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EROSION AND SEDIMENT CONTROL NARRATIVE:

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE CONSTRUCTION OF A NEW AUTOMOTIVE SERVICE BUILDING AND ASSOCIATED PARKING LOT, UTILITIES, AND SITE WORK. LIMITS OF DISTURBANCE IS #### ACRES.

ADJACENT PROPERTY

THESE IMPROVEMENTS ARE BEING MADE WITHIN THE PROPERTY BOUNDARY. THE PROPERTY IS BOUNDED BY CHALLENGER AVE TO THE NORTHWEST, AN UNNAMED ACCESS ROAD TO THE SOUTHWEST, THE EXISTING KROGER SHOPPING CENTER PARKING LOT TO THE SOUTHEAST, AND A VACANT COMMERCIAL PARCEL TO THE NORTHEAST.

EXISTING SITE CONDITIONS

THE SITE IS CURRENTLY MOSTLY GRASS, PAD GRADED WITH SLOPES ALONG CHALLENGER AVE AND THE UNNAMED ACCESS ROAD.

OFF-SITE AREAS

NO OFFSITE AREAS WILL BE DISTURBED AS PART OF CONSTRUCTION.

CRITICAL EROSION AREAS

NO WORK IS PLANNED IN CRITICAL EROSION AREAS. CONTRACTOR TO USE CAUTION AND PREPLANNING IN COORDINATION WITH ENGINEER AND ESC INSPECTOR TO MAKE SURE NECESSARY ESC MEASURES ARE IMPLEMENTED AND MAINTAINED CORRECTLY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN ACCORDANCE WITH VESCH AND THE CONSTRUCTION SEQUENCE, INCLUDING THE INSPECTION OF ALL MEASURES AFTER ALL RAIN EVENTS.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CURRENT ADDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE BY LOCAL AUTHORITIES HAVING JURISDICTION.

STORMWATER RUNOFF CONSIDERATIONS

STORMWATER QUANTITY FOR THIS OUTLOT HAS BEEN PROVIDED BY AN EXISTING STORAGE PIPE AT THE KROGER DEVELOPMENT. OFFSITE NUTRIENT CREDITS WILL BE PURCHASED FOR STORMWATER QUANTITY.

STRUCTURAL PRACTICES:

- TEMPORARY CONSTRUCTION ENTRANCE - 3.02 A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT THE LOCATION INDICATED ON THE PLANS. IT IS IMPERATIVE THAT THIS MEASURE BE MAINTAINED THROUGHOUT CONSTRUCTION. ITS PURPOSE IS TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.
- SILT FENCE BARRIER - 3.05 SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW AS INDICATED. ITS PURPOSE IS TO INTERCEPT SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- STORM DRAIN INLET PROTECTION - 3.07 STONE FILTERS SHALL BE PLACED AT THE INLET OF ALL DRAINAGE STRUCTURES AS INDICATED ON PLANS. ITS PURPOSE IS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION.
- DUST CONTROL - 3.39 DUST CONTROL IS TO BE USED THROUGH THE SITE IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT.

VEGETATIVE PRACTICES:

- TOPSOIL (TEMPORARY STOCKPILE) - 3.30 TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER SPREADING. STOCKPILE LOCATIONS SHALL BE LOCATED ONSITE AND SHALL BE STABILIZED WITH TEMPORARY SILT FENCE AND VEGETATION.
- TEMPORARY SEEDING - 3.31 ALL DENUDEED AREAS WHICH WILL BE LEFT DORMANT FOR MORE THAN 30 DAYS SHALL BE SEED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING OF THOSE AREAS. SELECTION OF THE SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
- PERMANENT SEEDING - 3.32 FOLLOWING GRADING ACTIVITIES, ESTABLISH PERENNIAL VEGETATIVE COVER BY PLANTING SEED TO REDUCE EROSION, STABILIZE DISTURBED AREAS, AND ENHANCE NATURAL BEAUTY.

MANAGEMENT STRATEGIES

- PROVIDE SEDIMENT TRAPPING MEASURES AS A FIRST STEP IN GRADING, SEED AND MULCH IMMEDIATELY FOLLOWING INSTALLATION.
- PROVIDE TEMPORARY SEEDING OR OTHER STABILIZATION IMMEDIATELY AFTER GRADING.
- ISOLATE TRENCHING FOR UTILITIES AND DRAINAGE FROM DOWNSREAM CONVEYANCES IN ORDER TO MINIMIZE PERIMETER CONTROLS.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED UNTIL THEY ARE NO LONGER REQUIRED TO COMPLY WITH THE CONTRACT DOCUMENTS OR STATE LAW.

