

**CLARKE COUNTY PLANNING COMMISSION
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Clarke County Planning Commission

AGENDA – Business Meeting

Friday, November 2, 2018 – 9:00AM

Berryville/Clarke County Government Center – Main Meeting Room

1. Approval of Agenda
2. Approval of Minutes
 - a. October 2, 2018 Work Session
 - b. October 5, 2018 Business Meeting

Continued Public Hearing

3. **SP-18-02, Robert Claytor.** Request approval of a Site Plan Amendment to add a canopy and diesel pumps to the property identified as Tax Map #28-A-20G located at 8153 John Mosby Highway in the White Post Election District, zoned Highway Commercial (CH) and Historic Access Corridor Overlay District (HC).

Schedule Public Hearing

4. **SP-18-03, Juliet Mackay-Smith / Locke & Co., LLC.** Request approval of a Site Plan Amendment to change the use of an existing retail and service business to a restaurant and add a 4' by 12' breezeway in the Neighborhood Commercial (CN) and Historic (H) Districts. Property is located at 2049 & 2053 Millwood Road, reference Tax Map 30A-A-56 & 57, in the Millwood Election District.

Board/Committee Reports

5. Board of Supervisors (Mary Daniel)
6. Board of Septic & Well Appeals (George Ohrstrom, II)
7. Board of Zoning Appeals (Anne Caldwell)
8. Historic Preservation Commission (Doug Kruhm)
9. Conservation Easement Authority (George Ohrstrom, II)
10. Broadband Implementation Committee (Mary Daniel)

Other Business

Adjourn

UPCOMING MEETINGS

Comprehensive Plan Committee Meeting Friday, November 2 (following Planning Commission Business Meeting)
Commission December Work Session Tuesday, December 4 (3:00PM)
Commission December Business Meeting Friday, December 7 (9:00AM)

Clarke County



PLANNING COMMISSION WORK SESSION MINUTES - **DRAFT** TUESDAY, OCTOBER 2, 2018

A work session of the Planning Commission of Clarke County, Virginia, was held at the Berryville/Clarke County Government Center, Berryville, Virginia, on Tuesday, October 2, 2018.

ATTENDANCE

Present: George L. Ohrstrom, II (Chair); Robina Bouffault; Randy Buckley (Vice-Chair); Anne Caldwell; Mary Daniel; Bob Glover; Scott Kreider; Frank Lee; and Cliff Nelson.

Absent: Douglas Kruhm and Gwendolyn Malone

Staff Present: Brandon Stidham, Planning Director; Ryan Fincham, Senior Planner/Zoning Administrator

CALLED TO ORDER

Mr. Stidham called the meeting to order at 3:01 p.m.

AGENDA

The members approved the agenda by consensus as presented.

REVIEW OF AGENDA ITEMS FOR OCTOBER 5, 2018 BUSINESS MEETING

Mr. Stidham stated that we have a scheduled public hearing for the Handy Mart diesel pump expansion and two minor subdivisions that Mr. Fincham will review.

Mr. Fincham reviewed the Site Plan Amendment application for Robert Claytor (SP-18-02). He said that Staff has not received anything to review. He said that the Applicant's engineer is working on revisions and they understand that we are going to defer this application. He stated that they do not need to stop the clock because the 60 days are still within the November meeting window. He said that the November 2, 2018 Planning Commission meeting will be day 59 for this application. He stated at that time if they are not ready they will either have to request a deferral or the Planning Commission will either have to approve or deny. He said that we are waiting on comments from Hurt & Proffitt revisions, comments from the Clarke County Sanitary Authority, revisions to address the karst issue, revisions for the landscaping, and if any of these comments or revisions changes the results for the Certificate of Appropriateness we will send it back to Maral Kalbian for further review. He said that the Applicant is still working with DEQ on stormwater management.

Mr. Fincham reviewed the first of the two Minor Subdivisions. He said this is a two lot Minor Subdivision for Cody Kerr (MS-18-05). He stated that the property is located at 2308 Longmarsh Road. He said that across the road they are going to subdivide a 2.8 acre lot from the existing 104 acre farm. He stated that the residue lot just has barns and they get to that area from Fishpaw Road. He said that the ingress/egress for the proposed Lot 2 is shown on the plat which is a proposed 30' access easement. He stated that the surveyor met VDOT representatives on site previously to select the location of the easement. He said that the official VDOT comments have not been received to date. He said that the septic areas have been reviewed by the Health Department. He stated that this subdivision took about three months to get to us because of some issues. He said that in an aerial view of the property there were areas that appeared to be ponds or dry ponds. He stated that the Health Department reviewed this area and he said they appear to be sinkholes. He said that Andy Forrest with Forrest Environmental Services, Inc., ran resistivity tests thorough this area and it showed no evidence of karst so they are not sinkholes. He stated that Dan Rom (County Karst Consultant) reviewed and noted that the observations and ERT profiles of those area are consistent with those of a pond and do not show sinkhole conditions. Mr. Fincham mentioned that there is always difficulty getting comments back from VDOT due to being short staffed. He said that he is seeing this as a pattern because VDOT normally sends the comments to him about a week after the Planning Commission meeting. He suggested to the Commission that we could approve the application contingent upon comments from VDOT. He stated that Staff recommends approval.

Mr. Fincham reviewed the second Minor Subdivision. He said that this is a two lot Minor Subdivision and Maximum Lot Size Exception for Warrick & Andrea Elrod. He stated that the property is located at 420 Rock Hall Farm Lane but this property is located off of Moose Road. He said that the property runs through both roads. He stated that it is 78 acres and they are going to subdivide a 65 acre lot around the house and then that leaves a 12 acre remainder. He stated the property's one allowable Maximum Lot Size Exception per the ordinance for an existing pre-1980 house was actually used during the Rock Hall Farm subdivision. He said that Mr. Elrod came in many months ago and chatted with him about this and while he was here he went to see Ms. Teetor to talk about an easement. He stated if it is put into easement it will give him a chance to get a second Maximum Lot Size Exception. He said that Mr. Elrod and Ms. Teetor have been working together since then to put the property into easement. He said that Ms. Teetor had the easement recorded yesterday and now the entire property is officially in easement. He said that the plats will be amended to note the permanent easement. Chair Ohrstrom stated that the Conservation Easement Authority must have given him the easement on this entire property in order to allow them to subdivide it one more time. Mr. Fincham said that is correct. Commissioner Caldwell said that this would end the subdivision potential. Commissioner Buckley stated there is only one dwelling unit right left and only one subdivision under the rules of the easement. Mr. Fincham said that the Health Department approved everything and are prepared to sign the final plats once an application for a certification letter is submitted to their office. He said that the resistivity tests have been reviewed and approved by Mr. Rom for the proposed septic areas. He stated that Staff recommends approval.

OLD BUSINESS ITEMS

Progress Report, Ordinance Update Project

Mr. Stidham said there is an error on page 2 of 45 regarding the Upcoming Meetings Scheduled. He stated the date should be October 10, 2018 for the Ordinances Committee meeting not Friday after the Business meeting which is for the Comprehensive Plan Committee Meeting. He said Bob Mitchell is in the process of comparing our Sign Ordinance against the recent Supreme Court decision that said you cannot have sign regulations that create distinctions based on the content of the message in the sign. He stated that Sign Ordinances have to be content neutral. He said that we have been going back and forth on some different concepts which is can you exempt application of the Sign Ordinance against certain types of signs by content of the message or can you just say they are not signs. He stated that Mr. Mitchell is going over some of the questions proposed to him. He said that this would be a big topic of discussion for this meeting and hopes to get the packets out by this Friday. He stated in addition to this item we have six outstanding policy and technical issues that all have legal aspects of them. He said that he has gone ahead and started working on the drafting and has started putting the definitions chapter together. He stated that we are separating the definitions that we have for actual uses and we are going to put those in a new chapter where the use terms, definitions, supplementary regulations and their definitions and assignments will all be in the same place. He said when you are trying to figure out all the information on a particular use you will not have to go to three or four different places trying to find it in the ordinance. He stated he will be preceding along with the drafting as much as he can while waiting for the outstanding items from Mr. Mitchell. He said that the Comprehensive Plan Committee meeting is going to be meeting on October 5, 2018 after the Business meeting. He stated that we are starting our cycle of five year reviews. He said there is a Policy Committee meeting scheduled for October 17, 2018 and it is to begin work on the small scale WISP lattice towers.

Chair Ohrstrom stated he wants to ask a question about a comment in Mr. Stidham's report. He said in the report he wrote that we want to make a by-right 80 foot tower and 120 foot tower under special use or review. He stated that for a 120 foot tower you still only require 100 foot setback. He said for a 120 foot tower you need to have a 120 foot setback. Mr. Stidham stated that the Broadband Committee went back and forth on this and he is sure this can be discussed at the Policy Committee meeting. Mr. Stidham said are we are not worried about fall zones with these smaller scale towers causing much damage because the gauge of steel is much smaller and ethe radius of the tower is smaller. Chair Ohrstrom said we are asking for problems when it falls on someone else's property. He said the setback needs to be the same height of the tower.

Commissioner Caldwell said she noticed that the Board of Supervisors (BOS) approved the new Water Resources Plan. She said she knew there was a little bit of discussion before the motion to approve and she was wondering if the BOS changed anything in the plan before approving it. Mr. Stidham said it was approved as submitted.

Mr. Fincham said we are still working with McDonalds to bring them into compliance with the approved site plan.

The meeting was adjourned by consensus at 3:27 p.m.

George L. Ohrstrom, II (Chair)

Brandon Stidham, Planning Director

Clarke County



PLANNING COMMISSION BUSINESS MEETING MINUTES - **DRAFT** FRIDAY, OCTOBER 5, 2018

A regular meeting of the Planning Commission of Clarke County, Virginia, was held at the Berryville/Clarke County Government Center, Berryville, Virginia, on Friday, October 5, 2018.

Attendance

Present: George L. Ohrstrom, II, Chair; Randy Buckley, Vice Chair; Robina Bouffault; Bob Glover; Scott Kreider; Mary Daniel; Frank Lee; and Cliff Nelson.

Absent: Anne Caldwell, Gwendolyn Malone and Doug Kruhm

Staff Present: Brandon Stidham, Planning Director; Ryan Fincham, Senior Planner/Zoning Administrator; and Debbie Bean, Recording Secretary.

Called to Order

Chair Ohrstrom called the meeting to order at 9:03 a.m.

Approval of Agenda

The Commission voted to approve the agenda.

Yes: Bouffault, Buckley, Daniel, Glover, Kreider (seconded), Lee, Nelson (moved) and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

Approval of Minutes

The Commission voted to approve the Planning Commission Work Session Meeting minutes of September 4, 2018.

Yes: Bouffault (moved), Buckley, Daniel, Glover, Kreider, Lee, Nelson (seconded) and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

The Commission voted to approve the Planning Commission Business Meeting minutes of September 7, 2018.

Yes: Bouffault (seconded), Buckley, Daniel, Glover, Kreider (moved), Lee, and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

Abstained: Nelson

Public Hearing

SP-18-02, Robert Claytor. Request approval of a Site Plan Amendment to add a canopy and diesel pumps to the property identified as Tax Map #28-A-20G located at 8153 John Mosby Highway in the White Post Election District, zoned Highway Commercial (CH).

Mr. Fincham explained this request. He said that the applicant is requesting a Site Plan Amendment to add a canopy and diesel pumps to the property identified as Tax Map #28-A-20G located in the White Post Election District and zoned Highway Commercial. He stated that since the September 7, 2018 meeting there have been no site plan revisions or comments provided by the applicant to address the agency review comments presented at the last meeting. He said that the County Engineering consultant (Hurt and Proffitt) provided comments on September 11, 2018 which also have not been addressed. He stated that Staff recommends that the Commission conduct the advertised public hearing and then continue the public hearing and defer action on this request for one month to the November 2, 2018 meeting. He said that November 2, 2018 meeting is still within the 60-day time period required for action on the request. He stated that Jeremy Tweedie with Greenway Engineering is present today to answer questions from the Commission.

Chair Ohrstrom asked Mr. Tweedie if he would like to address the Commission. Mr. Tweedie said that they have addressed all of the comments by the different agencies. He said they have just completed the Triad geotechnical review and it will be provided to Dan Rom with Piedmont Environmental, County Consultant and Mr. Fincham later this morning. He said that there have been no changes to the configuration of the site but they have addressed all the comments. He said that they have redesigned the entire stormwater and water quality plans due to the new requirement by the Department of Environmental Quality (DEQ). He stated they have been determined what to do with the canopy signage which now conforms to the Clarke County requirements. Chair Ohrstrom said that the Commission has to make a ruling at sixty days. Mr. Tweedie said that he feels confident that things are going to be completed by the time line.

Chair Ohrstrom opened the public hearing. There being no public comments Chair Ohrstrom continued the public hearing. After discussion with Staff and the Commission, Chair Ohrstrom called for a motion.

The Commission voted to defer action and continue the public hearing until the next Planning Commission meeting on November 7, 2018.

Yes: Bouffault (moved), Buckley, Daniel, Glover, Kreider, Lee (seconded), Nelson and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

MS-18-05, Cody Kerr. Request approval of a two-lot Minor Subdivision for the property identified as Tax Map #2-A-10, located at 2308 Longmarsh Road in the Russell Election District, zoned Agricultural-Open Space-Conservation (AOC).

Mr. Fincham explained this request. He said the Applicant is requesting approval for a three acre lot on an existing 104 acre farm located across from 2308 Longmarsh Road. He stated that the ingress/egress for the residue lot will be the existing farm road. He said the ingress/egress for the

proposed Lot 2 is shown on the plat which is a proposed 30 foot access easement. He stated that the official Virginia Department of Transportation (VDOT) comments have not been received to date. He said that there are no proposed septic areas or well sites required to be shown on the residue lot since the lot is over 40 acres in size with no existing houses. He stated that Lot 2 has a proposed TL-3 alternative septic drainfield and 100% septic reserve to serve a three bedroom house. He said that the proposed lot will be served by a private well. He said that the Health Department has field reviewed the site and awaits final plats for signature. He stated that the proposed septic areas have been reviewed and approved by Dan Rom, (County Karst Consultant). After discussion with Staff and the Commission, Chair Ohrstrom called for a motion.

The Commission voted to approve this request

Yes: Bouffault (moved), Buckley, Daniel, Glover, Kreider (seconded), Lee, Nelson and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

MS-18-06/MLSE-18-03, Warrick & Andrea Elrod. Request approval of a two-lot Minor Subdivision and Maximum Lot Size Exception for the property identified as Tax Map #6-A-27, located at 420 Rock Hall Lane in the Russell Election District, zoned Agricultural-Open Space-Conservation (AOC).

Mr. Fincham explained this request. He said that the Applicant is requesting approval for a two lot Minor Subdivision and Maximum Lot Size Exception for the property located at 420 Rock Hall Farm Lane and identified as Tax Map #6-A-27 and zoned as Agricultural Open-Space Conservation (AOC). He said the Applicant applied to put the entire property in permanent conservation easement with the Clarke County Easement Authority which has been approved. He said that the ingress/egress for Lot 2 will remain Rock Hall Farm Lane. He stated that Lot 8 is shown on the plat as "prop entrance" and was field reviewed by VDOT with the surveyor. He said that the official VDOT comments have not been received to date. He stated that both lots have been field reviewed by the Health Department. He said that the existing house on Lot 2 has an existing low-pressure distribution septic drainfield for a three bedroom capacity and an existing septic reserve are for three or four bedroom capacity depending on the design. He said that Lot 2 is served by an existing private well. He said that Lot 8 will be served by a three bedroom capacity septic system and a 100% septic reserve area. He stated that Lot 8 will be served by a private well as shown on the plat. He stated that VDH is prepared to sign the final plats once an application for a certification letter is submitted to their office. He said that the resistivity tests have been reviewed and approved by Mr. Rom for the proposed septic areas. He said the subject property is projected to be held by the Clarke County Easement Authority for open space easement and should be completed by next week. After discussion with Staff and the Commission, Chair Ohrstrom called for a motion.

The Commission voted to approve this request.

Yes: Bouffault, Buckley (seconded), Daniel, Glover, Kreider, Lee, Nelson (moved) and Ohrstrom

No: No one

Absent: Caldwell, Kruhm and Malone

Board/Committee Reports

Board of Supervisors (Mary Daniel)

Commissioner Daniel stated that the Board of Supervisors (BOS) discussed the idea of not having an official BOS meeting in August each year. She said that there has been discussion about what is going on with the Jack Enders Boulevard situation and we are working on getting a traffic study. She stated they opened the proposals for the Economic Development position. She said there was a closed session and they are negotiating with one of the applicants. She stated we are also working on the Strategic Plan with a lot of help from Mr. Stidham. She reminded the Commission that on Saturday, October 6th an event will be held honoring Ella Nora Phillips Stewart “An African American Pioneer” at 1:00 p.m. at the Johnson-Williams Middle School Auditorium. She said that following this event they will retire to Josephine School Museum where Jesse Russell, former Clarke County Zoning Administrator, will be releasing his new book. She stated she also wants to mention that area resident Viola Brown turned 107 years old yesterday.

Board of Septic & Well Appeals (George Ohrstrom, II)

No report.

Board of Zoning Appeals (Anne Caldwell)

No report.

Historic Preservation Commission

No report.

Conservation Easement Authority (George Ohrstrom, II)

Chair Ohrstrom stated that the Conservation Easement Authority (CEA) is having a rescheduled Thank You party on October 12th. Commissioner Buckley stated that this evening the Clarke’s Great Outdoors event will be at The Barns and the CEA photo contest winners will have their photos on display.

Broadband Implementation Committee (Mary Daniel)

Mr. Stidham stated that we have issued a press release with great assistance from Kathy Kuehner to get out the word to property owners that WISPS in the County are looking for locations, silos and tall elevations to locate equipment for small scale towers. We have had two inquiries from property owners so they are making contact and showing an interest. He said that Comcast has begun research to expand into White Post and if the public shows enough interest they may extend service to that area.

Other Business

Mr. Stidham stated that the Comprehensive Plan meeting is following this meeting if anyone is interested in attending. He said an Ordinances Committee meeting is scheduled for Wednesday, October 10th at 10:00 a.m. in meeting room A/B. He stated that a Policy Committee meeting will be on Wednesday, October 17, 2018 at 10:00 a.m.

Adjourn

On motion by Commissioner Daniel and seconded by Commissioner Nelson the meeting was adjourned at 9:23 a.m.

George L. Ohrstrom, II, Chair

Brandon Stidham, Director of Planning

Minutes prepared by Debbie Bean, Recording Secretary

SITE PLAN AMENDMENT (SP-18-02)

Robert Claytor

November 2, 2018 Planning Commission Meeting – PUBLIC HEARING

STAFF REPORT – Department of Planning

The purpose of this staff report is to provide information to the Planning Commission and Board of Supervisors to assist them in reviewing this proposed site plan amendment. It may be useful to members of the general public interested in this proposed amendment.

Case Summary

Applicant(s):

Robert Claytor

Location:

- 8153 John Mosby Highway, Boyce, VA 22620
- Tax Map #28-A-20G
- White Post Election District (Bouffault, Buckley – Planning Commission; McKay - Board of Supervisors)

Parcel Size:

3.9651 (after Boundary Line Adjustment and Merger)

Note:

Tax Map 28-A-20G “Lot 6” = 1.2683 acres

(Tax Map 20G will become part of Tax Map 20B after Merger)

Tax Map 28-A-20B “Lot 1” = 2.2442 acres (Tax Map 20B will be 3.9651 acres after Merger and BLA with Tax Map 20F “Lot 5”)

Zoning:

Highway Commercial (CH) & Historic Access Corridor Overlay District (HC)

Request:

Request approval of a Site Plan Amendment to add a canopy and diesel pumps to the property identified as Tax Map #28-A-20G located in the White Post Election District zoned Highway Commercial (CH).

Case Update:

A revised site plan and responses to previous review comments were provided by Greenway Engineering on October 12, 2018. The revised plan and comments were provided by Greenway Engineering that same day directly to Hurt & Proffitt, VDOT, CCSA, Dan Rom, and DEQ. The only response from a review agency received by Staff as of the drafting of this staff report was from Dan Rom regarding the karst review and details of his comments are outlined in the Karst Plan section of this report.

Staff Discussion/Analysis:

The original site plan for the Handy Mart store was approved by the Planning Commission on June 6, 2008 (SP-07-10). The current canopy includes diesel pumps, but the applicant has expressed concern that large trucks are having trouble navigating the pump area. The applicant intends to construct a 22' by 55' canopy at a height of 18 feet with three refueling lanes to provide diesel fuel on both sides of the tractor trailers or trucks. The diesel pump addition will be constructed on the adjacent lot currently identified as Tax Map 28-A-20G. Parcels 20B and 20G will be merged and a boundary line adjustment with Tax Map 20-A-20F will also occur to place the addition (accessory use) on the same lot as the existing store (principal use). Staff has reviewed the site plan and provided comments to the Applicant.

Location and Access:

The subject property is located on the southeast corner of the intersection of Lord Fairfax Highway (Rt. 340) and John Mosby Highway (Rt. 50). The ingress/egress for the facility is existing and is shown on the site plan. VDOT sent a comment letter dated August 21, 2018 requesting additional information to be provided by the applicant including turning templates and an internal circulation plan.

Update: A revised site plan and comments was provided to VDOT by Greenway Engineering on October 12, 2018. Staff awaits a response from VDOT.

Erosion, Sediment and Stormwater:

The site plan includes a complete erosion and sediment control plan. The site plan was routed to Hurt & Proffitt for engineering review. E&S permitting will be handled by the Building Department. On September 11, 2018 Mark Cline (Hurt & Proffitt) provided comments regarding the E&S components of the site plan.

Update: A revised site plan and comments was provided to Hurt & Proffitt by Greenway Engineering on October 12, 2018. Staff anticipates a response from Hurt & Proffitt by Friday October 26, 2018.

The Applicant is required to obtain plan approval from DEQ for compliance with State stormwater management regulations since the total disturbed area is greater than an acre in size. The Applicant's engineer submitted their application and DEQ provided comments on August 28, 2018. Greenway Engineering sent a revised plan to DEQ on October 12, 2018 and are awaiting a response.

Update:

DEQ has not issued an approval to date.

Water and Septic:

The property is served by public water and sewer provided by the Clarke County Sanitary Authority (CCSA). Mary Meredith (CCSA) reported verbally after the September 18, 2018 CCSA board meeting that the CCSA will provide written comments based on the site plan and the comments provided by Hurt & Proffitt regarding their components.

Update: No written comments have been provided to date.

Karst Plan:

The applicant submitted a Karst Plan which was reviewed by Dan Rom, County Geophysical Engineering consultant. On August 26, 2018, Mr. Rom requested additional information to be provided by the applicant.

Update: A revised site plan with additional study and the requested information was sent by Greenway Engineering to Dan Rom on October 12, 2018. Triad Engineering performed the additional study and prepared the geophysical report. The conclusion of the report confirmed the absence of a karst feature directly below the suspected anomaly identified by Mr. Rom. However, the resistivity test results indicated the presence of five areas of concern Triad felt warranted further exploration (even though in their opinion “the proposed development with additional impervious surface and several feet of fill would actually greatly reduce the potential of future sinkhole development at the site”). Triad recommends evaluating the five areas of concern “at the time of construction” utilizing track-hoe test pits. Dan Rom concurred with the report and agreed to the further recommended tests as described adding, “There is no objection on my part to performing the track hoe excavation at the onset of construction. If the program uncovers soft areas that can be filled routinely then there are no repercussions to the karst review. If, on the other hand, the test pits uncover deep or problematic voids then they could be addressed using standard practice, i.e., installation of an inverted filter. I don't believe such repairs would merit further review; however, if such were to be the case I could always visit and comment on the appropriateness of the remedial work.” The Applicant’s engineer has indicated that Triad’s recommendations would be adhered to during construction, thus Triad will provide direct supervision.

Lighting and Signage:

A photometric lighting plan was included in the site plan. Proposed lighting was reviewed and addressed by Hurt & Proffitt in their September 11, 2018 comments.

Update: A revised site plan and comments was provide to Hurt & Proffitt by Greenway Engineering on October 12, 2018. Staff anticipates a response from Hurt & Proffitt by Friday, October 26, 2018.

A signage contractor has contacted Staff regarding the canopy signage, and they are working on a submittal for proposed wall signage on the canopy.

Update: Nothing further to report.

Parking:

No additional parking is required or proposed.

Landscaping:

A landscaping plan is included in the site plan. Both Staff and Hurt & Proffitt have provided comments to the applicant regarding the proposed landscaping plan.

Update: A revised site plan and comments was provided to Hurt & Proffitt by Greenway Engineering on October 12, 2018. Staff anticipates a response from Hurt & Proffitt by Friday, October 26, 2018.

Certificate of Appropriateness:

Since the project is located in the Historic Access Corridor Overlay District (HC), a certificate of appropriateness must be reviewed and approved as a condition of approval of the site plan amendment. The Planning Commission is the review authority for all certificates of appropriateness in the HC District. Maral Kalbian, Architectural Historian, has reviewed the proposed canopy and recommends approval based on the submitted rendering. According to the applicant, the canopy will be identical to the existing canopy approved in 2008 for the Handy Mart. If there are any substantial changes to the plan that impact this prior approval, a revised plan will be sent to Ms. Kalbian for review.

Update: Nothing further to report.

Recommendation

The 60-day time period required for action on this request expires on November 6, 2018. The Applicant’s agent, Jeremy Tweedie (Greenway Engineering) has notified Staff that the Applicant will voluntarily defer action in writing for one month to the December 7, 2018 Commission meeting on this request on or before November 1, 2018, if the remaining outstanding issues have not been resolved by that date. A written deferral from the Applicant will also defer the Commission’s 60-day review period (“stop the clock”). If a written voluntary deferral is not received, then Staff recommends denial of this request on grounds of failure to resolve outstanding issues by the 60-day deadline. However, if a written voluntary deferral request for one month by the Applicant is received prior to the November 2, 2018 Commission meeting, then Staff recommends approval of that deferral request.

History:

- | | |
|--------------------------|--|
| April 12, 2018 | Pre-Application meeting held with Planning Staff. |
| August 2, 2018 | Site Plan Amendment Application filed by the applicant. |
| September 7, 2018 | Placed on the Commission’s meeting agenda to schedule Public Hearing. |
| October 5, 2018 | The Planning Commission voted 8-0 (Caldwell, Kruhm and Malone were absent) to defer action on the request and continue the public hearing for one month to the November 2, 2018 meeting. |
| November 2, 2018 | Placed on the Commission’s meeting agenda for continued advertised public hearing. |



151 Windy Hill Lane
Winchester, VA 22602

October 11, 2018

Clarke County Planning Department
101 Chalmers Court
Berryville, VA 22611

Attn: Mr. Ryan Fincham – Zoning Administrator/Senior Planner

Re: Handy Mart Diesel Pump Expansion - Site Development Plan
Site Plan and Erosion and Sediment Control Plan Review (1st Submittal)
H&P JN 20181366
Comment Response Letter

Dear Mr. Fincham:

We are in receipt of Hurt and Proffitt, Inc., comments dated September 10, 2018, and offer the following responses:

Comments from Hurt and Proffitt, Inc.

