



## **CERTIFICATE OF AUTHENTICITY**

**THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMW ATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.**

**BMP NUMBER: 99313**

**DATE VERIFIED: December 9, 2021**

**QUALITY ASSURANCE TECHNICIAN: Charles E. Lovett II**

*Charles E. Lovett II*

**LOCATION: WILLIAMSBURG, VIRGINIA**

**NOTES: CERTIFY & UPLOAD**

# 1. Maintenance Agreement



COUNTY OF JAMES CITY, VIRGINIA

**DECLARATION OF COVENANTS**  
**INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM**

Engineering and Resource  
Protection Division  
101-E Mounts Bay Road  
Williamsburg, VA 23185  
757-253-6670  
jamescitycountyva.gov

Please type or print legibly in black ink. Covenantor(s) should submit this form to the JCC Engineering and Resource Protection Division, 101-E Mounts Bay Road, Williamsburg, VA 23185.

THIS DECLARATION OF COVENANTS, made this 11th day of October, 20 16,  
between **FCHOA**  
("COVENANTOR(S)"), owner(s) of the following property:

Parcel Identification Number(s): 3720200001A

Legal Description(s): FCHOA Greenway #22

Project or Subdivision Name: Ford's Colony

Document/Instrument No(s): \_\_\_\_\_

or Deed Book 366

, Page No. 564

and the County of James City, Virginia ("COUNTY.")

WITNESSETH:

I (We), the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.

2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.

3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.

4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, monitoring, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.

5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

Prepared by (Name, Address & Phone):

Ruan Lee Manager  
Ford's Colony H0A  
100 Manchester Dr  
Williamsburg VA 23188  
757-258-4230

Return to:

JCC Attorney's Office  
101-D Mount's Bay Road  
Williamsburg, VA 23185  
(757) 253-6612

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S) responsibilities for the SYSTEM. The COVENANTOR(S) shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

IN WITNESS WHEREOF, the COVENANTOR(S) has executed this DECLARATION OF COVENANTS as of the date first above written.

COVENANTOR(S)

Signature

Ryan Lee, PM Manager

Print Name and Title

ACKNOWLEDGMENT

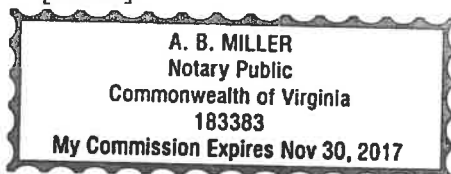
COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF James City

, to wit:

I hereby certify that on this 18 day of Oct, 20 16, before the subscribed, a Notary Public for the Commonwealth of Virginia, personally appeared Ryan Lee and did acknowledge the foregoing instrument to be his/her Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 18 day of Oct, 20 16.

[SEAL]



Notary Public

Notary Registration Number: 18 3383

My Commission expires: 11.30.17

Approved as to form:

M. Allen  
County Attorney

Recorded: 10/25/2016

## 2. Deeds/Easements/ Agreements/Property Records



# 3. Construction Certificate

## 4. Record Drawings (As Builts)



Virginia

10883563/2022 Greenway 27 Improvement/Engineering Plans/W555002-a01 cover.dwg 9/20/2016 2:54:40 PM







## 2 ACRES OR LESS OF DRAINAGE AREA:

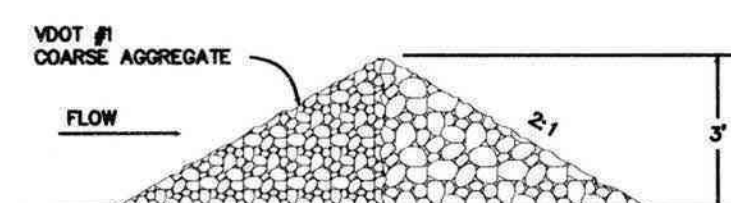
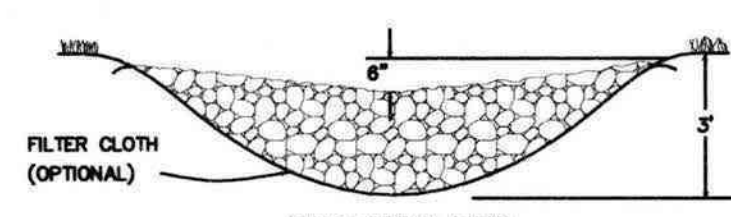
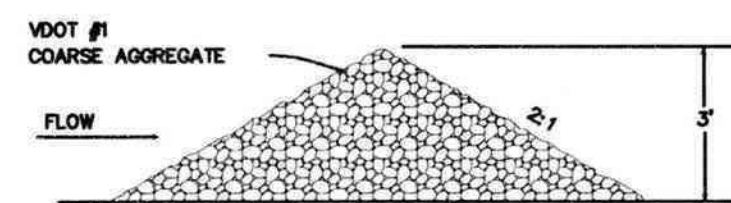
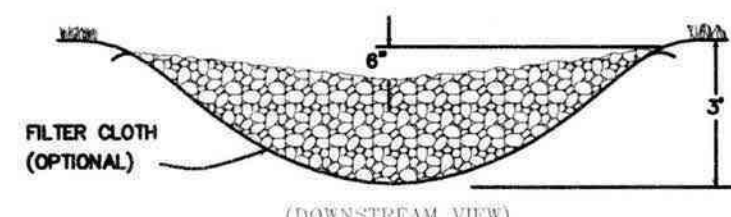
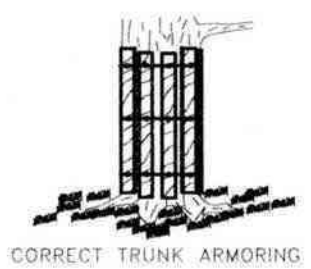


Plate 3 20-

[illegible]

- **TRIANGULAR BOARD FENCE**
- **PLASTIC FENCING** 4-INCH HIGH "INTERNATIONAL ORANGE" PLASTIC (POLYETHYLENE) WEB FENCING REQUIRED TO CONVENTIONAL METAL "T" OR "U" POSTS DURING TO A MINIMUM DEPTH OF 8 INCHES FOR ALL TYPES OF FENCING. POSTS SHALL BE INSTALLED AT THE LIMITS OF CLEARING. THE FENCE SHALL HAVE THE FOLLOWING MINIMUM PHYSICAL QUALITIES
- **TENSILE YIELD:** AVERAGE 2,000 LBS. PER 4-FOOT WIDTH (ASTM D638)
- **ULTIMATE TENSILE YIELD:** AVERAGE 2,900 LBS. PER 4-FOOT WIDTH (ASTM D638)
- **ELONGATION AT BREAK (%):** GREATER THAN 1000% (ASTM D638)
- **CHEMICAL RESISTANCE:** INERT TO MOST CHEMICALS AND ACIDS
- **PLACE FENCE 5' OUTSIDE DRAINLINE**

Plate 338-2

TP  
Plate 3 38-

	TOTAL LBS. PER ACRE
<b>MINIMUM CARE LAWN</b>	
COMMERCIAL OR RESIDENTIAL	
-KENTUCKY 31 OR TURF-TYPE TALL FESCUE	175-200 LBS.
OR	
-COMMON BERMAUDA GRASS **	75 LBS.
<b>HIGH-MAINTENANCE LAWN</b>	
-KENTUCKY 31 OR TURF-TYPE TALL FESCUE	200-250 LBS.
OR	
-HYBRID BERMAUDAGRASS (SEED)**	40 LBS. (UNHALLED)
OR	
-HYBRID BERMAUDAGRASS (ANY OTHER VEGETATIVE	30 LBS. (HALLED)

**GENERAL SLOPE (3:1 OR LESS)**

-KENTUCKY 31 FESQUE	128 LBS.
-RED TOP GRASS	2 LBS.
-SEASONAL NURSE CROP *	20 LBS.
	150 LBS.

**LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)**

-KENTUCKY 31 TALL FESQUE	93-108 LBS.
-COMMON BERNARD GRASS **	0-15 LBS.
-RED TOP GRASS	2 LBS.
-SEASONAL NURSE CROP *	20 LBS.
-GRASSA LESPEDEZA **	20 LBS.
	150 LBS.

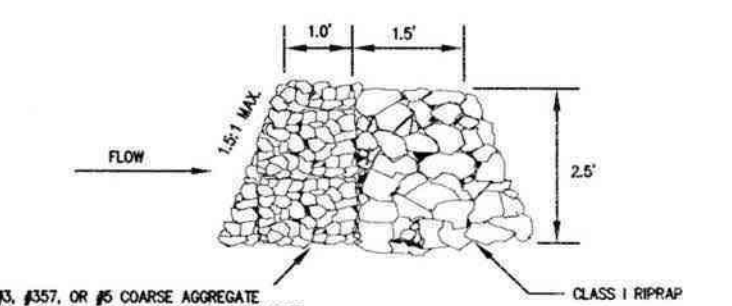
\* USE SEASONAL CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:

FEBRUARY, MARCH THROUGH APRIL.....	ANNUAL RYE
MAY 1ST THROUGH AUGUST.....	FOXTAIL MILLET
SEPTEMBER, OCTOBER THROUGH NOVEMBER 15TH.....	ANNUAL RYE
NOVEMBER 16TH THROUGH JANUARY.....	WINTER RYE

\*\* MAY THROUGH OCTOBER, USE HULLED SEED. ALL OTHER SEEDING PERIODS, USE UNHULLED SEED. WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS; ADD 10-20 LBS./ACRE IN MIXES.

Diagram illustrating the cross-section of a salt fence structure. The structure consists of a culvert (labeled "CULVERT") with an endwall (labeled "ENDWALL") at the top. The culvert is surrounded by a "TOE OF FILL" (labeled "TOE OF FILL"). Below the culvert is a "SALT FENCE" (labeled "SALT FENCE"). The flow direction is indicated by arrows labeled "FLOW". A note states: "DISTANCE IS 1/2 MINIMUM IF FLOW IS TOWARD ENDWALL".

### OPTIONAL STONE COMBINATION\*\*



\* VDOT #3, #57, OR #6 COARSE AGGREGATE TO REPLACE SILT FENCE IN "HORSESHOE" WHEN HIGH VELOCITY OF FLOW IS EXPECTED. CLASS I RIPRAP

Table 3.32.

THE FOLLOWING STANDARD COUNTY NOTES SHALL BECOME PART OF ANY APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR PLAN OF DEVELOPMENT PROJECTS IN JAMES CITY COUNTY, VIRGINIA. COMPONENTS OF A SWPPP MAY INCLUDE AS APPLICABLE, A SITE EROSION AND SEDIMENT CONTROL (E&SC) PLAN, A SITE STORMWATER MANAGEMENT (SWM) PLAN, AND A SITE POLLUTION PREVENTION PLAN (PPP). THE COUNTY'S DIVISION OF ENGINEERING AND RESOURCE PROTECTION IS DESIGNATED BY CHAPTER 8 OF THE COUNTY CODE AS THE LOCAL VIRGINIA EROSION AND SEDIMENT CONTROL PROGRAM (VЕСSP) AUTHORITY AND VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSPM) AUTHORITY.

- ALL THE PROVISIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL (ES&C) LAW AND REGULATIONS, THE VIRGINIA STORMWATER MANAGEMENT ACT AND REGULATIONS (VSM), THE VIRGINIA FARMHOUSE 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 VSMPT AUTHORITY SHALL APPLY TO THE PROJECT.
- MINIMUM STANDARDS NO. 1 THROUGH NO. 19 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS 9VA2CS-840 ET SEQ. SHALL APPLY TO THE PROJECT.
- 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 ACTIVITY (VAR10) CHAPTER 880 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REGULATIONS CHAPTER 870; AND IN ACCORDANCE WITH CURRENT REGULATIONS OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMPT), THE STATE WATER CONTROL BOARD, THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 8 OF THE COUNTY CODE AND THE LOCAL VESCP/VSMPT AUTHORITY.
- THE OWNER, APPLICANT, OPERATOR OR PERMITTEE SHALL PROVIDE THE NAME OF AN INDIVIDUAL, HOLDING A VALID RESPONSIBLE LAND DISTURBER (RLD) CERTIFICATE OF COMPETENCY 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.
- 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.
- 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.
- A PRECONSTRUCTION CONFERENCE (MEETING) SHALL BE HELD ON SITE AND INCLUDE REPRESENTATIVES FROM THE LOCAL VESCP/VSMPT 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 BE RESPONSIBLE FOR SCHEDULING AND PROVIDING A PREVENTION PLAN (P2 PLAN OR PPP), IF APPLICABLE, TO THE LOCAL VESCP/VSMPT AUTHORITY FOR REVIEW AND APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING.
- 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 PROPOSED AND EXISTING WATERWAYS; MINIMIZE 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. THE CONTRACTOR SHALL HAVE IN PLACE ALL 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/VSMPT AUTHORITY WHEN REQUIRED.
- 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/VSMPT AUTHORITY.
- ALL PERIMETER EROSION AND SEDIMENT CONTROL (ES&C) MEASURES SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE ACTIVITY TAKES PLACE.
- 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.
- EROSION AND SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT OR FOLLOWING TIME OF CONSTRUCTION TO ENSURE THEIR INTENDED DESIGN SPECIFICATIONS ARE MAINTAINED AND TO INSURE 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/VSMPT AUTHORITY APPROVAL SHALL BE REQUIRED FOR ANY DEVIATION OF EROSION AND SEDIMENT CONTROL MEASURES FROM THE APPROVED PLAN.
- OFF-SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE LOCAL VESCP/VSMPT AUTHORITY PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.
- TEMPORARY SOIL STOCKPILES SHALL COMPLY WITH THE PROVISIONS OF SECTION 24-46 OF THE COUNTY CODE.
- 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/VSMPT AUTHORITY CONVEYANCE 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/VSMPT AUTHORITY ON A CASE-BY-CASE BASIS BASED ON FIELD SITUATIONS ENCOUNTERED.
- DRAINAGE FACILITIES SHALL BE INSTALLED AND FUNCTIONAL WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT.
- 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.
- PERMANENT OR TEMPORARY STABILIZATION OF DISTURBED SOIL AREAS SHALL COMPLY WITH MINIMUM STANDARD # 1 AND # 3 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS.
- 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.
- IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY OR FEBRUARY, STABILIZATION SHALL CONSIST OF SEEDING AND 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.
- 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/VSMPT AUTHORITY. DISTURBANCES ASSOCIATED WITH THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY STABILIZED.
- 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) 80 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 BUYER DOES NOT SATISFY THIS PROVISION. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL NOT BE REMOVED WITHOUT AUTHORIZATION OF THE LOCAL VESCP/VSMPT AUTHORITY.
- 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).
- RECORD DRAWINGS (ASBUILTS) AND CONSTRUCTION CERTIFICATIONS ARE REQUIRED FOR ALL STORMWATER FACILITIES INCLUDING STORMWATER MANAGEMENT BMP FACILITIES. THE DESIGN AND CONSTRUCTION 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 VSMPT AUTHORITY. RECORD DRAWINGS AND CONSTRUCTION CERTIFICATIONS MUST MEET ESTABLISHED PROGRAM REQUIREMENTS OF THE COUNTY'S CHAPTER 8 EROSION AND SEDIMENT CONTROL AND VSMPT ORDINANCE AND THE LOCAL VESCP/VSMPT AUTHORITY.
- 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/VSMPT AUTHORITY. THE OWNER, AND THE APPLICANT/OPERATOR/PERMITTEE DESIGNATED GEOTECHNICAL

