

WATER AND SEWER NOTES

GENERAL:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION.
- OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS AT LEAST THREE (3) DAYS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WESTERN VIRGINIA WATER AUTHORITY AND/OR BOTETOURT COUNTY CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES. WVA SHALL BE NOTIFIED IN WRITING AND MARK SINK SHALL BE CONTACTED AT (540) 537-3460.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY WESTERN VIRGINIA WATER AUTHORITY AND/OR BOTETOURT COUNTY. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.
- SITE SHALL BE TO SUBGRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.
- USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.
- MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE, SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.
- MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.
- MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER, WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, ADDITIONAL MEASURES WILL BE REQUIRED IN ACCORDANCE WITH WVA STANDARDS.
- LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS WHERE UTILITIES ENTER THE BUILDING.
- PRIOR TO COMMENCING WITH ANY UNDERGROUND PIPE CONSTRUCTION OR GRADING (EXCAVATION), THE GENERAL CONTRACTOR SHALL CALL MISS UTILITY OF VIRGINIA (TOLL FREE 1-800-552-7001) AT LEAST 48 HOURS PRIOR TO COMMENCING. THE G.C. IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF NOT CONTACTING MISS UTILITY AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER/DEVELOPER.
- EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF FIELD SURVEYS, AVAILABLE RECORDS, AND PREVIOUSLY APPROVED PLANS. LOCATIONS ARE APPROXIMATE. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF: 1) ANY LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. 2) IF THERE APPEARS TO BE ANY CONFLICT. UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS, G.C. SHALL CALL "MISS UTILITY" OF VIRGINIA AND/OR BOTETOURT COUNTY AND/OR WESTERN VIRGINIA WATER AUTHORITY.
- PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACKFILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB-1 TRENCH FOR STORM SEWER AND UB-1 FOR SANITARY SEWER AND WATER.
- PLACE BACKFILL FOR ALL WATER AND SEWER UTILITIES IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS, AND THE FOLLOWING CRITERIA: 1) BACKFILL NO TRENCH UNTIL INSPECTED BY WESTERN VIRGINIA WATER AUTHORITY. MATERIALS USED FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TOP OF THE PIPE SHALL BE CRUSHER RUN, OR APPROVED EQUAL MATERIAL, THOROUGHLY AND CAREFULLY COMPACT THE BACKFILL MATERIAL. 2) COMPACT BACKFILL BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO ENSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. IF THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACKFILLING, REMOVE IT AND USE AN ACCEPTABLE MATERIAL FOR BACKFILLING THE TRENCH.
- IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINAL GRADE PRIOR TO BEGINNING CONSTRUCTION.
- MINIMUM COVER OVER ALL WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.
- THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.
- CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET.
- FIELD CORRECTIONS SHALL BE APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY PRIOR TO SUCH CONSTRUCTION.

CONSTRUCTION SITE PLAN GENERAL NOTES CONSTRUCTION METHODS

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, AND LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE. ANY WORK WITHIN LEE HIGHWAY SOUTH (U.S. ROUTE 11) SHALL ADHERE TO BOTETOURT COUNTY RIGHT OF WAY RESTORATION STANDARDS.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION WORK AND NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS DIFFER FROM PLANS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-552-7001 OR 811 PRIOR TO ANY CONSTRUCTION WORK IN THIS AREA.