General

Comment 1: Flood Plan information is not included.

Response: This site is located outside the Special Flood Hazard Area and is located in Zone X per FEMA FIRM. A note has been added to sheet 2 under project notes.

Comment 2: Information on fuel island canopy is not included in the plan (signage, heights, etc.)

Response: The canopy was submitted separately to Clarke County and will be done by others, however we can add some typical details of the canopy as part of the plan, see sheet 11.

Comment 3: No information regarding critical environmental areas is included. Has a Karst review been performed on the site previously?

Response: The geotechnical report is attached.

Comment 4: The maximum number of employees anticipated must be listed as required by paragraph 6-G-33 of the county ordinance.

Response: There will be no change to current number of employees with the additional pumps. There is currently a maximum of 8 employees at the existing Handy Mart. On sheet 2 under Project Information the anticipated maximum number of employees of 8 has been added.

Comment 5: Trip generation data is not included as required by paragraph 6-G-35.

Response: Trip generation is added per ITE 9th edition

Comment 6: Bond estimates are not included as required by paragraph 6-G-38.

Response: The E&S Bond estimate is attached.

Comment 7: No Plan Preparer Checklists are included.

Response: Plan Preparer Checklist is attached.

Title Sheet – 1/12

Comment 8: Please list the physical address of the site.

Response: The physical address is not identified per Clarke County GIS records for TM-28-A-20G. We have added the adjacent address 8153 John Mosby Hwy TM-28-20B for Handy Mart to the cover sheet. The address is also listed on sheet 2 under project information.

Note Sheet – 2/12

Comment 9: Project information indicates that the current use of the site is vacant. Please revise notes since Lots #1 and #6 are being combined and Lot #1 is not vacant.

Response: Both uses have been added for Lots #1 & #6 under the project information.

Comment 10: General Note #13 – revise “should” to read “shall”

Response: Will Comply, see General Note #13 on sheet 2.

Comment 11: General Note #8 reference SWPPP requirement. SWPPP document was not provided with package. We assume this information has been presented to DEQ for review, since site disturbance exceeds 1-acre.

Response: All design pertaining to SWPPP was submitted directly to DEQ and we will address DEQ comments and obtain approval separately.

Comment 12: Trip generation chart is blank. As noted above, this data is required by County Code.

Response: Trip generation has been added.

Comment 13: Site information indicates that light fixtures shall not exceed 45 feet in height. Code restricts this height to 25’ (Section 6-H-11-a-5).

Response: Will comply, all the existing lights at the site will be no more than 25’. Note #2 under projection information has been changed from 45’ to 25’, see sheet 2.

Boundary and Existing Topo & Demolition Plan – 3/12

Comment 14: *There are no metes and bounds shown for the existing parcels or the proposed combined parcel. Has a plat been submitted to Clarke County for review? Existing metes and bounds must be shown on Plan Sheet 2/12, and revised metes and bounds for the combined parcel must be shown on subsequent plan sheets.*

Response: A plat has not been submitted to Clark County for review. It is anticipated that a draft plat will be submitted to Clark County to coincide with 2nd submission of the site plan. Metes and bounds have been added to existing conditions sheet 3 and site plan sheet 6. The proposed lot lines to be vacated are labeled with metes and bounds on the existing conditions sheet and not labeled on the site plan sheet.

Comment 15: *Identify parcel and owner information for the parcels located to the east and north of the site.*

Response: The parcel and owner information have been added to the site plan and existing conditions sheets (sheets 3 & 6). To the north is Route 50 and to the east is Lot 2 of the Robert W Claytor subdivision.

Comment 16: *Watermain located on north side of Lot 6 (serves hydrant near Route 340) is not located within an easement. Is this a private line or public line?*

Response: The existing waterline is corrected, and it is based on the survey asbuilt, and it is located within the existing waterline easement. The plan has been corrected accordingly.

Comment 17: *Some sections of watermain and sewer line will be covered with concrete pavement. Has this been coordinated/discussed with the Clarke County Service Authority (CCSA)?*

Response: Greenway Engineering has contacted the CCSA. The CCSA will meet on October 16 to discuss and will have a final response to this item at that time. If CCSA has any issues, Greenway Engineering will respond at that time.

Comment 18: *Sanitary manhole #6 is shown to have the top adjusted to match proposed concrete pavement grade. It appears that the change will result in a difference of more than 2' of height change (upward) on the sanitary sewer manhole top. This amount of change is too much for frame and cover grade rings. Manhole riser sections or a new cone section may be required, along with additional steps. This information should be noted on the site plans. The CCSA may require vacuum testing of the structure after adjustments. It is suggested that the CCSA be allowed to review and comment.*

Response: A note has been added to the plan, "Sanitary MH to remain. Adjust MH top to be flush with proposed concrete. Use necessary riser sections, grade rings and steps to raise top with proposed grade per CCSA requirements. The MH shall be vacuum tested, and a CCSA representative shall be present during the testing." See Sheet #3

E&S Phase I & II – Plan Sheet 4 of 12

Comment 19: *“Phases of Land Disturbance Activities”, Note #2 references Phase 1 check dams and diversion dikes. None are shown on the plans. Please coordinate and revise the note accordingly.*

Response: Check dams and diversion dikes have been deleted from the Note #2.

Comment 20: *There is in excess of 100 feet of flow length to some sections of proposed silt fence (120 feet +/- in one location). Suggest calling out all silt fences to be wired-reinforced. Also, silt fence is only shown downstream of a portion of the site work. The silt fence should be installed below all disturbed areas, including the storm pipe installation from Structure #12 to Existing Structure #10.*

Response: A note has been added for all silt fence to be wired-reinforced. Structure #12 is a sump (low point) and the surround area is higher. We have added silt fence as requested along the perimeter of LOD near structure #12.

Comment 21: *Suggest showing inlet protection on existing storm structure EX11 along Handy Lane.*

Response: Inlet protection has been added to existing storm structure EX11 as requested.

Comment 22: *A notation related to critical slope is indicated in the ESC Legend. The narrative states that there are no critical areas. Please coordinate and revise the note or narrative accordingly.*

Response: The notation for critical slope has been removed from the ESC Legend.

Comment 23: *Suggest showing safety fence (VESCH Standard and Specification 3.01) around entire perimeter of the existing bioretention facility. Also, the silt fence should extend around the perimeter of the facility.*

Response: Orange Safety Fence (Spec 3.01) and silt fence has been added to wrap the perimeter of the existing bioretention facility, see sheet 4.

Comment 24: *No ESC measures are shown in or below the proposed ditch construction between Structures #16 and #12.*

Response: Silt fence has been added to the southern LOD as requested.

Comment 25: *Please label Structures #16 and #15 on all sheets.*

Response: Labels for structures #16 and #15 have been added to the site & grading and E&S plans, see sheets 6 & 4.

Comment 26: *Mulching (VESCH Standard & Specification 3.35), Topsoiling (VESCH Standard & Specification 3.30), and Temporary Seeding (VESCH Standard & Specification 3.31), are not shown in the ESC Legend or on the ESC Plans. These measures are discussed in the ESC Narrative, but must also be shown.*

Response: The ESC Legend and ESC Plans have been updated to show mulching, topsoiling and temporary seeding, see sheet 4.

Comment 27: *ESC measure callout for Structures #13 and #14 should be Culvert Inlet Protection.*

Response: Inlet protection callout has been changed to Culvert Inlet Protection at storm structures #14 & #15, see sheet 4.

Comment 28: Consider leaving existing curb in place across proposed entry locations until site grading is complete.

Response: A note has been added to leave existing curb in place as long as practical to deter public entry into construction site and to add orange safety fence, see plan label on sheet 4.

Site Plan & Grading Plan – 6/12

Comment 29: Please label radii.

Response: Radii labels have been added to sheet 6.

Comment 30: “Sidewalk by other” noted along Handy Lane. Is this sidewalk to be installed concurrently with this project? Please clarify.

Response: Currently there is no pedestrian foot traffic. Developer is negotiating with VDOT for the sidewalk to be installed with future development of parcels.

Comment 31: Is information on the Underground Storage Tank provided in a separate package?

Response: The underground tank details are attached for reference only, the permit will be submitted separately by others as part of the building permit, see sheet 11.

Comment 32: No signage information is shown. Is signage included on the canopy? If so, this information regarding site signage will need to be submitted for review.

Response: The signage for canopy as shown on the attached drawing (without illumination) for reference only, see sheet 11.

Comment 33: Location of proposed lights/poles is shown on lighting plan, but are not reflected on site plan and landscaping plan (existing poles/lights are shown). Please show proposed lights/poles on all site plan and landscaping sheets.

Response: Proposed light poles have been added to site plan and landscape plan sheets 6 & 12.

Comment 34: Some site drainage at the southeast portion of the site appears to cross the entrance at Handy Lane to reach existing structure #7. There is not enough topographic or spot grade information in that area to confirm, however provided flow arrows show this. Site drainage should not be discharged to/across a public street. Please provide proposed grading information in this area.

Response: Handy Lane is an existing normal crown road that was submitted separately as part of this commercial development, small portion of runoff will be pick up by the existing DI-3C inlet #7 (low point) and arrow flow is added to show runoff flow toward the inlet.

Comment 35: It appears as though some of runoff from existing site may now be bypassing the existing bioretention facilities (in the new entryway locations to new diesel pumps). Consider providing valley gutters across the entry locations to direct runoff from the existing site to the bioretention facility.

Response: The new northwest entrance has a valley in the proposed pavement directed to a 4' wide curb cut that leads to the bioretention facility. The new northeast entrance has an existing break point that is being held. Generally, the same drainage area is going to the bioretention facility, only slightly more with the valley at the entrance.

Comment 36: *The existing contours on Lot 6 appear to possibly have been for stormwater management purposes. We assume this is detailed in the SWM submittal to DEQ.*

Response: The existing bioretention was the only stormwater management facility on lot 6.

Storm Sewer Profiles/Storm Computations (Plan Sheets 8 and 9 of 12)

Comment 37: *Will manhole section of Existing Structure #10 accommodate the two additional proposed storm pipes without modification or replacement of the existing structure? Please provide information showing where this has been verified.*

Response: We adjusted the alignment of proposed storm pipe from structure #12 to Ex #10 to provide minimum angle between pipes entering a round 4' structure. Attached is a minimum pipe angle chart for 48" manhole to demonstrate accommodation of the proposed pipes. Also, upon review it was determined that the top would have to change to accommodate the future sidewalk by others. The top is now proposed to be a manhole top instead of a DI top. See updated storm sewer profile sheet 9 & site plan sheet 6.

Comment 38: *Please provide map showing drainage areas to inlets and culverts to accompany storm inlet and storm sewer calculations.*

Response: Drainage areas have been added to sheet 9.

Landscape Plan – 11/12

Comment 39: *Landscape Plan not as same scale as site plan as required by paragraph 6-G-23 of County Code.*

Response: The landscape plan has been revised to match the scale (1"=25') of the site plan, see sheet 12.

Photometric Plan – 12/12

Comment 40: Plan is not to scale. No north arrow is provided.

Response: North arrow added to photometric plan, see sheet 13.

Comment 41: Photometric coverage does not extend to property line of Lot 6. This is needed in order to confirm maximum 0.2 foot-candle coverage at property lines per Code Section 6-H-11-a-5.

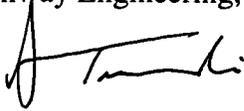
Response: Coverage extended to property line as requested, see sheet 13.

Comment 42: Confirm that lighting conforms to Section 6-H-11-a-5. A recent email from Ryan Fincham to the Site Engineer indicates that the proposed lighting plan should be compared to the current code requirements to confirm compliance.

Response: Lighting plan is in compliance.

Thank you for your assistance with this project. Contact us with any questions or need for additional information.

Sincerely,
Greenway Engineering, Inc.



Jeremy N. Tweedie

Enclosures



151 Windy Hill Lane
Winchester, VA 22602

October 8, 2018

Mr. Arthur Boyce
Land Development Engineer
Clarke, Frederick, Shenandoah & Warren County
14031 Old Valley pike
Edinburg, VA 22824

Re: Handy Mart Truck Fueling Station Addition
First review comments response

Dear Mr. Boyce:

Greenway Engineering is in receipt of VDOT additional review comments received by email on August 21, 2018 on the Handy Mart Truck Fueling Addition. We have reviewed the comments and offer the following responses.

Comment 1: *The 2017 average weekday trips on this section of Route 340 is 8,600 trips with 9% classified as heavy vehicles. Route 17/50 has 14,000 trips per weekday with 5% classified as heavy vehicles.*

Response: *Noted.*

Comment 2: *Turning templates with an internal circulation plan should be provided to ensure that WB-67 trucks have adequate width and spacing to negotiate the three commercial entrances on Route 340, Route 17/50, and Handy Lane without impacting through traffic. Entrances should have appropriate curbed turning radius, throat length, and corner clearance for a WB-67 Truck with a passenger car in opposing direction.*

Response: *WB-67 turning templates with one-way traffic into separate truck fueling pumps and internal circulation are provided under separate sheets see attached.*

Comment 3: *Will truck parking be accommodated onsite for the convenience and fast-food stores?*

Response: *The typical standard routine or sequence will be as follow: Once the truck completed their fueling, the truck driver will move his truck forward to allow the next truck on the line for fueling and park his truck (for short period of time) in front of the fueling truck line to use convenience and grab some fast food then back to the truck and move the truck and exit the fueling facility.*

Engineers Surveyors Planners Environmental Scientists Laboratory
Telephone 540-662-4185 Fax 540-722-9528
www.greenwayeng.com

Comment 4: *Can truck and passenger car traffic be separated with specific entrances provide exclusively for trucks?*

Response: Based on our discussion with the owner and their truck fuel contractor and field observation on the existing truck movements: Truck entrance will be from NB 340 to the main entrance, NB-340 to Handy Lane and EB-17/50 entrance see attached Entrance and Exit exhibits

Comment 5: *Sidewalk will be required on the road frontage. Provide details for review.*

Response: Per our discussion with the owner and based on their observation (since the Handy Mart began in operation), they have not seen any pedestrian traffic along frontage of Waterloo Commercial. However, the owner agreed and would consider installing sidewalk on the road frontage in the future once there are at least two more new active parcels beside the existing Handy Mart and truck diesel pumps in Waterloo Commercial Center.

Additional request per DEQ comments

As designed with the Handy Lane Extension (refer to sheet 5A Note 3), VDOT agreed to allow Waterloo Commercial Center to utilize, redesign, upsize, modify or relocate the existing VDOT dry pond adjacent to the existing Park and Ride for the development of Waterloo Commercial Center. DEQ is requesting an official letter from VDOT acknowledging this agreement.

All VDOT comments should now be addressed. Please review and approve as appropriate. If you have any additional questions or comments, feel free to either call or email me at nadhikusuma@greenwayeng.com so we can resolve any remaining concerns.

Sincerely,
Greenway Engineering



Tung Niki Adhikusuma, P.E
Project Manager

cc. Ryan Fincham, Clarke County Planning & Zoning
Niki Adhikusuma P.E., Greenway Engineering
Jeremy Tweedie, Greenway Engineering

Piedmont Geotechnical, Inc.

286 High Rail Terrace, SE • Leesburg, Virginia 20175
540-882-9350 • Piedmontgeo@aol.com

October 17, 2018

Clarke County Planning Department
Attn: Mr. Ryan Fincham
101 Chalmers Court
Berryville, Virginia 22611

Re: Review of Geophysical Exploration Report
Boyce Handy Mart
Boyce (Waterloo), Virginia
PGI No. 1604VA

Dear Mr. Fincham:

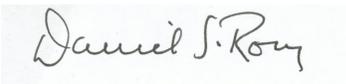
In accordance with your request, we reviewed an engineering report provided by Triad Engineering, Inc., dated October 3, 2018. The report discusses geophysical testing that was conducted at the expansion area south of the existing Handy Mart facility. In August of this year, we recommended that the site be reevaluated given the fact that it had been left vacant for four years, during which time the drainage patterns had been disturbed.

Triad responded by conducting an electrical resistivity (ER) survey consisting of four profiles (RL-1 through RL-4). The ER survey appears to show that the reported anomaly is not a solution cavity; however, five areas worthy of further evaluation were identified. Triad has recommended that a test pit study be conducted to further evaluate the five questionable areas.

On the basis of the ER findings, we agree with the plan to further evaluate five questionable areas identified on the ER profiles. After the evaluation is completed, please forward the findings to us for final review. If you have any questions regarding the above, or if additional review is required, please call.

Sincerely,

Piedmont Geotechnical, Inc.

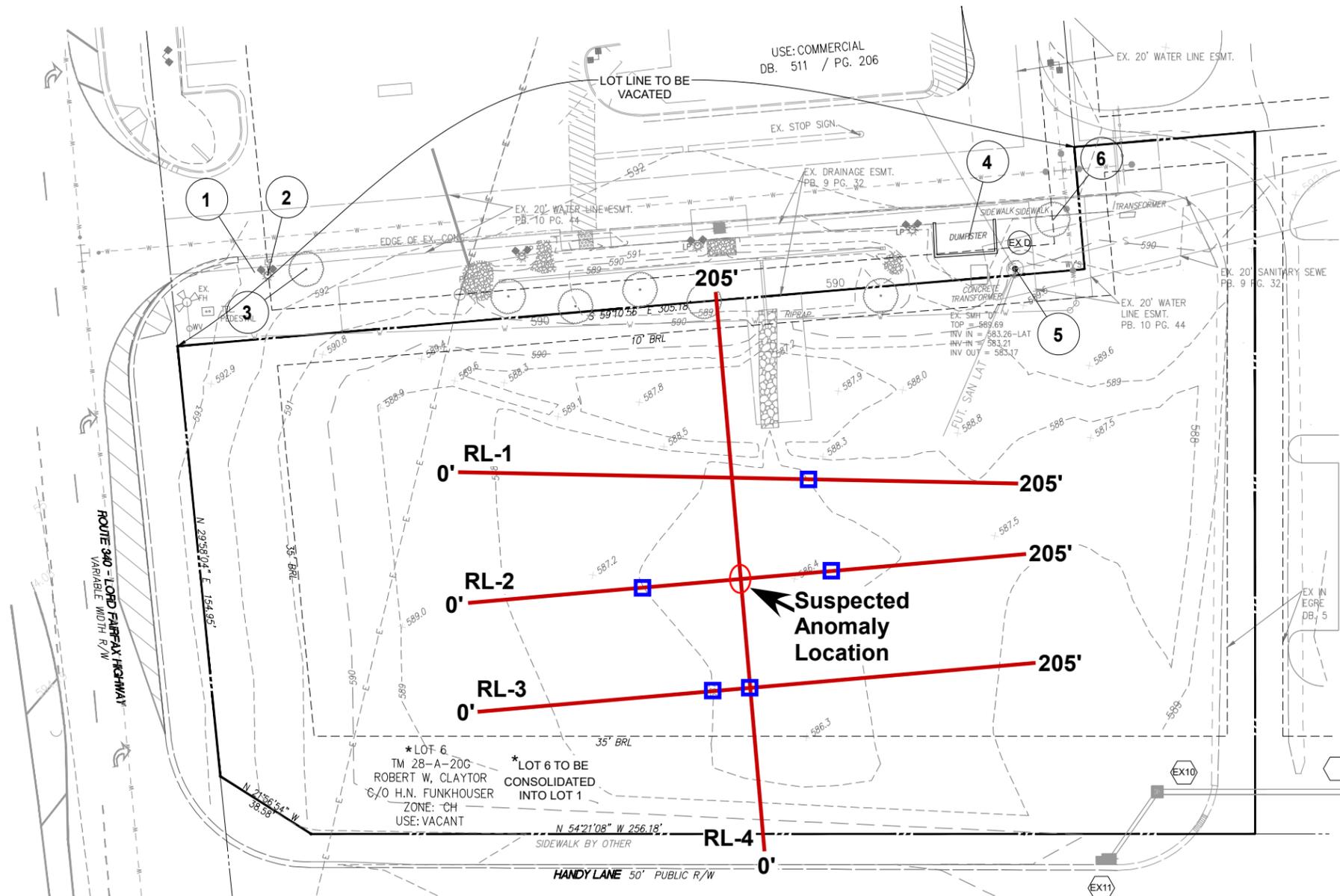


Daniel S. Rom, P.E.
Vice President



Geotechnical and Geo-Environmental Consulting

Virginia, Maryland, District of Columbia, West Virginia, New Jersey



- Recommended Test Pit Location
- Approximate Resistivity Test Alignment



Location plan is approximate.
For reference purposes only.

TRIAD ENGINEERING, INC.
 200 AVIATION DRIVE
 WINCHESTER, VA 22602
 PH: 540.667.9300 FAX: 540.667.2260
 OFFICE LOCATIONS:
 MARYLAND - OHIO - PENNSYLVANIA
 VIRGINIA - WEST VIRGINIA

BASE MAP PROVIDED BY: Greenway Engineering, Inc.	PROJECT NO: 07-18-0253	CHECKED BY: RAS	SCALE: 1"=50'
	DRAWN BY: JAG	DATE: 09/25/2018	

BOYCE HANDY MART
 CLARKE COUNTY, VIRGINIA
TEST LOCATION PLAN



FIGURE NUMBER:
A-2
 PROJECT NO: 07-18-0253

CONCLUSIONS AND RECOMMENDATIONS

Discussion of Karst Issues

Based on the inverted resistivity sections and our experience with similar projects, we conclude that the electrical resistivity imaging results confirm the absence of a karst feature directly below the suspected anomaly. However, the resistivity test results indicate the presence of five (5) areas of concern which we feel warrant further exploration. Even though it is our opinion that the construction of new impervious parking and access drives, as well as placement of several feet of fill, will greatly reduce the protentional of future sinkhole development at the site, we recommend evaluating the five (5) areas of concern at the time of construction utilizing track-hoe test pits. The recommended test pit locations are illustrated on the Test Location Plan. We recommend extending the test pits a minimum depth of 12 feet each or bucket refusal, whichever occurs first. This may require benching down beside the excavations if a smaller excavator or backhoe is utilized for the exploration. If bucket refusal is not encountered at a depth of 12 feet, we recommend extending the excavations to the maximum reach of the equipment or 15 feet, whichever is greater. The test pits should be backfilled in accordance with the compaction requirements established for the project. Repair of any observed features should be completed at that time and in accordance with criteria provided in the Repair of Sinkholes and Earthwork Consideration section of this report. The most appropriate repair method should be based on the conditions encountered at the time of the excavation. The excavations should be performed under the direct supervision of Triad to confirm that our recommendations are being properly implemented.

Based on the results of our geophysical exploration, and provided that the recommended test pits are completed prior to fill construction, we consider the risk of future sinkhole development to be minimal within the planned construction area.

Repair of Sinkholes and Earthwork Considerations

As stated above, we conclude that the risk of sinkhole development will be minimal within the planned construction of impervious parking areas and several feet of fill placed. However, considering the site geology and possible rock removal for installing new USTs, there will always be a risk for the potential for sinkholes to develop both during and after construction. Typically, sinkholes which develop during construction can generally be repaired by conventional methods versus specialty repair procedures such as compaction grouting. Conventional repair procedures typically include cleaning of the loose soil and soft rock to the throat of the sinkhole, plugging the sinkhole with either concrete or a reverse-graded filter and then backfilling the excavation with low permeability soil. Specifically, the excavation for repair work should extend away from the center of the sinkhole, as necessary, to remove all loose soils. The throat of the sinkhole or solutioning channel should then be cleaned out such that the solution cavity and surrounding bedrock is exposed to the extent that prevailing site conditions will allow. A large trackhoe and possible hand excavations are typically required to achieve this desired goal. Considering the depth to which excavations may possibly extend,

especially considering the relatively deep soil overburden anticipated at the site, it may be necessary to excavate a working platform such that a trackhoe will have sufficient reach to achieve the required excavation depths. Upon completion of the excavation and sufficient cleaning of the exposed rock, we recommend that the throat be plugged with lean-mix concrete. Depending on the size of the throat, it may be necessary to initially place large boulders (approximate rock sizes equal to $B/2$ where "B" is the width of the throat) in the throat to allow a plug to be created. As an alternative to a concrete plug and depending on the prevailing site conditions at the time of construction, it may be necessary to place a reverse-graded filter in the throat of the sinkhole. A reverse-graded filter consists of large diameter rocks with dimensions of $B/2$, as previously discussed, to create an initial layer of stone and plug. This rock is then followed by successive lifts of progressively smaller stone with the final layer consisting of ASTM No. 57 stone. The filter fabric should fully wrap around the stone layers to reduce the potential for soil fines to plug the stone.

The remainder of the excavation should then be backfilled with low permeability clayey soil which is compacted to at least 100 percent of the maximum dry density based on the Standard Proctor Test method (ASTM D 698). For fill material compacted with heavy compaction equipment, the fill should be placed in maximum 12-inch loose lifts. For fill material compacted with light equipment such as trench compactors or plate tampers, the fill should be placed in maximum 4-inch loose lifts. The moisture content of all fill material should be in the range of minus one (1) to plus three (3) percentage points of the optimum moisture content as determined by ASTM D 698. Final grades within the areas of repaired sinkholes should be sloped to facilitate positive drainage away from the sinkhole and prevent ponding of water.