SPECIES	SEEDING RATE		NORTH (A)		SOUTH (B)		PLANT CHARACTERISTICS	
	ACRE	1000 FT. SL	3/10 4/20	5/10 6/20	8/10 11/10	2/10 3/10		5/10 6/10
<b>DARTS</b> (ANIMA SARINA)	3 lbs. (up to 100 lbs.) less than 100 lbs.	2 lbs.	X	-	X	-	X	Use spring varieties (e.g. Nabe).
<b>PIE*</b> (SERIALA CECALIA)	2 lbs. (up to 110 lbs.) less than 100 lbs.	2.5 lbs.	X	-	X	-	X	Use for late fall seedings. Tolerant of cold and low moisture.
<b>GERMAN MULLET</b> (SERIALA GULET)	80 lbs.	oppr. 1 lb.	-	X	-	X	-	Warm-season cereal. Dies off first frost. May be added to summer milks.
<b>ANIMA PIERASS*</b> (ANIMA MALE-CLORIN)	80 lbs.	1-1/2 lbs.	X	-	X	-	X	May be added to milks. Will move out of most milks.
<b>WEDDO</b> LORASSA (ORASSA CECALIA)	80 lbs.	5-1/2 lbs.	-	X	-	X	-	Warm-season perennial. May handle. Tolerant hot, dry climates and cold. Inertile soils. May be added to milks.
<b>KORAN</b> LORASSA (LORASSA SERIALA)	25 lbs.	oppr. 1-1/2 lbs.	X	-	X	-	X	Warm-season cereal. Tolerant of cold soils. May be added to milks.

c. NORTHERN PEAKMONT AND MOUNTAIN REGION. SEE PLATES 322-1 AND 322-2.

d. SOUTHERN PEAKMONT AND GASTAL PLAIN.

e. MAY BE USED AS A COVER CROP WITH SPRING SEEDING.

f. MAY BE USED AS A COVER CROP WITH FALL SEEDING.

g. MAY BE PLANTED BETWEEN THESE DATES.

h. MAY BE PLANTED BETWEEN THESE DATES.

(TS)

Table 3.31.



**AES**

**CONSULTING ENGINEERS**

Hampton Roads | Central Virginia | Middle Peninsula

5248 Old Towne Road, Suite 1  
Williamsburg, Virginia 23188  
Phone: (757) 263-0040  
Fax: (757) 220-8994  
[www.aesva.com](http://www.aesva.com)

<h1 style="margin: 0;">FORD'S COLONY</h1> <h2 style="margin: 0;">GREEN WAY #22</h2> <h2 style="margin: 0;">DRAINAGE IMPROVEMENTS</h2>		VIRGINIA  JAMES CITY COUNTY  POWHATAN DISTRICT
Project Contacts: JAG		
Project Number: 5652-02		
Scale: NONE	Date: 6/6/16	
Sheet Title:		
<h1 style="margin: 0;">NOTES &amp; DETAILS</h1>		
Sheet Number		
<h1 style="margin: 0;">3 OF 3</h1>		



# 5. Construction Drawings

## 6. Design Calculations



Project: **Fords Colony - Greenway #22**  
Project No.: **565202**  
Subject: **Channel Design**

Date: **6/6/2016**  
Calculated By: **SCK**

SP-45-16  
FINAL  
COMPS

**Design Point:**

**POC 1**

**2 Year Storm - Velocity Check**

Drainage Area = **3.56** Acres  
C = **0.45**  
I = **5.78** in/hr

(Area draining to Design Point)  
(Runoff Coefficient)  
(Design Rainfall Intensity)

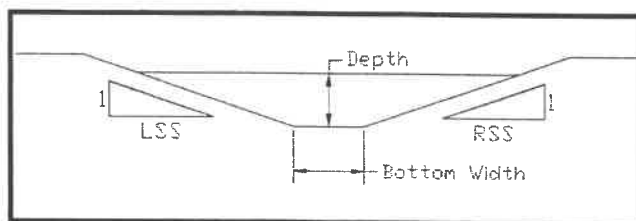
$$Q = C I A$$

$$= 0.45 \times 5.78 \times 3.56$$
$$= 9.26 \text{ CFS}$$

(Peak Flow)

**Channel Characteristics**

Rt. Sideslope = **2.00** :1  
Lt. Sideslope = **2.00** :1  
Base Width = **2.00** Ft.  
Max. Depth = **2.00** Ft.  
Channel Slope = **1.00** %  
Mannings (n) = **0.035** grass



Depth of Flow = **0.87** Ft.  
Area = **3.24** SF  
Hydraulic Radius = **0.55** Ft.  
Velocity (V) = **2.85** Ft./sec.  
Flow (Q) = **9.26** CFS

Wetted Perimeter = **5.88** Ft.  
(From Manning's Equation)  
(From Continuity Equation  $Q=AV$ )

