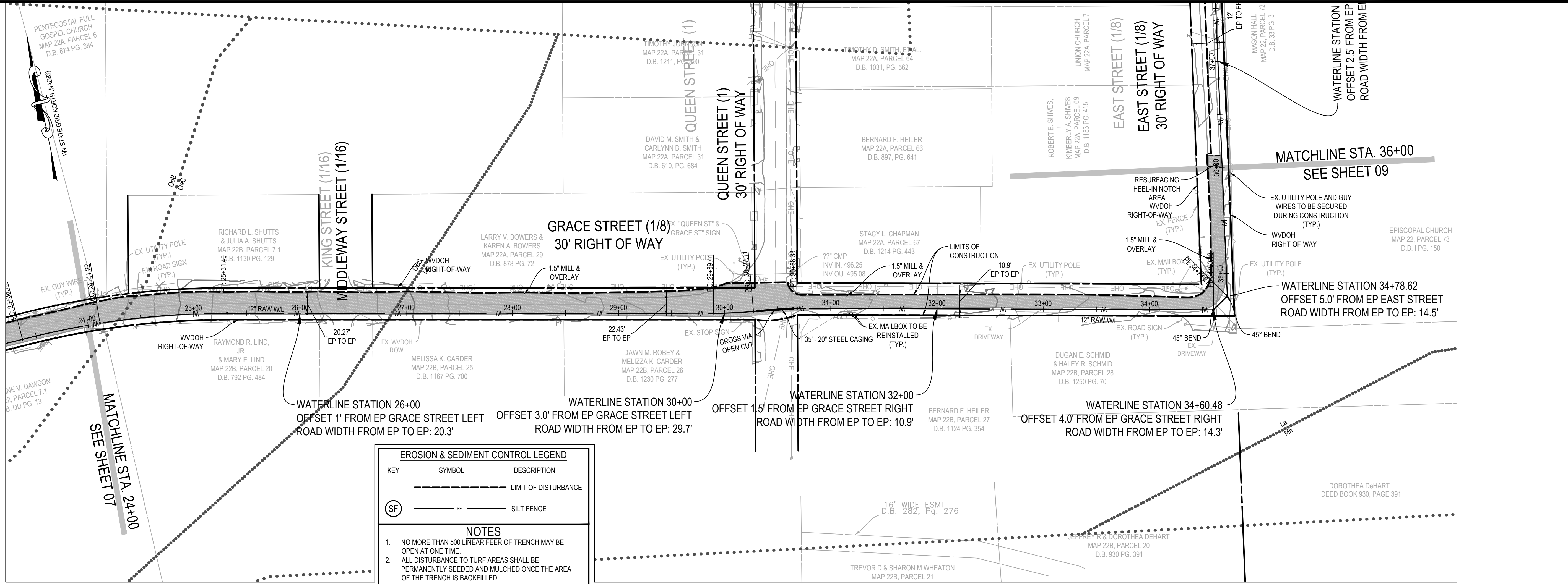
**INTEGRITY  
FEDERAL SERVICES**

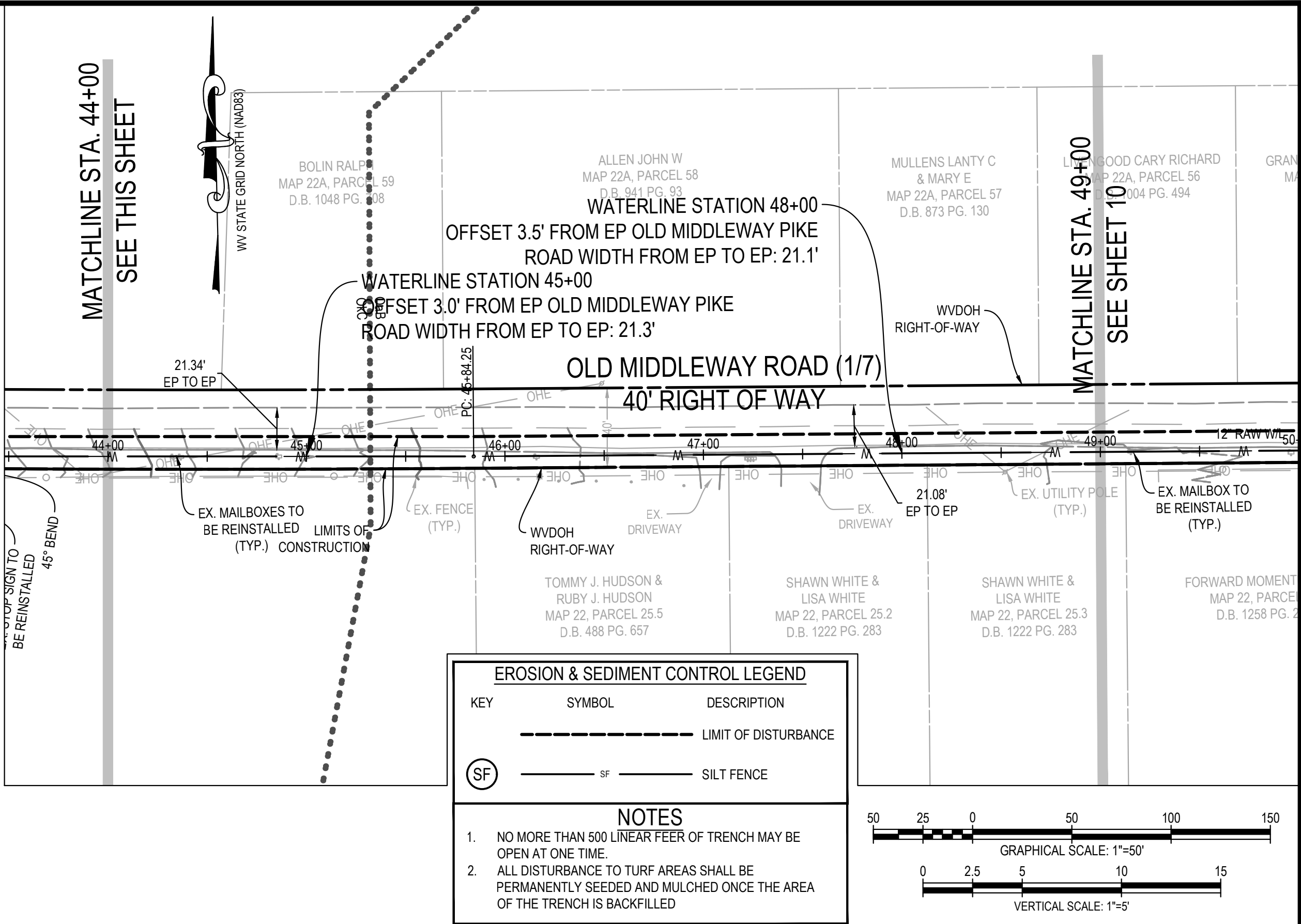
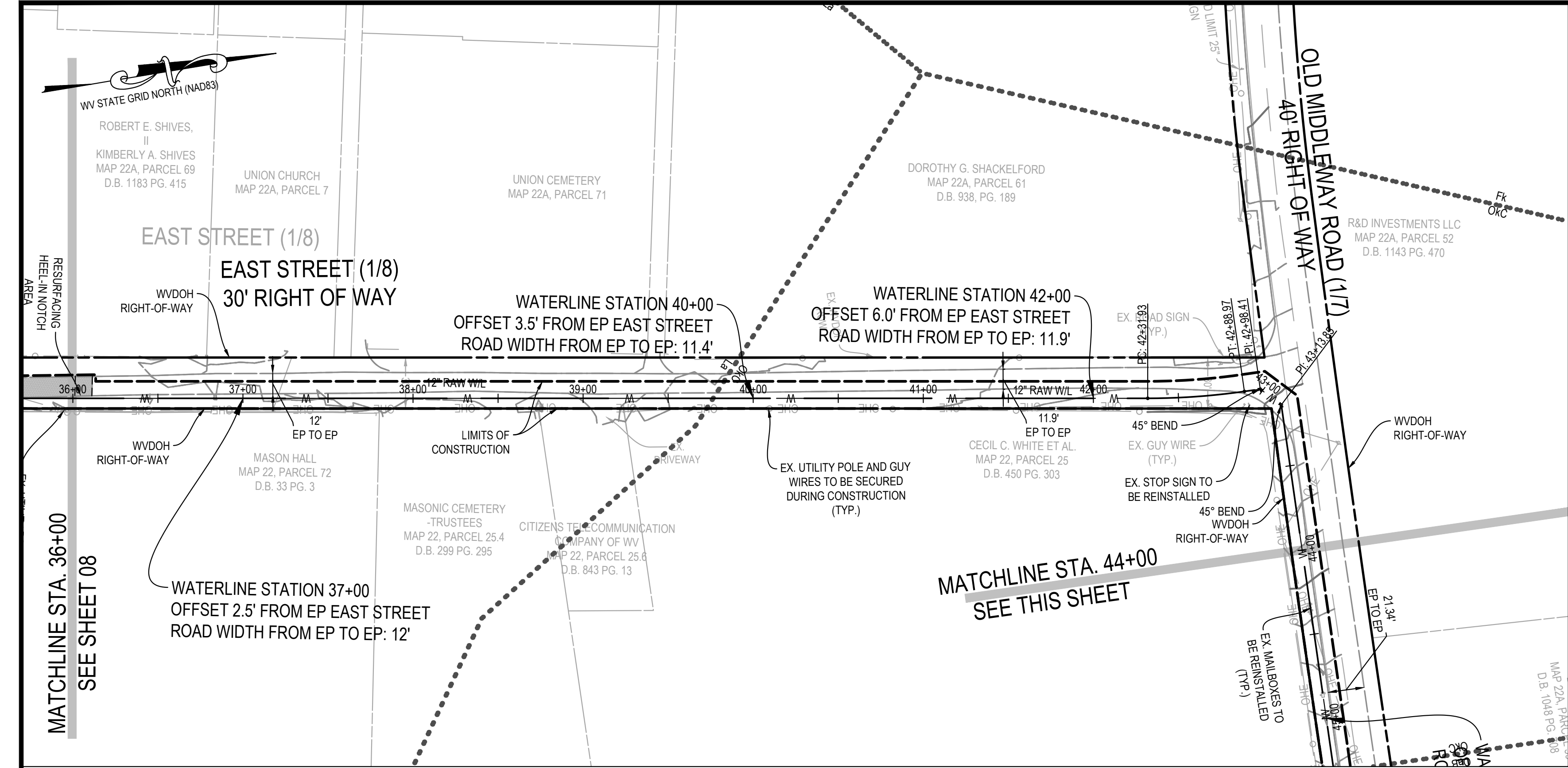
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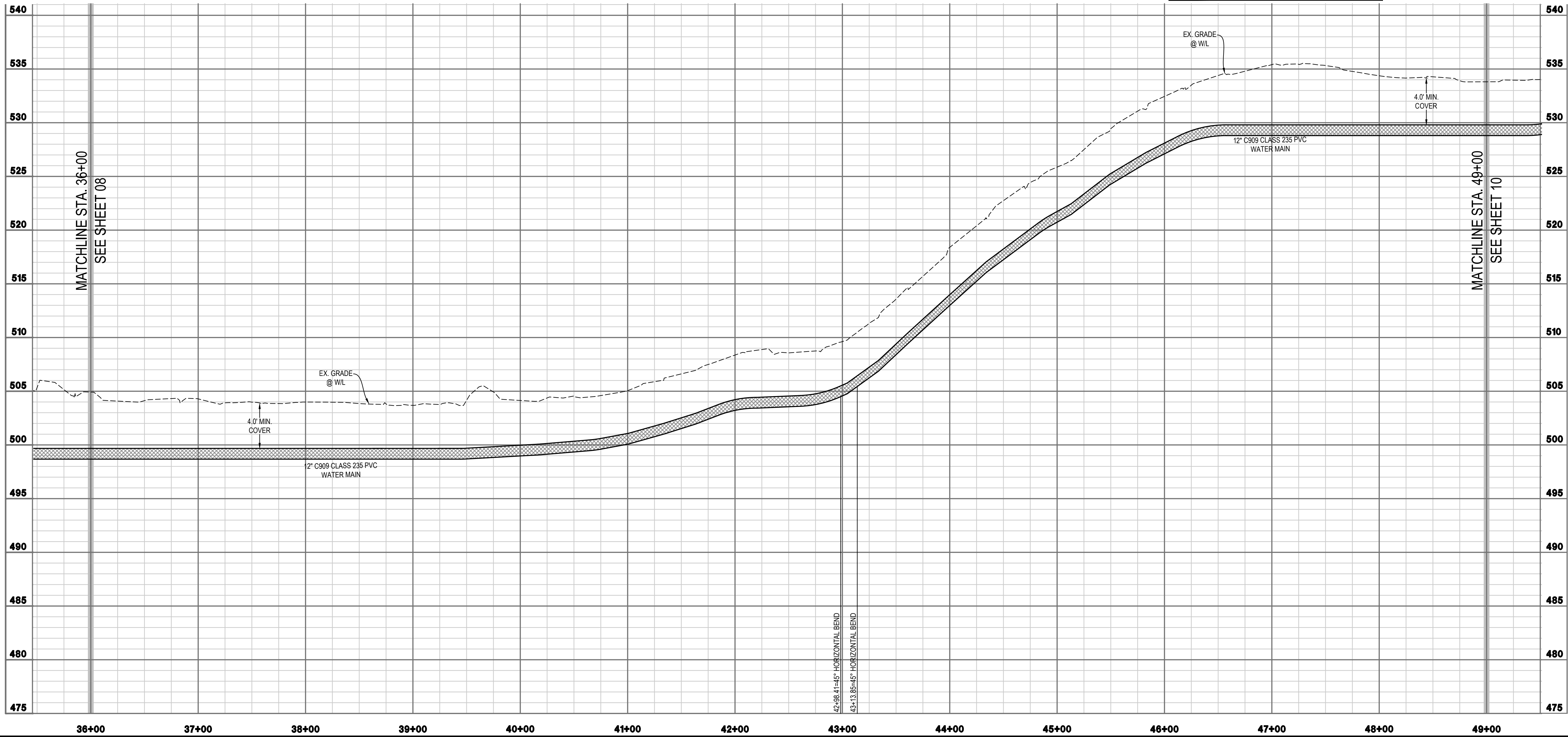
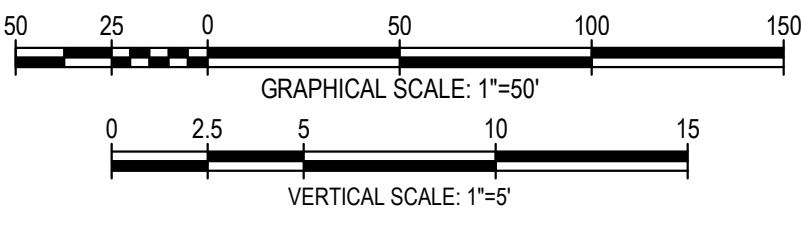