HANDICAPPED ACCESSIBILITY / ADA COMPLIANCE

- THE MAXIMUM ALLOWABLE CROSS SLOPE ACROSS ACCESSIBLE PARKING SPACES AND ACCESSIBLE AISLES IS 2%. NO SLOPE IN ANY DIRECTION SHALL EXCEED 2% WITHIN ADA PARKING SPACES OR AISLES.
- THE MAXIMUM ALLOWABLE LONGITUDINAL SLOPE ALONG ACCESSIBLE AISLES IS 5%.
- THE CONTRACTOR SHALL VERIFY SLOPES AND GRADES FOR ALL ACCESSIBLE PARKING SPACES AND ACCESSIBLE AISLES AFTER STAKING IS COMPLETE AND BOTH BEFORE AND AFTER INSTALLATION.
- ANY SLOPE DISCREPANCIES DETECTED BY THE SURVEYOR AND/OR CONTRACTOR SHALL BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION.
- UNLESS SPECIFICALLY NOTED ON THE SITE PLAN, DETECTABLE WARNING STRIPS ARE REQUIRED AT ALL CURB RAMPS AND FLUSH CURB TRANSITIONS TO PARKING LOTS.
- HAND RAILS ARE REQUIRED FOR ANY ACCESSIBLE SITE PEDESTRIAN RAMPS WITH LONGITUDINAL SLOPES THAT EXCEED 5% AND / OR 6-INCHES IN RISE.
- SITE HAND RAILS SHALL BE PER VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
- SITE HAND RAILS SHALL BE INSTALLED ON BOTH SIDES OF THE SITE SIDEWALKS WHERE HAND RAILS ARE REQUIRED. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
- PER VDOT STANDARDS, THE MAXIMUM PERMISSIBLE CURB RAMP SLOPE IS 12:1.
- WHEEL STOPS FOR ACCESSIBLE PARKING SPACES SHALL BE INSTALLED 3'-0" OFF THE FACE OF CURB.
- GUTTER PAN INSTALLED IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% SLOPE.
- NO VERTICAL TRANSITIONS IN ADA ACCESSIBLE ROUTES SHALL EXCEED 1/4".

CURB AND GUTTER

- THE CONTRACTOR SHALL USE A MINIMUM OF THREE (3) RUNNING CONSTRUCTION STAKES TO AVOID HARD BREAK LINES IN THE CURB - UNLESS SPECIFICALLY CALLED FOR ON THE PLANS.
- THE MINIMUM LONGITUDINAL SLOPE FOR GUTTER PAN IS 0.5%, UNLESS OTHERWISE NOTED ON PLANS.
- ALL CURB AND GUTTER SHOWN ON THE PLANS SHALL BE VDOT CG-6, CG-2, OR CG-7, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL PUBLIC CURB AND GUTTER SHALL BE CITY OF ROANOKE STANDARD GUTTER SECTIONS. SEE DETAILS WITHIN THE PLAN SET.

UNDERGROUND UTILITIES

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LINE AND GRADE FOR ALL DRY UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRY UTILITY LINES AND GRADES AGAINST ALL PROPOSED UTILITIES SHOWN ON THE PLANS. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING TELEPHONE, CABLE, FIBER OPTIC, AND ELECTRICAL SERVICES TO THE PROJECT. CONTACT UTILITY PROVIDERS AS SOON AS POSSIBLE TO BEGIN COORDINATION.
- THE CONTRACTOR SHALL REVIEW SITE AND BUILDING DRAWINGS TO VERIFY COORDINATION OF UTILITY INVERTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.

SIDEWALKS AND SITE STAIRS

- ALL SITE STAIRS SHALL BE FURNISHED WITH VDOT HR-1 ON BOTH SIDES OF THE STAIRS AND COORDINATED WITH THE ARCHITECTURAL PLANS.
- ALL SITE STAIRS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE AND COORDINATED WITH THE ARCHITECTURAL PLANS.
- SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM 2% CROSS-SLOPE.
- SIDEWALKS SHALL BE BROOM FINISHED, UNLESS NOTED OTHERWISE ON THE PLANS.
- SIDEWALKS SHALL BE 5-FEET IN WIDTH, UNLESS NOTED OTHERWISE ON THE PLANS.

ROOF DRAINS AND DOWN SPOUTS

- ALL DOWN SPOUTS SHALL BE FURNISHED WITH A DOWNSPOUT/ROOF DRAIN TRANSITION BOOT. STUBBING OF DOWNSPOUT INTO ROOF DRAIN LATERAL WITHOUT A SUITABLE BOOT TRANSITION IS NOT PERMITTED.
- ALL ROOF DRAIN LATERALS SHALL BE INSTALLED IN ACCORDANCE WITH THE PREVAILING LOCAL JURISDICTIONAL PLUMBING CODE OR THE INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
- MINIMUM ALLOWABLE SLOPE FOR 4-INCH ROOF DRAIN LATERAL IS 2.08%.
- MINIMUM ALLOWABLE SLOPE FOR 6-INCH ROOF DRAIN LATERAL IS 1.04%.

ROOF DRAIN LATERALS SHALL BE PER THE ARCHITECTURAL PLANS.