**10 Year Storm - Capacity Check**

Drainage Area = **3.56** Acres  
C = **0.45**  
I = **7.50** in/hr

(Area draining to Design Point)  
(Runoff Coefficient)  
(Design Rainfall Intensity)

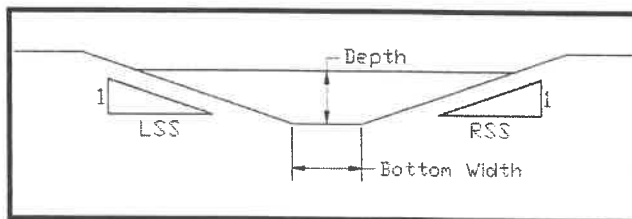
$$Q = C I A$$

$$= 0.45 \times 7.50 \times 3.56$$
$$= 12.02 \text{ CFS}$$

(Peak Flow)

**Channel Characteristics**

Rt. Sideslope = **2.00** :1  
Lt. Sideslope = **2.00** :1  
Base Width = **2.00** Ft.  
Max. Depth = **2.00** Ft.  
Channel Slope = **1.00** %  
Mannings (n) = **0.035** grass



Depth of Flow = **0.99** Ft.  
Area = **3.92** SF  
Hydraulic Radius = **0.61** Ft.  
Velocity (V) = **3.06** Ft./sec.  
Flow (Q) = **11.97** CFS

Wetted Perimeter = **6.41** Ft.  
(From Manning's Equation)  
(From Continuity Equation  $Q=AV$ )

0.99 < 2'



Project: **Fords Colony - Greenway #22**  
Project No.: **565202**  
Subject: **Channel Design**  
Date: **6/6/2016**  
Calculated By: **SCK**

**Design Point:**

**POC 2**

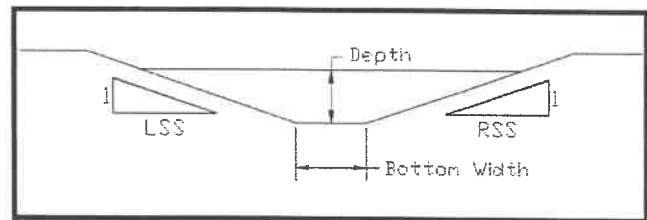
**2 Year Storm - Velocity Check**

Drainage Area = **2.59** Acres (Area draining to Design Point)  
C = **0.46** (Runoff Coefficient)  
I = **5.78** in/hr (Design Rainfall Intensity)

Q = C I A (Peak Flow)  
= **0.46** x **5.78** x **2.59**  
= **6.89** CFS

**Channel Characteristics**

Rt. Sideslope = **4.00** :1  
Lt. Sideslope = **4.00** :1  
Base Width = **2.00** Ft.  
Max. Depth = **1.00** Ft.  
Channel Slope = **0.75** %  
Mannings (n) = **0.035** grass



Depth of Flow = **0.75** Ft.  
Area = **3.72** SF  
Hydraulic Radius = **0.46** Ft.  
Velocity (V) = **2.18** Ft./sec. ✓ (From Manning's Equation)  
Flow (Q) = **8.10** CFS (From Continuity Equation Q=AV)  
Wetted Perimeter = **8.15** Ft.

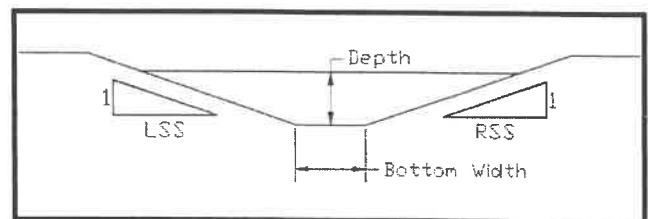
**10 Year Storm - Capacity Check**

Drainage Area = **2.59** Acres (Area draining to Design Point)  
C = **0.46** (Runoff Coefficient)  
I = **7.50** in/hr (Design Rainfall Intensity)

Q = C I A (Peak Flow)  
= **0.46** x **7.50** x **2.59**  
= **8.94** CFS

**Channel Characteristics**

Rt. Sideslope = **4.00** :1  
Lt. Sideslope = **4.00** :1  
Base Width = **2.00** Ft.  
Max. Depth = **1.00** Ft.  
Channel Slope = **0.75** %  
Mannings (n) = **0.035** grass



Depth of Flow = **0.85** Ft.  
Area = **4.61** SF  
Hydraulic Radius = **0.51** Ft.  
Velocity (V) = **2.35** Ft./sec. (From Manning's Equation)  
Flow (Q) = **10.82** CFS (From Continuity Equation Q=AV)  
Wetted Perimeter = **9.03** Ft.

0.85 ft



Project: Fords Colony - Greenway #22  
Project No.: 565202  
Subject: Channel Design  
Date: 6/6/2016  
Calculated By: SCK

**Design Point:**

**POC 3**

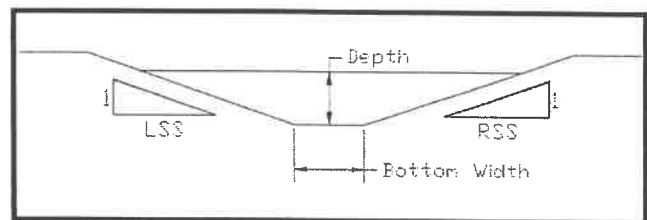
**2 Year Storm - Velocity Check**

Drainage Area = 1.08 Acres (Area draining to Design Point)  
C = 0.40 (Runoff Coefficient)  
I = 5.78 in/hr (Design Rainfall Intensity)

$$Q = C I A$$
$$= 0.40 \times 5.78 \times 1.08$$
$$= 2.50 \text{ CFS} \quad \text{(Peak Flow)}$$

**Channel Characteristics**

Rt. Sideslope = 6.00 :1  
Lt. Sideslope = 6.00 :1  
Base Width = 2.00 Ft.  
Max. Depth = 0.67 Ft.  
Channel Slope = 0.75 %  
Mannings (n) = 0.035 grass



Depth of Flow = 0.44 Ft.  
Area = 2.03 SF  
Hydraulic Radius = 0.28 Ft.  
Velocity (V) = 1.56 Ft./sec. ✓ (From Manning's Equation)  
Flow (Q) = 3.16 CFS (From Continuity Equation Q=AV)

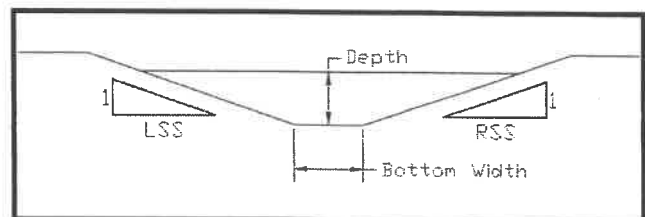
**10 Year Storm - Capacity Check**

Drainage Area = 1.08 Acres (Area draining to Design Point)  
C = 0.40 (Runoff Coefficient)  
I = 7.50 in/hr (Design Rainfall Intensity)

$$Q = C I A$$
$$= 0.40 \times 7.50 \times 1.08$$
$$= 3.24 \text{ CFS} \quad \text{(Peak Flow)}$$