**EROSION & SEDIMENT CONTROL LEGEND**

| KEY  | SYMBOL | DESCRIPTION          |
|------|--------|----------------------|
|      | ---    | LIMIT OF DISTURBANCE |
| (SF) | ---    | SILT FENCE           |

**NOTES**

1. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPEN AT ONE TIME.
2. ALL DISTURBANCE TO TURF AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED ONCE THE AREA OF THE TRENCH IS BACKFILLED.



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| 2.        | REVISIONS PER WDOH COMMENTS       |
| 3.        | REVISIONS PER WDOH COMMENTS       |
| 4.        | REVISIONS PER WDOH COMMENTS       |
| 5.        | REVISIONS FOR WDOH RE-APPLICATION |

WATER LINE PLAN AND PROFILE

**SIDEWINDER RAW WATER LINE**

JEFFERSON COUNTY, WEST VIRGINIA

SCALE: HORIZ.: 1" = 50'  
VERT.: 1" = 5'

DATE: AUGUST 2023

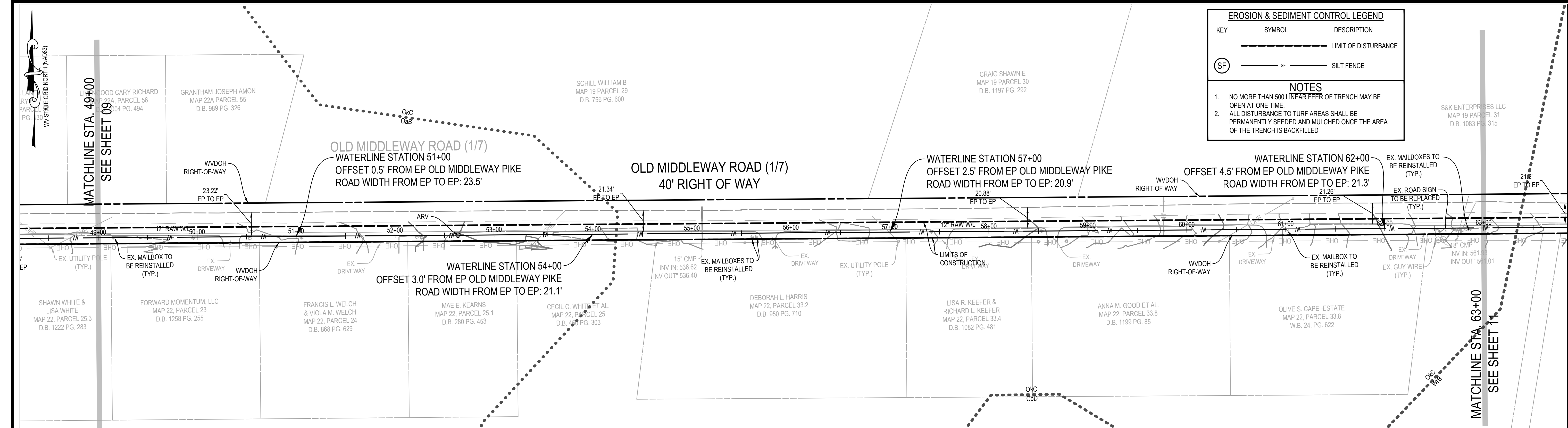
JOB: 3138-0102

DRAWN: RJP CHECK: JPG

CADD: C-CU-231.DWG

NCS:

SHEET: 09 OF 15



EROSION & SEDIMENT CONTROL LEGEND

KEY

SYMBOL

DESCRIPTION

---

LIMIT OF DISTURBANCE

(SF)

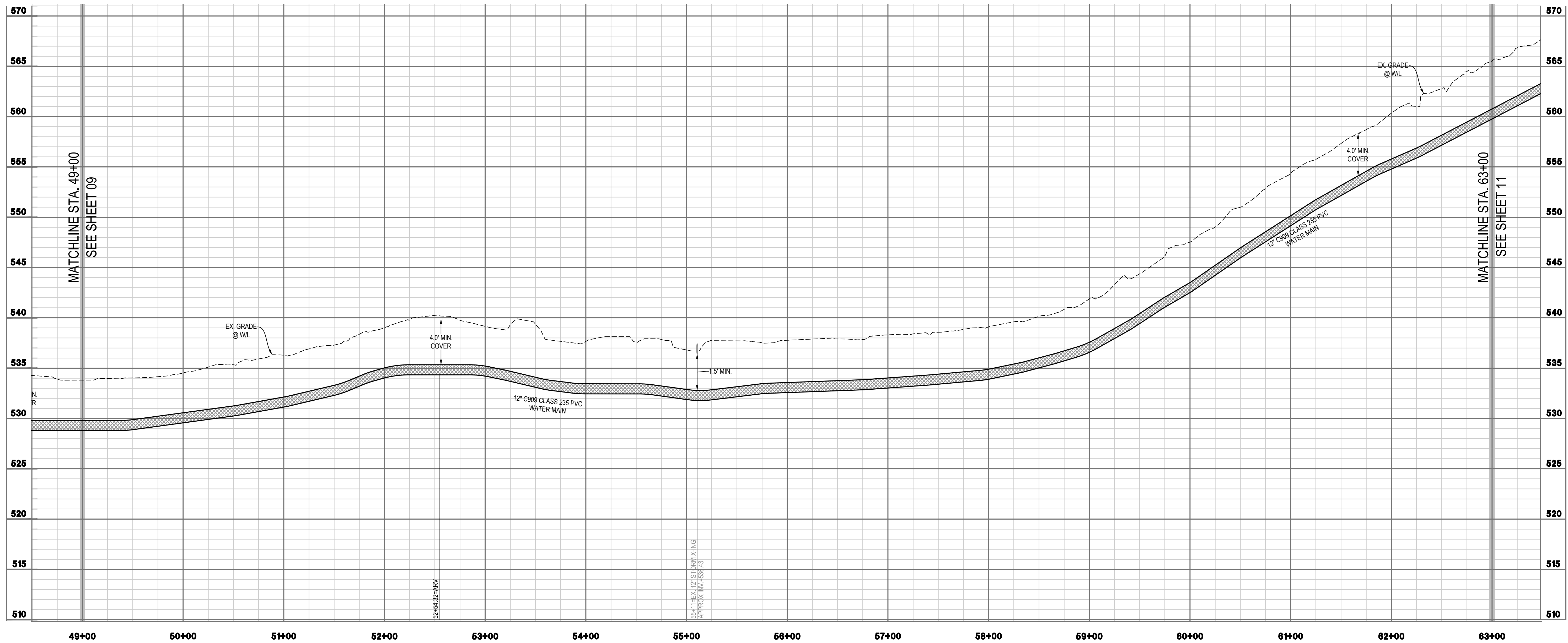
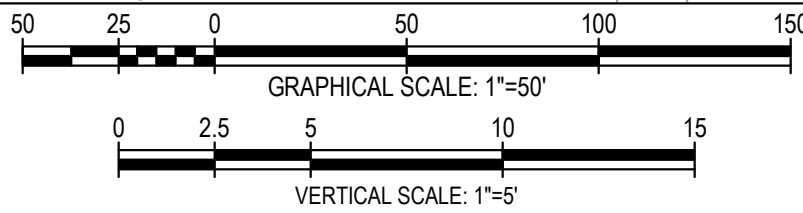
SF

SILT FENCE

NOTES

1. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPEN AT ONE TIME.

2. ALL DISTURBANCE TO TURF AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED ONCE THE AREA OF THE TRENCH IS BACKFILLED



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ADVANCED CIVIL ENGINEERING

SEAL:

| REVISIONS |                                   |
|-----------|-----------------------------------|
| 1.        | REVISIONS PER WDOH COMMENTS       |
| 2.        | REVISIONS PER WDOH COMMENTS       |
| 3.        | REVISIONS PER WDOH COMMENTS       |
| 4.        | REVISIONS PER WDOH COMMENTS       |
| 5.        | REVISIONS FOR WDOH RE-APPLICATION |

WATER LINE PLAN AND PROFILE

SIDEWINDER

RAW WATER LINE

JEFFERSON COUNTY, WEST VIRGINIA

SCALE: HORIZ.: 1" = 50'  
VERT.: 1" = 5'

DATE: AUGUST 2023

JOB: 3138-0102

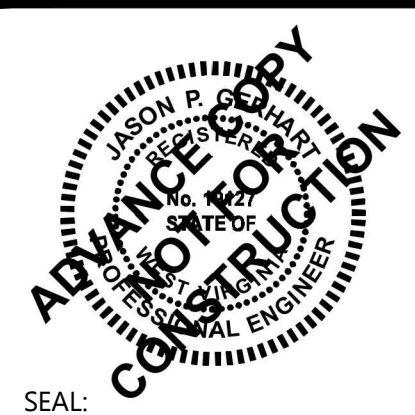
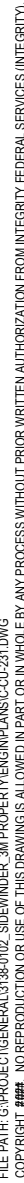
DRAWN: RJP CHECK: JPG

CADD: C-CU-231.DWG

NCS:

SHEET:

10 OF 15



|    |                                    |
|----|------------------------------------|
| 1. | REVISIONS PER WIDTH COMMENTS       |
| 2. | REVISIONS PER WIDTH COMMENTS       |
| 3. | REVISIONS PER WIDTH COMMENTS       |
| 4. | REVISIONS PER WIDTH COMMENTS       |
| 5. | REVISIONS FOR WIDTH RE-APPLICATION |
|    | REVISIONS                          |
|    |                                    |
|    |                                    |
|    |                                    |

|                             |                                                                                              |
|-----------------------------|----------------------------------------------------------------------------------------------|
| WATER LINE PLAN AND PROFILE | <p><b>SIDEWINDER</b></p> <p><b>RAW WATER LINE</b></p> <p>JEFFERSON COUNTY, WEST VIRGINIA</p> |
|-----------------------------|----------------------------------------------------------------------------------------------|

