A G E N D A
JAMES CITY COUNTY CHESAPEAKE BAY BOARD
REGULAR MEETING
County Government Center, Building F
101 Mounts Bay Road, Williamsburg, Virginia 23185
February 12, 2020
5:00 PM

A. CALL TO ORDER

B. ROLL CALL

C. MINUTES

D. PUBLIC HEARINGS

E. BOARD CONSIDERATIONS

1. Appeal - Recreation Area A, Stonehouse

F. MATTERS OF SPECIAL PRIVILEGE

G. ADJOURNMENT

AGENDA ITEM NO. E.1.

ITEM SUMMARY

DATE: 2/12/2020

TO: Chesapeake Bay Board

FROM: Michael Woolson, Senior Watershed Planner

SUBJECT: Appeal - Recreation Area A, Stonehouse

ATTACHMENTS:

	Description	Type
🗋	Memorandum	Cover Memo
🗋	Presentation	Presentation
🗋	Erosion and Sediment Control Plan	Backup Material
🗋	Erosion and Sediment Control Plan Narrative	Backup Material
🗋	Denial of Plan Approval	Backup Material
🗋	Appeal Notification	Backup Material
🗋	Recreation Area A GIS	Backup Material
🗋	Existing Stockpile GIS	Backup Material
🗋	Existing Stockpile - topsoil	Backup Material
🗋	Existing Stockpile - subsoil	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Chesapeake Bay Group	Woolson, Michael	Approved	2/11/2020 - 9:55 AM
Chesapeake Bay Group	Small, Toni	Approved	2/11/2020 - 4:18 PM
Publication Management	Daniel, Martha	Approved	2/11/2020 - 4:40 PM
Chesapeake Bay Group	Secretary, ChesBay	Approved	2/11/2020 - 4:42 PM

M E M O R A N D U M

DATE: February 12, 2020

TO: The Chesapeake Bay Board

FROM: Michael D. Woolson, Senior Watershed Planner

SUBJECT: Appeal of Denial of Erosion and Sediment Control Plan E&SC-19-0047 - Stonehouse Recreation Area A, 9351 Six Mount Zion Road

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Mr. Robert Woodruff, SCP-JTL Stonehouse Owner 2, LLC (the "Developer"), filed an appeal to the James City County Chesapeake Bay Board (the "Board") on January 10, 2020. The Developer is appealing an administrative decision denying its Erosion and Sediment Control ("E&SC") plan because the requirements outlined in Section 23-9 and 10 of the James City County Code have not been met.

Pursuant to James City County Code section 23-17 the Chesapeake Bay Board shall hear appeals of administrative decisions.

Background Information

On or about October 16, 2019, an E&SC plan was submitted by Timmons Group on behalf of the Developer to stockpile excess material from the development of the Stonehouse Tract 3 site on the existing forested parcel identified as Stonehouse Recreation Area A. Tract 3 is a residential development encompassing approximately 97 townhomes, 234 single-family homes, and 93 acres of land disturbance. It includes development plans and plats for Parcels A and B and a portion of Parcel C.

According to the site narrative that was provided on the E&SC plan, the project encompasses two phases. The first phase provides temporary sediment traps and a sediment basin. The second phase encompasses stockpiling soil within the valleys of the site. Per the project description on the submitted E&SC plan, once the site is stabilized, a sediment trap and sediment basin will remain in place until future development happens.

The existing site conditions consist of undeveloped, mature mixed hardwood forest with slopes ranging from 0 to 50%. There is a 60-foot change in elevation across the site, as the elevations range from 47 to 107 feet. Staff has confirmed that the majority of the site is comprised of highly erodible soils in the Emporia series (10-50% slopes) and Uchee series (6-10% slopes). There are also proposed Resource Protection Area (RPA) impacts from the sediment trapping features that were not addressed.

The Developer has an approved stockpile area which it has used for previous Tract 3 projects and the reconstruction of Six Mount Zion Road. The plan for this approved stockpile is found on Sheet 3.4 of plan number SP-0102-2016. This approved stockpile is permitted and bonded under current state and local requirements. Further, notes on that approved plan state that the stockpile and staging area will be in place and used until completion of Tract 3 construction.

The Developer has had five Notices to Comply and two Stop Work orders issued within the past 18 months for the Tract 3 developments. The Developer has also had a Virginia Department of Environmental Quality (DEQ) wetland enforcement action taken against it for Tract 3 related to an off-site sedimentation.

The Stonehouse Development has seen four owners, at least three different Master Plans, rezonings and proffers, and proffer amendments. Due to the evolving nature of this development, there is no guarantee

that Recreation Area A, as outlined in the current approved rezoning, will ever be built as currently presented in any of the above mentioned plans.

James City County Code, Section 23-9, Chesapeake Bay Preservation, states that the performance standards establish the means to minimize erosion and sedimentation potential and maximize rainwater infiltration. Section 23-9(b)(1) states that "land disturbance shall be limited to the area necessary to provide for the proposed use or development." Section 23-9-(b)(2) states that the "existing vegetation shall be preserved to the maximum extent practicable consistent with the use or development permitted by an approved plan of development." The Developer has not proposed a plan of development.

Per Section 23-10, "any development or redevelopment exceeding 2,500 square feet of land disturbance in the CBPA shall be accomplished through a plan of development process prior to any clearing or grading of the site…" Also, in Section 23-10(4), a stormwater management plan must be submitted as part of the plan of development process and in conjunction with site plan or subdivision plan preliminary approval. None has been provided. The E&SC plan correctly states that the sediment basin shall be designed to handle the 24-hour, 25-year design storm event based upon the total drainage area to the basin. Sediment basins that are to be left in place, as this one is proposed to be, are typically fully designed and engineered based upon full buildout of the site so that the basin does not need to be rebuilt to convert it into a stormwater management facility. The E&SC plan that has been submitted has permanent, 12-foot-wide maintenance access roads designed into the final grading configuration. Based upon professional experience, the temporary sediment trap and basin on this plan have the look and design characteristics of permanent features. The notes on the plan support this.

A typical stockpile plan, like the one already approved for the Tract 3 development, has a mound of soil upon a relatively flat area. This plan proposes to create a relatively flat area by filling in ravines up to 40 feet in depth. Clearing and filling of this portion of Tract 3 goes directly against Section 23-9(b)(1) and (2). Further, this proposed stockpile plan has RPA impacts for the outfalls of the temporary sediment traps and basin that have not yet been addressed.

Staff Guidance and Recommendations

Staff has reviewed the appeal and associated documents and offers the following information for the Board's consideration.

1. SCP-JTL Stonehouse Owner 2, LLC, is the current owner of the property and this portion of the Stonehouse development. Mr. Robert Woodruff can act on behalf of the corporation.

2. The Erosion and Sediment Control Plan (E&SC-19-0047) for Recreation Area A was submitted on October 16, 2019.

3. Ms. Deirdre Wells, via email on December 11, 2019, denied the Erosion and Sediment Control Plan.

4. The Developer has a permitted, bonded, and approved off-site stockpile area already in place.

5. The proposed site for the stockpile has extremely steep and highly erodible soils currently protected by a mature forest and understory vegetation.

Section 23-17(b) of the Ordinance gives guidance to the Board and states "In rendering its decision, the Board shall balance the hardship to the property owner with the purpose, intent and objectives of this chapter. The Board shall **not** (emphasis added) decide in favor of the appellant unless it finds:

1. The hardship is not generally shared by other properties in the vicinity;

2. The Chesapeake Bay, its tributaries, and other properties in the vicinity will not be adversely affected; and

3. The appellant acquired the property in good faith and the hardship is not self-inflicted."

Staff's guidance to the Board on deciding this matter is as follows:

1. The hardship is shared by other properties within the Stonehouse subdivision. The Stonehouse development has significant areas of steep slopes within portions of the property yet to be developed. Specifically, Recreation Area A has significantly steep slopes up to 50%. Slopes this steep are highly erodible once they are disturbed.

2. The granting of the appeal in this case will adversely affect the Chesapeake Bay, its tributaries, and other properties in the vicinity. In this specific case, the Developer has had difficulty complying with the Erosion and Sediment law with the current development in the overall Tract 3 development. In addition, the DEQ Water Protection Permit Program issued a Notice of Violation, a consent order, and a corrective action plan to the Developer regarding the Tract 3 development and release of construction-related sediment impacting 0.98 acre and 0.45 mile of streams.

3. The appellant acquired the property in good faith, but the hardship is self-inflicted. The Developer has an approved, permitted, and bonded stockpile location for the excess material from Tract 3.

Staff contends that the Developer has an approved, permitted, and bonded stockpile area for the Tract 3 development. Staff has concerns with clearing existing forested land for a second stockpile area, with an E&SC plan that was not submitted as part of a site plan or subdivision plan. The parcel for Recreation Area A has steep slopes and highly erodible soils. The Division has had enforcement issues related to construction practices within Tract 3 over the past two years. Staff recommends to the Board that the Erosion and Sediment Control plan, E&SC-19-0047, for Recreation Area A be denied.

MDW/md
App-DenStnhseRec-mem

Chesapeake Bay Board of James City County, Virginia

February 12, 2020

SRP 20-0003

SCP-JTL Stonehouse Owner 2, LLC

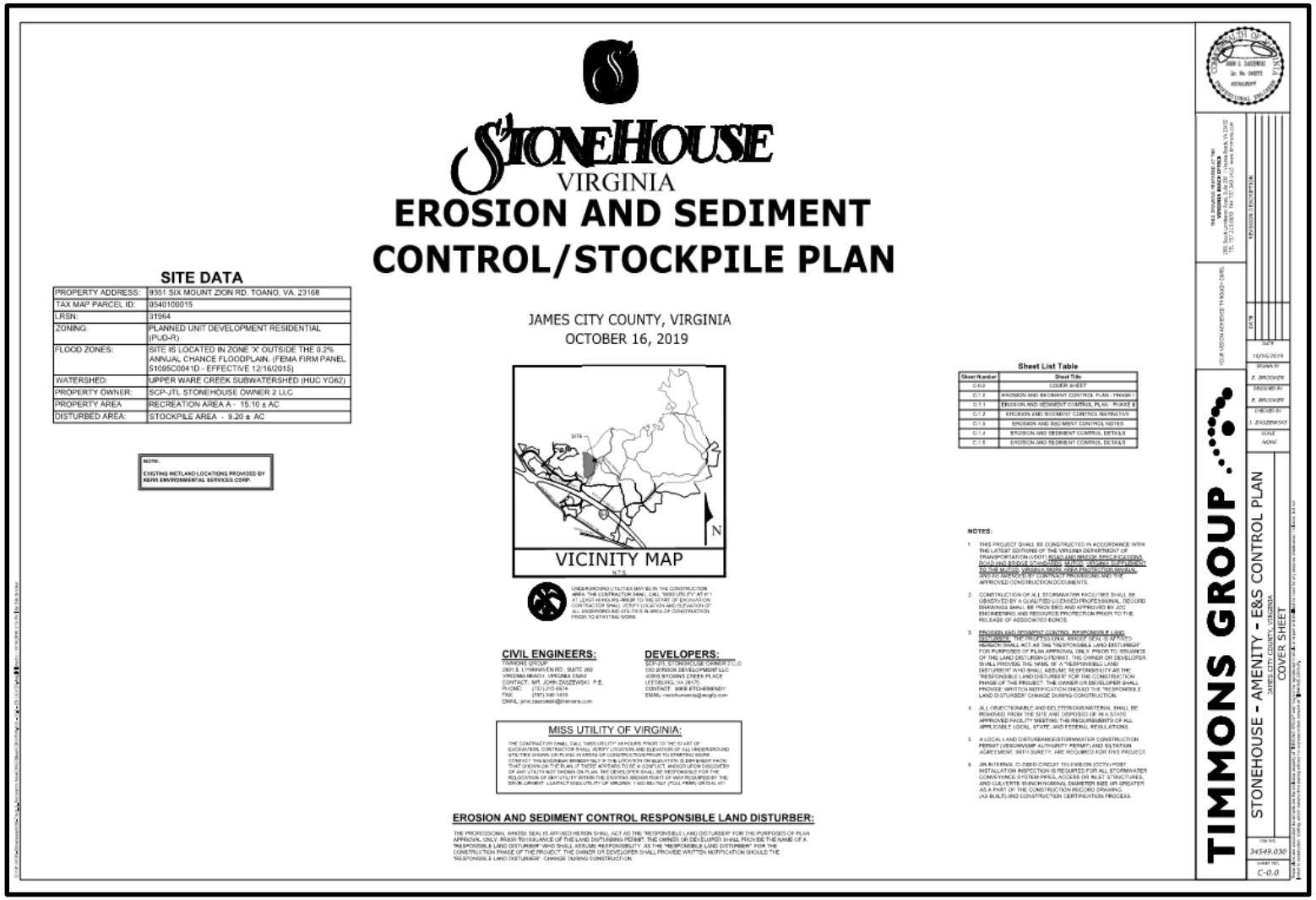
Appeal of Plan Denial

E&SC-19-0047

Applicant Request

- ✓ Appeal of the Denial of Erosion and Sediment Control Plan E&SC-19-0047 for the Stonehouse Recreation Area A at 9351 Six Mount Zion Road.

E&SC 19-0047
Recreation Area A



STONEHOUSE
VIRGINIA

EROSION AND SEDIMENT CONTROL/STOCKPILE PLAN

JAMES CITY COUNTY, VIRGINIA
OCTOBER 16, 2019

SITE DATA

PROPERTY ADDRESS:	9351 SIX MOUNT ZION RD. TOANO, VA. 23168
TAX MAP PARCEL ID:	0540100015
LRSN:	31964
ZONING:	PLANNED UNIT DEVELOPMENT RESIDENTIAL (PUD-R)
FLOOD ZONES:	SITE IS LOCATED IN ZONE "X" OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. (FEMA FIRM PANEL 5109SC0041D - EFFECTIVE 12/16/2015)
WATERSHED:	UPPER WARE CREEK SUBWATERSHED (HUC YO62)
PROPERTY OWNER:	SCP-JTL STONEHOUSE OWNER 2 LLC
PROPERTY AREA	RECREATION AREA A - 15.10 ± AC
DISTURBED AREA:	STOCKPILE AREA - 9.20 ± AC

NOTE:
EXISTING WETLAND LOCATIONS PROVIDED BY KEIPP ENVIRONMENTAL SERVICES CORP.

VICINITY MAP
NTS

UNDERGROUND UTILITIES MAY BE IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 811 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION PRIOR TO STARTING WORK

CIVIL ENGINEERS:
TIMMONS GROUP
2901 S. LYNNHAVEN RD., SUITE 200
VIRGINIA BEACH, VIRGINIA 23452
CONTACT: MR. JOHN ZASZEWSKI, P.E.
PHONE: (757) 213-6574
FAX: (757) 490-1615
EMAIL: john.zaszewski@timmons.com

DEVELOPERS:
SCP-JTL STONEHOUSE OWNER 2 LLC
C/O 201ROOK DEVELOPMENT LLC
40959 WATKINS CREEK PLACE
LEESBURG, VA 20175
CONTACT: MIKE RITCHIE/MEDY
EMAIL: mritchiemedy@mcgllc.com

MISS UTILITY OF VIRGINIA:

THE CONTRACTOR SHALL CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. STATUTE: THE NOTIFICATION REQUIREMENTS OF SUBSECTION A SHALL NOT APPLY TO EMERGENCY EXCAVATIONS OR TO EXCAVATIONS OR DEMOLITIONS WHERE THE DEPTH OF EXCAVATION OR DEMOLITION IS KNOWN BY PRIOR EXCAVATION OR DISCOVERY OF ANY UTILITY NOT SHOWN ON PLAN. THE OWNER OR HIS AGENT SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN THE EXISTING AND/OR RIGHT-OF-WAY REQUIRED BY THE GRADE, LAYOUT AND UTILITY OF VIRGINIA 1-800-552-7001 (TOLL FREE) OR DIAL 811

EROSION AND SEDIMENT CONTROL RESPONSIBLE LAND DISTURBER:

THE PROFESSIONAL WHOSE SEAL IS AFFIXED HEREON SHALL ACT AS THE "RESPONSIBLE LAND DISTURBER" FOR THE PURPOSES OF PLAN APPROVAL ONLY, PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT, THE OWNER OR DEVELOPER SHALL PROVIDE THE NAME OF A "RESPONSIBLE LAND DISTURBER" WHO SHALL ASSUME RESPONSIBILITY AS THE "RESPONSIBLE LAND DISTURBER" FOR THE CONSTRUCTION PHASE OF THE PROJECT. THE OWNER OR DEVELOPER SHALL PROVIDE WRITTEN NOTIFICATION SHOULD THE "RESPONSIBLE LAND DISTURBER" CHANGE DURING CONSTRUCTION.

Sheet List Table

Sheet Number	Sheet Title
C-0.0	COVER SHEET
C-1.0	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
C-1.1	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
C-1.2	EROSION AND SEDIMENT CONTROL NARRATIVE
C-1.3	EROSION AND SEDIMENT CONTROL NOTES
C-1.4	EROSION AND SEDIMENT CONTROL DETAILS
C-1.5	EROSION AND SEDIMENT CONTROL DETAILS

NOTES:

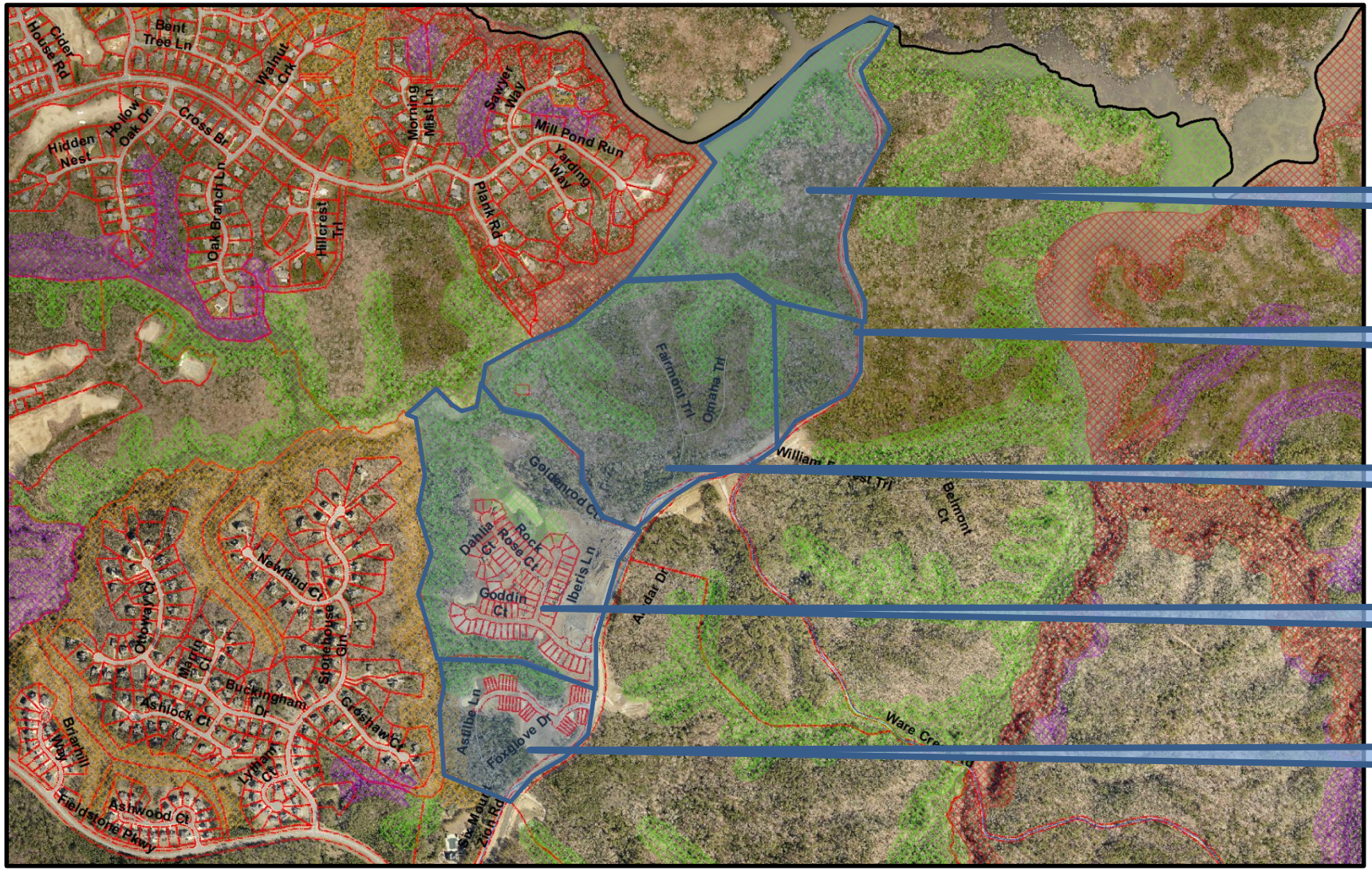
1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, ROAD AND BRIDGE STANDARDS, SEPTIC, UNLESS SUPPLEMENTED TO THE MUTCD, VIRGINIA WORK AREA PROTECTION MANUAL, AND AS AMENDED BY CONTRACT PROVISIONS AND THE APPROVED CONSTRUCTION DOCUMENTS.
2. CONSTRUCTION OF ALL STORMWATER FACILITIES SHALL BE OBSERVED BY A QUALIFIED LICENSED PROFESSIONAL. RECORD DRAWINGS SHALL BE PREPARED AND APPROVED BY JCC ENGINEERING AND RESOURCE PROTECTION PRIOR TO THE RELEASE OF ASSOCIATED BONDS.
3. PROPOSED LAND DISTURBING ACTIVITY. RESPONSIBLE LAND DISTURBER: THE PROFESSIONAL WHOSE SEAL IS AFFIXED HEREON SHALL ACT AS THE "RESPONSIBLE LAND DISTURBER" FOR PURPOSES OF PLAN APPROVAL ONLY PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT, THE OWNER OR DEVELOPER SHALL PROVIDE THE NAME OF A "RESPONSIBLE LAND DISTURBER" WHO SHALL ASSUME RESPONSIBILITY AS THE "RESPONSIBLE LAND DISTURBER" FOR THE CONSTRUCTION PHASE OF THE PROJECT. THE OWNER OR DEVELOPER SHALL PROVIDE WRITTEN NOTIFICATION SHOULD THE "RESPONSIBLE LAND DISTURBER" CHANGE DURING CONSTRUCTION.
4. ALL OBJECTIONABLE AND DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A STATE APPROVED FACILITY MEETING THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
5. A LOCAL LAND DISTURBANCE/STORMWATER CONSTRUCTION PERMIT (JCC/HRSWMP AUTHORITY PERMIT) AND SILTATION AGREEMENT, WITH SURETY, ARE REQUIRED FOR THIS PROJECT.
6. AN INTERNAL CLOSED CIRCUIT TELEVISION (CCTV) POST INSTALLATION INSPECTION IS REQUIRED FOR ALL STORMWATER CONVEYANCE SYSTEM PIPES, ACCESS OR INLET STRUCTURES, AND CULVERTS 18 INCH NOMINAL DIAMETER SIZE OR GREATER AS A PART OF THE CONSTRUCTION RECORD DRAWING (AS-BUILT) AND CONSTRUCTION CERTIFICATION PROCESS.

