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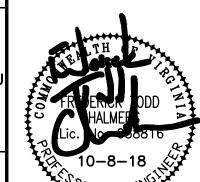
RESIDENTIAL LAND DEVELOPMENT ENGINEERING SITE DEVELOPMENT ENGINEERING LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE LAND SURVEYING ARCHITECTURE

TRANSPORTATION ENGINEERING ENVIRONMENTAL & SOIL SCIENCE WETLAND DELINEATIONS & STREAM EVALUATIONS

Balzer and Associates, Inc.

15871 City View Drive Suite 200 Midlothian, VA 23113

804-794-0571 FAX 804-794-2635



AS NOTED

Harrisonburg

SITE DEVELOPMENT ENGINEERING LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE LAND SURVEYING ARCHITECTURE STRUCTURAL ENGINEERING TRANSPORTATION ENGINEERING ENVIRONMENTAL & SOIL SCIENCE WETLAND DELINEATIONS & STREAM EVALUATIONS

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FOXHILL CROSSING SUBDIVISION

DESIGNED BY BMS CHECKED BY FCP

AS NOTED SCALE

REVISIONS: 6-11-08 7-10-08

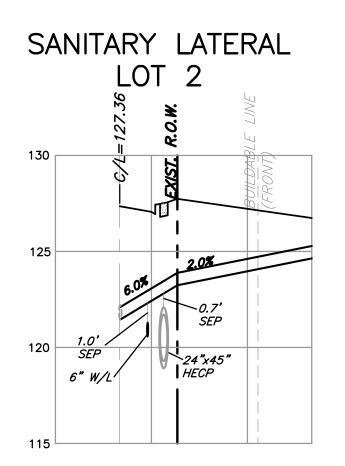
8-7-08 7-7-17 8-31-17 01-17-18 03-05-18 10-8-18

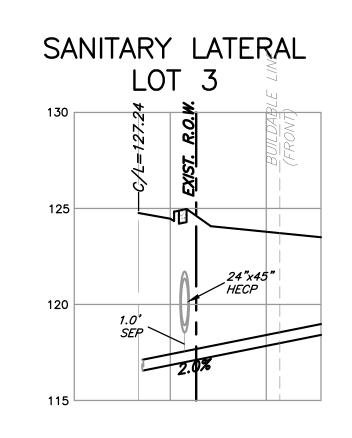
SHEET NO.

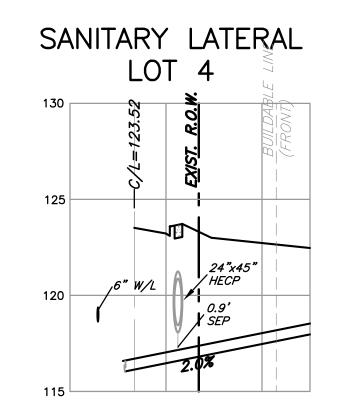
JOB NO. <u>C0700426.01</u>

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

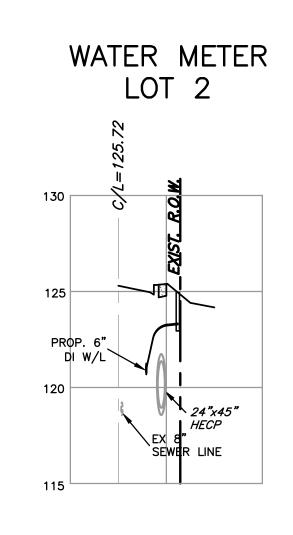
SANITARY LATERAL LOT

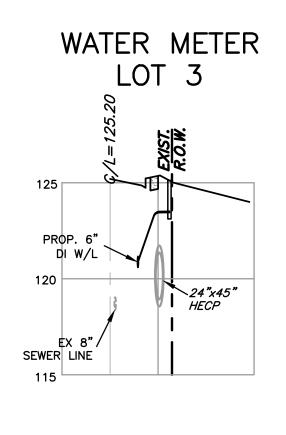


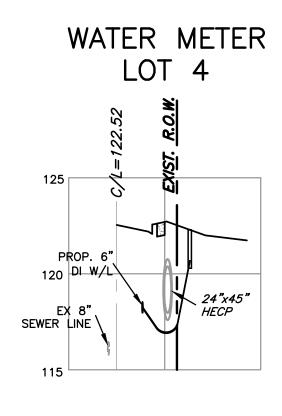




WATER METER

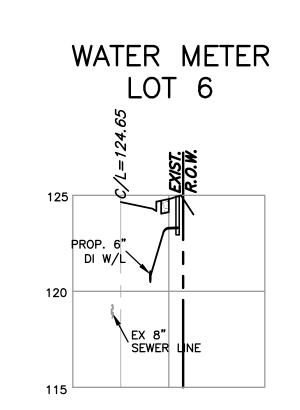


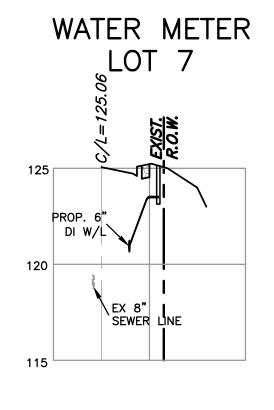


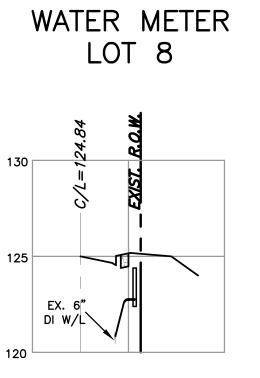


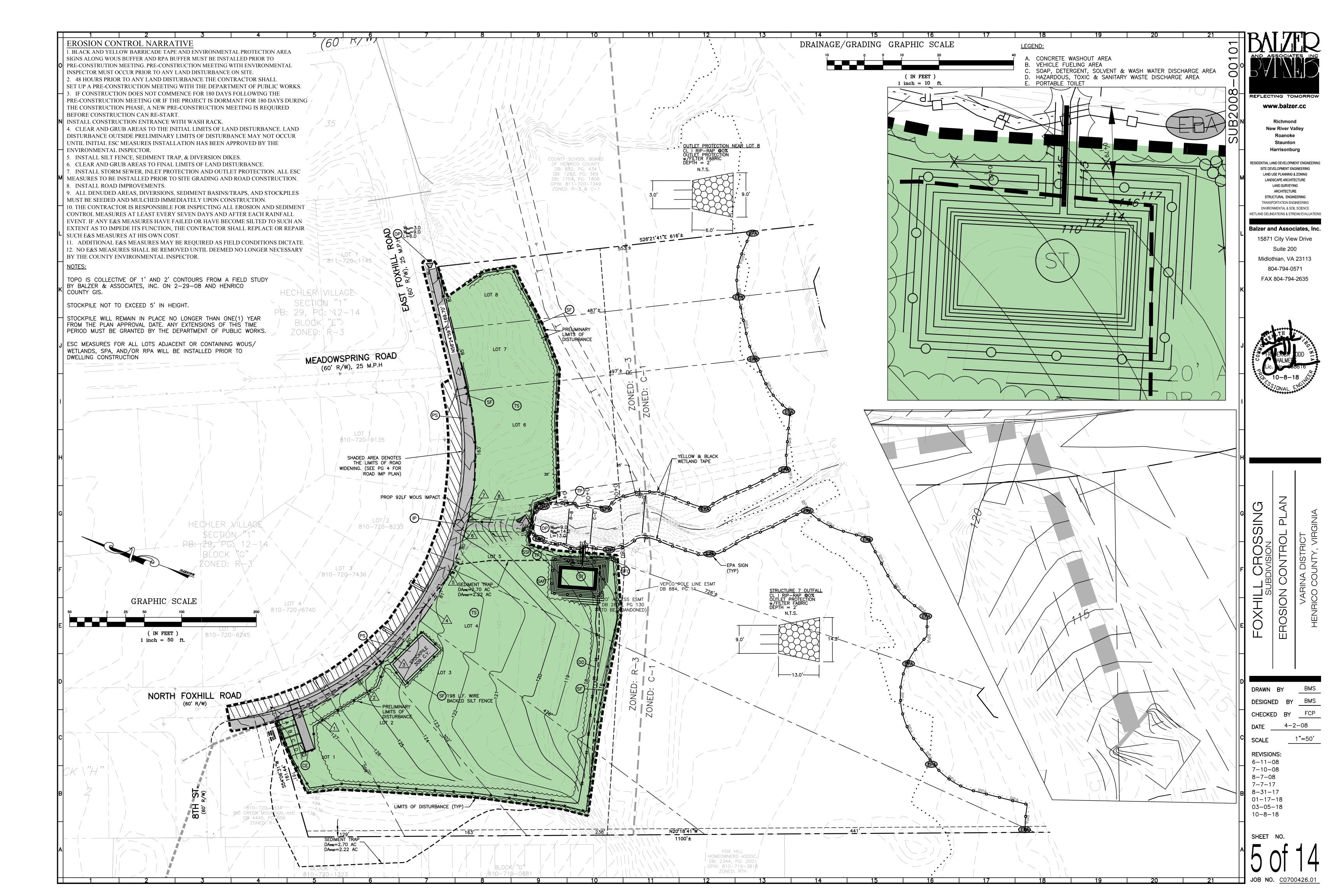
LOT 5 PROP. 6" 120 DI W/L 24"x45" HECP EX 8" SEWER LINE \

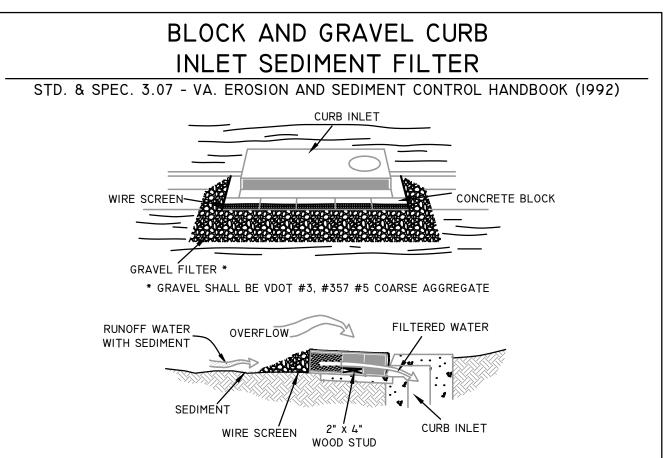
WATER METER

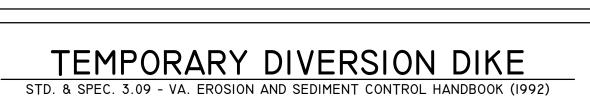




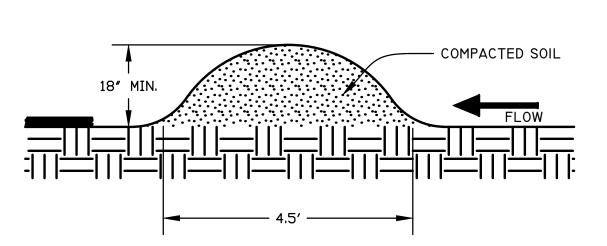






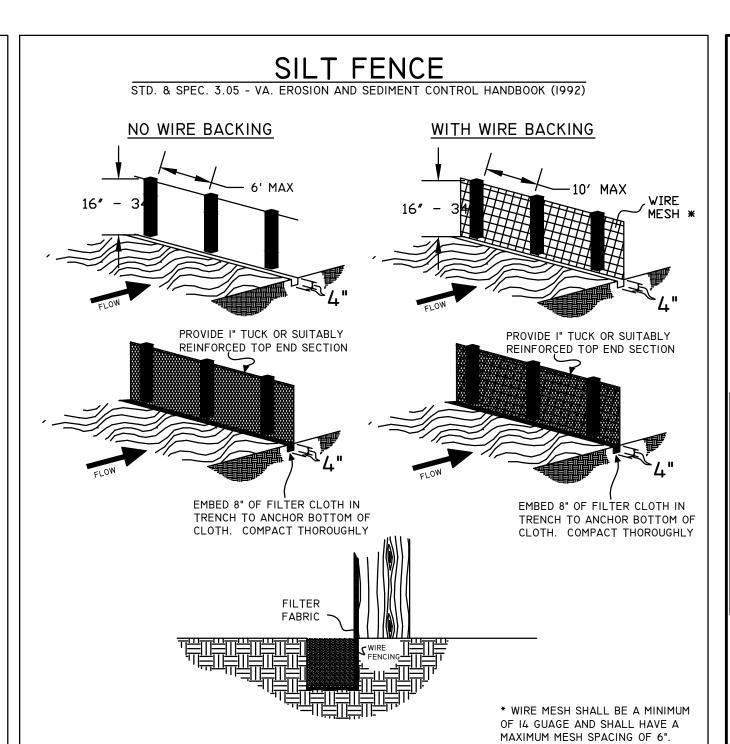


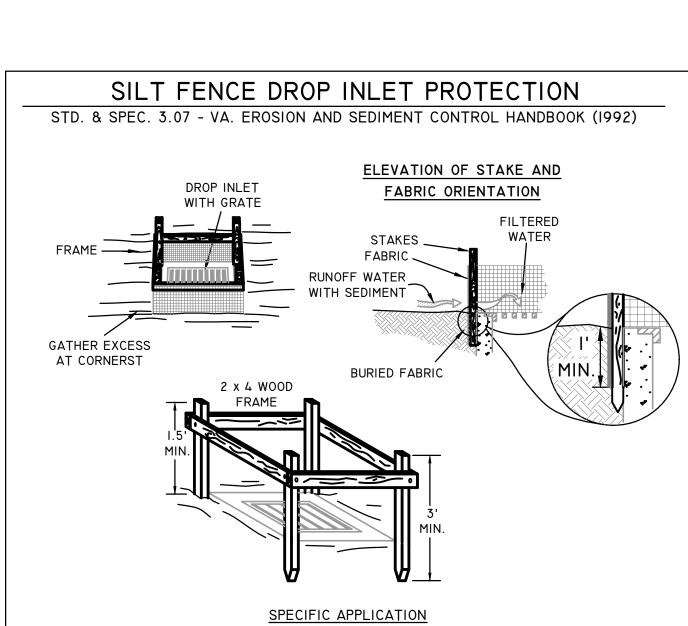
SPECIFIC APPLICATION THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.



SIDE SLOPES MUST BE 1.5:1 OR FLATTER

TEMPORARY OR PERMANENT SEEDING AND MULCH MUST BE APPLIED IMMEDIATELY UPON CONSTRUCTION



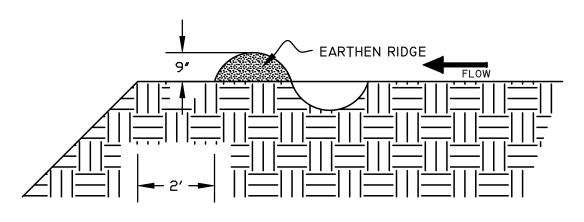


TEMPORARY FILL DIVERSION STD. & SPEC. 3.10 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992)

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A

RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5%) WHERE INLET SHEET OR

OVERLAND FLOWS (NOT EXCEEDING I CFS ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS



THE DIVERSION SHALL BE AT LEAST 2' INSIDE OF THE TOP EDGE OF FILL

THE SUPPORTING RIDGE SHALL BE CONSTRUCTED WITH A UNIFORM HEIGHT ALONG ITS ENTIRE LENGTH TO PREVENT BREACHING.

OUTFALL ADEQUACY

In accordance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations and the Henrico County Design Manual, adequacy of off-site receiving channels or pipes must be verified by addressing one of the following Adequacy Situations:

- A. The drainage area from the project at the discharge point is less than or equal to one percent of the total drainage area at the discharge point and the 10-year storm is contained within the channel banks (Project Drainage Area and Total Drainage area are required),
- Natural channels must be analyzed to demonstrate that (1) the 10-year storm will not overtop the channel banks and (2) the 2-year storm will not cause erosion of the channel bed and banks (Q Capacity, Q 10, V Allowable, and V2 are required), except Q Capacity and Q 10 are not applicable if the channel
- is in the 100-year floodplain, RPA,SPA.
- Man-made channels must be analyzed to demonstrate that (1) the 10-year storm will not overtop the channel banks and (2) the 2-year storm will not cause erosion of the channel bed or banks (Q $_{\text{Capacity}}$, Q $_{\text{10}}$, $V_{\text{Allowable}}$, and V_{2} are required),
- D. Pipes and storm sewer systems must be analyzed to demonstrate that the 10-year storm will be contained within the system (Q Canacity, Q 10, and Hydraulic Grade Line calculations are required),
- E. Runoff is discharged through an energy dissipator at the limits of the 100-year floodplain, RPA buffer, or SPA buffer.

	_			-				
Discharge Point	Adequacy Situation	Project Drainage Area	Total Drainage Area	Q Capacity	Q ₁₀	V _{Allowable}	V_2	Cross-section, Profile, <u>and</u> Calculations Shown on Sheet (s)
A-A	В	37.96 AC	34.97 AC	, ,		4.5 fps	4.15 fps	5, 6, 10
B-B	В	5.20 AC	35.24 AC			4.5 fps	4.23 fps	5, 6, 10
C-C	В	0.12 AC	38.68 AC			4.5 fps	4.22 fps	5, 6, 10
D-D	В	0.27 AC	38.95 AC			4.5 fps	4.50 fps	5, 6, 10

Discharge Point = Unique identifier for the discharge point Project Drainage Area = the drainage area of the project that drains to the discharge point in acres Q $_{\text{Capacity}}$ = the carrying capacity of the channel or pipe in CFS $V_{\text{Allowable}}$ = the maximum velocity (in FPS) that the channel lining can withstand without eroding

Adequacy Situation - either A, B, C, D, or E as described above Total Drainage Area - the total drainage area to the discharge point in acres Q₁₀ = the peak discharge at the discharge point for the 10-year storms in CFS V₂ = the velocity at the discharge point for the 2-year storm in FPS

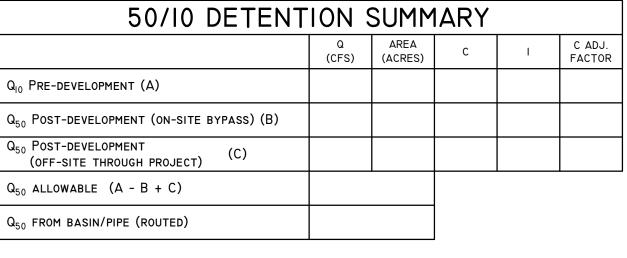
Generally, scaled channel cross-sections must be provided every fifty (50) feet and at the most constricted locations of all outfall channels for a minimum of 150 feet of profile.

