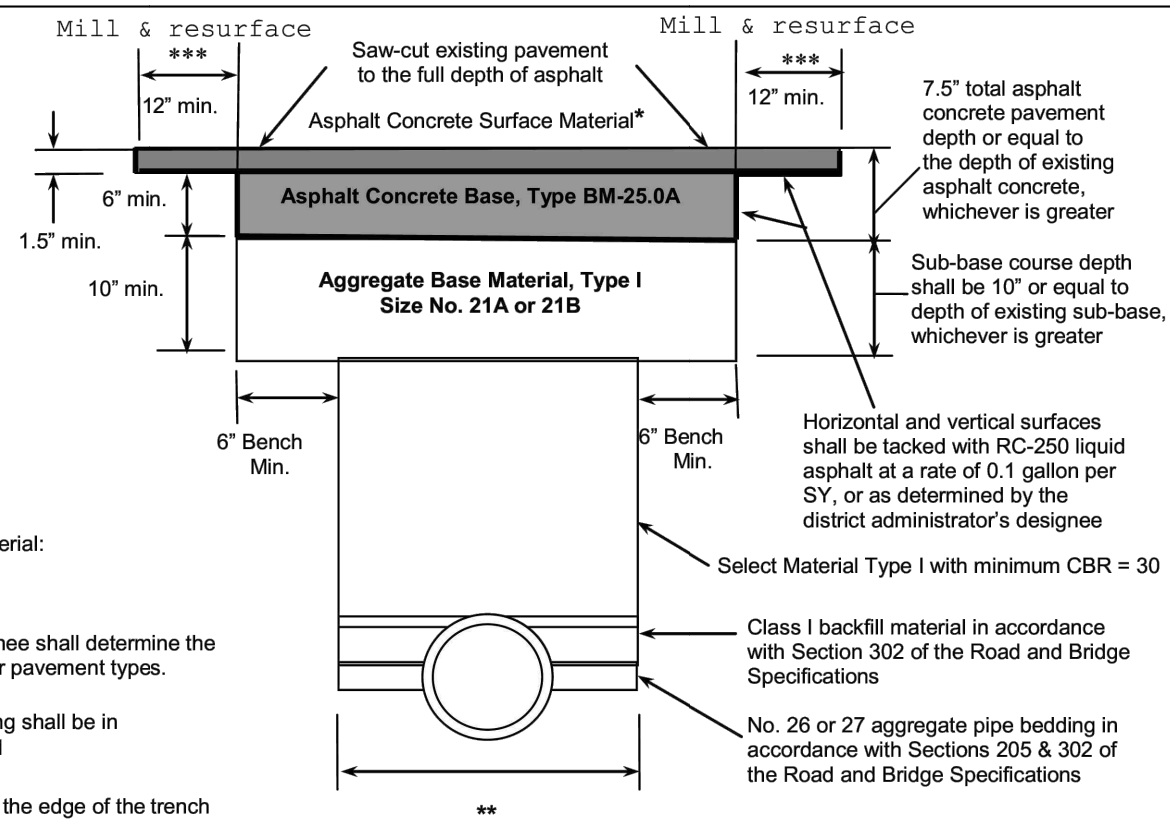


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Asphalt Pavement Restoration Detail for Open Cut Utility Installations



NOTES:

\* Asphalt Concrete Surface Material:  
SM-9.5A for ADT < 10,000  
SM-9.5D for ADT > 10,000

The district administrator's designee shall determine the restoration requirements for other pavement types.

\*\* Trench width and pipe bedding shall be in accordance with VDOT Std. PB-1

\*\*\* 12 inches minimum beyond the edge of the trench on longitudinal open cuts, or 25 feet minimum beyond the trench centerline on perpendicular open cuts, or as determined by the district administrator's designee.

Date: August 27, 2014

WVWA WATER AND SEWER NOTES

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE WESTERN VIRGINIA WATER AUTHORITY (WVWA) AVAILABLE AT WWW.WESTERNVAVATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (E.G., VDOT, DEQ, DCR, VDH, ETC.) WHERE APPLICABLE.

2. A MINIMUM COVER OF THREE (3) FEET IS REQUIRED ON ALL WVWA WATER AND SEWER LINES.

3. ALL EXISTING UTILITIES MAY NOT BE SHOWN IN THEIR EXACT LOCATIONS. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AND SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN THE AREAS OF CONSTRUCTION PRIOR TO STARTING WORK.