TIMMONS GROUP

STONEHOUSE - AMENITY - E&S CONTROL PLAN
JAMES CITY COUNTY, VIRGINIA
COVER SHEET

34549.030
C-0.0

Overall Tract 3 Development



Tract 3, Remainder

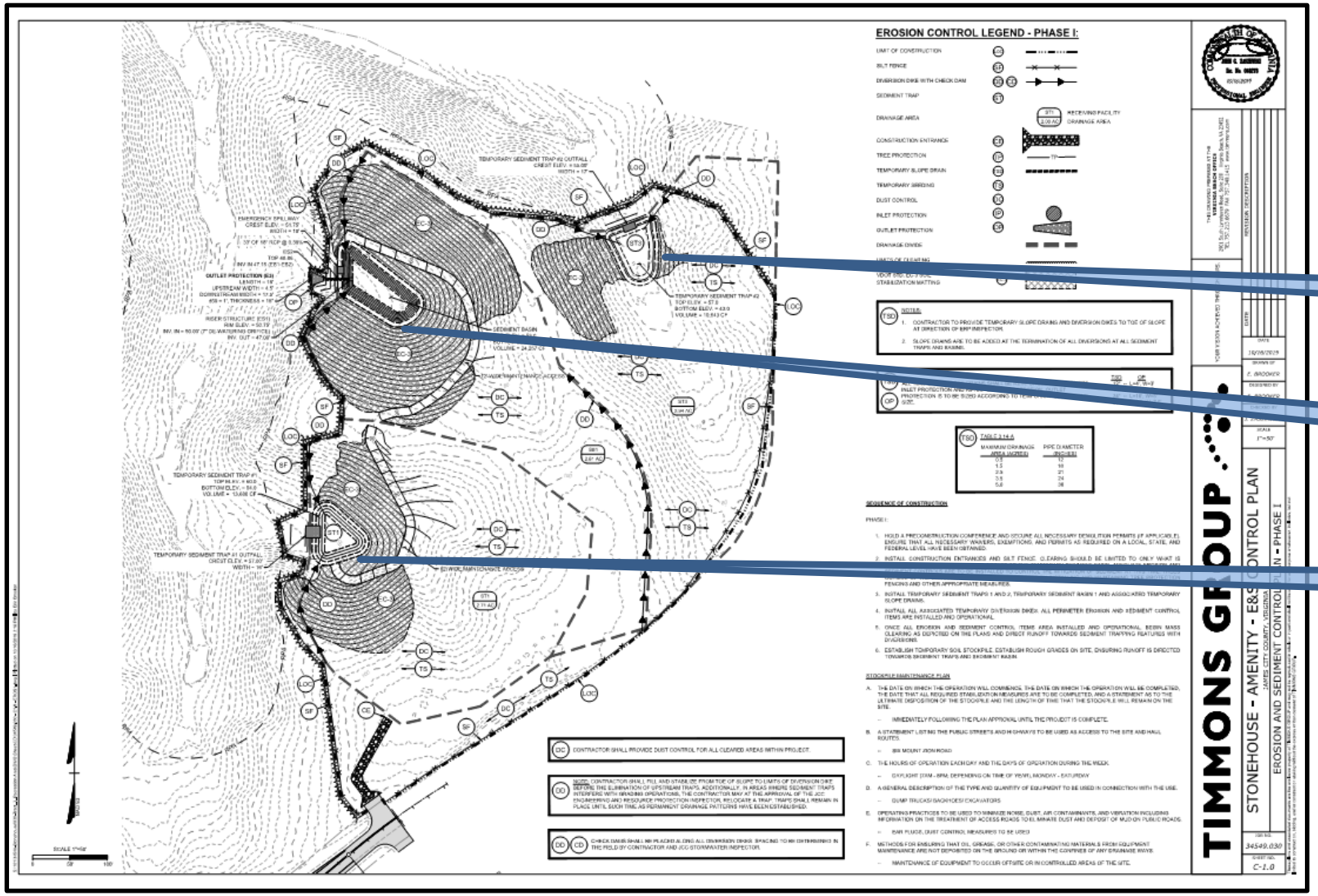
Recreation Area A

Tract 3, Parcel C

Tract 3, Parcel B

Tract 3, Parcel A

Phase 1

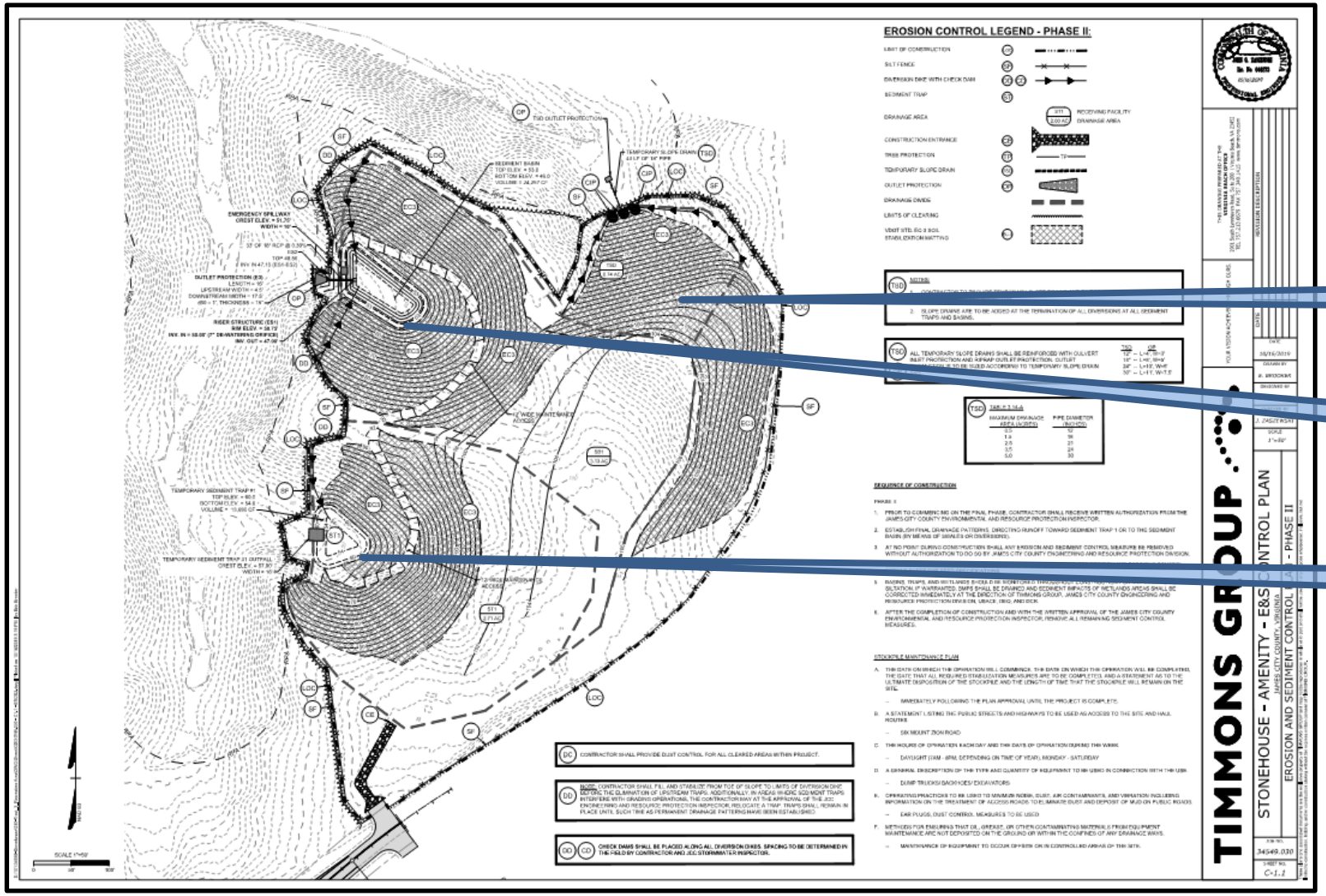


Sediment Trap #2

Sediment Basin

Sediment Trap #1

Phase 2



40-foot depth of fill

Sediment Basin

Sediment Trap #1

Overall Tract 3 Development Aerial Photograph

Resource Protection Area

5 foot contour interval

Six Mount Zion Road

Approved Six Mount Zion Road Plan – SP-0102-2016

SP-0102-2016

NT ZION ROAD

TATE ROUTE 600

ITY COUNTY, VIRGINIA

JUNE 28, 2017

JECT NO. SP-0102-2016

PLANNING DIVISION

SEP 26 2017

RECEIVED

COUNTY OF JAMES CITY
FINAL SITE PLAN

APPROVALS | DATE
KLD/lw | 9/20/17
GB/lw | 7/14/17
Ec | 9/29/17
DW/lw | 9/19/17
dp | 9/20/17
MY/lw | 9/14/17

SHEET INDEX	
SHEET NO.	SHEET TITLE
1	COVER SHEET
1A.1	GENERAL NOTES
1A.2	GENERAL NOTES
2	OVERALL PLAN
2A	TYPICAL SECTIONS
2B	TRAFFIC MANAGEMENT PLAN
2C	EROSION & SEDIMENT CONTROL DETAILS
2D.1	EROSION & SEDIMENT CONTROL NOTES
2D.2	EROSION & SEDIMENT CONTROL NOTES
2E.1	UTILITY DETAILS
2E.2	UTILITY AND SITE DETAILS
2G.1	PRE-DEVELOPMENT DRAINAGE AREA MAP
2G.2	PRE-DEVELOPMENT DRAINAGE AREA MAP
2G.3	POST DEVELOPMENT DRAINAGE AREA MAP
2G.4	POST DEVELOPMENT DRAINAGE AREA MAP
2G.5	STORM SEWER DRAINAGE AREA MAP
2G.6	STORM SEWER DRAINAGE AREA MAP
2H.1	ENVIRONMENTAL INVENTORY
2H.2	ENVIRONMENTAL INVENTORY NORTH
3.1	DEMOLITION & INITIAL EROSION CONTROL PLAN
3.2	DEMOLITION & INITIAL EROSION CONTROL PLAN
3.3	DEMOLITION & INITIAL EROSION CONTROL PLAN
3.4	OFFSITE STAGING AREA - EROSION CONTROL PLAN
3A.1	ROADWAY LAYOUT PLAN
3A.2	ROADWAY LAYOUT PLAN
3A.3	ROADWAY LAYOUT PLAN
3A.4	ROADWAY LAYOUT PLAN
3A.5	ROADWAY LAYOUT PLAN
3B.1	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.2	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.3	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.4	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.5	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.6	GRADING, DRAINAGE, AND ROADWAY PROFILE
3B.7	GRADING, DRAINAGE, AND ROADWAY PROFILE

STOCKPILE AND STAGING AREA WILL BE IN PLACE AND USED UNTIL COMPLETION OF TRACT 3 CONSTRUCTION.

STOCKPILE NOTES:

1. TEMPORARY SOIL STOCKPILE NOT TO EXCEED 25' IN HEIGHT, MAXIMUM 3:1 SIDE SLOPES. CONTRACTOR SHALL BE REQUIRED TO SUBMIT AN OPERATION PLAN IN ACCORDANCE WITH JCC ORDINANCE SEC. 24-46.
2. STOCKPILE AND STAGING AREA WILL BE IN PLACE AND USED UNTIL COMPLETION OF TRACT 3 CONSTRUCTION.
3. AREA TO BE USED SHOULD ONLY EMCOMPASS THE PREVIOUSLY CLEARED AREA. NO ADDITIONAL AREAS SHOULD BE CLEARED.

NOTES:

1. SEE SHEET 2C FOR EROSION & SEDIMENT CONTROL DETAILS.
2. SEE SHEET 2D.1 FOR EROSION & SEDIMENT CONTROL NOTES.
3. GRAVEL CHECK DAMS WILL BE NEEDED ALONG DIVERSION DIKES IN LOCATIONS WITH SLOPES ABOVE 2%.
4. DUE TO STEEP SLOPES IN THE AREA, ADDITIONAL TEMPORARY SLOPE DRAINS MAY BE NECESSARY. CONTRACTOR TO PROVIDE TEMPORARY SLOPE DRAINS AND DIVERSION DIKES TO TOE OF SLOPE AT DIRECTION OF JCC ERP INSPECTOR.
5. ALL TEMPORARY SLOPE DRAINS ARE TO BE SIZED ACCORDING TO VESCH STD. 3.15, AND SHALL BE REINFORCED WITH CULVERT INLET PROTECTION AND RIPRAP OUTLET PROTECTION. OUTLET PROTECTION IS TO BE SIZED ACCORDING TO THE TEMPORARY SLOPE DRAIN SIZE:

TSD	OP
12"	L=4', W=3'
18"	L=8', W=5'
24"	L=10', W=6'
30"	L=11', W=7.5'

COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
Lic. No. 048273
06/29/17
PROFESSIONAL ENGINEER

THIS DRAWING PREPARED AT THE
VIRGINIA BEACH OFFICE
2901 South Lynnhaven Road, Suite 200 | Virginia Beach, VA 23452
TEL 757.213.6679 FAX 757.340.1415 www.timmons.com

VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION
06/29/2017	REVISIONS FOR JCC COMMENTS
05/05/2017	REVISIONS FOR JCC COMMENTS
03/08/2017	REVISIONS FOR JCC COMMENTS
DATE	

DEQ – Notice of Violation

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE

Matthew J. Strickler
Secretary of Natural Resources

5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

David K. Paylor
Director

Craig R. Nicol
Regional Director

September 12, 2018

SCP-JTL Stonehouse Owner 2, LLC
c/o Mr. Robert W. Woodruff, PE
40393 Browns Creek Place
Leesburg, Virginia 20175

Notice of Violation

RE: NOV #1808-000804
Stonehouse Tract 3, James City County, Virginia
VWP NP-18-000515

Dear Mr. Woodruff:

This letter notifies you of information upon which the Department of Environmental Quality ("Department" or "DEQ") may rely in order to institute an administrative or judicial enforcement action. Based on this information, DEQ has reason to believe that SCP-JTL Stonehouse Owner 2, LLC may be in violation of the State Water Control Law and Regulations at the Stonehouse Tract 3 Project in James City County, Virginia.

Chesapeake Bay Preservation Ordinance

Sec. 23-9. - Performance standards.

(a) *Purpose and intent.* The performance standards establish the means to minimize erosion and sedimentation potential, reduce land application of nutrients and toxics, and maximize rainwater infiltration. Natural ground cover, especially woody vegetation, is most efficient in holding soil in place and preventing site erosion. Forested vegetation, with its adaptability to local conditions without the use of harmful fertilizers or pesticides, filters and infiltrates stormwater runoff. Keeping impervious cover to a minimum enhances rainwater infiltration and effectively reduces increases of stormwater runoff.

The purpose and intent of these requirements is also to implement the following objectives: prevent a net increase in nonpoint source pollution from new development and development on previously developed land where the runoff was treated by a water quality protection best management practice; achieve a ten percent reduction in nonpoint source pollution from development on previously developed land where the runoff was not treated by one or more water quality best management practices; and achieve a 40 percent reduction in nonpoint source pollution from agricultural and silvicultural uses.

(b) *General performance standards:*

(1) Land disturbance shall be limited to the area necessary to provide for the proposed use or development.

a. In accordance with an approved plan of development, the limits of clearing and/or grading shall be clearly defined. These limits shall be clearly shown on submitted plans and physically marked on the development site in accordance with subsection (2)b. below.

b. Impervious cover shall not exceed 60 percent of the site unless it can be demonstrated that the project will have the same impact on water quality and runoff as it would have if it were 60 percent impervious. Demonstration of equivalent water quality will be through compliance with guidelines developed by the manager. For projects with an approved stormwater master plan, compliance with this impervious cover provision can be demonstrated on a project basis rather than an individual site basis. However, in no case shall impervious cover exceed the limits established in section 24-99(c)(4) of the zoning ordinance.

c. Ingress and egress during construction shall be limited to one access point, unless otherwise approved by the manager.

(2) Existing vegetation shall be preserved to the maximum extent practicable, consistent with the use or development permitted by an approved plan of development.

a. Existing trees over 12 inches in diameter at breast height shall be preserved except in impervious areas and as necessary to accommodate site grading. Upon approval by the manager, diseased trees or trees weakened by age, storm, fire or other injury may be removed; provided, that when such removal results in a 20 percent or greater reduction in existing tree canopy, a sufficient number of trees with a 1-½ inch caliper shall be planted to restore the full canopy.

b. Prior to clearing or grading, suitable protective barriers, such as safety fencing, shall be erected outside of the dripline of any tree or stand of trees to be preserved unless otherwise approved on the clearing plan. Protective barriers shall remain so erected throughout all phases of construction. The storage of equipment, materials, debris or fill shall not be allowed within the area protected by the barrier.

Land disturbance shall be limited to the area necessary to provide for the proposed use or development.

Existing vegetation shall be preserved to the maximum extent practicable, consistent with the use or development permitted by an approved plan of development.

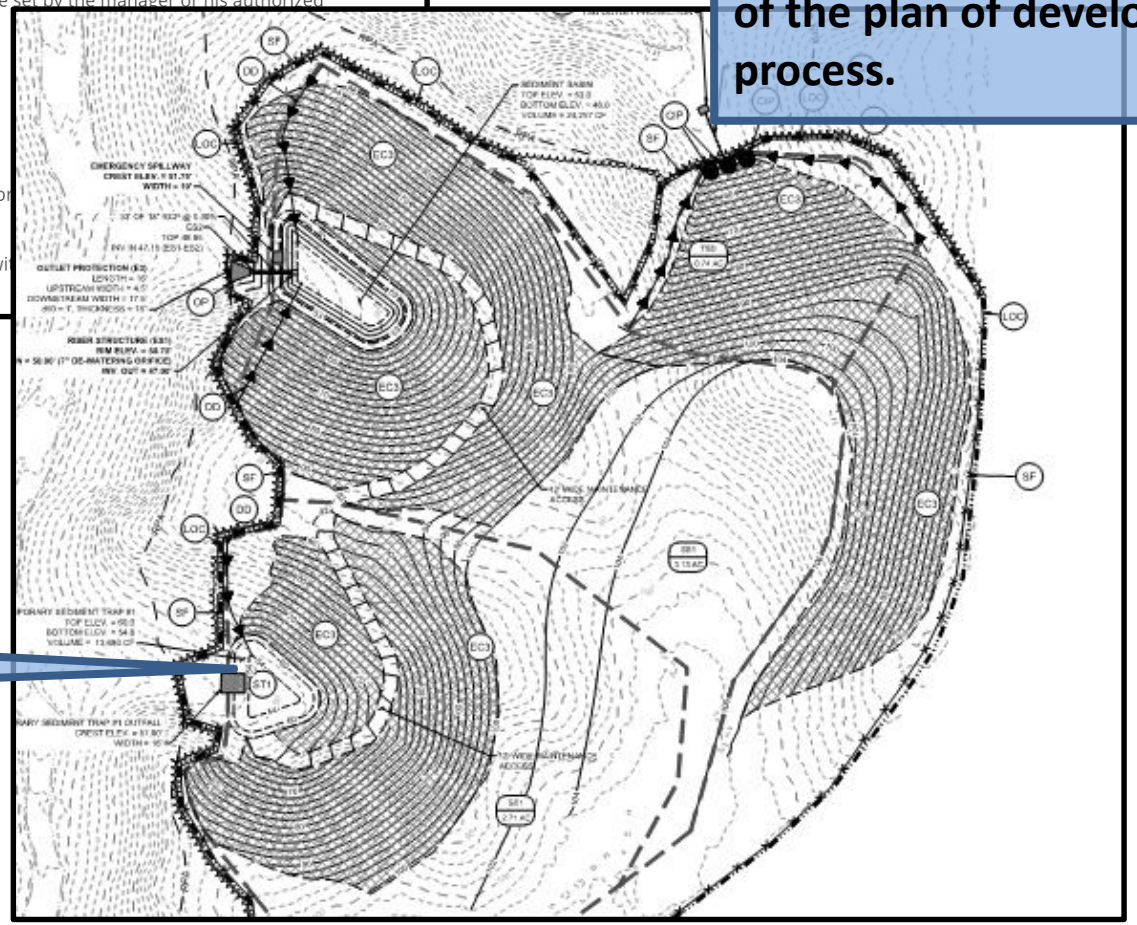
Chesapeake Bay Preservation Ordinance

(4) Stormwater management plan. A stormwater management plan shall be submitted as part of the plan of development process required by chapter 8 of the county code and in conjunction with site plan or subdivision plan preliminary approval. A stormwater management plan is not required for [illegible] single-family detached residential structures that utilize an agreement in lieu of a stormwater management plan in accordance with section 8-25(a) of the county code.

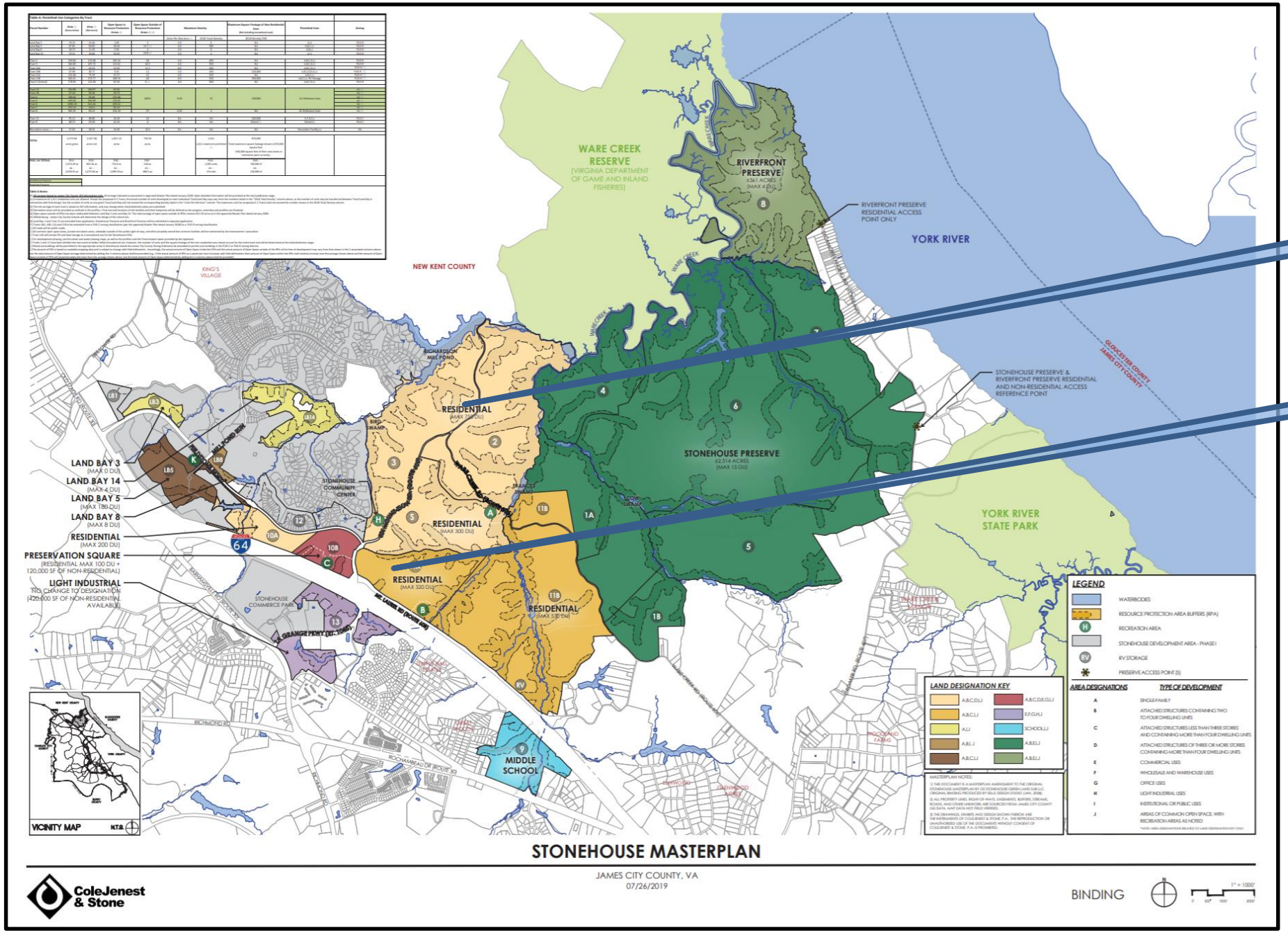
Performance assurances shall be provided that all stormwater management and/or BMP facilities required in plans of development shall be constructed to comply with the performance criteria set forth therein. The form of agreement and type of bond, letter of credit or other security shall be to the satisfaction of and approved by the county attorney. The amount of bond, letter of credit or other security and designated length of completion time shall be set by the manager or his authorized designee.

a. Contents of the plan must meet the requirements of section 8-25 of the county code.
b. Plan must be submitted and reviewed in accordance with 9VAC25-870-108 and section 8-27(a) of the county code;
c. Prior to land disturbance, the stormwater management plan must be approved by the VSMP authority;
d. Exceptions to technical criteria for regulated land-disturbing activities (Part IIB or Part IIC) may be requested in accor[illegible] of the county code; and
e. Long-term maintenance of stormwater management facilities shall be provided for and conducted in accordance wi[illegible] county code.

A Stormwater management plan shall be submitted as part of the plan of development process.



Sediment basin and sediment trap to be left in place for an indeterminate amount of time.