BAFFLE DETAIL SHEETS DF 4' X 8' X 1/2" EXTERIOR PLYWOOD OR **EQUIVALENT** RISER CREST ELEVATION POSTS MIN. SIZE 4" SQUARE POSTS MUST BE SET OR 5" ROUND

]				AT LEAS	ST 3 FEET HE GROUND													
										ŞED	IMENT	BASINS	}									
	G G	Wet	Storage	Dry :	Storage		+	ten	io t	t e	E L		× g	ε	٤		BAFFLE		_	BAR	REL	
Basin #	Drainage Area (acre:	Volume Required (Cu. Yd.)	Volume Provided (Cu. Yd.)	Volume Required (Cu. Yd.)	Volume Provided (Cu. Yd.)	Bottom Elevation	Riser Cres- Elevation	Riser Diame ⁻	Dewatering evice Elevatio	Dewatering Jevice Diameta	25- Yr. Stoi Elevation	Emergency Spillway Elevation	Anti-Vortex Jevice Diamete	Top of Dar Elevation	Top of Da Width	Flowlength to Width Ratio	Baffle Length	Top of Baffle	Pipe Length	Pipe Diameter	Invert In	Invert Out
									Д	П			<u> </u>									

STA	STAGE STORAGE TABLE											
ELEV.	AREA (SF)	VOL. (CU. YD.)										
110	544	0										
111	648	35										
112	760	79										
113	880	132										
114	1008	196										
115	1288	260										
116	1600	338										
117	1944	432										

	SEDIMENT TRAPS												
	es)	\	/et Stor	age	Ι	ry Stor	age)th	_	٤ _	٤	In In	
Trap #	Drainage Area (acre	Volume Required (Cu. Yd.) Volume Provided (Cu. Yd.) Elevation		Volume Required (Cu. Yd.) Volume Provided (Cu. Yd.)		Elevation	Dutlet Length (Feet)	Bottom Elevation	Top of Berm Elevation	Top of Berm Width	Dimensions (L × W)		
1	2.70	181	196	115	181	236	118	17	111	117	4	64x42	



TEMPORARY SEDIMENT TRAP

STD. & SPEC. 3.13 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992)

OUTLET CROSS-SECTION

COARSE AGGREGATE SHALL BE VDOT #3, #357, OR #5

OUTLET (PERSPECTIVE VIEW)

WET STORAGE

ELEV.

SEDIMENT CLEANOUT AT I/2 OF WET

STORAGE VOLUME

COARSE AGGREGATE **

C ADJ. FACTOR 0 N

www.balzer.cc **New River Valle** Staunton

Harrisonburg RESIDENTIAL LAND DEVELOPMENT ENGINEERING SITE DEVELOPMENT ENGINEERING LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE LAND SURVEYING

STRUCTURAL ENGINEERING TRANSPORTATION ENGINEERING ENVIRONMENTAL & SOIL SCIENCE WETLAND DELINEATIONS & STREAM EVALUATIONS

ARCHITECTURE

Balzer and Associates, Inc.

15871 City View Drive Suite 200

Midlothian, VA 23113 804-794-0571 FAX 804-794-2635



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DESIGNED BY CHECKED BY

REVISIONS: 6-11-08

7-10-08 8-7-08 7-7-17 9-19-17 10-31-17

03-05-18 10-8-18

FOR EROSION AND SEDIMENT CONTROL

- MS-1 Any area that has reached final grade must receive temporary or permanent soil stabilization within seven days. Areas not at final grade that will remain dormant longer than 30 days must have temporary soil stabilization within seven days. Areas that will be dormant longer than one year must have permanent soil stabilization.
- MS-2 All soil stockpiles and borrow areas must be stabilized or protected with sediment trapping measures. Temporary protection and permanent stabilization shall be applied to all on-site soil stockpiles and borrow areas and soil intentionally transported from the project site.
- MS-3 Permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive, and will inhibit erosion.
- MS-4 Sediment basins and traps, and perimeter ESC measures intended to trap sediment must be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
- **MS-5** Stabilization measures shall be applied to earthen structures such as dams, dikes, and diversions immediately upon installation.
- **MS-6** Sediment basin and trap design information. **
- MS-7 Cut and fill slopes must be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
- MS-8 Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.
- MS-9 Whenever water seeps from a slope face, adequate drainage or other protection must be provided.
- MS-10 Inlet protection is required for all storm inlets that will be made operable during construction
- **MS-11** Before newly constructed storm water conveyance systems are made operational, adequate outlet protection and any required channel lining must be installed in both the conveyance channel and receiving channel.
- MS-12 When work in a live watercourse is performed, precautions must be taken to minimize encroachment, control sediment transport, and stabilize the work area to the greatest extent during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used if armored by non-erodible cover materials.
- MS-13 When a live watercourse must be crossed by construction vehicles more than twice in any sixmonth period, a temporary vehicular stream crossing constructed of non-erodible material must be provided.
- MS-14 All applicable federal, state, and local regulations related to working in or crossing live watercourses must be met.
- MS-15 The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
- **MS-16** Underground utility lines shall be installed in accordance with the following standards in additions to other applicable criteria:
 - a. No more than 500 linear feet of trench may be opened at one time.
 - Excavated material shall be placed on the uphill side of trenches.
 - c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged so that it does not adversely affect flowing streams or off-site property.
 - d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - Re-stabilization shall be accomplished in accordance with these regulations.
 - Comply with all applicable safety regulations.
- **MS-17** Construction entrances are required at all access points to the construction site. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This applies to individual development lots as well as to larger land-disturbing activities.
- MS-18 All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures must be permanently stabilized to prevent further erosion and sedimentation.
- **MS-19** Adequate outfall information **

** MS-6 and MS-19 deal with the design aspects of the plan. For further information, please consult the latest edition of the Virginia Erosion and Sediment Control Handbook. Also, refer to the sediment basin/trap design tables and the adequate outfall table located on the "Erosion and Sediment Control -Standard Details/Calcs." sheet.

Any variance to the above listed minimum standards must be requested and approved in writing.

UTILITY NOTES

All excavated material is to be placed on the uphill side of trench.

All storm and sanitary sewer lines not in streets are to be mulched and seeded within 7 days after backfill. No more than 500 feet of trench is to be open at one time.

Construction access roads shall be located on the uphill side of the trench or over the trench

All construction discharge water shall be adequately filtered to remove silt prior to discharge into waterways and wetlands.

Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

All work must be in compliance with applicable safety regulations.

All stream crossings and stream diversions require approval from the Environmental Engineer prior to any instream work (see STREAM CROSSINGS / DIVERSIONS / WORK IN STREAMS).

SILT FENCE NOTES

Silt fence and filter fabric must be entrenched.

Posts for silt fences shall be either 2-inch diameter oak, 4-inch diameter pine or 1.33 pounds per linear foot steel. Posts will be a minimum of 5 feet in length. Steel posts shall have projections for fastening wire to them.

Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

Post shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (min. of 12 inches) when extra strength fabric is used. Without the wire support fence, post spacing shall not exceed 6 feet.

When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the post.

Sediment must be removed when deposits reach approximately one – half the height of the barrier.

Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared, and seeded.

Under no circumstances should silt fence be installed in live streams.

Silt fence shall be removed upon completion of the project.

STREAM CROSSINGS / DIVERSIONS / WORK IN STREAMS

When a live watercourse must be crossed by construction vehicles or temporarily diverted, a plan/sketch showing appropriate details of the crossing/diversion must be submitted for approval to Henrico County's Environmental Engineer prior to any work involving the stream. The plan shall include but is not limited to: all pipes, mats, channel details, erosion control devices, sequence for construction, etc. Guidelines for pipe diameters can be found in table 3.24-A of the Virginia Erosion and Sediment Control Handbook. Channel liners will be in accordance with Section 3.25 of the Handbook.

No motorized equipment will at any time be within a waterway unless supported by floatation equipment or a temporary construction pad composed of clean non-erodible material (rocks, riprap, mats).

Clearing and grubbing of wetland areas will be kept to a minimum. All wetlands temporarily disturbed during construction will be restored to their original elevation, by removing excess material, grading and seeding with a wetland seed mix. In no case shall wetland areas be reseeded with any species of fescue.

The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse has been completed.

BMP INSPECTIONS / CERTIFICATIONS

Inspections of proposed BMPs must be conducted at two phases of construction – "rough grading" and "final conformance". County staff, the Developer or his/her representative, and the Developer's engineer should be present at the inspections.

The Developer or his/her representative is responsible for notifying the Environmental Inspector at the appropriate times during construction when the inspections should occur. Failure to request the inspections may result in delay of final acceptance of the BMP. Three inches of topsoil is required for areas of the BMP that will be stabilized with vegetation.

The Developer's Engineer/Surveyor will provide a letter of conformance once the final conformance inspection has been performed and all issues resolved.

Prior to release of the Erosion and Sediment Control bond, the Developer's Engineer/Surveyor will provide a BMP Certification using standard County forms.

RESPONSIBLE LAND DISTURBER (RLD) POLICY

As a prerequisite to engaging in the land-disturbing activities shown on this plan, the individual responsible for carrying out the plan and holding a certificate of competence shall be identified (the

The RLD will:

- 1. Attend the Pre-Construction meeting and sign the approved plans,
- 2. Inspect the ESC measures periodically at least once every two weeks, or within 48 hours of any runoff producing storm event,
- 3. For projects with site area of 1 acre or greater, submit inspection reports using a standard form supplied by the County to the Environmental Inspector listing all deficiencies or stating no deficiencies were found, and
- 4. Coordinate the implementation and maintenance of all erosion and sediment control measures in accordance with the approved plan.

MOSQUITO CONTROL NOTES

All construction sites and erosion and sediment control measures must be inspected and maintained to eliminate or minimize areas that promote mosquito breeding. Remove or empty all containers and trapped water in tarps. Fill and grade tire ruts or other imperfections in grade. Any standing water that remains for FIVE (5) days or more must be treated with an appropriate larvicide, including water in sediment basins and traps.

When a mosquito breeding area is found, removal or treatment of the area is required immediately. Inspection and treatment questions may be directed to Henrico County at (804) 501-7333. Other pesticide application questions should be directed to the Virginia Department of Agricultural & Consumer Services (VDACS) at (804) 371-6560.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

Henrico County's Environmental Inspector (804-727-8328) must be contacted at least 48 hours prior to any land disturbing activity.

All activities on the site must comply with Chapter IO of the Henrico County Code.

All erosion and sediment control (ESC) measures must be placed prior to, or as the first step in grading. The preliminary limits of disturbance must be the minimum necessary to allow installation of the ESC measures and should include all areas necessary for installing the initial ESC measures, including stockpiles, borrow areas, staging areas, etc. Disturbance outside of the preliminary limits of land disturbance may not occur until the Environmental Inspector has approved the ESC measure installation.

If additional ESC devices are found necessary during construction, they must be installed as directed by the Environmental Inspector for Henrico County.

Unless otherwise approved by the Environmental Engineer, all runoff must drain to a sediment basin or trap during all phases of construction.

All ESC devices must be installed and maintained in accordance with the latest version of the Virginia Erosion and Sediment Control Handbook and the Virginia Erosion and Sediment Control Regulations.

A construction entrance must be constructed and properly maintained in accordance with Std. & Spec. 3.05 – Construction Entrance, in the latest version of the Virginia Erosion and Sediment Control Handbook. If mud tracking becomes a problem, the Environmental Inspector will require additional measures (i.e. wash rack).

If dust becomes a problem during construction, a water truck will be required on-site at all times, and dust must be controlled in accordance with Std. & Spec. 3.39 - Dust Control, in the latest version of the Virginia Erosion and Sediment Control Handbook.

Dewatering of footings, excavated trenches, sediment basins/traps, etc. must be done in accordance with Std. & Spec. 3.26 – Dewatering Structure, in the latest version of the Virginia Erosion and Sediment Control Handbook. The Environmental Inspector must approve the method prior to beginning dewatering.

All temporary stockpile locations must be shown on the plan. Stockpiles may remain in place one year from the final plan approval date, unless the Director of Public Works grants an extension in response to a written request.

Any soil or fill material intentionally transported from the project site must be taken to an approved location, such as an active landfill or other active site that is operating under an approved Erosion and Sediment Control Plan.

In subdivision developments, temporary sediment basins/traps must remain in place until at least 80% of homes that drain to the basins/traps are complete and the associated disturbed areas are stabilized. Sediment basins/traps cannot be removed without approval of the Environmental Inspector. Once the temporary sediment basin/traps have been removed, the developer, contractor, and/or homebuilder are responsible for erosion and sediment control on individual lots until stabilization is achieved

In the event a contractor dumps, discharges or spills any oil or chemical that reaches or has the potential to reach a waterway, the contractor shall immediately notify all appropriate jurisdictional State, Federal, and County (501-5000) agencies and shall take immediate actions for containment and removal of the oil or

SEEDING NOTES

All stabilization/seeding will be accomplished in accordance with the Virginia Erosion and Sedimentation Control Handbook.

Any disturbed area not paved, sodded, or built upon, will have a vegetative cover prior to final inspection, and in the opinion of the Environmental Engineer will be mature enough to control soil erosion satisfactorily and survive severe weather conditions.

Stream diversion areas, waterways, banks, and related areas will be seeded and mulched immediately after work in watercourse is completed. In no case shall wetland areas be reseeded with any species of fescue.

Winterization – any disturbed area not paved, sodded, or built upon by October 15 is to be seeded and mulched on that date unless waived by the Environmental Engineer.

Permanent or temporary soil stabilization shall be applied to denuded areas with in seven (7) days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade, but will remain dormant for longer than thirty (30) days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

Electric power, telephone, and gas supply trenches must be compacted, seeded, and mulched within 7 days after backfill.

All temporary earth berms, diversions, and silt dams are to be mulched and seeded for vegetative cover immediately after grading. Straw or hay mulch is required. The same applies to all stockpiles, on site as well as soil (intentionally) transported from the project site.

RESOURCE PROTECTION AREAS. STREAM PROTECTION AREAS, WETLANDS, AND WATERS OF THE U.S.

Prior to beginning any land disturbing activity, all Resource Protection Areas (RPAs), Stream Protection Areas (SPAs), wetlands, and Waters of the U.S. (WOUS) not permitted for impact shall be delineated for protection with orange safety fence or non-tearable yellow and black barricade tape. This includes, but is not limited to, clearing limits associated with roadways, utilities, and buildings.

Additional restoration or replanting may be required for RPAs, SPAs, wetlands, and WOUS disturbed during construction.

ENVIRONMENTAL SITE ASSESSMENT INFORMATION

Plans must accurately show all RPA, SPA, and RMA features.

RESOURCE PROTECTION AREAS (RPA): ...YES NO 1. Is there a tributary stream located on the parcel?. ...YES NO 2. Are there any tidal wetlands present on the parcel? YES NO 3. Are there any non-tidal wetlands connected by surface flow...

and contiguous to tidal wetlands or tributary streams? ..YES NO 4. Are there any tidal shores on the parcel? ..(YES)NO 5. Does the site lie within 100 feet of any of the above site. characteristics designated as Resource Protection Areas (RPAs)?

If the answer to any of the above questions is "YES", the parcel contains a

RESOURCE MANAGEMENT AREAS (RMA):

Resource Protection Area (RPA).

(6.	Are there any special flood hazard areas (100-year floodplain)
•	7.	Are highly erodible soils, including steep slopes, present onYES NO the parcel and contiguous to any of the above RPA features?
{	8.	Does the parcel contain any highly permeable soils
į	9.	Does any portion of the parcel lie within 100 feet of a
•	10.	Does the entire site (outside of the RPA) lie within a

STREAM PROTECTION AREAS (SPA);

a SPA stream?

.YES(NO) 11. Is there any non-perennial stream with greater than 100 acres. of contributing drainage area located on the parcel? .YES(NO) 12. Does any of the site lie within 50 feet of the stream bank of .

OTHER ENVIRONMENTAL SITE INFORMATION:

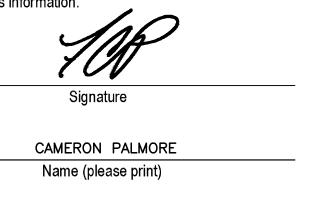
..YES NO 13. Are there any wetlands/waters of the United States located on the parcel? 14. Is development or land disturbance proposed in any... wetlands/waters of the United States?

Parcels containing RPAs/RMAs/SPAs must satisfy all requirements of the Henrico County Code applicable to development within Chesapeake Bay Preservation Areas. Land disturbance in wetlands and/or waters of the United States requires either a evidence of U.S. Army Corps of Engineers/Virginia Department of Environmental Quality (DEQ) permits or a certification from a principal in the engineering firm that the proposed wetland impacts are authorized by law.

I hereby certify that the above information is based on a field visit at (project name)

performed on 1-2-08

and that I have reviewed all maps and other documentation deemed necessary to certify the accuracy of this information.



My Virginia License or Certificate Number is:

1-2-08

ACKNOWLEDGMENTS

I hereby acknowledge that prior to any land disturbing activity, all buffer areas and wetlands as defined in the Henrico County code shall be conspicuously flagged or otherwise identified and not disturbed unless authorized by law, and that the applicant shall notify the Engineering and Environmental Services Division (EESD) upon completion of flagging. (Contact the EESD at 727-8328 to arrange a pre-construction meeting to verify the limits of flagging.)

I hereby certify that no more land is being disturbed than is necessary to provide for the desired development use.

I hereby certify that all erosion and sediment control measures shall be maintained, and the owner and/or agent will inspect the erosion and sediment control measures at least once every two week period, and within 48 hours following rainstorm events during construction to ensure compliance with the approved plan. Records of self-inspection shall be maintained on the site and available for review by County Inspectors.