**Channel Characteristics**

Rt. Sideslope = 6.00 :1  
Lt. Sideslope = 6.00 :1  
Base Width = 2.00 Ft.  
Max. Depth = 0.67 Ft.  
Channel Slope = 0.75 %  
Mannings (n) = 0.035 grass



Depth of Flow = 0.50 Ft.  
Area = 2.53 SF  
Hydraulic Radius = 0.31 Ft.  
Velocity (V) = 1.69 Ft./sec. (From Manning's Equation)  
Flow (Q) = 4.28 CFS (From Continuity Equation Q=AV)

0.50' <  
0.67'



# Culvert Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Monday, Aug 15 2016

## Circular Culvert

Invert Elev Dn (ft) = 20.02 ✓  
 Pipe Length (ft) = 71.00 ✓  
 Slope (%) = 4.65  
 Invert Elev Up (ft) = 23.32 *23-33*  
 Rise (in) = 24.0 ✓  
 Shape = Circular  
 Span (in) = 24.0  
 No. Barrels = 1  
 n-Value = 0.012 *HDPE*  
 Culvert Type = Circular Concrete  
 Culvert Entrance = Square edge w/headwall (C)  
 Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

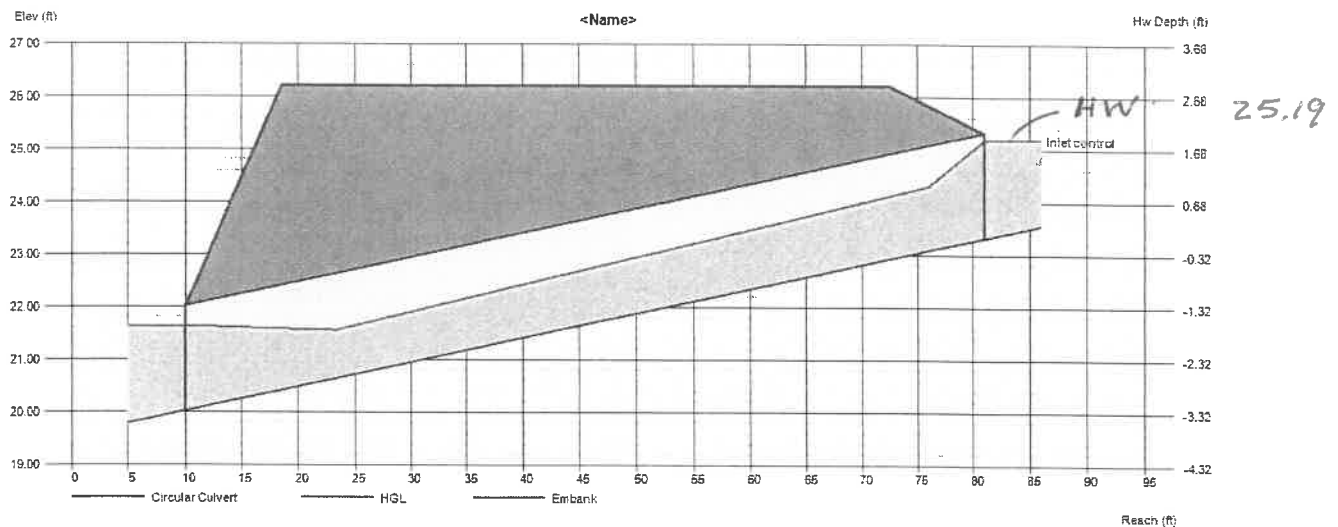
**Embankment**  
 Top Elevation (ft) = 26.20 *26.4±*  
 Top Width (ft) = 54.00  
 Crest Width (ft) = 5.00