Tract 3 Development

Existing Stockpile

STONEHOUSE MASTERPLAN

JAMES CITY COUNTY, VA
07/26/2019

ColeJenest & Stone

BINDING

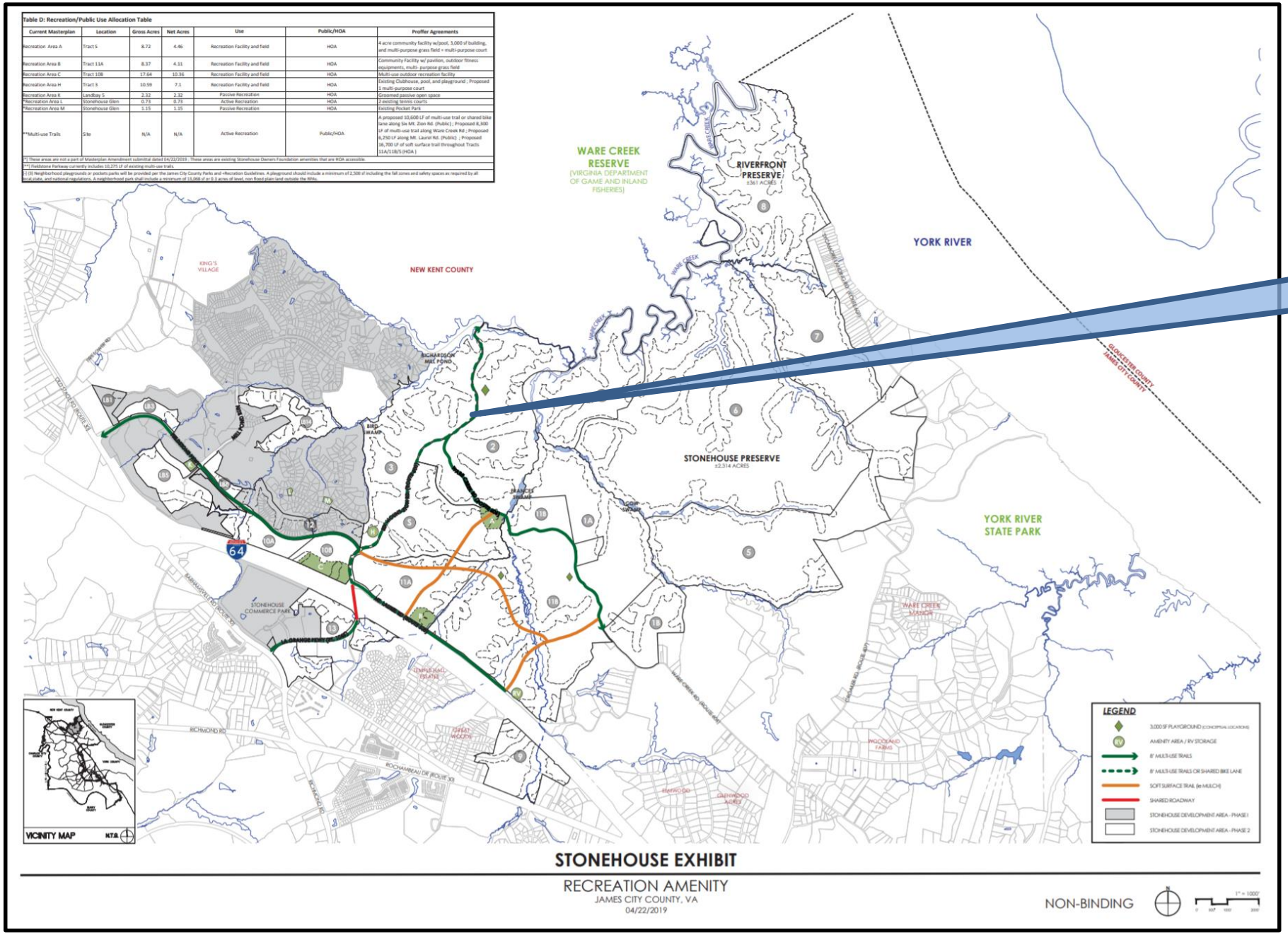
Table D: Recreation/Public Use Allocation Table

Current Masterplan	Location	Gross Acres	Net Acres	Use	Public/HOA	Proffer Agreements
Recreation Area A	Tract 5	8.72	4.46	Recreation Facility and field	HOA	4 acre community facility w/pool, 3,000 sf building, and multi-purpose grass field + multi-purpose court
Recreation Area B	Tract 11A	8.37	4.11	Recreation Facility and field	HOA	Community Facility w/ pavilion, outdoor fitness equipments, multi- purpose grass field
Recreation Area C	Tract 10B	17.64	10.36	Recreation Facility and field	HOA	Multi-use outdoor recreation facility
Recreation Area H	Tract 3	10.59	7.1	Recreation Facility and field	HOA	Existing Clubhouse, pool, and playground ; Proposed 1 multi-purpose court
Recreation Area K	Landbay 5	2.32	2.32	Passive Recreation	HOA	Groomed passive open space
*Recreation Area L	Stonehouse Glen	0.73	0.73	Active Recreation	HOA	2 existing tennis courts
*Recreation Area M	Stonehouse Glen	1.15	1.15	Passive Recreation	HOA	Existing Pocket Park
**Multi-use Trails	Site	N/A	N/A	Active Recreation	Public/HOA	A proposed 10,600 LF of multi-use trail or shared bike lane along Six Mt. Zion Rd. (Public) ; Proposed 8,300 LF of multi-use trail along Ware Creek Rd ; Proposed 6,250 LF along Mt. Laurel Rd. (Public) ; Proposed 16,700 LF of soft surface trail throughout Tracts 11A/13B/5 (HOA)

*) These areas are not a part of Masterplan Amendment submittal dated 04/22/2019 ; These areas are existing Stonehouse Owners Foundation amenities that are HOA accessible.

**) Fieldstone Parkway currently includes 10,275 LF of existing multi-use trails.

1.) Neighborhood playgrounds or pockets parks will be provided per the James City County Parks and +Recreation Guidelines. A playground should include a minimum of 2,500 sf including the fall zones and safety spaces as required by all local, state, and national regulations. A neighborhood park shall include a minimum of 13,068 sf or 0.3 acres of level, non flood plain land outside the RMA.

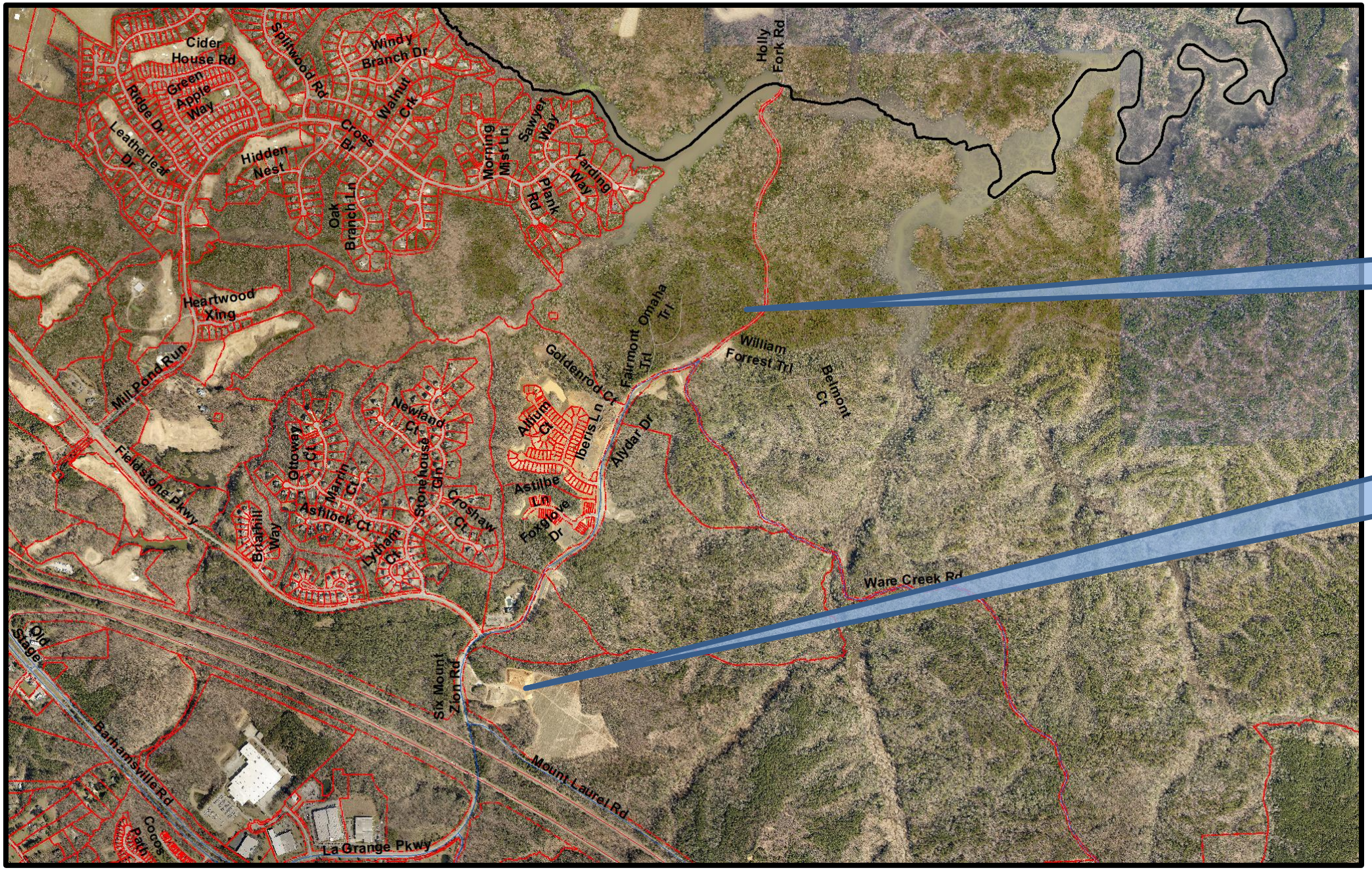


STONEHOUSE EXHIBIT

RECREATION AMENITY
JAMES CITY COUNTY, VA
04/22/2019

NON-BINDING

Tract 3 Development, No recreation area proposed here.



Tract 3, Recreation Area A

Tract 3, Existing Stockpile Area


February 10, 2020


February 10, 2020

Staff Recommendation

Chesapeake Bay Preservation Ordinance

Section 23-17(b)

- ✓ The hardship is not generally shared by other properties in the vicinity.
  - significant steep slopes, highly erodible soils
- ✓ The Chesapeake Bay, its tributaries, and other properties in the vicinity will not be adversely affected.
  - many enforcement actions in current Tract 3 development
  - no stormwater management plan
- ✓ The appellant acquired the property in good faith and the hardship is not self-inflicted.
  - have an existing stockpile area

Staff recommends denial of the appeal.

STONEHOUSE VIRGINIA

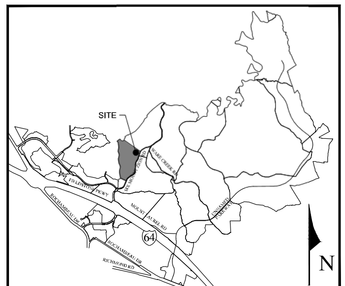
EROSION AND SEDIMENT CONTROL/STOCKPILE PLAN

JAMES CITY COUNTY, VIRGINIA
OCTOBER 16, 2019

SITE DATA

PROPERTY ADDRESS:	9351 SIX MOUNT ZION RD. TOANO, VA. 23168
TAX MAP PARCEL ID:	0540100015
LRSN:	31964
ZONING:	PLANNED UNIT DEVELOPMENT RESIDENTIAL (PUD-R)
FLOOD ZONES:	SITE IS LOCATED IN ZONE 'X' OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. (FEMA FIRM PANEL 51095C0041D - EFFECTIVE 12/16/2015)
WATERSHED:	UPPER WARE CREEK SUBWATERSHED (HUC YO62)
PROPERTY OWNER:	SCP-JTL STONEHOUSE OWNER 2 LLC
PROPERTY AREA	RECREATION AREA A - 15.10 ± AC
DISTURBED AREA:	STOCKPILE AREA - 9.20 ± AC

NOTE:
EXISTING WETLAND LOCATIONS PROVIDED BY KERR ENVIRONMENTAL SERVICES CORP.



VICINITY MAP
N.T.S.

UNDERGROUND UTILITIES MAY BE IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 811 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION PRIOR TO STARTING WORK.

Sheet List Table

Sheet Number	Sheet Title
C-0.0	COVER SHEET
C-1.0	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
C-1.1	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
C-1.2	EROSION AND SEDIMENT CONTROL NARRATIVE
C-1.3	EROSION AND SEDIMENT CONTROL NOTES
C-1.4	EROSION AND SEDIMENT CONTROL DETAILS
C-1.5	EROSION AND SEDIMENT CONTROL DETAILS

NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, ROAD AND BRIDGE STANDARDS, MUTCD, VIRGINIA SUPPLEMENT TO THE MUTCD, VIRGINIA WORK AREA PROTECTION MANUAL, AND AS AMENDED BY CONTRACT PROVISIONS AND THE APPROVED CONSTRUCTION DOCUMENTS.
2. CONSTRUCTION OF ALL STORMWATER FACILITIES SHALL BE OBSERVED BY A QUALIFIED LICENSED PROFESSIONAL. RECORD DRAWINGS SHALL BE PROVIDED AND APPROVED BY JCC ENGINEERING AND RESOURCE PROTECTION PRIOR TO THE RELEASE OF ASSOCIATED BONDS.
3. EROSION AND SEDIMENT CONTROL RESPONSIBLE LAND DISTURBER: THE PROFESSIONAL WHOSE SEAL IS AFFIXED HEREON SHALL ACT AS THE "RESPONSIBLE LAND DISTURBER" FOR PURPOSES OF PLAN APPROVAL ONLY. PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT, THE OWNER OR DEVELOPER SHALL PROVIDE THE NAME OF A "RESPONSIBLE LAND DISTURBER" WHO SHALL ASSUME RESPONSIBILITY AS THE "RESPONSIBLE LAND DISTURBER" FOR THE CONSTRUCTION PHASE OF THE PROJECT. THE OWNER OR DEVELOPER SHALL PROVIDE WRITTEN NOTIFICATION SHOULD THE "RESPONSIBLE LAND DISTURBER" CHANGE DURING CONSTRUCTION.
4. ALL OBJECTIONABLE AND DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A STATE APPROVED FACILITY MEETING THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
5. A LOCAL LAND DISTURBANCE/STORMWATER CONSTRUCTION PERMIT (VESCH/VSMP AUTHORITY PERMIT) AND SILTATION AGREEMENT, WITH SURETY, ARE REQUIRED FOR THIS PROJECT.
6. AN INTERNAL CLOSED CIRCUIT TELEVISION (CCTV) POST INSTALLATION INSPECTION IS REQUIRED FOR ALL STORMWATER CONVEYANCE SYSTEM PIPES, ACCESS OR INLET STRUCTURES, AND CULVERTS 15-INCH NOMINAL DIAMETER SIZE OR GREATER AS A PART OF THE CONSTRUCTION RECORD DRAWING (AS-BUILT) AND CONSTRUCTION CERTIFICATION PROCESS.

CIVIL ENGINEERS:
TIMMONS GROUP
2901 S. LYNNHAVEN RD., SUITE 200
VIRGINIA BEACH, VIRGINIA 23452
CONTACT: MR. JOHN ZASZEWSKI, P.E.
PHONE: (757) 213-6674
FAX: (757) 340-1415
EMAIL: john.zaszewski@timmons.com

DEVELOPERS:
SCP-JTL STONEHOUSE OWNER 2 LLC
C/O 20ROCK DEVELOPMENT LLC
40393 BROWNS CREEK PLACE
LEESBURG, VA 20175
CONTACT: MIKE ETCHEMENDY
EMAIL: metchemendy@megfp.com

MISS UTILITY OF VIRGINIA:

THE CONTRACTOR SHALL CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLAN, IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON PLAN. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN THE EXISTING AND/OR RIGHT OF WAY REQUIRED BY THE DEVELOPMENT. CONTACT MISS UTILITY OF VIRGINIA: 1-800-552-7001 (TOLL FREE) OR DIAL 811

EROSION AND SEDIMENT CONTROL RESPONSIBLE LAND DISTURBER:

THE PROFESSIONAL WHOSE SEAL IS AFFIXED HERON SHALL ACT AS THE "RESPONSIBLE LAND DISTURBER" FOR THE PURPOSES OF PLAN APPROVAL ONLY. PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT, THE OWNER OR DEVELOPER SHALL PROVIDE THE NAME OF A "RESPONSIBLE LAND DISTURBER" WHO SHALL ASSUME RESPONSIBILITY AS THE "RESPONSIBLE LAND DISTURBER" FOR THE CONSTRUCTION PHASE OF THE PROJECT. THE OWNER OR DEVELOPER SHALL PROVIDE WRITTEN NOTIFICATION SHOULD THE "RESPONSIBLE LAND DISTURBER" CHANGE DURING CONSTRUCTION.

COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
Lic. No. 048273
10/16/2019
PROFESSIONAL ENGINEER

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TEL 757.213.6679 FAX 757.340.1415 www.timmons.com

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DATE	REVISION DESCRIPTION

DATE: 10/16/2019
DRAWN BY: E. BROOKER
DESIGNED BY: E. BROOKER
CHECKED BY: J. ZASZEWSKI
SCALE: NONE

TIMMONS GROUP

STONEHOUSE - AMENITY - E&S CONTROL PLAN
JAMES CITY COUNTY, VIRGINIA
COVER SHEET

JOB NO. 34549.030
SHEET NO. C-0.0

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S:\101\34549-Stonehouse\030-Tract_3_Recreation Area\DWG\Sheet\CD\34549.030 - C0.0 - ES COVER.dwg | Plotted on 10/16/2019 3:13 PM | by Erin Brooker

DC CONTRACTOR SHALL PROVIDE DUST CONTROL FOR ALL CLEARED AREAS WITHIN PROJECT.

DD NOTE: CONTRACTOR SHALL FILL AND STABILIZE FROM TOE OF SLOPE TO LIMITS OF DIVERSION DIKE BEFORE THE ELIMINATION OF UPSTREAM TRAPS. ADDITIONALLY, IN AREAS WHERE SEDIMENT TRAPS INTERFERE WITH GRADING OPERATIONS, THE CONTRACTOR MAY AT THE APPROVAL OF THE JCC ENGINEERING AND RESOURCE PROTECTION INSPECTOR, RELOCATE A TRAP. TRAPS SHALL REMAIN IN PLACE UNTIL SUCH TIME AS PERMANENT DRAINAGE PATTERNS HAVE BEEN ESTABLISHED.

DD CD CHECK DAMS SHALL BE PLACED ALONG ALL DIVERSION DIKES. SPACING TO BE DETERMINED IN THE FIELD BY CONTRACTOR AND JCC STORMWATER INSPECTOR.

EROSION CONTROL LEGEND - PHASE I:

- LIMIT OF CONSTRUCTION (LOC)
- SILT FENCE (SF)
- DIVERSION DIKE WITH CHECK DAM (DD) (CD)
- SEDIMENT TRAP (ST)
- DRAINAGE AREA — ST1 / 2.00 AC — RECEIVING FACILITY / DRAINAGE AREA
- CONSTRUCTION ENTRANCE (CE)
- TREE PROTECTION (TP)
- TEMPORARY SLOPE DRAIN (TSD)
- TEMPORARY SEEDING (TS)
- DUST CONTROL (DC)
- INLET PROTECTION (IP)
- OUTLET PROTECTION (OP)
- DRAINAGE DIVIDE
- LIMITS OF CLEARING
- VDOT STD. EC-3 SOIL STABILIZATION MATTING (EC-3)

TSD NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY SLOPE DRAINS AND DIVERSION DIKES TO TOE OF SLOPE AT DIRECTION OF ERP INSPECTOR.
2. SLOPE DRAINS ARE TO BE ADDED AT THE TERMINATION OF ALL DIVERSIONS AT ALL SEDIMENT TRAPS AND BASINS.

TSD OP ALL TEMPORARY SLOPE DRAINS SHALL BE REINFORCED WITH CULVERT INLET PROTECTION AND RIPRAP OUTLET PROTECTION. OUTLET PROTECTION IS TO BE SIZED ACCORDING TO TEMPORARY SLOPE DRAIN SIZE.

TSD	OP
12" – L=4', W=3'	
18" – L=8', W=5'	
24" – L=10', W=6'	
30" – L=11', W=7.5'	

TSD TABLE 3.14-A

MAXIMUM DRAINAGE AREA (ACRES)	PIPE DIAMETER (INCHES)
0.5	12
1.5	18
2.5	21
3.5	24
5.0	30

SEQUENCE OF CONSTRUCTION

PHASE I:

1. HOLD A PRECONSTRUCTION CONFERENCE AND SECURE ALL NECESSARY DEMOLITION PERMITS (IF APPLICABLE). ENSURE THAT ALL NECESSARY WAIVERS, EXEMPTIONS, AND PERMITS AS REQUIRED ON A LOCAL, STATE, AND FEDERAL LEVEL HAVE BEEN OBTAINED.
2. INSTALL CONSTRUCTION ENTRANCES AND SILT FENCE. CLEARING SHOULD BE LIMITED TO ONLY WHAT IS NECESSARY TO GAIN CONSTRUCTION ACCESS TO THE TEMPORARY SEDIMENT BASIN. ADEQUATE EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO CONTROL THE MITIGATION OF SEDIMENT AT THIS TIME. TREES OUTSIDE OF THE CLEARING LIMITS SHALL BE PROTECTED BY INSTALLING AND MAINTAINING TREE PROTECTION FENCING AND OTHER APPROPRIATE MEASURES.
3. INSTALL TEMPORARY SEDIMENT TRAPS 1 AND 2, TEMPORARY SEDIMENT BASIN 1 AND ASSOCIATED TEMPORARY SLOPE DRAINS.
4. INSTALL ALL ASSOCIATED TEMPORARY DIVERSION DIKES. ALL PERIMETER EROSION AND SEDIMENT CONTROL ITEMS ARE INSTALLED AND OPERATIONAL.
5. ONCE ALL EROSION AND SEDIMENT CONTROL ITEMS AREA INSTALLED AND OPERATIONAL, BEGIN MASS CLEARING AS DEPICTED ON THE PLANS AND DIRECT RUNOFF TOWARDS SEDIMENT TRAPPING FEATURES WITH DIVERSIONS.
6. ESTABLISH TEMPORARY SOIL STOCKPILE. ESTABLISH ROUGH GRADES ON SITE, ENSURING RUNOFF IS DIRECTED TOWARDS SEDIMENT TRAPS AND SEDIMENT BASIN.

STOCKPILE MAINTENANCE PLAN

A. THE DATE ON WHICH THE OPERATION WILL COMMENCE. THE DATE ON WHICH THE OPERATION WILL BE COMPLETED. THE DATE THAT ALL REQUIRED STABILIZATION MEASURES ARE TO BE COMPLETED, AND A STATEMENT AS TO THE ULTIMATE DISPOSITION OF THE STOCKPILE AND THE LENGTH OF TIME THAT THE STOCKPILE WILL REMAIN ON THE SITE.
   – IMMEDIATELY FOLLOWING THE PLAN APPROVAL UNTIL THE PROJECT IS COMPLETE.
B. A STATEMENT LISTING THE PUBLIC STREETS AND HIGHWAYS TO BE USED AS ACCESS TO THE SITE AND HAUL ROUTES.
   – SIX MOUNT ZION ROAD
C. THE HOURS OF OPERATION EACH DAY AND THE DAYS OF OPERATION DURING THE WEEK.
   – DAYLIGHT (7AM - 8PM, DEPENDING ON TIME OF YEAR), MONDAY - SATURDAY
D. A GENERAL DESCRIPTION OF THE TYPE AND QUANTITY OF EQUIPMENT TO BE USED IN CONNECTION WITH THE USE.
   – DUMP TRUCKS/ BACKHOES/ EXCAVATORS
E. OPERATING PRACTICES TO BE USED TO MINIMIZE NOISE, DUST, AIR CONTAMINANTS, AND VIBRATION INCLUDING INFORMATION ON THE TREATMENT OF ACCESS ROADS TO ELIMINATE DUST AND DEPOSIT OF MUD ON PUBLIC ROADS.
   – EAR PLUGS, DUST CONTROL MEASURES TO BE USED
F. METHODS FOR ENSURING THAT OIL, GREASE, OR OTHER CONTAMINATING MATERIALS FROM EQUIPMENT MAINTENANCE ARE NOT DEPOSITED ON THE GROUND OR WITHIN THE CONFINES OF ANY DRAINAGE WAYS.
   – MAINTENANCE OF EQUIPMENT TO OCCUR OFFSITE OR IN CONTROLLED AREAS OF THE SITE.

COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
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10/16/2019
PROFESSIONAL ENGINEER

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CHECKED BY J. ZASZEWSKI
SCALE 1"=50'

TIMMONS GROUP

STONEHOUSE - AMENITY - E&S CONTROL PLAN

EROSION AND SEDIMENT CONTROL PLAN - PHASE I

JAMES CITY COUNTY, VIRGINIA

JOB NO. 34549.030

SHEET NO. C-1.0

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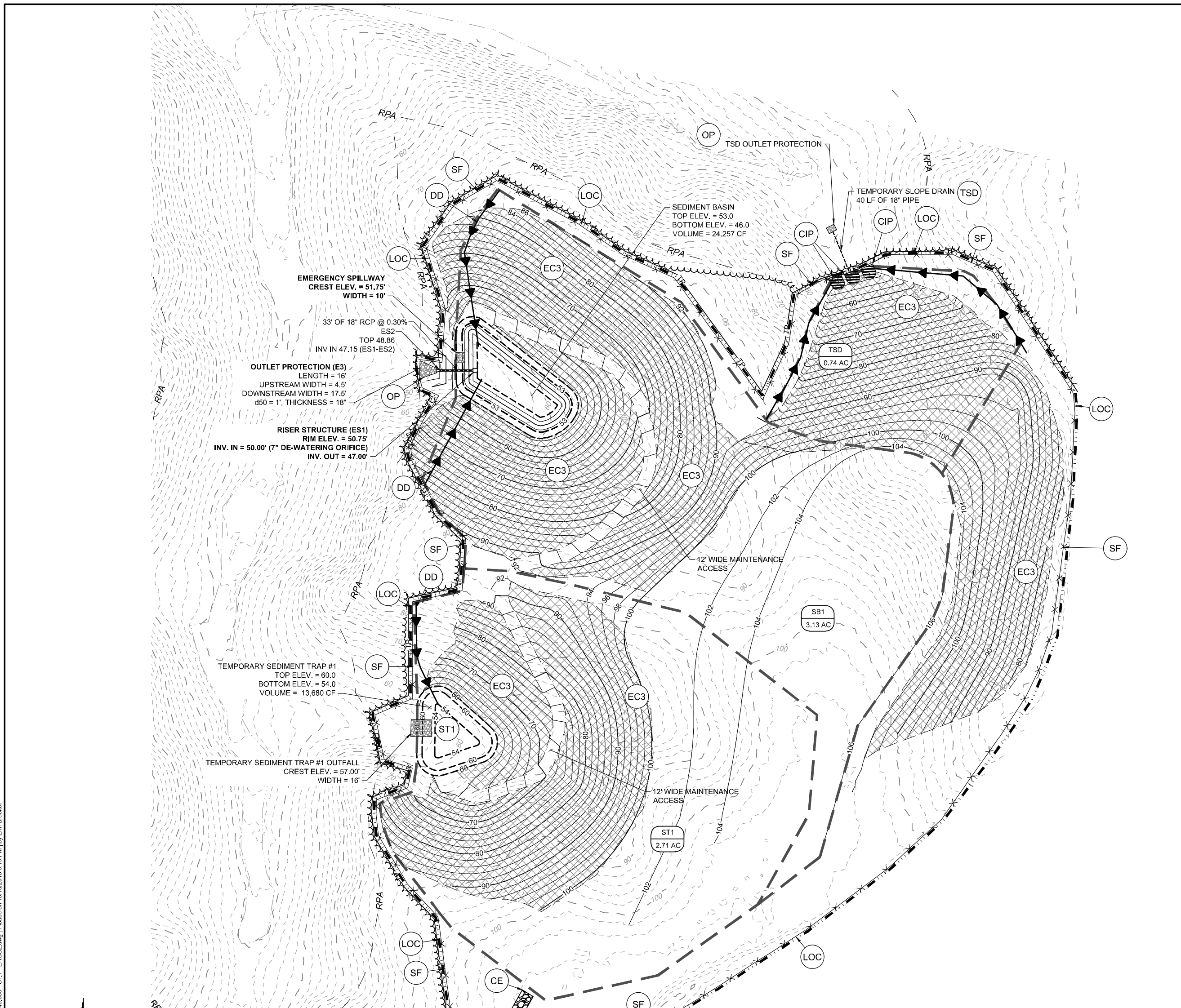

EROSION CONTROL LEGEND - PHASE II:

LIMIT OF CONSTRUCTION	LOC	
SILT FENCE	SF	
DIVERSION DIKE WITH CHECK DAM	DD CD	
SEDIMENT TRAP	ST	
DRAINAGE AREA		ST1 2.00 AC — RECEIVING FACILITY DRAINAGE AREA
CONSTRUCTION ENTRANCE	CE	
TREE PROTECTION	TP	— TP —
TEMPORARY SLOPE DRAIN	TSD	
OUTLET PROTECTION	OP	
DRAINAGE DIVIDE		
LIMITS OF CLEARING		
VDOT STD. EC-3 SOIL STABILIZATION MATTING	EC-3	

(TSD) NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY SLOPE DRAINS AND DIVERSION DIKES TO TOE OF SLOPE AT DIRECTION OF ERP INSPECTOR.
2. SLOPE DRAINS ARE TO BE ADDED AT THE TERMINATION OF ALL DIVERSIONS AT ALL SEDIMENT TRAPS AND BASINS.