TELEPHONE, FIBER OPTIC, CABLE, AND GAS LINE SERVICES

- CONTRACTOR SHALL HAVE "MISS UTILITY" MARK EXISTING UTILITY LINES PRIOR TO START OF CONSTRUCTION AND AS NECESSARY THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL REVIEW PLANS TO VERIFY EXISTING LOCATIONS MARKED IN THE FIELD MATCH THOSE SHOWN ON THE PLANS.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ANY POTENTIAL DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL POT-HOLE EXISTING UTILITIES AT CRITICAL CROSSING LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND PROVIDE ENGINEER WITH LINE AND GRADE INFORMATION.

BUILDING DOORS AND GRADES

- A MINIMUM 5'x5' PAD SHALL BE INSTALLED AT ALL BUILDING DOOR LOCATIONS (MAXIMUM 2% SLOPE IN ANY DIRECTION). COMPLY WITH ADA DOOR CLEARANCE REQUIREMENTS FOR PAD POSITIONING OUTSIDE OF THE DOOR. THIS SHALL BE COORDINATED DIRECTLY WITH THE ARCHITECTURAL PLANS PRIOR TO INSTALLATION.
- FINISHED GRADE SHALL BE 6-INCHES BELOW FINISHED FLOOR ELEVATION ALONG ALL BUILDING WALLS. IN AREAS WHERE PERVIOUS SURFACES ARE PROVIDED, UNLESS OTHERWISE NOTED. FINISHED GRADE FOR AREAS TO BE MULCHED SHALL BE AT TOP OF MULCH. FINISHED GRADE FOR AREAS TO RECEIVE SOD SHALL BE TO TOP OF SOD.
- ALL PERVIOUS SURFACES SHALL BE INSTALLED WITH A MINIMUM OF 2% SLOPE AWAY FROM THE BUILDING (FOR A MINIMUM OF 10-FEET), TO PROVIDE FOR POSITIVE DRAINAGE.
- CONTRACTOR SHALL COORDINATE LOCATION OF WEEP HOLES ALONG ALL BUILDING AND RETAINING WALLS AND VERIFY REQUIRED SEPARATION BETWEEN WEEP HOLES AND FINISHED GRADES.
- CONTRACTOR SHALL REVIEW GRADING ALONG BUILDINGS WITH STOREFRONTS TO VERIFY REQUIRED SEPARATION IS PROVIDED.

SITE CONSTRUCTION PLAN GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CURRENT VDOT STANDARDS AND SPECIFICATIONS.

THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OR PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATER LINES, ETC., PRIOR TO CONSTRUCTION. CONTACT THE CONSULTING ENGINEER IF ANY DISCREPANCIES ARE FOUND.

UPON THE DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL IMMEDIATELY CONTACT A GEOTECHNICAL ENGINEER AND/OR BOTETOURT COUNTY. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE GEOTECHNICAL ENGINEER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT VDOT SPECIFICATIONS.

ALL STORM SEWER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.

ALL ENTRANCES ARE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CURRENT BOTETOURT COUNTY STANDARDS.

CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1-800-552-7001. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND/OR PROPOSED RIGHT-OF-WAY REQUIRED BY THE DEVELOPMENT.

CASING SLEEVES SHALL BE PLACED AT ALL PAVEMENT CROSSINGS FOR GAS, POWER, TELEPHONE, CABLE TV AND IRRIGATION SERVICE LINES.

THE INSTALLATION OF SANITARY SEWER, STORM SEWER, WATERLINES, AND GAS MAINS (INCLUDING SERVICE LATERALS AND/OR SLEEVES) AND OTHER UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO PLACEMENT OF AGGREGATE BASE COURSE.