GENERAL NOTES				
<p>1. Greenway Engineering, Inc. (GE) issued this plan set based on project criteria dictated by the client and municipal codes. This plan set is not considered complete or appropriate for construction until ALL necessary agencies have given approval AND this plan set is signed and sealed by a licensed professional. Any work, planning, scheduling, material purchases and/or construction prior to approvals and licensed/professional sealing will be performed at the risk of the personnel authorizing work. GE shall be held harmless from and costs, time delay and/or material changes incurred on work started before this plan set receives approvals and seals.</p> <p>2. Methods and materials used in the construction of the improvements herein shall conform to current County Construction Standards and Specifications and/or current VDOT Standards and Specifications.</p> <p>3. The Engineer shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures nor for safety precautions and programs in connection with work shown on these plans. The Engineer is not responsible for the contractor's schedules or failure to carry out the work. The Engineer is not responsible for acts of omissions of the contractor, subcontractor, or their agents or employees, or any other person performing portions of the work.</p> <p>4. The Contractor, Owner or Developer shall be responsible for securing any third party inspection/testing service to insure construction compliance with these plans and specifications. It is Greenway Engineering's recommendation that a third party inspection/testing service be employed to ensure that project is completed and materials installed meet the details and specifications in these plans.</p> <p>5. The location of existing utilities shown in these plans are taken from existing records. It shall be the contractor's responsibility to verify the exact horizontal and vertical location of all existing utilities as needed prior to construction. The contractor shall be responsible for the digging of all test holes that may be required, whether recommended or not by these plans, to determine the exact location and elevation of existing utilities. If any conflicts arising from this existing utility verification or if during the course of construction, any object of an unusual nature is encountered, the contractor shall cease work in that area and immediately notify Greenway Engineering at (540) 662-4185 and/or the proper authority. Greenway Engineering or any engineer associated with these plans shall not be responsible or liable for any construction cost that may be associated with the installation or reinstallation any utility or other improvements if not notified of any discrepancies between actual field conditions and the approved plan.</p> <p>6. The approval of these plans in no way relieves the developer, the contractor, or their agents of any legal responsibility which may be required by the code of Virginia or any other ordinance enacted by the County nor does it guarantee the issuance of any required permit by the County, VDOT or any other Agency.</p> <p>7. An approved set of plans and all applicable permits must be available at the construction site at all times during construction. A representative of the developer must be available at all times.</p> <p>8. Prior to the initiation of any land disturbing activities the Developer, the Contractor or the Responsible Land Disturber shall obtain a Land Disturbance Permit from the DEQ's Construction General Permit. The Contractor, Developer or his agent shall be responsible for obtaining a Construction General Permit and shall be responsible for the registration of the construction site as required by law. They shall also be responsible for obtaining and maintaining on site a Stormwater Pollution Prevention Plan (SWPPP). The approval of these plans in no way relieves the developer or his agent of the responsibilities contained in the Virginia Erosion and Sediment Control Handbook.</p> <p>9. The Developer or his agent shall be responsible for obtaining any required permits from the Virginia Department of Environmental Quality (DEQ) or the United States Army Corp of Engineers for any plan wetland disturbance as shown on these plans. They shall also be responsible for the identification and delineation of any wetlands that may be present on the construction site.</p> <p>10. The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets, and it is the contractor's responsibility to clean streets, alley dust, and to take whatever measures are necessary to insure that public streets are maintained in a clean, mud and dust free condition at all times.</p> <p>11. A permit must be obtained from the Office of the Resident Engineer, Virginia Department of Transportation (VDOT) and Clarke County prior to any construction activities within existing State right-of-way.</p> <p>12. The developer will be responsible for any damage to the existing streets and utilities which occurs as a result of his construction project within or contiguous to the existing right-of-way.</p> <p>13. Warning signs, markers, barricades or flagmen shall be in accordance with the State and Federal Manual on Uniform Traffic Control Devices (MUTCD).</p> <p>14. The exact location of all guard rails and paved ditches will be determined by VDOT personnel. "A joint inspection will be held with the Developer, County Representatives, and Representatives of the Virginia Department of Transportation (VDOT) to determine if and where guard rail and/or paved ditches will be needed. The developer will be responsible for providing guardrail and paved ditches as determined by this joint inspection." Refer to Virginia Department of Transportation (VDOT) Guard Rail and Paved Ditch Specifications.</p> <p>15. All unsuitable material shall be removed from the construction limits of the site plan before placing embankment.</p> <p>16. All pavement sections shown on these approved plans are based on a minimum CBR value of 6 and are for preliminary design only. Final pavement design shall be based upon actual field tested CBR values. The Contractor or Developer shall be responsible for field tests per VDOT standards to obtain actual CBR values for final design. Final pavement designs will be approved by VDOT and/or the Owner/Developer, which ever applicable, prior to installation.</p> <p>17. All springs shall be capped and piped to the nearest storm sewer manholes or curb inlet. The pipe shall be minimum 6" diameter and conform to VDOT standard SB-1.</p> <p>18. When grading is proposed within easements of utilities, letters of permission from all involved companies must be provided to the County Building Department prior to issuance of grading and/or site development permits.</p> <p>19. Notification shall be given to the appropriate utility company prior to construction of water and/or sanitary sewer lines. Information should also be obtained from the appropriate authority concerning permits, cut sheets, and connections to existing lines.</p> <p>20. The Developer and/or Contractor shall be responsible to supply all utility companies with copies of the approved plans and advise them that all grading shall conform to the approved plans, and further that the utility companies shall be responsible for marking these plans and the finished grades in the installation of their utility lines.</p> <p>21. All utilities to be located underground.</p> <p>22. The developer will be responsible for the relocation of any utilities which is required as a result of his project. The relocation should be done prior to construction.</p> <p>23. All stormwater piping and structures shown on these plans are only accurate to the inlet or manhole locations as shown hereon. Detail design of stormwater structures were not provided to Greenway Engineering. Actual pipe alignments will be based upon developed structural shop drawings as provided by the manufacturer. Contractor shall make adjustments to pipe alignments base on provided shop drawings. Greenway Engineering will not be held responsible or liable for any discrepancies or changes caused by the structural design. Contractor may submit shop drawings to Greenway Engineering for review and approval at contractor's expense. Shop drawings will be reviewed for compliance with design plans. The Owner or Developer will be responsible for any redesign as a result of structural shop drawing design.</p> <p>24. Controlled fills shall be compacted to 95% of maximum density as determined by method "A" per standard proctor AASHTO-T99, ASTM-D698, or VTM-1 as applicable. Density shall be certified by a registered professional engineer and results submitted to Clarke County prior to pavement construction. If a geotechnical report has been prepared, it should supersede the requirements in this note.</p> <p>25. Refer to Geotechnical Engineer for methods, materials and details for construction of all earthwork activities.</p> <p>26. Any retaining wall 2 ft. or greater in height shall require the issuance of a separate building permit.</p> <p>27. Construction debris shall be containerized in accordance with the Virginia Litter Control Act; no less than one litter receptacle shall be provided at the construction site.</p> <p>28. These plans identify the location of all known gravesites. Gravesites shown on this plan will be protected in accordance with state law. In the event gravesites are discovered during construction, the owner and engineer must be notified immediately.</p> <p>29. Individual sign permits will be required from the Zoning Office for all free standing and/or facade signs prior to erecting the sign and may require a separate building permit..</p>				

VDOT GENERAL NOTES				
<p>V1. All work on this project shall conform to the current editions of and latest revisions to the Virginia Department of Transportation (VDOT) Road and Bridge Specifications and Standards, the Virginia Erosion and Sediment Control Regulations, and any other applicable state, federal or local regulations. In case of a discrepancy or conflict between the Standards or Specifications and Regulations, the most stringent shall govern.</p> <p>V2. All construction shall comply with the latest U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), and Virginia Occupational Safety & Health (VOSH) Rules and Regulations.</p> <p>V3. When working within VDOT right-of-way, all traffic control, whether permanent or temporary, shall be in accordance with the current edition of VDOT's Work Area Protection Manual. A transportation management plan needs to be submitted for approval and land use permit issued prior to any execution of work within the VDOT right-of-way.</p> <p>V4. The developer shall be responsible for relocating, at his expense, any and all utilities, including traffic signal poles, junction boxes, controllers, etc., owned by VDOT or private / public utility companies. It is the sole responsibility of the developer to locate and identify utility facilities or items that may be in conflict with the proposed construction activity. VDOT approval of these plans does not indemnify the developer from this responsibility.</p> <p>V5. Design features relating to field construction, regulations, and control or safety of traffic may be subject to change as deemed necessary by VDOT. Any additional expense incurred as a result of any field revision shall be the responsibility of the developer.</p> <p>V6. If required by the local VDOT Land Development Office, a pre-construction conference shall be arranged and held by the engineer and/or developer with the attendance of the contractor (s), various County agencies, utility companies and VDOT prior to initiation of work.</p> <p>V7. The contractor shall notify the local VDOT Land Development Office when work is to begin or cease for any undetermined length of time. VDOT requires and shall receive 48 hours advance notice prior to any required or requested inspection.</p> <p>V8. The contractor shall notify the Traffic Operations Center at (540) 332-9500 for any traffic control plan that impacts a VDOT maintained Interstate or Primary roadway to provide notification of the installation and removal of the work zone.</p> <p>V9. The contractor shall be responsible for maintaining a VDOT permitted temporary construction entrance(s) in accordance with Section 3.02 of the Virginia Erosion and Sediment Control Handbook. Furthermore, access to other properties affected by this project shall be maintained through construction.</p> <p>V10. Contractor shall ensure adequate drainage is achieved and maintained on the site during and at the end of construction.</p> <p>V11. All water and sewer lines within existing or proposed VDOT right-of-way shall have a minimum thirty-six (36) inches cover and when possible shall be installed under roadway drainage facilities at conflict points.</p> <p>V12. Any unusual subsurface conditions (e.g., unsuitable soils, springs, sinkholes, voids, caves, etc.) encountered during the course of construction shall be immediately brought to the attention of the engineer and VDOT. Work shall cease in that vicinity until an adequate design can be determined by the engineer and approved by VDOT.</p> <p>V13. All fill areas, borrow material and undercut areas shall be inspected and approved by a VDOT representative prior to placement of fill. A VDOT representative shall be present to insure the soil sample(s) obtained for CBR's is representative of the location. When soil samples are submitted to private laboratories for testing, the samples shall be clearly identified and labeled as belonging to a project to be accepted by VDOT and that testing shall be performed in accordance with all applicable VDOT standards and procedures.</p> <p>V14. All roadway fill, base, subgrade material, and backfill in utility/storm sewer trenches shall be compacted in accordance with the lift thicknesses, density and moisture requirements as specified in the current VDOT Road and Bridge Specifications. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise.</p> <p>V15. VDOT Standard CD and UD underdrains shall be installed where indicated on these plans and/or as specified by VDOT.</p> <p>V16. A post installation visual/video camera inspection shall be conducted by the Contractor on all pipes identified on the plans as storm sewer pipe and a select number of pipe culverts. For pipe culverts, a minimum of one pipe installation for each size of each material type will be inspected or ten percent of the total amount for each size and material type summarized. All pipe installations on the plans not identified as storm sewer pipe shall be considered as culvert pipe for inspection purposes. Additional testing may be required as directed by the Area Land Use Engineer or their representative.</p> <p>V17. The installation of any entrances and mailboxes within any dedicated street right-of-way shall meet VDOT minimum design standards and is the responsibility of the developer.</p> <p>V18. Prior to VDOT acceptance of any streets, all required street signage and/or pavement markings shall be installed by the developer in accordance with the Manual On Uniform Traffic Control Devices.</p> <p>V19. The developer shall provide the VDOT Land Development Office with a list of all material sources prior to the start of construction. Copies of all invoices for materials utilized within any dedicated street right-of-way must be provided to the local VDOT Land Development Office prior to acceptance of the work. Unit and total prices may be obscured.</p> <p>V20. Aggregate base and subbase materials shall be placed on subgrade by means of a mechanical spreader. Density will be determined using the density control strip in accordance with Section 304 of the VDOT Road and Bridge Specifications and VTM-10. A certified compaction technician shall perform these tests. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise. In addition to checking stone depths, a VDOT representative shall be notified and given the opportunity to be present during the construction and testing of the density control strip.</p> <p>V21. Asphalt concrete pavements shall be placed in accordance with Section 315 of the VDOT Road and Bridge Specifications. Density shall be determined using the density control strip as specified in Section 315 and VTM-76. A certified compaction technician shall perform these tests. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise. A VDOT representative shall be notified and given the opportunity to be present during the construction and testing of the control strip.</p> <p>V22. In accordance with Section 302.03, the foundations for pipe culverts thirty-six (36) inches and larger shall be explored below the bottom of the excavation to determine the type and condition of the foundation. The contractor shall report findings of foundation exploration to the engineer and VDOT for approval prior to placing pipe. Foundation designs shall comply with VDOT Road and Bridge Standard PB-1. Where soft, yielding, or otherwise unsuitable foundation is encountered, the foundation design and/or need for foundation stabilization shall be determined by the engineer and approved by VDOT.</p> <p>V23. VDOT Standard Guardrail shall be installed where warranted and/or as proposed on these plans in accordance with VDOT's installation criteria. Final approval of the guardrail layout to be given by VDOT after grading is mostly complete.</p> <p>V24. Approval of these plans shall expire five (5) years from the date of the approval letter.</p> <p>V25. VDOT Standard CG-12 Curb Ramps shall be installed where indicated on these plans and/or as specified by VDOT.</p> <p>V26. The foundations for all box culverts shall be investigated by means of exploratory borings advanced below proposed foundation elevation to determine the type and condition of the foundation. The contractor shall submit copies of borehole logs and report findings of foundation exploration to the engineer and VDOT for approval prior to constructing box. Foundation designs shall comply with VDOT Road and Bridge Standard PB-1. Contrary to the Standard, where rock is encountered and cast-in-place box is proposed, the thickness of bedding shall be six (6) inches. Where soft, yielding, or otherwise unsuitable foundation is encountered, the foundation design and/or need for foundation stabilization shall be determined by the engineer and approved by VDOT.</p>				

TRIP GENERATION DATA				
CLASS	USE	GROSS SF	* TRIP RATE	PEAK / HOUR
853	CONVENIENCE MARKET WITH GAS GASOLINE PUMPS	6500 GFA	62.57 PM PM PEAK	203 IN PM 203 OUT PM
			TOTAL	406 PM PEAK - HOUR

* TAKEN FROM ITE TRIP GENERATION 9TH EDITION

PROJECT NOTES	
<p>FLOOD PLAIN NOTES</p> <p>1. THIS SITE IS OUTSIDE OF A FLOODPLAIN AND IS LOCATED IN ZONE X (AREA OF MINIMAL FLOOD HAZARD) PER FEMA FIRM (MAP NUMBER 51043C0130D) COMMUNITY: CLARK COUNTY #510036 PANEL:0130 SUFFIX:D.</p>	
<p>GEOPHYSICAL EXPLORATION NOTES</p> <p>1. THE BOYCE HANDY MART GEOPHYSICAL REPORT, DATED OCTOBER 3, 2018 PREPARED BY BY TRIAD ENGINEERING, CONCLUDES THE RESISTIVITY TEST RESULTS INDICATE THE PRESENCE OF FIVE AREAS OF CONCERN WHICH THEY FEEL WARRANT FOR FURTHER EXPLORATION. THE CONTRACTOR SHALL PERFORM TEST PITS AT THE TIME OF CONSTRUCTION. THE TEST PITS SHOULD BE PERFORMED UNDER THE DIRECT SUPERVISION OF GEOTECHNICAL ENGINEER TO CONFIRM THAT THEIR RECOMMENDATIONS ARE BEING PROPERLY IMPLEMENTED. TEST PIT LOCATIONS, DEPTHS, AND ANY SINKHOLE REPAIR TECHNIQUES (IF FOUND OR NEEDED) CAN BE FOUND IN THIS GEOPHYSICAL REPORT.</p>	

LEGEND	
EXISTING INTERMEDIATE CONTOUR	
EXISTING INDEX CONTOUR	
PROPOSED CONTOUR	
EXISTING EDGE OF PAVEMENT	
PROPOSED EDGE OF PAVEMENT	
EXISTING CURB AND GUTTER	
PROPOSED CURB AND GUTTER	
TRANSITION TO REVERSE CURB	
EXISTING TELEPHONE LINE	
PROPOSED TELEPHONE LINE	
EXISTING STORM SEWER WITH INLET	
PROPOSED STORM SEWER WITH INLET	
EXISTING SANITARY SEWER WITH MANHOLE	
PROPOSED SANITARY SEWER WITH MANHOLE	
PROPOSED SAN. LAT. CLEANOUT	
EXISTING ELECTRIC SERVICE	
PROPOSED ELECTRIC SERVICE	
EXISTING GAS LINE	
PROPOSED GAS LINE	
EXISTING WATERLINE W/ TEE	
PROPOSED WATERLINE W/ TEE	
EXISTING FIRE HYDRANT/VALVE/METER	
PROPOSED FIRE HYDRANT/VALVE/METER	
PROPOSED REDUCER	
PROPERTY LINE	
EXISTING EASEMENT	
PROPOSED EASEMENT	
PROPOSED CENTERLINE	
EXISTING CENTERLINE	
EXISTING TREE LINE	
FLOW LINE	
FENCELINE	
EXISTING UTILITY POLE/GUIDE WIRE	
EXISTING TELEPHONE PEDESTAL SIGNS	
PARKING INDICATOR INDICATES THE NUMBER OF TYP. PARKING SPACES	
HANDICAP PARKING	
VEHICLES PER DAY COUNT	
PROPOSED BUILDING ENTRANCE	
SANITARY MANHOLE IDENTIFIER	
STORM DRAIN STRUCTURE IDENTIFIER	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
LIGHT POLE	

PROJECT INFORMATION	
PARCEL IDENTIFICATION NO.	TM-28-A-20G
STREET ADDRESS:	8153 JOHN MOSBY HWY (HANDY MART)
PROJECT SITE AREA:	3.96 ACRES (AFTER CONSOLIDATION OF LOT 1 AND LOT 6)
DISTURBED AREA:	1.45 ACRES
CURRENT ZONING:	CH
CURRENT USE:	LOT 6 - VACANT, LOT 1 - COMMERCIAL (GAS/CONV. STORE)
PROPOSED USE:	DIESEL PUMP EXPANSION
MAXIMUM EMPLOYEES (ANTICIPATED):	MAXIMUM 8 EMPLOYEES (EXISTING CONDITIONS) NO NEW EMPLOYEES WITH ADDITIONAL PUMPS
REQUIRED BLDG SETBACKS:	
FRONT:	35'
REAR:	10'
SIDE:	10'
PROVIDED SETBACKS:	
FRONT:	160.09', 62.51'
SIDE:	42.34'
REAR:	151.52'
MAXIMUM BUILDING HEIGHT:	40'
PROPOSED BUILDING HEIGHT:	28'
PARKING SETBACK:	
FRONT:	10'
REAR:	5'
SIDE:	5'
SIGN SETBACK:	
FRONT:	ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CLARKE COUNTY ZONING ORDINANCE, CODE CHAPTER 188
REAR:	
SIDE:	SECTION 4-1
PAVEMENT COVERAGE:	TOTAL LOT AREA = 3.96ACRES=172,498 SF TOTAL PAVED AREA = 108,992 SF PAVED AREA/LOT AREA = 0.63 < 1.0
MAX LOT COVERAGE BY IMPERVIOUS AREA:	85%
BLDG/PVMNT COVERAGE:	2.50 ACRES
% OF LOT AREA:	63.1%
OPEN AREA:	1.46 ACRES
% OF LOT AREA:	36.9%

NOTES:
1. ANY PROPOSED SIGNS & OUTDOOR LIGHTING WILL MEET THE REQUIRED ZONING STANDARDS OF CLARKE COUNTY.
2. LIGHT FIXTURES NOT TO EXCEED 25 FEET IN HEIGHT.

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GENERAL NOTES AND LEGEND

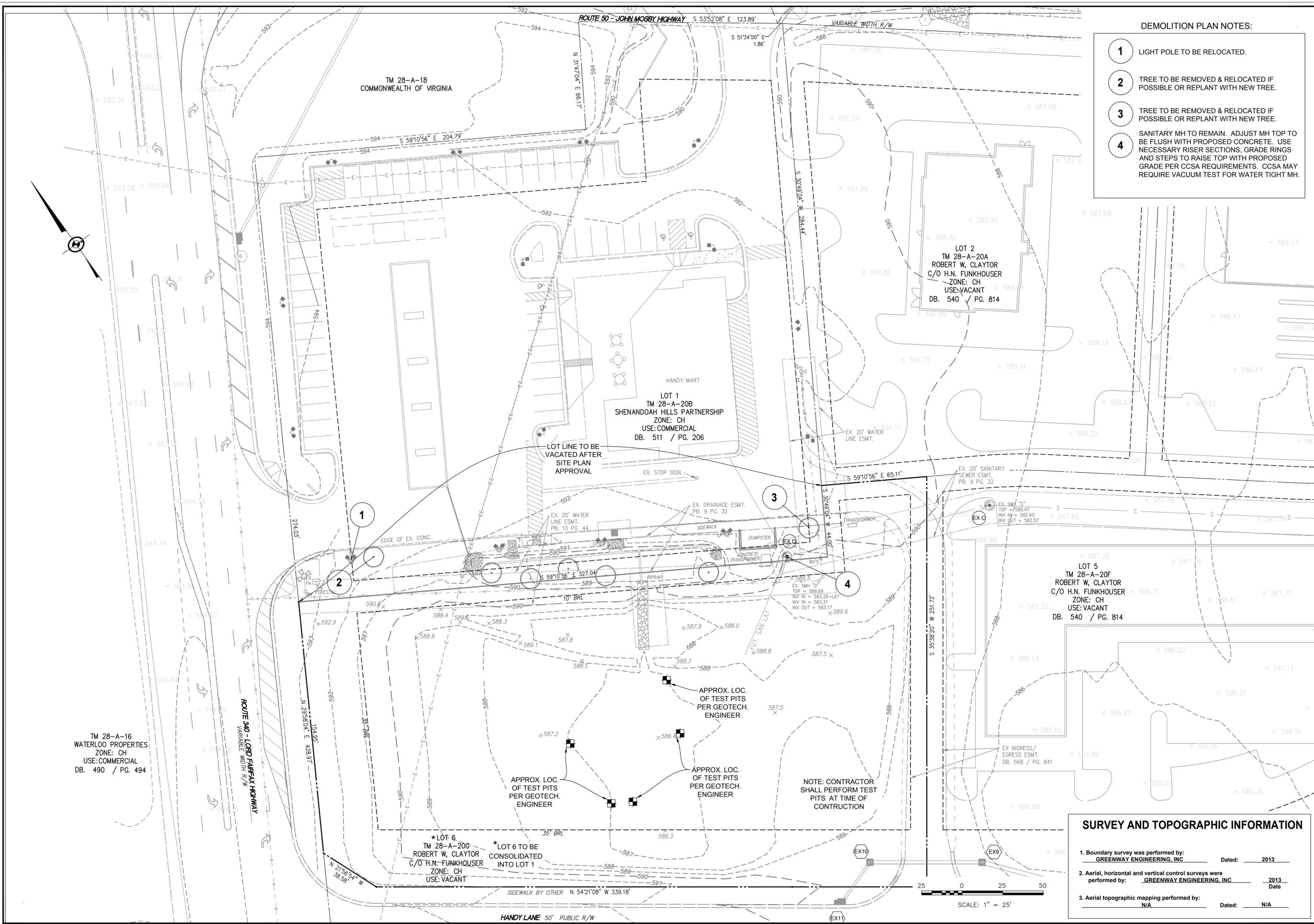
HANDY MART DIESEL PUMP EXPANSION

GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018



DATE:	6-11-2018
SCALE:	N/A
DESIGNED BY:	NTA
FILE NO.	4515F-2
SHEET	2 OF 13
DWG # 18-10	



DEMOLITION PLAN NOTES:

- 1 LIGHT POLE TO BE RELOCATED.
- 2 TREE TO BE REMOVED & RELOCATED IF POSSIBLE OR REPLANT WITH NEW TREE.
- 3 TREE TO BE REMOVED & RELOCATED IF POSSIBLE OR REPLANT WITH NEW TREE.
- 4 SANITARY MH TO REMAIN. ADJUST MH TOP TO BE FLUSH WITH PROPOSED CONCRETE. USE NECESSARY RISER SECTIONS, GRADE RINGS AND STEPS TO RAISE TOP WITH PROPOSED GRADE PER CCSA REQUIREMENTS. CCSA MAY REQUIRE VACUUM TEST FOR WATER TIGHT MH.