I hereby acknowledge that the U.S. Army Corps of Engineers and/or Virginia Department of Environmental Quality may have additional jurisdiction over wetlands not regulated by Henrico

I hereby acknowledge that a Virginia Pollutant Discharge Elimination System (VPDES) permit application [including a Virginia Stormwater Management Program (VSMP) permit application], if required, has been made for land disturbing activities of 2,500 square feet or greater.

mil ///enje Signature (Owner/Developer) MARK REMPE

1-2-08

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Richmond New River Valley Roanoke Staunton Harrisonburg

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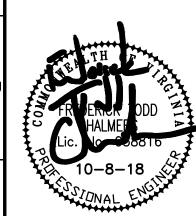
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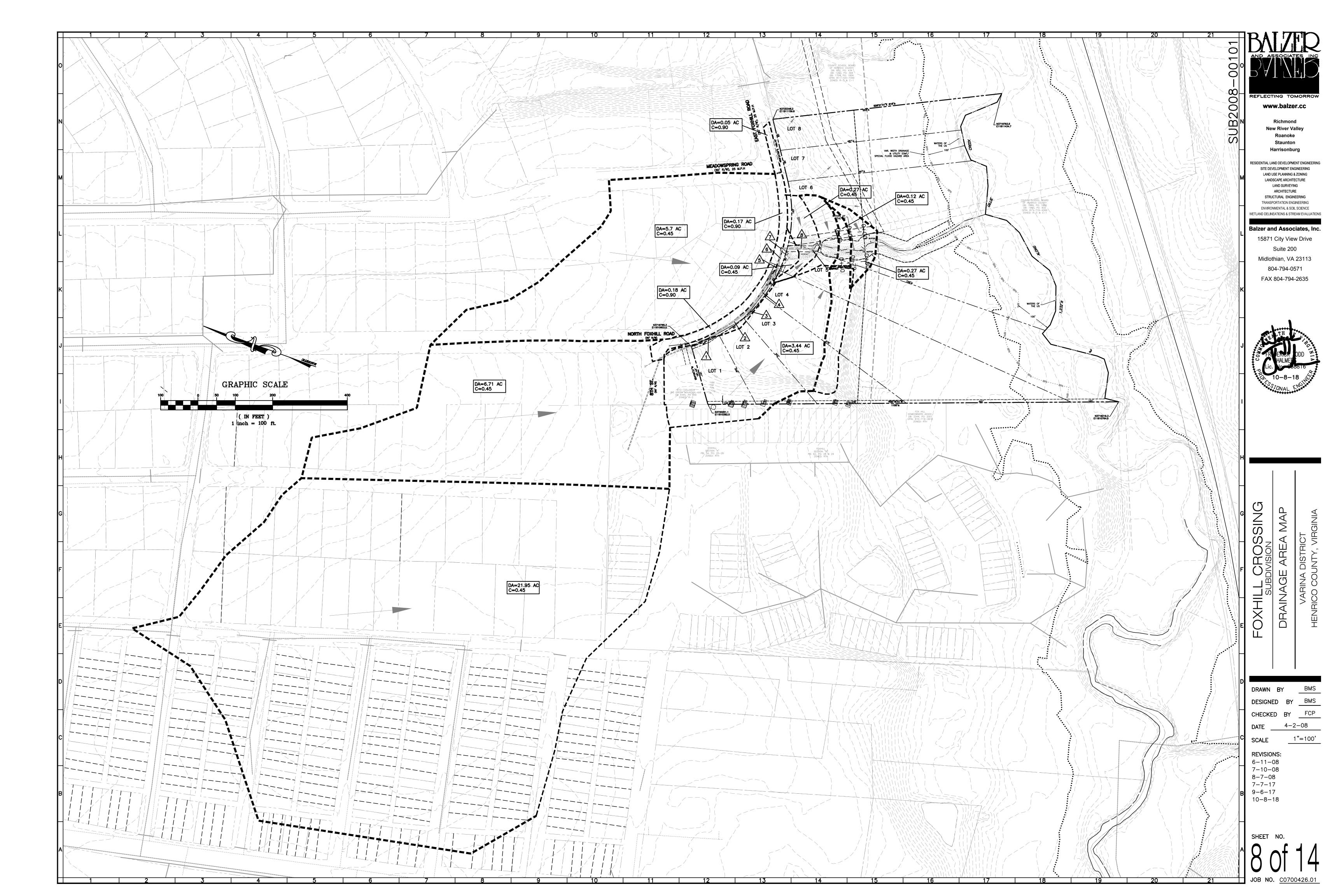
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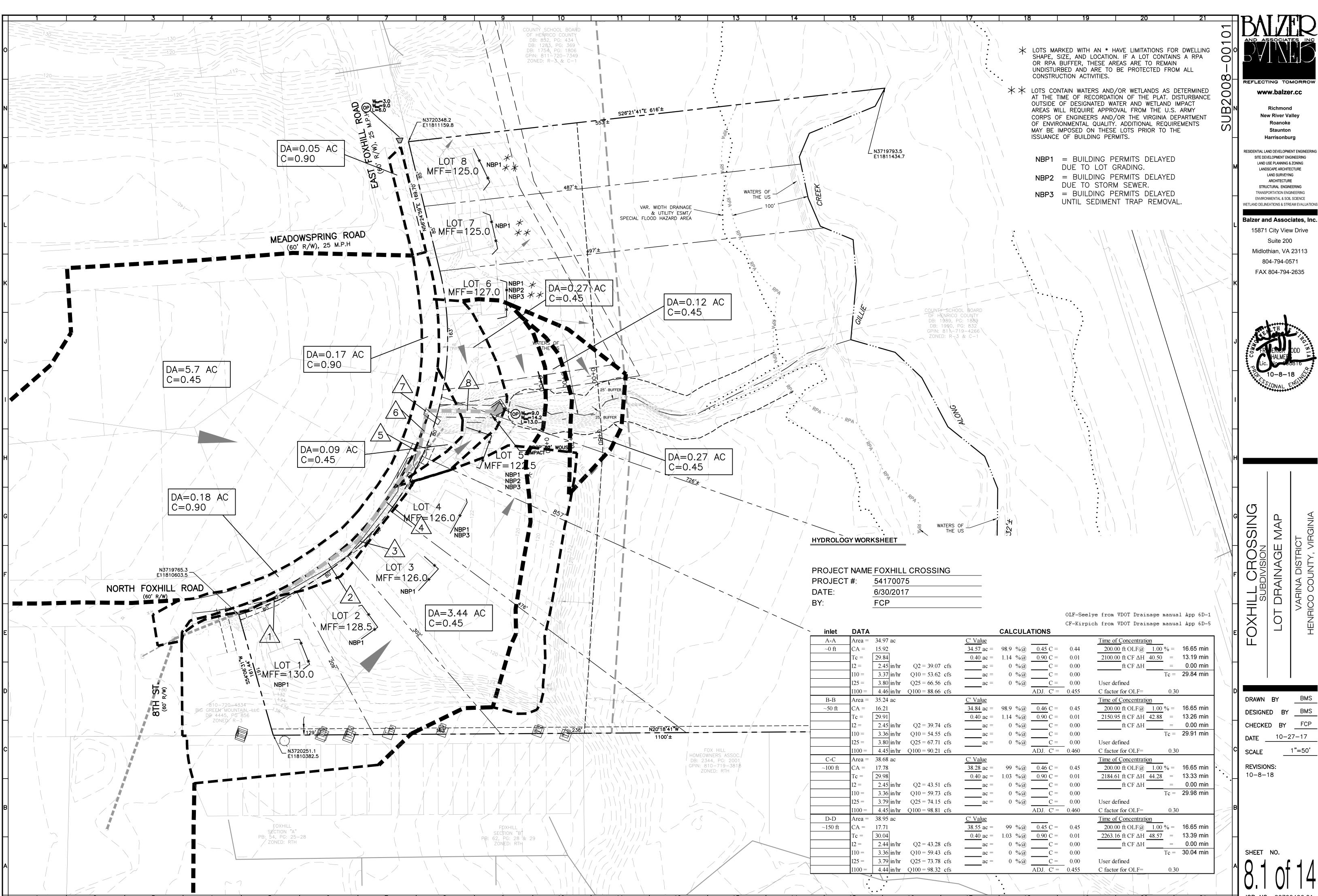
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SCALE **REVISIONS:**

03-05-18 10-8-18

SHEET NO.





New River Valley Harrisonburg

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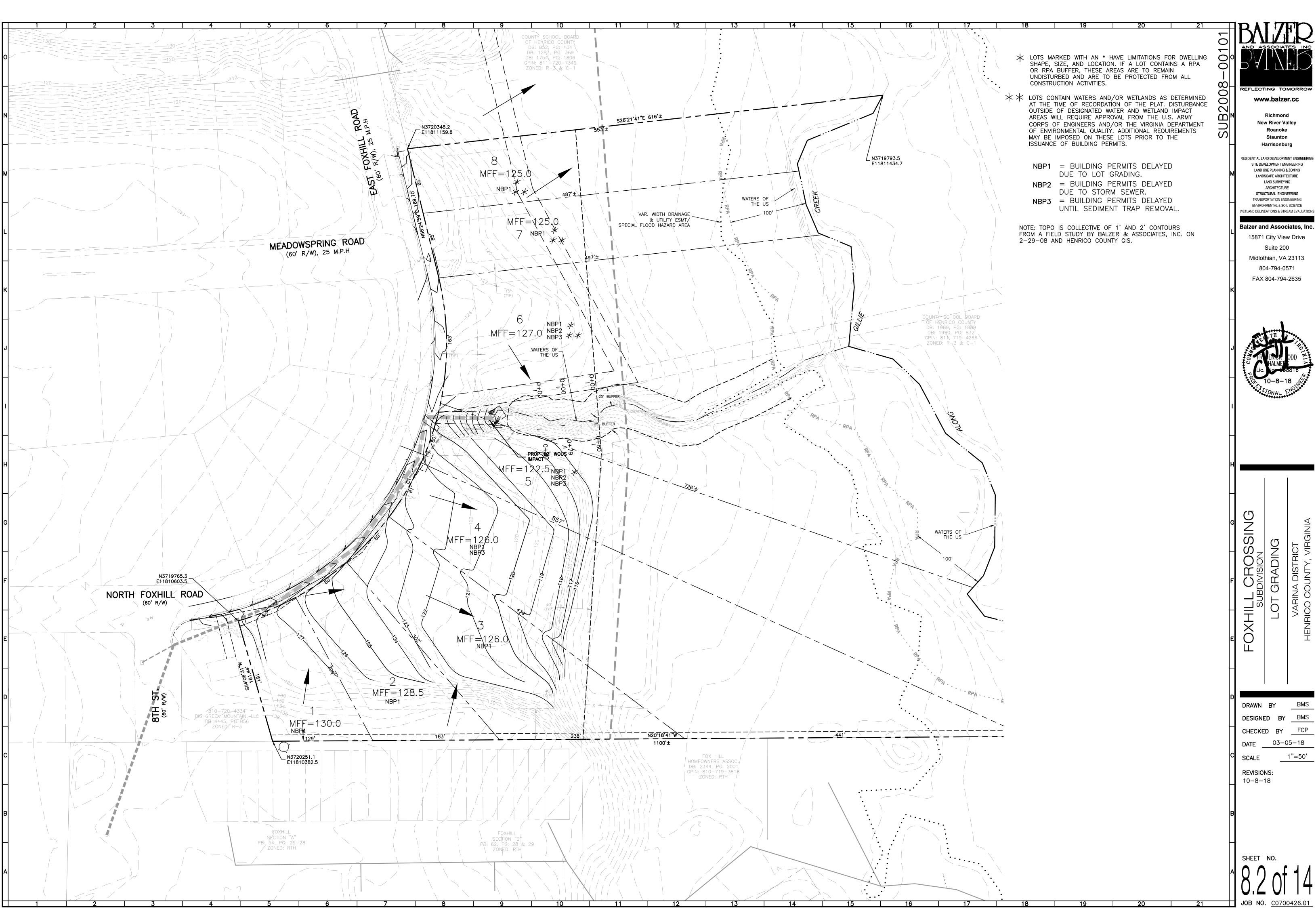
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DATE ____10-27-17



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New River Valley

Roanoke

Staunton

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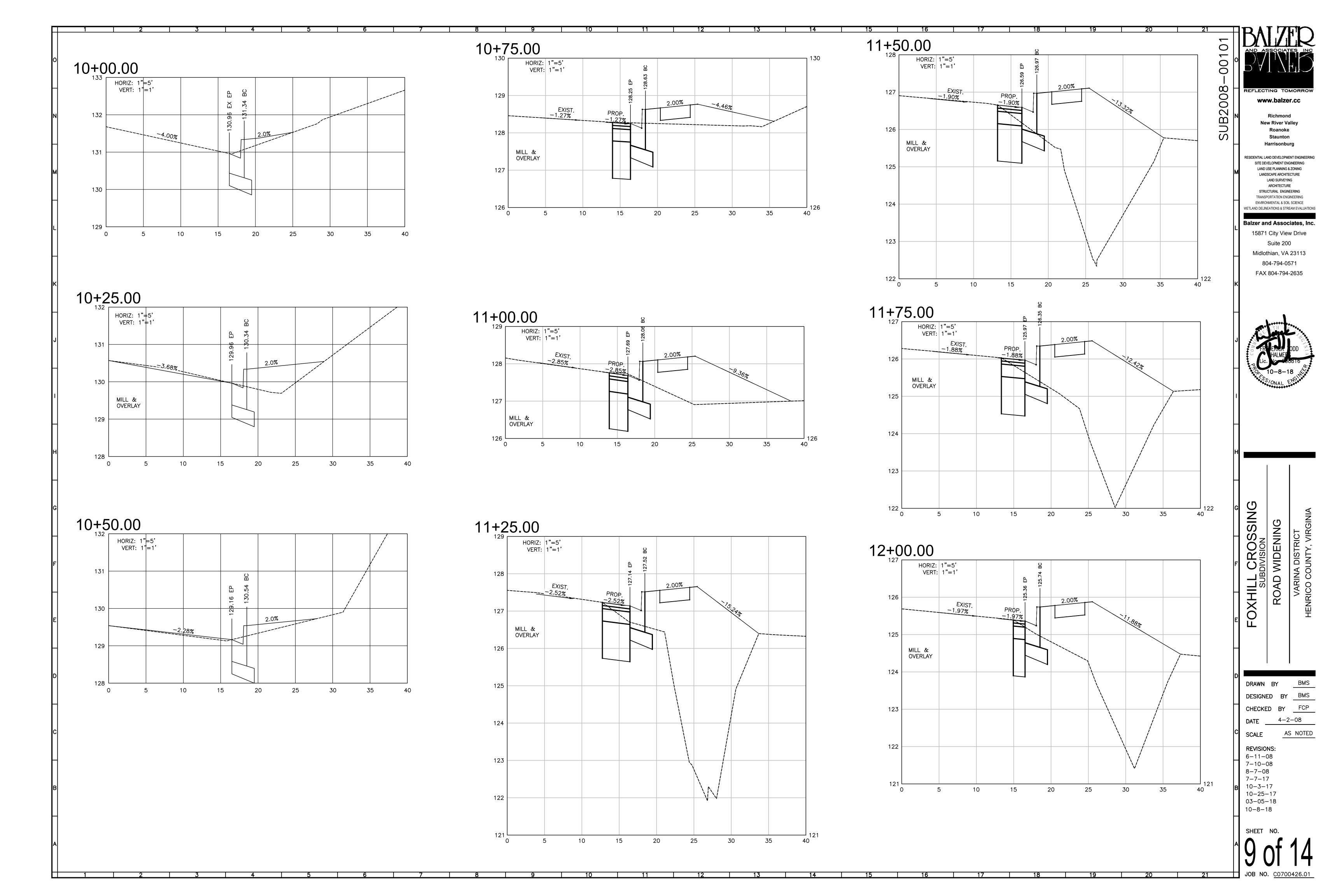
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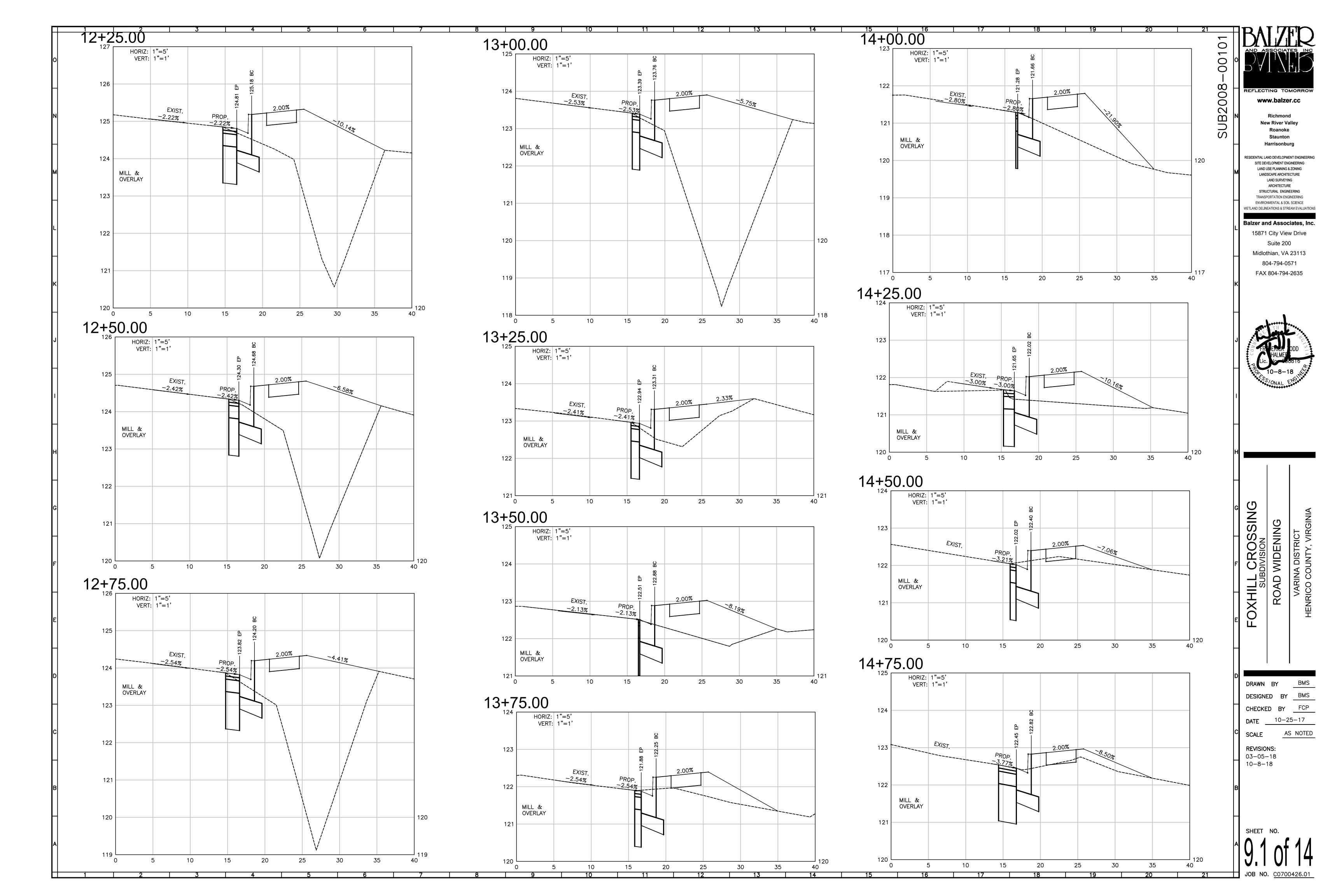
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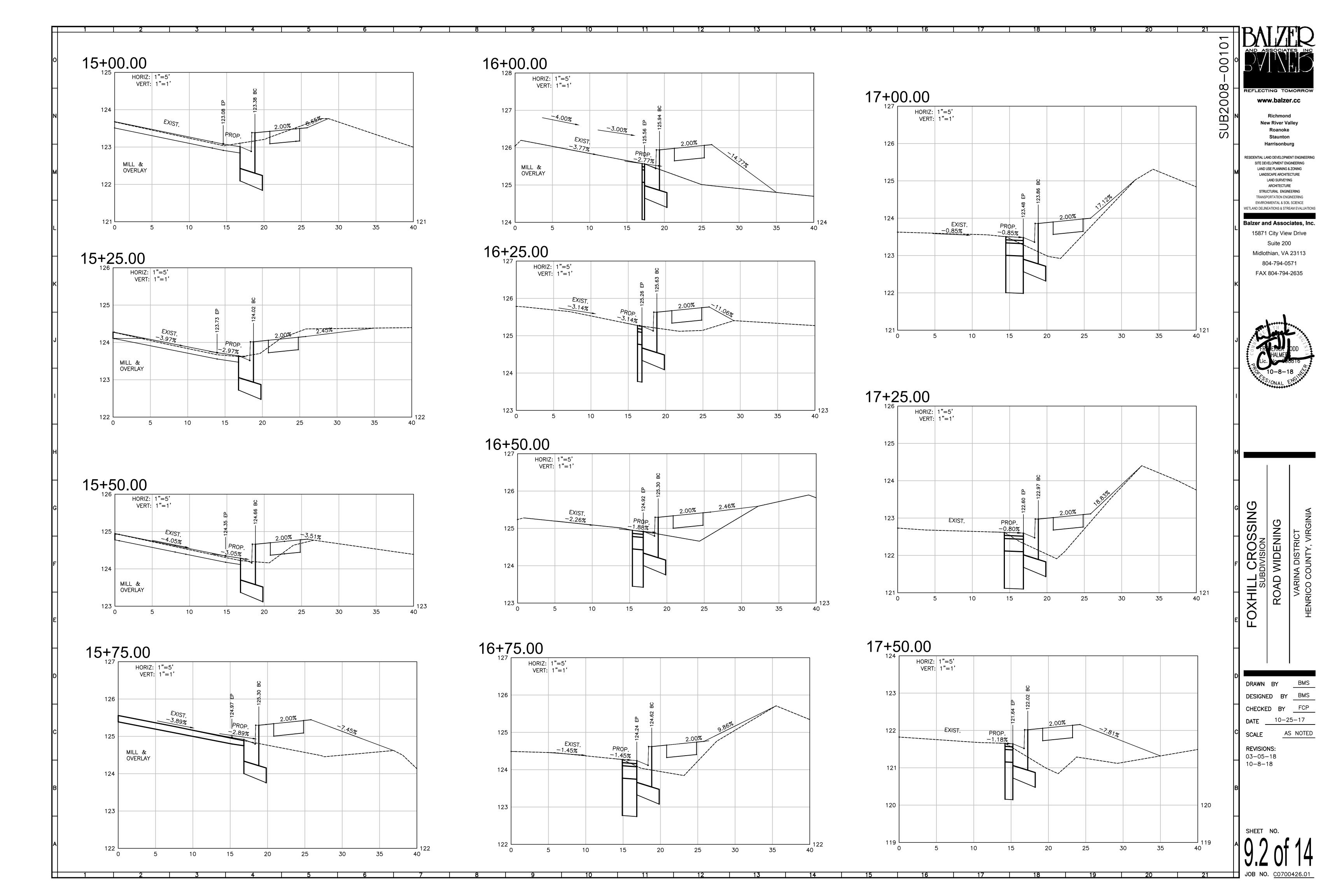
Midlothian, VA 23113 804-794-0571 FAX 804-794-2635