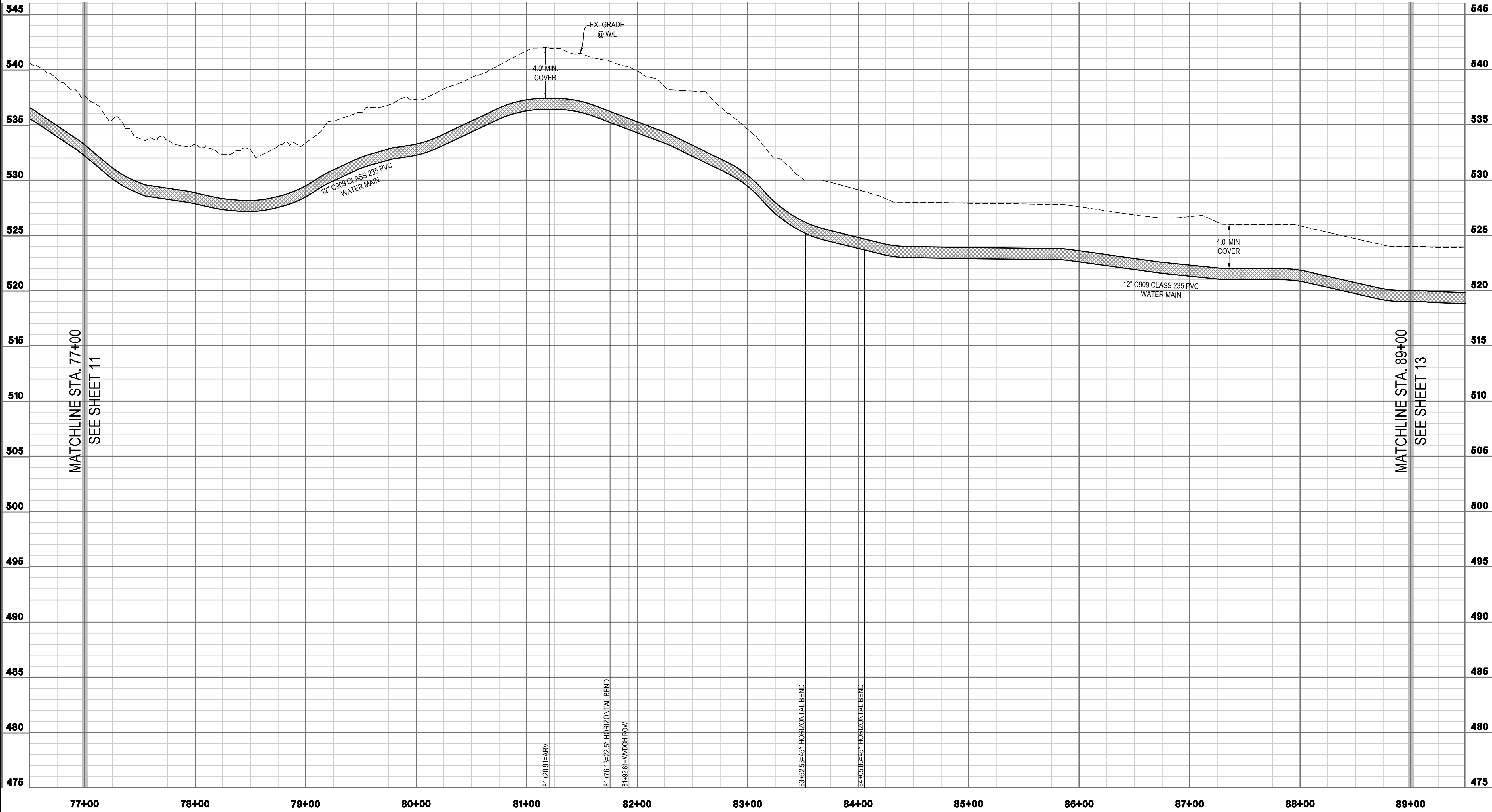
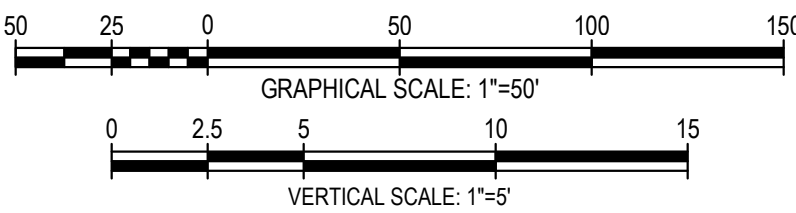
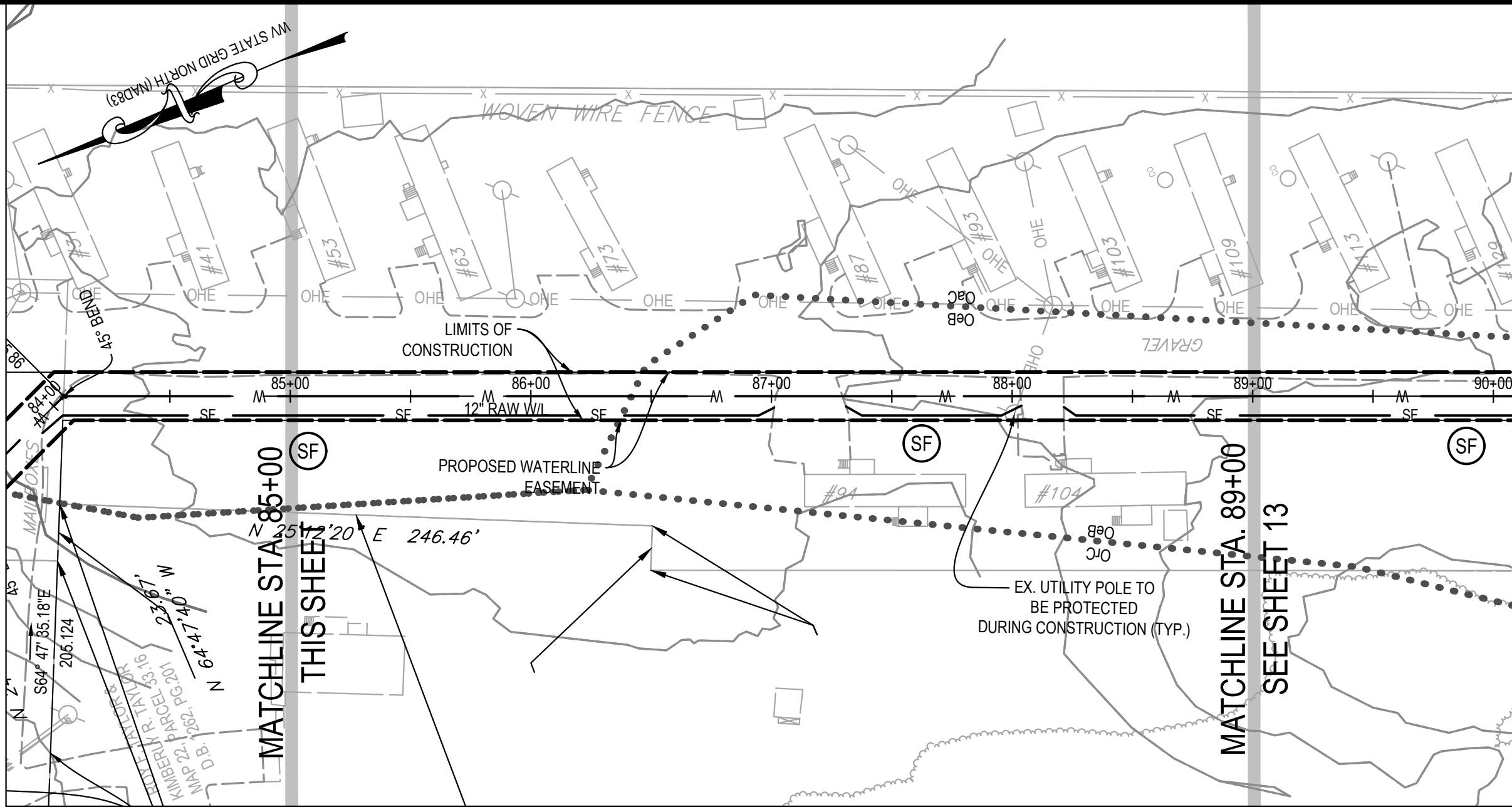
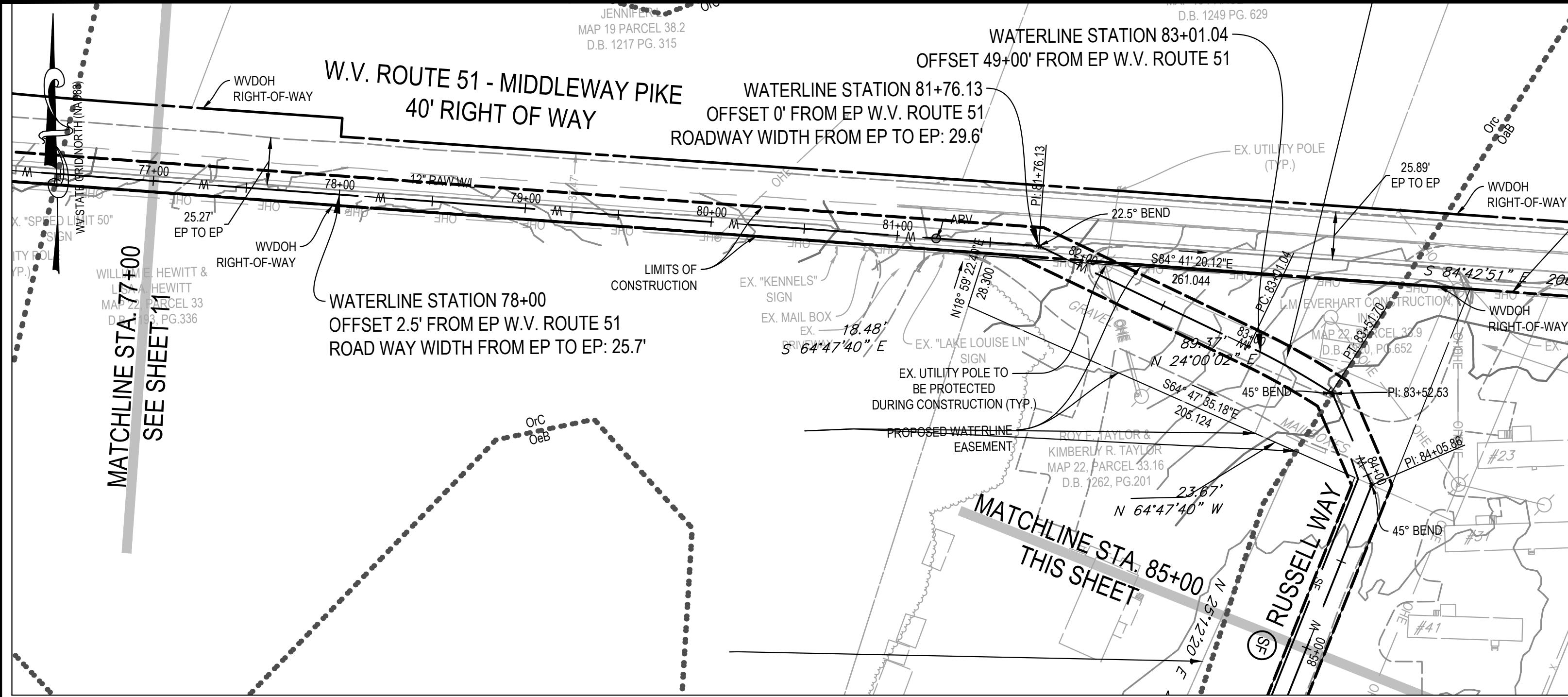
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|                    | VERT.: 1" = 5'   |            |
| DATE: AUGUST 2023  |                  |            |
| JOB: 3138-0102     |                  |            |
| DRAWN: RJP         |                  | CHECK: JPG |
| CADD: C-CU-231.DWG |                  |            |
| NCS:               |                  |            |
| SHEET:             |                  |            |

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**EROSION & SEDIMENT CONTROL LEGEND**

| KEY  | SYMBOL | DESCRIPTION          |
|------|--------|----------------------|
|      | ---    | LIMIT OF DISTURBANCE |
| (SF) | — SF — | SILT FENCE           |

**NOTES**

- NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPEN AT ONE TIME.
- ALL DISTURBANCE TO TURF AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED ONCE THE AREA OF THE TRENCH IS BACKFILLED

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**ADVANCE COPY FOR CONSTRUCTION**

SEAL:

| REVISIONS |                                   |
|-----------|-----------------------------------|
| 1.        | REVISIONS PER WDOH COMMENTS       |
| 2.        | REVISIONS PER WDOH COMMENTS       |
| 3.        | REVISIONS PER WDOH COMMENTS       |
| 4.        | REVISIONS PER WDOH COMMENTS       |
| 5.        | REVISIONS FOR WDOH RE-APPLICATION |

WATER LINE PLAN AND PROFILE

**SIDEWINDER RAW WATER LINE**

JEFFERSON COUNTY, WEST VIRGINIA

SCALE: HORIZ.: 1" = 50'  
VERT.: 1" = 5'