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BOUNDARY AND EXISTING TOPO & DEMOLITION PLAN
HANDY MART DIESEL PUMP EXPANSION
GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018



DATE: 6-11-2018

SCALE: 1" = 25'

DESIGNED BY: NTA

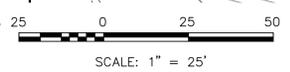
FILE NO. 4515F-2

SHEET 3 OF 13

DWG # 18-10

SURVEY AND TOPOGRAPHIC INFORMATION

- 1. Boundary survey was performed by: GREENWAY ENGINEERING, INC Dated: 2013
- 2. Aerial, horizontal and vertical control surveys were performed by: GREENWAY ENGINEERING, INC 2013 Date
- 3. Aerial topographic mapping performed by: N/A Dated: N/A



NOTE: CONTRACTOR SHALL PERFORM TEST PITS AT TIME OF CONSTRUCTION

APPROX. LOC. OF TEST PITS PER GEOTECH. ENGINEER

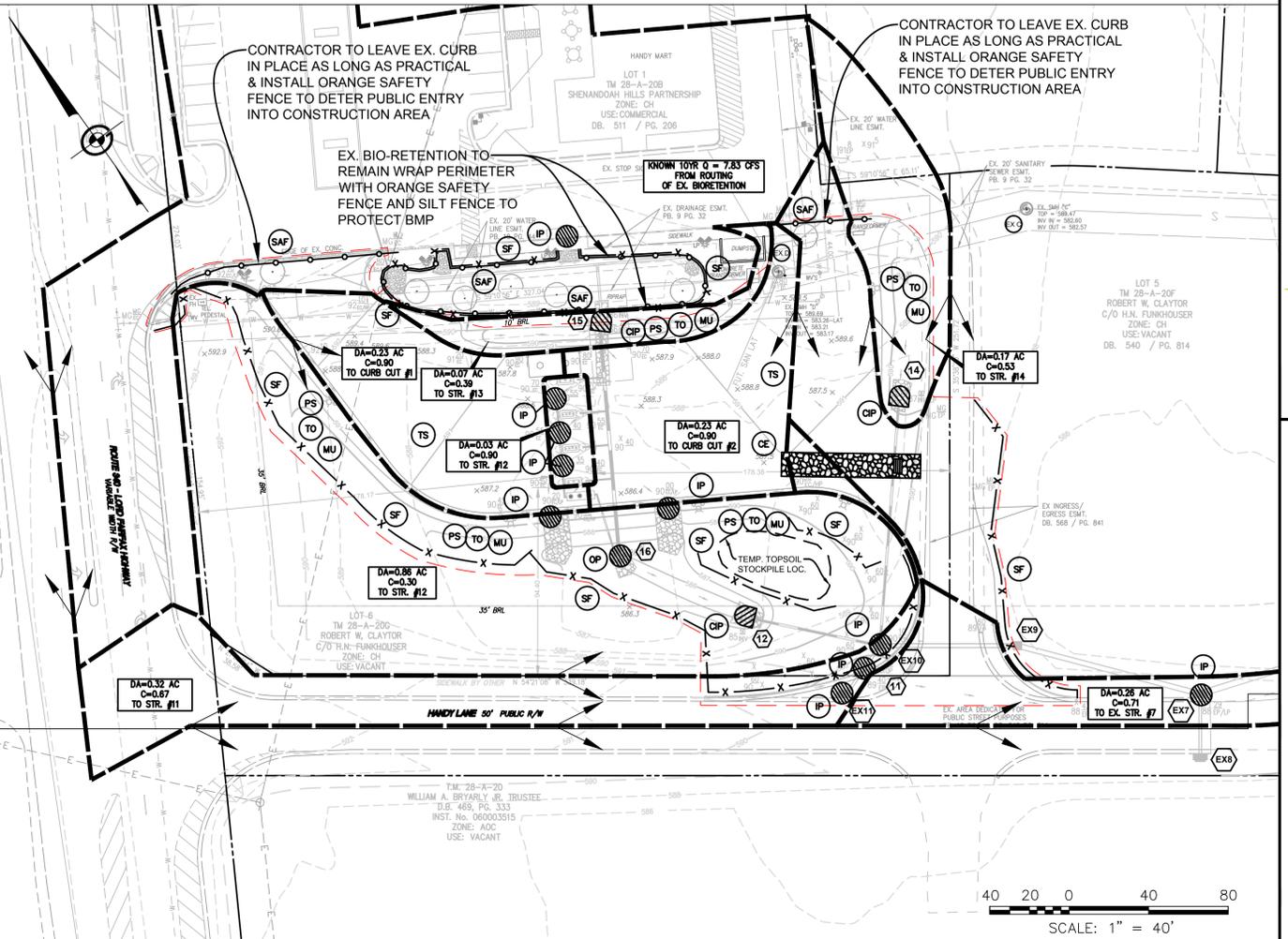
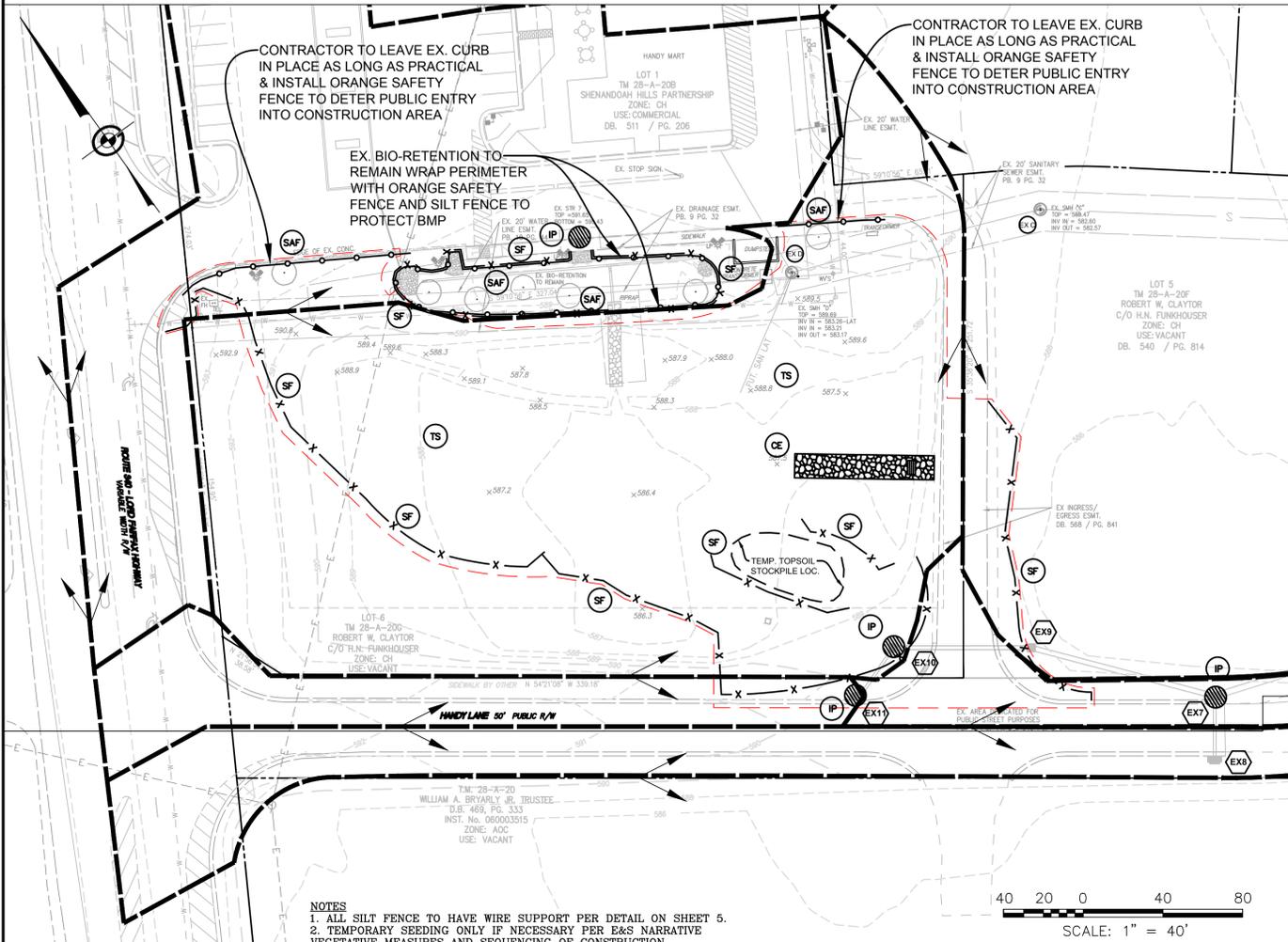
*LOT 6
TM 28-A-20G
ROBERT W. CLAYTOR
C/O H.N. FUNKHOUSER
ZONE: CH
USE: VACANT

*LOT 6 TO BE CONSOLIDATED INTO LOT 1

TM 28-A-16
WATERLOO PROPERTIES
ZONE: CH
USE: COMMERCIAL
DB. 490 / PG. 494

EROSION & SEDIMENT CONTROL PHASE I

EROSION & SEDIMENT CONTROL PHASE II



Erosion & Sediment Control Narrative

PROJECT DESCRIPTION
 THE PROJECT IS TO BE LOCATED NORTH OF THE INTERSECTION OF HANDY LANE AND ROUTE 340 NORTH - LORD FAIRFAX HIGHWAY, ADJACENT TO HANDY MART IN CLARKE COUNTY, VIRGINIA. THIS PROPERTY IS IDENTIFIED IN THE TAX MAPS AS LOT 6 PROPERTY IDENTIFICATION NUMBER 28-A-20G AND CONSIST OF 1.72 ACRES. ONCE THIS SITE PLAN HAS APPROVAL FROM THE CLARKE COUNTY BOARD OF SUPERVISORS, A BOUNDARY LINE ADJUSTMENT WILL BE COMPLETED TO CONSOLIDATE LOT 1 PROPERTY IDENTIFICATION NUMBER 28-A-20B AND LOT 6 PROPERTY IDENTIFICATION NUMBER 28-A-20G. THE COMBINED AREAS WILL THEN BE 3.96 ACRES. THE SITE IS CURRENTLY ZONED (CH) COMMERCIAL HIGHWAY. THE LAND DISTURBANCE PROPOSED WITHIN THIS PLAN IS APPROXIMATELY 1.45 ACRES AND IS FOR THE CONSTRUCTION OF NEW DIESEL PUMP EXPANSION WITH ASSOCIATED TRAVEL WAYS AND UTILITIES.

EXISTING SITE CONDITIONS
 LOT 1 IS A GAS STATION AND LOT 6 IS CURRENTLY VACANT. THE SITE HAS SLOPES RANGING FROM 0.5% TO 7% WHICH DRAIN FROM NORTH TO SOUTH TO AN EXISTING STORM SYSTEM THAT DRAIN TO AN EXISTING EXTENDED DETENTION DRY POND FACILITY TO THE EAST. CURRENTLY THERE ARE TREES, BRUSH AND GRASSY AREAS ON SITE.

ADJACENT PROPERTY
 THE SUBJECT SITE IS BORDERED ON THE NORTH BY AN EXISTING GAS STATION (HANDY MART), TO THE WEST BY ROUTE 340 - LORD FAIRFAX HIGHWAY, TO THE SOUTH BY HANDY LANE, AND TO THE EAST BY VACANT LAND ZONED (CH) FUTURE PHASE II OF THE WATERLOO COMMERCIAL CENTER.

SOILS
 SEE SOILS MAP ON SHEET 5.

CRITICAL AREAS
 NO CRITICAL AREAS ARE IDENTIFIED WITH THIS PROJECT.

EROSION AND SEDIMENT CONTROL MEASURES
 UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

STRUCTURAL MEASURES

PHASE I

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL INLET PROTECTIONS AS SHOWN
3. INSTALL SILT FENCE AS SHOWN
4. BEGIN CLEARING, CUT/FILL OPERATION AND NEW UTILITY INSTALLS

PHASE II

1. INSTALL INLET PROTECTIONS AS SHOWN (INLETS PROTECTION FROM PHASE I TO REMAIN UNLESS OTHERWISE SHOWN)
2. COMMENCE PERMANENT SEEDING & ENTIRE SITE STABILIZATION

ONCE THE SEDIMENT CONTROL MEASURES ARE INSPECTED FOR CONFORMANCE AND APPROVED BY THE CLARKE COUNTY INSPECTOR AND THEN CONTINUE ADDITIONAL CLEARING & GRUBBING OF SITE WITH LIMITS SHOWN. IF NECESSARY INSPECTOR MAY REQUIRE ADDITIONAL EROSION & SEDIMENT CONTROL MEASURES.

VEGETATIVE MEASURES
 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 FOURTEEN (14) DAYS.

PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO ALL AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN SIX (6) MONTHS.

TOPSOIL THAT HAS BEEN STOCKPILED SHALL BE SURROUNDED WITH SUPER SILT FENCE AND PROTECTED BY MULCH AND/OR TEMPORARY VEGETATION IMMEDIATELY AFTER GRADING.

ALL EARTH BERMS, DIVERSIONS AND SEDIMENT TRAP EMBANKMENTS ARE TO BE MACHINE-COMPACTED, SEEDED AND MULCHED (HAY MULCH OR STRAW) IMMEDIATELY AFTER INSTALLATION.

STORMWATER MANAGEMENT CONSIDERATIONS
 SEE SHEET 8

MANAGEMENT STRATEGIES
 CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATIONS WILL BEGIN AND END AS QUICKLY AS POSSIBLE.

THE SITE SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. MAINTENANCE OF THESE MEASURES THROUGHOUT THE PROJECT ARE CRITICAL TO THE EFFECTIVENESS OF THE PROGRAM.

AFTER AREAS ABOVE CONTROLS HAVE BEEN STABILIZED, THE CONTROLS SHALL BE CLEANED UP AND REMOVED.

EROSION & SEDIMENT CONTROL HANDBOOK

RESponsible Land Disturber
 NAME: _____
 CERTIFICATION #: _____
 DATE: _____

THE RESPONSIBLE LAND DISTURBER IS THE PARTY RESPONSIBLE FOR CARRYING OUT THE LAND DISTURBING ACTIVITY AS SET FORTH IN THE PLANS.

ELECTRIC POWER, TELEPHONE, STORM, SANITARY, WATER & GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN FIVE (5) DAYS AFTER BACKFILLING. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.

ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN FIVE (5) DAYS OF COMPLETION OF GRADING.

DEVICES LISTED ABOVE ARE CONSIDERED MINIMUM EROSION AND SEDIMENT CONTROLS. ADDITIONAL CONTROL MEASURES MAY BE NECESSARY DUE TO CONTRACTOR PHASING OR OTHER UNFORESEEN CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL MEASURES TO THOSE SHOWN, AS NEEDED, IN ORDER TO CONTROL EROSION AND CONTAIN SEDIMENT ON SITE. ALL MEASURES SHALL BE INSTALLED ACCORDING TO THE STANDARDS AND SPECIFICATIONS IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

MAINTENANCE
 ALL CONTROL MEASURES SHALL BE INSPECTED DAILY BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25 INCHES OF RAIN PER 24 HOUR PERIOD. ANY DAMAGED STRUCTURAL MEASURES ARE TO BE REPAIRED BY THE END OF THE DAY. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. ALL AREAS SHALL BE FERTILIZED AND RESEEDED AS NEEDED UNTIL GRASS IS ESTABLISHED.

TRAPPED SEDIMENT IS TO BE REMOVED AS REQUIRED TO MAINTAIN 50% TRAP EFFICIENCY AND DISPOSED OF BY SPREADING ON SITE.

GRAVEL OUTLETS SHALL BE CHECKED REGULARLY FOR SEDIMENT BUILD-UP. IF THE GRAVEL OUTLET IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED IMMEDIATELY.

THE CONTRACTOR IS RESPONSIBLE FOR KEEPING EXISTING PUBLIC ROADS IN A CLEAN, DUST AND MUD FREE, CONDITION AT ALL TIMES.

PHASES OF LAND DISTURBANCE ACTIVITIES

1. TO HAVE PRECONSTRUCTION MEETING PRIOR TO ANY CONSTRUCTION. DEQ SHALL BE INVITED TO THIS PRECONSTRUCTION MEETING.
2. CLEARING AND GRUBBING FOR TEMPORARY CONSTRUCTION ACCESS TO INSTALL SEDIMENT CONTROL DEVICES ONLY (PHASE I CONSTRUCTION ENTRANCE AND SILT FENCING).
3. PLACE OF SEDIMENT CONTROL DEVICES.
4. OBTAIN INSPECTOR'S APPROVAL PRIOR TO BEGINNING GRADING OPERATIONS.
5. CLEAR AND GRUB REMAINDER OF SITE.
6. ROUGH GRADE SITE.
7. INSTALL DRAINAGE DEVICES WITH SEDIMENT CONTROL.
8. FINAL GRADING.
9. RESTORATION AND STABILIZATION OF DISTURBED AREAS.
10. WITH THE APPROVAL OF THE INSPECTOR, ONCE ALL DENUDED AREAS HAVE BEEN STABILIZED, REMOVE EROSION AND SEDIMENT CONTROL MEASURES.

SEEDING NOTES:

1. ALL PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH SECTION 3.32 OF THE VESCH.
2. TOPSOIL SHALL BE SPREAD AT A MINIMUM DEPTH OF 4".
3. PULVERIZED AGRICULTURAL GRADE LIMESTONE SHALL BE INCORPORATED INTO SOIL (TOP 4-6 INCHES) AT A RATE OF 90 LBS. PER 1000 S.F. (2 TONS PER ACRE).
4. FERTILIZE WITH 10-10-10 AT A RATE OF 23 LBS. PER 1000 S.F. (1000 LBS. PER ACRE).
5. SEED MIX SHALL CONSIST OF 90% KENTUCKY 31 TALL FESU AND 10% IMPROVED PERENNIAL RYEGRASS APPLIED AT THE RATE OF 250 LBS. PER ACRE.
6. STRAW MULCH SHALL BE APPLIED TO ALL SEEDED AREAS AT THE RATE OF 3500 LBS. PER ACRE AND ANCHORED WITH CUTBACK OR EMULSIFIED ASPHALT APPLIED AT A RATE OF 200 GALLONS PER ACRE.

DUST CONTROL:

1. TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS SUBJECT TO LITTLE OR NO CONSTRUCTION TRAFFIC.
2. ALL HAUL ROAD AND OTHER HEAVY TRAFFIC ROUTES SHALL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET, AND REPEATED AS NEEDED TO CONTROL DUST.

EROSION/SEDIMENT CONTROL LEGEND			
NO.	KEY	SYMBOL	DESCRIPTION
3.01	SAF	—○—○—○—	SAFETY FENCE (ORANGE PLASTIC)
3.02	CE	▒	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
3.05	SF	x x x	SILT FENCE
3.07	IP	⊗	STORM DRAIN INLET PROTECTION
3.30	TO	○	TOPSOILING
3.31	TS	○	TEMPORARY SEEDING
3.32	PS	○	PERMANENT SEEDING
3.35	MU	○	MULCHING
3.08	CIP	⊕	CULVERT INLET PROTECTION
3.18	OP	⊗	OUTLET PROTECTION
	LCG	---	LIMITS OF CLEARING & GRADING
		←←←	DRAINAGE DIVIDES

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E&S PHASE I & II
HANDY MART DIESEL PUMP EXPANSION
 GREENWAY MAGISTERIAL DISTRICT
 CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018

DATE: 6-11-2018

SCALE: 1" = 40'

DESIGNED BY: NTA

FILE NO. 4515F-2

SHEET 4 OF 13

DWG # 18-10

YUNG KIKI ADHIKUSUMA
 Lic. No. 28715
 10/10/18
 PROFESSIONAL ENGINEER

MINIMUM GENERAL CONSTRUCTION STANDARDS

An erosion and sediment control program adopted with this plan must be consistent with the VSECH for 9VAC25-840-40 minimum standards:

- 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.
- 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.
- 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.
- 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.
- Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
- Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
 - 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.
 - 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 outlet system shall, at a minimum, maintain the structural integrity of the basin during a 100-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.
- 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.
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
- Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
- 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.
- 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.
- 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.
- 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.
- All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.
- The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
- Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - No more than 500 linear feet of trench may be opened at one time.
 - Excavated material shall be placed on the uphill side of trenches.
 - 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.
 - Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - Restabilization shall be accomplished in accordance with this chapter.
 - Applicable safety requirements shall be complied with.
- 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.
- 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.
- 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.

- 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.
- Adequacy of all channels and pipes shall be verified in the following manner:
 - 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
 - (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 10-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 10-year storm to verify that stormwater will be contained within the pipe or system.
- If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
 - Improve the channels to a condition where a 10-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or
 - Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;
 - Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a 10-year storm to increase when runoff outfalls into a man-made channel; or
 - Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
- The applicant shall provide evidence of permission to make the improvements.
- All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- 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.
- 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.
- All on-site channels must be verified to be adequate.
 - 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.
 - 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.
 - 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.
 - 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 § 62.1-44.15.64 or 62.1-44.15.65 of the Act.
 - For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15.62 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15.24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMMP) Regulation or are exempt pursuant to subdivision C 7 of § 62.1-44.15.34 of the Act.
 - Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMMP) Regulation shall be deemed to satisfy the requirements of this subdivision 19.

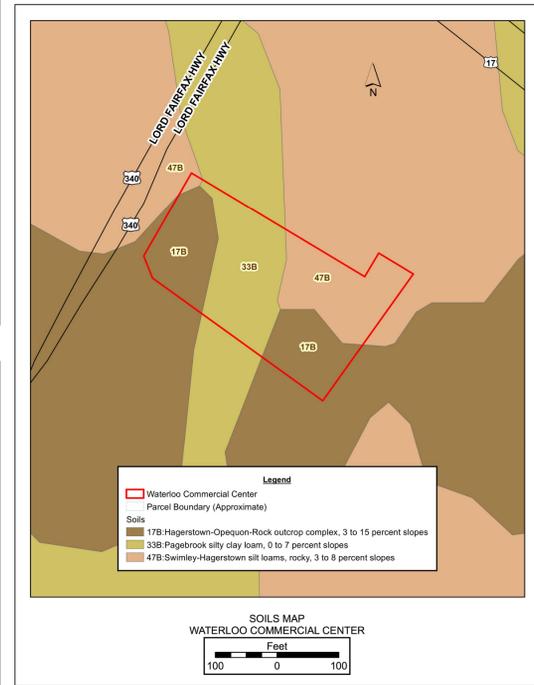
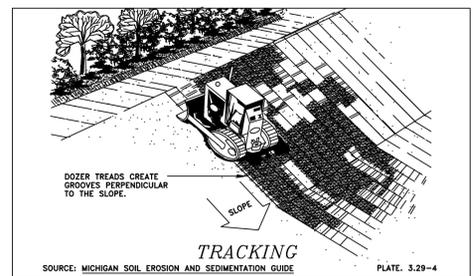
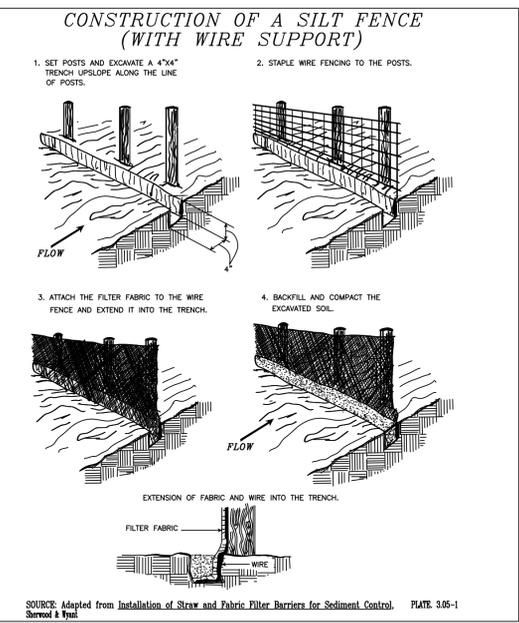
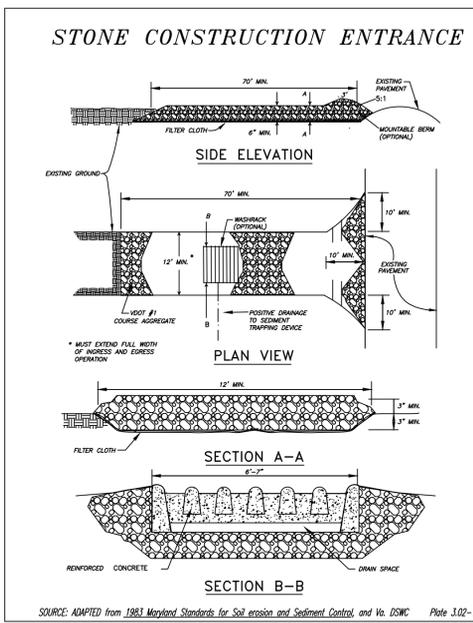


TABLE 3.31-B ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS "QUICK REFERENCE FOR ALL REGIONS"

Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (<i>Lolium multi-florum</i>) & Cereal (Winter) Rye (<i>Secal cereale</i>)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (<i>Lolium multi-florum</i>)	60 - 100
May 1 - Aug. 31	German Millet (<i>Setaria italica</i>)	50

Seeding

Seed shall be evenly applied with a broadcast seeder, drill, cultipacker seeder or hydroseeder. Small grains shall be planted no more than one inch deep. Grasses and legumes shall be planted with no less than 1/4" soil cover.

TABLE 3.32-C SITE SPECIFIC PERMANENT SEEDING MIXTURES FOR APPALACHIAN/MOUNTAIN AREA

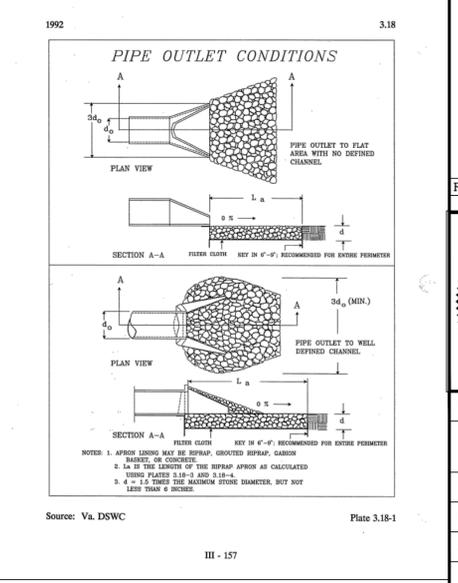
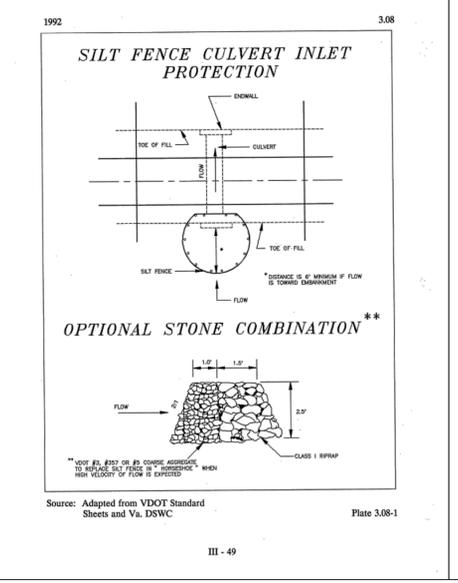
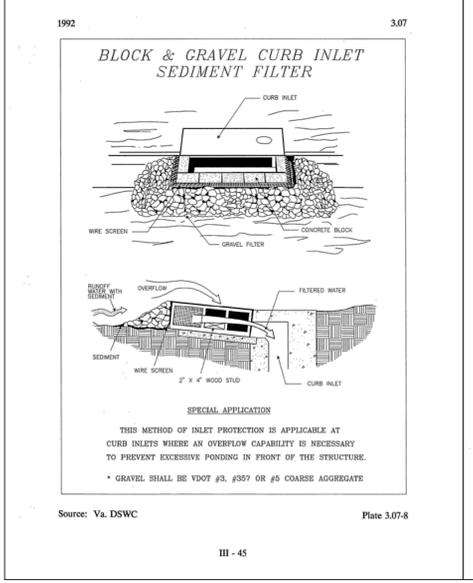
Minimum Care Lawn	Total Lbs. Per Acre
- Commercial or Residential	200-250 lbs.
- Kentucky 31 or Turf-Type Tall Fescue	90-100%
- Improved Perennial Ryegrass *	0-10%
- Kentucky Bluegrass	0-10%
High-Maintenance Lawn	
Minimum of three (3) up to five (5) varieties of bluegrass from approved list for use in Virginia.	125 lbs.
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop**	20 lbs.
	150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Fescue	108 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop**	20 lbs.
- Crownvetch ***	20 lbs.
	150 lbs.

* Perennial Ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed.

** Use seasonal nurse crop in accordance with seeding dates as stated below:

March, April through May 15th	Annual Rye
May 16th through August 15th	Foxtail Millet
August 16th through Sept. Oct.	Annual Rye
November through February	Winter Rye

*** If Flatpea is used, increase to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low-maintenance mixtures during warmer seeding periods; add 10-20 lbs./acre in mixes.