CHECKED BY FCP

REVISIONS: 10-8-18







OUTFALL CROSS SECTIONS SUB2008 HORIZ: 1"=5' : VERT: 1"=1' D-DHORIZ: 1"=5' VERT: 1"=1' HORIZ: 1"=5' VERT: 1"=1' 112 110 106 E10 ─ WATERS OF THE U.S. E10 ─ 104 Q₁₀=53.62cfs D₁₀=2.71' E₁₀=109.73 n=0.05V₂=4.15 WATERS OF Q10=54.55cfs S=0.0185ft/ft THE U.S. D₁₀=2.68' E₁₀=107.30 n=0.05 V₂=4.23fps _E10 / 102 S=0.0191ft/ft 0+00 0+25 107.02 — WATERS OF — THE U.S. Q₁₀=59.43cfs Q₁₀=59.73cfs D₁₀=2.21' E₁₀=100.87 WATERS OF THE U.S. D₁₀=2.57' E₁₀=106.36 -104.62 n=0.05 V₂=4.50 n=0.05V₂=4.22 100 S=0.0200ft/ft S=0.0194ft/ft 0+25 103.79 198 0+25

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Harrisonburg

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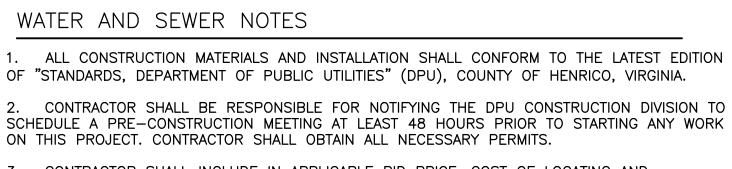
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FOXHILL CROSSING SUBDIVISION

SCALE

01-19-18 10-8-18



3. CONTRACTOR SHALL INCLUDE IN APPLICABLE BID PRICE, COST OF LOCATING AND UNCOVERING ALL SEWER MANHOLES AND VALVE BOXES AFTER COMPLETION OF ALL PAVING AND TO ADJUST THEM TO THE FINAL ROAD GRADES. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CLEANING OUT SEWER MAINS FOR FINAL INSPECTION, IF NECESSARY.

4. EXISTING UTILITIES ACROSS OR ALONG THE LINE OF THE PROPOSED WORK ARE SHOWN ONLY IN AN APPROXIMATE LOCATION ON THE PLANS. CONTRACTOR SHALL, ON HIS OWN INITIATIVE AND NO ADDITIONAL COST, LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. CONTRACTOR SHALL CALL "MISS UTILITY" AT 811 PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND LINES OR STRUCTURES.

- DATUM FOR ALL ELEVATIONS SHOWN IS NATIONAL GEODETIC SURVEY NAVD 88.
- MINIMUM COVER TOP OF WATER PIPE MUST BE 3.50 FEET.

INSTALLED PRIOR TO ACCEPTANCE OF WATER SYSTEM BY COUNTY.

- 7. SERVICE SADDLES MUST BE USED ON WATER CONNECTIONS TO PVC MAINS LESS THAN 6" IN DIAMETER.
- 8. FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH DPU STANDARD DRAWING D-495-1 AND D-495-2.
- 9. ENGINEER SHALL CERTIFY THAT UNPAVED STREETS ARE TO SUBGRADE PRIOR TO CONTRACTOR INSTALLING WATER SYSTEM. CURB AND GUTTER, IF REQUIRED, SHALL BE
- 10. NO STRUCTURES OR PLANTING OF TRESS SHALL BE PERMITTED IN UTILITY EASEMENTS.
- 11. VANDAL PROFF/WATERTIGHT COVERS SHALL BE USED ON ALL MANHOLES IN EASEMENTS AND IN FLOOD PLAINS. THE MANHOLE COVERS SHALL BE IN ACCORDANCE WITH DUP STANDARD DESIGN DRAWINGS D-150, D-155, AND D-160.
- 12. FINAL ACCEPTANCE BY COUNTY SHALL NOT BE MADE UNTIL ALL WORK SHOWN ON APPROVED UTILITY PLANS IS COMPLETED INCLUDING PAVING, GRADING, AND ALL REQUIRED ADJUSTMENTS.

13. A WETLANDS PERMIT MAY BE REQUIRED FROM THE U.S. ARMY CORPS OF ENGINEERS FOR THIS PROJECT. FOR INFORMATION CONCERNING SUCH REQUIREMENT, CONTACT THE CORPS AT (804) 462-5382.

14. DPU WILL INSPECT ALL WATER AND SANITARY SEWER MAINS, CONNECTIONS, AND APPURTENANCES THERETO, AS SHOWN ON THE APPROVED UTILITY PLANS, LOCATED WITHIN DEDICATED EASEMENTS AND/OR PUBLIC RIGHTS-OF-WAY. FURTHERMORE, DPU WILL INSPECT ALL PRIVATE SEWER MAINS THROUGH THE LAST MANHOLE. ALL OTHER LINES TO BE INSTALLED ON SITE TO SERVE ROOF DRAINAGE, WATER SUPPLY, AND SANITARY SEWERS SHALL BE APPROVED BY THE DEPARTMENT OF BUILDING INSPECTIONS PRIOR TO INSTALLATION AND SHALL BE INSPECTED BY BUILDING INSPECTIONS BEFORE COVERING.

15. CONCURRENT INSPECTIONS BY BUILDING INSPECTIONS AND DPU WILL BE PERFORMED FOR THE FOLLOWING: MAINLINE BACKFLOW PREVENTERS; MONITORING MANHOLES; GREASE TRAPS; EXCLUSION METERS: IRRIGATION METERS. DPU WILL INSPECT TO INSURE THAT THE PROPER TYPE FACILITY, AS SHOWN ON THE APPROVED UTILITY PLANS, HAS BEEN INSTALLED AND TESTED IN ACCORDANCE WITH DPU STANDARDS.

> SITE INSPECTION PORT (S.I.P.) INSTALLATION: OPTION NO. 1 — OWNER MAY HAVE UTILITY CONTRACTOR INSTALL S.I.P.'S. THEY MUST BE INSTALLED PRIOR TO TENTATIVE

OPTION NO. 2 - OWNER MAY HAVE PLUMBING CONTRACTOR INSTALL S.I.P.'S. THEY MUST BE INSPECTED BE THE COUNTY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

ACCEPTANCE BE THE COUNTY.

COUNTY OF HENRICO DEPARTMENT OF PUBLIC UTILITIES 1" OR 1-1/2" SERVICE LINE --SEE DWG D-520-3 -TYPICAL DPW ROAD SECTION WITH CURB AND GUTTER AND WITHOUT SIDEWALK SEE NOTE 1 1" OR 1-1/2" SERVICE LINE -SEE DWG D-520-3 -TYPICAL DPW ROAD SECTION WITH CURB AND GUTTER AND WITH SIDEWALK 1. WATER METER MAY BE INSTALLED BETWEEN CURB AND SIDEWALK IF THE DISTANCE IS 3' OR MORE. 2. ALL METER BOXES SHALL BE WITHIN THE RIGHT-OF-WAY OR EASEMENT. REVISIONS WATER SERVICE INSTALLATION DETAILS 06/20/2014 D-520-FOR 5/8" AND 1" METERS

TYPICAL DPW ROAD SECTION WITHOUT CURB AND GUTTER WITH DITCH TYPICAL DPW ROAD SECTION WITHOUT CURB AND GUTTER 1. ALL METER BOXES SHALL BE WITHIN THE RIGHT-OF-WAY OR EASEMENT. 2. SERVICE SIZES SHALL BE ONE SIZE LARGER THAN THE METER. 3. SEE NOTES ON DWG D-520-3. WATER SERVICE INSTALLATION DETAILS 06/20/2014 FOR 5/8" AND 1" METERS

COUNTY OF HENRICO

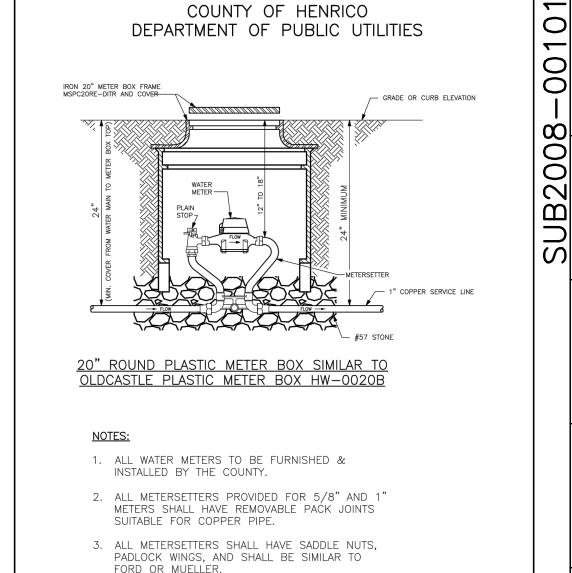
DEPARTMENT OF PUBLIC UTILITIES

8' UTILITY EASEMENT

__EXISTING GROUND

06/20/2014)-520-2

COUNTY OF HENRICO DEPARTMENT OF PUBLIC UTILITIES SEE "TYPICAL RESIDENTIAL WATER METER LOCATIONS" D-510 FOR HORIZONTAL PLACEMENT OF METER BOXES AND 2. METER BOXES INSTALLED OUTSIDE THE RIGHT-OF-WAY SHALL BE INSTALLED INSIDE A PERMANENT DPU UTILITY EASEMENT. 3. THE SERVICE LINE BETWEEN THE MAIN AND THE METER WILL BE ONE CONTINUOUS PIECE OF PIPE. (NO JOINTS WILL BE 4. METER BOXES SHALL NOT BE INSTALLED IN ROAD DITCHES. AND LID ARE USED. THE METER BOX, TOP, AND LID MUST BE APPROVED BY DPU PRIOR TO INSTALLATION. MINIMUM DEPTH OF COVER OVER WATER SERVICE SHALL BE 36" EXCEPT AS SHOWN AT METER BOX ENTRANCE IN DWG 8. WATER SERVICE WILL CROSS OVER STORM SEWER PIPES WITH A MINIMUM OF 6" CLEARANCE BETWEEN PIPES. PIPE HORZ. CL FORD OR MUELLER. STANDARD SERVICE CONNECTION WATER SERVICE INSTALLATION DETAILS STANDARD METER BOX INSTALLATION 06/20/2014 D-520-3 FOR 5/8" AND 1" METERS FOR 5/8" AND 1" METERS



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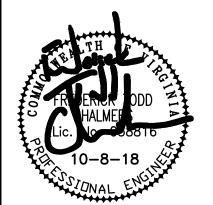
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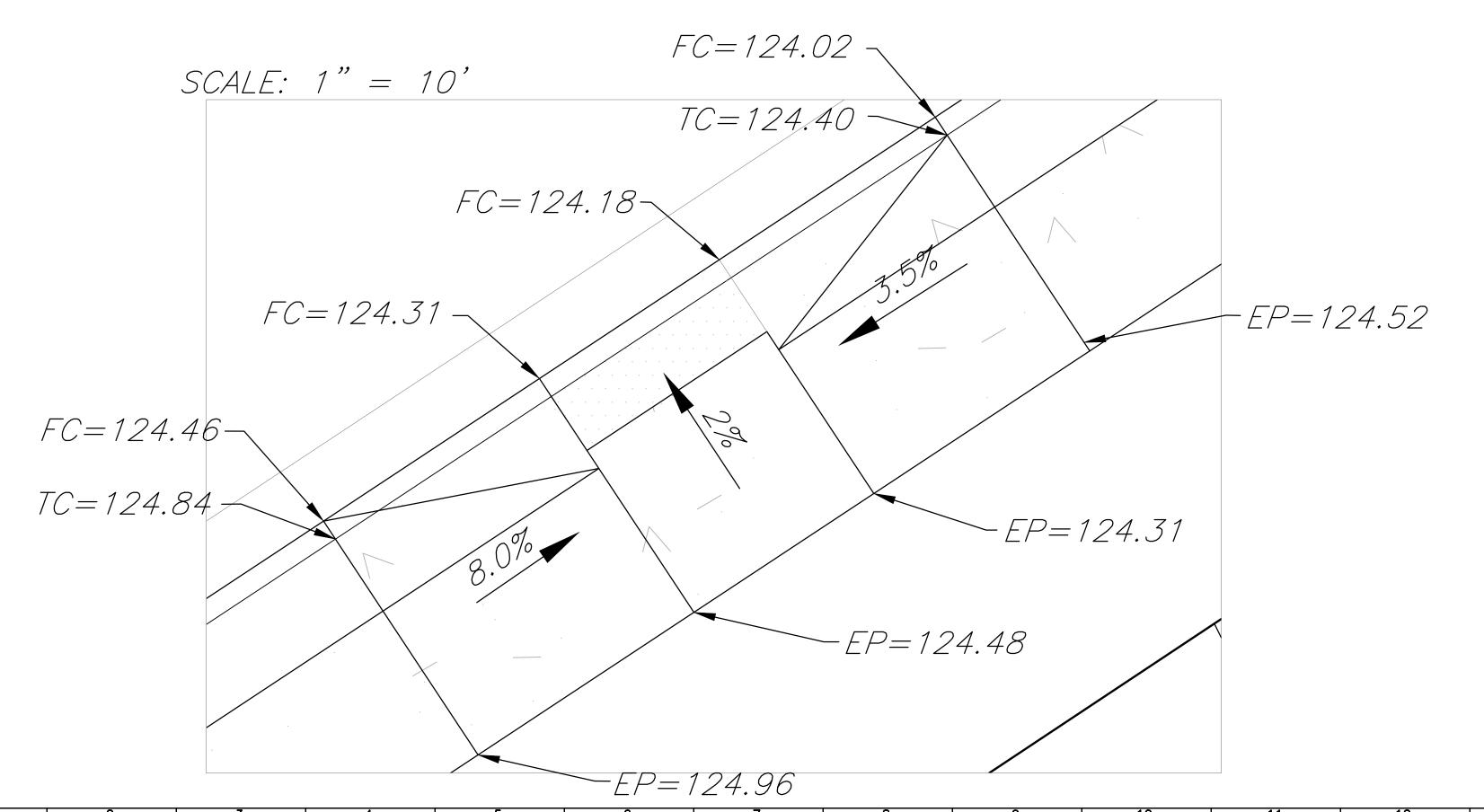
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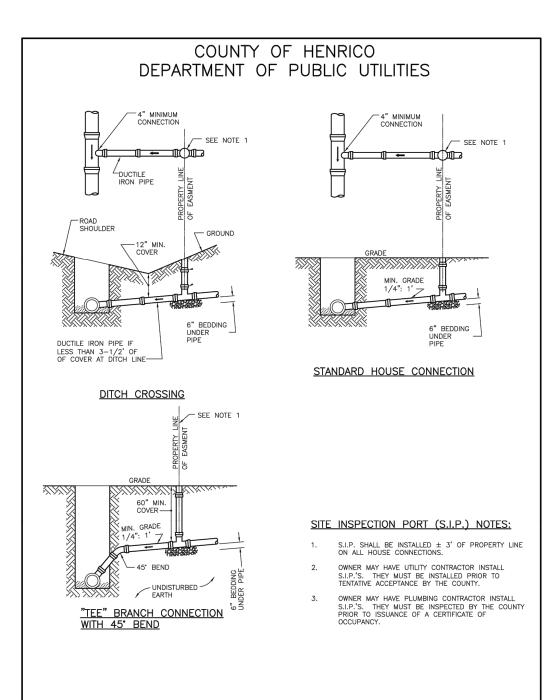


- PVC PLASTIC PIPE SHALL MEET REQUIREMENTS OF ASTM D-3034 TYPE PSM SDR-35 FOR ALL SIZES 4-INCH THROUGH 15-INCH AND ASTM F-679 FOR PIPE SIZED 18-INCH THROUGH 27-INCH WITH ELASTOMERIC GASKET JOINTS MEETING REQUIREMENTS OF ASTM D3212.
- DUCTILE IRON PIPE (D.I.) SHALL MEET THE REQUIREMENTS OF AWWA C-151 FOR THE PRESSURE AND THICKNESS CLASSES SHOWN ON THE DRAWINGS. PIPE SHALL HAVE A CEMENT-MORTAR LINING AND AN ASPHALTIC SEAL COAT. THICKNESS CLASSES SHALL MEET THE REQUIREMENTS OF AWWA C-150 CLASS 50.
- PIPE BEDDING FOR GRAVITY SEWER LINES SHALL BE IN ACCORDANCE WITH D-710-1, D-710-2, D-720, OR D-730 AS REQUIRED FOR THE PIPE MATERIAL.