(TSD) (OP) ALL TEMPORARY SLOPE DRAINS SHALL BE REINFORCED WITH CULVERT INLET PROTECTION AND RIPRAP OUTLET PROTECTION. OUTLET PROTECTION IS TO BE SIZED ACCORDING TO TEMPORARY SLOPE DRAIN SIZE.

TSD	OP
12"	L=4', W=3'
18"	L=8', W=5'
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(TSD) TABLE 3.14-A

MAXIMUM DRAINAGE AREA (ACRES)	PIPE DIAMETER (INCHES)
0.5	12
1.5	18
2.5	21
3.5	24
5.0	30

(DC) CONTRACTOR SHALL PROVIDE DUST CONTROL FOR ALL CLEARED AREAS WITHIN PROJECT.

(DD) NOTE: CONTRACTOR SHALL FILL AND STABILIZE FROM TOE OF SLOPE TO LIMITS OF DIVERSION DIKE BEFORE THE ELIMINATION OF UPSTREAM TRAPS. ADDITIONALLY, IN AREAS WHERE SEDIMENT TRAPS INTERFERE WITH GRADING OPERATIONS, THE CONTRACTOR MAY AT THE APPROVAL OF THE JCC ENGINEERING AND RESOURCE PROTECTION INSPECTOR, RELOCATE A TRAP. TRAPS SHALL REMAIN IN PLACE UNTIL SUCH TIME AS PERMANENT DRAINAGE PATTERNS HAVE BEEN ESTABLISHED.

(DD) (CD) CHECK DAMS SHALL BE PLACED ALONG ALL DIVERSION DIKES. SPACING TO BE DETERMINED IN THE FIELD BY CONTRACTOR AND JCC STORMWATER INSPECTOR.

SEQUENCE OF CONSTRUCTION

PHASE II:

1. PRIOR TO COMMENCING ON THE FINAL PHASE, CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION FROM THE JAMES CITY COUNTY ENVIRONMENTAL AND RESOURCE PROTECTION INSPECTOR.
2. ESTABLISH FINAL DRAINAGE PATTERNS, DIRECTING RUNOFF TOWARD SEDIMENT TRAP 1 OR TO THE SEDIMENT BASIN (BY MEANS OF SWALES OR DIVERSIONS).
3. AT NO POINT DURING CONSTRUCTION SHALL ANY EROSION AND SEDIMENT CONTROL MEASURE BE REMOVED WITHOUT AUTHORIZATION TO DO SO BY JAMES CITY COUNTY ENGINEERING AND RESOURCE PROTECTION DIVISION.
4. SEED AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREAS. SEE EROSION AND SEDIMENT CONTROL DETAILS SHEET FOR SEED SPECIFICATIONS.
5. BASINS, TRAPS, AND WETLANDS SHOULD BE MONITORED THROUGHOUT CONSTRUCTION FOR ANY EVIDENCE OF SILTATION. IF WARRANTED, BMPS SHALL BE DRAINED AND SEDIMENT IMPACTS OF WETLANDS AREAS SHALL BE CORRECTED IMMEDIATELY AT THE DIRECTION OF TIMMONS GROUP, JAMES CITY COUNTY ENGINEERING AND RESOURCE PROTECTION DIVISION, USACE, DEQ, AND DCR.
6. AFTER THE COMPLETION OF CONSTRUCTION AND WITH THE WRITTEN APPROVAL OF THE JAMES CITY COUNTY ENVIRONMENTAL AND RESOURCE PROTECTION INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES.

STOCKPILE MAINTENANCE PLAN

A. THE DATE ON WHICH THE OPERATION WILL COMMENCE, THE DATE ON WHICH THE OPERATION WILL BE COMPLETED, THE DATE THAT ALL REQUIRED STABILIZATION MEASURES ARE TO BE COMPLETED, AND A STATEMENT AS TO THE ULTIMATE DISPOSITION OF THE STOCKPILE AND THE LENGTH OF TIME THAT THE STOCKPILE WILL REMAIN ON THE SITE.
   - IMMEDIATELY FOLLOWING THE PLAN APPROVAL UNTIL THE PROJECT IS COMPLETE.

B. A STATEMENT LISTING THE PUBLIC STREETS AND HIGHWAYS TO BE USED AS ACCESS TO THE SITE AND HAUL ROUTES.
   - SIX MOUNT ZION ROAD

C. THE HOURS OF OPERATION EACH DAY AND THE DAYS OF OPERATION DURING THE WEEK.
   - DAYLIGHT (7AM - 8PM; DEPENDING ON TIME OF YEAR), MONDAY - SATURDAY

D. A GENERAL DESCRIPTION OF THE TYPE AND QUANTITY OF EQUIPMENT TO BE USED IN CONNECTION WITH THE USE.
   - DUMP TRUCKS/ BACKHOES/ EXCAVATORS

E. OPERATING PRACTICES TO BE USED TO MINIMIZE NOISE, DUST, AIR CONTAMINANTS, AND VIBRATION INCLUDING INFORMATION ON THE TREATMENT OF ACCESS ROADS TO ELIMINATE DUST AND DEPOSIT OF MUD ON PUBLIC ROADS.
   - EAR PLUGS, DUST CONTROL MEASURES TO BE USED

F. METHODS FOR ENSURING THAT OIL, GREASE, OR OTHER CONTAMINATING MATERIALS FROM EQUIPMENT MAINTENANCE ARE NOT DEPOSITED ON THE GROUND OR WITHIN THE CONFINES OF ANY DRAINAGE WAYS.
   - MAINTENANCE OF EQUIPMENT TO OCCUR OFFSITE OR IN CONTROLLED AREAS OF THE SITE.

COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
Lic. No. 048273
10/16/2019
PROFESSIONAL ENGINEER

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DESIGNED BY E. BROOKER
CHECKED BY J. ZASZEWSKI
SCALE 1"=50'

TIMMONS GROUP

STONEHOUSE - AMENITY - E&S CONTROL PLAN

JAMES CITY COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE II

JOB NO. 34549.030
SHEET NO. C-1.1

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EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THIS SITE IS LOCATED WITHIN PARCEL C OF THE STONEHOUSE RESIDENTIAL DEVELOPMENT. THE AREA IS LOCATED AT THE END OF THE SIX MOUNT ZION ROAD IMPROVEMENTS AND IS PROPOSED AS A POTENTIAL STOCKPILE AREA. THE PHASE 1 WORK WILL ENCOMPASS THE EXISTING THREE DRAINAGE AREAS AND PROVIDE TEMPORARY SEDIMENT TRAPS AND BASIN FOR THE AREA. THE PHASE 2 WORK WILL CONSIST OF STOCKPILING SOIL WITHIN THE VALLEYS OF THE SITE WHILE MAINTAINING TWO OF THE THREE EXISTING DRAINAGE AREAS. THE THIRD DRAINAGE AREA, NORTHEASTERN MOST AREA, WILL BE FILLED IN AND REDIRECTED TO DRAINAGE AREA TWO WITH THE SEDIMENT BASIN. ONCE THE SITE HAS BEEN STABILIZED, SEDIMENT TRAP 1 AND THE SEDIMENT BASIN WILL STAY IN PLACE UNTIL FUTURE DEVELOPMENT.

EXISTING SITE CONDITIONS

THE SITE CURRENTLY CONSISTS OF UNDEVELOPED FORESTED LAND WITH SLOPES RANGING FROM 0 TO 50 PERCENT. SITE ELEVATIONS RANGE APPROXIMATELY BETWEEN ELEVATION 47 AND 107 (NAD83). THE SITE IS IN FLOOD ZONE "X" AS INDICATED ON THE FEMA FLOOD INSURANCE RATE MAP (FIRM), PANEL NUMBER 5095C0041D, DATED DECEMBER 16, 2015.

PARCEL C IS LOCATED IN THE WARE CREEK WATERSHED (HUC12-020801070101) AND IS ADJACENT TO RESOURCE PROTECTION AREAS (RPA). PROTECTED AREAS INCLUDE BIRD SWAMP WETLANDS DRAINING TO THE RICHARDSON MILLPOND. DOWNSTREAM OF THE RICHARDSON MILLPOND DAM IS WARE CREEK WHICH HAS BEEN LISTED AS IMPAIRED BY AQUATIC PLANTS (MACROPHYTES), DISSOLVED OXYGEN, AND FECAL COLIFORM. TMDLS HAVE BEEN COMPLETED FOR ALL THREE IMPAIRMENTS, REPORTED IN 2014 ON THE EPA WATERBODY QUALITY ASSESSMENT REPORT.

ADJACENT AREAS AND OFFSITE AREAS

SIX MOUNT ZION ROAD (VA. RTE. 600) IS LOCATED TO THE EAST. TO THE NORTH, SOUTH, AND WEST IS UNDEVELOPED AREAS OF TRACT 3 WHICH ARE HEAVILY WOODED/VEGETATED. DRAINAGE GENERALLY FLOWS WEST AND NORTHWEST INTO THE WETLAND AREAS DOWNSTREAM OF THE PROPOSED STOCKPILE AREA.

SOILS

ACCORDING TO THE "WEB SOIL SURVEY" PROVIDED BY UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) (HTTP://WEBSOILSURVEY.NRCS.USDA.GOV/APP/HOMEPAGE.HTM), THE EXISTING SITE HAS THE FOLLOWING SOIL CHARACTERISTICS:

MAP UNIT SYMBOL	*MAP UNIT NAME*
11C	CRAVEN-UCHEE COMPLEX, 6 TO 10 PERCENT SLOPES
15F	EMPORIA COMPLEX, 25 TO 50 PERCENT SLOPES
18B	KEMPSVILLE FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES

SEE APPENDIX A OF THE EROSION AND SEDIMENT CONTROL NARRATIVE FOR ADDITIONAL INFORMATION.

CRITICAL AREAS

CHESAPEAKE BAY PRESERVATION AREA (CBPA) RESOURCE PROTECTION AREAS (RPA) AND OTHER ENVIRONMENTALLY SENSITIVE AREAS WILL BE AVOIDED TO THE GREATEST EXTENT POSSIBLE. A SMALL PORTION OF THE RPA WILL BE DISTURBED TO INSTALL LEVEL SPREADERS AS OUTFALLS FROM THE STORMWATER MANAGEMENT FACILITIES AND TO INSTALL SANITARY SEWER PIPE BRIDGES TO CARRY SEWER FROM PARCELS A AND B TO THE PROPOSED STONEHOUSE PUMP STATION (SP-0004-2017). AREAS EXHIBITING POTENTIALLY EROSIVE SOILS WILL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE.

PERMITTING

A LAND DISTURBANCE AND CONSTRUCTION GENERAL PERMIT WILL BE OBTAINED FOR THIS SITE PRIOR TO ANY LAND DISTURBING ACTIVITIES.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL (VESC) HANDBOOK. THE MINIMUM STANDARDS OF THE VESC REGULATIONS SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

STRUCTURAL PRACTICES

1. CONSTRUCTION ENTRANCE: (STD. & SPEC. 3.02)

   TEMPORARY STONE CONSTRUCTION ENTRANCES WILL BE INSTALLED AT THE ENTRANCES TO THE SITE WHERE THE ACCESS AREA INTERSECTS WITH EXISTING PAVED ROADWAYS TO AVOID TRANSPORTING MUD AND SEDIMENT ONTO EXISTING PAVED ROADS.

2. SILT FENCE: (STD. & SPEC. 3.05)

   TEMPORARY SILT FENCE SEDIMENT BARRIERS WILL BE INSTALLED AROUND THE PERIMETER OF THE SITE'S DISTURBED AREAS TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE.

3. TEMPORARY DIVERSION DIKE: (STD. & SPEC. 3.09)

   TEMPORARY DIVERSION DIKES WILL BE USED TO DIVERT STORM RUNOFF FROM UPSLOPE AREAS INTO TEMPORARY SEDIMENT BASINS AND TRAPS.

4. TEMPORARY SEDIMENT TRAP: (STD. & SPEC. 3.13)

   TEMPORARY SEDIMENT TRAPS WILL BE CONSTRUCTED BEFORE SITE CLEARING AND WILL BE REMOVED AS STORM SEWER INFRASTRUCTURE IS PLACED ON THE SITE. SEDIMENT-LADEN RUNOFF WILL BE DETAINED IN THE TEMPORARY SEDIMENT TRAP TO SETTLE PRIOR TO DISCHARGING OFF-SITE.

5. TEMPORARY SEDIMENT BASIN: (STD. & SPEC. 3.14)

   TWO TEMPORARY SEDIMENT BASINS WILL BE CONSTRUCTED ON SITE BEFORE SITE CLEARING, ONE TO BE CONVERTED INTO A STORMWATER MANAGEMENT FACILITY AT A MAJOR OUTFALL OF THE SITE AND THE OTHER TO BE REMOVED AS STORM SEWER INFRASTRUCTURE IS PLACED ON THE SITE. SEDIMENT-LADEN RUNOFF WILL BE DETAINED IN THE TEMPORARY SEDIMENT BASIN TO SETTLE PRIOR TO DISCHARGING OFF-SITE.

6. OUTLET PROTECTION: (STD. & SPEC. 3.18)

   OUTLET PROTECTION WILL BE INSTALLED AT ALL PIPE OUTLETS AND CONCENTRATED FLOW OUTLETS TO PREVENT SCOUR AND TO MINIMIZE DOWNSTREAM EROSION.

7. ROCK CHECK DAMS: (STD. & SPEC. 3.20)

   ROCK CHECK DAMS WILL BE USED ALONG CONVEYANCE CHANNELS TO REDUCE THE VELOCITY OF CONCENTRATED FLOWS AND TO AID IN TRAPPING SEDIMENT PRIOR TO DISCHARGING OFFSITE.

VEGETATIVE PRACTICES

8. SURFACE ROUGHENING: (STD. & SPEC. 3.29)

   SURFACE ROUGHENING SHALL BE PERFORMED TO ALL SLOPES 4:1 OR GREATER TO AID IN VEGETATIVE COVER ESTABLISHMENT.

9. TOPSOILING: (STD. & SPEC. 3.30)

   TOPSOILING WILL BE PERFORMED TO PROVIDE SUITABLE GROWTH FOR FINAL SITE STABILIZATION.

10. TEMPORARY SEEDING: (STD. & SPEC. 3.31)

    ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING ACTIVITIES. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.

11. PERMANENT SEEDING: (STD. & SPEC. 3.32)

    PERMANENT SEEDING WILL BE ESTABLISHED ON ALL NON-PAVED DISTURBED AREAS.

12. MULCHING: (STD. & SPEC. 3.35)

    MULCH WILL BE APPLIED TO ALL SEEDED AREAS TO PREVENT EROSION AND FOSTER THE GROWTH OF VEGETATION.

13. SOIL STABILIZATION BLANKETS AND MATTING: (STD. & SPEC. 3.36)

    VDOT STD. EC-2 AND EC-3 SOIL STABILIZATION MATTING WILL BE INSTALLED OVER ALL SLOPES 4:1 OR GREATER, UNLESS OTHERWISE NOTED.

14. TREE PRESERVATION AND PROTECTION: (STD. & SPEC. 3.38)

    ALL TREES THAT ARE TO BE SAVED WILL BE PROTECTED WITH TREE PROTECTION DURING CONSTRUCTION.

MAINTENANCE

IN GENERAL, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHOULD BE CLEANED AND REPAIRED PER THE FOLLOWING SCHEDULE.

1. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PAVED SURFACES AND PUBLIC RIGHTS-OF-WAY. MAINTAIN CONSTRUCTION ENTRANCES IN ACCORDANCE WITH STD. & SPEC. 3.02 OF THE VESCH.
2. SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IMMEDIATELY, AS REQUIRED. MAINTAIN SILT FENCE IN ACCORDANCE WITH STD. & SPEC. 3.05 OF THE VESCH.
3. THE INLET PROTECTION SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. MAINTAIN INLET PROTECTION IN ACCORDANCE WITH STD. & SPEC. 3.07 OF THE VESCH.
4. ROCK CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH RAINFALL. REMOVE SEDIMENT ONCE IT REACHES HALF THE HEIGHT OF THE CHECK DAM. MAINTAIN ROCK CHECK DAMS IN ACCORDANCE WITH STD. & SPEC. 3.20 OF THE VESCH.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION AND BUILDUP OR CLOGGING WITH SEDIMENT. CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY.
6. ALL TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED AND VEGETATION IS ESTABLISHED. FINAL SITE STABILIZATION SHALL BE APPROVED BY THE ENGINEERING AND RESOURCE PROTECTION INSPECTOR.

STANDARD COUNTY STORMWATER POLLUTION PREVENTION PLAN NOTES

(REVISED: JULY 1, 2014)

1. ALL THE PROVISIONS OF VIRGINIA EROSION AND SEDIMENT CONTROL (E&SC) LAW AND REGULATIONS, THE VIRGINIA STORMWATER MANAGEMENT ACT AND REGULATIONS (VSMP), THE VIRGINIA BMP CLEARINGHOUSE WEBSITE, STATE EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT HANDBOOKS, AND ANY ASSOCIATED TECHNICAL BULLETINS AND GUIDANCE DOCUMENTS AS PUBLISHED BY THE STATE WATER CONTROL BOARD, THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ), AND THE LOCAL VESCP AND VSMP AUTHORITY SHALL APPLY TO THE PROJECT.

2. MINIMUM STANDARDS NO. 1 THROUGH NO. 19 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS 9VAC25-840 ET SEQ. SHALL APPLY TO THE PROJECT.

3. THE OWNER, APPLICANT, OPERATOR, OR PERMITTEE SHALL BE RESPONSIBLE TO REGISTER FOR CONSTRUCTION GENERAL PERMIT (CGP) COVERAGE, AS APPLICABLE, IN ACCORDANCE WITH THE GENERAL VPDES PERMIT FOR DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES (VAR10) CHAPTER 880; THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REGULATIONS CHAPTER 870; AND IN ACCORDANCE WITH CURRENT REQUIREMENTS OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP), THE STATE WATER CONTROL BOARD, THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 8 OF THE COUNTY CODE AND THE LOCAL VESCP/VSMP AUTHORITY.

4. THE OWNER, APPLICANT, OPERATOR OR PERMITTEE SHALL PROVIDE THE NAME OF AN INDIVIDUAL HOLDING A VALID RESPONSIBLE LAND DISTURBER (RLD) CERTIFICATE OF COMPETENCE WHO WILL BE RESPONSIBLE FOR THE LAND DISTURBING ACTIVITY PRIOR TO ENGAGING IN THE LAND DISTURBING ACTIVITY. THIS WILL BE NECESSARY PRIOR TO ISSUANCE OF A LOCAL LAND DISTURBING AND/OR STORMWATER CONSTRUCTION PERMIT FOR THE PROJECT. THE RLD IS REQUIRED TO ATTEND THE PRECONSTRUCTION CONFERENCE FOR THE PROJECT.

5. THE CONTRACTOR IS RESPONSIBLE TO CONTACT MISS UTILITY (DIAL 811 IN VA OR 1-800-552-7001) PRIOR TO ANY UTILITY OR SITE WORK EXCAVATIONS.

6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLANNED, DESIGNED, IMPLEMENTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). THE CONTRACTOR SHALL MAINTAIN, INSPECT, AND REPAIR ALL EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED THROUGHOUT THE LIFE OF THE PROJECT TO ENSURE CONTINUED ACCEPTABLE PERFORMANCE.

7. A PRECONSTRUCTION CONFERENCE (MEETING) SHALL BE HELD ON SITE AND INCLUDE REPRESENTATIVES FROM THE LOCAL VESCP/VSMP AUTHORITY, THE OWNER/APPLICANT/OPERATOR/PERMITTEE, THE RESPONSIBLE LAND-DISTURBER (RLD), AND THE CONTRACTOR, ENGINEER, AND OTHER RESPONSIBLE AGENCIES, AS APPLICABLE, PRIOR TO AUTHORIZATION AND ISSUANCE OF A LOCAL LAND DISTURBING OR STORMWATER CONSTRUCTION PERMIT. THE OWNER, APPLICANT, OPERATOR OR PERMITTEE IS REQUIRED TO COORDINATE SCHEDULING OF THE PRECONSTRUCTION CONFERENCE BETWEEN ALL APPLICABLE PARTIES. THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION AND A REVISED POLLUTION PREVENTION PLAN (P2 PLAN OR PPP), IF APPLICABLE, TO THE LOCAL VESCP/VSMP AUTHORITY FOR REVIEW AND APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING.

8. A POLLUTION PREVENTION PLAN (P2 PLAN OR PPP), IF REQUIRED, SHALL BE DEVELOPED, IMPLEMENTED AND UPDATED AS NECESSARY AND MUST DETAIL THE DESIGN, INSTALLATION, IMPLEMENTATION, AND MAINTENANCE OF EFFECTIVE POLLUTION PREVENTION MEASURES TO: MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS; MINIMIZE THE EXPOSURE OF ALL MATERIALS ON THE SITE (SUCH AS BUILDING MATERIALS AND PRODUCTS, CONSTRUCTION WASTE, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, ETC.) TO PRECIPITATION AND STORMWATER; MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS; IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES; AND INCLUDE EFFECTIVE BEST MANAGEMENT PRACTICES TO PROHIBIT THE DISCHARGE OF WASTEWATER FROM: CONCRETE WASHOUT AREAS, DISCHARGE OF WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS; DISCHARGE OF FUELS, OILS, OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE ACTIVITIES; AND THE DISCHARGE OF SOAPS AND SOLVENTS USED FOR VEHICLE AND EQUIPMENT WASHING. THIS PLAN SHALL BE AVAILABLE ONSITE FOR REVIEW AT REASONABLE TIMES BY THE LOCAL VESCP/VSMP AUTHORITY WHEN REQUESTED.

9. THE OWNER, APPLICANT, OPERATOR, OR PERMITTEE IS RESPONSIBLE FOR ALL OPERATOR SELF-INSPECTIONS AS REQUIRED IN THE POLLUTION PREVENTION PLAN (P2 PLAN OR PPP) OR AS REQUIRED AS PART OF A DEVELOPED STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THESE INSPECTIONS SHALL BE MADE AVAILABLE, UPON REQUEST, BY THE LOCAL VESCP/VSMP AUTHORITY.

10. ALL PERIMETER EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LANDDISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE ACTIVITY TAKES PLACE.

11. ADDITIONAL SAFETY FENCE OR DUST CONTROL MEASURES, IN ACCORDANCE WITH THE PROVISIONS OF MINIMUM STANDARDS & SPECS. 3.01 AND 3.39 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), MAY BE REQUIRED TO BE IMPLEMENTED ON THE SITE IN ADDITION TO THAT SHOWN ON THE APPROVED PLAN AND SPECIFICATIONS IN ORDER TO ENSURE ADEQUATE PROTECTION OF THE HEALTH, SAFETY AND WELFARE OF THE PUBLIC OR IF SITE CONDITIONS CHANGE, BECOME APPARENT OR ALTER SIGNIFICANTLY FOLLOWING THE DATE OF PLAN APPROVAL.

12. EROSION AND SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT OR FOLLOWING TIME OF CONSTRUCTION TO ENSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED, TO ENSURE ADEQUATE PROTECTION OF THE HEALTH, SAFETY, AND WELFARE OF THE PUBLIC, OR IF SITE CONDITIONS CHANGE, BECOME APPARENT OR ALTER SIGNIFICANTLY FOLLOWING THE DATE OF PLAN APPROVAL. LOCAL VESCP/VSMP AUTHORITY APPROVAL SHALL BE REQUIRED FOR ANY DEVIATION OF EROSION AND SEDIMENT CONTROL MEASURES FROM THE APPROVED PLAN.

13. OFF-SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE LOCAL VESCP/VSMP AUTHORITY PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.