PERMANENT STABILIZATION

ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. SEEDING SHALL BE IN ACCORDANCE WITH STD. & SPEC. 3.32, PERMANENT SEEDING. SEED TYPE SHALL BE AS SPECIFIED FOR "MINIMUM CARE LAWNS" AND "GENERAL SLOPES" IN THE HANDBOOK FOR SLOPES LESS THAN 3:1. FOR SLOPES GREATER THAN 3:1, SEED TYPE SHALL BE AS SPECIFIED FOR "LOW MAINTENANCE SLOPES" IN TABLE 3.32-D OF THE HANDBOOK. FOR MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDDED SURFACES. IN ALL SEEDING OPERATIONS SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

SEQUENCE OF INSTALLATION

PHASE I

- A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE WITH THE ROANOKE COUNTY E&S INSPECTOR, CONTRACTOR, OWNER, AND ENGINEER, IN ACCORDANCE WITH ROANOKE COUNTY REQUIREMENTS.
- INSTALL INLET PROTECTION, SILT FENCE AND CONSTRUCTION ENTRANCES.
- AFTER ALL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND APPROVED BY THE E&S INSPECTOR, SITE WORK CAN BEGIN.
- ROUGH GRADE PROJECT AREA.
- SEED ALL DENUDEED AREAS PER VESCH STANDARDS.

PHASE II

- INSTALL ADDITIONAL INLET PROTECTION WHERE SHOWN ON THE PHASE II EROSION AND SEDIMENT CONTROL PLAN AS THE STORM SYSTEM IS CONSTRUCTED AND BECOMES OPERATIONAL.
- FINE GRADE PROJECT AREA. APPLY PERMANENT SOIL STABILIZATION TO THESE AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS ACHIEVED.
- ALL STORMWATER PIPING & STRUCTURES SHALL BE INSPECTED FOR SILT/SEDIMENT. IF PRESENT, SILT/SEDIMENT SHALL BE CLEANED OUT FOR THE SYSTEM TO THE SATISFACTION OF THE E&S INSPECTOR.
- ONCE CONSTRUCTION IS COMPLETE AND ALL CONTRIBUTING AREAS ARE STABILIZED, EROSION CONTROL MEASURES CAN BE REMOVED UPON APPROVAL FROM THE E&S INSPECTOR.

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

Yes	N/A	4VACS0-30-40 Minimum Standards	Describe how MS is addressed on plan	MS Instructions for Contractor (this column optional)
X		MS1: Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.	TEMPORARY AND PERMANENT SEEDING ARE CALLED OUT ON ESC SHEETS. SEEDING AREAS CAN BE FOUND ON SHEET C-1	
X		MS2: During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.	SOIL STOCK PILES ARE SHOWN ON SHEET C-1. SILT FENCE WAS RECENTLY PROPOSED AND TO BE PLACED TO PREVENT SEDIMENT RUNOFF	
X		MS3: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.	PERMANENT SEEDING SPECIFICATION IS PROVIDED ON SHEET C-1. THE REQUIRED SEEDING AREAS ARE SHOWN ON SHEET C-1 AND C-2. PERMANENT SEEDING BECOMES FULLY ESTABLISHED PER ESC REQUIREMENTS	
X		MS4: Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.	MS4 WAS RECENTLY PROPOSED AND TO BE PLACED ON THIS SHEET	
X		MS5: Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.		
X		MS6: Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.		
X		MS7: Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.		
X		MS8: Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.		
X		MS9: Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.		
X		MS10: All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.	INLET PROTECTION IS SHOWN ON ALL EXISTING AND PROPOSED INLETS ON THE SITE. SEE SHEET C-1 FOR DETAILS AND SHEETS C-2 AND C-3 FOR LOCATIONS	
X		MS11: Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.		