4. PLEASE SHOW ALL WVWA WATER AND SEWER UTILITIES ON ANY DEVELOPMENT PLAN.

5. THE LOCATION OF EXISTING UTILITIES ACROSS OR ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL ON HIS OWN INITIATIVE AND AT NO EXTRA COST, LOCATE ALL UNDERGROUND LINES AND STRUCTURES AND POT HOLE AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. ALL DAMAGE INCURRED TO EXISTING UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

6. PLAN APPROVAL BY THE WVWA DOES NOT REMOVE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE OR RELOCATE ANY EXISTING CONFLICTS FOUND DURING CONSTRUCTION.

7. ALL PRIVATE UTILITY CONSTRUCTION, I.E. PIPING, VALVES, HYDRANTS, METERS AND BOXES, CLEAN OUTS, SANITARY SEWER MANHOLES, BEDDING, ETC. SHALL COMPLY WITH THE CURRENT VIRGINIA UNIFORM STATEWIDE BUILDING CODE (INCLUDING AMENDMENTS).

8. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" CLEARANCE VERTICALLY AND TWO (2) FOOT MINIMUM HORIZONTALLY FROM THE OUTSIDE OF PIPE TO OUTSIDE OF PIPE WITH ALL OTHER UNDERGROUND UTILITIES. WHERE THIS CANNOT BE ACHIEVED, ADDITIONAL MEASURES IN ACCORDANCE WITH WVWA STANDARDS SHALL BE ENFORCED, INCLUDING BUT NOT LIMITED TO UTILIZING PRESSURE RATED PIPE FOR SEWER.

9. ALL UTILITY GRADE ADJUSTMENTS SHALL BE IN ACCORDANCE WITH WVWA STANDARDS AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.

10. FIELD CHANGES SHALL BE SUBMITTED BY THE ENGINEER OF RECORD TO THE LOCALITY AND APPROVED BY THE WVWA.

11. PRIOR TO REQUESTING SUBSTANTIAL COMPLETION INSPECTION BY THE WVWA, THE DEVELOPER MUST SUBMIT AS BUILTS FOR REVIEW AND APPROVAL.

WATER SERVICE CONNECTION - STANDARD  
STANDARD METER CONNECTION SHALL BE INSTALLED WHEN STATIC PRESSURE IS LESS THAN 120 PSI.

WATER METER BOX AND ACCESSORIES THEREIN NECESSARY FOR STANDARD METER INSTALLATION SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR JUST WITHIN RIGHT-OF-WAY/EASEMENT AT THE PROPERTY LINE AS SHOWN ON CONSTRUCTION PLANS. WATER METER BOX AND METER SETTER SHALL BE FURNISHED AND INSTALLED AS SHOWN IN THE DETAIL DRAWINGS. ALL METER SETTERS SHALL BE EQUIPPED WITH AN INTEGRAL LOCKABLE VALVE AND CHECK VALVE.

FOR PRESSURE RANGING BETWEEN 80 - 120 PSI IT IS RECOMMENDED THAT A PRESSURE REDUCING VALVE (PRV) BE INSTALLED ON THE PRIVATE SIDE OF THE WATER METER TO PROTECT THE PRIVATE PLUMBING, AND TO ENSURE COMPLIANCE WITH UNIFORM STATEWIDE BUILDING CODE, AND/OR THE GOVERNING JURISDICTIONS BUILDING CODE REQUIREMENTS. IT IS ENCOURAGED THAT THE PRV BE INSTALLED IN A SEPARATE METER BOX JUST DOWNSTREAM OF THE WATER METER BOX. THIS INSTALLATION WILL ALLOW EASY ACCESS FOR MAINTENANCE AND WILL REDUCE THE PRESSURE ON THE SERVICE LINE BETWEEN THE PRV AND THE STRUCTURE

SANITARY SEWER CLEANOUT CONNECTIONS TO BE 4" PVC FOR SINGLE LATERALS AND 6" PVC FOR DOUBLE LATERALS. SINGLE & DOUBLE WATER LATERALS TO USE 1" COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SODR-9 (200 psi).