14. TEMPORARY SOIL STOCKPILES SHALL COMPLY WITH THE PROVISIONS OF SECTION 24-46 OF THE COUNTY CODE.

15. CULVERT AND STORM DRAIN INLET PROTECTIONS, IN ACCORDANCE WITH THE PROVISIONS OF MINIMUM STANDARDS & SPECS. 3.07 AND 3.08 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), MAY BE REMOVED AT THE DISCRETION OF THE ASSIGNED LOCAL VESCP/VSMP AUTHORITY COMPLIANCE INSPECTOR, SHOULD PLACEMENT OF THE MEASURE RESULT IN EXCESSIVE ROAD FLOODING, TRAFFIC OR SAFETY HAZARD, OR RESULT IN THE REDIRECTION OF DRAINAGE ONTO OR TOWARD EXISTING LOTS, HOMES, DRIVEWAYS, GARAGES OR OTHER STRUCTURES. DECISIONS SHALL BE MADE BY THE VESCP/VSMP AUTHORITY ON A CASE-BY-CASE BASIS BASED ON FIELD SITUATIONS ENCOUNTERED.

16. DRAINAGE FACILITIES SHALL BE INSTALLED AND FUNCTIONAL WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT.

17. NO MORE THAN 300 FEET OF TRENCH MAY BE OPEN AT ONE TIME FOR UNDERGROUND UTILITY LINES, INCLUDING STORM WATER CONVEYANCES. ALL OTHER PROVISIONS OF MINIMUM STANDARD NO. 16 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS APPLY.

18. PERMANENT OR TEMPORARY STABILIZATION OF DISTURBED SOIL AREAS SHALL COMPLY WITH MINIMUM STANDARD # 1 AND # 3 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS.

19. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION ON THE APPROVED PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED, IN ACCORDANCE WITH MINIMUM STANDARD # 1 AND # 3 FROM THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, MINIMUM STANDARDS & SPECS. 3.29 THROUGH 3.37 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), AND ANY TECHNICAL BULLETINS ISSUED BY THE STATE WATER CONTROL BOARD OR VIRGINIA DEQ, AS APPLICABLE. IRRIGATION, IF NECESSARY, SHALL COMPLY WITH ALL APPLICABLE SEASONAL OUTDOOR WATER USE RESTRICTIONS OF THE JAMES CITY SERVICE AUTHORITY.

20. IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING IN ACCORDANCE WITH MINIMUM STANDARD & SPEC. 3.35 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.

21. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. REMOVAL SHALL NOT OCCUR WITHOUT AUTHORIZATION BY THE LOCAL VESCP/VSMP AUTHORITY. DISTURBANCES ASSOCIATED WITH THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY STABILIZED.

22. NO SEDIMENT TRAP OR SEDIMENT BASIN SHALL BE REMOVED UNTIL A) AT LEAST 75 PERCENT OF THE SINGLE-FAMILY LOTS WITHIN THE DRAINAGE AREA TO THE TRAP OR BASIN HAVE BEEN SOLD TO A THIRD PARTY FOR THE CONSTRUCTION OF HOMES (UNRELATED TO THE DEVELOPER); AND/OR, B) 60 PERCENT OF THE SINGLE-FAMILY LOTS WITHIN THE DRAINAGE AREA TO THE TRAP OR BASIN ARE COMPLETED AND STABILIZED. A BULK SALE OF THE LOTS TO ANOTHER BUILDER DOES NOT SATISFY THIS PROVISION. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL NOT BE REMOVED WITHOUT AUTHORIZATION OF THE LOCAL VESCP/VSMP AUTHORITY.

23. DESIGN AND CONSTRUCTION OF PRIVATE-TYPE STORM DRAINAGE SYSTEMS, OUTSIDE VDOT RIGHT-OF-WAY, SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT VERSION OF THE JAMES CITY COUNTY, ENGINEERING AND RESOURCE PROTECTION DIVISION, STORMWATER DRAINAGE CONVEYANCE SYSTEMS (NON-BMP RELATED), GENERAL DESIGN AND CONSTRUCTION GUIDELINES (IE. COUNTY DRAINAGE STANDARDS).

24. RECORD DRAWINGS (ASBUILTS) AND CONSTRUCTION CERTIFICATIONS ARE REQUIRED FOR ALL STORMWATER FACILITIES INCLUDING STORMWATER MANAGEMENT/BMP FACILITIES AND STORM DRAINAGE CONVEYANCE SYSTEMS. THE CERTIFICATION PROCESS SHALL INCLUDE AN INTERNAL CLOSED-CIRCUIT TELEVISION CAMERA (CCTV) POST INSTALLATION INSPECTION PERFORMED BY THE OWNER IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS DEVELOPED BY THE VSMP AUTHORITY. RECORD DRAWINGS AND CONSTRUCTION CERTIFICATIONS MUST MEET ESTABLISHED PROGRAM REQUIREMENTS OF THE COUNTY'S CHAPTER 8 EROSION AND SEDIMENT CONTROL AND VSMP ORDINANCE AND THE LOCAL VESCP/VSMP AUTHORITY.

25. ALL STORMWATER FACILITIES INCLUDING BMPS, STORM DRAINAGE PIPES, STORMWATER CONVEYANCES, INLETS, MANHOLES, OUTFALLS AND ROADSIDE AND OTHER OPEN CHANNELS SHALL BE INSPECTED BY THE LOCAL VESCP/VSMP AUTHORITY, THE OWNER, AND THE APPLICANT/OPERATOR/PERMITTEE DESIGNATED GEOTECHNICAL ENGINEER FOR THE PROJECT IN ACCORDANCE WITH ESTABLISHED COUNTY STORMWATER FACILITY INSPECTION PROGRAM REQUIREMENTS.

COMMONWEALTH OF VIRGINIA
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10/16/2019
PROFESSIONAL ENGINEER

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DATE	REVISION DESCRIPTION

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP

DATE	10/16/2019
DRAWN BY	E. BROOKER
DESIGNED BY	E. BROOKER
CHECKED BY	J. ZASZEWSKI
SCALE	NONE

STONEHOUSE - AMENITY - E&S CONTROL PLAN

JAMES CITY COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL NARRATIVE

JOB NO. 34549.030

SHEET NO. C-1.2

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Virginia Erosion and Sediment Control Plan Minimum Standards (MS) Checklist
August 30, 2013

YES	N/A	4VAC50-30-40 Minimum Standards	Describe how MS is addressed on plan
X		MS1: Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.	Permanent and temporary seeding have been shown on the Erosion and Sediment Control plan sheets. These items have also been discussed in the Erosion Control narrative and Sequence of Construction.
X		MS2: During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.	Stabilization of soil stock piles is addressed under Management Strategies of the Erosion and Sediment Control Narrative.
X		MS3: A 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.	Permanent seeding has been shown on the Final Erosion and Sediment Control plan. Permanent seeding schedules have been provided in the plan set.
X		MS4: Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.	Sediment basins and traps will be installed as the first step to land disturbing activities and is addressed in the Construction Sequence and Erosion and Sediment Control Narrative.
X		MS5: Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.	All earthen structures shall be immediately stabilizaed after installation and are addressed in the Construction Sequence and Erosion and Sediment Control Narrative.
X		MS6: Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.	Temporary basins and traps have been designed for this project and are consistent with the requirements of MS6. All calculations have been submitted for review.
X		MS7: Cut and fill slopes shall 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.	Cut and fill slopes have been designed to be 3:1 or flatter to minimize the potential for erosion. Notes have been added to the Management Strategies section of the Erosion Control Narrative.
	X	MS8: Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.	Concentrated runoff down cut or fill slopes are not anticipated with this project.
	X	MS9: Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.	Water seepage from a slope face is not anticipated.
X		MS10: All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.	Inlet protection has been shown at all storm sewer inlets on both the Initial and Final Erosion and Sediment Control plans.
X		MS11: Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.	Outlet protection has been shown at all stormwater conveyance pipes. This is addressed in the plans and the Erosion and Sediment Control Narrative.
	X	MS12: When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.	Work in live watercourses are not anticipated for this project.
	X	MS13: When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.	No work crossings in live watercourses will occur.
	X	MS14: All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall be met.	No work crossings in live watercourses will occur.
X		MS15: The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.	Outlet protection, permanent seeding, and soil stabilization matting will be installed at pipe outfall pipe into the pond.
X		MS16: Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria: a. No more than 500 linear feet of trench may be opened at one time. b. 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 in a manner that 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. e. Restabilization shall be accomplished in accordance with this chapter. f. Applicable safety chapters shall be complied with.	Notes are included in the plan sets indicating the MS-16 requirements.
X		MS17: Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. 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 provision shall apply to individual development lots as well as to larger land disturbing activities.	Construction Entrances in accordance with the Virginia Erosion and Sediment Control Spec. 3.02 have been indicated on the plans.
X		MS18: 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 VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.	This is addressed in the Erosion and Sediment Control Narrative.
X		MS19: Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels: a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed. b. Adequacy of all channels and pipes shall be verified in the following manner: 1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or 2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks. (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system. c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall: 1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or 2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; 3) Develop a site design that will not cause the pre-development peak runoff rate from a twoyear storm to increase when runoff outfalls into a natural channel or will not cause the predevelopment peak runoff rate from a ten-year storm to increase when runoff outfalls into a manmade channel; or 4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion. d. The applicant shall provide evidence of permission to make the improvements. e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project. f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance. g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel. h. All on-site channels must be verified to be adequate. i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility. j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations. k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state. l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to i. detain the water quality volume and to release it over 48 hours; ii. detain and release over a 24-hour period the expected rainfall resulting from the one year, 24- hour storm; and iii. reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 10.1-562 or 10.1-570 of the Act. m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 10.1-561 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 10.1-603.2 et seq. of the Code of Virginia) and attendant regulations, unless such land disturbing activities are in accordance with 4VAC50-60-48 of the Virginia Stormwater Management Program (VSMP) Permit Regulations. n. Compliance with the water quantity minimum standards set out in 4VAC50-60-66 of the Virginia Stormwater Management Program (VSMP) Permit Regulations shall be deemed to satisfy the requirements of Minimum Standard 19.	This development discharges onto existing slopes into an RPA buffer. The basin has been designed to store the 25-year peak elevation and discharge onto the undisturbed existing surface in the natural flow path. The traps will be discharging onto the undisturbed existing surface in the natural flow path.

EROSION AND SEDIMENT CONTROL PROJECT NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CURRENT VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), AND THE LAWS AND REGULATIONS FOR JAMES CITY COUNTY, VIRGINIA.
2. PRIOR TO OBTAINING A LAND DISTURBING PERMIT, THE CONTRACTOR SHALL OBTAIN A VSMP PERMIT FROM THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) FOR THE DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES. THAT PERMIT WILL REQUIRE DAILY LOGS OF EARTHWORK, RECORDATION OF STORM EVENTS, LOGS OF MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER ACTIONS DURING CONSTRUCTION, WHEN REQUIRED.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 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 DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT ARE TO BE LEFT DORMANT FOR MORE THAN SIX MONTHS.
4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS SLOPES, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
6. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AND INSTALLED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
7. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE CITY ENGINEER OR HIS DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION.
8. CUT AND FILL SLOPES SHALL 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.
9. CONSTRUCTION RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.
10. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
11. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
12. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OEPRATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
13. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS.
14. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
15. UNDERGROUND UTILITY LINES, SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    A. ALL EXCAVATED MATERIALS FOR UTILITY LINE INSTALLATIONS SHALL BE LIMITED TO THE AMOUNT THAT CAN BE EXCAVATED, INSTALLED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
    B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES WHENEVER POSSIBLE.
    C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

8. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD 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 DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
9. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL MEASURES AT LEAST ONCE IN EVERY TWO WEEK PERIOD AND AFTER EACH RUNOFF-PRODUCING STORM EVENT. DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
10. ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED BY THE CITY ENGINEER OR HIS DESIGNATED AGENT IF DEEMED NECESSARY.
11. ALL EROSION CONTROL DEVICES SHALL BE IN PLACE AND FUNCTIONAL AT ALL TIMES AND IF REMOVED FOR CONSTRUCTION PROGRESS, SHALL BE REPLACED BY THE CLOSE OF EACH WORKDAY.
12. 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 COUNTY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL AND STABILIZATION OF FILL MATERIAL IN ACCORDANCE WITH THE CURRENT VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS. AN EROSION CONTROL PLAN MUST BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY LAND DISTURBING ACTIVITIES AT ANY OFF-SITE DISPOSAL AREAS.
14. THE CONTRACTOR SHALL REGULARLY MOW ALL GRASS ON THE ENTIRE PROPERTY AND ALONG THE ENTRANCE ROAD FROM START OF CONSTRUCTION UNTIL FINAL ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL PERFORM ALL MEASURES NECESSARY TO CONTROL DUST WITHIN THE PROPERTY THROUGHOUT THE CONSTRUCTION PERIOD.
15. THE CONTRACTOR SHALL MONITOR ALL DOWNSTREAM AREAS FOR SIGNS OF EROSION AND SEDIMENTATION, REPAIR, SEDIMENT REMOVAL, AND INSTALLATION OF ADDITIONAL MEASURES IN AFFECTED AREAS SHALL BE PERFORMED AS REQUIRED.
16. WORK ON STORMWATER CONVEYANCE SYSTEM OUTFALLS SHALL BE COORDINATED WITH WEATHER PREDICTIONS TO PREVENT STORMWATER FROM FLOWING THROUGH OPEN TRENCHES LEADING INTO STORMWATER BASINS OR ENVIRONMENTALLY SENSITIVE AREAS.
17. AREAS THAT ARE DISTURBED DURING THE REMOVAL OF THE CONTROLS SHALL BE STABILIED IMMEDIATELY.
18. THE CONTRACTOR SHALL IMMEDIATELY REPLACE CHANNEL STABILIZATION BLANKETS AND EROSION CONTROL MATTINGS IF SITEWORK DAMAGE THEIR FUNCTIONAL INTENT.
19. THE OWNER/ENGINEER RESERVES THE RIGHT AND PRIVELGE TO ENHANCE REPAIR, REPLACE OR DUPLICATE THE EROSION AND SEDIMENT CONTROL MEASURES AS OUTLINED ON THESE PLANS OR AS SPECIFIED IN THE LATEST EDITIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND TO REINFORCE THOSE MEASURES AS SPECIFIED ON THESE PLANS, DUE TO UNSEASONABLE WEATHER CONDITIONS OR DUE TO CHANGE IN FIELD CONDITIONS AS WARRANTED BY THE OWNER/ENGINEER.

GENERAL EROSION AND SEDIMENT CONTROL NOTES
(VA ESCH TABLE 6-1)

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

TEMPORARY SEEDING SCHEDULE

APPLICATION	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale creale)	50-100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60-100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)
FERTILIZER & LIME		
Apply 10-10-10 Fertilizer at a rate of 450 lbs/acre (or 10 lbs. / 1,000 sq. ft.)		
Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)		
NOTE:		
1. A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site. 2. Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means. 3. When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4 2003 Nutrient Management for Development Sites		

PERMANENT SEEDING SCHEDULE

LAND USE	SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue [1] Perennial Ryegrass Kentucky Bluegree [1]	95-100% 0-5% 0-5% TOTAL: 175-200 lbs.
High Maintenance Lawn	Tall Fescue [1]	TOTAL: 200-250 lbs.
General Slope (3:1 or less)	Tall Fescue [1] Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop [2]	128 lb./ac. 2 lb./ac. 20 lb./ac. 150 lbs. TOTAL
Low Maintenance Slope (Steeper than 3:1)	Tall Fescue [1] Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop [2] Crownvetch [3]	108 lbs. 2 lbs. 20 lbs. 20 lbs. 150 lbs. TOTAL

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A Current turfgrass variety list is available at the local County Extention office or through VCIA at 804-746-4884 or at http://sudan.cses.vt.edu/html/Turf/turf/publications/publications2.html

2. - Use seasonal nurse crop in accordance with the seeding dates as stated below:

February 16th - April .... Annual Rye
May 1st. - August 15th .... Foxtail Millet
August 16th - October. .... Annual Rye
November - February 15th .... Winter Rye

3 - Substitute Sericea lespedez for Crownvetch east of Farmville, VA (May through September use hulled seed, all other periods, use unhulled Sericea.) If Flatpea is used, increase rate to 30 lb/acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase 30 - 40.

FERTILIZER & LIME

NOTE:

Apply 10-20-10 Fertilizer at a rate of 500 lbs/acre (or 12 lbs. / 1,000 sq. ft.)

Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

1. A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
2. Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means.
3. When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4 2003 Nutrient Management for Development Sites

COMMONWEALTH OF VIRGINIA
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10/16/2019
PROFESSIONAL ENGINEER

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REVISION DESCRIPTION	DATE

DATE: 10/16/2019
DRAWN BY: E. BROOKER
DESIGNED BY: E. BROOKER
CHECKED BY: J. ZASZEWSKI
SCALE: NONE

TIMMONS GROUP

STONEHOUSE - AMENITY - E&S CONTROL PLAN
JAMES CITY COUNTY, VIRGINIA
EROSION AND SEDIMENT CONTROL NOTES

JOB NO. 34549.030
SHEET NO. C-1.3

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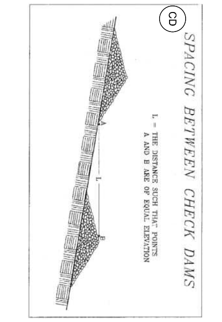
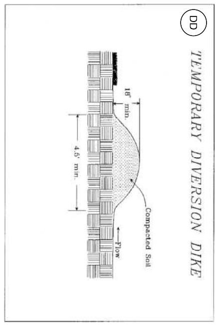
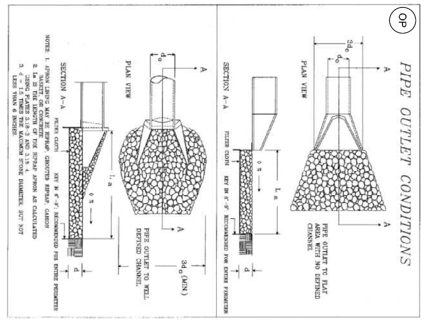
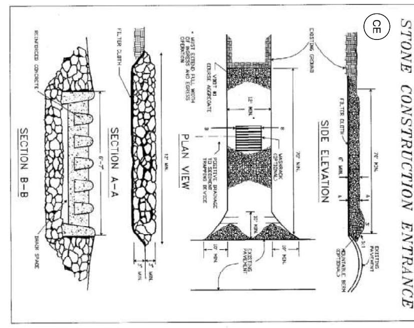
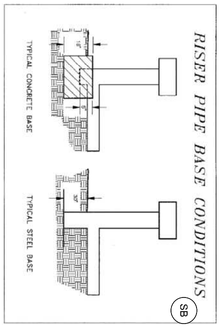
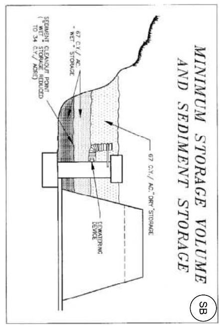


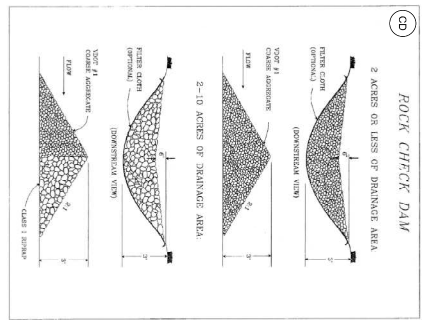


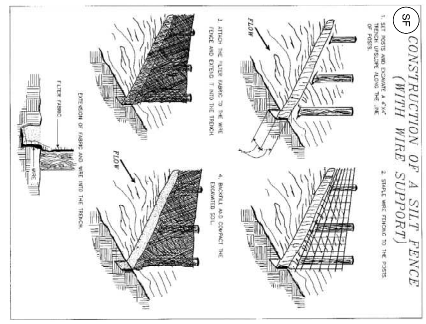


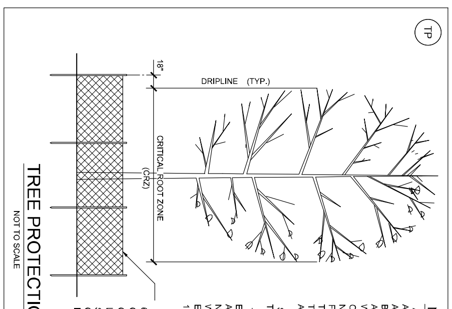


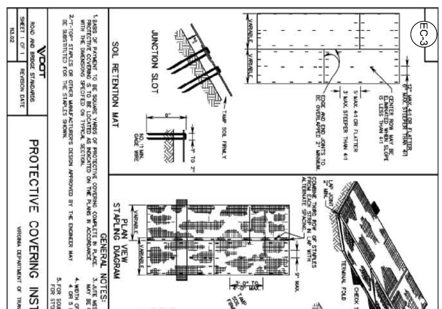


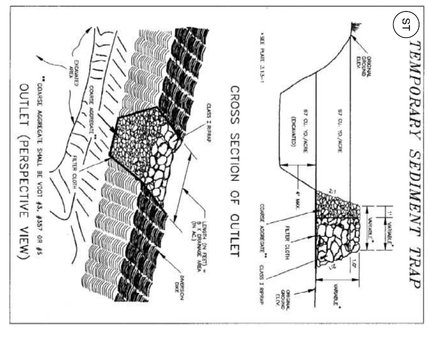


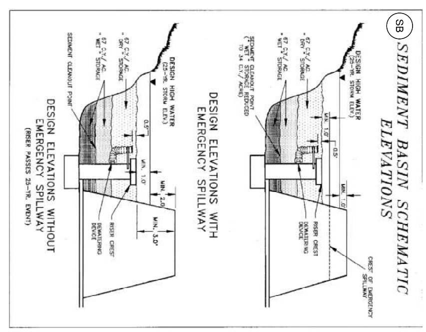


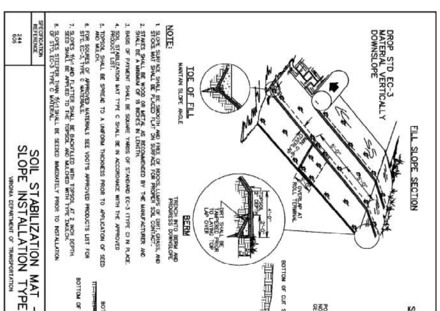


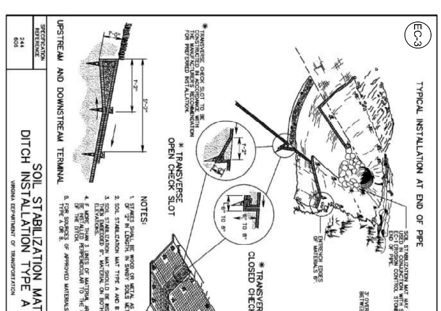

TP
TREE PROTECTION
NOT TO SCALE
DRIPLINE (TYP.)
CRITICAL ROOT ZONE (CRZ)
NOTE:
ALL TREES IN A TREE PROTECTION AREA OR ISOLATED SPECIMENS THAT ARE NOT SPECIFICALLY SHOWN TO BE REMOVED ARE TO BE SAVED.
SEE CIVIL DWGS. FOR LOCATION OF TREE PROTECTION FENCING.
TREE PROTECTION FENCE:
INSTALL TENSION WIRE AT TOP ONLY.

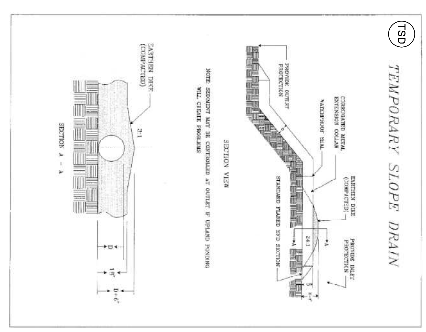












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COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
Lic. No. 048273
10/16/2019
PROFESSIONAL ENGINEER

DATE	REVISION DESCRIPTION

STONEHOUSE - AMENITY - E&S CONTROL PLAN

JAMES CITY COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL DETAILS

DATE	10/16/2019
DRAWN BY	E. BROOKER
DESIGNED BY	E. BROOKER
CHECKED BY	J. ZASZEWSKI
SCALE	NONE
JOB NO.	34549.030
SHEET NO.	C-1.4

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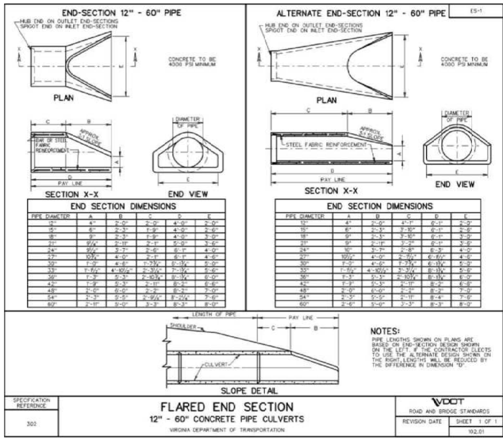
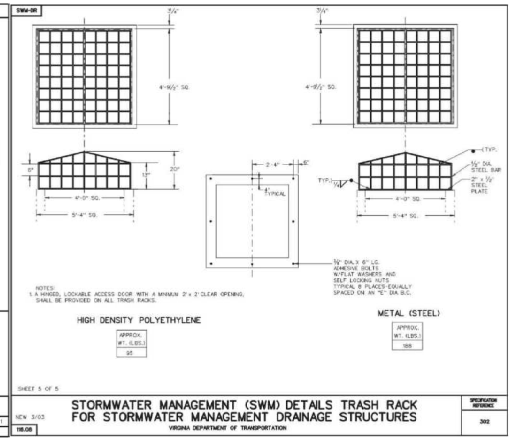
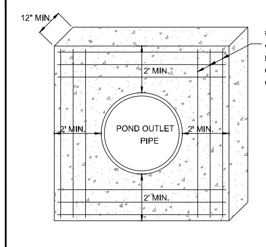
TEMPORARY SEDIMENT BASIN SCHEDULE

BASIN NUMBER	DRAINAGE AREA (ACRES)	2-YEAR PEAK FLOW (CFS)	25-YEAR PEAK FLOW (CFS)	MIN. REQ. BASIN DRY/WET VOLUME (CY)	PROVIDED BASIN WET VOLUME (CY)	PROVIDED BASIN DRY VOLUME (CY)	CLEANOUT ELEVATION	DEWATERING TIME (HOURS)	DEWATERING ORIFICE INVERT ELEV.	DEWATERING ORIFICE DIAMETER (INCHES)	FLEXIBLE TUBING DIAMETER (INCHES)	TOP OF PRINCIPAL SPILLWAY RISER	TOP OF EMERGENCY SPILLWAY	TOP OF EMBANKMENT	BOTTOM OF BASIN	CONVERT TO PERMANENT BMP?
1	3.13	10.64	18.63	627	356	543	48	6.6	50	7	9	50.75	51.75	53	46.00	NO

	TOP OF BERM	BOTTOM ELEV.	DEPTH	OUTLET HEIGHT	LENGTH	TOP WIDTH	DRAIN AREA	WET VOLUME	TOTAL VOLUME
SEDIMENT TRAP #	(1)	(2)	(3)	(4)	(FT)	(FT)	(ACRES)	(CU. FT.)	(CU. FT.)
1	60	54	6.0	56.81	20	5.0	2.71	4,908	13,680
2	57	53	4.0	55.27	20	5.0	2.94	5,318	10,643







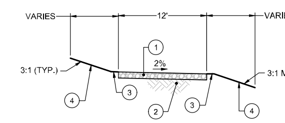
#4 REBAR @ 12" OC IN FRONT & REAR FACE OF COLLAR. REBAR TO HAVE 3" MIN. CONC COVER FROM EDGE OR FACE OF COLLAR

NOTES:

1. ALL CONCRETE TO BE 3000 PSI NON-FLY ASH
2. APPLY 1/2" THICK WRAP OF ASPHALTIC CEMENT AROUND DISCHARGE PIPE 6" BEYOND PLANNED SEEPAGE COLLAR ON BOTH SIDES.
3. APPLY ADDITIONAL ASPHALTIC CEMENT AT PIPE/SEEPAGE COLLAR INTERFACE ON UPSTREAM FACES.
4. ASPHALTIC CEMENT TO MEET OR EXCEED FEDERAL SPECIFICATION SS-153 TYPE 1: ASTM-D-2822-75 TYPE 1.
5. WHERE TOP OF BERM IS WITHIN HEIGHT OF ANTI-SEEPAGE COLLAR, STOP ANTI-SEEPAGE COLLAR AT TOP OF BERM.