X		MS12: When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthfill fill may be used for these structures if removed by nonerodible cover materials.		
X		MS13: When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.		
X		MS14: All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall be met.		
X		MS15: The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.		
X		MS16: Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria: a. No more than 500 linear feet of trench may be opened at one time. b. Excavated material shall be placed on the uphill side of trenches. c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property. d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization. e. Rehabilitation shall be accomplished in accordance with this chapter. f. Applicable safety chapters shall be complied with.	CONTRACTOR TO ENSURE UNDERGROUND UTILITY INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS HEREIN	
X		MS17: Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surfaces. 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.	A STONE CONSTRUCTION ENTRANCE AND CHUTEWAY WASHOUT ARE SHOWN ON SHEET C-2 TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. CONTRACTOR SHALL ALSO ENSURE THIS STANDARD IS FOLLOWED THROUGHOUT CONSTRUCTION	
X		MS18: All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.	REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE DONE UPON FINAL APPROVAL OF THE VESCP INSPECTOR. SEQUENCE OF INSTALLATION PROVIDED ON SHEET C-1. CONTRACTOR SHALL ALSO ENSURE THIS STANDARD IS FOLLOWED THROUGHOUT CONSTRUCTION	
X		MS19: Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream protection and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels: a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outlet of the pipe or pipe system shall be performed. b. Adequacy of all channels and pipes shall be verified in the following manner: 1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or 2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks. (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater	THIS SITE GOING TO AN OVER SIZED PIPE REQUIREMENT SYSTEM THAT WILL INSTALL WITH THE PROPER DEVELOPMENT. STORMWATER REQUIREMENTS ARE SET FOR THE EXISTING ON PAGE 0-2	

X		will be contained within the pipe or system. c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall: 1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or 2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; 3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the predevelopment peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or 4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion. d. The applicant shall provide evidence of permission to make the improvements. e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project. f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance. g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outlet of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel. h. All on-site channels must be verified to be adequate. i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility. j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations. k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state. 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: l. detain the water quality volume and to release it over 48 hours; m. detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and n. reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 10.1-562 or 10.1-570 of the Act. For plans approved after July 1, 2014, the flow rate capacity and velocity requirements of § 10.1-561 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act § 10.1-603 et seq. of the Code of Virginia and attendant regulations, unless such land-disturbing activities are in accordance with 4VACS0-60-66 of the Virginia Stormwater Management Program (VSMP) Permit Regulations. n. Compliance with the water quantity minimum standards set out in 4VACS0-60-66 of the Virginia Stormwater Management Program (VSMP) Permit Regulations shall be deemed to satisfy the requirements of Minimum Standard 19.		
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GENERAL CONSTRUCTION NOTES FOR EROSION AND SEDIMENT CONTROL

- THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BAG AND/OR AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGING ON SITE OR TO THE EXISTING STORM DRAIN SYSTEM.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- ALL FILL MATERIAL TO BE TAKEN FROM AN APPROVED, DESIGNATED BORROW AREA.
- ALL WASTE MATERIALS SHALL BE TAKEN TO AN APPROVED WASTE AREA. EARTH FILL SHALL BE INERT MATERIALS ONLY, FREE OF ROOTS, STUMPS, WOOD, RUBBISH, AND OTHER DEBRIS.
- BORROW OR WASTE AREAS ARE TO BE RECLAIMED WITHIN 7 DAYS OF COMPLETION.
- BORROW, FILL OR WASTE ACTIVITY INVOLVING INDUSTRIAL-TYPE POWER EQUIPMENT SHALL BE LIMITED TO THE HOURS OF 7:00AM TO 9:00PM.
- BORROW, FILL OR WASTE ACTIVITY SHALL BE CONDUCTED IN A SAFE MANNER THAT MAINTAINS LATERAL SUPPORT, OR ORDER TO MINIMIZE ANY HAZARD TO PERSONS, PHYSICAL DAMAGE TO ADJACENT LAND AND STRUCTURES/IMPROVEMENTS, AND DAMAGE TO ANY PUBLIC STREET BECAUSE OF SLIDES, SINKING, OR COLLAPSE.
- THE DEVELOPER SHALL RESERVE THE RIGHT TO INSTALL, MAINTAIN, REMOVE OR CONVERT TO PERMANENT STORMWATER MANAGEMENT FACILITIES WHERE APPLICABLE ALL EROSION CONTROL MEASURES REQUIRED BY THIS PLAN.
- TEMPORARY STABILIZATION SHALL BE TEMPORARY SEEDING AND MULCHING. SEEDING IS TO BE AT 75 LBS/ACRE, AND IN THE MONTHS OF SEPTEMBER TO FEBRUARY TO CONSIST A 50/50 MIX OF ANNUAL RYEGRASS AND CEREAL WINTER RYE, OR IN MARCH AND APRIL TO CONSIST OF ANNUAL RYE, OR MAY THROUGH AUGUST TO CONSIST OF GERMAN MILLET. STRAW MULCH IS TO BE APPLIED AT 80LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
- PERMANENT STABILIZATION SHALL BE LIME AND FERTILIZER, PERMANENT SEEDING, AND MULCH. AGRICULTURAL GRADE LIMESTONE SHALL BE APPLIED AT 90LBS/1000SF, INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. FERTILIZER SHALL BE APPLIED AT 100LBS/ACRE AND CONSIST OF A 10-20-10 NUTRIENT MIX. PERMANENT SEEDING SHALL BE APPLIED AT 180LBS/ACRE AND CONSIST OF 95% KENTUCKY 31 OR TALL FESCUE AND 0-5% PERENNIAL RYEGRASS OR KENTUCKY BLUEGRASS. STRAW MULCH IS TO BE APPLIED AT 80LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
- MAINTENANCE: ALL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. ANY DAMAGE OR CLOGGING TO STRUCTURAL MEASURES SHALL BE REPAIRED IMMEDIATELY. SILT TRAPS SHALL BE CLEANED WHEN 50% OF THE WET STORAGE VOLUME IS FILLED WITH SEDIMENT. ALL SEEDDED AREAS SHALL BE RESEED WHEN NECESSARY TO ACHIEVE A GOOD STAND OF GRASS. SILT FENCE AND DIVERSION DYKES WHICH COLLECT SEDIMENT TO HALF THEIR HEIGHT MUST BE CLEANED AND REPAIRED IMMEDIATELY.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF FINAL SITE STABILIZATION, WHEN MEASURES ARE NO LONGER NEEDED, SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- ES-1: UNLESS OTHERWISE INDICATED, CONSTRUCT AND MAINTAIN ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY WILL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS AND EFFECTIVENESS OF THE EROSION CONTROL PLAN.
- ES-3: PLACE ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO OR AS THE FIRST STEP IN CLEARING, GRADING, OR LAND DISTURBANCE.
- ES-4: MAINTAIN A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN ON THE SITE AT ALL TIMES.
- ES-5: PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFFSITE BORROW OR WASTE AREA), SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE ARCHITECT/ENGINEER AND THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY FOR REVIEW AND ACCEPTANCE.
- ES-6: PROVIDE ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE RESPONSIBLE LAND DISTURBER. (MODIFIED NOTE)
- ES-7: ALL DISTURBED AREAS SHALL DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND-DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT.
- ES-8: DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING DEVICE.
- ES-9: INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. MAKE ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES IMMEDIATELY.