SANITARY SEWER NOTES

NOTES:

- WESTERN VIRGINIA WATER AUTHORITY SPEC.
  - POLYVINYL CHLORIDE (PVC) - PVC SEWER PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION 3034-77 (SDR 35). GRAVITY SEWER PIPE SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE WITH INTEGRAL RUBBER RING WALL BELL AND SPIGOT JOINTS FURNISHED IN 14' AND 20' NOMINAL LENGTHS. INSTALLATION OF PVC GRAVITY SEWER PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH ASTM DESIGNATION D 2321 AND MANUFACTURER'S RECOMMENDATIONS.
  - PVC SEWER PIPE SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS ON FLAT, EVEN SURFACES AND SHALL REMAIN RACKED ON THE PALLETS AS DELIVERED TO THE JOB SITE UNTIL SUCH TIME AS THE TRENCH IS READY FOR PLACEMENT OF THE PIPE; I.E., PVC PIPE SHALL NOT BE LAID ALONG PROPOSED ALIGNMENT IN EXCESS OF ONE DAY'S WORK.
  - ADDITIONAL STRENGTH PVC PIPE INCLUDING ASTM D3034 SDR-26, ASTM D2241 SDR-21, C900 DR-18 OR CONCRETE ENCASEMENT OF SDR-35, OR BOTH, SHALL BE REQUIRED WHERE DEPTH EXCEEDS TWELVE FEET (12') OR WHERE ADDITIONAL PROTECTION IS REQUIRED FOR THE PIPE AS DETERMINED BY THE PARTICIPATING UTILITY.

2. DROPS SHALL BE IN ACCORDANCE WITH WVWA SPECIFICATION S-3 FOR INSIDE DROPS.

UTILITY SUMMARY

SERVICE PROVIDER: THE PROJECT WILL BE SERVED BY THE WESTERN VIRGINIA WATER AUTHORITY FOR WATER AND SANITARY SEWER.

SANITARY SEWER: SANITARY SEWER SHALL BE PROVIDED BY GRAVITY FLOW EXTENSIONS OF 8" PVC PIPE FROM EXISTING MANHOLES #400-2103.0 (X36 ON PLANS) AND #400-2107.0 (X39 ON PLANS) LOCATED AT THE END OF SEDGEWOOD AVENUE AND AT THE ALLEY ENTRANCE ON LEWIS STREET. THE EXISTING MANHOLE 400-2103.0 IS 10.3' DEEP AND IS SERVED BY AN 8" MAIN. THE EXISTING MANHOLE 400-2107.0 IS 9.8' FEET DEEP AND IS SERVED BY AN 8" MAIN. THE PROPOSED 8" MAIN FROM EXISTING SSMH 400-2103.0 WILL EXTEND UP PROPOSED SEDGEWOOD AVENUE AND PROPOSED MERIWETHER STREET TO SERVICE LOTS 153-181. THE PROPOSED 8" MAIN FROM EXISTING SSMH 400-2107.0 WILL EXTEND UP PROPOSED ALLEYS 1 & 2 TO SERVE TOWNHOME LOTS 207-278 AND WILL ULTIMATELY CONNECT TO EXISTING 8" MAIN AT PROPOSED SSMH G1, LOCATED BETWEEN EXISTING SSMHS #400-0571.0 AND #400-0572.0. EXISTING 8" MAIN FROM PROPOSED SSMH G1 DOWNSTREAM TO EXISTING SSMH #400-0568.0 IS TO BE ABANDONED UPON COMPLETE INSTALLATION OF PROPOSED LINE. ADDITIONAL PROPOSED 8" MAIN WILL EXTEND BETWEEN PROPOSED LOTS 220 AND 221 AND CONTINUE UP THE SOUTH END OF PROPOSED CLARK STREET AND PROPOSED COLONY AVENUE. ADDITIONAL PROPOSED 8" MAIN WILL EXTEND UP PROPOSED CHARTER STREET AND THE NORTH END OF CLARK STREET. THESE 2 ADDITIONAL PROPOSED 8" MAINS WILL SERVE LOTS 182-206.

DOMESTIC WATER SERVICE: WATER WILL BE PROVIDED BY CONNECTING TO THE EXISTING 8" D.I. WATERLINES AT SEDGEWOOD AVENUE, COLONY AVENUE, AND THE INTERSECTION OF BROAD STREET AND CHARTER AVENUE. THESE 4 CONNECTIONS WILL REQUIRE THE REMOVAL OF EXISTING TEMPORARY BLOW-OFF VALVES AND WILL BE CONNECTED WITH AN 8" HYMAX STAINLESS STEEL COUPLER. ALL WATERLINES WILL BE PLACED IN THE RIGHT OF WAY OF PROPOSED ROADS TO SERVE LOTS FROM THE FRONT, VIA SINGLE AND DOUBLE RESIDENTIAL WATER METERS. THE PROPOSED 8" D.I. LINE IN PROPOSED BROAD STREET RIGHT-OF-WAY WILL CONNECT TO EXISTING 8" WATERLINE ON GLEBE ROAD, VIA CUT IN TEE.