DATE: AUGUST 2023

JOB: 3138-0102

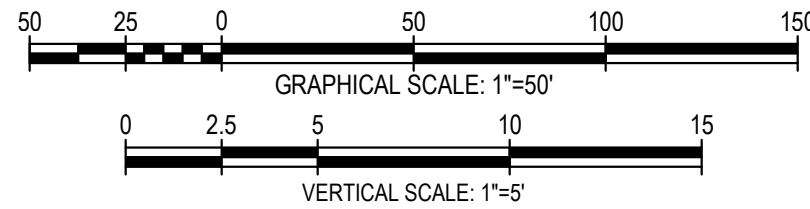
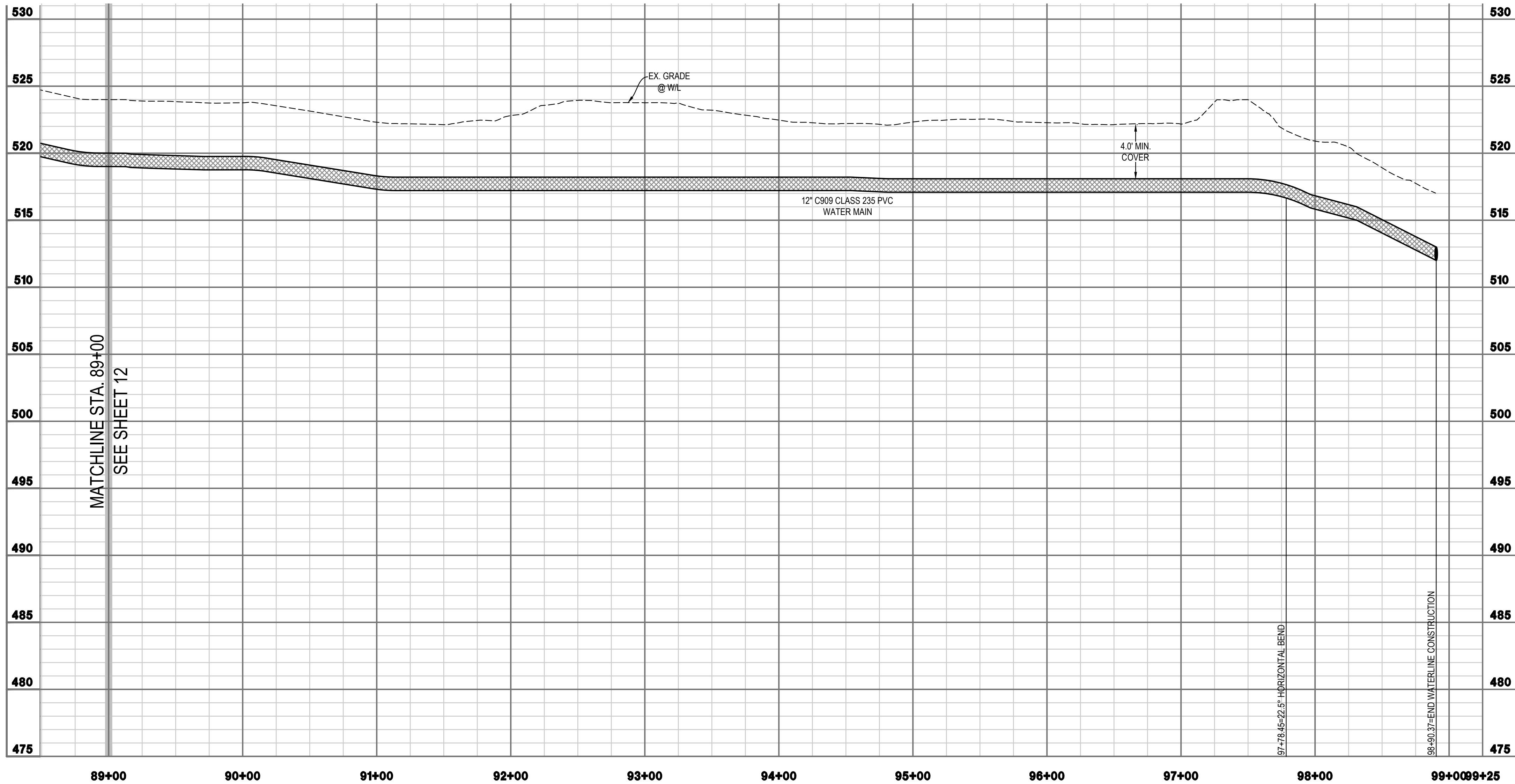
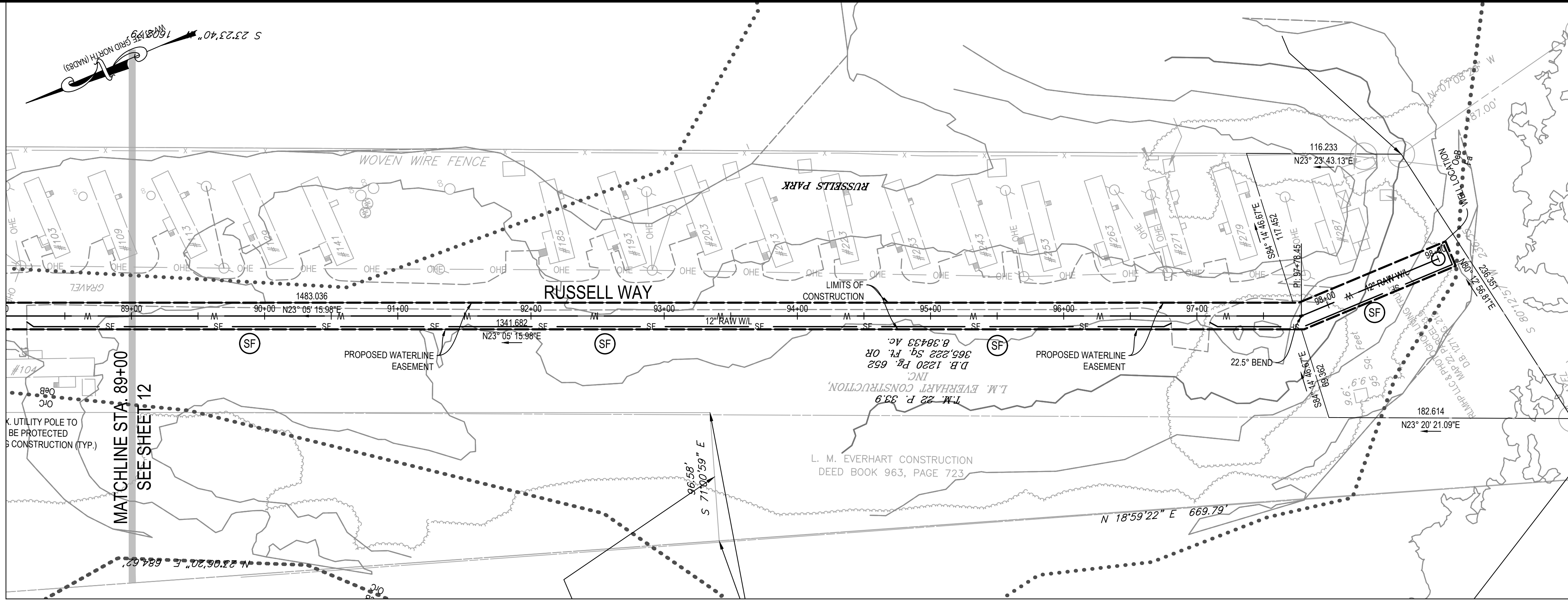
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NCS: SHEET:

12 OF 15

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**EROSION & SEDIMENT CONTROL LEGEND**

| KEY  | SYMBOL | DESCRIPTION          |
|------|--------|----------------------|
|      | ---    | LIMIT OF DISTURBANCE |
| (SF) | ---    | SILT FENCE           |

**NOTES**

- NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPEN AT ONE TIME.
- ALL DISTURBANCE TO TURF AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED ONCE THE AREA OF THE TRENCH IS BACKFILLED.

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**ADVANCED EROSION CONTROL**

SEAL:

| REVISIONS |                                   |
|-----------|-----------------------------------|
| 1.        | REVISIONS PER WDOH COMMENTS       |
| 2.        | REVISIONS PER WDOH COMMENTS       |
| 3.        | REVISIONS PER WDOH COMMENTS       |
| 4.        | REVISIONS PER WDOH COMMENTS       |
| 5.        | REVISIONS PER WDOH RE-APPLICATION |

WATER LINE PLAN AND PROFILE

**SIDEWINDER RAW WATER LINE**

JEFFERSON COUNTY, WEST VIRGINIA

|        |                  |
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| NCS:   |                  |
| SHEET: |                  |

EROSION AND SEDIMENT CONTROL NARRATIVE:

I. PROJECT DESCRIPTION:

THIS PROJECT IS FOR THE CONSTRUCTION OF A 12" WATER MAIN FROM THE TRAILER PARK LOCATED ALONG RUSSELL WAY TO THE OLD 3M FACILITY ALONG GRACE WAY IN MIDDLEWAY WEST VIRGINIA. IN ADDITION, PORTIONS OF GRACE STREET AND EAST STREET WILL BE RESURFACED. THE TOTAL PROJECT AREA IS APPROXIMATELY ±4.08 ACRES. THE TOTAL IMPERVIOUS AREA CREATED BY THE DEVELOPMENT OF THE SITE IS APPROXIMATELY ±0 ACRES. ASSOCIATED GRADING VOLUMES FOR THE PROPOSED SITE IMPROVEMENTS ARE APPROXIMATELY 6,000 C.Y. OF CUT AND 6,000 C.Y. OF FILL (NOT TO BE USED FOR BIDDING PURPOSES).

II. EXISTING SITE CONDITIONS:

THE SITE IS LOCATED IN MIDDLEWAY WEST VIRGINIA WITH WATERLINE INSTALLATION OCURING THROUGH THE TRAILER PARK ALONG RUSSELL WAY WHICH IS ON THE SOUTHERN SIDE OF MIDDLEWAY PIKE (WV 51), THEN ALONG THE SHOULDERPAVED SURFACE OF MIDDLEWAYT PIKE (WV 51), OLD MIDDLEWAY PIKE (C.R. 17), EAST STREET (C.R. 18), AND GRACE STREET (C.R. 18) TO THE OLD 3MKODACK FACILITY LOCATED ALONG THE WEST SIDE OF BRUCETOWN ROAD (C.R. 18). THE SUBJECT PROJECT AREA CONSISTS OF A RESIDENTIAL TRAILER PARK, PAVED ROADWAYS MAINTAINED BY THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, AND A PREVIOUSLY DEVELOPED COMMERCIAL SITE. THE SITE CONSISTS OF MODERATELY STEEP AND FLAT SLOPES RANGING FROM APPROXIMATELY 1%-15%. THE SURFACE RUNOFF DRAINS TO THE SOUTH AT THE RUSSELL WAY TRAILER PARK AND TO THE ROAD SHOULDERS ALONGS MIDDLEWAY PIKE, OLD MIDDLEWAY PIKE, EAST STREET, AND GRACE STREET.

III. ADJACENT AREAS:

THE PROJECT AREA IS BOUNDED BY RESIDENTIAL AND AGRICULTURAL PROPERTIES ON ALL SIDES OF MIDDLEWAY PIKE, OLD MIDDLEWAY PIKE, EAST STREET, AND GRACE STREET. TO THE SOUTH OF THE RUSSELL WAY TRAILER PARK IS TURKEY RUN WHICH IS APPROXIMATELY 300 FEET SOUTH OF THE PROJECT LIMITS. THE PROPERTY TO THE EAST OF THE RUSSELL WAY TRAILER PARK IS AGRICULTURAL LAND. THERE IS LITTLE POTENTIAL FOR OFFSITE EROSION AND SEDIMENT DAMAGE BY THIS PROJECT AS TEMPORARY EROSION AND SEDIMENT CONTROLS WILL BE USED DURING CONSTRUCTION.

IV. CRITICAL AREAS:

CRITICAL AREAS CONSIST OF TURKEY RUN TO THE SOUTH OF THE RUSSELL WAY TRAILER PARK. THERE WILL BE NO IMPACTS TO THIS AREA DURING CONSTRUCTION. THE LIMITS OF THIS PROJECT ARE ENTIRELY LOCATED OUTSIDE OF THE WETLAND/STREAM BUFFER FOR TURKEY RUN. DISTURBED AREAS WILL BE PROTECTED WITH SILT FENCE AND/OR OTHER CONTROL MEASURES.