### Calculations

Qmin (cfs) = 11.97  
 Qmax (cfs) = 11.97  
 Tailwater Elev (ft) = (dc+D)/2

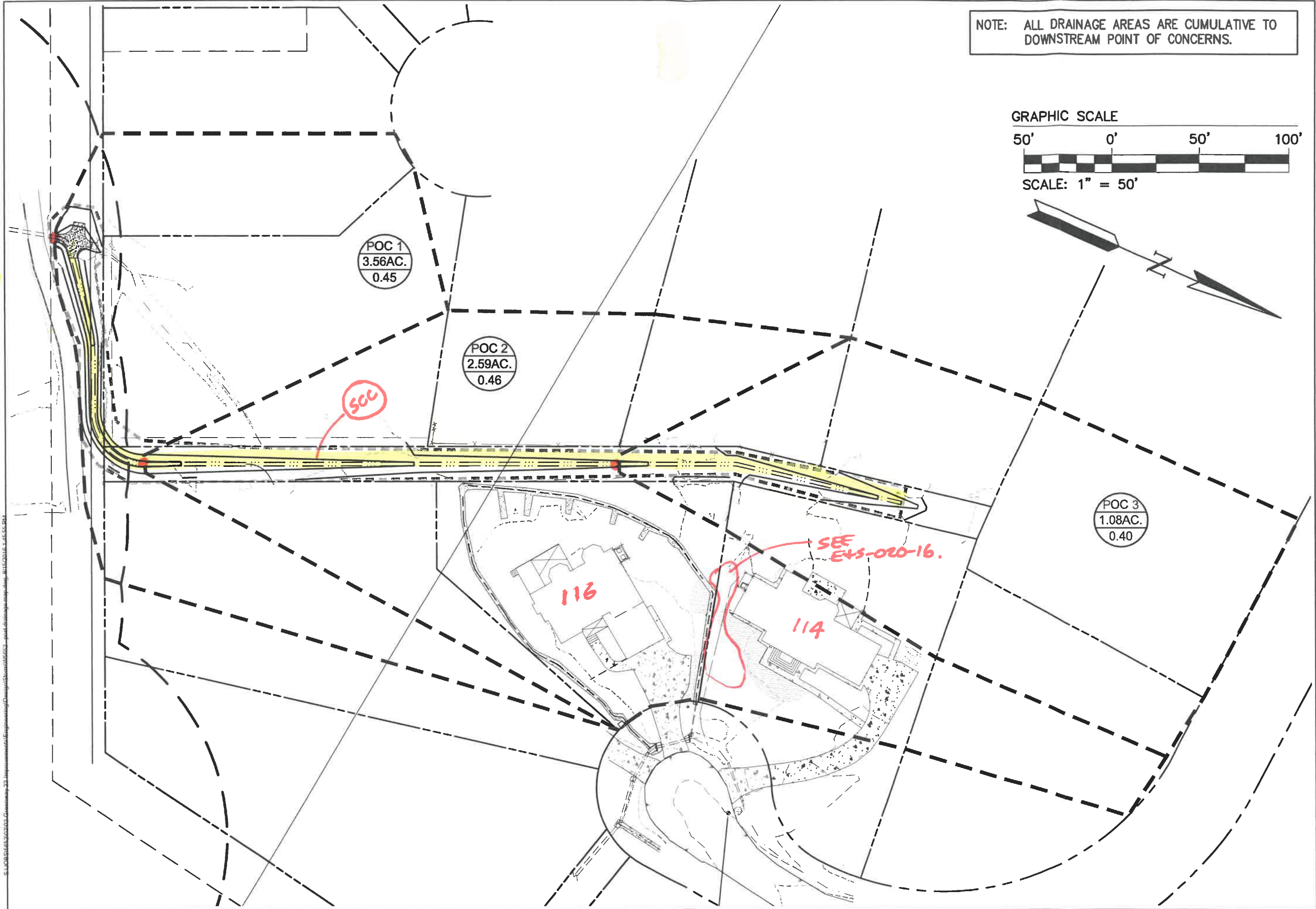
### Highlighted

Qtotal (cfs) = 11.97 *Q10 POI #1*  
 Qpipe (cfs) = 11.97  
 Qovertop (cfs) = 0.00  
 Veloc Dn (ft/s) = 4.39  
 Veloc Up (ft/s) = 5.84  
 HGL Dn (ft) = 21.64  
 HGL Up (ft) = 24.56  
 Hw Elev (ft) = 25.19  
 Hw/D (ft) = 0.93  
 Flow Regime = Inlet Control ✓

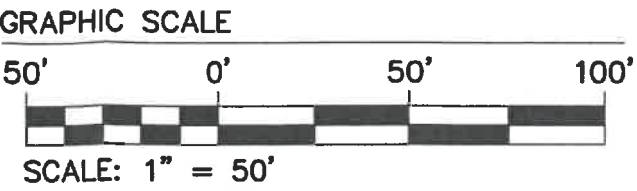


*POC #1  
 channel is 2' deep.  
 Hw = 1.86  
 No step backwater  
 analyses provided  
 for channel design.*

*25.19  
 23.33  
 1.86' deep  
 at V/S INV.  
 CULV = HW COMP. INLET CONTROL.  
 SCC = MANNINGS ONLY.*



NOTE: ALL DRAINAGE AREAS ARE CUMULATIVE TO DOWNSTREAM POINT OF CONCERNS.



Rev.	Date	Description	Revised By

6548 Old Town Road, Suite 1  
 Williamsburg, Virginia 23185  
 Phone: (757) 253-0040  
 Fax: (757) 252-8884  
[www.ahs.com](http://www.ahs.com)

**AHS**  
 CONSULTING ENGINEERS

Hampton Roads | Central Virginia | Middle Peninsula

**FORD'S COLONY**  
 GREENWAY #22  
 DRAINAGE IMPROVEMENTS

POWATAN DISTRICT | JAMES CITY COUNTY | VIRGINIA

Project Contacts:	JAG
Project Number:	5652-02
Scale:	1"=50'
Date:	6/6/16
Sheet Title:	POST DRAINAGE MAP
Sheet Number	1

# 7. Reports



**ENGINEERING AND RESOURCE PROTECTION REVIEW COMMENTS**  
**FORD'S COLONY SECTION 2 – GREENWAY # 22 DRAINAGE**  
**COUNTY PLAN NO. SP - 045 - 16**  
*July 22, 2016*

**Permitting and Regulatory Notices**

- A local Land Disturbing/Stormwater Construction Permit (VESCP/VSMP authority permit) and Siltation Agreement, with surety, are required for this project.
- CBPA-LDA. As land disturbing activity proposed for this project is equal to or greater than 2,500 square feet but less than one (1) acre disturbed, it is designated as a Chesapeake Bay Preservation Act land disturbing activity (CBPA-LDA). Therefore, completion of a registration statement or coverage under the state VPDES construction general permit (VAR10) are not required through the local VSMP authority. However, the \$290 registration fee (state portion \$0) and annual maintenance fee (\$50 local only) applies in accordance with state VSMP regulations and Chapter 8 of the County Code. A pollution prevention (P2) plan is not required as a component of a Stormwater Pollution Prevention Plan (SWPPP) for projects designated as a CBPA-LDA. .
- Stormwater Inspections. This project includes stormwater conveyance and/or stormwater management facilities. Completion of a Stormwater Facilities Data Sheet and payment of Stormwater Facilities Inspection Fees may be applicable prior to issuance of a local land disturbing/stormwater construction (VESCP/VSMP authority) permit.
- Offsite Work. A pre-application meeting was held for this project on June 1, 2016 with a representative from the Ford's Colony Homeowner's Association. Based on this meeting and as the HOA is identified on the plan as the owner/applicant for the project, it is assumed that the HOA has authority, through community declarations and covenants or other such mechanisms, to provide such drainage improvements through Greenway # 22. In addition, as discussed at the pre-application meeting, as the limits of work (disturbance) for the project may encroach on adjacent lots in Ford's Colony Section II, it is the HOA's responsibility to ensure that all adjacent lot owners are aware of the project, support it's intent, and would allow the HOA to perform related incidental work should it encroach out of the greenway onto adjacent lots. It is the owner/applicant's responsibility to ensure applicable permissions are secured should this occur. Usually the County would ask for evidence of such permissions prior to plan approval and/or issuance of a local land disturbing/stormwater

construction permit. For this particular review case, the risk/responsibility for this is on the owner/applicant and the County will not ask for evidence of applicable permissions.

### **Technical Comments**

#### **General:**

1. Site Information. On general note 1 on the cover sheet of the plan set, add that the project is situated in the non-tidal mainstem of the Powhatan Creek watershed.
2. Lots 133/134. As discussed at pre-application meeting held with the Ford's Colony HOA representative for this project on June 1, 2016 and in correspondence between the County and HOA prior to that date, the HOA is aware of the current situation associated with increased runoff from new home construction on Lot 133 (116 Landsdown; GPIN 3720200133) and the effects of this increased runoff and development resulting in additional impounded drainage on Lot 134 (114 Landsdown; GPIN 3720200135). The County has issued letters to the home builder responsible for building permit no. B14-3091 at Lot 133 dated December 29, 2015 and March 16, 2016 respectively. The contents of these letters will not be repeated in this comment. As such issuance of a certificate of occupancy for the homw on Lot 133 is on hold until the issue of impounded drainage on Lot 134 is resolved. No plan to remediate this condition has been received by our division to date. The last meeting held as it pertains to this issue was in the field on June 15, 2016 between the builder and his legal representative (Lot 133), the owner of Lot 134, and County personnel including the ERP director, County Attorney and the Assistant County Administrator.