FIRE FLOW REQUIREMENTS: FIRE FLOW REQUIREMENTS SHALL BE 1,500GPM BASED ON WVWA GUIDANCE DOCUMENT. BOTETOURT COUNTY FIRE MARSHAL SHALL CONFIRM FIRE FLOW REQUIREMENT.

FIRE SERVICE: A NEW FIRE HYDRANT WILL BE INSTALLED AT THE INTERSECTION OF ALL PROPOSED ROADS WHERE AN EXISTING HYDRANT IS NOT ALREADY IN PLACE. ALL SINGLE-FAMILY HOMES WILL BE WITHIN 500' OF A FIRE HYDRANT AS MEASURE ALONG THE CENTERLINE OF STREETS TO THE CENTER OF FRONT PROPERTY LINE.

CS-1 GENERAL WATER AND SEWER SPECIFICATIONS

1.1 QUALITY ASSURANCE

- QUALIFICATIONS OF MANUFACTURERS - PRODUCTS USED IN THIS WORK SHALL BE PRODUCED BY MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SIMILAR ITEMS AND WITH A HISTORY OF QUALITY PRODUCTION ACCEPTABLE TO THE PARTICIPATING UTILITY.
- QUALIFICATIONS OF INSTALLERS - USE EXPERIENCED WORKERS TO ENSURE PROPER INSTALLATION OF THE PRODUCTS SPECIFIED HEREIN. IN THE ACCEPTANCE OR REJECTION OF INSTALLED WORK, NO ALLOWANCE SHALL BE MADE FOR THE LACK OF EXPERIENCE ON THE PART OF THE WORKERS.
- MAIN LINE CONSTRUCTION CAN ONLY BE PERFORMED BY CLASS A CONTRACTORS LICENSED BY THE COMMONWEALTH OF VIRGINIA.
- A PRECONSTRUCTION CONFERENCE SHALL BE HELD ON ALL WATER AND SEWER PROJECTS BY THE AT LEAST TWO DAYS PRIOR TO ANY CONSTRUCTION WORK BEING PERFORMED. THE CONTRACTOR SHALL HAVE A REPRESENTATIVE OF APPROPRIATE AUTHORITY AT THIS MEETING. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR MUST HAVE AN APPROVED SET OF CONSTRUCTION DOCUMENTS ON-SITE.

1.2 LINES AND GRADES

- PIPES SHALL BE LAID TRUE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS EXCEPT AS AUTHORIZED BY THE PARTICIPATING UTILITY. THE GRADE SHOWN ON THE PROFILE IS THE INVERT TO WHICH THE WORK MUST CONFORM. WORK NOT CONFORMING TO THE GRADE SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE IN A MANNER ACCEPTABLE TO THE PARTICIPATING UTILITY.
- LOCATIONS OF WATER AND SEWER LINES

1. THE LOCATIONS OF THE PROPOSED LINES ARE SHOWN ON THE DRAWINGS.

- THE PARTICIPATING UTILITY RESERVES THE RIGHT TO MAKE CHANGES IN LINES AND GRADES OF PIPE LINES, AND IN LOCATIONS OF PIPES AND/OR APPURTENANCES WHEN SUCH CHANGES MAY BE NECESSARY OR ADVANTAGEOUS.
- ANY DEVIATION IN LOCATION OR LINE GRADE OF SEWER, OR THE LOCATION OR ELEVATION OF A WATER LINE, STRUCTURE OR APPURTENANCE AS SHOWN ON THE CONTRACT DRAWINGS, WILL REQUIRE A REVISION OF THE DRAWINGS CLEARLY SHOWING THE PROPOSED DEVIATION, AND SHALL BE SUBMITTED TO THE PARTICIPATING UTILITY FOR REVIEW AND APPROVAL BEFORE ANY CHANGES ARE CONSTRUCTED. DESIGN ENGINEER OF RECORD MUST CONCUR IN ANY REVISION OF DRAWINGS. MINOR FIELD CHANGES MAY BE MADE WITH APPROVAL OF THE PARTICIPATING UTILITY'S CONSTRUCTION INSPECTOR.