V. SOILS:

| SOIL NAME                                             | MAPPING UNIT | HSG | DEPTH TO WATER TABLE | DEPTH TO BEDROCK |
|-------------------------------------------------------|--------------|-----|----------------------|------------------|
| CARBO-ROCK OUTCROP COMPLEX, 3-5% SLOPES               | CsC          | D   | 20"-40"              | >80"             |
| CARBO-ROCK OUTCROP COMPLEX, 15-25% SLOPES             | CsD          | D   | 20"-40"              | >80"             |
| FAIRPLAY SILT LOAM, 0-3% SLOPES                       | Fa           | A/D | 48"-58"              | 0"-12"           |
| FUNKTOWN SILT LOAM                                    | Fk           | C   | >80"                 | 20"-28"          |
| LAPPANS LOAM, 0-3% SLOPES                             | La           | A   | >80"                 | 44"-72"          |
| MASSANETTA LOAM, 0-3%                                 | Mn           | B   | >80"                 | 21"-44"          |
| OAKLET SILT LOAM, 3-8% SLOPES                         | OaB          | C   | >80"                 | >80"             |
| OAKLET SILT LOAM, 8-15% SLOPES                        | OaC          | C   | >80"                 | >80"             |
| OAKLET SILT LOAM, 3-8% SLOPES, VERY ROCKY             | OaB          | C   | >80"                 | >80"             |
| OAKLET SILT LOAM, 8-15% SLOPES, VERY ROCKY            | OaC          | C   | >80"                 | >80"             |
| OAKLET SILTY CLAY LOAM, 8-15% SLOPES, VERY ROCKY      | OkC          | C   | >80"                 | >80"             |
| OAKLET-ROCK OUTCROP COMPLEX, 3-8% SLOPES              | OrB          | C   | >80"                 | >80"             |
| OAKLET-ROCK OUTCROP COMPLEX, 8-15% SLOPES             | OrC          | C   | >80"                 | >80"             |
| WATER                                                 | W            |     |                      |                  |
| WEIKERT-BERKS CHANNERY SILT LOAMS, 15-25% SLOPES      | WbD          | D   | 10"-20"              | >80"             |
| WHARTON-CLEARBROOK CHANNERY SILT LOAMS, 15-25% SLOPES | WbB          | C/D | 51"-72"              | 18"-30"          |

NOTES:

- SOILS INFORMATION PROVIDED BY THE USDA SOIL SURVEY OF JEFFERSON COUNTY, WEST VIRGINIA.

VI. POTENTIAL EROSION PROBLEM AREAS:

PER THE SOILS DATA SHOWN ABOVE, THE EXISTING SOILS LOCATED ONSITE HAVE A MODERATE-SLIGHT ERODABILITY POTENTIAL.

VII. EROSION AND SEDIMENT CONTROL ELEMENTS:

UNLESS OTHERWISE NOTED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

1. MARK CLEARING LIMITS:

PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA. PLASTIC, METAL, OR STAKE WIRE FENCE MAY BE USED TO MARK CLEARING LIMITS. SAFETY FENCE SHOULD BE INSTALLED TO PREVENT PUBLIC ACCESS TO POTENTIALLY HAZARDOUS AREAS OF THE SITE AND TO PREVENT ACCESS TO EROSION AND SEDIMENT CONTROL MEASURES.

2. ESTABLISH CONSTRUCTION ACCESS:

ALL CONSTRUCTION VEHICLES ENTERING THE RUSSELL WAY TRAILER PARK SHALL UTILIZE THE WEST GRAVEL ENTRANCE. ALL WORK OUTSIDE OF THE RUSSELL WAY TRAILER PARK IS TO TAKE PLACE WITHIN THE WDOOH RIGHT-OF-WAY.

3. INSTALL SEDIMENT CONTROLS:

THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL REMAIN IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. PRIOR TO LEAVING THE CONSTRUCTION SITE, SURFACE RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT CONTROL MEASURE. BMP'S INTENDED TO TRAP SEDIMENT ON SITE SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL PRIOR TO LAND DISTURBING ACTIVITIES TAKING PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS SHALL BE SEEDED AND MULCHED AS PER TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES.

SILT FENCE:

SILT FENCE SHALL BE INSTALLED ALONG THE DOWN-SLOPE SIDES OF DISTURBED AREAS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

4. STABILIZE SOILS:

THE GENERAL PERMIT REQUIRES THAT:

- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOUR (4) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.
- APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, EROSION CONTROL FABRICS AND MATTING, SURFACE ROUGHENING, SURFACE WATER CONTROL, AND DUST CONTROL.
- SELECTED SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED DURATION OF USE.
- ALL SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.
- LINEAR CONSTRUCTION ACTIVITIES SUCH AS RIGHT-OF-WAY AND EASEMENT CLEARING, ROADWAY DEVELOPMENT, PIPELINES, AND TRENCHING FOR UTILITIES, SHALL BE CONDUCTED TO MEET THE SOIL STABILIZATION TIMEFRAME REQUIREMENTS. CONTRACTORS SHALL INSTALL THE BEDDING MATERIALS, ROADBEDS, STRUCTURES, PIPELINES, OR UTILITIES AND RE-STABILIZE THE DISTURBED SOILS SO THAT THE FOUR (4) DAY REQUIREMENTS ARE MET.

TEMPORARY SEEDING:

TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN FOUR (4) DAYS TO AREAS THAT WILL NOT BE RE-DISTURBED FOR MORE THAN FOURTEEN (14) DAYS. AREAS INCLUDE DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, SIDES OF SEDIMENT BASINS, TEMPORARY ROAD BANKS, ETC.

PERMANENT SEEDING:

PERMANENT STABILIZATION SHALL BE INITIATED WITHIN FOUR (4) DAYS OF REACHING FINAL GRADE AND WITHIN FOUR (4) DAYS AFTER CONSTRUCTION HAS BEEN COMPLETED. AREAS INCLUDE DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL AND ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR SIX MONTHS OR MORE.

MULCHING:

THE APPLICATION OF STRAW, HAY OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING. AREAS THAT CANNOT BE SEEDED BECAUSE OF THE SEASON SHOULD BE MULCHED TO PROVIDE SOME PROTECTION TO THE SOIL SURFACE.

TOPSOILING:

TOPSOILING IS THE SPREADING OF TOPSOIL OF A SUITABLE QUALITY OVER AN AREA TO BE STABILIZED BY ESTABLISHING VEGETATION. IF TOPSOIL IS TO BE STOCKPILED AT SITE, IT SHALL BE IN A LOCATION THAT WILL NOTE ERODE, BLOCK DRAINAGE, OR INTERFERE WITH WORK ON THE SITE. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH SEDIMENT TRAPPING MEASURES. TOPSOIL SHALL BE SPREAD AT A LIGHTLY COMPACTED DEPTH OF 2 TO 4 INCHES. 4 INCHES OR GREATER IS RECOMMENDED FOR AREAS WHERE FINE-TEXTURED (CLAYEY) SUBSOIL OR OTHER ROOT LIMITING FACTORS ARE PRESENT.

6. PROTECT STORM DRAIN INLETS:

STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SURFACE WATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. INLET PROTECTION SHALL BE PLACED ON ALL STORM INLETS TO PROTECT AGAINST SEDIMENT-LADEN RUNOFF ENTERING THE SYSTEM AT THE INLETS.

CULVERT INLET PROTECTION:

CULVERT INLET PROTECTION SHALL BE PLACED ON ALL STORM CULVERT INLETS TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN, AND BEING TRANSFERRED BY THE CULVERT AND ASSOCIATED DRAINAGE SYSTEM. CULVERT INLET PROTECTION MAY ALSO PROVIDE EROSION CONTROL AT STORM CULVERT INLETS DURING THE PHASE OF A PROJECT WHERE ELEVATION AND DRAINAGE PATTERNS CHANGE, CHANGING ORIGINAL CONTROL MEASURES TO BE INEFFECTIVE OR IN NEED OF REMOVAL.

7. CONVEY STORMWATER IN A NON-EROSIVE MANNER:

POINTS OF DISCHARGE AND RECEIVING STREAMS SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF SURFACE WATER RUNOFF FROM THE PROJECT SITE. ALL STORMWATER CONVEYANCE CHANNELS SHALL BE STABILIZED FOR EXPECTED FLOWS.

OUTLET PROTECTION:

OUTLET PROTECTION SHALL BE INSTALLED AT ALL CULVERT OUTLETS OF ALL TYPES, PIPE CONDUITS FROM ALL SEDIMENT BASINS, SWM PONDS, AND NEW CHANNELS CONSTRUCTED AS OUTLETS FOR CULVERTS AND CONDUITS. OUTLET PROTECTION SHALL BE PROVIDED IN THE FORM OF A RIP-RAP-LINED APRON CONSTRUCTED AT A ZERO OR MINIMUM SLOPE TO SLOW THE OUTLET VELOCITY AND ADEQUATELY PROTECT SOILS FROM SCOUR BY REDUCING FLOW.

8. CONTROL OTHER POLLUTANTS:

ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE OR GROUND WATER. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON SITE. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-HERT WASTES PRESENT ON SITE. ALL MATERIALS USED ON THE SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO OSHA STANDARDS 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

- MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, SOLVENT AND DE-GREASING CLEANING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO SURFACE WATER RUNOFF MUST BE CONDUCTED USING SPILL PREVENTION MEASURES. SUCH AS DRIP PANS. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT.

- WHEEL WASH OR TIRE BATH WASTEWATER SHALL BE DISCHARGED TO A SEPARATE ON-SITE TREATMENT SYSTEM OR TO THE SANITARY SEWER.

- APPLICATION OF AGRICULTURAL CHEMICALS INCLUDING FERTILIZERS AND PESTICIDES SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO SURFACE WATER RUNOFF. MANUFACTURERS RECOMMENDATIONS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED.

- IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE CONTRACTOR TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES, AS REQUIRED UNDER PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

9. CONTROL DEWATERING:

FOUNDATION, VAULT, AND UTILITY TRENCH DEWATERING WATER SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT POND. CHANNELS RECEIVING THE DISCHARGED WATER MUST BE STABILIZED. HIGHLY TURBID OR CONTAMINATED WATER FROM CONSTRUCTION EQUIPMENT OPERATIONS, WORK INSIDE A COFFERDAM, SHALL BE HANDLED SEPARATELY FROM SURFACE WATER. IF DEWATERING IS REQUIRED FOR SMALL VOLUMES OF LOCALIZED DEWATERING ON THIS SITE, A PUMP AND DEWATERING FILTER BAG SHALL BE UTILIZED. THE FILTER BAG SHALL DISCHARGE TO A DITCH OR SWALE WITH A WELL ESTABLISHED VEGETATIVE AREA.

10. MAINTAIN BMP'S:

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE BMP'S. AT A MINIMUM, ALL SEDIMENT CONTROL BMP'S SHALL BE INSPECTED AT LEAST ONCE EVERY FOUR (4) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOWMELT SUFFICIENT TO CAUSE A DISCHARGE. TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM THE REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

11. MANAGE THE PROJECT:

A SEQUENCE OF CONSTRUCTION HAS BEEN PROVIDED ON THIS SHEET TO DESCRIBE AN OVERALL CONSTRUCTION SEQUENCE AS IT RELATES TO EROSION AND SEDIMENT CONTROL. BMP'S AND CONSTRUCTION OF VARIOUS ELEMENTS OF THE PROJECT. IN GENERAL, THE PROJECT IS TO BEGIN CONSTRUCTION IN JANUARY 2026 AND END APPROXIMATELY IN JANUARY 2027. THE CONTRACTOR IS RESPONSIBLE FOR THE DETAILS OF THE DAY TO DAY OPERATIONS.

- THE PRIMARY PROJECT MANAGER SHALL EVALUATE, WITH INPUT FROM UTILITIES AND OTHER CONTRACTORS, THE SURFACE WATER MANAGEMENT REQUIREMENTS FOR THE ENTIRE PROJECT, INCLUDING THE UTILITIES. WHEN PREPARING THE SEDIMENT CONTROL PLAN, ALL BMP'S SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. WHENEVER INSPECTION AND/OR MONITORING REVEALS THAT THE BMP'S IDENTIFIED IN THE SEDIMENT CONTROL PLAN ARE INADEQUATE, THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED, AS APPROPRIATE, IN A TIMELY MANNER.

- CONTRACTOR SHALL REPORT SPILLAGE OR DISCHARGE OF POLLUTANTS WITHIN 24 HOURS. THE SEDIMENT CONTROL PLAN SHALL BE RETAINED ON SITE. THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP. THE WDOEP MUST BE NOTIFIED OF ANY CHANGES TO THE CONSTRUCTION SWPP.

12. STABILIZATION:

THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL COVER MUST BE INITIATED WITHIN FOUR (4) DAYS AFTER REACHING FINAL GRADE. A NOTICE OF TERMINATION MUST BE FILED WITH THE WDOEP WHEN THE SITE REACHES FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. (THE 70% REQUIREMENT REFERS TO THE TOTAL VEGETATED AREA AND NOT JUST A PERCENT OF THE SITE).