It is desired that the owner/applicant for this greenway drainage improvement plan as proposed coordinate and work with the builder (Lot 133) and the owner of Lot 134 to effectively and concurrently resolve the impounded drainage situation and/or allow for connection to the proposed graded stormwater conveyance channel within the greenway should the builder of Lot 133 independently propose a solution or remediation (such as filling, grading, or installation of a stormwater conveyance system along the shared lot line between Lot 133 and 134).

#### **Floodplain:**

3. BFE. Information on the cover sheet of the plan indicates a SFHA Zone AE base flood elevation of 33. Current FEMA FIRM map panel 0117D dated 12/16/15 shows the general area of the project to be between base flood elevation 29 and 30 (Elev. 29.3 estimated). Correct information on the cover sheet.

#### **Chesapeake Bay Preservation:**

4. RPA. Show and label the RPA limits in the vicinity of the cart path.
5. CBE. Based on County general CBPA map information on GIS, it appears that the lower end of the proposed greenway stormwater conveyance channel (ie. channel segment POC 1 to POC 2) is within RPA. The environmental inventory table on plan Sheet 2 needs to reflect the amount of RPA impact within the defined limits of work for the project. Provide a water quality impact assessment as required

in order for our division to process an administrative water dependent (storm outfall) Chesapeake Bay Exception (CBE).

**Grading Plan:**

6. Proposed Grading. Label proposed contours especially where proposed contours are at centerline of channel. Show tie in locations for proposed contours where they meet existing grade. Many of the contour lines for proposed grading do not tie back in to existing contour elevations.
7. Fill. The proposed stormwater conveyance channel grading inset on plan Sheet 2 shows a note to fill in the existing ditch. This is at an area along the east property line of vacant Lot 141 and between channel identifications POC 2 and 3. Ensure proper type of backfill soils and compaction are used in this fill area to avoid later erosion due to channel flows. Provide notes or specifications as necessary.
8. Sewer. Based on plan and County GIS information it appears the last portion of the stormwater conveyance channel segment at the far south end of the project (between POC 1 and POC 2) is directly over top of a public sanitary sewer line. The gravity sewer line seems relatively deep at the location, between 8 to 12 feet in depth, probably due to proximity to JCSA Lift Station 5-5 directly to the west of the project, ensure proper approvals are secured from the JCSA for work above this sewer line and within the associated easement and ensure that a loss of 2 ft. of cover on this segment due to channel grading will have no effect on the subsurface sewer.

**Erosion & Sediment Control Plan:**

9. Standard Notes. Include the James City County, Engineering and Resource Protection Division, standard Stormwater Pollution Prevention Plan (SWPPP) Notes dated July 1, 2014 within the plan set.
10. Keys/Symbols. Provide standard keys and symbols, consistent with the Virginia Erosion and Sediment Control Handbook (VESCH) requirements, on the improvement plan inset on plan Sheet 2 to indicate stormwater conveyance channel (SCC). The boxed note for permanent stabilization (PS) on the inset demolition plan on plan Sheet 2 should be moved down to the proposed channel improvement inset plan.
11. Check Dams. It should be noted on the demolition plan inset of plan Sheet 2 that the check dams (CD) as shown are temporary for erosion and sediment control purposes during the land disturbing activity and that these features are to be removed once stabilization is achieved and not permanent.
12. Construction Sequence.
  - a. Tree removal step should be noted appropriately. Appropriate installation of E&SC measures should precede clearing operations. Also note removal of all such debris materials from clearing activities to an approved offsite location. Because of the relative flatness of the greenway, large amounts of vegetative debris from clearing operation should not be left within the greenway corridor.

- b. Step 2 calls for silt fence installation but no silt fence or silt fence keys and symbols (SF) could be found on plan Sheet 2. Please revise.
  - c. Step 3 calls for installation of an inlet. As no new inlets are proposed for the project it is assumed that this means installation of a culvert inlet protection (CIP) at the upstream invert of the existing 24-inch culvert at the golf course. Please revise.
  - d. Step 4 calls for grading and forming a concrete ditch. No concrete channel section is proposed for this project. Please revise.
  - e. Step 6 should also indicate installation of erosion control matting as proposed at the POC 1 to POC 2 location at the west end of the project.
13. Existing DI structures. Ford's Colony Section II Lots 138 and 139 contain labels for existing drainage inlet (DI) on the lots. Provide additional information regarding these structures including the location and size of pipes and ensure the proposed plan for the stormwater conveyance channel will not affect or obstruct drainage from this onlot systems. Outfall protection (OP) may be needed within the proposed channel at the end of these onlot storm pipes to prevent channel erosion or scour.
  14. Safety Fence. Along the north side of the golf cart path at the far south limit of work for the project, include safety fence, with appropriate keys and symbols in accordance with Minimum Standard & Spec. 3.01 of the VESCH, on the demolition plan inset on plan Sheet 2.
  15. Downstream BMP Protection. Include provisions on the E&SC plan to monitor the existing offsite BMP (County BMP ID Code PC150) for signs of sedimentation, specifically during or as a result of project construction. As this facility is not intended to be used for sediment control, the contractor should be aware that additional onsite or offsite controls may be necessary to protect the BMP from degradation. This may include additional E&SC measures, cleaning and sediment removal within the basin or connecting stormwater conveyance systems and coordination with the owner, engineer, or the County.

**Stormwater Management / Drainage:**

16. Existing Culvert. The proposed stormwater conveyance channel through the greenway terminates at an existing 24-inch culvert across the golf cart path. Ensure this culvert is adequate for structural integrity and stormwater function as the proposed plan relies heavily on it's adequacy and proper function.
17. Existing Culvert. The computations provided for proposed stormwater conveyance channel do not include any type of consideration for the effects of headwater at the entrance (upstream invert) of the existing 24-inch culvert across the golf cart path. Headwater depth for the 10-year design storm may have effect on the ability for the channel to positively flow and for channel flow capacity which could affect channel design parameters. In accordance with County Drainage Standards, provide a culvert headwater analyses for the 24-inch culvert and determine whether a step-backwater design analyses is required for channel design.

18. Channel Plan/Section. The design drainage map and calculations indicate four distinct channel sections to be constructed (POC 1 through 4). Although each channel segment proposes a parabolic (soft) section rather than V- or trapezoidal shaped ditch, the plan or ditch section should provide appropriate levels of details to match each of the POC segments per the drainage map and computations (segment length, side slopes, design depth, slope, and bottom width).
19. Channel Section. The ditch section/detail provided on plan Sheet 2 is misleading as the intended channel section is a parabolic soft section rather than trapezoidal shaped. Refer to Plate 3.17-1 in Minimum Standard & Spec. 3.17 of the VESCH for typical details and sections for a parabolic-shaped channel.