SOILS INFORMATION:

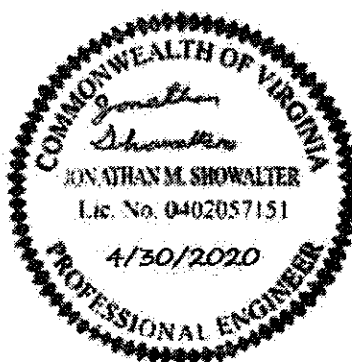
5C - CHISWELL-LITZ COMPLEX, 7 TO 15 PERCENT SLOPES, 20 TO 40 INCHES TO RESTRICTIVE FEATURES, WELL DRAINED, HYDROLOGIC SOIL GROUP: C

5D - CHISWELL-LITZ COMPLEX, 15 TO 25 PERCENT SLOPES, 20 TO 40 INCHES TO RESTRICTIVE FEATURES, WELL DRAINED, HYDROLOGIC SOIL GROUP: C

25C - GROSECLOSE-LITZ COMPLEX 2 TO 15 PERCENT SLOPES, 20 TO 40 INCHES TO RESTRICTIVE FEATURES, WELL DRAINED, HYDROLOGIC SOIL GROUP: C

25D - GROSECLOSE LITZ COMPLEX, 15 TO 25 PERCENT SLOPES, 20 TO 40 INCHES TO RESTRICTIVE FEATURES, WELL DRAINED, HYDROLOGIC GROUP: C

EROSION AND SEDIMENT CONTROL QUANTITY & COST ESTIMATE*					
ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CONSTRUCTION ENTRANCE	1	EA	\$1,200.00	\$1,200.00	
SILT FENCE	990	L.F.	\$4.00	\$2,360.00	
INLET PROTECTION	8	EA	\$150.00	\$1,200.00	
PERMANENT SEEDING	8,000	S.F.	\$0.05	\$400.00	
TEMPORARY SEEDING	36,200	S.F.	\$0.04	\$1,448.00	
SUBTOTAL				\$6,608.00	
10% CONTINGENCY				\$661.00	
TOTAL PROJECT COST				\$7,269.00	



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YOUR VISION ACHIEVED THROUGH OURS.

DATE
3/25/20
4/30/20
DATE
02/10/2020
DRAWN BY
Z. DAHL
DESIGNED BY
J. SHOWALTER
CHECKED BY
J. SHOWALTER
SCALE
N/A

TIMMONS GROUP

ROANOKE FIRESTONE
ROANOKE COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

JOB NO.
44371
SHEET NO.
C3.0

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