WATER LINE

- 1. PVC PLASTIC PIPE SHALL MEET THE REQUIREMENT OF AWWA C900, TABLE 2, (CAST IRON OD) CLASS 150 EXCEPT THAT ALL CONNECTIONS SHALL BE MADE USING ELASTOMERIC GASKET JOINTS. NO PVC PIPE LARGER THAN 8" SHALL BE USED FOR
- 2. DUCTILE IRON PIPE SHALL BE AWWA C-151 FOR PRESSURE AND THICKNESS CLASS SHOWN ON THE DRAWINGS. THICKNESS CLASSES SHALL MEET THE REQUIREMENTS OF AWWA C-150. ALL PIPE SHALL HAVE A CEMENT-MORTAR LINING ON THE INTERIOR AND AN ASPHALTIC SEAL COAT ON THE EXTERIOR. MINIMUM THICKNESS SHALL BE CLASS 52 FOR 12-INCH AND SMALLER, AND CLASS 51 FOR 16-INCH AND LARGER.
- 3. PIPE BEDDING FOR PRESSURE LINES SHALL BE IN ACCORDANCE WITH D-710-1, D-710-2, D-720, OR D-730 AS REQUIRED FOR THE PIPE MATERIAL.

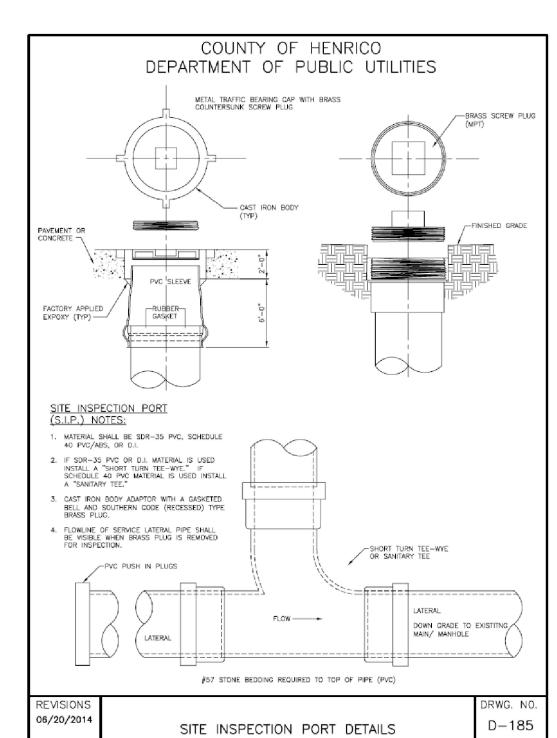




HOUSE CONNECTION DETAILS

D-180

06/20/2014



CROSSING DESIGNED BY CHECKED BY SCALE **REVISIONS:** 6-11-08 7-10-08 8-7-08 7-7-17 8-24-17 03-05-18 10-8-18

SHEET NO.

Typical Traffic Control Stationary Operation on a Shoulder (Figure TTC-4.0) **NOTES**

Standard

Page 6H-15

END ROAD WORK G20-2 (V)

SHADOW VEHICLE

REQUIRED

TMA REQUIREMENT SEE NOTE 8

ILLUMINATED FLASHING

AMBER (CAUTION MODE) TYPE B OR C

SEE NOTE 1

W21-5bR

CHANNELIZING

DEVICES SPACING SEE NOTE 6

- 500' +

SEE NOTE 6

- SEE NOTE 2

SEE NOTE 2

SEE NOTE 2

Stationary Operation on a Shoulder

(Figure TTC-4.0)

1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED AHEAD (W21-5bR) sign shall be added to that side.

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

Option:

- 3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
- 4. For short duration operations of 1 hour or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, oscillating, or strobe lights is used.

5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.

	supplement	gii.	-michiging amber	i otating, masimi	18, 03		5, 01	Sti Obt 1
6.	Taper length	(L)	and channelizing	device spacing	shall	be at t	he fo	ollowing

	Taper L	ength (l	-)							
Speed Limit	L	ane Wic	ith (Fee	t)						
(mph)	9	10	11	12						
25	95	105	115	125						
30	135	150	165	180						
35	185	205	225	245						
40	240	270	295	320						
45	405	450	495	540						
50	450	500	550	600						
55	495	550	605	660						
60	540	600	660	720						
65	585	650	715	780						
70	630	700	770	840						
Minimum taper lengths for Limited Access highways shall be 1000 feet.										
Should	er Tape	r = ⅓ L N	Minimum	1						

Speed Lii	nit (mph)
0 - 35	36 +
20'	40'
40'	80'
80'	120'
eased to this	
	0 - 35 20' 40' 80' eased to this

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled

7. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.

- 8. A shadow vehicle shall be used whenever a person is required to operate equipment mounted on or in the work vehicle such as buckets, augers, post drivers, etc. For work operations on the shoulder with a duration greater than 1 hour where workers are present, a shadow vehicle shall be used. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45
- 9. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

Two-lane Road -**Stationary Closure** (Two Flagger Operation)

August 2011

SEE NOTE 1

Two-lane Road -**Stationary Closure**

Notes:

- 1. Sign spacing: posted speed greater than 45 mph 500' – 800'; posted speed 45 mph or less 350' – 500'; see spacing of signs for urban use on page 6.
- 2. The cone transition length shall be 100' maximum in length.
- 3. All flaggers shall be state certified and have their certification card in their possession when flagging.
- 4. Flagging stations should be located with a desired clear site distance of 500' in advance of the flagger.
- 5. A shadow vehicle with at least one rotating amber light or high intensity amber strobe light shall be parked 50'-100' in advance of the first work crew.
- 6. For length of the buffer, see Buffer Space Length Chart on page 14.

C	Cone Spacing	r 5
Location	0-35 mph	36 + mph
Transition	20'	40'
Travelway	40'	80'

MEADOWSPRING RD. ROAD WORK 16+00) ILLUMHNATED FLASHING AMBER (CAUTION MODE) TYPE B OR C

SCALE: 1"=50'

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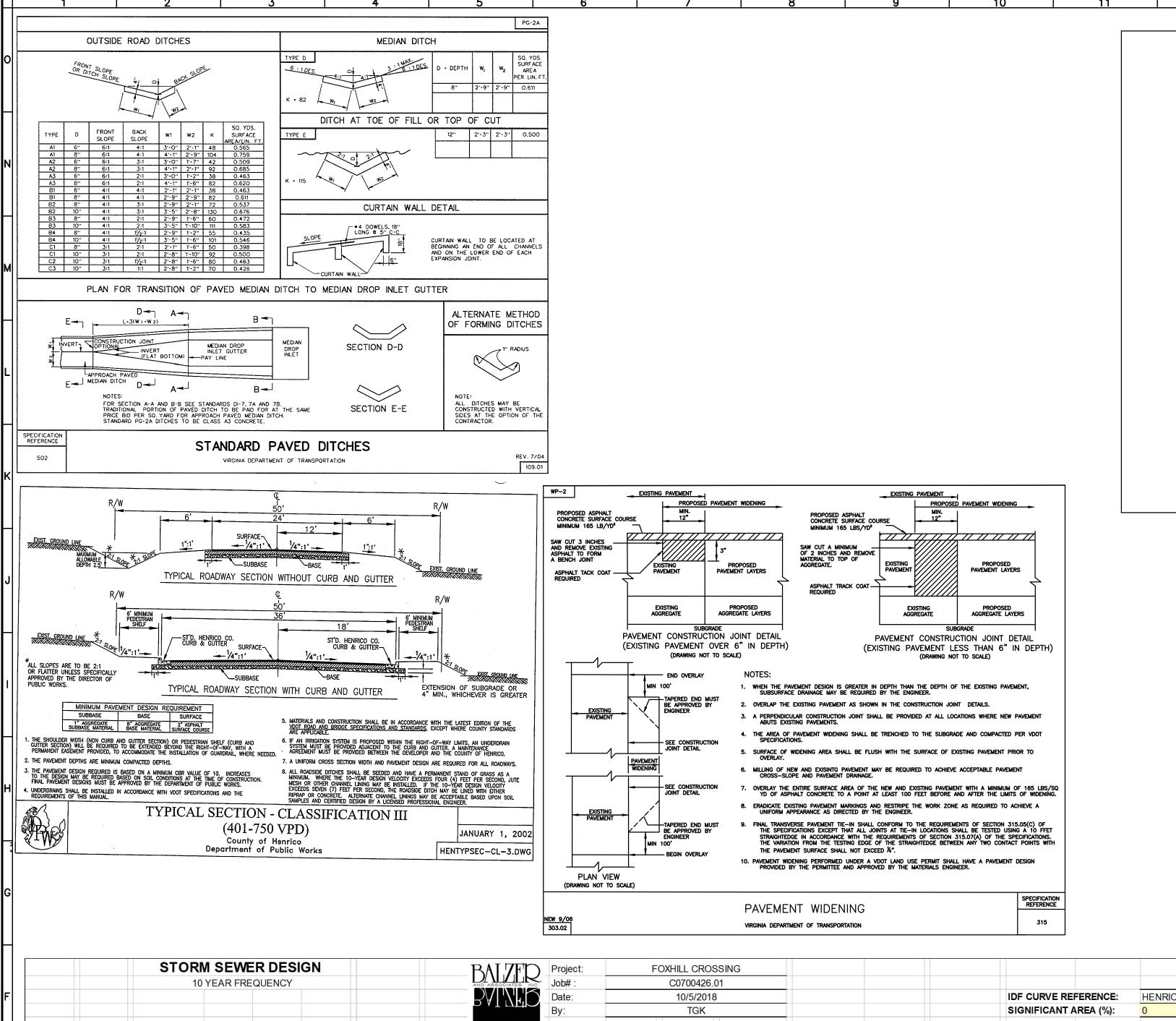
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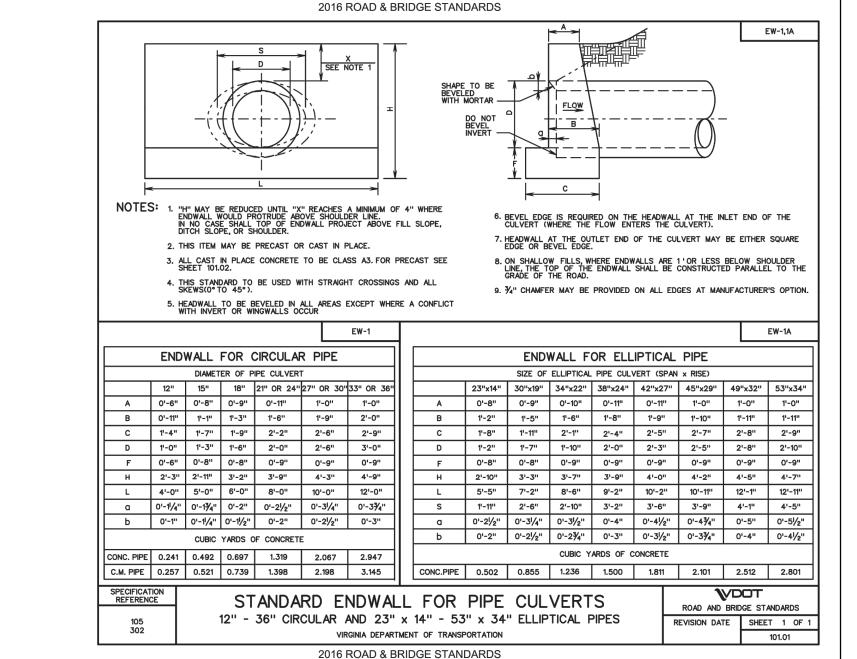
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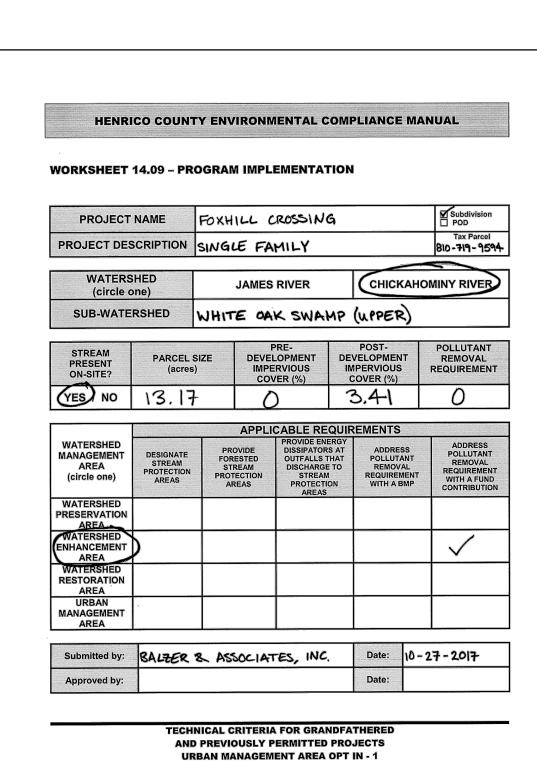
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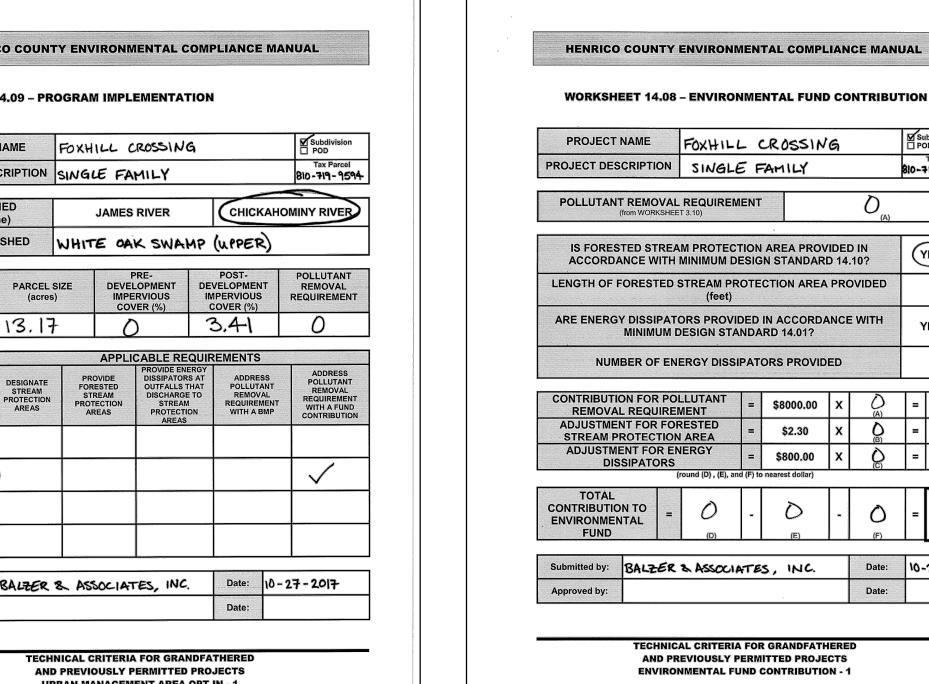


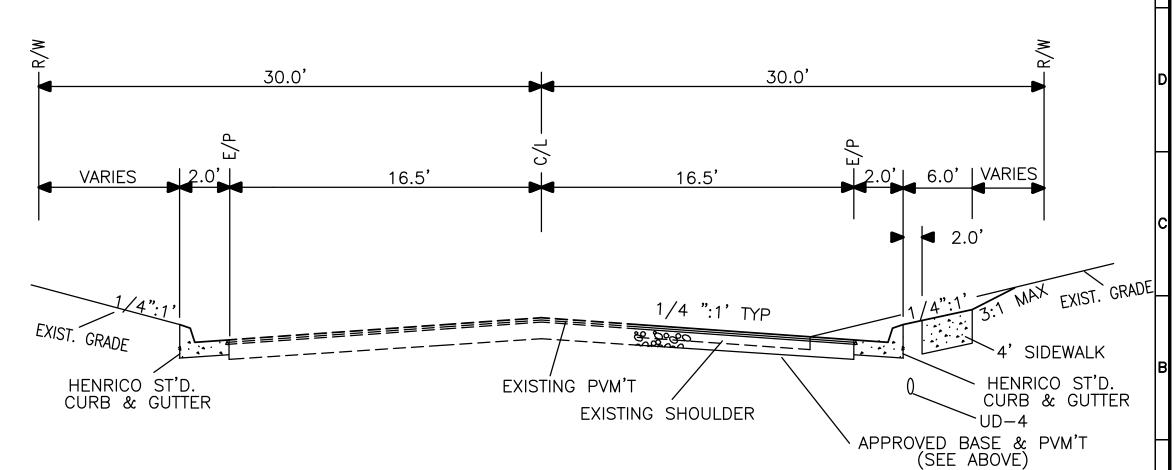
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							• PL:	ANNERS • ARCHITECTS GINEERS • SURVEYORS											
FROM	ТО	DA		CA		TC	RAINFALL	RUN-OFF		INVERT	INVERT	LENGTH		DIAM.	MANNING'S	CAPACITY	VELOCITY	FLOW TIME	PERCENT
POINT	POINT	(ACRES)	С	INCR.	ACCUM.	(MINUTES)	(IN/HR)	(CFS)	LINE	UPPER	LOWER	(FEET)	SLOPE	(INCHES)	N COEFF.	(CFS)	(F.P.S.)	(MINUTES)	CAPACITY
EX •	1 •	31.50	0.45	14.18	14.18	27.00	3.56	50.42	EX1	127.16	123.10	138.48	2.93%	36	0.013	114.16	15.94	0.14	0.44
1	3 •	0.00	0.00	0.00	14.18	27.10	3.55	50.32	2	119.39	118.49	128.73	0.70%	36	0.013	55.75	8.90	0.24	0.90
3	5 •	0.00	0.00	0.00	14.18	27.30	3.54	50.12	4	118.39	117.42	133.44	0.73%	36	0.013	56.85	9.03	0.25	0.88
5	7 •	0.00	0.00	0.00	14.18	27.40	3.53	50.02	6	117.32	115.74	53.97	2.93%	36	0.013	114.08	15.90	0.06	0.44
7	OUT •	0.41	0.90	0.37	14.54	27.50	• 3.52	51.22	8	108.81	107.74	85.46	1.25%	36	0.013	74.61	11.24	0.13	0.69

B		SOCIATES									10	YEAR I	RETUF	RN FREQ	UENCY		PROJECT PROJEC	CT NO:			C0700 TGK	O426.0		G	
REF	LECT	ING TOMOR	ROW							HYD	RAULI	C GR	ADE	LINE C	ALCU	LAT	IONS								
			OUTLET WATER																					INLET WATER	
	INL	.ET	SURFACE												JUNCT	ION LO	oss						FINAL	SURFACE	RIM
5	STAT	TION	ELEV.	Do	Qo	Lo	Sfo	Hf	Vo	Но	Qi	Vi	>Vi	QiVi	Vi^2/2g	Hi	ANGLE	HΔ	>H _∆	Ht	1.3Ht	0.5Ht	Н	ELEV.	ELEV.
7		5	110.14	36"	51.22	85.46	0.59	0.50	11.24	0.49	50.02	15.90		795.11	3.92	1.37	0	0.00		1.86			2.37	112.51	121.66
5		3	118.14	36"	50.02	53.97	0.56	0.30	15.90	0.98	50.12	9.03		452.51	1.27	0.44	0	0.00		1.42			1.73	119.87	122.68
3		1	119.87	36"	50.12	133.44	0.56	0.75	9.03	0.32	50.32	8.90		448.00	1.23	0.43	0	0.00		0.75			1.50	121.37	125.10
1		EX	121.37	36"	50.32	128.73	0.57	0.73	8.90	0.31	50.42	15.94		803.74	3.95	1.38	0	0.00		1.69	2.20		2.93	124.30	127.90
EX			125.50	36"	50.42	138.48	0.57	0.79	15.94	0.99										0.99	1.28		2.07	127.57	132.95









NORTH FOXHILL ROAD WIDENING N.T.S.