## 8. Correspondence

**Development Management**

101-A Mounts Bay Road

P.O. Box 8784

Williamsburg, VA 23187-8784

P: 757-253-6671

F: 757-253-6822

Development.management@jamescitycountyva.gov

jamescitycountyva.gov

**Building Safety and Permits**

757-253-6620

**Engineering and Resource Protection**

757-253-6670

**Planning**

757-253-6685

**Zoning Enforcement**

757-253-6671

October 27, 2016

Mr. Jason Grimes  
AES Consulting Engineers  
5248 Olde Towne Road  
Suite 1  
Williamsburg, VA 23188

**RE: SP-0045-2016, Ford's Colony Section 2 Greenway # 22 Drainage Improvements**

Dear Mr. Grimes:

I am pleased to inform you that your site plan received final approval on October 27, 2016. Enclosed are two copies of the stamped final approval drawing for your files.

Final approval of the site plan shall expire five years after the date of approval. During that period all permits shall be obtained or the development shall be put into use. Please review all final agency comments as additional approvals may be required before land disturbing or construction. Agency comments can be located on CaseTrak, found at: [first.jamescitycountyva.gov/CaseTrak/](http://first.jamescitycountyva.gov/CaseTrak/). When the permits have been issued, the site plan approval shall run concurrently with the permits term of validity for only those uses and improvements covered by the permits. All work shall be completed in the manner and location indicated upon the approved plan. Modifications shall be approved in advance by the Zoning Administrator.

Sincerely,

Ellen G. Cook  
Principal Planner

## Scott Thomas

---

**From:** Scott Thomas  
**Sent:** Friday, September 30, 2016 8:56 AM  
**To:** Christy Parrish; Tom Coghill; Paul Holt; Jason Purse  
**Cc:** Adam Kinsman; Jose Ribeiro  
**Subject:** RE: Update on 114/116 Landsdown

Christy – yes indeed and I think we have always kept the floodplain regulations from local ordinance and NFIP in mind the whole time through these applications and issues. The fact too of the newest lot being subject to the newest criteria and the older lot no being subject to any criteria is also a contributing factor to the issues at hand. The channel greenway plan by the HOA is in flood fringe, is in all cut (no fill) and is not in a “waterway” as defined by the ordinance and CFR which has special protocols for. The fill plan for the lot is minimal (1,500 square feet) in size and depth and is more landscaping in nature than structural fill and does not even cross the threshold to which I would even have concern to get a no-rise certification for. I would also cite 60.22(c)(9) of the 44CFR Part 60 in that it is an “improvement of local drainage to control increased runoff that might increase the danger of flooding to other properties”.

Scott J. Thomas  
Director  
James City County  
Division of Engineering and Resource Protection

**From:** Christy Parrish  
**Sent:** Wednesday, September 28, 2016 10:13 AM  
**To:** Scott Thomas <Scott.Thomas@jamescitycountyva.gov>; Tom Coghill <Tom.Coghill@jamescitycountyva.gov>; Paul Holt <Paul.Holt@jamescitycountyva.gov>; Jason Purse <Jason.Purse@jamescitycountyva.gov>  
**Cc:** Adam Kinsman <Adam.Kinsman@jamescitycountyva.gov>; Jose Ribeiro <Jose.Ribeiro@jamescitycountyva.gov>  
**Subject:** RE: Update on 114/116 Landsdown

As you know, Paul and I attended FEMA training last week and they put the fear of God in you regarding any development in the floodplain fringe and/or floodway. So this is fresh in my mind. :) Please confirm that the plans meet the Floodplain Overlay section of the Zoning Ordinance. I'm sure it does but wanted to confirm for my files. Thank you Scott for your work on this, it is much appreciated.

I'm currently at VAZO for the rest of the week so I'm unable to pull any plans or look at GIS.

Specifically:

Sec. 24-599. - Design criteria for utilities and facilities.

Drainage facilities. All storm drainage facilities shall be designed to convey the flow of surface waters without damage to persons or property. The systems shall ensure drainage away from buildings and on site waste disposal sites.

Sec. 24-600. - Regulations for filling in flood fringe and approximated floodplain districts.

No permit shall be issued or approved until the site development plan for such fill meets the following requirements:

(1) The filling of land shall be designed and constructed to minimize obstruction to and effect upon the flow of water and more particularly that:

a. Such fill will not result in any increase in flood levels during the occurrence of a one percent annual chance (100-year) flood discharge.

b. The flood-carrying capacity of the watercourse shall be maintained.

- (2) Fill shall be effectively protected against erosion by vegetative cover, riprap, gabions, bulkhead or other acceptable method. Any structure, equipment or material permitted shall be firmly anchored to prevent dislocation due to flooding;
- (3) Fill shall be of a material that will not pollute surface water or groundwater;
- (4) Where, in the opinion of the development manager or his designee additional topographic, engineering and other data or studies are necessary to determine the effects of flooding on a proposed structure or fill and/or the effect of such structure or fill on the flow of water in flood stage, the applicant shall submit such data or studies.

I assume none of this work is in the floodway (which would be prohibited unless other studies were done that showed no rise).

Thanks again!!

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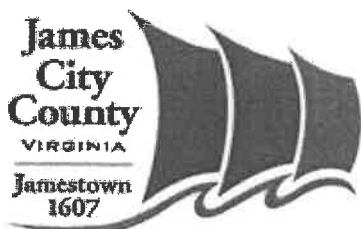
**From:** Scott Thomas  
**Sent:** Tuesday, September 27, 2016 3:08 PM  
**To:** Tom Coghill; Christy Parrish; Paul Holt; Jason Purse  
**Cc:** Adam Kinsman; Jose Ribeiro  
**Subject:** Update on 114/116 Landsdown

FYI. Just wanted to update you all on this the best I can. The Pulz lot at 116 Landsdown still does not have CO. However, there has been some recent progress.

- A lot level scale plan came in to fill, grade and create a channel on the Hopkinson lot. This was to solve the drainage situation. Our division reviewed and approved it. It was assigned a division plan number of E&S-020-16. This work cannot be done without authorization by the current owner/resident of 114 Landsdown. The builder and his legal representatives have the obligation to present the plan to that owner. Copy of approval transmittal attached.
- Our division finished review of the second submittal for greenway drainage improvement plan put forth by the Ford's Colony HOA. This greenway is adjacent to the two lots. This plan came through Planning under SP-045-16. Copy of approval transmittal from our division is attached.
- Upon approval of both of these plans, I also sent an email to the FCHOA to indicate the approval(s) and to recommend that they work with the builder and lot owner concurrently with their plan. Copy of email attached.
- The legal representative for the builder at 116 Landsdown communicated with Adam about the status of the lot fill, grading, channel plan for 114 Landsdown. We relayed information preliminarily that the plan was approved and I followed up with an official approval transmittal from our division. Later correspondence does show that the legal representative did reach out initially to the 114 Landsdown owner. This was on September 20. Status beyond that is unknown.

•

Scott J. Thomas, P.E.  
Director of Engineering and Resource Protection



## 9. Inspections

# 10. Permitting

# 11. Miscellaneous

(ex. photos)

# 12. Project Development Documents