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E&S NARRATIVE & DETAILS

HANDY MART DIESEL PUMP EXPANSION

GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No. 1 Date 10/08/2018

COMMONWEALTH OF VIRGINIA
YUNG KIKI ADHIKUSUMA
Lic. No. 28715
10/10/18
PROFESSIONAL ENGINEER

DATE: 6-11-2018

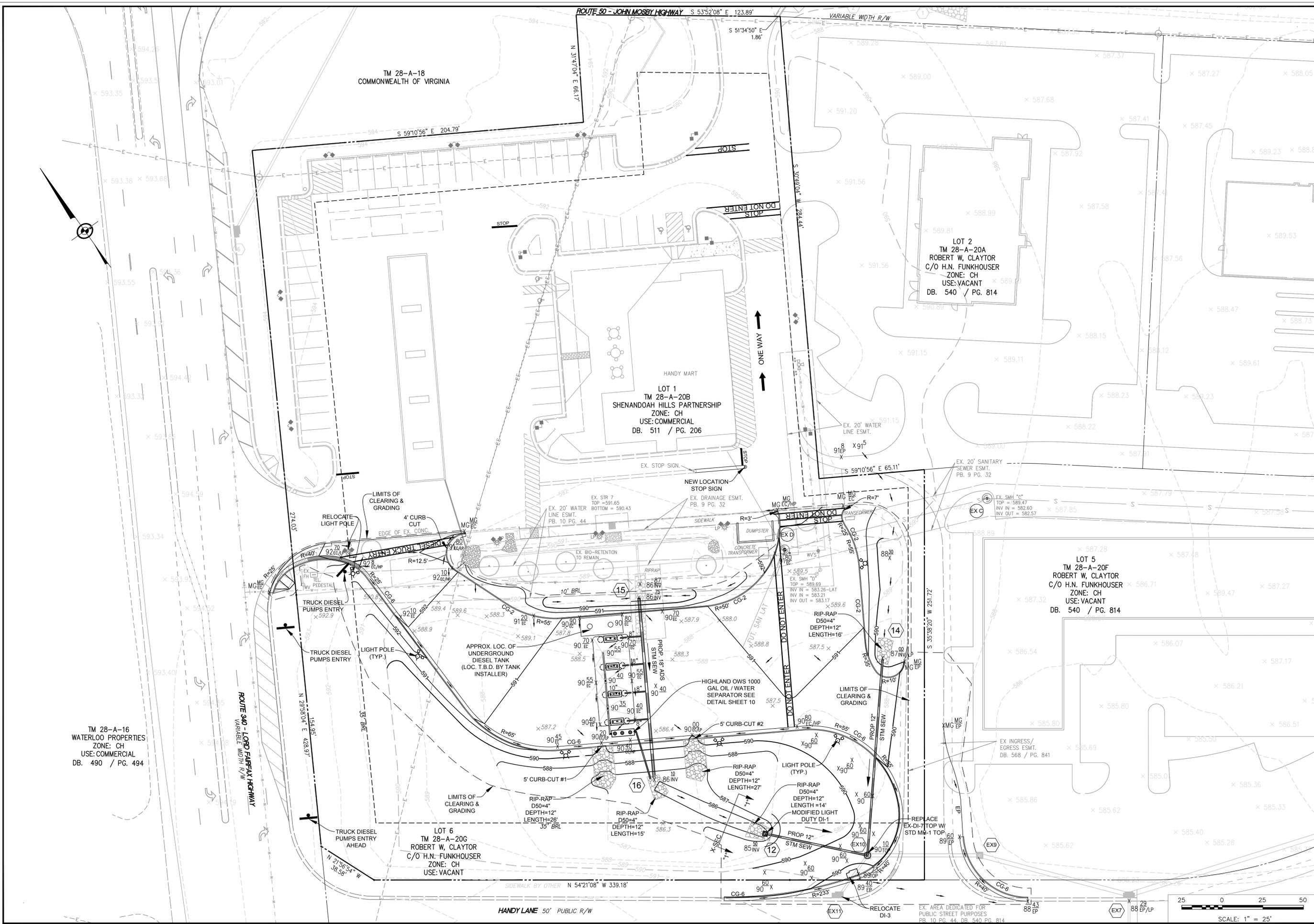
SCALE: N/A

DESIGNED BY: NTA

FILE NO. 4515F-2

SHEET 5 OF 13

DWG # 18-10



TM 28-A-16
WATERLOO PROPERTIES
ZONE: CH
USE: COMMERCIAL
DB. 490 / PG. 494

TM 28-A-18
COMMONWEALTH OF VIRGINIA

LOT 1
TM 28-A-20B
SHENANDOAH HILLS PARTNERSHIP
ZONE: CH
USE: COMMERCIAL
DB. 511 / PG. 206

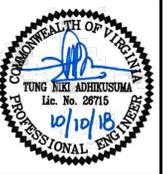
LOT 2
TM 28-A-20A
ROBERT W. CLAYTOR
C/O H.N. FUNKHOUSER
ZONE: CH
USE: VACANT
DB. 540 / PG. 814

LOT 5
TM 28-A-20F
ROBERT W. CLAYTOR
C/O H.N. FUNKHOUSER
ZONE: CH
USE: VACANT
DB. 540 / PG. 814

LOT 6
TM 28-A-20G
ROBERT W. CLAYTOR
C/O H.N. FUNKHOUSER
ZONE: CH
USE: VACANT

SITE PLAN & GRADING PLAN
HANDY MART DIESEL PUMP
EXPANSION
GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018



DATE: 6-11-2018
SCALE: 1" = 25'
DESIGNED BY: NTA
FILE NO. 4515F-2
SHEET 6 OF 13
DWG # 18-10

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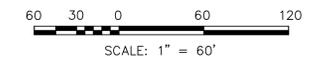
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PRE-DEVELOPMENT IMPERVIOUS COVER

POST-DEVELOPMENT IMPERVIOUS COVER



Date: October 2, 2018
 To: Robert Claytor
 2150 S. Loudoun Street
 Winchester, VA 22601
 From: Old Dominion Natural Resources, LLC
 PO Box 604
 Stephens City, Virginia 22655
 Subject: Potomac Watershed – Nutrient Credit Availability

Project Reference: Handy Mart Diesel Expansion – Clarke County, VA HUC 0004

This letter is to confirm the availability of 0.72 lb/yr authorized nutrient credits ("Nutrient Credits") from Old Dominion Natural Resources, LLC's upcoming [pending or approved] Potomac nutrient bank facility for use by permit applicants within the Potomac watershed, to include the subject property HUC#02070007, to compensate for nutrient loadings in excess of state or local regulations, as per Virginia Code § 62.1-44.15:35 and § 62.1-44.19:14 and Virginia Administrative Code 9 VAC 25-820-10 et seq. These Nutrient Credits are generated and managed under the terms of the Banking Instruments known as the Cross Junction Nutrient Reduction Implementation Plan ("NIRP").

Please feel free to contact me if you have any questions.

Sincerely,

Jeremy N. Tweedie
 OLD DOMINION NATURAL RESOURCES, LLC
 www.odnrva.com | 540-974-0343 | odnr@comcast.net

Performance Based Water Quality Table

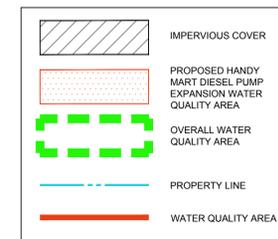
	Lot Size (Acres)	Water Quality Area (Acres)	Impervious Area (Acres)	Removal Requirement (RR) per Area (lbs/yr)	Percent (RR) to be added to future lots for the Remaining Handy Lane & Pump Station Area (lbs/yr)	Additional (RR) needed per lot for the Remaining (RR) (lbs/yr)	Total (RR) Required for Future Lots (lbs/yr)	Total (RR) Check (lbs/yr)
Future Lot #2	1.36	1.35*	1.11	1.21	26%	0.08	1.29	1.29
Future Lot #3	1.05	1.05	0.90	1.03	22%	0.07	1.10	1.10
Future Lot #4	0.78	0.78	0.57	0.56	12%	0.04	0.60	0.60
Future Lot #5	2.15	2.04*	1.69	1.87	40%	0.13	2.00	2.00
Proposed Lot #6	1.72	2.41*	1.27	0.72	--	--	--	0.72
Remaining Handy Lane & Pump Station Area	1.42	0.85*	0.48	0.32	--	--	--	--
Total	8.48	1.83	6.01	5.71	100%	0.32	4.99	5.71

* Lot 6 handles a portion of water quality with Ex. Handy Lane & Ex. Access Road. The future lots will handle the remaining water quality on their lot and a percent of the remaining Handy Lane & Pump Station Area.

NOTE:

1. THE WATER QUALITY REMOVAL REQUIREMENT "RR" FOR THE PROPOSED HANDY MART DIESEL PUMP EXPANSION IS 0.72 LBS/YR. THE WATER QUALITY AREA IS 2.41 ACRES. THIS AREA INCLUDES THE EXISTING LOT 6 AND THE PORTION OF THE EXISTING HANDY LANE THAT HAS BEEN BUILT TO STATION 15+65.84 & THE EXISTING ACCESS ROAD CONNECTING HANDY LANE TO THE EXISTING HANDY MART.
2. THE REMAINING HANDY LANE & PUMP STATION AREA REMOVAL REQUIREMENT "RR" OF 0.32 LBS/YR WILL BE ADDED TO THE FUTURE LOTS #2,3,4 & 5, BASED ON THE LOT SIZE OF EACH PARCEL AS SHOWN ABOVE.
3. THE 0.72 LBS OF PHOSPHORUS WILL BE PURCHASED FROM ONE OF DEQ'S APPROVED NUTRIENT BANK FACILITIES FOR CLARKE COUNTY WITHIN THE POTOMAC WATERSHED.
4. SEE WATER QUALITY COMPUTATIONS IN THE HANDY LANE DIESEL PUMP EXPANSION STORMWATER MANAGEMENT REPORT.

LEGEND



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WATER QUALITY PLAN
HANDY MART DIESEL PUMP EXPANSION
 GREENWAY MAGISTERIAL DISTRICT
 CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018



DATE: 6-11-2018

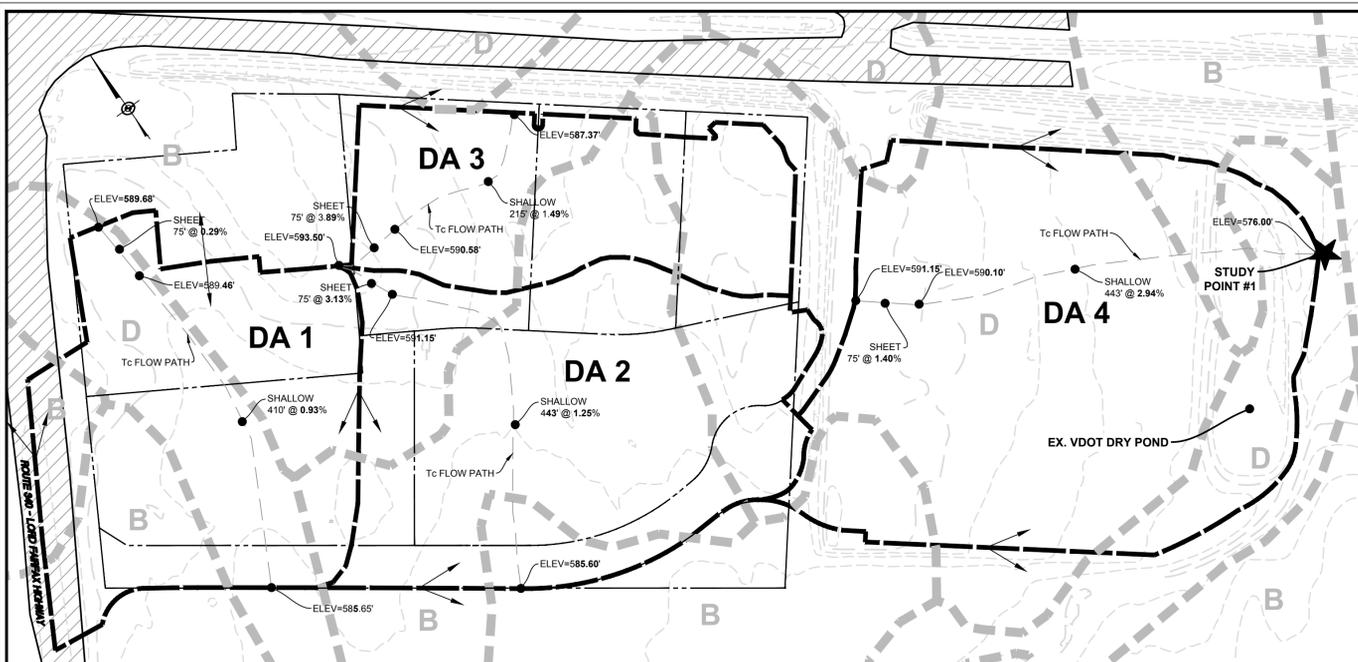
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DESIGNED BY: NTA

FILE NO. 4515F-2

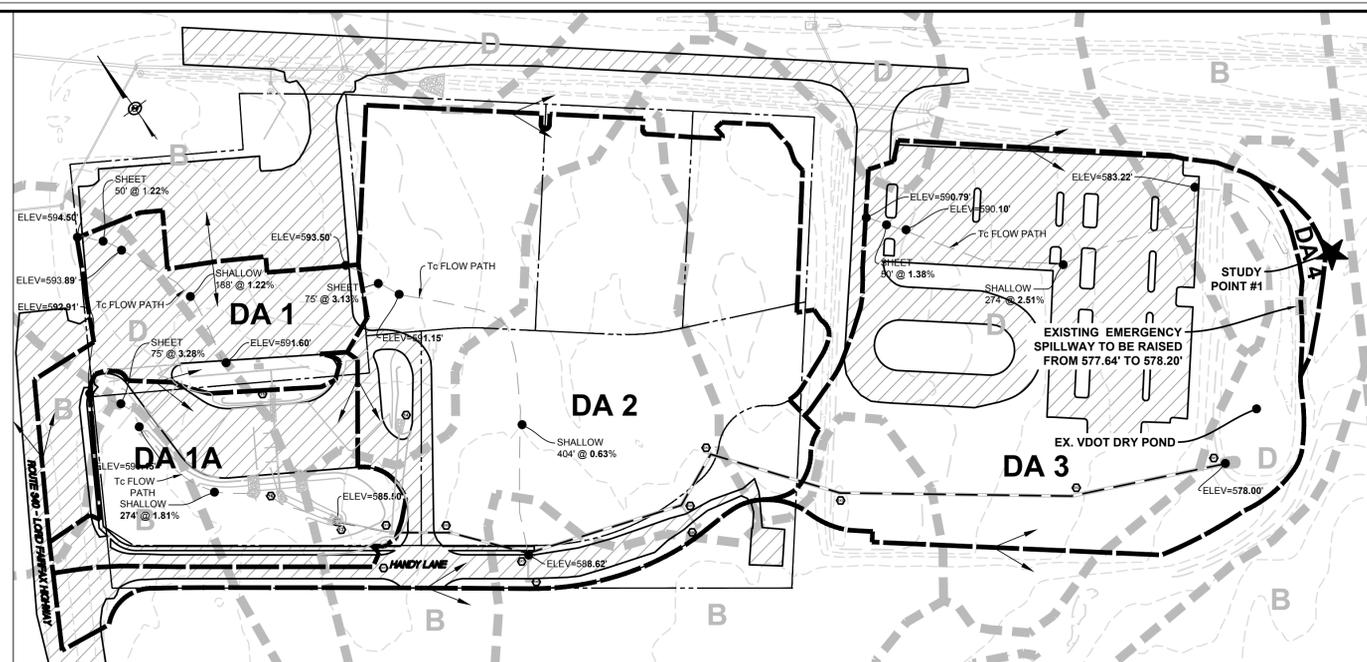
SHEET 7 OF 13

DWG # 18-10



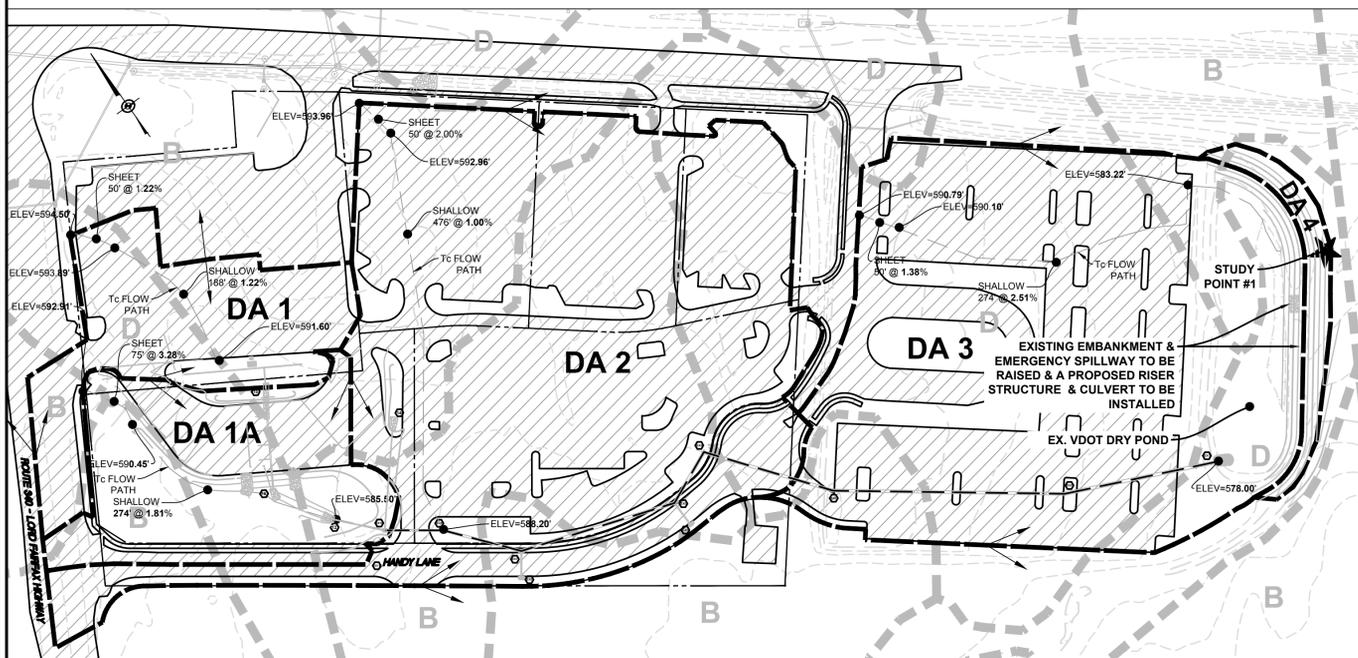
PRE-DEVELOPMENT SWM DRAINAGE DIVIDE MAP

100 0 100 200
SCALE: 1" = 100'



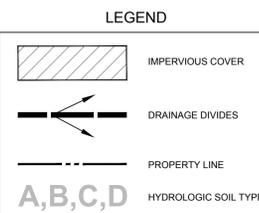
HANDY MART DIESEL PUMP EXPANSION PLAN POST-DEVELOPMENT SWM DRAINAGE DIVIDE MAP

100 0 100 200
SCALE: 1" = 100'



ULTIMATE BUILDOUT OF EACH FUTURE LOT & THE FUTURE PARK & RIDE POST-DEVELOPMENT SWM DRAINAGE DIVIDE MAP

100 0 100 200
SCALE: 1" = 100'



1. Overview

The project "Handy Mart Diesel Pump Expansion" is to be located north of the intersection of Handy Lane and Route 340 North - Loud Fairfax Highway, adjacent to Handy Mart in Clarke County, Virginia. This property is identified in the tax map as property identification number 28-A-200 and consist of 1.72 acres. The site is currently zoned (C1) Commercial Highway. This project proposes a diesel pump expansion to the existing Handy Mart. Virginia DQD determined this site to be grandfathered and to utilize the VA Stormwater Management Handbook (First Edition, 1999) regulations for quantity and quality. To meet SWM quantity we are proposing to modify the existing emergency spillway at the VDOT dry pond east of the existing VDOT Park & Ride. This stormwater management plan uses the SCS unit hydrograph method TR-20 and TR-55 methods for time of concentration per Virginia DQD comments. To meet water quality BMP requirements, we are proposing purchasing offsite water quality credits.

2. Pre-development Conditions

The existing pre-developed conditions included the drainage areas (DA #1,2,3 & 4) that will ultimately be handled by the VDOT dry pond with Study Point #1 at the dry pond outfall. There are four pre-development drainage areas. These areas were analyzed using grass cover in good condition and with a 100% karst reduction. The karst values used were 2 YR Storm = 0.33, 10 YR Storm = 0.43, and 100 YR Storm 0.50.

3. Post-development Conditions

The post-development conditions for this site plan include the existing Handy Mart, existing VDOT Park & Ride, existing Handy Lane, and the proposed Handy Mart Diesel Pump Expansion area. There are five post-development drainage areas. Drainage Area 2 utilizes a karst reduction of 82% as 5.31 acres remains unlanded of the total 6.46 acres. The karst values used for this drainage area were 2 YR Storm = 0.37, 10 YR Storm = 0.52, and 100 YR Storm 0.61.

4. Water Quality Control (BMP)

The water quality requirement will be met by purchasing offsite nutrient credits, as demonstrated by the performance based criteria method.

The Proposed Handy Mart Diesel Pump Expansion applicable area is 2.41 acres of which 52.7% is impervious post-development. As 52.7% impervious cover is greater than the Chesapeake Bay default value of 16%, situation 2 governs the BMP design. The relative pollutant removal requirement (RR) for the Proposed Handy BHP design. The relative pollutant removal requirement (RR) for the Proposed Handy BHP design.

The ultimate applicable area is 8.48 acres of which 70.9% is impervious post-development. As 70.9% impervious cover is greater than the Chesapeake Bay default value of 16%, situation 2 governs the BHP design. The relative pollutant removal requirement (RR) for ultimate condition is 5.71 lbs/yr. This includes Future Lots #2, 3, 4, 5, Proposed Lot #6 (Proposed Handy Lane Diesel Pump Expansion) & the Remaining Handy Lane & Pump Station Area. The Proposed Handy Lane Diesel Pump Expansion will account for 0.72 lbs/yr for this site plan leaving 4.99 lbs/yr to be addressed at the future lots as developed.

5. Water Quality Control (SWM)

For the Handy Mart Diesel Pump Expansion plan, the existing emergency spillway at the VDOT dry pond will need to be modified to satisfy water quality requirements of stream channel erosion and flooding. The emergency spillway will need to be raised from elevation 577.64' to 578.20'. When detaining the two and ten-year storms with the proposed modified dry pond, the water quality requirements are met as the post-development peak flows do not exceed the pre-development peak flows.

For the Ultimate Buildout of Each Lot & Park & Ride, the VDOT dry pond will need to be modified. These modifications will propose the embankment and emergency spillway to be raised with an addition of a riser structure. These modifications will be proposed in a future plan once the existing dry pond can no longer operate properly. When detaining the two and ten-year storms with the proposed modified dry pond, the water quality requirements are met as the post-development peak flows do not exceed the pre-development peak flows.

5.1 Stream Channel Erosion

Stream channel erosion was evaluated for the site. For the proposed Handy Mart Diesel Pump Expansion plan, utilizing the modified VDOT dry pond to detain the two-year storm the peak flow is reduced to below the pre-development conditions for the entire site. See summary table below.

For the Ultimate Buildout of Each Lot & Park & Ride, utilizing the modified VDOT dry pond to detain the two-year storm the peak flow is reduced to below the pre-development conditions for the entire site. See summary table below.

2YR Storm Event	Pre-development Peak Flow	Post-development Peak Flow
Study Point #1		
Handy Mart Diesel Pump Expansion Condition	3.27 cfs	3.26 cfs

Ultimate Buildout of Each Lot & Park & Ride	Pre-development Peak Flow	Post-development Peak Flow
Study Point #1		
Handy Mart Diesel Pump Expansion Condition	10.41 cfs	6.87 cfs
Ultimate Buildout of Each Lot & Park & Ride	10.41 cfs	8.25 cfs

5.2 Flooding
To meet the flooding requirements, the post-development peak flow rate for the ten-year storm event was reduced to below the pre-development peak flow rate. See summary table below.

10YR Storm Event	Pre-development Peak Flow	Post-development Peak Flow
Study Point #1		
Handy Mart Diesel Pump Expansion Condition	10.41 cfs	6.87 cfs
Ultimate Buildout of Each Lot & Park & Ride	10.41 cfs	8.25 cfs

100 YR Storm Event	Top of Embankment	W.S.E.	Freeboard
Modified Dry Pond			
Handy Mart Diesel Pump Expansion Condition	580.30'	578.67'	1.63'
Ultimate Buildout of Each Lot & Park & Ride	582.00'	580.65'	1.35'

6. Summary
The VA Stormwater Management Handbook (First Edition, 1999) regulations for quantity and quality were used. The water quality requirements will be met by purchasing offsite nutrient credits. The storm water requirements (stream channel erosion and flooding) were met by the modifying the VDOT dry pond for this Handy Mart Diesel Pump Expansion plan and for the future ultimate buildout of each lot & the future VDOT park & ride expansion. HydroCAD software version 10, Build 22 was used to route the stormwater management facilities to verify SWM requirements were met.

HYDROLOGIC SOIL GROUP NOTES:
- 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 (AD, BID, AND CID). 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 LOW 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 (AD, BID, OR CID), 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.