VIII. EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. AREAS OF DEVELOPMENT SHALL BE PLANNED IN PHASES AND STAGES IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE DEVELOPMENT SITE DURING CONSTRUCTION AND MINIMIZE EXPOSURE TO DISTURBED GROUND. RE-VEGETATION OF EXPOSED AREAS AND THE MAINTENANCE OF THAT VEGETATION SHALL BE AN INTEGRAL PART OF THE CLEARING ACTIVITIES FOR ANY PHASE.
3. NO DISTURBED AREA IS TO REMAIN DENUDED FOR MORE THAN FOUR (4) DAYS EXCEPT FOR MATERIAL STORAGE AREAS OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED UNLESS AUTHORIZED BY JEFFERSON COUNTY AND/OR THE EASTERN PANHANDLE CONSERVATION DISTRICT.
4. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH PERIMETER SEDIMENT CONTROLS SUCH AS SILT FENCE TO PREVENT CONSTRUCTION WITH STORMWATER RUNOFF. ALL STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHOULD BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCE SYSTEMS AND WATER BODIES.
5. ALL SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING SITE GRADING OPERATIONS TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION MEASURES SHALL BE APPLIED TO ALL SLOPES AS SPECIFIED IN THE SOIL STABILIZATION MEASURES.
6. DURING CONSTRUCTION, PROTECT ALL FILLS SO THAT RUNOFF DOES NOT GO DOWN THE FACE OF THE HILL. UTILIZE BERMS, TEMPORARY SLOPE DRAINS, OR OTHER METHODS TO DIVERT RUNOFF AWAY FROM THE FILL AND INTO A SEDIMENT TRAPPING STRUCTURE. AS MORE FILL IS ADDED, SLOPE THE TOP (OR BERM IT) TO DIRECT WATER AWAY FROM THE SLOPE AND TO A STABLE CONVEYANCE SYSTEM. SEED & MULCH EVERY FOUR (4) DAYS OR 15' OF FILL.
7. NO OFF-SITE SOURCE OF BORROW MATERIALS IS ANTICIPATED FOR THIS PROJECT. IN THE EVENT THAT AN OFF-SITE SOURCE OF BORROW MATERIALS IS USED, AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE PROVIDED FOR THE BORROW PIT AND THE BORROW PIT SHALL MEET ALL APPLICABLE REQUIREMENTS AND PERMITS OF THE WDOEP.
8. DUE TO GRADE CHANGES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (i.e. SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.

IX. SOIL STABILIZATION:

EXCEPT AS NOTED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOUR (4) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED OR FOUR (4) DAYS FOR SITES REQUIRED TO USE ENHANCED BMP'S.

- WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 4TH DAY, AS APPLICABLE AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY NATURAL CAUSES, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.

- WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 14 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 4TH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.

- AREAS WHERE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER OF 70% OR GREATER) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

TEMPORARY STABILIZATION:

SEED MIXTURES OF TEMPORARY SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR DURING APPLICATION. SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS. REFER TO TABLE 3.10.1 TEMPORARY SEEDINGS OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL FOR A LIST OF COVER PLANTS, APPROVED PLANTING DATES, AND APPLICATION RATES.

PERMANENT STABILIZATION:

SEED MIXTURES INCLUDE THE FOLLOWING:

| COMMON NAME                                                         | APPLICATION RATE | PREFERRED PLANTING DATES |
|---------------------------------------------------------------------|------------------|--------------------------|
| KENTUCKY 31 FESCUE                                                  | 45 LBS./ACRE     | 3/1-6/15 & 8/15-9/15     |
| RED FESCUE                                                          | 20 LBS./ACRE     | 3/1-6/15 & 8/15-9/15     |
| KENTUCKY BLUEGRASS                                                  | 25 LBS./ACRE     | 3/1-6/15 & 8/15-9/15     |
| WHITE DUTCH CLOVER                                                  | 5 LBS./ACRE      | 3/1-6/15 & 8/15-9/15     |
| FERTILIZER: DETERMINED BY SOIL TEST                                 |                  |                          |
| LIME: 90 LBS./1,000 SQ. FT. PULVERIZED AGRICULTURAL GRADE LIMESTONE |                  |                          |
| MULCH: 70-90 LBS./1,000 SQ. FT. STRAW OR HAY MULCH                  |                  |                          |

ALTERNATIVE SEED MIXTURES MAY BE SUBSTITUTED AS APPROVED BY INTEGRITY FEDERAL SERVICES. SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS. REFER TO TABLE 3.11.1 PERMANENT SEEDING OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL FOR A LIST OF COVER PLANTS APPROVED PLANTING DATES, AND APPLICATION RATES.

X. UNDERGROUND UTILITY LINE INSTALLATION:

1. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
2. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS. WHERE UTILITY EXCAVATION OCCURS ADJACENT TO / WITHIN PAVED ROADS, EXCAVATED MATERIAL SHALL BE LOADED INTO TRUCKS.
3. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
4. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
5. ALL TRENCHES SHALL BE SEEDED AND MULCHED WITHIN 4 DAYS AFTER BACKFILLING.
6. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

XI. SEQUENCE OF CONSTRUCTION:

- PHASE I:

PHASE I OPERATIONS SHALL INCLUDE EROSION CONTROL MEASURES NEEDED TO DIVERT MAJOR OFF-SITE CLEAN WATER AND ON-SITE DRAINAGE FLOWS AROUND THE WORK AREAS AND CONTROL EROSION AND SEDIMENTATION ASSOCIATED WITH INITIAL CLEARING AND GRADING OPERATIONS.

1. CONTACT WEST VIRGINIA MISS UTILITY AT 800-245-4848, AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK. LOCATE ALL UTILITIES.
2. CONTACT JEFFERSON COUNTY ENGINEERING AT 304-728-3257 AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING WORK.
3. WITHIN 72 HOURS OF FILING AN APPLICATION WITH THE WDOEP DIVISION OF WATER AND WASTE MANAGEMENT (DWWM), INSTALL PUBLIC NOTICE SIGN NEAR THE ENTRANCE OF THE PROJECT OR NEAR AN OTHER PART OF THE CONSTRUCTION PROJECT, THAT IS ACCESSIBLE BY THE PUBLIC. THE PUBLIC NOTICE SIGN MUST REMAIN DISPLAYED FOR THE DURATION OF THE PROJECT. (SEE PUBLIC NOTICE SIGN DETAIL, SHEET 15).
4. STAKE/FLAG LIMITS OF CONSTRUCTION, SENSITIVE AREAS, AND TREES THAT ARE TO BE PRESERVED. LIMITS OF CONSTRUCTION MUST REMAIN MARKED THROUGHOUT THE ENTIRE SITE DEVELOPMENT.
5. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE AND ESTABLISH A PROTECTED STAGING AND EQUIPMENT PARKING AREA.
6. CLEAR AND GRUB AREAS FOR THE INSTALLATION OF PERIMETER CONTROLS. ONLY THE MINIMUM AREAS NECESSARY TO INSTALL PERIMETER EROSION CONTROL MEASURES SHALL BE CLEARED AND GRUBBED.
7. INSTALL PERIMETER CONTROLS SUCH AS SILT FENCE, STABILIZE ALL EROSION AND SEDIMENT CONTROL MEASURES IMMEDIATELY AFTER INSTALLATION. STABILIZE AREAS BETWEEN PERIMETER SEDIMENT CONTROL MEASURES AND THE LIMITS OF CONSTRUCTION.
8. CLEAR AND GRUB THE REMAINDER OF THE SITE. ALL UNSUITABLE MATERIAL (LOGS, BRUSH, VEGETATIVE MATTER, ETC.) WHICH WILL INTERFERE WITH THE GRADING AND/OR STABILITY OF FILL AREAS SHALL BE REMOVED AND/OR DISPOSED OF PROPERLY. PHASE CLEARING AND GRUBBING TO THE EXTENT POSSIBLE TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY POINT IN TIME.
9. ESTABLISH SOIL STOCKPILES AND PROTECT WITH SILT FENCE. STRIP AND STOCKPILE TOPSOIL TO USE IN THE FINISH GRADING OPERATIONS. STOCKPILES SHALL BE SEEDED AND MULCHED IF THEY ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR LONGER.

- PHASE II:

THE PHASE II EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED FOR THE FINAL STAGES OF SITE DEVELOPMENT. PHASE I CONTROL MEASURES, WHICH ARE NOT IN CONFLICT WITH FINAL CONSTRUCTION AND PROVIDE EFFECTIVE CONTROL, SHALL REMAIN IN PLACE FOR FINAL DEVELOPMENT. THE CONTRACTOR SHALL FOLLOW THE COUNTY ENGINEERING DEPARTMENT'S DIRECTION IN PROVIDING ADDITIONAL CONTROL MEASURES NEEDED DURING THE DEVELOPMENT PROCESS, TO ENSURE THAT SEDIMENT IS PREVENTED FROM POLLUTING OFF-SITE AREAS, STREAMS AND/OR PROTECTED ON-SITE AREAS. THE FOLLOWING SEQUENCE OF CONSTRUCTION IS SUGGESTED.

1. THROUGHOUT CONSTRUCTION, INITIATE TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING ACTIVITY. DISTURBED AREAS SHALL BE SEEDED AND MULCHED IF THEY ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR LONGER. COMPLETION MUST BE WITHIN 7 DAYS.
2. INSTALL WATER LINE
3. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED THROUGHOUT CONSTRUCTION.
4. FINAL GRADE ALL AREAS OF THE SITE LEAVING SEDIMENT CONTROLS IN PLACE AS NEEDED. SPREAD TOPSOIL OVER AREAS TO BE SEEDED.
5. PERMANENTLY STABILIZE ALL AREAS NOT COVERED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS.
6. RESURFACE ROAD WHERE DICTATED ON PLANS.
7. OBTAIN JEFFERSON COUNTY ENGINEERING APPROVAL PRIOR TO THE REMOVAL OF ANY EROSION AND SEDIMENT CONTROLS. NO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UNTIL ALL UP-SLOPE AREAS THAT DRAIN TO THEM HAVE BEEN STABILIZED.
8. REMOVE REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S. STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY BMP'S.
9. CONTRACTOR SHALL CONTACT WDOEP TO FILE A NOTICE OF TERMINATION (NOT) OF THE NPDES PERMIT.

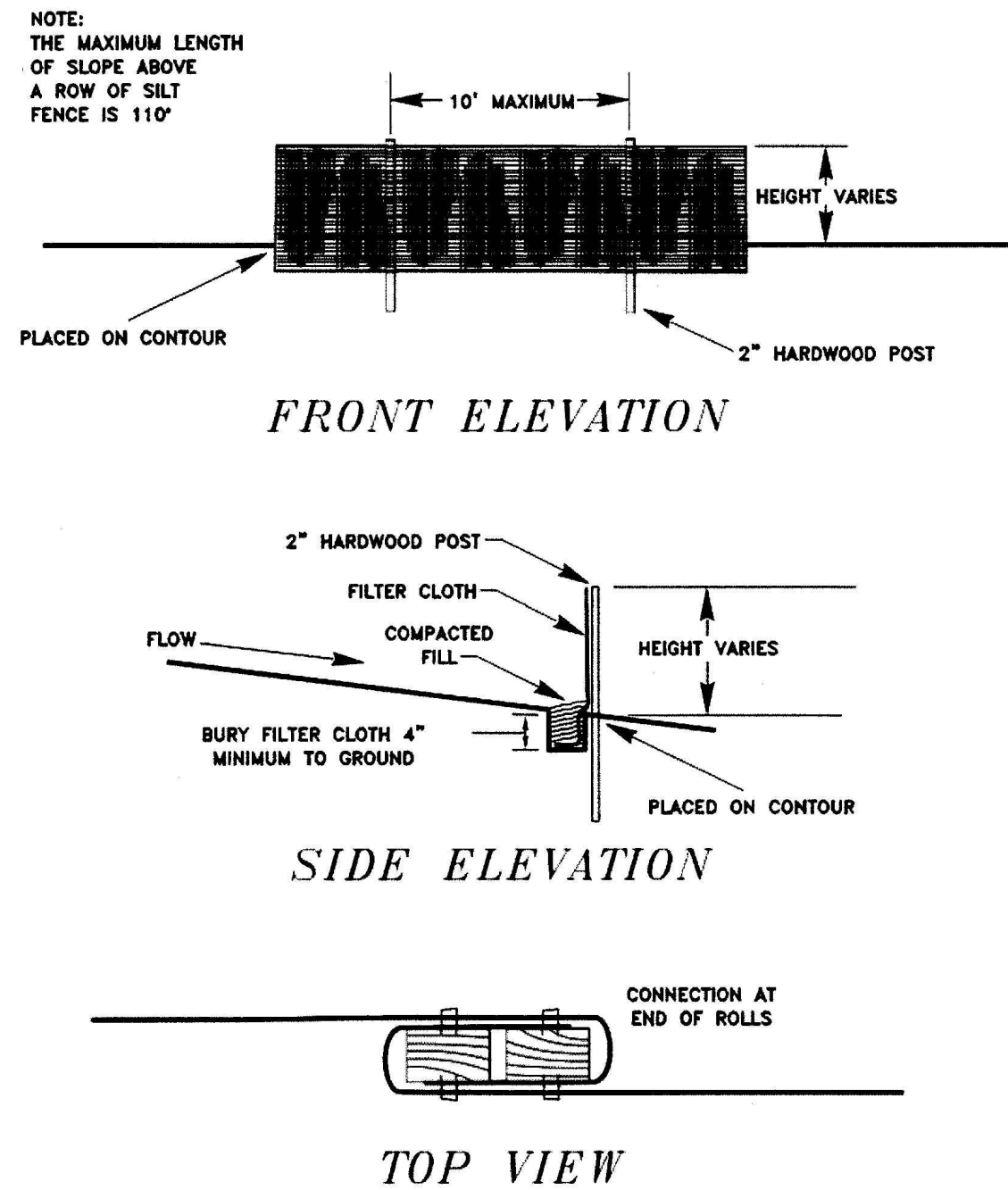
XII. MAINTENANCE PROGRAM:

1. AT A MINIMUM, INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROLS ARE TO BE CONDUCTED ONCE EVERY FOUR (4) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOWMELT SUFFICIENT TO CAUSE A DISCHARGE, BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE. REPAIRS OR MAINTENANCE TO BMP'S SHALL BE PERFORMED WITHIN 24 HOURS, HOWEVER, PERMITTEES MUST IMLEMENT ALTERNATE BMP'S DURING STORM EVENTS WHILE AWAITING REPAIR OF THE PRIMARY BMP.
2. TO DETERMINE IF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER HAS OCCURRED, THE APPLICANT MUST EITHER KEEP A PROPERLY MAINTAINED RAIN GAUGE ON THE SITE OR OBTAIN THE PRECIPITATION EVENT INFORMATION FROM A NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION (NOAA) WEATHER STATION THAT IS REPRESENTATIVE OF THE PROJECT LOCATION.
3. SILT FENCING AND SUPER SILT FENCING SHOULD BE CLEANED AT 50% CAPACITY AND SPREAD ON SITE WHERE PRACTICAL. SEDIMENT REMOVAL SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
4. EROSION AND SEDIMENT CONTROL STRUCTURES SHALL NOT BE REMOVED UNTIL ALL AREAS ABOVE THEM HAVE BEEN STABILIZED AND SEEDED AREAS ESTABLISHED. NO CONTROL SHALL BE REMOVED WITHOUT APPROVAL FROM JEFFERSON COUNTY ENGINEERING.
5. DEVICES SHOWN ARE TO BE CONSIDERED MINIMUM EROSION AND SEDIMENTATION CONTROLS. ADDITIONAL CONTROLS MAY BE NECESSARY DUE TO CONTRACTOR'S PHASING OR OTHER UNANTICIPATED CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES AS NECESSARY IN ORDER TO CONTROL EROSION AND SEDIMENTATION.
6. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF CLEANING AND REMOVING ALL LAYING DUST AS NECESSARY BY APPLYING EITHER MOISTURE, CALCIUM CHLORIDE, OR OTHER APPROVED MATERIALS ALONG THOSE SECTIONS OF THE PROJECT ADJACENT TO EXISTING DWELLINGS OR PUBLIC ACCESS.
7. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH WORKING DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO STOCKPILE AREAS. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED AS MUCH AS POSSIBLE BY SHOVELING OR SWEEPING.
8. AREAS WHERE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER OF 70% OR GREATER) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.
9. FOR THIS PROJECT, THE APPLICANT WILL OBTAIN THE PRECIPITATION EVENT INFORMATION FROM A NOAA WEATHER STATION. THE NEAREST NOAA WEATHER STATION IS AS FOLLOWS:  
  
WEATHER STATION NAME: KEARNEYSVILLE, WEST VIRGINIA  
  
SITE ID: 46-4763  
  
LATITUDE: 39.3568°  
  
LONGITUDE: -77.8633°  
  
ELEVATION: 571.25 FT.

JEFFERSON COUNTY EROSION & SEDIMENT CONTROL NOTES:

1. ANY AREA OF EXPOSED SOIL WHERE NO CONSTRUCTION IS ANTICIPATED FOR A PERIOD OF LONGER THAN THREE WEEKS OR WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR THREE WEEKS SHALL BE TEMPORARILY STABILIZED.
2. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN FOUR (4) CALENDAR DAYS AFTER COMPLETION OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOUR (4) CALENDAR DAYS AFTER REACHING FINAL GRADE FOR ALL OTHER DISTURBED OR GRADED AREAS.
  - THESE PROVISIONS DO NOT APPLY TO THOSE AREAS THAT ARE SHOWN ON THE PLAN FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED.
  - THESE TIME REQUIREMENTS MAY BE EXTENDED AS DEEMED NECESSARY BY THE JEFFERSON COUNTY ENGINEER IN THE EVENT THAT ADVERSE CONDITIONS PREVENT COMPLIANCE WITH THE STATED TIME LIMITATIONS FOR THE COMPLETION OF PERMANENT OR TEMPORARY STABILIZATION.
3. STABILIZATION WILL BE CONSIDERED ADEQUATE WHEN THE FOLLOWING CONDITIONS ARE MET:
  - A) WATER COURSES, STREAM BANKS, AND DRAINAGE EASEMENTS SHALL BE 100% STABILIZED AND FREE FROM EROSION AND DEPOSITION.
  - B) SLOPES STEEPER THAN 10% SHALL HAVE AT LEAST 98% STABLE GROUND COVER, AS DETERMINED BY THE JEFFERSON COUNTY ENGINEER.
  - C) ALL OTHER AREAS SHALL HAVE AT LEAST 85% STABLE GROUND COVER, AS DETERMINED BY THE JEFFERSON COUNTY

## SILT FENCE



(SF)

NOT TO SCALE

NOTES:

1. SECTION 6.4.b.5 OF THE GENERAL PERMIT STATES THAT "WITHIN 72 HOURS OF FILING AN NOI (ONE TO LESS THAN THREE ACRES) OR A SITE REGISTRATION APPLICATION (THREE ACRES OR MORE) WITH THE DIVISION OF WATER AND WASTE MANAGEMENT (DWWM), ALL PROJECTS SHALL DISPLAY A SIGN FOR THE DURATION OF THE CONSTRUCTION PROJECT NEAR THE ENTRANCE OF THE PROJECT OR, FOR LINEAR PROJECTS, AT A LOCATION NEAR AN ACTIVE PART OF THE PROJECT THAT IS ACCESSIBLE BY THE PUBLIC CONTAINING THE FOLLOWING INFORMATION:
- THE APPLICANT'S NAME OR THE NAME OF THE CONTACT PERSON, A TELEPHONE NUMBER AND ADDRESS WHERE THE APPLICANT CAN BE REACHED;
  - A BRIEF DESCRIPTION OF THE PROJECT;
  - A STATEMENT INDICATING THAT THE APPLICATION HAS BEEN SUBMITTED TO THE DIRECTOR;
  - A STATEMENT THAT ANY PERSON MAY REVIEW THE APPLICATION BY USING PUBLIC QUERY FUNCTION OF THE ELECTRONIC SUBMISSION SYSTEM (ESS) LOCATED AT: [http://apps.dep.wv.gov/WebApp/\\_dep/Search/ePermitting/ePermittingApplication/SearchPage.cfm](http://apps.dep.wv.gov/WebApp/_dep/Search/ePermitting/ePermittingApplication/SearchPage.cfm)
  - ADDITIONALLY, THE SIGN SHALL NOTIFY THE PUBLIC THAT COMMENTS ABOUT THE PROPOSED PROJECT MAY BE SUBMITTED AT [Dep.Comments@wv.gov](mailto:Dep.Comments@wv.gov).
2. THE SIGN SHALL BE A MINIMUM OF TWO FEET BY TWO FEET AND BE AT LEAST THREE FEET ABOVE GROUND LEVEL, CLEARLY VISIBLE AND LEGIBLE FROM A PUBLIC ROADWAY OR RIGHT-OF-WAY.
3. IF IT IS NOT FEASIBLE TO DISPLAY A SIGN AT OR NEAR THE PROJECT, THE APPLICANT MAY POST, WITHIN 72 HOURS OF FILING THE APPLICATION NOTICE CONTAINING THE FOREGOING INFORMATION AT A LOCAL PUBLIC BUILDING, INCLUDING, BUT NOT LIMITED TO, A TOWN HALL OR PUBLIC LIBRARY.
4. THE APPLICANT SHALL PROVIDE THE LOCATION WHERE THE SIGN OR NOTICE IS TO BE POSTED.
5. WITHIN 7 DAYS OF ASSIGNMENT OF THE PERMIT REGISTRATION NUMBER, THE APPLICANT SHALL AFFIX SUCH NUMBER TO THE SIGN OR TO THE POSTED NOTICE.

A TEMPLATE FOR THE SIGN IS AS FOLLOW

- THE TOP PART OF THE SIGN, DOWN TO THE WORDS "APPLICATION DATE", SHALL BE WORDED AND FORMATTED AS SHOWN. REMAINING TEXT SHALL BE FILLED IN BY THE APPLICANT (DATE, NAME OF REGISTRANT OR CONTACT, PROJECT DESCRIPTION, AND PHONE) IN THE SIZE AND FORMAT SHOWN. HIGH CONTRAST COLORS MUST BE USED.
  - THE SIGN SHALL BE A MINIMUM 24" x 24" WITH 1.6" AND 0.8" LETTERS
  - THE SIGN SHALL BE A MINIMUM 36" ABOVE GROUND LEVEL.
- ① 1.6" LETTERS

② 0.8" LETTERS

① For Info on NPDES

- ① For Info on NPDES
- ① Stormwater Permit
- ② To comment on Sediment Control Plans
- ① Call: 800-654-5227

or

② DEP.Comments@wv.gov  
② DEP 601 57th Street SE, Charleston WV 25304

② Application Date: **04/15/26**

① REF ID: **SIDEWINDER**

① **RAW WATERLINE**

**CHARLES TOWN UTILITY BOARD 304-725-2316**

② **Permit ID:** WV113389

[illegible]

| PLANT NAMES                        |                                                  | PLANTING DATES            | APPLICATION RATE<br>LBS/ACRES |
|------------------------------------|--------------------------------------------------|---------------------------|-------------------------------|
| COMMON                             | SCIENTIFIC                                       |                           |                               |
| Annual Ryegrass                    | <i>Lotium multiflorum</i>                        | 2/16 - 5/15<br>8/1 - 11/1 | 40                            |
| Field Bromegrass                   | <i>Bromus ciliatus</i>                           | 3/1 - 6/15<br>8/1 - 9/15  | 40                            |
| Spring Oats                        | <i>Avena sativa</i>                              | 3/1 - 6/15                | 100                           |
| Winter Rye                         | <i>Secale cereale</i>                            | 8/15 - 2/28               | 170                           |
| Winter Wheat                       | <i>Triticum aestivum</i>                         | 8/15 - 2/28               | 180                           |
| Japanese Millet                    | <i>Echinochloa crusgalli</i>                     | 5/15 - 8/15               | 30                            |
| Redtop                             | <i>Agrostis alba</i>                             | 3/1 - 6/15                | 10                            |
| Annual Ryegrass and<br>Spring Oats | <i>Lotium multiflorum</i><br><i>Avena sativa</i> | 3/1 - 6/15                | 30<br>70                      |
| German/Foxtail Millet              | <i>Setaria italica</i>                           | 5/1 - 8/1                 | 40                            |
| Hairy Vetch                        | <i>Vicia villosa</i>                             | 8/15 - 4/1                | 60                            |

\*Inoculation is required. If a hydroseeder is utilized, the application rate is 5 times the recommended rate

|        |                            |
|--------|----------------------------|
| COMMON | SCIENTIFIC                 |
| Scapus | <i>Festuca arundinacea</i> |