HENRICO COUNTY ENVIRONMENTAL COMPLIANCE MANUAL

Compile existing site-specific data and determine existing site imperviousness (IEXIST).

For the purposes of these calculations, site area (A_{SITE}) is defined as the entire parcel.

___ acres

__ acres

___ acres

Compile post-development site-specific data and determine post-development site

imperviousness (I_{POST}). For the purposes of these calculations, site area (A_{SITE}) is

defined as the entire parcel. APOST represents the actual amount of impervious cover

= 3.41 (expressed in whole numbers)

If $I_{\text{EXIST}} \le 16\%$ and $I_{\text{POST}} \le 16\%$, STOP. There is no pollutant removal requirement.

Otherwise, refer to the CALCULATION OF POLLUTANT REMOVAL

REQUIREMENTS section at the beginning of this chapter for development situation

AND PREVIOUSLY PERMITTED PROJECTS

0 % (expressed in whole numbers)

(Total A_{EXIST} ÷ A_{SITE}) x 100

A_{EXIST} represents the actual amount of existing impervious cover on the site.

= <u>13.17</u> acres

on the site once the proposed development is complete.

= <u>13.17</u> acres

______ acres

= (Total A_{POST} ÷ A_{SITE}) x 100

0.03 acres 0.09 acres 0.45 acres

WORKSHEET 14.01 - SITUATION ONE

parking lot =

roadway

roadway

other

other

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SUB200

Tax Parcel

810-719-9594

YES NO

0

Date: 10-27-2017

Richmond **New River Valley** Roanoke Staunton

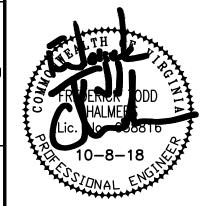
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Suite 200 Midlothian, VA 23113

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REVISIONS: 6-11-08 7-10-08 8-7-08 7-7-17 8-24-17

10-27-17 03-05-18 10-8-18

SHEET NO.



COMMONWEALTH OF VIRGINIA COUNTY OF HENRICO

R. Joseph Emerson, Jr., AICP Director of Planning (804) 501-4602

January 8, 2009

Mr. Brandon Sovick Balzer & Associates, Inc 880 Technology Park Drive Glen Allen, VA 23059

> Re: SUB-05-08 Tidemark # SUB2008-00013 Foxhill Crossing 8 Lots

As designated agent of the Board of County Supervisors for the final review and approval of the subdivision of land, I hereby approve the final plat of this subdivision on June 2, 2008, subject to the following conditions:

- All requirements of Chapters 18, 19, and 24 of the Henrico County Code shall be met.
- The final plat shall be checked and approved by the Real Estate Assessment Office before
- Construction shall not commence until the construction plans including the detailed drainage, erosion control, and utility plans have been approved by the Department of Planning and the Department of Public Works and a preconstruction meeting has been conducted with the Department of Public Works. Upon notice from the Department of Planning to the Engineer that all comments have been addressed, twenty-one (21) sets of final construction plans for signature shall be submitted to the Department of Planning for approval signatures. All erosion and sediment control plans, agreements, and bonds must be submitted to the Department of Public Works and approved prior to approval of the construction plans. Approvals must be updated prior to recordation of the plat.
- Clearing and grubbing shall not commence until a clearing and grubbing plan has been approved by the Department of Planning and the Department of Public Works, and a preconstruction meeting has been conducted with the Department of Public Works. Upon notice from the Department of Planning to the Engineer that all comments have been addressed, eight (8) sets of clearing and grubbing plans shall be submitted to the Department of Planning for approval signatures. All appropriate bonds and agreements, authorizations from state and/or regulatory agencies for impacts to the Waters of the United States, and offsite easement plats must be submitted to the Department of Public Works and approved prior to approval of the clearing and grubbing plans. Approvals must be updated prior to recordation of the plat.
- If the conditional plan was approved by the Planning Commission after July 13, 1994 and a BMP is required, a BMP maintenance fee of \$100 per lot payable to the County of Henrico must be submitted to the Department of Public Works prior to recordation of the

PARHAM AND HUNGARY SPRING ROADS / P.O. BOX 90775 / HENRICO, VIRGINIA 23273 -0775

COMMONWEALTH OF VIRGINIA COUNTY OF HENRICO

PLANNING COMMISSION E. Ray Jernigan, C.P.C., Chairperson est R Vanarsdall C.P.C. C. W. Archer, C.P.C. Tommy Branin Richard W. Glover, Board of Supervisors Representative R. Joseph Emerson, Jr., AICP, Acting

February 27, 2008

RE: SUB-05-08 Foxhill Crossing (February 2008 Plan)

Big Green Mountain, LLC 1718 E. Cary Street Richmond, VA 23223

Gentlemen:

As designated agent of the Board of County Supervisors for such purposes, the Planning Commission at its meeting on February 27, 2008, granted conditional approval to this subdivision, subject to the following conditions:

- All requirements of Chapter 18, 19, and 24 of the Henrico County Code shall be met.
- Construction plans, including proposed erosion and sediment controls, shall be submitted to the Department of Planning at least 30 days prior of final approval.
- Construction shall not commence until the Director of Planning has granted final approval of the plat; and until the construction plans including the detailed drainage, erosion control, and utility plans have been approved by the Department of Planning, the Department of Public Utilities, and the Department of Public Works and a preconstruction meeting has been held with the Department of Public Works. Plans for Final Subdivision review shall be submitted to the Department of Planning in accordance with the requirements of the Final Subdivision application. Upon notice from the Department of Planning to the Engineer that all comments have been addressed, twentyone (21) sets of final construction plans for signature shall be submitted to the Department of Planning for approval signatures. All erosion and sediment control plans, agreements, and bonds must be submitted to the Department of Public Works and approved prior to approval of the construction plans.

PARHAM AND HUNGARY SPRING ROADS/P. O. BOX 27032/RICHMOND, VIRGINIA 23273

Mr. Brandon Sovick January 9, 2009 Page 2

Big Green Mountain, LLC

February 27, 2008

- If all or part of the stormwater quality pollutant removal requirement is achieved through a contribution to the Environmental Fund, the contribution made payable to the county of Henrico must be submitted to the Department of Public Works prior to the recordation of
- Prior to the recordation of the plat, a completion bond approved by the County Attorney with completion date two years from the date of the submission of bond, or cashier's check shall be furnished to cover the estimated cost of improvements.
- An approved set of construction plans shall be available at the site at all times when work is being performed. A designated responsible employee shall be available for contact by
- The Department of Public Works and Department of Public Utilities shall be notified at least 48 hours prior to the start of any construction.
- Upon completion of the installation of all improvements, the subdivider shall furnish a statement by a certified surveyor or engineer, to the effect that all construction is in substantial conformity to the regulations and requirements of the Henrico County Code.
- 11. The owner shall enter into the necessary contracts with the Department of Public Utilities
- The owner shall enter into the necessary contracts with the Department of Public Utilities A copy of the letter from the Richmond Regional Planning District Commission giving
- approval to the street names in this subdivision shall be submitted to the Department of Planning before the linens are submitted for recordation. Signatures on plats for recordation shall be in opaque black ink suitable for reproduction.

The plat shall be revised as shown in red on Staff plan dated June 2, 2008, which shall be

- as much a part of this approval as if all details were fully described herein. The final plats shall be recorded by June 2, 2009, after which this subdivision approval shall become null and void unless you submit your reason(s) in writing why a request for an extension of approval is necessary and an extension is granted by the Director of Planning. Your written request and the required fee must be submitted at least two weeks prior to the expiration date. When construction plans have been approved, final approval
- may be extended pursuant to Sections 15.2-2261 of the Code of Virginia, as amended. Lots on the plat marked with an asterisk or asterisks indicate lots with limitations for dwellings shape, size, and location and must be identified on the recordation plat with an asterisk or asterisks along with the corresponding standard note(s) conspicuously added under the headings "Notes."
- 18. The name of this development, as designated in this approval, shall be the name used for marketing and public recognition purposes. A written request for a name change must be received and approved by the Department of Planning before such a change can be

Clearing and grubbing shall not commence until a clearing and grubbing plan has been

approved by the Department of Planning and the Department of Public Works. Upon

notice from the Department of Planning to the Engineer that all comments have been

addressed, eight (8) sets of clearing and grubbing plans shall be submitted to the

Department of Planning for approval signatures. All appropriate bonds and agreements,

authorizations from state and/or regulatory agencies for impacts to the Waters of the

United States, and offsite easement plats must be submitted to the Department of Public

Works and approved prior to approval of the clearing and grubbing plans. Approvals

The owner shall enter into the necessary contracts with the Department of Public Utilities

The owner shall enter into the necessary contracts with the Department of Public Utilities

approval to the street names in this subdivision shall be submitted to the Department of

The plat shall be revised as shown in red on Staff plan dated February 27, 2008, which

This approval shall expire on February 25, 2009, unless an extension is requested in

writing stating the reason such extension is necessary. The request shall include the fee and

The name of this development, as designated in this approval, shall be the name used for

marketing and public recognition purposes. A written request for a name change must be

received and granted by the Department of Planning before such a change can be

The conditional approval of this plat by the Planning Commission does not imply that all

lots shown thereon will be granted final approval. Such approval is contingent on each lot

meeting a number of requirements including but not limited to minimum zoning

showing information for all lots within the subdivision. Such plan shall be a part of the

construction plans submitted for review and for signature. The buildable area plan shall be

a minimum of 1" to 50' scale or larger and shall show the buildable area for the principal

structure, all setback dimensions, the minimum lot width (perpendicular to the center line of

the lot at the front building line), and if applicable, any Special Flood Hazard Areas

(floodplains) and the area of each lot exclusive of floodplain, wetlands, easements, buffers,

requirements, Health Department requirements as applicable, and design considerations.

12. Prior to a request for final approval, the developer shall provide a buildable area plan

7. A copy of the letter from the Richmond Regional Planning District Commission giving

shall be as much a part of this approval as if all details were fully described herein.

must be updated prior to recordation of the plat.

Planning before the recordation plat is submitted for review.

must be filed a minimum of two weeks prior to the expiration date.

Chesapeake Bay Act Areas, wells and primary/reserved drainfields.

Mr. Brandon Sovick January 9, 2009 Page 3

Also, you should be aware that a permit or permits may be required from the Virginia Department of Environmental Quality (DEQ). Please contact the DEQ at 804-527-5025 to determine the permit requirements for your proposed project.

13. The limits and elevation of the Special Flood Hazard Area shall be conspicuously noted on

the Special Flood Hazard Area as a "Variable Width Drainage & Utilities Easement."

14. Prior to requesting recordation, the developer must furnish a letter from **Dominion Virginia**

15. A County standard sidewalk and curb and gutter shall be constructed along the south side of

Also, you should be aware that a permit may be required from the State Department of

Environmental Quality (DEQ). Please contact the DEQ at 527-5020 to determine the

There may be a requirement for a Wetlands Permit from the U.S. Army Corps of Engineers.

Further information on such a requirement should be obtained by contacting the Corps at 323-3781.

Mik Dus &

R. Joseph Emerson, Jr., AICP

Acting Director of Planning

Power, stating that this proposed development does not conflict with its facilities.

the plat and construction plans and labeled "Limits of Special Flood Hazard Area." Dedicate

Director of Planning

pc: Public Utilities - Chief Design Engineer Director of Public Works Mark Rempe, Emerald Development

Big Green Mountain, LLC

East Foxhill Road Road.

cc: Public Utilities (Ralph E. Claytor)

Balzer & Associates, Inc.

requirements for your proposal.

February 27, 2008

BALZER

January 22, 2018

Engineering & Environmental Services Division director

Department of Public Works

P.O. Box 27032 Richmond, Virginia 23273

Jurisdictional Channels on Foxhill Crossing

Dear Ms. Cobb,

As part of the design phase for the above subject project, we have contacted the U.S. Army Corps of Engineers concerning the channels shown on the attached plan. The U.S. Corps of engineers has determined these channels are within their jurisdiction.

We expressed the County's desire to have these channels piped or otherwise eliminated. The U.S. Army Corps of Engineers determined these jurisdictional channels should not be piped and impacts are to be avoided. They also determined impacting these channels and providing associated mitigation was not an option.

We are providing the U.S. Army Corps of Engineers with a copy of this letter and the above mentioned plan sheet.

Sincerely,

BALZER AND ASSOCIATES, INC.

F. Cameron Palmore, P.E., L.S.

Associate

Silvia Gazzera, U.S. Army Corps of Engineers

Alexandria Gruendl, Henrico County Department of Public Works

200

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New River Valle Staunton

Harrisonburg

 \Box

RESIDENTIAL LAND DEVELOPMENT ENGINEERING SITE DEVELOPMENT ENGINEERING LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE LAND SURVEYING ARCHITECTURE STRUCTURAL ENGINEERING TRANSPORTATION ENGINEERING ENVIRONMENTAL & SOIL SCIENCE WETLAND DELINEATIONS & STREAM EVALUATIONS

Balzer and Associates, Inc.

15871 City View Drive Suite 200 Midlothian, VA 23113

804-794-0571 FAX 804-794-2635



SING

DESIGNED BY CHECKED BY SCALE

REVISIONS: 03-05-18

10-8-18

GENERAL NOTES 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 Henrico County Specifications and Standards

- where applicable. Incidental concrete must be Class A3 in accordance with VDOT specifications
- A permit must be secured from the Henrico County Department of Public Works before any work is performed within an existing County right-of-way or easement.
- The Department of Public Works must be notified at least 24 hours prior to beginning any construction work.
- The contractor shall notify the Henrico County Department of Public Utilities prior to doing any utility work.
- The location of existing utilities, as shown, is approximate. The 6. contractor shall verify the location of existing utilities prior to any construction work.
- A permit must be obtained from the Virginia Department of
- Transportation for any work performed within the State right-of-way. 8. The contractor shall notify "Miss Utility" at 1-800-552-7001 prior to any construction work in this area.
- When it appears that the proposed work may have some impact to adjacent private or commercial properties, the applicant must inform the property owners of the proposed work and keep them apprised of time schedules, delays, impacts, changes in pedestrian and vehicle access or traffic patterns, and final restoration plans.
- 0. When a temporary cul-de-sac is no longer required due to a road extension, the developer of the road being extended is responsible for removing the temporary cul-de-sac and extending the road and property components (curb and gutter, gravel driveways, paved driveways, sidewalks, mailboxes, etc.) to the new road section and regrading areas to finished contours acceptable to the adjacent property owners and to Henrico County.
- 11. No driveway access points shall be allowed within the radius of a public road intersection.
- 12. When driveways are located within roll face curb and gutter, transitions to a drop inlet, curb cuts and aprons are required.
- 13. Prior to the issuance of any building permits, all signs and barricades for dead end stub roads must be in place.

CURB AND GUTTER

- All curb and gutter and storm sewer/inlets located within the existing County right-of-way shall be staked by the County upon written request being made to the County Engineer or by calling 501-4619.
- 2. All curb and gutter shall be Henrico County standard curb and gutter, except as noted.
- This plan approval does not establish the curb and gutter elevations along the public right-of-way. The elevations will be set by Henrico
- All curb and gutter in the County right-of-way must be wet curb and gutter. The use of dry curb and gutter is prohibited in the County right-of-way.
- The transition from standard six (6) inch curb to roll-faced curb shall be at intersections at the point of curvature (PC) of curb returns.
- Where sidewalks are present or proposed, all driveways must be concrete from the back of curb to at least the rear of the sidewalk
- Class 57 stone must be placed under all curb and gutter and must extend one foot beyond the back of the curb.
- CG-12's must be installed at curb returns where there is existing or proposed sidewalks. In locations where there is no sidewalk being proposed, the curb must be depressed for the future location of a

CONDITIONS FOR GUARDRAIL

Guardrail is typically required on sections of roadway when any of the following conditions exist within the clear zone:

- 1. A roadside parallel embankment (fill slope) of 3:1 or steeper and a depth of four feet or more.
- 2. A water hazard with a depth of two feet or more.
- A ditch section with a depth of three feet or more (as measured from the near edge of pavement.
- 4. A fixed object (such as a culvert, pipe, headwall, retaining wall, bridge pier, or abutment).
- 5. Other hazards as determined by the Traffic Engineer.
- 6. Additional right-of-way or permanent easements may be required to 4. accommodate the guardrail in its entirety.
- All guardrail must be approved by the Department of Public Works and shown on the plans, including any necessary details, type, and lengths of

PAVEMENT

- The pavement section is subject to change based on soil conditions at the time of construction, as determined by the Construction Engineer for Henrico County.
- Any necessary pavement widening between the existing pavement and the proposed improvements is the responsibility of the developer.
- All medians for turn lanes must be VDOT Std. MS-1. For turn lanes being constructed on existing roads, the old median must be removed entirely and the solid raised median poured on the asphalt base course in accordance with the standards for MS-1 Median. Standard MS-1A or variations of the same will not be permitted.
- Pavement sections for through lanes and turn lanes must be the same as the existing pavement section. These turn lanes must have underdrains.

No pavement open cuts are allowed on existing County maintained

of-way, no pavement disturbance is required and all utility crossings

- roads unless specifically approved by the Construction Engineer for Henrico County. 6. If utility connections are located outside of the pavement and right-
- must be bored. Soil tests and CBR information, with an appropriate pavement design, must be performed and made available to the Construction Engineer

prior to subgrade approval

DRAINAGE

- All storm sewer within the County right-of-way and easements must be ASTM C-76, Class III or better, reinforced concrete pipe with sealed joints in accordance with VDOT specifications. Precast drop inlets are not permitted at locations where the grade of
- with flat inverts are not permitted in sag locations when the total length of the required throat opening exceeds six (6) feet. All storm sewer within a County easement or right-of-way must have a minimum of four (4) inches of aggregate bedding material and
- must be backfilled in accordance with the detail on this sheet. 4. All drop inlets must have Type B noses.
- Drop inlets on grade must be poured with the throat on the same grade as the adjoining curb and gutter.
- #4 x 8" dowels must be placed at approximately 12" c-c in all areas adjacent to abutting concrete to prevent settlement
- 7. When using non-concrete pipe for private areas, the connection to the structure in the County easement or right-of-way must be easement or right-of-way. All manholes and inlets must be concrete.
- UD-4 underdrains are required along the entire length of all proposed roads and/or road widening within the public right-of-way unless waived by the Director of Public Works.
- Irrigation is not permitted in the shoulder area within the County right-of-way unless specifically approved by the County Engineer.
- 10. CD-1 underdrains are required on all vertical sags.
- 11. UD-2 underdrains are required in all raised grass medians and islands within the public right-of-way.
- 12. The outlet end of all underdrains must terminate in drainage structures or daylight out of fill slopes with a standard EW-12 endwall placed at the outlet end of the underdrain.