1.3 SUBMITTALS

- GENERAL - CONTRACTOR SHALL FURNISH ENGINEERING DATA COVERING DESIGN AND INSTALLATION. SUBMITTAL SHALL BE MADE IN A TIMELY MANNER SO THAT THE PROJECT SCHEDULE CAN BE MET.
- SHOP DRAWINGS - AS A MINIMUM, THE FOLLOWING SHOP DRAWING INFORMATION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL:

- COMPLETE BILL OF MATERIALS TO BE PROVIDED FOR THE WORK DESCRIBED UNDER THIS SECTION.
- MANUFACTURER'S CATALOG CUT SHEETS FOR ALL MATERIALS TO BE PROVIDED UNDER THIS SECTION.

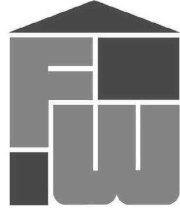
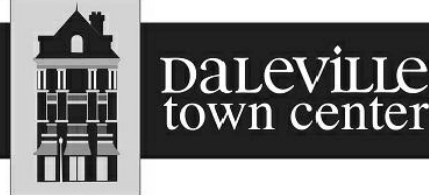
1.4 RESPONSIBILITY FOR MATERIALS

- MATERIAL FURNISHED BY CONTRACTOR - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL FURNISHED BY HIM, AND SHALL REPLACE AT HIS OWN EXPENSE ALL SUCH MATERIAL FOUND DEFECTIVE IN MANUFACTURE OR DAMAGED IN HANDLING AFTER DELIVERY BY THE MANUFACTURER. THIS SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND LABOR REQUIRED FOR THE REPLACEMENT OF INSTALLED MATERIAL DISCOVERED DEFECTIVE PRIOR TO THE FINAL ACCEPTANCE OF THE WORK.
- MATERIAL FURNISHED BY PARTICIPATING UTILITY - THE CONTRACTOR'S RESPONSIBILITY FOR MATERIAL FURNISHED BY THE PARTICIPATING UTILITY SHALL BEGIN AT THE POINT OF DELIVERY TO CONTRACTOR. MATERIALS ALREADY ON THE SITE SHALL BECOME THE CONTRACTOR'S RESPONSIBILITY ON THE DATE OF THE AWARD OF THE CONTRACT. THE CONTRACTOR SHALL EXAMINE ALL MATERIAL FURNISHED BY THE PARTICIPATING UTILITY AT THE TIME AND PLACE OF DELIVERY TO HIM AND SHALL REJECT ALL DEFECTIVE MATERIAL. ANY MATERIAL FURNISHED BY THE PARTICIPATING UTILITY AND INSTALLED BY THE CONTRACTOR WITHOUT DISCOVERY OF SUCH DEFECTS WILL, IF FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE OF THE WORK, BE REPLACED WITH SOUND MATERIAL BY THE PARTICIPATING UTILITY. THE CONTRACTOR, HOWEVER, SHALL, AT HIS OWN EXPENSE, FURNISH ALL SUPPLIES, LABOR AND FACILITIES NECESSARY TO REMOVE SAID DEFECTIVE MATERIAL AND INSTALL THE SOUND MATERIAL IN A MANNER SATISFACTORY TO THE PARTICIPATING UTILITY.



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APPROVED  
By Sean Nester at 1:33 pm, Feb 06, 2024

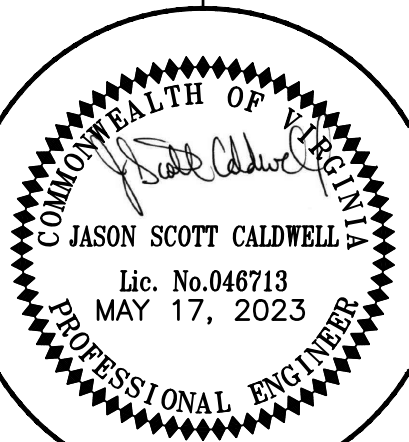
Approved  
Botetourt County  
Planning and Zoning

C. Nicole Pundtler

02/07/2024

DALEVILLE TOWN CENTER  
BOTETOURT COUNTY, VA

UTILITY NOTES &  
SUMMARY



0 0 0  
GRAPHIC SCALE

PROJECT: 21061

C-004