CONCRETE ANTI-SEEP COLLAR DETAIL

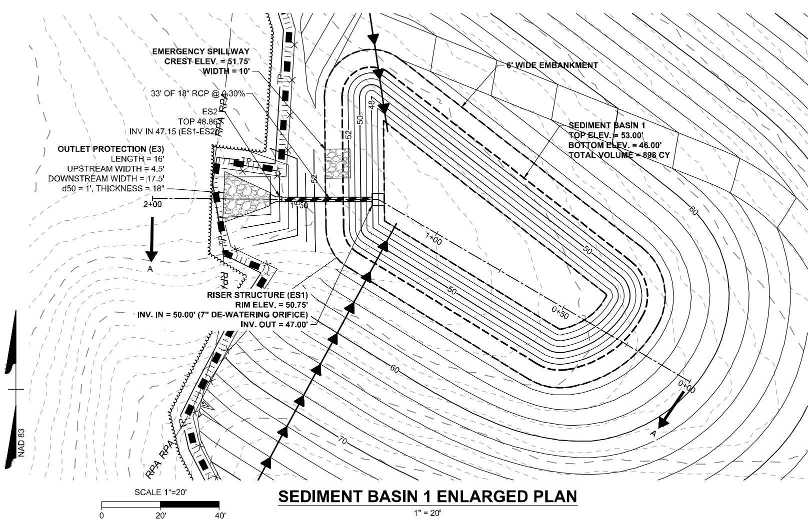
NTS



1	6" VDOT STD, TYPE 21A/B AGGREGATE BASE COURSE
2	APPROVED COMPACTED SUBGRADE. REMOVE UNSUITABLE MATERIAL AND REPLACE WITH APPROVED SELECT MATERIAL, AS REQUIRED. COMPACT TO 95% OF THE THEORETICAL MAXIMUM DRY DENSITY (VTM-1).
3	4" TOPSOIL, SEED, FERTILIZER, MULCH
4	VDOT STD, EC-2 SOIL STABILIZATION MATTING (TYP. ALL SLOPES 4:1 OR GREATER)

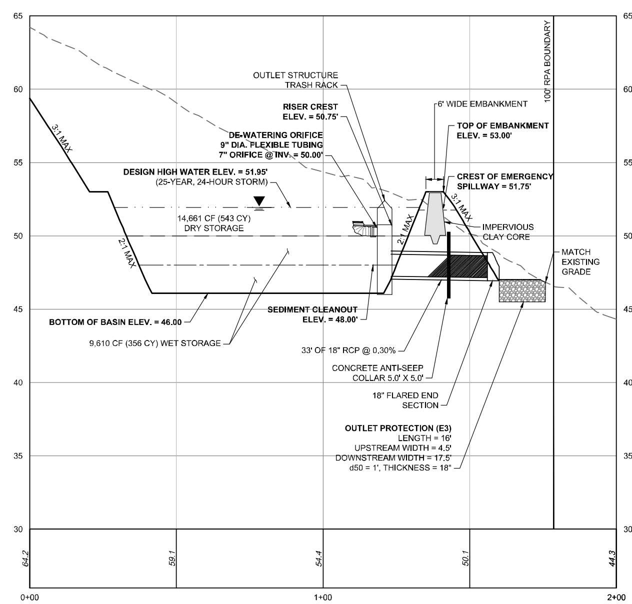
TYPICAL ACCESS ROAD

NTS



SEDIMENT BASIN 1 ENLARGED PLAN

1" = 20'



SEDIMENT BASIN 1 SECTION

HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

THIS DRAWING PREPARED AT THE
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COMMONWEALTH OF VIRGINIA
JOHN G. ZASZEWSKI
Lic. No. 048273
10/16/2019
PROFESSIONAL ENGINEER

DATE	REVISION DESCRIPTION

DATE: 10/16/2019
DRAWN BY: E. BROOKER
DESIGNED BY: E. BROOKER
CHECKED BY: J. ZASZEWSKI
SCALE: NONE

STONEHOUSE - AMENITY - E&S CONTROL PLAN

JAMES CITY COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL DETAILS

JOB NO. 34549.030

SHEET NO. C-1.5

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STONEHOUSE
VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN
RECREATION AREA A
JAMES CITY COUNTY, VIRGINIA

E&S CONTROL AND STORMWATER NARRATIVE

OCTOBER 16, 2019

PREPARED FOR:

SCP-JTL STONEHOUSE OWNER 2 LLC

PREPARED BY:

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

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Virginia Beach, Virginia 23452
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Table of Contents

Project Narrative

The purpose of this submittal is to propose erosion and sediment control measures for a soil stockpile area within the Stonehouse Tract 3 - Parcel "C" Subdivision Plan (S-0009-2017). This plan relates to a 9.2 acre area located on the west side of the end of Six Mount Zion Road. The plan reflects temporary sediment traps and a temporary sediment basin necessary for earth moving activities.

Erosion and Sediment Control Narrative

Project Description

This site is located within Parcel C of the Stonehouse Residential Development. The area is located at the end of the Six Mount Zion Road improvements and is proposed as a potential stockpile area. The phase 1 work will encompass the existing three drainage areas and provide temporary sediment traps and basin for the area. The phase 2 work will consist of stockpiling soil within the valleys of the site while maintaining two of the three existing drainage areas. The third drainage area, northeastern most area, will be filled in and redirected to drainage area two with the sediment basin. Once the site has been stabilized, sediment trap 1 and the sediment basin will stay in place until future development.

The site is zoned PUD-R (Planned Unit Development – Residential) and is currently undeveloped. Access to the site is provided by Six Mount Zion Road (Virginia State Route 600) which will be realigned and improved with new infrastructure improvements north of Fieldstone Parkway for approximately 6,300 linear feet.

Existing Site Conditions

The site currently consists of undeveloped forested land with slopes ranging from 0 to 50 percent. Site elevations range approximately between elevation 47 and 107 (NAD83). The site is in flood zone "X" as indicated on the FEMA Flood Insurance Rate Map (FIRM), Panel Number 5095C0041D, dated December 16, 2015.

Adjacent Areas and Offsite Areas

Six Mount Zion Road (VA. Rte. 600) is located to the East. To the north, south, and west is undeveloped areas of Tract 3 which are heavily wooded/vegetated. Drainage generally flows west and northwest into the wetland areas downstream of the proposed stockpile area.

Soils

According to USDA Web Soil Survey the following soils are present on site:

11C: Craven-Uchee complex, 6 to 10 percent slopes

15F: Emporia complex, 25 to 50 percent slopes
18B: Kempsville fine sandy loam, 2 to 6 percent slopes

For Hydrologic Soil Groups, Refer to Appendix A for soil maps.

Critical Areas

Chesapeake Bay Preservation Area (CBPA) Resource Protection Areas (RPA) and other environmentally sensitive areas will be avoided to the greatest extent possible. Areas exhibiting potentially erosive soils will be protected to the greatest extent possible.

Permitting

A Land Disturbance and Construction General Permit will be obtained for this site prior to any land disturbing activities.

Erosion and Sediment Control Measures

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained in accordance to the minimum standards and specifications of the Virginia Erosion and Sediment Control (VESC) Handbook. The minimum standards of the VESC Regulations shall be adhered to unless otherwise waived or approved by a variance.

Structural Practices

1. Construction Entrance: (Std. & Spec. 3.02)
   Temporary stone construction entrances will be installed at the entrances to the site along Six Mount Zion Road where the access area intersects with existing paved roadways to avoid transporting mud and sediment onto existing paved roads.

2. Silt Fence: (Std. & Spec. 3.05)
   Temporary silt fence sediment barriers will be installed around the perimeter of the site's disturbed areas to prevent sediment laden runoff from leaving the site.

3. Temporary Diversion Dike: (Std. & Spec. 3.09)
   Temporary diversion dikes will be used to divert storm runoff from upslope areas into temporary sediment basins and traps.

4. Temporary Sediment Basin: (Std. & Spec. 3.14)
   Two temporary sediment basins will be converted into stormwater management facilities at the two major outfalls of the site. Sediment-laden runoff will be detained in the temporary sediment basin to settle prior to discharging off-site.

5. Temporary Slope Drain: (Std. & Spec. 3.15)
   Temporary slope drains will be installed at each sediment trap and basin to drain the water from the outfall to the base of the wetlands slope.

6. Outlet Protection: (Std. & Spec. 3.18)

Outlet protection will be installed at all pipe outlets and concentrated flow outlets to prevent scour and to minimize downstream erosion.

7. Rock Check Dams: (Std. & Spec. 3.20)
   Rock check dams will be used along conveyance channels to reduce the velocity of concentrated flows and to aid in trapping sediment prior to discharging offsite.

Vegetative Practices

8. Surface Roughening: (Std. & Spec. 3.29)
   Surface roughening shall be performed to all slopes 4:1 or greater to aid in vegetative cover establishment.

9. Topsoiling: (Std. & Spec. 3.30)
   Topsoiling will be performed to provide suitable growth for final site stabilization.

10. Temporary Seeding: (Std. & Spec. 3.31)
    All denuded areas which will be left dormant for extended periods of time shall be seeded with fast germinating temporary vegetation immediately following grading activities. Selection of the seed mixture will depend on the time of year it is applied.

11. Permanent Seeding: (Std. & Spec. 3.32)
    Permanent seeding will be established on all non-paved disturbed areas.

12. Mulching: (Std. & Spec. 3.35)
    Mulch will be applied to all seeded areas to prevent erosion and foster the growth of vegetation.

13. Soil Stabilization Blankets and Matting: (Std. & Spec. 3.36)
    VDOT Std. EC-2 and EC-3 soil stabilization matting will be installed over all slopes 4:1 or greater, unless otherwise noted.

14. Tree Preservation and Protection: (Std. & Spec. 3.38)
    All trees that are to be saved will be protected with tree protection during construction.

Management Strategies

The following sequence of events and erosion control measures shall be incorporated into the construction schedule for this project and shall apply to all construction activities within the project limits.

1. **Soil Stabilization:**
   a. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site.
   b. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days, but less than one year.

   c. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
2. **Soil Stockpile Stabilization:** During construction, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. Temporary protection and permanent stabilization shall be applied to all soil stockpiles on site and borrow areas or soil intentionally transferred off site.
3. **Permanent Stabilization:** 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
   - Will inhibit erosion
4. **Sediment Basins:** Sediment basins, perimeter dikes, sediment barriers, and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
5. **Stabilization of Earthen Structures**: Stabilization measures shall be applied to earthen structures such as dams, dikes, and diversions immediately after installation.
6. **Sediment Basins**: Sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin as follows:
      i. Control drainage areas greater than or equal to three acres
      ii. Minimum storage capacity of 134 cubic yards per acre of drainage area
      iii. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration
7. **Cut and Fill Slopes Design & Construction:** Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
8. **Concentrated Runoff Down Slopes:** Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.
9. **Slope Maintenance:** Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
10. **Vehicular Sediment Tracking**: Where construction vehicle access routes intersect paved or public roads:
    a. Provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface
    b. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day
    c. 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
11. **Removal of Temporary Measures:** 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 program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

Maintenance

In general, all erosion and sedimentation control measures shall be checked after each rainfall or weekly, whichever is most frequent, and should be cleaned and repaired per the following schedule.

1. Construction entrance shall be maintained in a condition which will prevent tracking or flow of mud onto paved surfaces and public rights-of-way. Maintain construction entrances in accordance with Std. & Spec. 3.02 of the VESCH.
2. Silt fences shall be inspected after each rainfall and repaired immediately, as required. Maintain silt fence in accordance with Std. & Spec. 3.05 of the VESCH.
3. The inlet protection sediment traps will be checked regularly for sediment cleanout. Maintain inlet protection in accordance with Std. & Spec. 3.07 of the VESCH.
4. Rock check dams shall be checked for sediment accumulation after each rainfall. Remove sediment once it reaches half the height of the check dam. Maintain rock check dams in accordance with Std. & Spec. 3.20 of the VESCH.
5. Erosion and sediment control measures shall be checked regularly for undermining or deterioration and buildup or clogging with sediment. Corrective action shall be taken immediately.
6. All temporary erosion and sediment measures shall be disposed of within thirty (30) days after final site stabilization is achieved and vegetation is established. Final site stabilization shall be approved by the Environmental and Resource Protection Inspector.

Construction Sequence

Initial Erosion Control Stage Sequencing:

1. Hold a preconstruction conference and secure all necessary demolition permits (if applicable). Ensure that all necessary waivers, exemptions, and permits as required on a local, state, and federal level have been obtained.
2. Install construction entrances and silt fence. Clearing should be limited to only what is necessary to gain construction access to the temporary sediment basin. Adequate erosion and sediment controls are to be installed to control the mitigation of sediment at this time. Trees outside of the clearing limits shall be protected by installing and maintaining tree protection fencing and other appropriate measures.
3. Install temporary sediment traps 1 and 2, temporary sediment basin 1 and associated temporary slope drains.
4. Install all associated temporary diversion dikes. All perimeter erosion and sediment control items are installed and operational.
5. Once all erosion and sediment control items area installed and operational, begin mass clearing as depicted on the plans and direct runoff towards sediment trapping features with diversions.
6. Establish temporary soil stockpile. Establish rough grades on site, ensuring runoff is directed towards sediment traps and sediment basin.

Final Erosion Control Stage Sequencing:

1. Prior to commencing on the final phase, contractor shall receive written authorization from the James City County Environmental and Resource Protection inspector.
2. Establish final drainage patterns, directing runoff toward sediment trap 1 or to the sediment basin (by means of swales or diversions).
3. At no point during construction shall any erosion and sediment control measure be removed without authorization to do so by James City County Engineering and Resource Protection Division.
4. Seed and permanently stabilize any remaining disturbed areas. See erosion and sediment control details sheet for seed specifications.
5. Basins, traps, and wetlands should be monitored throughout construction for any evidence of siltation. If warranted, BMPs shall be drained and sediment impacts of wetlands areas shall be corrected immediately at the direction of Timmons Group, James City County Engineering and Resource Protection Division, USACE, DEQ, and DCR.
6. After the completion of construction and with the written approval of the James City County Environmental and Resource Protection inspector, remove all remaining sediment control measures.

Appendix A - Soils Maps

Map Scale: 1:2,860 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: James City and York Counties and the City of Williamsburg, Virginia
Survey Area Data: Version 17, Sep 16, 2019

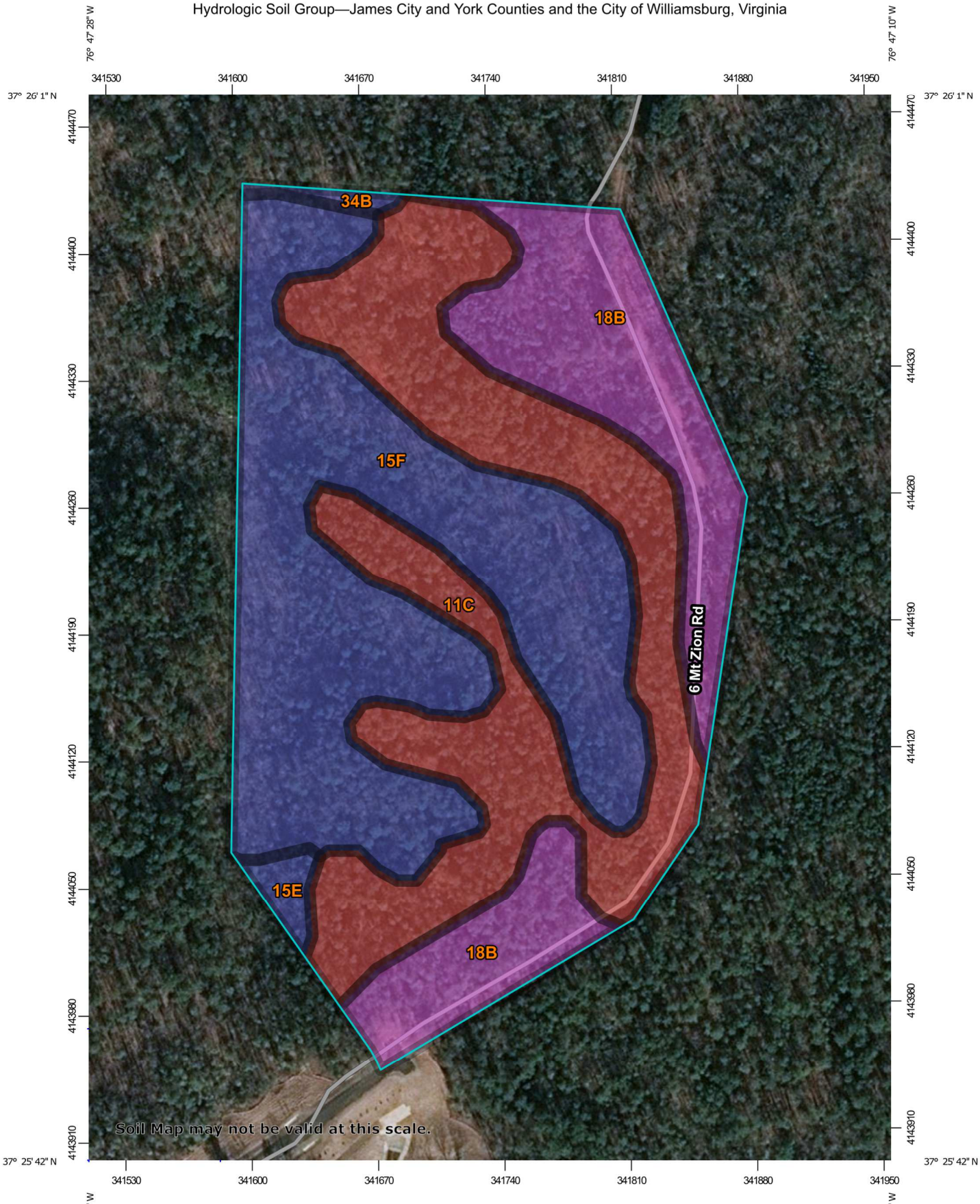
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11C	Craven-Uchee complex, 6 to 10 percent slopes	9.4	34.6%
15E	Emporia complex, 15 to 25 percent slopes	0.3	1.2%
15F	Emporia complex, 25 to 50 percent slopes	11.2	41.0%
18B	Kempsville fine sandy loam, 2 to 6 percent slopes	6.1	22.5%
34B	Uchee loamy fine sand, 2 to 6 percent slopes	0.2	0.6%
Totals for Area of Interest		**27.2**	**100.0%**



Map Scale: 1:2,860 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

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Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

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Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
11C	Craven-Uchee complex, 6 to 10 percent slopes	D	9.4	34.6%
15E	Emporia complex, 15 to 25 percent slopes	B	0.3	1.2%
15F	Emporia complex, 25 to 50 percent slopes	B	11.2	41.0%
18B	Kempsville fine sandy loam, 2 to 6 percent slopes	A	6.1	22.5%
34B	Uchee loamy fine sand, 2 to 6 percent slopes	B	0.2	0.6%
Totals for Area of Interest			**27.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B - Erosion Control Calculations

TIMMONS GROUP
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Temporary Sediment Basin Design

Project: Stonehouse Amenity **Date:** 10/8/2019 **Designed:** EKB

1992 3.14

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET
(with or without an emergency spillway)

Total area draining to basin: **3.13** acres.

Basin Volume Design

Wet Storage:

1. Minimum required volume = 67 cu. yds. x Total Drainage Area (acres).

   67 cu. yds. x **3.13** acres = **209.71** cu. yds.

2. Available basin volume = **356** cu. yds. at elevation **50.00**. (From (From Stage - Storage Chart)

3. Excavate **356** cu. yds. to obtain required volume*.

   * Elevation corresponding to required volume = invert of the dewatering orifice.

4. Available volume before cleanout required.

   33 cu. yds. x **3.13** acres = **103.29** cu. yds.

5. Elevation corresponding to cleanout level = **48.00**.
   (Elevation set at lowest invert of incoming storm pipes)

6. Distance from invert of the dewatering orifice to cleanout level = **2.00** ft.
   (Min. = 1.0 ft.)

Dry Storage:

7. Minimum required volume = 67 cu. yds. x Total Drainage Area (acres).

   67 cu. yds. x **3.13** acres = **209.71** cu. yds.

8. Total available basin volume at crest of riser* = **695** cu. yds. at elevation **51.75** (From Stage - Storage Chart)

*Minimum = 134 cu. yds./acre of total drainage area.

9. Diameter of dewatering orifice = **7** in.

10. Diameter of flexible tubing = **9** in. (diameter of dewatering orifice plus 2 inches).

Preliminary Design Elevations

11. Crest of Riser = **51.75**

Top of Dam = **53.00**

Design High Water = **51.91** (Ref. Sediment Basin Routing Analysis)

Upstream Toe of Dam = **N/A**

Basin Shape

12. $\frac{\text{Length of Flow}}{\text{Effective Width}}$ $\frac{L}{We}$ = **2.26**

If > 2, baffles are not required ✓

If < 2, baffles are required _____

Runoff

13. Q_2 = **11.40** cfs (From Chapter 5) (Inflow to Basin)

14. Q_{25} = **25.11** cfs (From Chapter 5) (Inflow to Basin)

Principal Spillway Design

15. With emergency spillway, required spillway capacity $Q_p = Q_2$ = **11.40** cfs. (riser and barrel)

Without emergency spillway, required spillway capacity $Q_p = Q_{25}$ = **25.11** cfs. (riser and barrel)

16. With emergency spillway:

Assumed available head (h) = **1.00** ft. (Using Q_2)

h = Crest of Emergency Spillway Elevation - Crest of Riser Elevation

Without emergency spillway:

Assumed available head (h) = **N/A** ft. (Using Q_{25})

h = Design High Water Elevation - Crest of Riser Elevation

17. Riser diameter (D_r) = **60** in. Actual head (h) = **51.91** ft.
25-Yr. WSE = 7.13
(From Routing Analysis)

(From Plate 3.14-8.)

Note: Avoid orifice flow conditions.

18. Barrel length (l) = **15.7** ft.

Head (H) on barrel through embankment = **5.75** ft.
Emer. Spillway Crest (51.75) minus
Barrel End Centerline Elev. (46)

(From Plate 3.14-7).

19. Barrel diameter = **18** in.

(From Table 3.14-B [concrete pipe] or Table 3.14-A [corrugated pipe]).

20. Trash rack and anti-vortex device

Diameter = **90** inches.

Height = **29** inches.

(From Table 3.14-D).

Emergency Spillway Design

21. Required spillway capacity $Q_e = Q_{25} - Q_p$ = **13.71** cfs.

22. Bottom width (b) = **10** ft.; the slope of the exit channel (s) = **1** ft./foot; and the minimum length of the exit channel (x) = **20** ft.
(From Table 3.14-C)

Anti-Seep Collar Design

23. Depth of water at principal spillway crest (Y) = **5.75** ft.

Slope of upstream face of embankment (Z) = **3** :1.

Slope of principal spillway barrel (S_b) = **0.0058** ft/ft

Length of barrel in saturated zone (L_s) = **41** ft.

24. Number of collars required = **1** dimensions = **6.75' X 6.75'**

(From Plate 3.14-12).