Rev. No.	Date
1	10/08/2018



DATE: 6-11-2018

SCALE: 1" = 100'

DESIGNED BY: NTA

FILE NO. 4515P-2

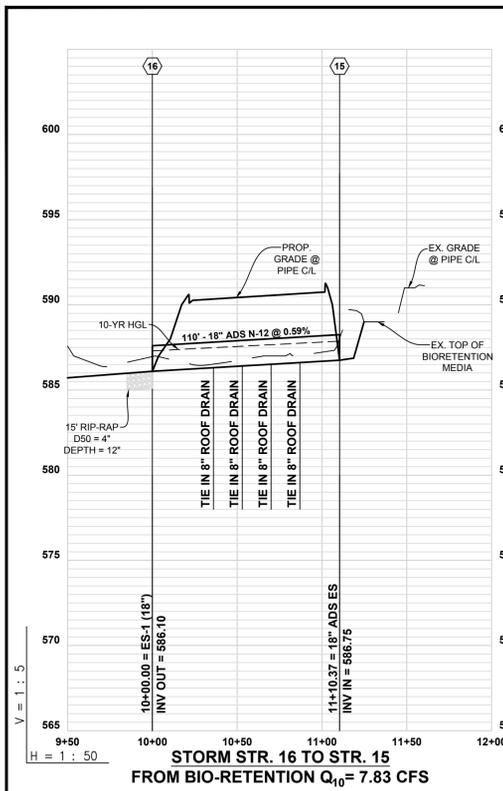
SHEET 8 OF 13
DWG # 18-10

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 GREENWAY MAGISTERIAL DISTRICT
 CLARKE COUNTY, VA



STR 16-STR 15

HY-8 Culvert Analysis Report

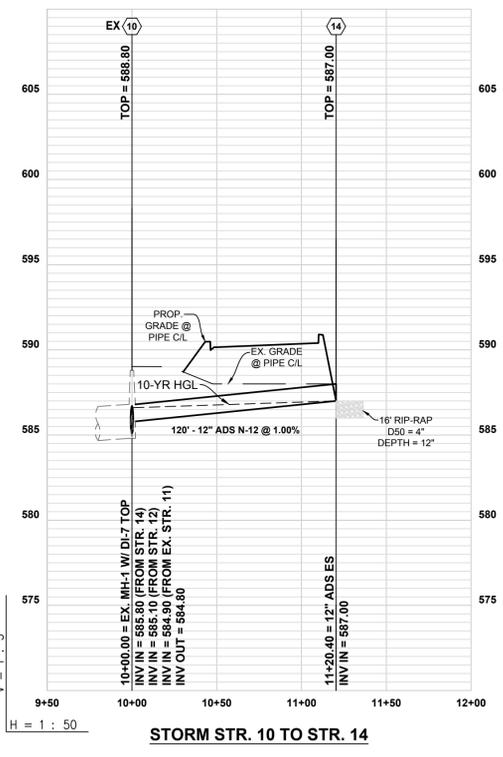
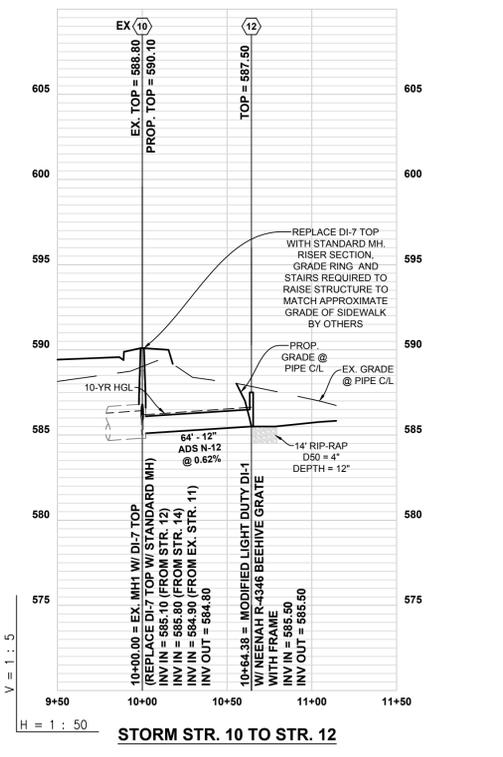
Table 1 - Culvert Summary Table: Culvert 2

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
7.83	7.83	589.22	2.262	2.469	4FFF	1.094	1.099	1.500	1.990	4.504	0.000
7.97	7.97	589.22	2.085	2.469	4FFF	1.096	1.099	1.500	1.980	4.511	0.000
7.98	7.98	589.22	2.080	2.472	4FFF	1.097	1.091	1.500	1.980	4.518	0.000
8.00	8.00	589.23	2.071	2.476	4FFF	1.098	1.092	1.500	1.980	4.520	0.000
8.01	8.01	589.23	2.074	2.479	4FFF	1.100	1.092	1.500	1.980	4.532	0.000
8.01	8.01	589.23	2.075	2.480	4FFF	1.100	1.093	1.500	1.980	4.533	0.000
8.03	8.03	589.24	2.081	2.488	4FFF	1.103	1.094	1.500	1.980	4.545	0.000
8.04	8.04	589.24	2.084	2.490	4FFF	1.104	1.096	1.500	1.980	4.552	0.000
8.06	8.06	589.24	2.087	2.493	4FFF	1.106	1.096	1.500	1.980	4.559	0.000
8.07	8.07	589.25	2.090	2.497	4FFF	1.107	1.098	1.500	1.980	4.566	0.000
8.08	8.08	589.25	2.093	2.500	4FFF	1.108	1.097	1.500	1.980	4.572	0.000

Straight Culvert
Inlet Elevation (invert): 586.75 ft, Outlet Elevation (invert): 586.10 ft
Culvert Length: 110.37 ft, Culvert Slope: 0.0059

Water Surface Profile Plot for Culvert: Culvert 2

Crossing - STR 16 - STR 15, Design Discharge - 8.0 cfs
Culvert - Culvert 2, Culvert Discharge - 8.0 cfs



STR 10-STR 14

HY-8 Culvert Analysis Report

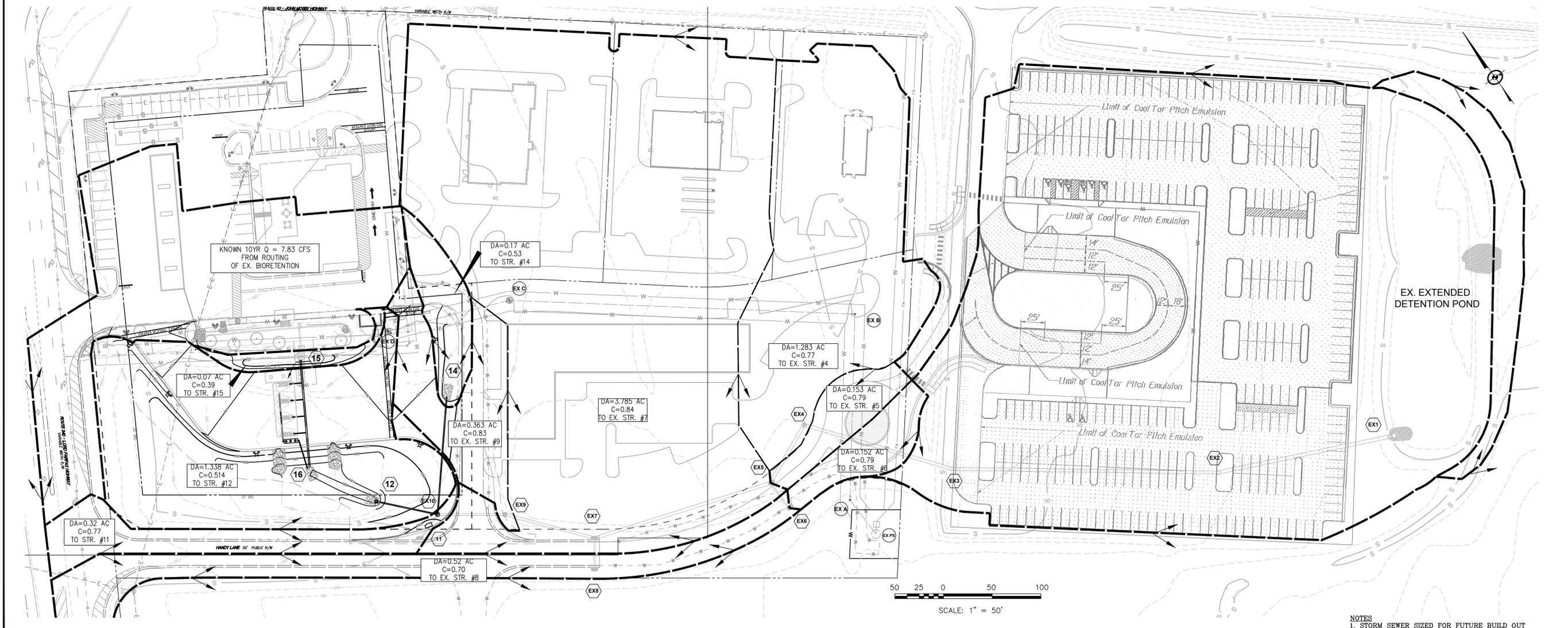
Table 1 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.45	0.45	587.60	0.901	0.07	1-20N	1.5711	0.216	0.265	0.373	3.373	3.000
0.47	0.47	587.62	0.422	0.07	1-20N	1.5711	0.210	0.279	0.373	3.373	3.000
0.51	0.51	587.64	0.439	0.07	1-20N	1.5701	0.209	0.292	0.373	3.373	3.000
0.55	0.55	587.66	0.468	0.07	1-20N	1.5691	0.208	0.305	0.373	3.373	3.000
0.59	0.59	587.67	0.472	0.07	1-20N	1.5291	0.207	0.318	0.373	3.373	3.000
0.64	0.64	587.69	0.492	0.07	1-20N	1.5281	0.207	0.331	0.373	3.373	3.000
0.68	0.68	587.51	0.508	0.07	1-20N	1.5281	0.216	0.340	0.373	3.373	3.000
0.72	0.72	587.52	0.524	0.07	1-20N	1.5281	0.204	0.348	0.373	3.373	3.000
0.76	0.76	587.54	0.541	0.07	1-20N	1.5291	0.203	0.359	0.373	3.373	3.000
0.80	0.80	587.56	0.557	0.07	1-20N	1.5291	0.201	0.370	0.373	3.373	3.000
0.84	0.84	587.57	0.574	0.07	1-20N	1.5291	0.200	0.381	0.373	3.373	3.000

Straight Culvert
Inlet Elevation (invert): 587.00 ft, Outlet Elevation (invert): 585.80 ft
Culvert Length: 120.41 ft, Culvert Slope: 0.0100

Water Surface Profile Plot for Culvert: Culvert 1

Crossing - STR 10 - STR 14, Design Discharge - 0.6 cfs
Culvert - Culvert 1, Culvert Discharge - 0.6 cfs



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CLARKE COUNTY, VA

Rev. No.	Date
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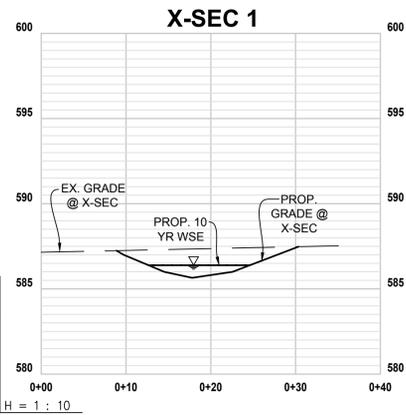
SCALE: N/A

DESIGNED BY: NTA

FILE NO. 4515F-2

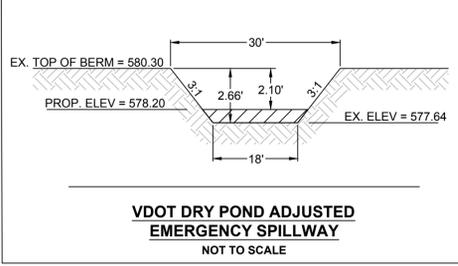
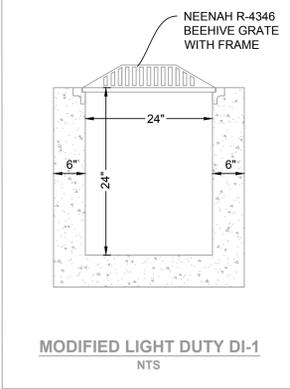
SHEET 9 OF 13

DWG # 18-10



CROSS SECTION NUMBER	CHANNEL INPUT						RESULTS					
	TYPE	SIDE SLOPE	SIDE SLOPE	BOTTOM WIDTH (FT.)	SLOPE (%)	MANNING'S n	CHANNEL LINING	Q ₂ (CFS)	V ₂ (FT./S)	Q ₁₀ (CFS)	DEPTH D ₁₀ (FT.)	
1	V-DITCH	5:1	5:1	0.0	0.66	0.030	GRASS	7.63	2.02	12.31	0.74	
CURB CUT #1	TRAPEZOIDAL	2:1	2:1	5.0	33	0.038	D50=4"	0.99	3.32	1.36	0.07	
CURB CUT #2	TRAPEZOIDAL	2:1	2:1	5.0	33	0.038	D50=4"	0.99	3.32	1.36	0.07	

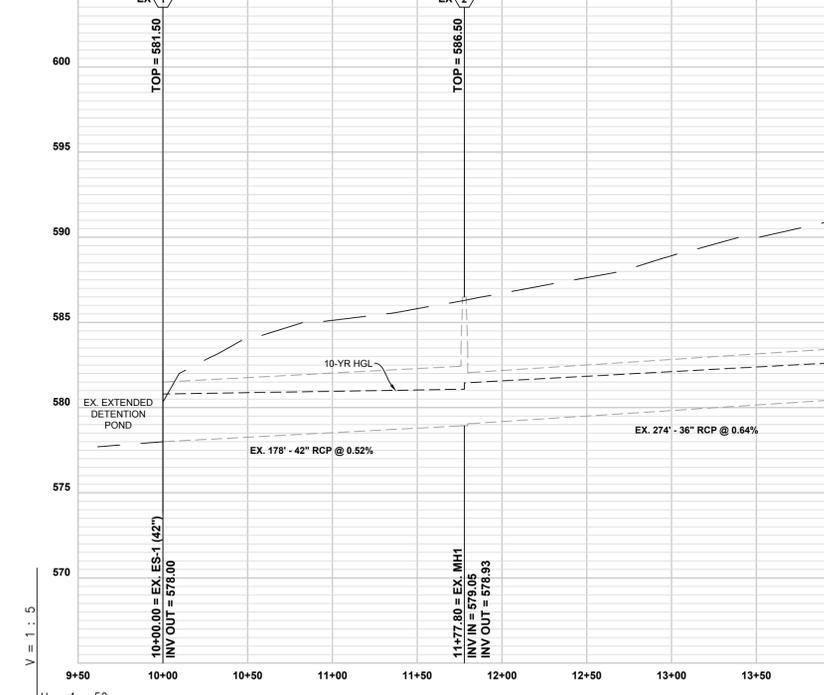
Notes: 1. FHWA Hydraulic Toolbox 4.1 software used to generate channel computation results.
 2. Cross section #1:
 The Q₂ and Q₁₀ were computed using the routed outflow from the existing bio-retention and adding the additional flow from the area draining to X-sec #1
 Q₂ = Q₂ from existing bio-retention = 4.36 cfs + (CIA) (0.51*4.78*1.34) = 7.63 cfs
 Q₁₀ = Q₁₀ from existing bio-retention = 7.83 cfs + (CIA) (0.51*6.56*1.34) = 12.31 cfs
 3. Curb Cuts #1 & #2:
 Q₂ = (CIA) (0.90*4.78*0.23) = 0.99 cfs
 Q₁₀ = (CIA) (0.90*6.56*0.23) = 1.36 cfs



MODIFIED LIGHT DUTY DI-1
NTS

VDOT DRY POND ADJUSTED
EMERGENCY SPILLWAY
NOT TO SCALE

Structure Name	Inlet		DA (AC)	C	CA	I (in/hr)	Q (cfs)	Qb (cfs)	Qt (cfs)	S (ft/ft)	Sx (ft/ft)	T (ft)	W (ft)	W/T	Sw (ft/ft)	Sw/Sx	Eo	a	S'w = a(12W)	Se = Sx*S'w(Eo) (ft/ft)	Lt (ft)	L, Spec Length	L/Lt	E (%)	Qi (cfs)	Qb, Co (cfs)	Sag Inlets Only				
	Inlet ID	Length (ft)																									Ponding Depth (ft)	Curb Opening Height (ft)	d/h	T @ Sag	
11	DI-3B - 8'	8.00	0.32	0.77	0.25	6.56	1.62	0.00	1.62	0.01	0.02	6.45																0.25	0.46	0.54	6.45



EX. STORM STR. 1 TO STR. 11
(FOR INFORMATIONAL PURPOSE ONLY)

From	To	DA (Acres)	Runoff Coef. C	CA (Incr.)	CA (Accum.)	Tc (min)	Rainfall (in/hr)	Runoff Q ₂ (cfs)	Invert Up (ft)	Invert Down (ft)	Length (ft)	Slope (%)	Diameter (in)	Capacity (cfs)	Velocity (fps)	Flow Time (min)	Flow Time (min)	Pipe Material
EX. 2	EX. 1	0.00	0.85	0.00	5.41	5.00	5.67	35.03	578.93	578.00	177.80	0.52	42.00	78.60	7.51	0.39	0.39	RCP
EX. 3	EX. 2	0.00	0.00	0.00	5.41	5.00	5.84	35.93	580.80	579.05	274.17	0.64	36.00	57.48	8.11	0.56	0.56	RCP
EX. 4	EX. 3	1.28	0.77	0.99	5.41	5.00	5.95	36.54	581.70	580.90	158.05	0.51	36.00	51.18	7.42	0.35	0.35	RCP
EX. 5	EX. 4	0.15	0.79	0.12	4.42	5.00	6.00	30.90	582.14	581.80	68.98	0.49	36.00	50.51	7.09	0.16	0.16	RCP
EX. 7	EX. 5	3.79	0.84	3.18	4.18	5.00	6.16	30.09	583.18	582.24	189.10	0.50	36.00	50.72	7.07	0.45	0.45	RCP
EX. 9	EX. 7	0.36	0.83	0.30	0.64	5.00	6.27	8.35	583.85	583.35	95.09	0.53	30.00	32.08	5.21	0.30	0.30	RCP
10	EX. 9	0.00	0.00	0.00	0.34	5.00	6.35	6.49	584.80	584.35	69.18	0.65	24.00	19.68	5.33	0.22	0.22	RCP
14	10	0.17	0.53	0.09	0.09	5.00	6.56	0.59	587.00	585.80	120.40	1.00	12.00	4.16	3.56	0.56	0.56	ADS N-12
12	10	0.00	0.00	0.00	0.00	5.00	6.56	3.25	585.50	585.10	64.38	0.62	12.00	3.28	4.13	0.26	0.26	ADS N-12
11	10	0.32	0.77	0.25	0.25	5.00	6.56	1.61	584.96	584.90	13.33	0.45	15.00	4.68	1.31	0.07	0.17	RCP
EX. 8	EX. 7	0.52	0.70	0.36	0.36	5.00	6.56	2.39	584.58	584.40	31.92	0.56	15.00	5.23	3.95	0.13	0.13	RCP
EX. 6	EX. 5	0.15	0.79	0.12	0.12	5.00	6.56	0.79	586.10	585.90	31.97	0.63	15.00	5.51	3.02	0.18	0.18	RCP
15	16	0.07	0.39	0.03	0.03	5.00	6.56	8.01	586.60	586.10	110.37	0.45	18.00	8.26	4.53	0.41	0.41	ADS N-12

Inlet No.	Outlet W.S.E. (ft)	Do (in)	Qo (cfs)	Lo (ft)	Sfo (%)	Hf (ft)	Vo (fps)	Ho (ft)	Qi (cfs)	Vi (fps)	Qivi	Vi ² /2g	JUNCTION LOSS		Angle (deg)	K	Hb (ft)	Ht (ft)	1.3Ht (ft)	0.5Ht (ft)	Final H (ft)	Inlet W.S.E. (ft)	Rim Elev (ft)
													Hi (ft)	Angle (deg)									
EX. 2	580.80	42.00	35.03	177.80	0.13	0.22	7.51	0.22	35.93	8.11	291.36	1.02	0.36	12.62	0.16	0.16	0.74		0.37	0.59	581.39	586.50	
EX. 3	581.45	36.00	35.93	274.17	0.30	0.83	8.11	0.26	36.54	7.42	271.18	0.86	0.30	15.75	0.20	0.17	0.72		0.36	1.19	582.64	592.20	
EX. 4	583.30	36.00	36.54	158.05	0.31	0.49	7.42	0.21	30.90	7.09	219.08	0.78	0.27	76.20	0.66	0.52	1.01		0.50	1.00	584.30	589.50	
EX. 5	584.30	36.00	30.90	68.98	0.21	0.14	7.09	0.20	30.09	7.07	212.77	0.78	0.27	42.33	0.45	0.35	0.82		0.41	0.55	584.85		
EX. 7	584.85	36.00	30.09	189.10	0.18	0.35	7.07	0.19	8.35	5.21	43.49	0.42	0.15	32.05	0.37	0.15	0.50	0.65	0.32	0.67	585.52	590.14	
EX. 9	585.52	30.00	8.35	95.09	0.04	0.04	5.21	0.11	6.49	5.33	34.55	0.44	0.15	14.72	0.19	0.08	0.34	0.44	0.22	0.26	585.78	588.20	
10	585.95	24.00	6.49	69.18	0.09	0.06	5.33	0.11	3.25	4.13	13.43	0.27	0.09	11.92	0.15	0.04	0.34		0.17	0.23	586.18		
14	586.60	12.00	0.59	120.40	0.02	0.03	3.56	0.06										0.06	0.08	0.04	0.07	586.67	588.00
12	586.18	12.00	3.25	64.38	0.70	0.45	4.13	0.08										0.08	0.10	0.05	0.51	586.68	587.50
11	586.18	15.00	1.61	13.33	0.06	0.01	1.31	0.01										0.01	0.01	0.01	0.01	586.19	589.73
EX. 8	585.52	15.00	2.39	31.92	0.12	0.04	3.95	0.07										0.07	0.09	0.05	0.09	585.61	588.62
EX. 6	586.90	15.00	0.79	31.97	0.02	0.00	3.02	0.04										0.04	0.06	0.03	0.03	586.93	590.14
15	587.30	18.00	8.01	110.37	0.52	0.57	4.53	0.10										0.10		0.05	0.62	587.92	588.25

LOCATION: CURB-CUT #1 2YR

Appendix 7B-4
RIPRAP DESIGN WORK SHEET
FOR STANDARD VDOT RIPRAP SIZES ONLY

CHANNEL DATA
 Q= 0.99 cfs P= 5.261 ft
 S= 0.33 ft/ft R=A/P= 0.057 ft
 d= 0.058 ft V= 3.318 fps
 A= 0.298 sqft Side Slope= 3 :1

DETERMINE RIPRAP SIZE
 $\phi = 42^\circ$
 Convert Side Slope to Side Slope Angle
 $\theta = 18.43^\circ$
 $K_1 = [1 - (\sin^2 \theta / \sin^2 \phi)]^{0.5}$
 $K_1 = 0.88$

For Specific Gravity = 2.65 and Stability Factor = 1.2
 $D_{50} = (0.001 \times V^2) / (d^{0.5} \times K_1^{1.5})$
 $D_{50} \text{ Computed} = 0.18 \text{ ft}$

Note: All VDOT standard riprap (Class A through Type II) is assumed to have a ϕ of approximately 42° and a Specific Gravity of 2.65. Therefore, the Computed D₅₀ should be adjusted by the Stability Correction Factor (C_{sf}) (if any) to derive a Final D₅₀. The VDOT standard class of riprap with the next higher D₅₀ should be specified.

Correction Factor For Stability Factor (SF) other than 1.2 (Default=1.0)
 From Appendix 7D-5 select SF = 1.2
 $C_{sf} = (SF/1.2)^{1.5}$
 $C_{sf} = 1$
 Final D₅₀ = C_{sf} x Computed D₅₀ = 0.18 ft
 RIPRAP RECOMMENDATION: VDOT (Class) (Type) use 4" aggregate
 Thickness (T) = (2 x D₅₀ MSD) = 12 inches minimum

LOCATION: CURB-CUT #2 2YR

Appendix 7B-4
RIPRAP DESIGN WORK SHEET
FOR STANDARD VDOT RIPRAP SIZES ONLY

CHANNEL DATA
 Q= 0.99 cfs P= 5.261 ft
 S= 0.33 ft/ft R=A/P= 0.057 ft
 d= 0.058 ft V= 3.318 fps
 A= 0.298 sqft Side Slope= 3 :1

DETERMINE RIPRAP SIZE
 $\phi = 42^\circ$
 Convert Side Slope to Side Slope Angle
 $\theta = 18.43^\circ$
 $K_1 = [1 - (\sin^2 \theta / \sin^2 \phi)]^{0.5}$
 $K_1 = 0.88$

For Specific Gravity = 2.65 and Stability Factor = 1.2
 $D_{50} = (0.001 \times V^2) / (d^{0.5} \times K_1^{1.5})$
 $D_{50} \text{ Computed} = 0.18 \text{ ft}$

Note: All VDOT standard riprap (Class A through Type II) is assumed to have a ϕ of approximately 42° and a Specific Gravity of 2.65. Therefore, the Computed D₅₀ should be adjusted by the Stability Correction Factor (C_{sf}) (if any) to derive a Final D₅₀. The VDOT standard class of riprap with the next higher D₅₀ should be specified.

Correction Factor For Stability Factor (SF) other than 1.2 (Default=1.0)
 From Appendix 7D-5 select SF = 1.2
 $C_{sf} = (SF/1.2)^{1.5}$
 $C_{sf} = 1$
 Final D₅₀ = C_{sf} x Computed D₅₀ = 0.18 ft
 RIPRAP RECOMMENDATION: VDOT (Class) (Type) use 4" aggregate
 Thickness (T) = (2 x D₅₀ MSD) = 12 inches minimum

LOCATION: CURB-CUT #2 2YR

Appendix 7B-4
RIPRAP DESIGN WORK SHEET
FOR STANDARD VDOT RIPRAP SIZES ONLY

CHANNEL DATA
 Q= 0.99 cfs P= 5.261 ft
 S= 0.33 ft/ft R=A/P= 0.057 ft
 d= 0.058 ft V= 3.318 fps
 A= 0.298 sqft Side Slope= 3 :1

DETERMINE RIPRAP SIZE
 $\phi = 42^\circ$
 Convert Side Slope to Side Slope Angle
 $\theta = 18.43^\circ$
 $K_1 = [1 - (\sin^2 \theta / \sin^2 \phi)]^{0.5}$
 $K_1 = 0.88$

For Specific Gravity = 2.65 and Stability Factor = 1.2
 $D_{50} = (0.001 \times V^2) / (d^{0.5} \times K_1^{1.5})$
 $D_{50} \text{ Computed} = 0.18 \text{ ft}$

Note: All VDOT standard riprap (Class A through Type II) is assumed to have a ϕ of approximately 42° and a Specific Gravity of 2.65. Therefore, the Computed D₅₀ should be adjusted by the Stability Correction Factor (C_{sf}) (if any) to derive a Final D₅₀. The VDOT standard class of riprap with the next higher D₅₀ should be specified.

Correction Factor For Stability Factor (SF) other than 1.2 (Default=1.0)
 From Appendix 7D-5 select SF = 1.2
 $C_{sf} = (SF/1.2)^{1.5}$
 $C_{sf} = 1$
 Final D₅₀ = C_{sf} x Computed D₅₀ = 0.18 ft
 RIPRAP RECOMMENDATION: VDOT (Class) (Type) use 4" aggregate
 Thickness (T) = (2 x D₅₀ MSD) = 12 inches minimum

GENERAL CONDITIONS - COUNTY CODE COMPLIANT LANDSCAPE PLAN

SCOPE OF WORK

THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.

NOTE: IF CONTRACTOR BIDS ACCORDING TO THE PLANT LIST, HE/SHE SHOULD THOROUGHLY CHECK THE PLANT LIST QUANTITIES WITH THE SYMBOLS DRAWN ON THE PLAN, TO BE SURE THERE ARE NO DISCREPANCIES. IF THERE IS A DISCREPANCY BETWEEN THE DRAWING AND THE LIST ON THE PLANS, THE DRAWING TAKES PRECEDENCE.

STANDARDS

ALL PLANT MATERIAL SHALL COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-1996). ALL PLANTS SHALL BE WELL FORMED, VIGOROUS, HEALTHY AND FREE OF DISEASE, SUNSCALD, WINDBURN, AND INSECTS OR THEIR EGGS.

SUBSTITUTIONS: PRE-BID

IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO MAKE EVERY REASONABLE EFFORT TO FIND THE PLANTS SPECIFIED BY THE LANDSCAPE ARCHITECT. THE LANDSCAPE CONTRACTOR MAY OFFER SUBSTITUTIONS TO THE LANDSCAPE ARCHITECT FOR HIS/HER CONSIDERATION. THE LANDSCAPE CONTRACTOR WILL NOTIFY THE LANDSCAPE ARCHITECT IF THERE ARE KNOWN DISEASES OR INSECT RESISTANT SPECIES THAT CAN BE SUBSTITUTED FOR A SELECTED PEST-PRONE PLANT. THE CONTRACTOR SHALL SUBMIT A BASE BID AS PER PLAN PLUS PRICE CLARIFICATIONS FOR ALL RECOMMENDED SUBSTITUTIONS.