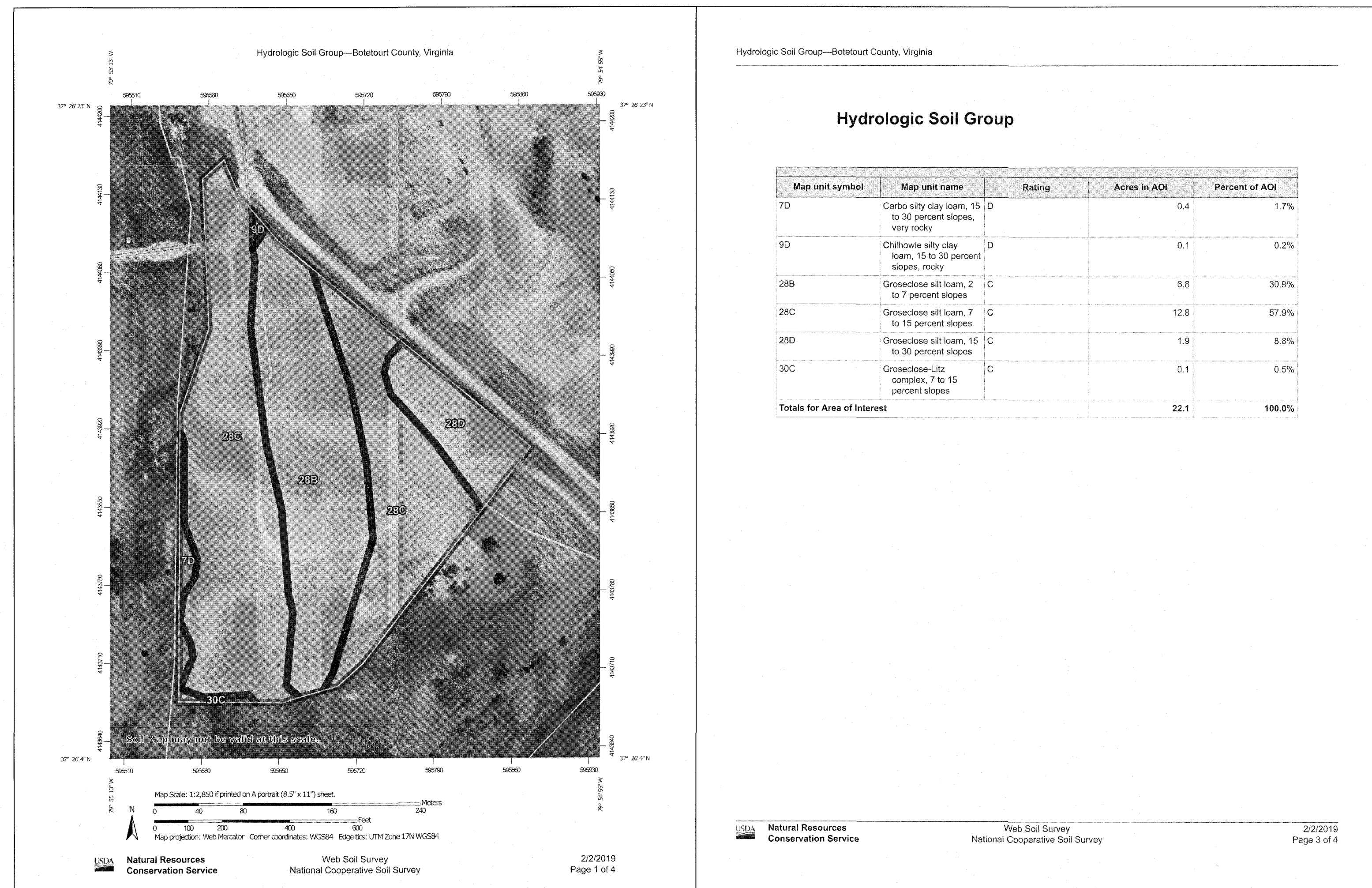
A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT A RATE OF 0.30 GALLONS PER SQUARE YARD (REC-250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.

THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS (LATEST EDITION).

ALL VEGETATION AND ORGANIC MATERIAL IS TO BE REMOVED FROM THE RIGHT-OF-WAY LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.

G.C. SHALL SUBMIT A TRAFFIC CONTROL PLAN TO VDOT PRIOR TO ANY CONSTRUCTION WITHIN THE RIGHT-OF-WAY.

SOILS INFORMATION:

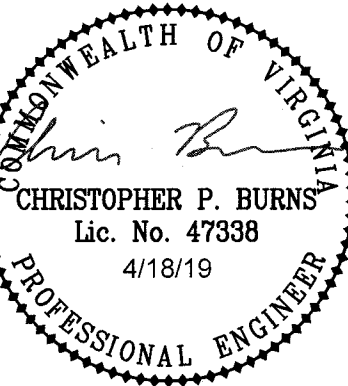


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PROJECT ADAMS

NOTES & SOILS INFORMATION

60 WEST CENTER DRIVE
BOTETOURT COUNTY, VIRGINIA

DRAWN BY EJP
DESIGNED BY SMH
CHECKED BY CPB
DATE 3/14/2019
SCALE N/A
REVISIONS

4/18/19

C10
PROJECT NO 04180118.00