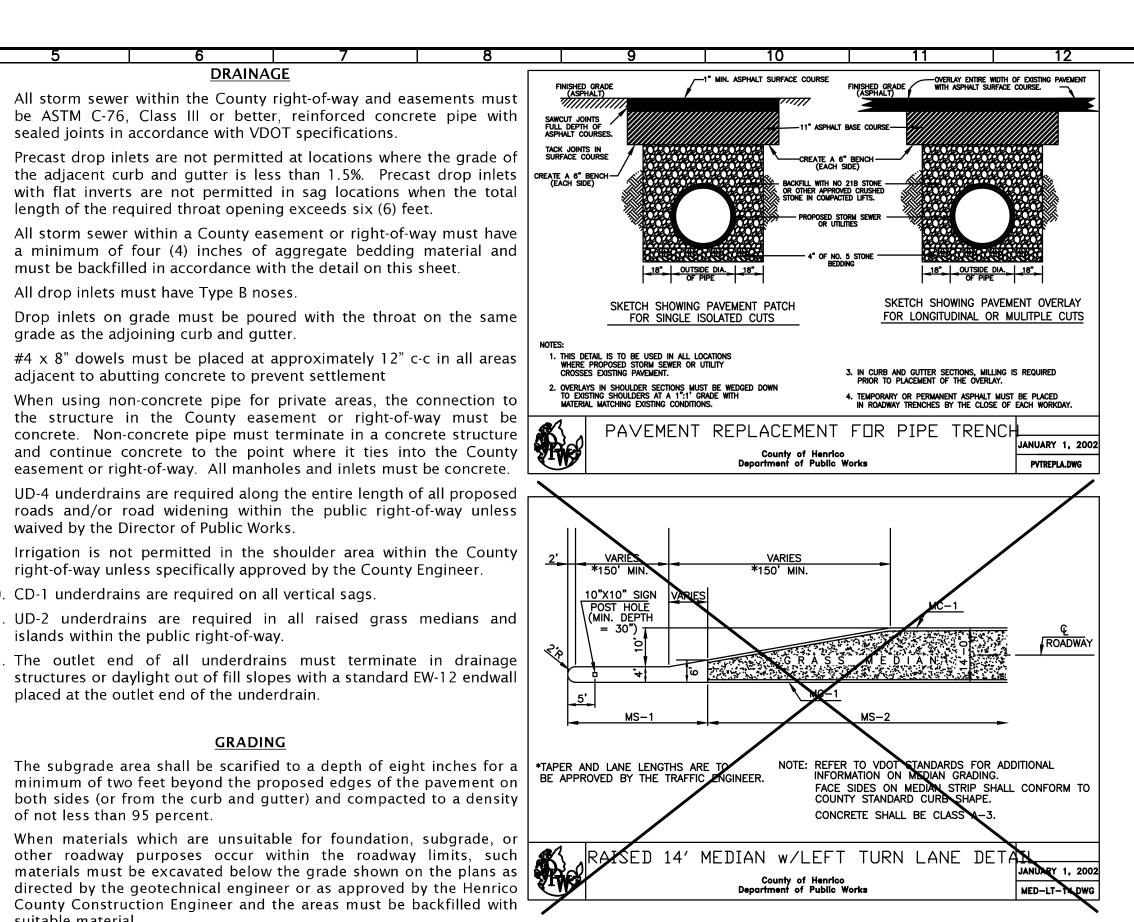
GRADING

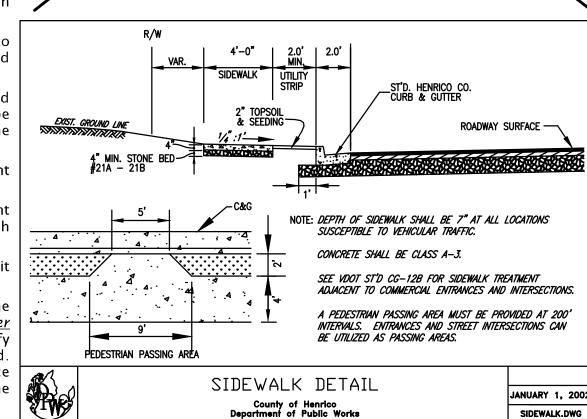
- The subgrade area shall be scarified to a depth of eight inches for a *TAPER AND LANE LENGTHS ARE minimum of two feet beyond the proposed edges of the pavement on both sides (or from the curb and gutter) and compacted to a density of not less than 95 percent.
- 2. When materials which are unsuitable for foundation, subgrade, or other roadway purposes occur within the roadway limits, such materials must be excavated below the grade shown on the plans as directed by the geotechnical engineer or as approved by the Henrico County Construction Engineer and the areas must be backfilled with suitable material.
- All solid rock or boulders found in the roadway shall be excavated to the full roadway width to a depth of one foot below subgrade and then backfilled to the proper grade with suitable materials.
- A six (6) feet wide pedestrian shelf is required behind all curb and gutter in the County right-of-way. The shelf must be cleared/constructed at the time of road construction, including the relocation of all power poles and other above ground obstacles.
- 5. All graded islands must be graded to 14":1' rise to minimize sight distance problems
- All areas to be filled within the buildable area (ponds, sediment basins, sediment traps, wetlands, etc.) must be backfilled with structural fill and compacted to 95% compaction.
- 7. All grading shown on lots must be done prior to building permit
- 8. The design and construction of basins must in compliance with the general requirements for dams in the Virginia Stormwater Management Program Manual. A geotechnical engineer must certify that the construction compaction requirements have been achieved. BMPs for subdivisions will not be accepted for County maintenance until the geotechnical certification is provided and accepted by the Department of Public Works.

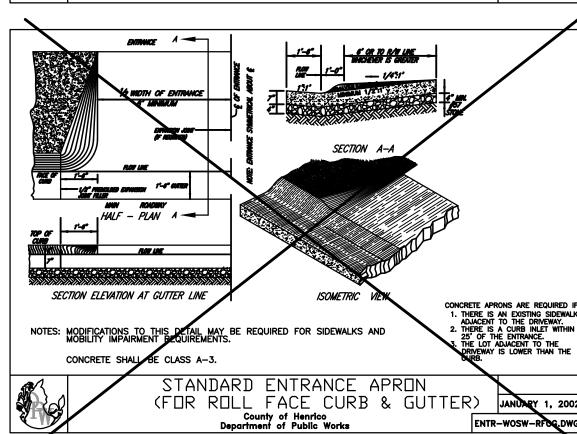
SURVEY

- 1. All roadways must be cleared in the area of proposed construction prior to requesting staking from the County.
- All utility poles, fire hydrants, and other above ground obstacles located within the public right-of-way and in conflict with the proposed sidewalk shelf, curb and gutter, and/or the pavement widening shall be relocated at the developer's expense prior to Henrico County staking the curb and gutter.
- All curb and gutter and storm sewer/inlets located within the existing County right-of-way shall be staked by the County upon written request being made to the County Engineer or by calling 501-
- Prior to requesting County stakeout, all appropriate information necessary for stakeout must be provided to the Henrico County Survey Department.
- Right-of-way and baseline information must be established in the field and clearly tied to monuments/benchmarks prior to requesting stakeout by the County.

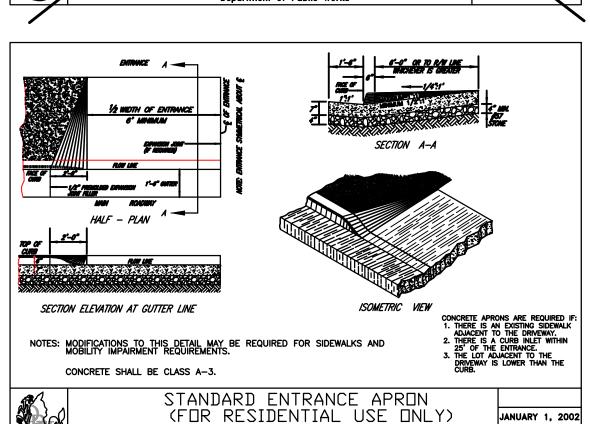
WHERE CONFLICTS EXIST, THE NOTES AND DETAILS ON THIS SHEET SUPERCEDE THE CURRENT VERSION OF THE HENRICO COUNTY DESIGN MANUAL.

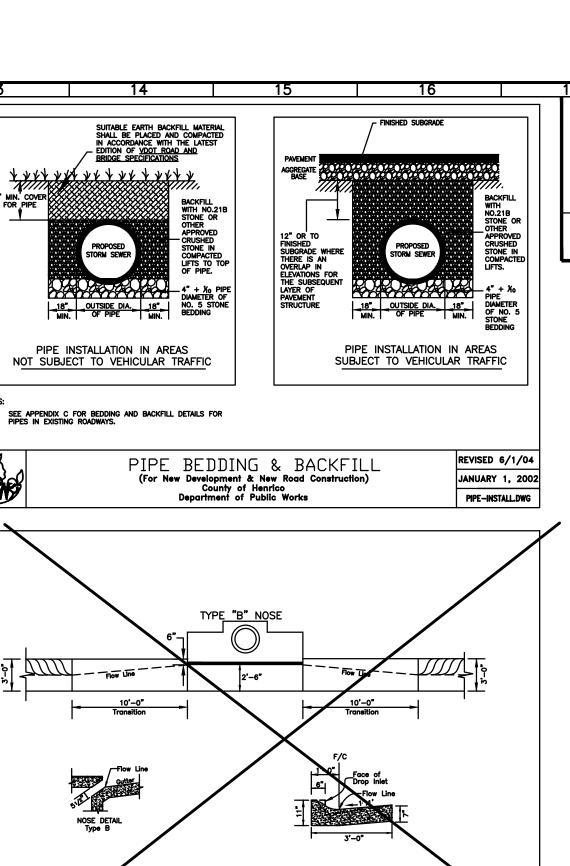


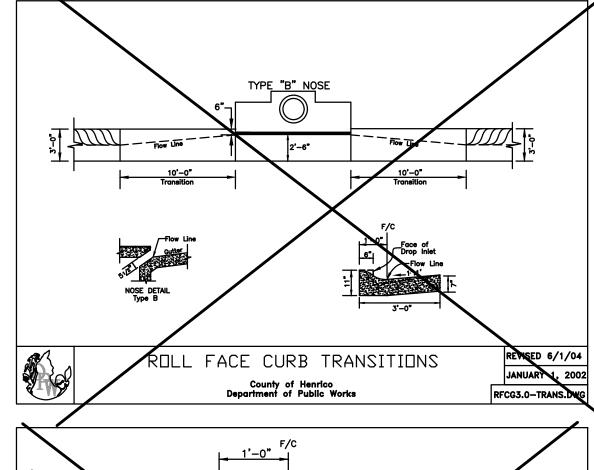


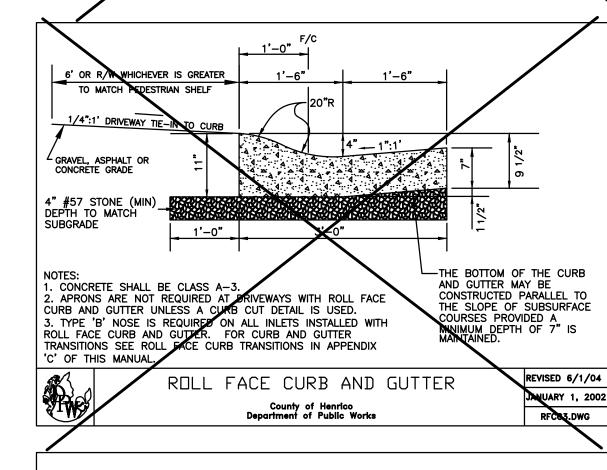


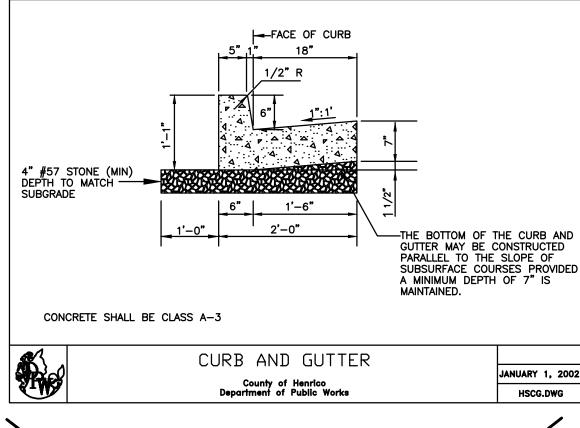
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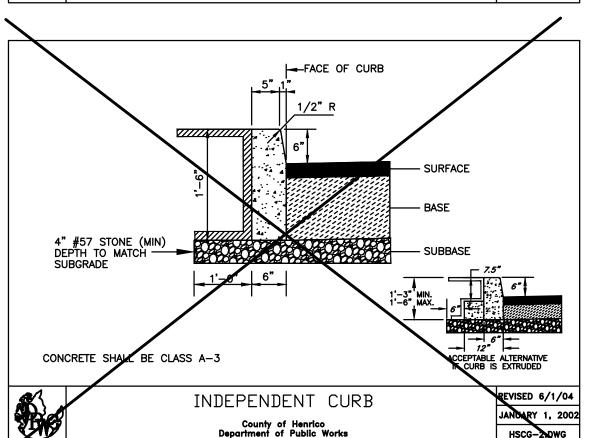












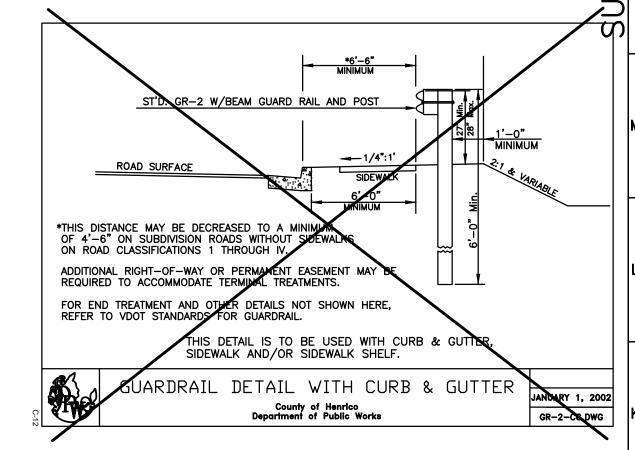


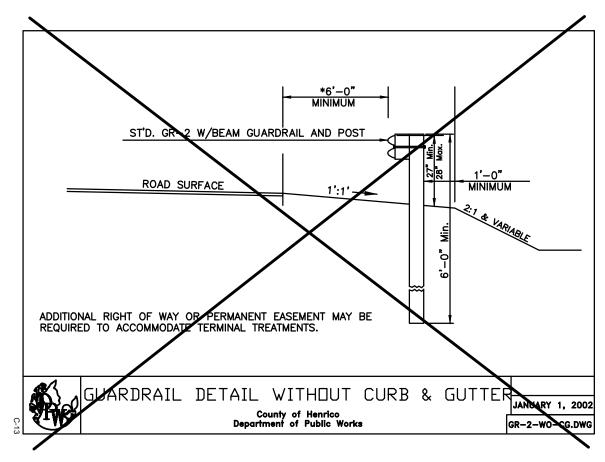
County Of Henrico Department of Public Works

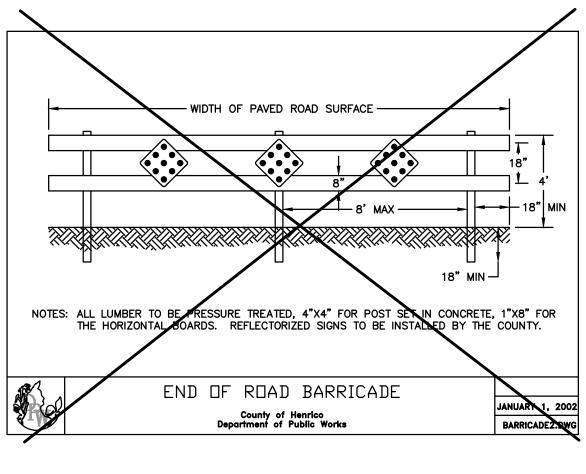
REFER TO HENRICO COUNTY

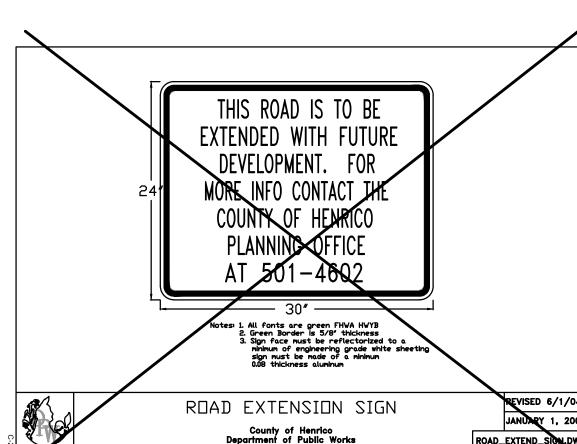
DESIGN MANUAL FOR ADDITIONAL DETAILS

STANDARD CONSTRUCTION NOTES AND DETAILS









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New River Valley Roanoke Staunton Harrisonburg

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ENVIRONMENTAL & SOIL SCIENCE VETLAND DELINEATIONS & STREAM EVALUATIONS

Balzer and Associates, Inc. 15871 City View Drive

Suite 200

FAX 804-794-2635

Midlothian, VA 23113 804-794-0571

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DRAWN BY DESIGNED BY CHECKED BY 4-2-08 SCALE

REVISIONS: 6-11-08 7-10-08 8-7-08 7-7-17

PURPOSE

4VAC50-60-54 of the Virginia Stormwater Management Program (VSMP) Permit Regulations requires that Stormwater Pollution Prevention Plan (SWPPP) be developed for all regulated land disturbing activities. The SWPPP must include, but not be limited to, an approved erosion and sediment control plan, an approved stormwater management plan, and this Pollution Prevention Plan (PPP) for regulated land disturbing activities, and a description of any additional control measures necessary to address a TMDL as applicable.

The plan for implementing pollution prevention measures during construction activities developed on this sheet must be implemented and updated as necessary. Any PPP requirements not included on this sheet must be incorporated into the SWPPP required by 4VAC50-60-54 that must be developed before land disturbance commences. This PPP identifies potential sources of pollutants that may reasonable be expected to affect the quality stormwater discharges from the construction site (both on- and off-site activities) and describes control measures that will be used to minimize pollutants in stormwater discharges from the construction site.

OTHER REFERENCED PLANS

SWPPP requirements may be fulfilled by incorporating, by reference, other plans. All plans incorporated by reference become enforceable under the VSMP Permit Regulations and General Permit VAR10 for Discharges of Stormwater from Construction Activities. If a plan incorporated by reference does not contain all of the required elements of the PPP, the operator must develop the missing elements and include them in the SWPPP.