SUBSTITUTIONS: POST-BID

IT IS THE INTENT TO ELIMINATE POST-BID SUBSTITUTIONS. HOWEVER, IN THE EVENT THAT THE CONTRACT MATERIAL HAS BECOME UNAVAILABLE, AN APPROPRIATE SUBSTITUTION MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE.

UTILITIES AND UNDERGROUND FEATURES

THE LANDSCAPE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AND/OR THE GENERAL CONTRACTOR IN ADVANCE OF CONSTRUCTION TO LOCATE UTILITIES.

TREES AND/OR SHRUBS SHALL NOT BE PLACED WITHIN FCSA EASEMENTS

IF THERE IS A CONFLICT WITH UTILITIES AND THE PLANTING, THE LANDSCAPE ARCHITECT / DESIGNER SHALL BE RESPONSIBLE FOR RELOCATING PLANTS PRIOR TO THE PLANTING PROCESS. ANY COST DUE TO RELOCATING AFTER PLANTING SHALL BE BORNE BY THE OWNER. IF PLANTS ARE TO BE INSTALLED IN AREAS THAT SHOW OBVIOUS POOR DRAINAGE, AND THE PLANTS ARE INAPPROPRIATE FOR THAT CONDITION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND OWNER. IF THEY DEEM NECESSARY, THE PLANTS SHALL BE RELOCATED, THE CONTRACT SHALL BE ADJUSTED TO ALLOW FOR DRAINAGE CORRECTION AT A NEGOTIATED COST, OR THE PLANT SELECTION MODIFIED BY THE LANDSCAPE ARCHITECT / DESIGNER TO ACCOMMODATE THE POOR DRAINAGE.

WARRANTY

THE STANDARD WARRANTY IS FOR ONE (1) YEAR PERIOD, EXCLUDING BULBS, SOD AND ANNUALS, COMMENCING ON THE DATE OF INITIAL ACCEPTANCE. ALL PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD. ANY MATERIAL THAT IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO CHARGE. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK, OR 25% OF THE CROWN IS DEAD. REPLACEMENTS SHALL BE MADE DURING THE NEXT PLANTING PERIOD. REPLACEMENTS SHALL BE OF THE SAME TYPE, SIZE AND QUALITY AS ORIGINAL SPECIES UNLESS OTHERWISE NEGOTIATED.

INSPECTION

A. PLANTS MAY BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE AT THE PLACE OF GROWTH OR HOLDING YARD FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AS TO QUALITY, SIZE AND VARIETY.

B. PLANTS DAMAGED IN HANDLING OR TRANSPORTATION CAN BE REJECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.

C. STATE NURSERY INSPECTION CERTIFICATES SHALL BE FURNISHED TO THE LANDSCAPE ARCHITECT UPON REQUEST.

STANDARDS

A. PLANTS WILL BE IN ACCORDANCE WITH THE CURRENT (ANSI Z60.1-1996) STANDARDS AND CONFORM IN GENERAL TO REPRESENTATIVE SPECIES.

B. BALLED AND BURLAPPED (B&B)

1. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM ROOT BALLS FREE OF NOXIOUS WEEDS. THERE SHOULD BE NO EXCESS SOIL ON TOP OF THE ROOTBALL OR AROUND THE TRUNK
2. BALL SIZES SHALL BE IN ACCORDANCE WITH ANLA STANDARDS.
3. CALIPER AND HEIGHT MEASUREMENT: IN SIZE GRADING B&B SINGLE TRUNK TREES, CALIPER SHALL TAKE PRECEDENCE OVER HEIGHT. CALIPER OF THE TRUNK SHALL BE TAKEN 6" ABOVE GROUND LEVEL (UP TO AND INCLUDING 3" CALIPER SIZE) AND 12" ABOVE THE GROUND LEVEL FOR LARGER TREES. FOR MULTIPLE-TRUNK TREES, HEIGHT MEASUREMENT SHALL TAKE PRECEDENCE OVER CALIPER.

C. CONTAINER - GROWN STOCK

1. THE SIZE OF CONTAINER-GROWN SHRUBS IS MEASURED BY HEIGHT AND WIDTH OF THE PLANT. CONTAINER-GROWN TREES ARE MEASURED BY THE SAME STANDARDS LISTED IN B.3. ABOVE. THE ROOT SYSTEM OF CONTAINER-GROWN PLANTS SHALL BE WELL DEVELOPED AND WELL DISTRIBUTED THROUGHOUT THE CONTAINER.
2. ALL CONTAINER-GROWN TREES AND SHRUBS THAT HAVE CIRCLING (GIRDLING) AND MATTED ROOTS SHALL BE TREATED IN THE FOLLOWING MANNER PRIOR TO PLANTING: SEPARATE THE ROOTS BY HAND, UNTANGLING SO CIRCLING ROOTS WILL NOT DAMAGE FUTURE OF THE PLANT. SEE PLANTING PROCEDURES FOR ALL CONTAINER-GROWN TREES & SHRUBS IN THIS SECTION.
3. ALL CONTAINER-GROWN PLANTS SHOULD BE GROUPED AND WATERED DAILY UNTIL THEY ARE PLANTED IN THE LANDSCAPE, THE SOIL SHALL BE KEPT MOIST WITH THE EQUIVALENT OF ONE-INCH OF RAINFALL PER WEEK.

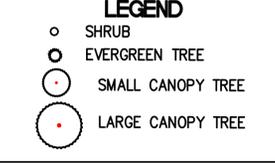
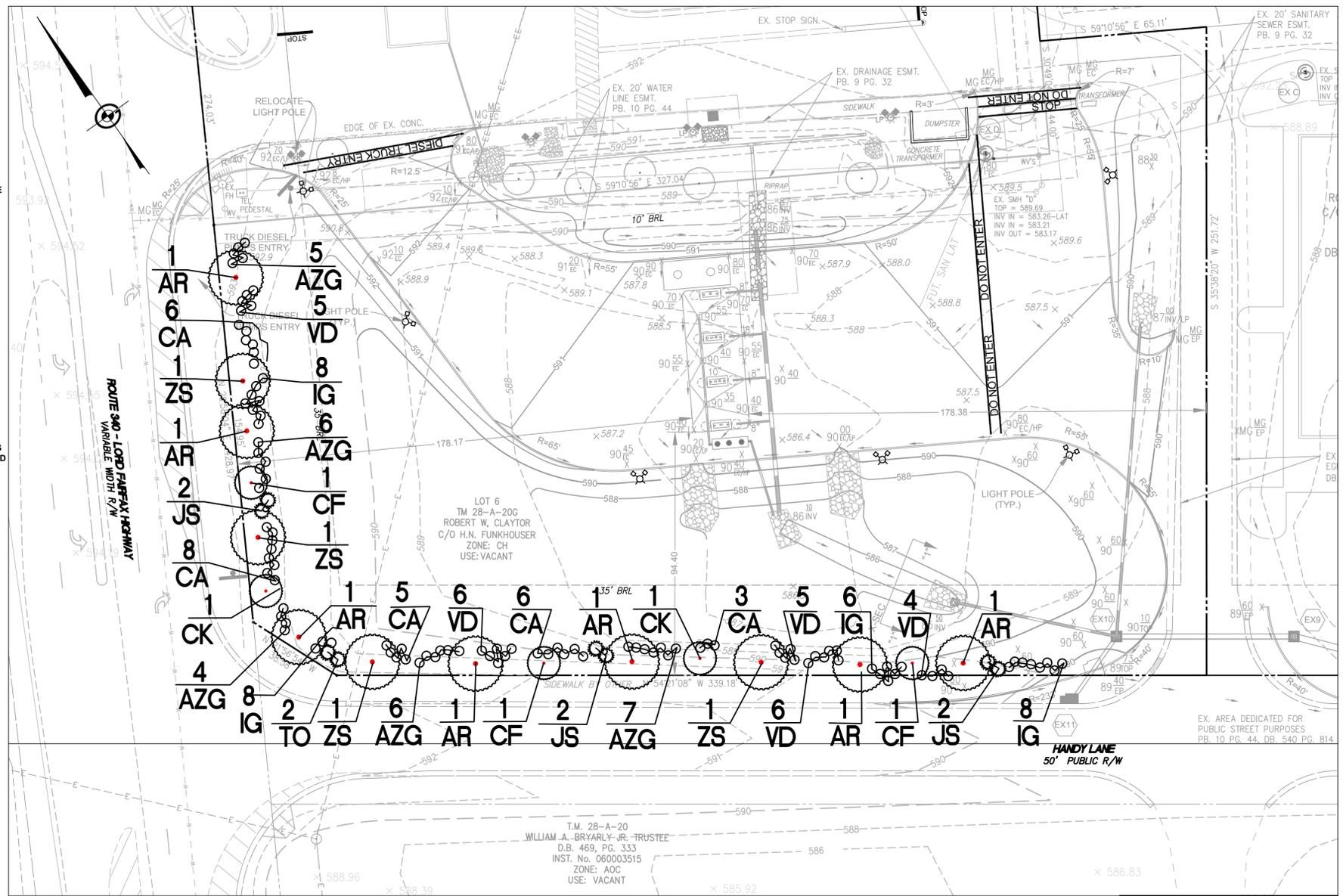
D. PRUNING SHALL BE DONE BEFORE PLANTING OR DURING THE PLANTING OPERATION.

E. ALL PLANT MATERIAL IN TRANSIT SHALL BE COVERED TO KEEP MATERIAL FROM DRYING OUT. THE COVERING SHALL COMPLY WITH THE STATE AND LOCAL LAWS PERTAINING TO THE TRANSPORT OF MATERIALS.

F. TREES SHALL BE PLACED IN AN UPRIGHT POSITION WITH THE ROOT BALL COVERED BY MULCH AND KEPT MOIST. TREES AND SHRUBS SHOULD NOT BE LEFT ON SITE UNPLANTED FOR MORE THAN 24-HOURS WITHOUT ADEQUATE WATER TO INSURE ROOT SURVIVAL.

NOTES:

- 1) ALL PLANTING SHALL CONFORM WITH CLARKE COUNTY ZONING ORDINANCE.
- 2) ANY PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY CLARKE COUNTY.



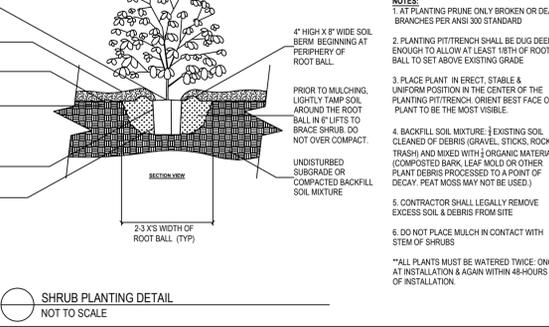
TREES, EVERGREEN AND SHRUBS SCHEDULES

ABB	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
Ar	Acer rubrum "October Glory"	October Glory Maple	7	2" cal., B&B
Zs	Zelkova serrata	Japanese Zelkova	4	2" c.c., B&B
PROPOSED LARGE TREE CANOPY TOTAL: 11				
CF	Cornus florida	Flowering Dogwood	3	6', cont., B&B
CK	Cornus kousa	Kousa Dogwood	2	6', cont., B&B
PROPOSED SMALL TREE CANOPY TOTAL: 5				
Js	Juniperus scopulorum "Skyrocket"	Skyrocket Juniper	6	6', cont., B&B
To	Thuja occidentalis "Emerald"	Emerald American Arborvitae	4	6', cont., B&B
PROPOSED EVERGREEN TREE TOTAL: 10				
AZG	Azalea girard 'Claire Marie'	Claire Marie Azalea	28	18", cont.
CA	Clethra alnifolia	Summersweet Clethra	28	18", cont.
VD	Viburnum davidii	David Viburnum	26	18", cont.
IG	Ilex glabra "Compacta"	Compact Inkberry	25	18", cont.
PROPOSED SHRUB TOTAL: 107				

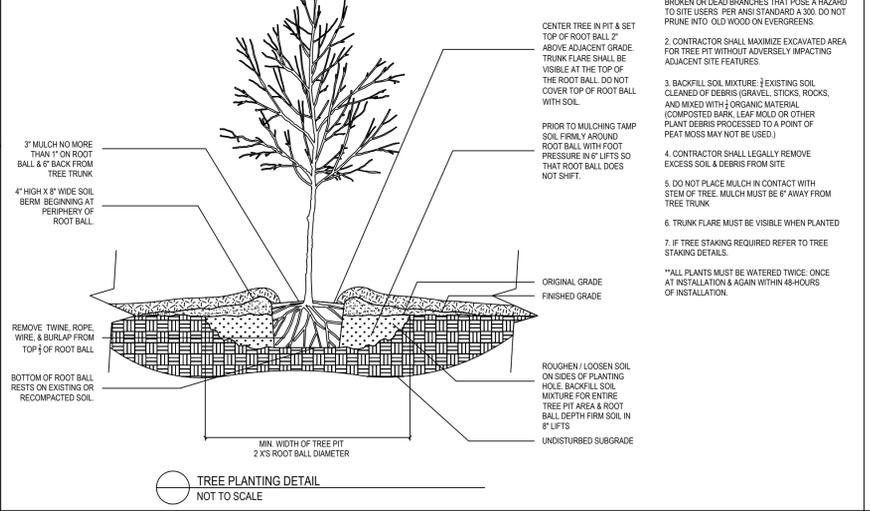
BUFFER REQUIREMENTS : SECTION 6-H-10-C

REQUIRED	PROVIDED	REQUIRED	PROVIDED
4 LG. CANOPY	4	6 LG. CANOPY	7
2 SM. CANOPY	2	3 SM. CANOPY	3
4 EVERGREEN	4	6 EVERGREEN	6
39 SHRUBS	39	63 SHRUBS	63

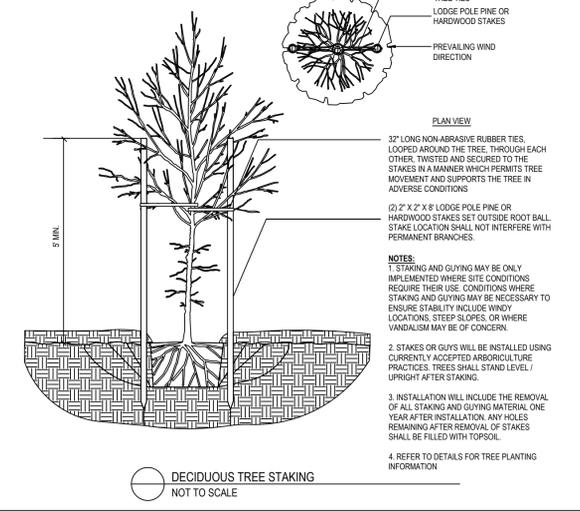
PARKING LOT REQUIREMENTS : NOT APPLICABLE (no additional parking)



HANDY LANE (PUBLIC RW) BUFFER



DECIDUOUS TREE STAKING



151 Windy Hill Lane
Winchester, Virginia 22602
Telephone: (540) 662-4165
Fax: (540) 722-9528
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OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV

LANDSCAPE PLAN

HANDY MART DIESEL PUMP

EXPANSION

GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No. 1 Date 10/08/2018

DATE: 6-11-2018

SCALE: 1" = 25'

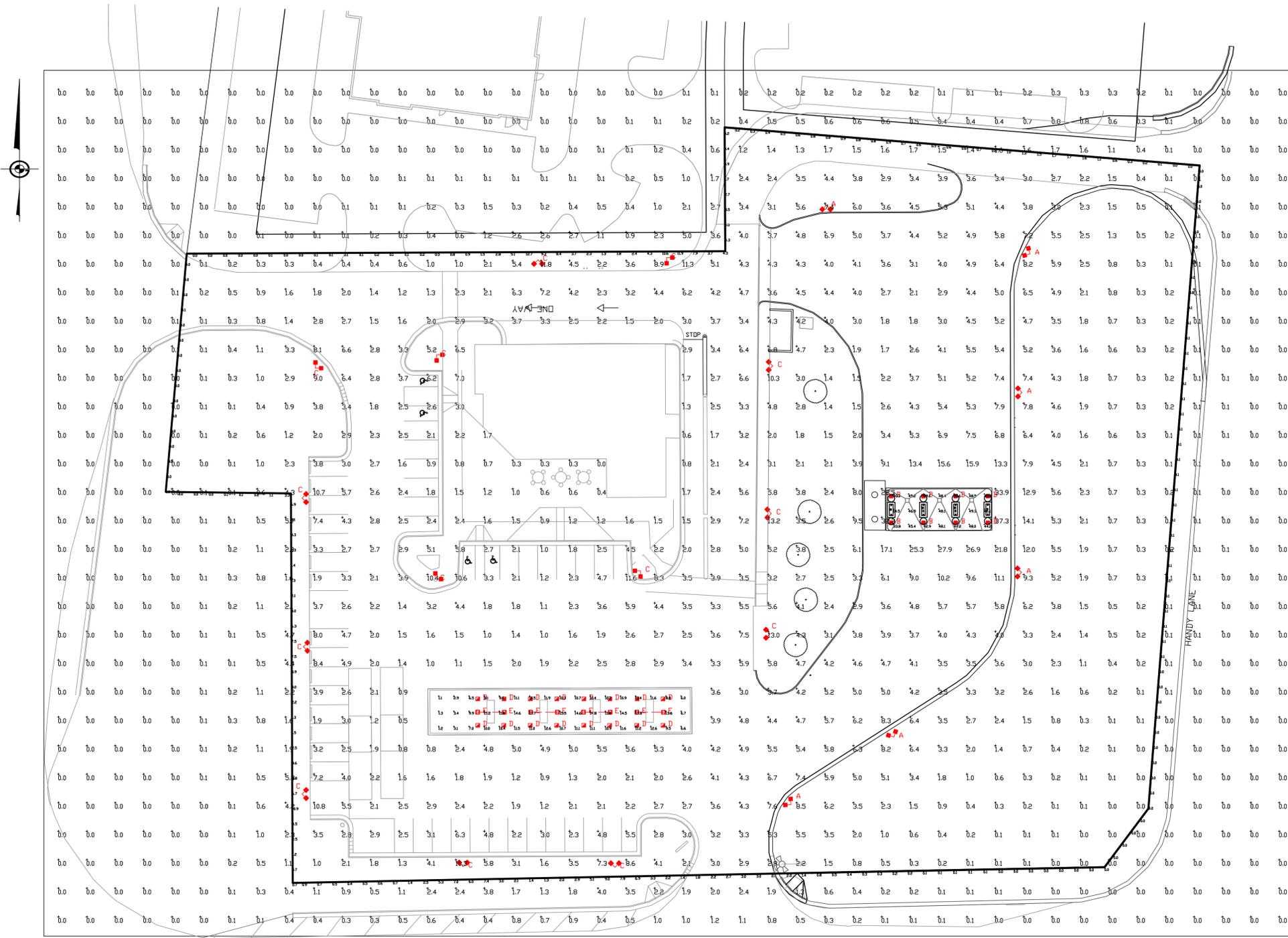
DESIGNED BY: NTA

FILE NO. 4515F-2

SHEET 12 OF 13

DWG # 18-10

Professional Engineer Seal: YUNG KIKI ADHIKUSUMA, Lic. No. 28715, 10/10/18



ROUTE 340 - LORD FAIRFAX HIGHWAY



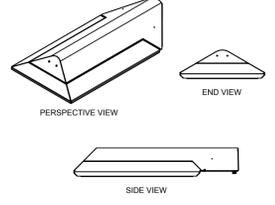
SLM



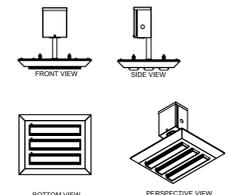
SCV

Click image to open Product Page

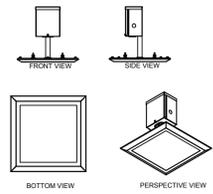
XAM
LED Crossover Area Light



CRO2 FO
LED Crossover Focus (Single Deck)



CRO2-S-50
LED Crossover Ambient (Single Deck)



Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LLF	Arr. Lum. Lumens	Arr. Watts
◆	6	A	2 @ 90 DEGREES	SLM-LED-18L-SIL-FT-50-70CRI-D90-24'POLE+2'BASE	1.000	1.000	1.000	39328	297
■	8	B	SINGLE	SCV-LED-20L-SC-50 MTD @ 18'	1.000	1.000	1.000	20141	130.3
◆	14	C	2 @ 90 DEGREES	XAM3-FT-LED-119-450-CW-UE-D90-20' MT HGT EXISTING	1.000	1.000	0.770	24686	368
■	16	D	SINGLE	CRO2-S-LED-50-CW-UE MTD @ 14.5' EXISTING	1.000	1.000	0.560	4958	60
■	8	E	SINGLE	CRO2-FO-LED-30-CW-UE MTD @ 14.5' EXISTING	1.000	1.000	0.560	2674	36.1

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALC POINTS	Illuminance	Fc	2.08	37.3	0.0	N.A.	N.A.
DIESEL CANDY	Illuminance	Fc	43.99	50.6	14.5	3.03	3.49
EXISTING GAS CANDY	Illuminance	Fc	10.11	17.8	1.1	9.19	16.18
PROPERTY LINE @ 5' AG	Illuminance	Fc	1.58	12.7	0.0	N.A.	N.A.
INSIDE NEW CURB AREA	Illuminance	Fc	6.96	37.3	1.7	4.09	21.94
INSIDE EXISTING CURB AREA	Illuminance	Fc	3.07	11.6	0.1	30.70	116.00

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

151 Windy Hill Lane
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PHOTOMETRIC PLAN

HANDY MART DIESEL PUMP EXPANSION

GREENWAY MAGISTERIAL DISTRICT
CLARKE COUNTY, VA

Rev. No.	Date
1	10/08/2018



DATE: 6-11-2018

SCALE: 1"=30'

DESIGNED BY: NTA

FILE NO. 4515P-2

SHEET 13 OF 13

DWG # 18-10

LIGHTING PROPOSAL LD-143336-3
HANDY MART
RTE 340- LORD FAIRFAX HWY
DATE: 6-27-18 REV: 10-5-18 SHEET 1 OF 1
SCALE: 1"=30'

**SITE PLAN AMENDMENT (SP-18-03)
Juliet Mackay-Smith / Locke & Co., LLC
November 2, 2018 Planning Commission Meeting – SET PUBLIC HEARING
STAFF REPORT – Department of Planning**

The purpose of this staff report is to provide information to the Planning Commission and Board of Supervisors to assist them in reviewing this proposed site plan amendment. It may be useful to members of the general public interested in this proposed amendment.

Case Summary

Applicant(s):

Juliet Mackay-Smith (Applicant)/Locke & Co., LLC (Owner)

Location:

- 2049 & 2053 Millwood Road
- Tax Map #30A-A-56 & 57
- Millwood Election District (Anne Caldwell and Bob Glover)

Parcel Size:

Lot 56 = 8,148 square feet (Non-Conforming Lot Area)

Lot 57 = 4,122 square feet (Non-Conforming Lot Area)

Merged Lot = 12,270 square feet (Conforming to Minimum Lot Area of 10,000 square feet)

Lot Frontage:

Lot 56 = 66.02 feet (Non-Conforming Frontage)

Lot 57 = 46.60 feet (Non-Conforming Frontage)

Merged Lot = 112.62 feet (Conforming to Minimum Lot Frontage of 100 feet)

Zoning:

Neighborhood Commercial (CN) and Historic (H) Districts

Request:

Request approval of a Site Plan Amendment to change the use of an existing retail and service business to a restaurant and add a 4' by 12' breezeway in the Neighborhood Commercial (CN) and Historic (H) Districts. The properties are located at 2049 Millwood Road (Locke Store) & 2053 Millwood Road (The Buttery), reference Tax Map 30A-A-56 & 57, in the Millwood Election District.

Staff Discussion/Analysis:

The Applicant is requesting approval of a Site Plan Amendment to combine an existing retail business and a retail business no longer in operation into one restaurant use. Restaurants are a Permitted Use in the CN District. The subject properties are located on the north side of Millwood Road (Route 723).

There is one building on each of the subject properties. Although previously approved for an art and furniture gallery, currently there is no business use occurring at The Buttery. The current retail use at Locke Store consists primarily of wine and grocery sales and prepared foods sold for take-out only. The proposed restaurant use will be considered the primary use and the retail store use will continue as

an accessory use since the retail products sold are also utilized for the take-out and proposed restaurant food. A 4' by 12' breezeway is also proposed to connect the two buildings.

The Applicant has provided a complete site plan from their surveyor Stuart Dunn. Also provided is a proposed use narrative emailed by the Applicant. According to the Applicant's narrative, in addition to the current "take out" food model used by the retail store, a space will be provided in The Buttery and on the patio area behind it for customers to sit and eat after they have ordered/purchased their food/wine from the store, or customers may reserve space in advance for meals or wine/beer food pairings, private parties, etc. Further details can be found in the Applicant's narrative.

In order to satisfy this use request, the two properties must be merged. There is no permitted principal use or special use available in the CN District that will satisfy the described proposed use in The Buttery located on a separate lot from the Locke Store. If the properties are merged, the use described above utilizing both the Locke Store and The Buttery building on a single lot would be one principal use, "Restaurant," on one lot which is a permitted Principal Use. A merger plat will be submitted separately for administrative approval prior to final signature of an approved site plan.

The only new construction proposed with this request is a 4' by 12' breezeway connecting the two buildings. A previous Administrative Site Plan Amendment was approved on September 4, 2018 for a 10' by 22' addition to increase the size of the kitchen dish room and to add restrooms to serve the current use. A change of use was not requested at that time. The plan also depicted a patio area with an enclosure wall of less than seven feet in height behind 2053 Millwood Road. That request was reviewed by Staff, the Historic Preservation Commission (HPC), the Clarke County Sanitary Authority (CCSA), and the Clarke County Building Department prior to approval.

Site Plan

The Applicant submitted a Site Development Plan on October 5, 2018 containing all of the required elements to constitute a complete submission per §6-E of the Zoning Ordinance. The site plan has been routed to the following agencies for review and comment:

- Virginia Department of Transportation (Bobby Boyce)
- Clarke County Sanitary Authority (Mary Meredith)
- Building Department/Emergency Services (James Royston/Brian Lichty)

The following setback requirements apply to the project and are depicted on the site plan:

- From property lines of property zoned AOC, FOC, and RR: 25 feet

Access and Traffic

There is no designated public entrance for the site, but there is an existing gravel drive parallel to Cunningham Lane (private access easement) that is utilized by employees. A copy of the site plan was routed to VDOT for review and comment and Staff awaits a response.