|   |                             |                             |    |
|---|-----------------------------|-----------------------------|----|
| A | Kentucky 31 Fescue          | <i>Festuca arundinacea</i>  | 65 |
|   | Red Fescue                  | <i>Festuca rubra</i>        | 20 |
|   | Birdsfoot Trefoil           | <i>Lotus corniculatus</i>   | 5  |
| B | Switchgrass                 | <i>Panicum virgatum</i>     | 15 |
|   | Perennial Ryegrass          | <i>Lolium perenne</i>       | 5  |
|   | Redtop                      | <i>Agrostis alba</i>        | 5  |
| C | Birdsfoot Trefoil           | <i>Lotus corniculatus</i>   | 15 |
|   | Red Fescue                  | <i>Festuca rubra</i>        | 20 |
|   | Kentucky Bluegrass          | <i>Poa pratensis</i>        | 40 |
| D | Merion Bluegrass            | <i>Poa pratensis</i>        | 30 |
|   | Kentucky 31 Fescue          | <i>Festuca arundinacea</i>  | 45 |
|   | Red Fescue                  | <i>Festuca rubra</i>        | 20 |
| E | Kentucky Bluegrass          | <i>Poa pratensis</i>        | 25 |
|   | White Dutch Clover          | <i>Trifolium repens</i>     | 5  |
|   | Perennial Ryegrass          | <i>Lolium perenne</i>       | 30 |
| F | Switchgrass                 | <i>Panicum virgatum</i>     | 15 |
|   | Crownvetch or perennial Pea | <i>Coronilla varia</i>      | 20 |
|   | Orchardgrass                | <i>Lathyrus latifolius</i>  | 20 |
| G | Ladino Clover               | <i>Dactylis glomerata</i>   | 20 |
|   | Redtop                      | <i>Lolium repens</i>        | 5  |
|   |                             | <i>Agrostis alba</i>        | 5  |
| H | Birdsfoot Trefoil           | <i>Lotus corniculatus</i>   | 15 |
|   | Weeping Lovegrass           | <i>Eragrostis curvula</i>   | 45 |
|   | Perennial Ryegrass          | <i>Lolium perenne</i>       | 10 |
| I | Crownvetch                  | <i>Coronilla varia</i>      | 20 |
|   | Orchardgrass                | <i>Dactylis glomerata</i>   | 15 |
|   | Crownvetch                  | <i>Coronilla varia</i>      | 25 |
| J | Perennial Ryegrass          | <i>Lolium perenne</i>       | 30 |
|   | Perennial Pea               | <i>Lathyrus latifolius</i>  | 30 |
|   | Orchardgrass                | <i>Dactylis glomerata</i>   | 30 |
| K | Deertongue                  | <i>Panicum clandestinum</i> | 30 |
|   | Birdsfoot Trefoil           | <i>Lotus corniculatus</i>   | 15 |
|   | Weeping Lovegrass           | <i>Eragrostis curvula</i>   | 5  |
| L | Orchardgrass                | <i>Dactylis glomerata</i>   | 30 |
|   | Serecia Lespedeza           | <i>Lespedeza cunata</i>     | 40 |
|   | Ladino Clover               | <i>Trifolium repens</i>     | 5  |
| M | Perennial Ryegrass          | <i>Lolium perenne</i>       | 50 |
|   | Clover                      | <i>Trifolium repens</i>     | 5  |
|   | Redtop                      | <i>Agrostis alba</i>        | 5  |
| N | Crownvetch                  | <i>Coronilla varia</i>      | 15 |
|   | Orchardgrass                | <i>Dactylis glomerata</i>   | 30 |
|   | Redtop                      | <i>Agrostis alba</i>        | 5  |

| PLANT NAMES |  |
|-------------|--|
|             |  |

| SEED MIX | PLANT NAMES                          |                                        | APPLICATION RATE<br>LBS/ACRE |
|----------|--------------------------------------|----------------------------------------|------------------------------|
|          | COMMON                               | SCIENTIFIC                             |                              |
| O        | Perennial Ryegrass                   | Lolium perenne                         | 40                           |
|          | Birdsfoot Trefoil                    | Lotus corniculatus                     | 15                           |
|          | Redtop                               | Agrostis alba                          | 5                            |
| P        | Serecia Lespedeza                    | Lespedeza cunata                       | 40                           |
|          | Orchardgrass                         | Dactylis glomerata                     | 30                           |
|          | Redtop                               | Agrostis alba                          | 5                            |
| Q        | Orchardgrass                         | Dactylis glomerata                     | 25                           |
|          | Reed Canarygrass 1                   | Phalaris arundinacea                   | 30                           |
|          | Redtop                               | Agrostis alba                          | 5                            |
|          | Ladino Clover                        | Trifolium repens                       | 5                            |
| R        | Kentucky Bluegrass                   | Poa pratensis                          | 30                           |
|          | Redtop                               | Agrostis alba                          | 5                            |
|          | White Clover or<br>Birdsfoot Trefoil | Trifolium repens<br>Lotus corniculatus | 5<br>15                      |
| S        | Reed Canarygrass1                    | Phalaris arundinacea                   | 40                           |
|          | Weeping Lovegrass                    | Eragrostis curvula                     | 5                            |
| T        | Perennial Ryegrass                   | Lolium perenne                         | 30                           |
|          | Reed Canarygrass 1                   | Phalaris arundinacea                   | 15                           |
|          | Birdsfoot Trefoil                    | Lotus corniculatus                     | 5                            |
| U        | Timothy                              | Phluem pratense                        | 10                           |
|          | Alfalfa                              | Medicago sativa                        | 18                           |
| V        | Timothy                              | Phluem pratense                        | 10                           |
|          | Birdsfoot Trefoil                    | Lotus corniculatus                     | 15                           |
| W        | Redtop                               | Agrostis alba                          | 5                            |
|          | Perennial Ryegrass                   | Lolium perenne                         | 30                           |
|          | Orchardgrass                         | Dactylis glomerata                     | 25                           |
|          |                                      |                                        |                              |
| X        | Reed Canarygrass 1                   | Phalaris arundinacea                   | 30                           |
|          | Birdsfoot Trefoil                    | Lotus corniculatus                     | 20                           |
|          | Redtop                               | Agrostis alba                          | 5                            |
| Y        | Switchgrass                          | Panicum virgatum                       | 30                           |
|          | Birdsfoot Trefoil                    | Lotus corniculatus                     | 20                           |
| Z        | Switchgrass                          | Panicum virgatum                       | 15                           |
|          | Serecia Lespedeza                    | Lespedeza cunata                       | 30                           |
|          |                                      |                                        |                              |
| A-1      | Orchardgrass                         | Dactylis glomerata                     | 30                           |
|          | Red Clover                           | Trifolium pratense                     | 10                           |
| A-2      | Switchgrass                          | Panicum virgatum                       | 15                           |
|          | Big Bluestem                         | Andropogon gerardi                     | 5                            |
|          | Indiangrass                          | Sorghastrum nutans                     | 5                            |
|          | Little Bluestem                      | Andropogon scoparius                   | 5                            |
|          | Sidecoats Grama2                     | Boutelous curtipendula                 | 5                            |
| A-3      | Switchgrass                          | Panicum virgatum                       | 20                           |
|          | Eastern Camnagrass3                  | Tripsacum dactyloides                  | 15                           |

NOTE: When utilizing a properly prepared seedbed, the rates of application can be reduced by 30 percent except for seed mixes A-2 & A-3.

- 1 Reed Canarygrass shall not be used east of I-79 and/or south of Charleston.  
2 Use north and east of I-64 and I-79.  
3 Use south and west of I-64 and I-79.

PLANTIN

| PLANT NAMES                     |                                                  | PLANTING DATES            | APPLICATION RATE<br>LBS/ACRE |
|---------------------------------|--------------------------------------------------|---------------------------|------------------------------|
| COMMON                          | SCIENTIFIC                                       |                           |                              |
| Annual Ryegrass                 | <i>Lolium multiflorum</i>                        | 2/16 – 5/15<br>8/1 – 11/1 | 25                           |
| Field Bromegrass                | <i>Bromus ciliatus</i>                           | 3/1 – 6/15<br>8/1 – 9/15  | 20                           |
| Spring Oats                     | <i>Avena sativa</i>                              | 3/1 – 6/15                | 50                           |
| Winter Rye                      | <i>Secale cereale</i>                            | 8/15 – 2/28               | 85                           |
| Winter Wheat                    | <i>Triticum aestivum</i>                         | 8/15 – 2/28               | 90                           |
| Japanese Millet                 | <i>Echinochloa crusgalli</i>                     | 5/15 – 8/15               | 15                           |
| Redtop                          | <i>Agrostis alba</i>                             | 3/1 – 6/15                | 10                           |
| Annual Ryegrass and Spring Oats | <i>Lolium multiflorum</i><br><i>Avena sativa</i> | 3/1 – 6/15                | 15<br>35                     |
| German/Foxtail Millet           | <i>Setaria italica</i>                           | 5/1 – 8/1                 | 25                           |
| Hairy Vetch*                    | <i>Vicia villosa</i>                             | 8/15 – 4/1                | 30                           |

\* Inoculation is required. If a hydroseeder is utilized, the application rate is five times the recommended rate

|          |  |
|----------|--|
| Per acre |  |
|----------|--|

|                             | Per acre                                         | Per 1,000 ft <sup>2</sup> |                                                                                                                                                         |
|-----------------------------|--------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Straw or hay                | 1½ - 2 tons<br>(minimum 2 tons for winter cover) | 70 - 90 lbs               | Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.                                                               |
| Fiber mulch                 | Minimum 1,500 lbs                                | 35 lbs.                   | Do not use as mulch for winter cover or during hot, dry periods.* Apply as slurry.                                                                      |
| Cornstalks                  | 4 - 6 tons                                       | 185 - 275 lbs.            | Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.                                          |
| Wood chips                  | 4 - 6 tons                                       | 185 - 275 lbs.            | Free of coarse matter. Airdried. Treat with 12 lbs. nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand. |
| Bark chips or Shredded bark | 50 - 70 cu. yds.                                 | 1-2 cu. yds.              | Free of coarse matter. Airdried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.                                      |

\* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2,000 lbs./ac. or 45 lbs./1,000 sq. ft.

From VA DGWC

WIRE NATURAL pH RANGE

| PREFERRED | LAWN | LAWN | MAINT | MAINT. | PASTURE | NATURAL AREAS | pH RANGE | DRAINAGE   | TOLERANCE | 3/1-6/15 | 6/16-8/14 | 8/15-9/15 | 9/16-2/28 |
|-----------|------|------|-------|--------|---------|---------------|----------|------------|-----------|----------|-----------|-----------|-----------|
| A         |      |      | ✓     | 1      |         |               | 6.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| B         |      |      |       | ✓      |         |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| C         | ✓    | 1    |       |        |         |               | 6.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        |           | ✓         |           |
| D         |      | ✓    | 1     |        |         |               | 6.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        |           | ✓         |           |
| E         |      |      |       | ✓      | 1       |               | 6.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| F         |      |      | ✓     | ✓      | ✓       |               | 5.5-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| G         |      |      |       | ✓      | ✓       |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| H         |      |      | ✓     | ✓      | 1       |               | 5.0-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| I         |      |      | ✓     | ✓      | 1       |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| J         |      |      | ✓     | ✓      | 1       | ✓             | 4.0-8.0  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| K         |      |      |       | ✓      |         |               | 4.0-7.0  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| L         |      |      |       | ✓      | ✓       |               | 4.5-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| M         |      |      | ✓     | ✓      | ✓       |               | 5.0-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| N         |      |      | ✓     | ✓      | 1       |               | 5.0-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| O         |      |      | ✓     | ✓      |         |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| P         |      |      | ✓     | ✓      | ✓       |               | 4.5-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| Q         |      |      | ✓     | ✓      | ✓       |               | 4.5-7.5  | POOR.-WELL | TOLERANT  | ✓        | *         | ✓         | *         |
| R         |      |      | ✓     | ✓      | ✓       |               | 5.5-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| S         |      |      | ✓     | ✓      | ✓       |               | 4.5-7.5  | POOR.-WELL | FULL SUN  | ✓        | *         | ✓         | *         |
| T         |      |      |       | ✓      | ✓       |               | 5.5-7.5  | POOR.-WELL | FULL SUN  | ✓        | *         | ✓         | *         |
| U         |      |      |       | ✓      | ✓       |               | 6.5-8.0  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| V         |      |      |       | ✓      | ✓       | ✓             | 5.5-7.5  | POOR.-WELL | FULL SUN  | ✓        | *         | ✓         | *         |
| W         |      |      | ✓     | ✓      |         |               | 5.0-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| X         |      |      |       | ✓      | ✓       |               | 5.5-7.5  | POOR.-WELL | FULL SUN  | ✓        | *         | ✓         | *         |
| Y         |      |      | ✓     | ✓      | ✓       |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| Z         |      |      | ✓     | ✓      | ✓       |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| A-1       |      |      |       | ✓      | ✓       |               | 4.5-7.5  | MOD.-WELL  | TOLERANT  | ✓        | *         | ✓         | *         |
| A-2       |      |      |       | ✓      | ✓       |               | 5.0-7.5  | MOD.-WELL  | FULL SUN  | ✓        | *         | ✓         | *         |
| A-3       |      |      |       | ✓      | ✓       | ✓             | 5.0-7.5  | POOR.-WELL | FULL SUN  | ✓        | *         | ✓         | *         |

- Nurse crop required – See Table B

1 Urban areas only

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|           |                                   |
|-----------|-----------------------------------|
| 1.        | REVISIONS PER WDDH COMMENTS       |
| 2.        | REVISIONS PER WDDH COMMENTS       |
| 3.        | REVISIONS PER WDDH COMMENTS       |
| 4.        | REVISIONS PER WDDH COMMENTS       |
| 5.        | REVISIONS PER WDDH RE-APPLICATION |
| REVISIONS |                                   |
|           |                                   |
|           |                                   |
|           |                                   |
|           |                                   |

## EROSION AND SEDIMENT CONTROL NOTES & DETAILS

# SIDEWINDER RAW WATER LINE

JEFFERSON COUNTY WEST VIRGINIA

|                    |                       |  |
|--------------------|-----------------------|--|
| SCALE:             | HORIZ.: N/A<br>VERT.: |  |
| DATE: AUGUST 2023  |                       |  |
| JOB: 3138-0102     |                       |  |
| DRAWN: RJP         | CHECK: JPG            |  |
| CADD: C-CG-001.DWG |                       |  |
| NCS:               |                       |  |
| SHEET:             |                       |  |