Independent Plans Incorporated by Reference	Date Approved
Stormwater Management Plans (Regional or Master)	
Spill Prevention, Control, and Countermeasure Plans	
Off-Site Stockpile	
Off-Site Borrow Area	

POTENTIAL POLLUTANT SOURCES

The following sources of potential pollutants must be addressed in the Pollution Prevention Plan. Various controls and/or measures designed to prevent and/or minimize pollutants in stormwater discharges from the project site must be applied to the sources found on the site. Additional information concerning the following controls and/or measures may be found in the SWPPP. Deviations from the location criteria may be approved by the Henrico County Environmental Inspector.

LEAKS, SPILLS, AND OTHER RELEASES

- ✓ The operator(s) shall ensure procedures are in place to prevent and respond to all leaks, spills and other releases of pollutants.
- ✓ The operator(s) shall ensure all leaks, spills and other releases of pollutant are contained and cleaned immediately upon discovery. Any contaminated materials are to be disposed in accordance with federal, state, and/or local requirements.
- ✓ The operator(s) shall ensure spill containment kits containing appropriate materials (e.g., absorbent material and pads, brooms, gloves, sand, etc.) are available at appropriate locations, including, but not limited to: designated areas for vehicle and equipment maintenance; vehicle and equipment fueling; storage and disposal of construction materials, products, and waste; and storage and disposal of hazardous and toxic materials; and sanitary waste facilities.
- ✓ The locations of the spill containment kits are identified as described below:

Date	Shown on Plan Sheet #(s)	Location	
Approved Plan			
		REVISIONS TO LOCATIONS	
Date	Shown on Plan Sheet #(s)	Location	Operator(s) Initials

- ✓ The operator(s) shall notify the Department of Environmental Quality of leaks, spills, and other releases that discharge to or have the potential to discharge to surface waters immediately upon discovery of the discharge but in no case later than 24 after the discovery.
- The operator(s) shall notify the Department of Environmental Quality (DEQ) of leaks, spills, and other releases that discharge to or have the potential to discharge to surface waters immediately upon discovery of the discharge but in no case later than 24 after the discovery. Written notice of the discharge must be sent to DEQ and Henrico County Department of Public Works within five (5) days of the discovery.

Virginia Department of Environmental	Henrico County Department of Public
Quality	Works
NEED ADDRESS	P. O. Box 90775
(804) 786-3998 (phone)	Henrico, VA 23273
(804) 786-1798 (fax)	(804) 501-4393 (phone)
(800) 468-8892 (outside normal working	(804) 501-7475 (fax)
hours)	
,	

EQUIPMENT / VEHICLE WASHING

- Washing must be conducted in a dedicated area that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- ✓ All wash water used in vehicle wheel washing must be directed to a sediment
- ✓ All vehicle washing activities other than wheel washing must have secondary containment.
- Each facility must have appropriate signage to inform users where the dedicated area(s) are located

В	Activity	Location of Dedicated Area(s)	Shown on Plan Sheet #(s)	Water Source Location
	Wheel Wash			
	Other Wash Areas			

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	REVISIONS TO LOCATIONS				
	Activity	Location of Dedicated Area(s)	Shown on Plan Sheet #(s)	Water Source Location	Operator's Initials

VEHICLE FUELING AND MAINTENANCE

- ✓ Conduct regular maintenance in a *dedicated area* that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- ✓ If fueling is conducted at a **dedicated area**, the location must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- ✓ The **dedicated areas** must be designed to eliminate the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities by providing secondary containment (spill berms, decks, spill containment pallets,
- providing cover where appropriate, and having spill kits readily available). ✓ Each facility must have appropriate signage to inform users where the *dedicated* area(s) are located.

Date	Shown on Plan Sheet #(s)	Location of <i>Dedicated Area(s)</i>	
Approved Plan	5	NEAR CE LOCATED ON LO	OT 1
		REVISIONS TO LOCATIONS	
Date	Shown on Plan Sheet #(s)	Location of <i>Dedicated Area(s)</i>	Operator's Initials

- ✓ If mobile fueling will be used, the fueling must be done in an area that located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- ✓ Spill kits must be readily available at all mobile fueling locations.
- ✓ On-site storage tanks must have a means of secondary containment (spill berms. decks, spill containment pallets, etc.) and must be covered where appropriate.
- ✓ All vehicles on site must be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.

DISCHARGE FROM STORAGE, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTE

- ✓ Storage of construction products, materials, and waste is to be conducted in dedicated areas.
- ✓ The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- ✓ The **dedicated areas** must be designed to minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete and other trash or building
- Fach facility must have appropriate signage to inform users where the **dedicated**

	are located.	ve appropriate signage to inform users where t	ne dedicated
Date	Shown on Plan Sheet #(s)	I hospitalist of the displayed Area(s) for storage of construction	
Approved Plan			
REVISIONS TO LOCATIONS			
Date	Shown on Plan Sheet #(s)	Location(s) of <i>Dedicated Area(s)</i> for storage of construction products and materials	Operator(s) Initials

Date	Shown on Plan Sheet #(s)	Location(s) of Dedicated Area(s) for waste from construction products and materials	
Approved Plan			
		REVISIONS TO LOCATIONS	
Date	Shown on Plan Sheet #(s)	Location(s) of Dedicated Area(s) for waste from construction products and materials	Operator(s) Initials

- ✓ Follow all federal, state, and local requirements that apply to the use, handling and disposal of pesticides, herbicides, and fertilizers.
- ✓ Keep chemicals on-site in small quantities and in closed, well marked containers.
- Clean up solid waste, including building materials, garbage, and debris on a daily basis and deposit into covered dumpsters that are periodically emptied.
- ✓ Schedule waste collection to prevent exceeding the capacity of onsite containers. Additional containers may be necessary depending on the phase of construction (e.g., demolition, etc.)
- Dispose of all solid waste at an authorized disposal site.
- ✓ Ensure that containers have lids or are otherwise protected from exposure to precipitation.

DISCHARGES FROM OTHER POTENTIAL POLLUTANT <u>SOURCES</u>

✓ Discharges from other pollutant sources (e.g., water line flushing, storm sewer flushing, above ground storage tanks, etc.) not mentioned elsewhere must be addressed.

Other Potential Pollutant Sources	Location(s) of Potential Pollutant Sources

- ✓ Above ground oil storage tanks with a storage capacity exceeding 1,320 gallons and have a reasonable expectation of a discharge into or upon Waters of the United States are required to have a Spill Prevention Control and Countermeasure (SPCC)
- ✓ The discharge of contaminated flush water and material removed during flushing operations must be collected and disposed of in accordance with appropriate federal, state, and local requirements.

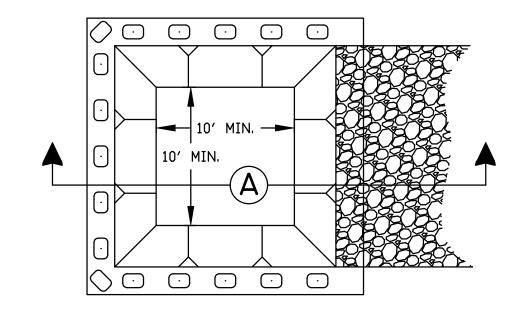
DISCHARGES FROM CONCRETE RELATED WASH ACTIVITIES

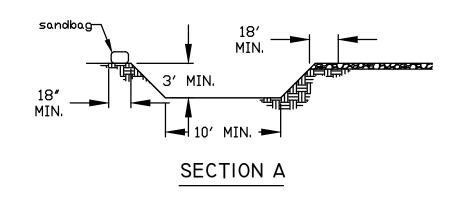
- Concrete trucks are not allowed to wash out or discharge surplus concrete or drum wash water on site except in a dedicated area(s) that is located to prevent discharge to storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Each facility must have a stabilized access to prevent mud tracking into the street.
- ✓ Each facility must have appropriate signage to inform users where the *dedicated*

Date	Shown on Plan Sheet #(s)	Location of <i>Dedicated Area(s)</i>	
Approved Plan	5	NEAR CE LOCATED ON L	OT 1
		REVISIONS TO LOCATIONS	
Date	Shown on Plan Sheet #(s)	Location of <i>Dedicated Area(s)</i>	Operator's Initials

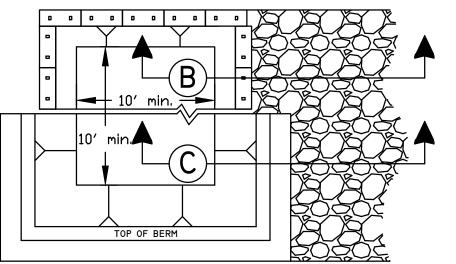
✓ Facilities must be cleaned, or new facilities constructed, once the washout area is two-thirds (2/3) full.

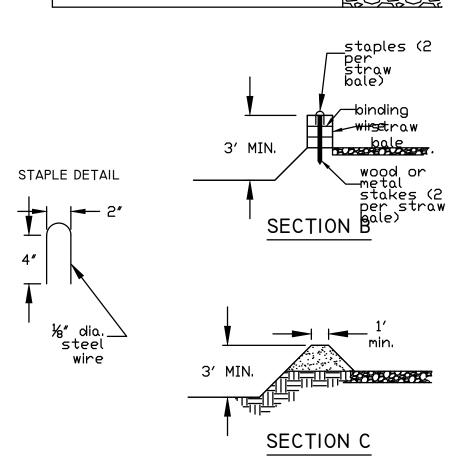
BELOW GRADE CONCRETE WASHOUT AREA





ABOVE GRADE CONCRETE WASHOUT AREA





CONCRETE WASHOUT AREA NOTES

- ✓ The facility must be lined with 10 mil plastic lining that is free from holes, tears, or other defects that might compromise the material's impermeability.
- ✓ The lining must be anchored with staples (2' spacing) or sandbags.
- ✓ Side slopes must be 1:1 (horizontal:vertical) or flatter.
- ✓ Stone access must be provided between the street and the concrete washout area.
- ✓ A "Concrete Washout" sign must be installed within 30 feet of the washout facility The sign must be no smaller than 2' tall by 4' wide.

DISCHARGES OF SOAPS, DETERGENTS, SOLVENTS, AND WASH WATER FROM CONSTRUCTION ACTIVITIES SUCH AS CLEANUP OF STUCCO, PAINT, FORM RELEASE OILS, AND **CURING COMPOUNDS**

- ✓ Washing activities associated with construction activities other than vehicle and equipment washing, such as clean up of stucco, paint, form release oils, and curing
- compounds are to be conducted in a dedicated area. ✓ The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Separations of less than 50 feet may be approved by the Environmental Inspector. ✓ The **dedicated areas** must be designed to prevent the discharge of soaps, detergents, solvents, and wash water.

Date	Shown on Plan Sheet #(s)	Location(s) of <i>Dedicated Area(s)</i>	
Approved Plan	5	NEAR CE LOCATED ON L	OT 1
REVISIONS TO LOCATIONS			
Date	Shown on Plan Sheet #(s)	Location(s) of <i>Dedicated Area(s)</i>	Operator(s) Initials

- ✓ The **dedicated area** must be covered (e.g., plastic sheeting, temporary roof, etc.) to prevent contact with stormwater.
- ✓ The contaminated wastewater from the **dedicated area** must be collected for
- disposal by a waste hauler or discharged to the sanitary sewer. ✓ In situations where these pollutants are or could be generated at locations other than at the designated area (e.g., concrete pours, building washing, etc.), cover (e.g., plastic sheeting, temporary roof, etc.) must be provided to prevent contact with stormwater and the contaminated wastewater from the activity must be collected for disposal by a waste hauler or discharged to the sanitary sewer.

DISCHARGES OF HAZARDOUS, TOXIC, AND SANITARY WASTE

- √ Storage and disposal of hazardous, toxic and sanitary wastes are to be conducted in dedicated areas.
- ✓ The **dedicated areas** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- ✓ The **dedicated areas** must be designed to prevent the discharge of hazardous, toxic and sanitary waste by avoiding contact with precipitation
- ✓ Each facility must have appropriate signage to inform users where the dedicated.

area(s)	are located.	
Date	Shown on Plan Sheet #(s)	Location(s) of Dedicated Area(s) for storage and disposal of hazardous and toxic wastes
Approved	5	NEAR CE LOCATED ON LOT 1

	Sheet #(s)	nazardous and toxic wastes					
Approved Plan	5	NEAR CE LOCATED ON LOT 1					
REVISIONS TO LOCATIONS							

Location(s) of **Dedicated Area(s)** for storage | Operator(s)

Dute	Sheet #(s)	and disposal of hazardous and toxic wastes	Initials
Date	Shown on Plan Sheet #(s)	Location(s) of Dedicated Area(s) for portable toilets	
Approved Plan			

Date	Plan Sheet #(s)	Location(s) of Dedicated Area(s) for portable toilets		
Approved Plan				
		REVISIONS TO LOCATIONS		
Date	Shown on Plan Sheet #(s)	Location(s) of Dedicated Area(s) for portable toilets	Operator(s) Initials	

- $ec{\hspace{0.1cm}}$ Consult with local waste management authorities or private firms about the requirements for disposing of hazardous materials and/or soils that may be contaminated with hazardous materials.
- √ Never remove the original product label from the container. Follow the manufacturer's recommended method of disposal.
- ✓ Schedule periodic pumping of portable toilets and dispose of waste
- ✓ Dispose of all solid waste at an authorized disposal site.

SWPPP MODIFICATIONS AND REVISIONS

The operator(s) shall ensure the SWPPP is modified and/or revised to reflect:

- ✓ Changes in qualified personnel; delegated authorities or other personnel required as a condition of the General Construction Permit;
- ✓ Changes in site conditions;
- ✓ Changes in the design, construction, operation, or maintenance of the construction site that affect the potential for discharges of pollutants that are not addressed in the normal implementation of the plan; and
- ✓ Ineffective control measures identified during inspections or investigations conducted by the operator's qualified personnel or local, state or federal officials.

Modifications/revisions to the SWPPP shall include additional or modified control measures to address the identified deficiencies.

If the necessary modifications/revisions require approval by the Administrator or DEQ, the modifications/revisions must be implemented no later than seven (7) calendar days following approval.

the modifications/revisions must be implemented prior to the next anticipated storm event or as soon as practicable.

If the necessary modifications/revisions do not require approval by the Administrator,

SWPPP UPDATES

The operator(s) shall update the SWPPP to include:

- ✓ A record of dates when 1) major grading activities occur, 2) construction activities temporarily or permanently cease on a portion of the site, and 3) stabilization 🔾
- measures are initiated; ✓ Documentation of modifications and revisions to the SWPPP;
- ✓ Areas that have reached final stabilization where no further SWPPP or inspection requirements apply; ✓ All properties that are no longer under the legal control of the operator and the dates
- on which the operator no longer had legal control over each property; and ✓ The date, volume, and corrective/preventative actions implemented for any
- prohibited discharge.

The operator(s) shall update the SWPPP no later than seven (7) days following any of the situations identified above.

OPERATOR INSPECTIONS

The operator(s) identified below shall provide for inspections of the permitted landdisturbing activities by the qualified personnel identified below. The inspections will be conducted (select one the following options):

at least once every four (4) business days; or at least once every five (5) business days and no later than 48 hours following

any measurable storm event. Where areas are in a stabilized condition or runoff is unlikely due to winter conditions,

the inspection frequency may be reduced to once every 30 days while these conditions

exist. Otherwise, the operator(s) shall resume the regular inspection frequency identified above. The operator(s) shall provide for inspections of the permitted land-disturbing activity to

ensure implementation and continued maintenance of all requirements of the Stormwater Pollution Prevention Plan (Erosion and Sediment Control Plan, Stormwater Management Plan, Pollution Prevention Plan, TMDL requirements, etc.).

Records of the required inspections must be maintained and included in the SWPPP binder. The qualified personnel are encouraged to use the Operator Inspection form provided in the SWPPP binder to document the required inspections. If inspections are conducted once every five (5) business days <u>and</u> no later than 48 hours following any measureable storm event, the location of the rain gauge used to determine the amount of rain must be included in the SWPPP and documented in the inspection report.

ACKNOWLEDGEMENTS

I certify under penalty of law that the qualified personnel identified below:

- a. has been designated by the Operator to conduct inspections of the permitted site;
- b. is knowledgeable in the principles and practices of erosion and sediment control and stormwater management;
- possesses the skills to assess conditions at the permitted site for the Operator(s) that could impact stormwater quality and quantity;
- will assess the effectiveness of any erosion and sediment control measures or stormwater management facilities selected to control the stormwater discharges from the permitted site; and
- will conduct inspections in accordance with the frequency noted above in the OPERATOR INSPECTIONS section of this sheet.

ı	QUALIFIED PERSONNEL
Name (print)	
Phone	

As the Operator(s) or Delegated Authority, I/we understand that prior to initiating land disturbance, the potential pollutant sources, appropriate control measures, and all responsible parties (operator, qualified inspection personnel, contractors, etc.) required as a condition of the General Construction Permit (GCP) and the Stormwater Pollution Prevention Plan (SWPPP) must be identified. I also understand this information must be updated as necessary throughout all phases of construction until the GCP is terminated.

Furthermore, I/we certify under penalty of law that I/we have read and understand all requirements of the SWPPP (erosion and sediment control plan, stormwater management plan, pollution prevention plan, TMDL provisions, administrative requirements, etc.) and GCP and that the information herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

I/we understand that I/we are ultimately responsible for compliance with all conditions and requirements of the SWPPP and GCP and for ensuring all contractors and subcontractors on the permitted site are aware of the conditions and requirements of the SWPPP and GCP.

times properly operate and maintain all measures and control (and related appurtenances) which are installed or used to achieve compliance with the conditions of the GCP. Proper opration and maintenance also includes adequate funding and adequate staffing.

I/we shall comply with all conditions and requirements of the SWPPP and shall at all

I/we shall take all reasonable steps to minimize or prevent any discharge in violation of the SWPPP and/or GCP.

I/we understand that if it determined by the Department of Environmental Quality (DEQ) in consultation with the State Water Control Board at any time that stormwater discharges are causing, have reasonable potential to cause, or contribute to and excursion above any applicable water quality standard, the DEQ may, in consultation with the Administrator, take appropriate enforcement action and require:

- Modification of control measures to adequately address water quality
- Submission of valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is
- attaining water quality standards; or Cessation of discharges of pollutants from construction activity and submit an individual permit application according to 4VAC25-870-410.

OPERATOR(S) / DELEGATED AUTHORITY					
Name (print)	Signature	Date			

Additional contact information can be found in the SWPPP Binder.

www.balzer.cc

New River Valley Roanoke Staunton

Harrisonburg RESIDENTIAL LAND DEVELOPMENT ENGINEERING SITE DEVELOPMENT ENGINEERING

> LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE LAND SURVEYING ARCHITECTURE STRUCTURAL ENGINEERING TRANSPORTATION ENGINEERING

WETLAND DELINEATIONS & STREAM EVALUATIONS Balzer and Associates. Inc.

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DESIGNED BY

SCALE **REVISIONS:**

01-17-18