Erosion & Sediment Control (E&S) / Stormwater

No E&S Plan is required. The site plan proposes only minimal land disturbance during construction of the breezeway addition. Minor land disturbance permitting and inspecting will be handled by the Clarke County Building Department.

There is no stormwater review required for this request.

Water Supply and Waste Water Disposal

The property is served by public water and sewer by the Clarke County Sanitary Authority (CCSA). A copy of the site plan was routed to the CCSA for review and comment and Staff awaits a response.

Karst Plan

There is no karst plan required since there are no proposed septic systems for this project and no facilities proposed near any karst features.

Lighting and Signage

No new lighting is proposed. Two downcast lighting fixtures were approved previously with an administrative site plan near the restroom and in between the structures. No new signage is proposed.

Parking

§3-A-12-e of the Zoning Ordinance (Off-Street Parking Exemption for Certain Properties in Millwood) specifically exempts parking requirements for these properties. Therefore, the surveyor has shown all potential parking spaces available in the area for reference only.

Landscaping

Landscaping requirements can be found in §6-A-10 in the Zoning Ordinance. Buffer areas between adjacent land uses of commercial and residential are 25 feet in width and per §6-H-10-c are required to run the length of adjacent property boundaries and public rights of way, and the buffer area shall not be used for buildings or parking areas. There are two unmarked parking spaces and a small portion of the building at 2053 Millwood Road currently in the 25 foot buffer area. There is only one residence in view of the proposed addition, and according to the Applicant, screening the entire boundary and along the public right of way may not be feasible.

Because of the existing conditions on the property, the Applicant and their surveyor have requested waivers from the landscaping requirements for:

- a) the requirement for large and medium canopy trees
- b) a reduction in the number of small canopy trees, evergreens, and shrubs as required
- c) the requirement that the screening run the length of the property lines

An explanation of the existing conditions and the waiver request can be found under “Site Conditions” in the notes section on Page 2 of the Site Plan.

Staff notes that §6-C in the Zoning Ordinance addresses “Waiver of Requirements”, and states:

- 6-C-1 Any requirement of this Section may be waived by the Agent where the waiver is not inconsistent with this Section, and the applicant establishes that an undue hardship would result from a strict enforcement of this Section, or that the requirement is unreasonable.
- 6-C-2 The Agent may waive the requirements for site plan review for additions to buildings, structures, and uses, if in his/her opinion; such addition does not substantially affect the intent of this Section.

The Applicant has requested a waiver of one requirement, but actually a variation of two others. The code section does not allow for variations to be granted. Staff recommends that the Commission either enforce the landscaping requirements as written, or waive the landscaping requirements entirely and accept the voluntary landscaping agreed to by the Applicant to be shown on the Final Site Plan, which will be enforced upon approval for the life of the operation.

Historic District (H) - Certificate of Appropriateness (C/A):

The subject property is located in the Historic (H) District. Clarke County Zoning Ordinance §3-E-3-e-1-(a) states that the Preservation Commission (HPC) shall review a Certificate of Appropriateness prior to a major alteration or restoration of a contributing building or structure. §3-E-3-e-1-(d) states that “a major alteration of a building or structure shall include any work that requires a building permit...”

The proposed breezeway will utilize the same design and construction materials as the Certificate of Appropriateness identified as CA-18-03 Locke Store which was approved on August 22, 2018 for a 10’ by 22’ addition. The Clarke County Building Official informed Staff that the breezeway addition will be considered an amendment to the current active building permit issued for the referenced addition. Staff has made an interpretation that no further Certificate of Appropriateness approval is necessary for the breezeway amendment since there is no new building permit required. Staff has forwarded the proposal to Maral Kalbian, Architectural Historian, for review and comment.

Building Department / Emergency Services

James Royston, Clarke County Building Code Official, and Brian Lichty were routed a copy of the site plan and Staff awaits a response.

Staff Recommendation:

Schedule Public Hearing for the Planning Commission’s December 7, 2018 Meeting.

History:

- | | |
|---------------------------|--|
| September 24, 2018 | Pre-Application meeting held with Planning Staff. |
| October 5, 2018 | Site Plan Application filed by the applicant. |
| November 2, 2018 | Placed on the Commission’s meeting agenda to schedule Public Hearing. |

Proposed business use for the Locke Store/Buttery property

From : Juliet Mackay-Smith <julietmackaysmith@gmail.com> Tue, Oct 09, 2018 08:43 AM
Subject : Proposed business use for the Locke Store/Buttery property
To : Ryan Fincham <rfincham@clarkecounty.gov>

Good morning Ryan-
please find below a description of proposed uses for the Locke Store/Buttery property in Millwood...

A space for customers to sit after they have ordered/purchased their food/wine, etc. from the store...in addition to the current "take-out" model, they could also order and purchase everything in the store as they do now, but instead of carrying the wine and certain groceries (like cheese, salami, etc) out the door and off premise- they could take a number, find a seat, and we would deliver the plattered food to them, along with glasses, and pour the wine for them. When they finish, they would bus their own trash as usual, and we would collect the glasses and trays. It is my understanding from ABC that they are allowed to take any wine/beer that is not consumed home w/ them- in a bag, with a cork in it. At the outset, this service would be available Fri-Sunday, with business hours possibly extended until 9:00 or 10:00 P.M. on Friday and Saturday.

Scheduled gatherings- these would include wine/beer food pairings, wine classes, business/community meetings/gatherings, private parties...Essentially this would be the "on-site" catering model, which would be pre-planned and scheduled. By my best estimation, this type of use would be occurring once a week, on average, and usually after the store was closed for business.

Although there are currently no parking requirements for CN in Millwood, I am in the process of securing a lease (a draft copy forthcoming this week) from the CCHA on the Mill property. As I indicated above, most of the additional activity generated by the above use would be happening after the Mill is closed, and after the store is closed as well. Based on the feedback I have gotten form the Planning Department, it seems that my proposed uses fall under the permitted use of "Restaurant", and that I will need to merge the two properties (2049 and 2053 Millwood Road) to satisfy the current ordinance.

Juliet Mackay-Smith
Locke Store
2049 Millwood Road
Millwood, VA, 22646
(540) 837-1275



- Public
- Points of Interest
- Parcels With Orthos
- Towns
- Clarke County Boundary
- Major Roads
 - Interstate
 - US Highway
 - State Highway
- Surrounding Counties Op
- Surrounding Counties Non



The data shown on this site are provided for informational and planning purposes only. Clarke County and its consultants are not responsible for the misuse or misrepresentation of the data.

THIS LEASE, made this 24th day of October, 2018, by and between CLARKE COUNTY HISTORICAL ASSOCIATION, INC., a Virginia corporation, hereinafter called the Lessor, and LOCKE AND COMPANY, LLC, a Virginia limited liability company, hereinafter called the Lessee.

WITNESSETH:

The Lessor agrees to lease to the Lessee, and the Lessee agrees to lease from the Lessor, the following described property, under the following terms and conditions:

1. **DESCRIPTION:**

Twenty (20) parking spaces located at the Burwell Morgan Mill ("the Mill"), 15 Tannery Lane, Millwood (Clarke County), Virginia, identified on the plat attached as **Exhibit A** as follows:

2. **TERM:**

The term of this lease shall be five (5) years, beginning on the 1st day of January, 2019, and ending on the 31st day of December, 2023, with options to renew as set forth herein.

3. **RENT:**

As rental for the demised premises, the Lessee shall pay to the Lessor a monthly sum of \$ 100.00 from the commencement of this lease through the month of December, 2023, said rent to be payable in advance on the first day of each month, beginning January 1, 2019.

4. **ASSIGNMENT:**

The Lessee shall not assign this lease the described property or any part thereof without the written consent of the Lessor.

5. **USE AND EXCLUSIVITY:**

It is expressly agreed that this lease is executed in order that the Lessee may utilize the parking spaces for the benefit of Locke and Company, LLC and its tenant(s), and that the premises shall not be put to any other use without the written consent of the Lessor.

Said parking spaces are for the Lessee on an exclusive basis when the Mill is closed

and shall be shared with the Lessor when the Mill is open during regular operating hours or has Special Events after regular operating hours. The Lessee shall not hold its own special events at the same time as the Mill, absent prior written consent from the Lessor.

6. REPAIRS AND MAINTENANCE:

The Lessor agrees that during the term of this lease and any renewal thereof, Lessee shall share the expenses with Lessor for repair and maintenance of the parking spaces by installing gravel and clearing debris. The Lessee shall be solely responsible for the cost of removing snow and ice from the parking spaces.

7. LIABILITY:

The Lessor shall not be liable for any injuries to any person or for any damages to any property on or about the demised premises while used by the Lessee or its tenant(s) and its guests, invitees, and licensees, unless such injuries or damages are caused by the gross negligence of the Lessee.

8. INSURANCE:

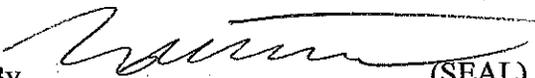
Lessee shall maintain in effect throughout the terms of this lease, and any renewal thereof, general public liability insurance coverage in the amount of at least one million Dollars (\$1,000,000.00) for the benefit and protection of the Lessor and Lessee. Lessee shall name the Lessor as an additional insured under the terms of the policy. Lessee shall annually provide Lessor with a copy of said policy.

9. RIGHT TO RENEW:

Lessee shall have the right to renew this lease of the premises for an additional term of three (3) years, upon the same terms and conditions as set forth in this lease except the amount of rent. If Lessee should desire to renew this lease for the premises at the expiration of this lease, Lessee shall so notify the Lessor in writing at least ninety (90) days prior to the expiration of this lease, and upon being so notified the Lessor shall inform the Lessee in writing at least sixty (60) days prior to the expiration of this lease of the amount of rent for the new term. The Lessee shall then notify the Lessor in writing at least forty-five (45) days prior to the expiration of this lease as to whether or not the Lessee will elect to renew this lease for the premises.

WITNESS the following signatures and seals:

CLARKE COUNTY HISTORICAL ASSOCIATION, INC. , Lessor

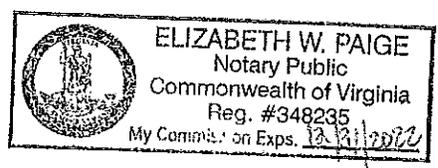
By  (SEAL)

Nathan

COMMONWEALTH OF VIRGINIA AT LARGE,
COUNTY OF Clarke, To-wit:

The foregoing instrument was acknowledged before me this 24 day of October,
2018, by Nathan Stalvey, authorized officer of **CLARKE COUNTY HISTORICAL
ASSOCIATION, INC.**

My commission expires 12/31/2022.



Elizabeth W Paige
NOTARY PUBLIC
Registration No. 348235

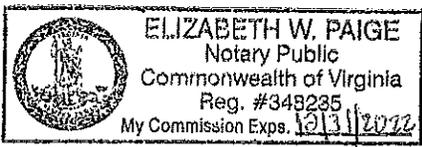
LOCKE AND COMPANY, LLC, Lessee

By Juliet Mackay Smith (SEAL)
Manager

COMMONWEALTH OF VIRGINIA, AT LARGE
COUNTY OF Clarke, To-wit:

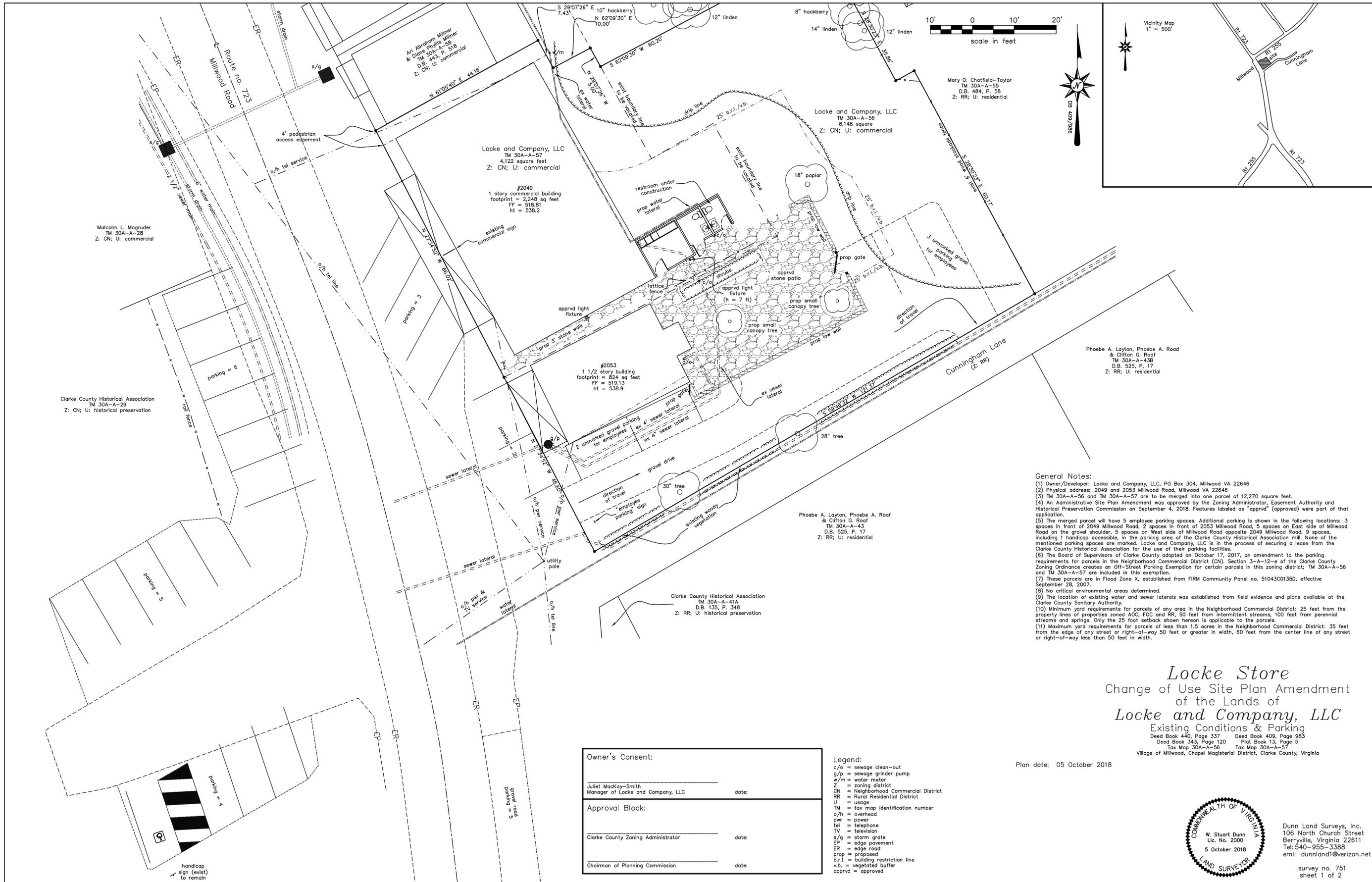
The foregoing instrument was acknowledged before me this 24 day of October,
2018, by Juliet Mackay Smith, Manager of **LOCKE AND COMPANY, LLC.**

My commission expires 12/31/2022.



Elizabeth W Paige
NOTARY PUBLIC
Registration No. 348235

lease parking FINAL181016.wpd



- General Notes:**
- (1) Owner/Developer: Locke and Company, LLC, PO Box 304, Millwood VA 22646
 - (2) Physical address: 2049 and 2053 Millwood Road, Millwood VA 22646
 - (3) TM 30A-A-56 and TM 30A-A-57 are to be merged into one parcel of 12,270 square feet.
 - (4) An Administrative Site Plan Amendment was approved by the Zoning Administrator, Easement Authority and Historical Preservation Commission on September 4, 2018. Features labeled as "apprvd" (approved) were part of that application.
 - (5) The merged parcel will have 5 employee parking spaces. Additional parking is shown in the following locations: 3 spaces in front of 2049 Millwood Road, 2 spaces in front of 2053 Millwood Road, 5 spaces on East side of Millwood Road on the gravel shoulder, 5 spaces on West side of Millwood Road opposite 2049 Millwood Road, 9 spaces, including 1 handicap accessible, in the parking area of the Clarke County Historical Association mill. None of the mentioned parking spaces are marked. Locke and Company, LLC is in the process of securing a lease from the Clarke County Historical Association for the use of their parking facilities.
 - (6) The Board of Supervisors of Clarke County adopted on October 17, 2017, an amendment to the parking requirements for parcels in the Neighborhood Commercial District (CN). Section 3-A-12-e of the Clarke County Zoning Ordinance creates an Off-Street Parking Exemption for certain parcels in this zoning district; TM 30A-A-56 and TM 30A-A-57 are included in this exemption.
 - (7) These parcels are in Flood Zone X, established from FIRM Community Panel no. 51043C0135D, effective September 28, 2007.
 - (8) No critical environmental areas determined.
 - (9) The location of existing water and sewer laterals was established from field evidence and plans available at the Clarke County Sanitary Authority.
 - (10) Minimum yard requirements for parcels of any area in the Neighborhood Commercial District: 25 feet from the property lines of properties zoned AOC, FOC and RR, 50 feet from intermittent streams, 100 feet from perennial streams and springs. Only the 25 foot setback shown hereon is applicable to the parcels.
 - (11) Maximum yard requirements for parcels of less than 1.5 acres in the Neighborhood Commercial District: 35 feet from the edge of any street or right-of-way 50 feet or greater in width, 60 feet from the center line of any street or right-of-way less than 50 feet in width.

Locke Store
 Change of Use Site Plan Amendment
 of the Lands of
Locke and Company, LLC
 Existing Conditions & Parking
 Deed Book 440, Page 337 Deed Book 409, Page 983
 Deed Book 343, Page 120 Plot Book 13, Page 5
 Tax Map 30A-A-56 Tax Map 30A-A-57
 Village of Millwood, Chapel Magisterial District, Clarke County, Virginia

Plan date: 05 October 2018

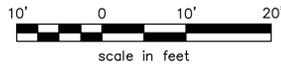
Owner's Consent:	
Juliet Mackay-Smith Manager of Locke and Company, LLC	date: _____
Approval Block:	
Clarke County Zoning Administrator	date: _____
Chairman of Planning Commission	date: _____

- Legend:**
- c/o = sewage clean-out
 - g/p = sewage grinder pump
 - w/m = water meter
 - Z = zoning district
 - CN = Neighborhood Commercial District
 - RR = Rural Residential District
 - U = usage
 - TM = tax map identification number
 - o/h = overhead
 - pwr = power
 - tel = telephone
 - TV = television
 - s/g = storm grate
 - EP = edge pavement
 - ER = edge road
 - prop = proposed
 - b.r.l. = building restriction line
 - v.b. = vegetated buffer
 - apprvd = approved



Dunn Land Surveys, Inc.
 106 North Church Street
 Berryville, Virginia 22611
 Tel: 540-955-3388
 eml: dunnland1@verizon.net

survey no. 751
 sheet 1 of 2



Legend:

- c/o = sewage clean-out
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- apprvd = approved

General Conditions: County Code Compliant Landscape Plan

- (1) The Landscape Contractor shall provide all materials, labor and equipment to complete all landscape work.
- (2) All plant material shall comply with the American Standard for Nursery Stock (ANSI Z60.1-1996). All plants shall be well formed, vigorous, healthy, free of disease, sunscald, windburn and insects or their eggs.
- (3) It is the Landscape Contractor's responsibility to make every reasonable effort to find the plants specified in this plan. The Landscape Contractor may offer substitutions to this plan to Owner/Agent for consideration.
- (4) The Landscape Contractor shall notify utility companies and/or the General Contractor in advance of construction to locate utilities.
- (5) Plants will be in accordance with the current (ANSI Z60.1-1996) standards and conform in general to representative species.
- (6) Balled and burlapped plants shall be dug with firm root balls free of noxious weeds. There should be no excess soil on top of the rootball or around the trunk. Ball sizes will be in accordance with ANLA Standards.
- (7) Caliper and height measurement: in size grading balled and burlapped single trunk trees, caliper shall take precedence over height. Caliper of the trunk shall be taken 6" above ground level (up to and including 3" caliper size) and 12" above the ground level for larger trees. For multiple-trunk trees, height measurement shall take precedence over caliper.
- (8) Container grown stock: The height of container grown shrubs is measured by height and width of the plant. Container grown trees are measured by the same standards listed above. The root system of container grown plants shall be well developed and well distributed through out the container. All container grown trees and shrubs that have circling and matted roots shall be treated in the following manner prior to planting: separate the roots by hand, untangling so circling roots shall not damage future of the plant. All container grown plants should be grouped and watered daily until they are planted in the landscape. The soil shall be kept moist with the equivalent of 1" of rainfall per week. Pruning shall be done before planting or during the planting operation.
- (9) All planting shall conform with the Clarke County Zoning Ordinance.
- (10) Any plant substitutions must be approved in writing by Clarke County.

Site Conditions:

Based on zoning requirements this site should have a total of 6,478 square feet of buffering (see chart with Buffer Requirements). This is not physically possible. The Southern portion of the buffer area encompasses a gravel lane and an employee parking area. Additionally a portion of a proposed stone patio approved on September 4, 2018, is within this area. The Eastern and Northern portions of the buffer area are largely inside the dripline of existing mature trees along the property line with Mary O. Chatfield-Taylor. Ms Chatfield-Taylor has indicated that she would prefer that these mature trees not be removed; instead they should be replaced when they die or become unhealthy. The rest of the area of this site is extensively covered by the two buildings, the restrooms under construction and the approved stone patio. Additionally the Applicant desires that the 10' access easement across the land of Mary O. Chatfield-Taylor be kept as a viable option for access for service to this operation. The Owner/Applicant will need to apply for a Waiver for the following: a) the requirement for large and medium canopy trees, and b) a reduction in the number of small canopy trees, evergreens and shrubs required by the CCZO. The actual number of plantings should be based on the ratio of usable area to total buffer area required.

The Owner/Applicant proposes to plant a total of 3 small canopy trees. Proposed species will be: Redbud (Cercis Canadensis), Flowering Crabapple (Malus), Flowering Dogwood (Cornus Florida).

The Owner/Applicant proposes to plant a total of 10 evergreens. Proposed species will be: American Holly (Ilex Opaca), upright Juniper (Juniperus).

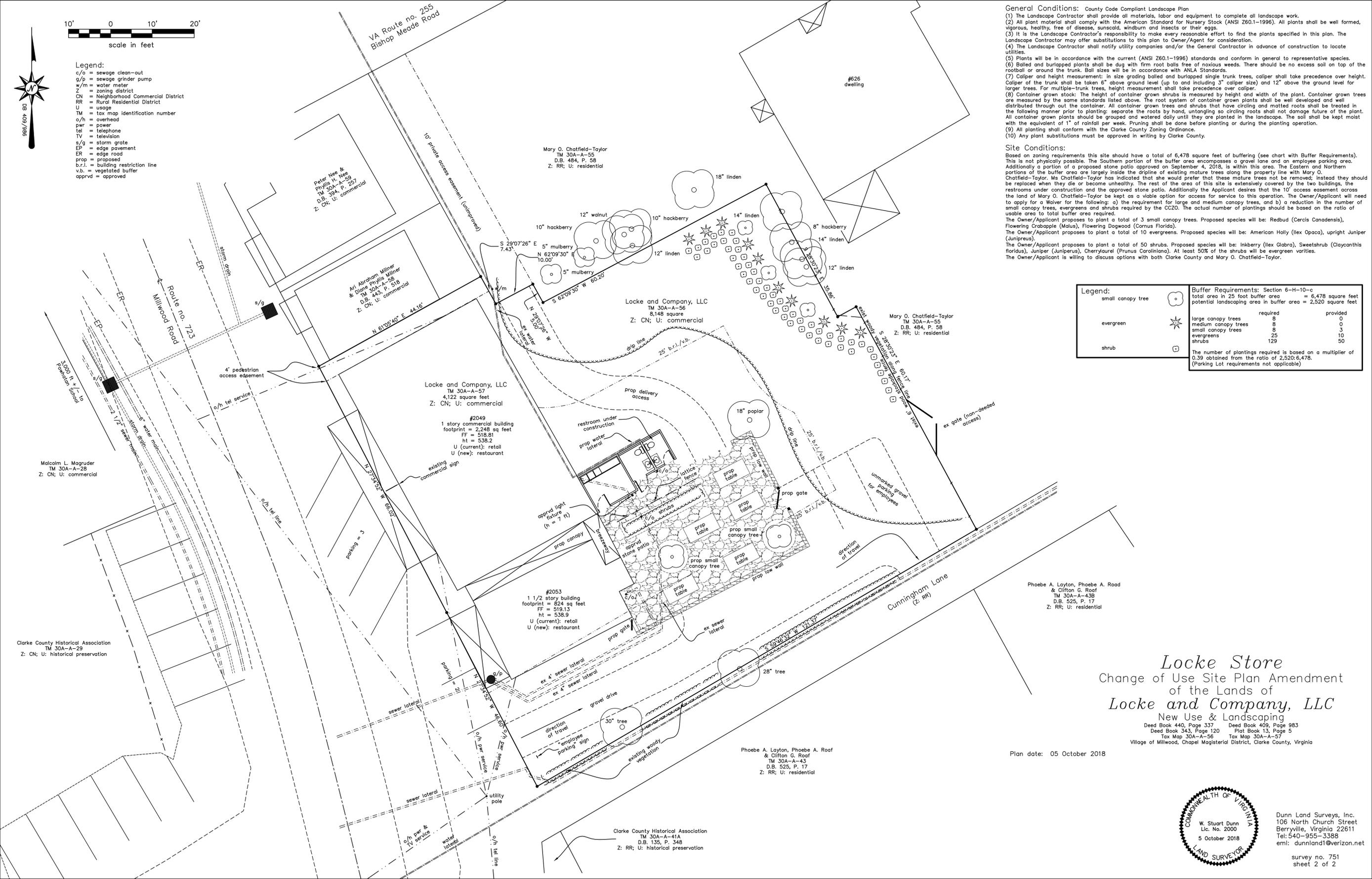
The Owner/Applicant proposes to plant a total of 50 shrubs. Proposed species will be: Inkberry (Ilex Glabra), Sweetshrub (Claytonia floridus), Juniper (Juniperus), Cherrylaural (Prunus Caroliniana). At least 50% of the shrubs will be evergreen varieties.

The Owner/Applicant is willing to discuss options with both Clarke County and Mary O. Chatfield-Taylor.

Legend:		Buffer Requirements: Section 6-H-10-c	
small canopy tree		total area in 25 foot buffer area	= 6,478 square feet
evergreen		potential landscaping area in buffer area	= 2,520 square feet
shrub			

	required	provided
large canopy trees	8	0
medium canopy trees	8	3
small canopy trees	8	3
evergreens	25	10
shrubs	129	50

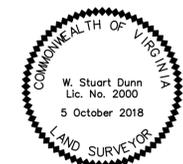
The number of plantings required is based on a multiplier of 0.39 obtained from the ratio of 2,520/6,478. (Parking Lot requirements not applicable)



Locke Store
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