Final Design Elevations

25. Top of Dam = **53.00**

Design High Water = **51.91**

Emergency Spillway Crest = **52.75**

Principal Spillway Crest = **51.75**

Dewatering Orifice Invert = **50.00**

Cleanout Elevation = **48.00**

Elevation of Upstream Toe of Dam or Excavated Bottom of "Wet Storage Area" (if excavation was performed) = **50.00**

SEDIMENT BASIN SUMMARY

Project Name: Stonehouse Tract 3 Recreation Area
Timmons Group Project No. 34549.030
Date: 10/02/2019
Calculated By: Erin Brooker

DRAINAGE AREA PROPERTIES

Data Input		Notes and Descriptions
Drainage Area, A	136,342 SF 3.13 AC	Total potential area draining to sediment basin
Impervious Area	136,342 SF 3.13 AC	Total potential impervious area received by basin
Percent Impervious	100.0 %	
Weighted Curve Number, CN	89	See derivation below
Average Time of Concentration, Tc	7 minutes 0.12 hours	Refer to Time of Concentration calculations

Weighted Curve Number (CN) Derivation

Forest/Open Space				Managed Turf				Newly Graded Areas				Weighted CN
HSG	SF	Acres	CN	HSG	SF	Acres	CN	HSG	SF	Acres	CN	
A			30	A			39	A	12,058	0.28	77	
B			55	B			61	B	66,673	1.53	86	89
C			70	C			74	C			91	
D			77	D			80	D	57,611	1.323	94	

CN values obtained from Tables 2-2a and 2-2c of the NRCS TR-55 Manual, rev. June 1986

GEOMETRIC AND HYDRAULIC PROPERTIES

Data Input		Notes and Descriptions
Basin Bottom Elevation	47.00 FT	Ref. Phase 1 E&S Plan
Sediment Cleanout Elevation	48.00 FT	Set at lowest invert of incoming storm pipes
Normal Water Surface Elevation	50.00 FT	Ref. Phase 1 E&S Plan
Principal Riser Crest Elev.	50.75 FT	Ref. Phase 1 E&S Plan
Emergency Spillway Crest Elev.	51.75 FT	Ref. Phase 1 E&S Plan
Design High Water (25-Yr WSE)	51.91 FT	Ref. Sediment Basin Routing Analysis
Top of Bank Elevation	53.00 FT	Ref. Phase 1 E&S Plan
Total Storage Required	419 CY	134 CY/AC of Drainage Area
Total Storage Provided	898 CY	Storage at Principal Riser Crest. Ref. Stage-Storage Chart (page 2)
Wet Storage Required	210 CY	67 CY/AC of Drainage Area
Wet Storage Provided	356 CY	Storage at NWSE. Ref. Stage-Storage Chart (page 2)
Dry Storage Required	210 CY	67 CY/AC of Drainage Area
Dry Storage Provided	543 CY	Total Storage minus Wet Storage

SEDIMENT BASIN SUMMARY

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Project Name: Stonehouse Tract 3 Recreation Area
Timmons Group Project No. 34549.030
Date: 10/02/2019
Calculated By: Erin Brooker

STAGE-STORAGE CHART

Description	Elevation	Area	Inc. Volume	Total Volume			
		SF	CF	CF	CY	AC-FT	
Permanent Pool							
Pond Bottom	46.0	1,980	0	0	0	0.00	
	47.0	2,440	2,210	0	0	0.00	
	48.0	2,933	2,687	2,687	100	0.06	
	49.0	3,455	3,194	5,881	218	0.13	
	50.0	4,003	3,729	9,610	356	0.22	NWSE
	51.0	4,575	4,289	13,899	515	0.32	
	52.0	5,173	4,874	18,773	695	0.43	
	53.0	5,796	5,485	24,257	898	0.56	

SEDIMENT BASIN SUMMARY

Project Name: Stonehouse Tract 3 Recreation Area
Timmons Group Project No. 34549.030
Date: 10/02/2019
Calculated By: Erin Brooker

DRY VOLUME DRAWDOWN TIME

Data Input		
Basin Geometry and Hydraulics		
Dry Storage Volume, V	14,648	CF
Dry Storage Volume (CY)	543	CY
Crest of Principal Riser	50.75	FT
Outlet Parameters		
Orifice Diameter	7	IN
Number of Orifices	1	
Orifice Invert Elevation	50.00	FT

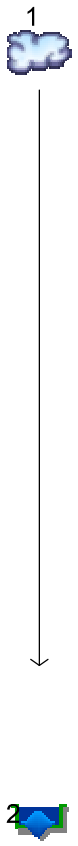
Derived Values		
Total Orifice Area, A	0.267	SF
Average Depth Above Orifice Center, D	0.23	ft

DRAWDOWN TIME EQUATION

$$Time\ (hr) = \frac{V}{0.6A\left(\sqrt{2 * 32.17 * D}\right)} * \left[\frac{1\ \text{hr}}{3{,}600\ \text{sec}}\right]$$

Time (hours)	**6.61 hr**
Time (days)	**0.28 days**

Watershed Model Schematic



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2 Wednesday, 10 / 9 / 2019

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	71.2172	12.9000	0.8806	--------
3	0.0000	0.0000	0.0000	--------
5	73.5533	13.0000	0.8402	--------
10	71.3928	12.3000	0.7985	--------
25	62.5476	10.8000	0.7334	--------
50	61.9253	10.4000	0.7047	--------
100	54.3736	9.0000	0.6519	--------

File name: 34549.030 Sed Basin.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.61	4.52	3.80	3.28	2.90	2.60	2.36	2.16	2.00	1.86	1.74	1.63
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.49	5.28	4.47	3.90	3.46	3.12	2.84	2.62	2.43	2.26	2.12	2.00
10	7.33	5.99	5.09	4.45	3.97	3.59	3.28	3.03	2.82	2.64	2.48	2.34
25	8.26	6.75	5.77	5.06	4.53	4.12	3.79	3.51	3.27	3.07	2.90	2.75
50	9.02	7.40	6.34	5.58	5.02	4.57	4.21	3.91	3.66	3.44	3.25	3.09
100	9.73	7.97	6.85	6.05	5.46	4.99	4.61	4.30	4.04	3.81	3.61	3.44

Tc = time in minutes. Values may exceed 60.

cip. file name: S:\101\34549-Stonehouse\030-Tract_3_Recreation Area\Calc\Erosion Control\34549.030 Sed Basin.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.86	3.48	0.00	0.00	5.37	6.67	0.00	9.08
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2 Wednesday, 10 / 9 / 2019

Pond No. 1 - Sed Basin

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 46.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	46.00	1,980	0	0
1.00	47.00	2,440	2,210	2,210
2.00	48.00	2,933	2,687	4,897
3.00	49.00	3,455	3,194	8,091
4.00	50.00	4,003	3,729	11,820
5.00	51.00	4,575	4,289	16,109
6.00	52.00	5,173	4,874	20,983
7.00	53.00	5,796	5,485	26,467

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	7.00	0.00	0.00
Span (in)	= 18.00	7.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 47.25	50.00	0.00	0.00
Length (ft)	= 32.00	0.00	0.00	0.00
Slope (%)	= 0.30	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

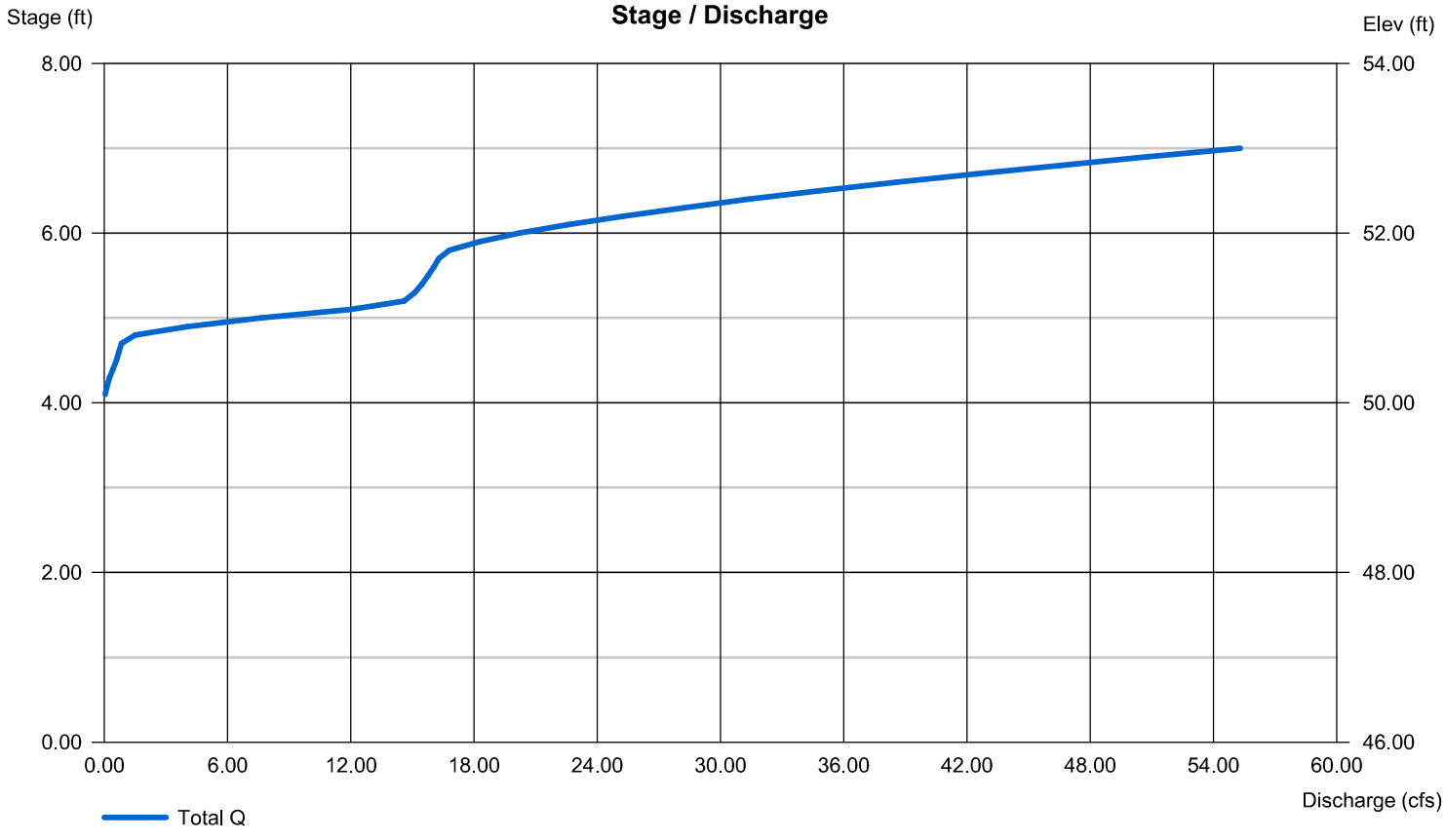
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.70	10.00	0.00	0.00
Crest El. (ft)	= 50.75	51.75	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2

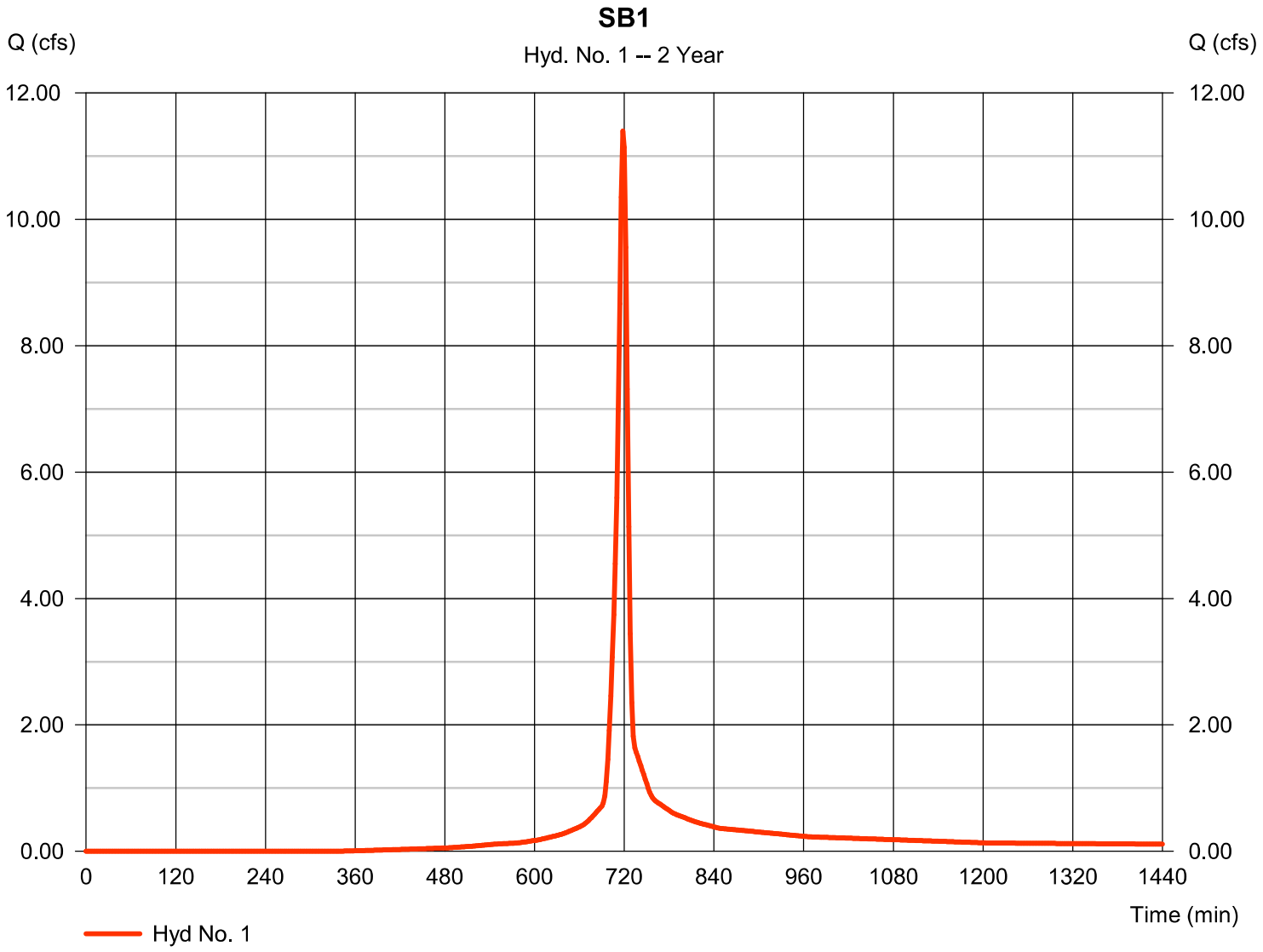
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	11.40	2	718	26,572	------	------	------	SB1
2	Reservoir	10.64	2	720	22,830	1	51.08	16,446	Sed Basin Routing

Hydrograph Report

Hyd. No. 1

SB1

Hydrograph type	= SCS Runoff	Peak discharge	= 11.40 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 26,572 cuft
Drainage area	= 3.130 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.48 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

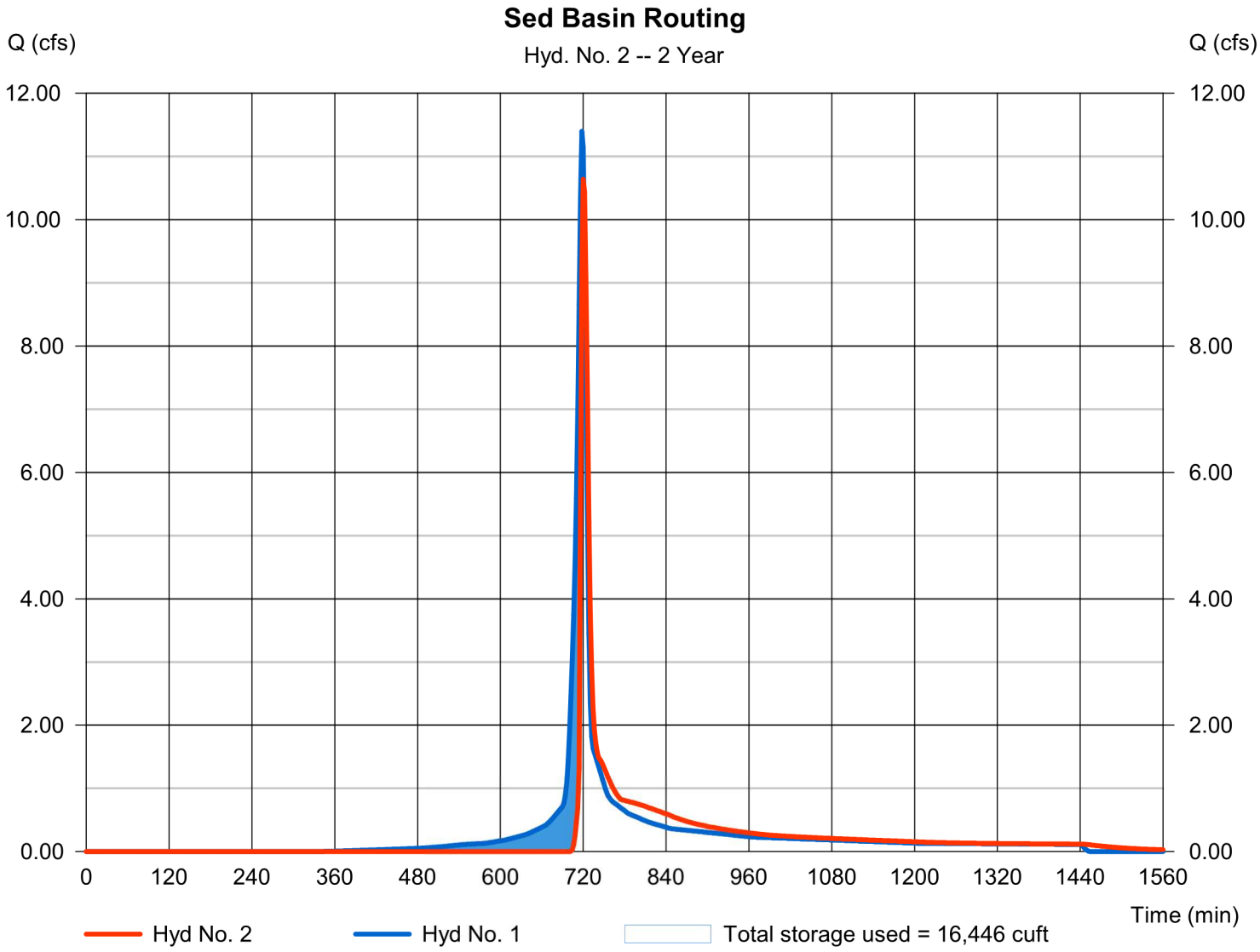
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2 Wednesday, 10 / 9 / 2019

Hyd. No. 2

Sed Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 10.64 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 22,830 cuft
Inflow hyd. No.	= 1 - SB1	Max. Elevation	= 51.08 ft
Reservoir name	= Sed Basin	Max. Storage	= 16,446 cuft

Storage Indication method used. Wet pond routing start elevation = 49.00 ft.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	19.55	2	718	46,892	------	------	------	SB1
2	Reservoir	15.59	2	722	43,150	1	51.45	18,265	Sed Basin Routing

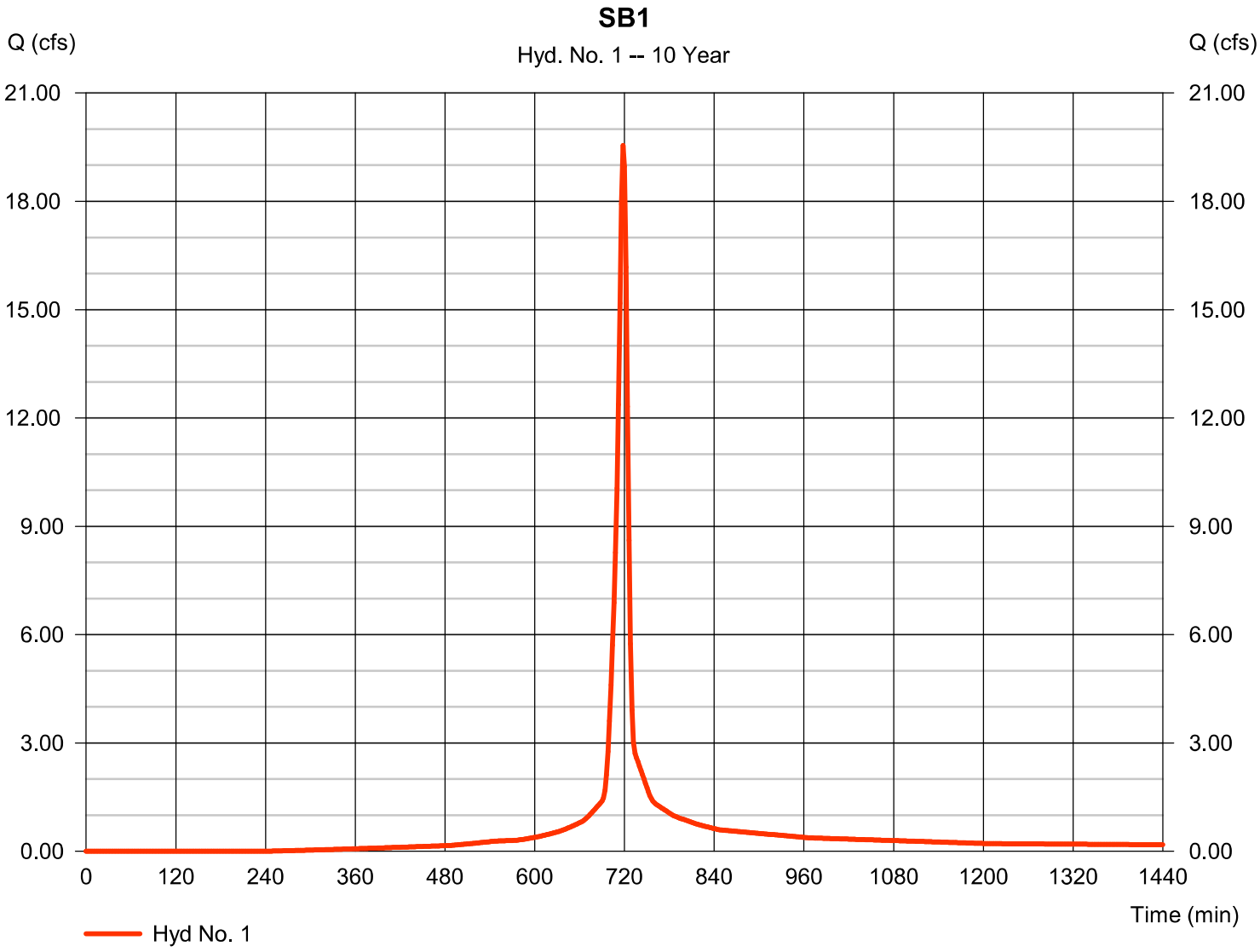
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2 Wednesday, 10 / 9 / 2019

Hyd. No. 1

SB1

Hydrograph type	= SCS Runoff	Peak discharge	= 19.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 46,892 cuft
Drainage area	= 3.130 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.37 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

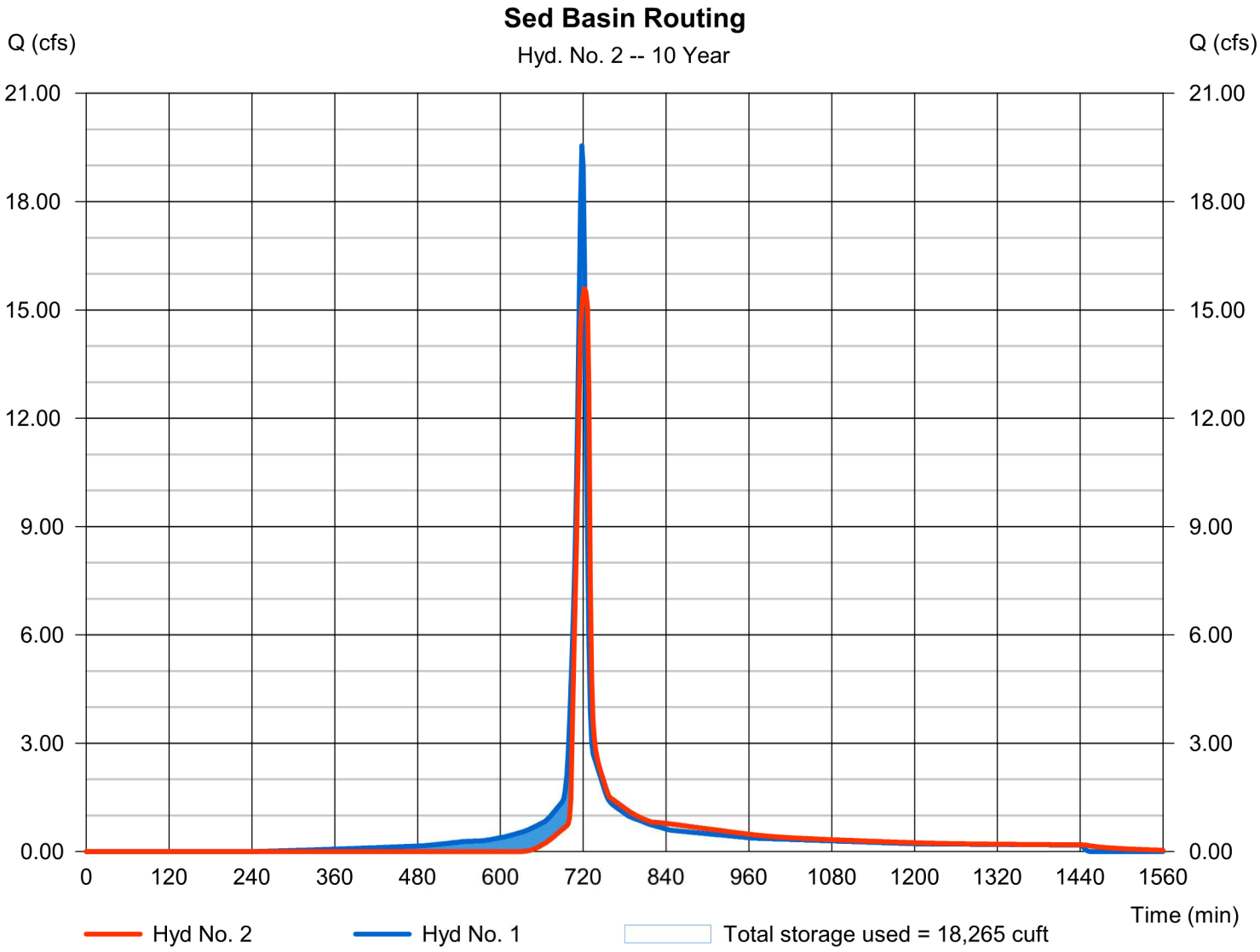
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019.2 Wednesday, 10 / 9 / 2019

Hyd. No. 2

Sed Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 15.59 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 43,150 cuft
Inflow hyd. No.	= 1 - SB1	Max. Elevation	= 51.45 ft
Reservoir name	= Sed Basin	Max. Storage	= 18,265 cuft

Storage Indication method used. Wet pond routing start elevation = 49.00 ft.



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Project:	Stonehouse
Project No.:	34549.030
Date:	10/8/2019
Calculated By:	E. Brooker

SEDIMENT TRAP DESIGN

Drainage Area to Sediment Trap = 2.71 Acres

Required Wet Storage = 67 cy/acre * (Drainage Area) = 182 cubic yards, or 4,902 cubic feet

Required Dry Storage = 67 cy/acre * (Drainage Area) = 182 cubic yards, or 4,902 cubic feet

Determine Volume of Sediment Trap by Contour:

Elevation	Depth	Area (sq. ft.)	Volume (cu. ft.)	Volume (cu. yd.)	Sum Volume (cu. ft.)	Sum Volume (cu. yd.)
54.0	0	1,214	0	0	0	0
56.0	2	1,869	3,083	114	3,083	114
58.0	2	2,624	4,493	166	7,576	281
60.0	2	3,480	6,104	226	13,680	507
60	0	3,480	0	0	13,680	507

Width of Aggregate Outlet Weir = 6 ft./acre & (Drainage Area) = **16.26** **feet**

Elevation of Wet Storage Volume = **56.81**

Elevation of Dry Storage Volume = **58.73**

Elevation of accumulated sediment when sediment removed is required (1/2 wet storage volume) = **55.59**

Top Width of Embankment = **5.0** **feet**

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Project:	Stonehouse
Project No.:	34549.030
Date:	10/8/2019
Calculated By:	E. Brooker

SEDIMENT TRAP DESIGN

Drainage Area to Sediment Trap = 2.94 Acres

Required Wet Storage = 67 cy/acre * (Drainage Area) = 197 cubic yards, or 5,318 cubic feet

Required Dry Storage = 67 cy/acre * (Drainage Area) = 197 cubic yards, or 5,318 cubic feet

Determine Volume of Sediment Trap by Contour:

Elevation	Depth	Area (sq. ft.)	Volume (cu. ft.)	Volume (cu. yd.)	Sum Volume (cu. ft.)	Sum Volume (cu. yd.)
53.0	0	1,864	0	0	0	0
55.0	2	2,634	4,498	167	4,498	167
57.0	2	3,511	6,145	228	10,643	394
57.0	0	3,511	0	0	10,643	394
57	0	3,511	0	0	10,643	394

Width of Aggregate Outlet Weir = 6 ft./acre & (Drainage Area) = **17.64** **feet**

Elevation of Wet Storage Volume = **55.27**

Elevation of Dry Storage Volume = **57.00**

Elevation of accumulated sediment when sediment removed is required (1/2 wet storage volume) = **54.18**

Top Width of Embankment = **5.0** **feet**

TIME OF CONCENTRATION COMPUTATIONS

QUANTITY ANALYSIS
PRE-DEVELOPMENT

Project Name: Stonehouse Tract 3 Recreation Area
Timmons Group Project No. 34549.030
Date: 10/02/2019
Calculated By: Erin Brooker

Roughness Coefficients (Manning's n values)	
Concrete, asphalt, gravel, bare soil	0.013
Plastic pipe	0.011
Short grass	0.15
Woods (light underbrush)	0.40
Weedy natural stream channels	0.10
Clean straight bank	0.03

Values obtained from TR-55 Manual and Open-Channel Hydraulics (Chow, 1959)

Assumptions		
Proposed pipe flow depth = 100% of diameter (full-flow)		
Hydraulic Properties for Full Pipes		
12" Circular Pipe	A_x = 0.79 SF	P_w = 3.14 FT
15" Circular Pipe	A_x = 1.23 SF	P_w = 3.93 FT
18" Circular Pipe	A_x = 1.77 SF	P_w = 4.71 FT
24" Circular Pipe	A_x = 3.14 SF	P_w = 6.28 FT
30" Circular Pipe	A_x = 4.91 SF	P_w = 7.85 FT
36" Circular Pipe	A_x = 7.07 SF	P_w = 9.42 FT

2-Year, 24-Hour Precipitation Depth, P_2 (from NOAA Atlas 14 for Norfolk)	3.48 in.

Factors of Flow Time / Analysis Area	Flow Section	Overland/Sheet Flow (Manning's Kinematic Solution) — 100' Maximum				Shallow Concentrated Flow (TR55 Figure 3-1) — Overland Flow > 100' or Gutter Flow						Channelized Flow — Ditches/Streams/Pipes										Flow Across Water Bodies (Wave Equation) — Wave Flow on Water Surfaces			Total Time of Concentration	
						Paved			Unpaved			Avg. Velocity Method			Manning's Equation Method											
		Manning's n-value	Flow Length (100' max.)	Average Slope	Travel Time	Flow Length	Average Slope	Travel Time	Flow Length	Average Slope	Travel Time	Flow Length	Average Velocity (~ 2.5 ft/s)	Travel Time	Cross-Sectional Area	Wetted Perimeter	Average Slope	Manning's n-value	Flow Length	Travel Time	Flow Length	Average Depth	Travel Time	Calculated	For Design
		n	L	S	Tc	L	S	Tc	L	S	Tc	L	V	Tc	A_x	P_w	S	n	L	Tc	L	Dm	Tc	Tc	Tc
			(ft)	(ft/ft)	(min)	(ft)	(ft/ft)	(min)	(ft)	(ft/ft)	(min)	(ft)	(ft/s)	(min)	(ft^2)	(ft)	(ft/ft)		(ft)	(min)	(ft)	(ft)	(min)	(min)	(min)
EX1	1	0.15	100	0.080	5.40																				
	2								591	0.15	1.58													6.97	7
	3																								

TIME OF CONCENTRATION COMPUTATIONS

REFERENCE EQUATIONS

Overland Flow Travel Time (Manning's Kinematic Solution):

$$T_c = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} S^{0.4}}$$

Shallow Concentrated Flow Travel Time (TR-55 Paved):

$$T_c = \left(\frac{L}{60}\right) \frac{1}{20.328(S)^{0.5}}$$

Shallow Concentrated Flow Travel Time (TR-55 Unpaved):

$$T_c = \left(\frac{L}{60}\right) \frac{1}{16.135(S)^{0.5}}$$

Channelized Flow Travel Time (Manning's Equation):

$$T_c = \left(\frac{L}{60}\right) \left[\left(\frac{1.49}{n}\right) \left(\frac{A_x}{P_w}\right)^{2/3} (S)^{0.5} \right]^{-1}$$

Travel Time on Water Surfaces:

$$T_c = \left(\frac{L}{60}\right) \left[\sqrt{32.2 D_m}\right]^{-1}$$

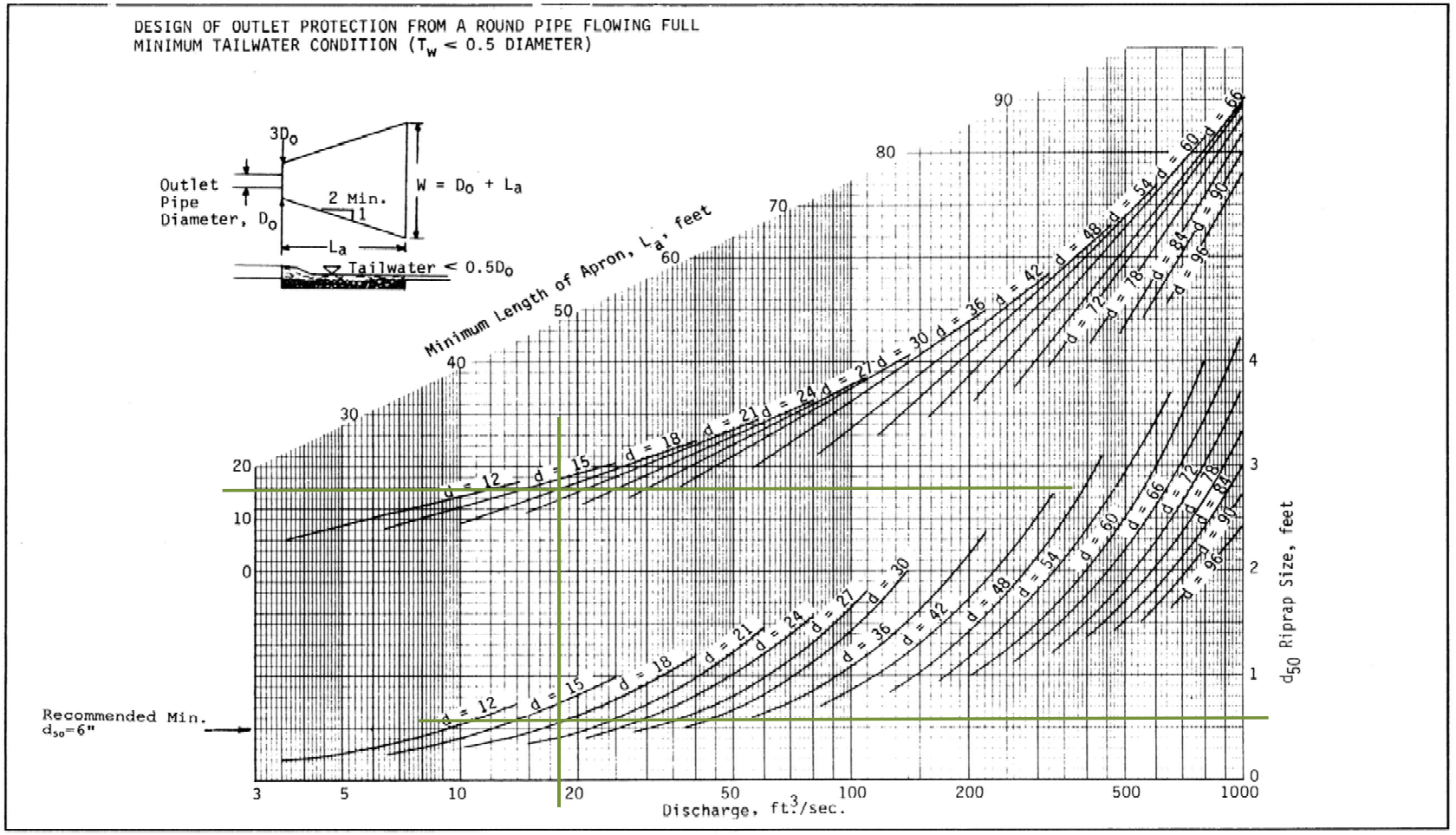
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Outlet Protection

Sediment Basin

Project: Stonehouse - Parcel C - Rec Area A **Date:** 10/16/2019 **Designed:** EKB

Pipe Diameter =	**18** in	**Width at Outlet ($3D_0$) =**	**4.5** ft	**Length (La) =**	16 ft
Discharge (Q) =	**18.63** cfs	**Width at Outlet (W) =**	**17.5** ft	**Riprap size (d_{50}) =**	1 ft



Michael Woolson

From: Deirdre Wells
Sent: Wednesday, December 11, 2019 11:07 AM
To: 'Robert Woodruff'
Cc: Mike Etchemendy - (metchemendy@megfp.com); Ellen Cook; Christy Parrish; Michael Woolson; Darryl Cook
Subject: RE: Stonehouse E&S Plan Issue

Bob,

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Please let us know if you have further questions.

Deirdre P. Wells, PE, CFM
Chief Civil Engineer

James City County VIRGINIA Jamestown 1607

Stormwater & Resource Protection
101-E Mounts Bay Road
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Deirdre.Wells@jamescitycountyva.gov
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From: Robert Woodruff <Bob.Woodruff@rockbridgealliance.com>
Sent: Tuesday, December 10, 2019 1:22 PM
To: Deirdre Wells <Deirdre.Wells@jamescitycountyva.gov>
Cc: Mike Etchemendy - (metchemendy@megfp.com) <metchemendy@megfp.com>
Subject: [External] RE: [External] FW: Stonehouse E&S Plan Issue

Good afternoon Deirdre,

Just checking in to see if there is any progress regarding moving forward with plan review. Please advise. Thank you

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Sent: Thursday, November 21, 2019 12:08 PM
To: Robert Woodruff <Bob.Woodruff@rockbridgealliance.com>
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Sent: Tuesday, November 19, 2019 12:13 PM

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Cc: Ellen Cook <Ellen.Cook@jamescitycountyva.gov>; Mike Etchemendy - (metchemendy@megfp.com) <metchemendy@megfp.com>; John Zaszewski PE (john.zaszewski@timmons.com) <john.zaszewski@timmons.com>
Subject: [External] FW: Stonehouse E&S Plan Issue

Good morning Deirdre,

Hope all is going well. We met with Ellen last week on 11/13/19 to discuss the below referenced plan and seek your input regarding the best path forward. For background, with Stonehouse Tract 3 Parcels A, B, and C we always knew that the site would generate significant excess earthwork material due to the constraints of Six Mt Zion Road, the RPA and existing onsite topo. As such we initially established a temporary stockpile area with the Six Mt Zion Road plans within Tract 11A and have tightly managed that area to keep the stockpiles to a minimum.

As we progress beyond the initial phases in Tract 3, we will continue to generate significant excess volumes and basically have 2 options, (1) continue to load and haul this material to temporarily place in stockpiles within Tract 11A until a permanent home is established or (2) find an appropriate site to permanently place now. Option 2 is clearly the best solution from both a construction and environmental standpoint.

While exploring option 2, we identified the area immediately north of and contiguous to Parcel C as being relatively low requiring fill in the future to make the site suitable for building construction. Given the rezoning approval last week, the ultimate use for this area has yet to be determined so our approach was to create a reasonably flat and properly compacted area. Opening this area is an important and integral part of the Tract 3 construction sequencing in order to optimize the earthwork moving and handling.

Section 24-46.(a)(1) of the Zoning Ordinance states that placement of soil on a site for the purpose of changing the natural grade, such as filling low spots, improving drainage, or improving the suitability of the site for building shall not be considered “stockpiling”. We are not establishing any type of use at this time and simply want to find a permanent home for excess earthwork material from our current Tract 3 construction.

We are prepared to satisfy the proffer conditions that Ellen noted below once we establish uses for those areas in the future. We request the county accept the current plans as an appropriate component of the currently approved Tract 3 construction program. We are prepared to resubmit as either a stand-alone plan as previously submitted or as an amendment to the approved plans for Parcel C. Your input, guidance and/or comments are requested and appreciated. Thank you

Bob

From: Deirdre Wells <Deirdre.Wells@jamescitycountyva.gov>
Sent: Monday, October 28, 2019 3:22 PM
To: Ellen Cook <Ellen.Cook@jamescitycountyva.gov>
Cc: John Zaszewski <John.Zaszewski@timmons.com>; Michael Woolson <Michael.Woolson@jamescitycountyva.gov>; Toni Small <Toni.Small@jamescitycountyva.gov>
Subject: RE: Stonehouse E&S Plan Issue

Ellen,

Thank you for your Division’s input and information regarding this recent E&SC submittal. I am copying the applicant so they may have the Proffer information, as well.

John,

I will have the submitted plans and calculation books available for pick up by Timmons or I can have the information shredded, per your direction. I will void the submitted case in PermitLink and had not yet assessed any review fees as I was awaiting direction from Planning. Please let us know how your client intends to proceed with the development of the Amenity parcel.

Thank you,

Deirdre P. Wells, PE, CFM
Chief Civil Engineer

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Sent: Monday, October 28, 2019 3:14 PM
To: Deirdre Wells <Deirdre.Wells@jamescitycountyva.gov>
Subject: Stonehouse E&S Plan Issue

Deirdre,

Recently you let me know about an E&S plan that was submitted showing fill being placed on the "Future Amenity" portion of Tract 3. I have examined the proffers, and I believe that proceeding with land disturbance on this site would not be in accordance with the binding proffers, as follows:

- Proffer 12 states that at least 60 days prior to submission of a development plan for all or any portion of a Tract, the Owner shall submit a conceptual development plan for the development of the entire Tract to the Director of Planning for review and comment by the Director of Planning and the DRC. The conceptual development plan shall show the layout of lots/units or commercial buildings, road locations, amenity areas and improvements, common and natural open space, required or proffered buffers, proposed clearing limits and any archaeology or natural resource preservation areas within the tract. Please note that complying with natural heritage resources and archaeological processes are also their own separate proffers.
- Proffer 10.2 states that at least 60 days prior to submission of development plans for a Tract, Owner shall submit to the County a conceptual master stormwater management plan for that Tract. The proffer further specifies what shall be shown on the plan, which includes items such as: a preliminary site plan with conceptual layout of road network and utilities, an identification of proposed location and type of each stormwater management device, and a SSC Checklist identifying the required unit measures.

The "future amenity" is shown within the intended parcel lines of Parcel C, but this area, as well as the "Parcel D" area, were not shown to the level of detail required in the proffer and were therefore not reviewed by the Planning Director and DRC in accordance with the proffers yet. The conceptual plan that went to the DRC for Tract 3 is attached.

As stated above, staff finds that a conceptual plan to meet the proffers above would need to be submitted and reviewed by County staff and the DRC before any development plans, which includes an E&SC type development plan, could be reviewed or approved. Should the applicant have any questions or concerns, I would be glad to assist them.

Thanks very much,

Ellen Cook
Principal Planner

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Michael Woolson

From: Robert Woodruff <Bob.Woodruff@rockbridgealliance.com>
Sent: Friday, January 10, 2020 12:12 PM
To: Michael Woolson
Cc: Mike Etchemendy - (metchemendy@megfp.com); Trant, Timothy O. II (totrant@kaufcan.com)
Subject: [External] FW: Stonehouse E&S Plan Issue

Importance: High

Dear Mr. Woolson,

We are formally requesting an appeal of the below response from Stormwater & Resource Protection (SRP), denying Stonehouse the ability to establish an erosion and sediment control plan so that excess earthwork material being generated from Stonehouse Tract 3 Parcels A, B, and C may be permanently placed in future sections that are within the Masterplan development envelope. A proffered rezoning has vested rights permitting orderly development of the multi-phased program pursuant to the approved Masterplan.

During design of the subdivision improvements for Parcels A, B, and C, it became clear that significant excess material would be generated from construction. We established a temporary stockpile area in Tract 11A as part of the approved Six Mount Zion Road plans as an initial measure. We had several unknowns at that time including total volume being generated due to in situ properties of on-site materials, sequence of phasing, timing of construction within other on-site development areas, et al.

Placement of excess fill to a permanent location is clearly preferable (by reducing potential environmental impacts and risk of erosion) versus temporary placement in stockpile areas, which requires it to be handled multiple times. As acknowledged by SRP below, Section 24-46 of the Zoning Ordinance allows this activity including placement of soil for improving the suitability of the site for building. Having the site regraded as proposed results in the site being more suitable for future development. Having this site cleared and graded also provides the possibility of temporary uses such as material laydown, temporary RV storage, etc. subject to county approval, as applicable.

With Stonehouse being a multi-phased Masterplan Community, minimizing earthwork activities better serves and is unquestionably in keeping with the performance standards of the Chesapeake Bay Preservation, particularly when that material is being placed consistent within the development envelop of the approved proffered Masterplan. Consequently, permanent placement of fill material versus temporary stockpiles facilitates the Chesapeake Bay Preservation goals.

We acknowledge and intend to comply with all federal, state and local permitting requirements including County and State erosion and sediment control, Chesapeake Bay Preservation Area, floodplain, and Virginia Stormwater management permit regulations. The plan as submitted includes a detailed erosion and sediment control plan, does not impact regulatory floodplain and does not include any increase in impervious areas. Once fill activities on the site are completed in keeping with the Masterplan, the site will be fully stabilized with vegetative cover with all erosion and sediment controls being removed in accordance with county and state criteria. It is not our intention to leave the sediment traps and basins in place beyond the maximum timeframe of 18 months. With regards to Chesapeake Bay Preservation, we are already working with you to confirm adjacent Resource Protection Areas as requested by Curtis Hickman's office with WSSI.

Please let us know if you have any questions or require additional information regarding this matter. Thank you

Bob Woodruff
20Rock Development LLC

From: Deirdre Wells <Deirdre.Wells@jamescitycountyva.gov>
Sent: Wednesday, December 11, 2019 11:07 AM
To: Robert Woodruff <Bob.Woodruff@rockbridgealliance.com>
Cc: Mike Etchemendy - (metchemendy@megfp.com) <metchemendy@megfp.com>; Ellen Cook <Ellen.Cook@jamescitycountyva.gov>; Christy Parrish <Christy.Parrish@jamescitycountyva.gov>; Michael Woolson <Michael.Woolson@jamescitycountyva.gov>; Darryl Cook <Darryl.Cook@jamescitycountyva.gov>
Subject: RE: Stonehouse E&S Plan Issue

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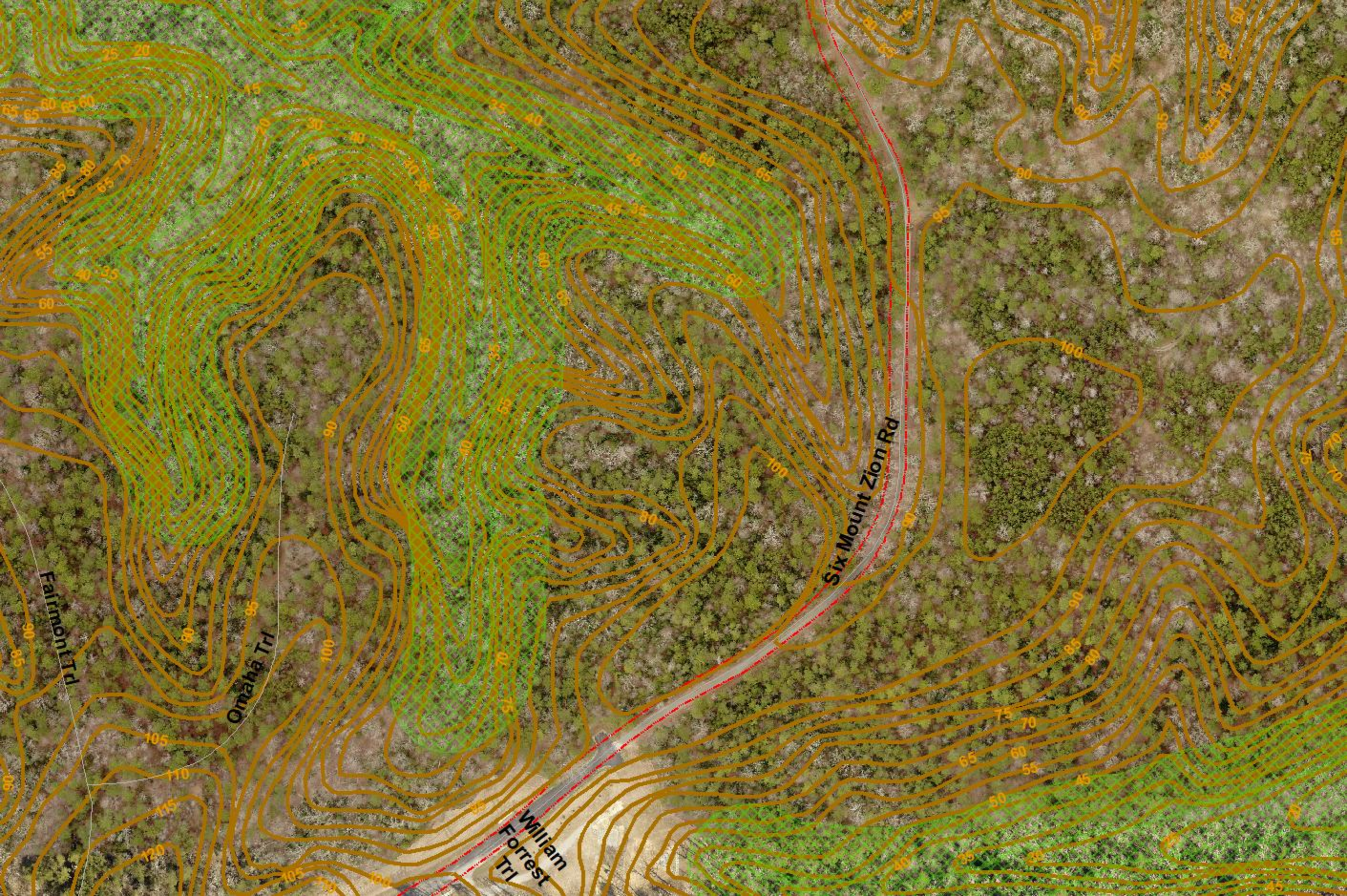
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Mount Laurel Rd
Barhamsville Rd

February 10, 2020

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