EROSION & SEDIMENT CONTROL GENERAL NOTES

(ADOPTED FROM TABLE 6-1 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK)

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

ES-2. UNLESS OTHERWISE NOTED HEREON OR STIPULATED BY THE LAND DISTURBING PERMIT, THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3. UNLESS OTHERWISE NOTED IN THE E&SC NARRATIVE, PERIMETER CONTROLS AND SEDIMENT TRAPS SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

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

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

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

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

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

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

ES-10. THE EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHOWN ON THESE SHEETS ARE TO BE CONSTRUCTED DURING THE SITE GRADING AND CONSTRUCTION. REFER TO THE FOLLOWING SHEETS FOR EROSION AND SEDIMENT CONTROL NARRATIVE, SEQUENCE OF WORK, DETAILS, AND DESIGN DATA.

ES-11. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

ES-12. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR 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.

ES-13. PERMANENT OR TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

ES-14. TEMPORARY SOIL STABILIZATION MEASURES 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 STABILIZATION MEASURES SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

ES-15. PERMANENT SEEDING APPLIED TO ALL MECHANICALLY STABILIZED SLOPES AND SLOPES STEEPER THAN 3:1 AND SHALL MEET THE FOLLOWING SEED MIXTURE:

POUNDS PER ACRE	SEED TYPE
108	KENTUCKY 31
2	RED TOP
20	SEASONAL NURSE CROP (ANNUAL RYE, FOXTAIL MILLET, & WINTER RYE MIX)
20	CROWN VETCH

ES-16. ALL AREAS DISTURBED BY THE WORK OF THIS PROJECT SHALL BE STABILIZED BY EITHER THE CONSTRUCTION OF A PERMANENT SURFACE SUCH AS CURB, PAVEMENT, OR CONCRETE SIDEWALK, OR STABILIZED BY MEANS OF PERMANENT SEEDING OR ANOTHER APPROVED STABILIZATION METHOD.

ES-17. FOLLOWING THE COMPLETION OF SITE DEVELOPMENT CONSTRUCTION/GRADING, CONFIRMED STABILIZATION OF ALL DISTURBED AREAS, CONFIRMATION THAT EROSION OR SEDIMENTATION IS NO LONGER OCCURRING ON THE PROJECT SITE OR AT ITS BOUNDARIES, CONFIRMATION THAT DRAINAGE FLOWS ARE FUNCTIONING ACCORDING TO DESIGN, AND APPROVAL HAS BEEN GRANTED BY THE ROANOKE COUNTY EROSION AND SEDIMENT CONTROL INSPECTOR, THE CONTRACTOR MAY THEN BEGIN TO REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. THIS WORK SHALL BE DONE IN A CAREFUL, NEAT, AND ORGANIZED MANNER. IF DEWATERING IS REQUIRED, WATER SHALL BE PUMPED TO AN APPROVED FILTERING DEVICE.

EROSION & SEDIMENT CONTROL SHEET NOTES (STAGE I):

1. THIS DRAWING IS INTENDED TO SHOW THE PERIMETER EROSION & SEDIMENT CONTROL (E&SC) MEASURES REQUIRED DURING THE INITIAL CLEARING & GRADING PHASE FOR THE CONSTRUCTION OF THE NEW BUILDING, STORM DRAINAGE SYSTEM, UTILITIES, AND OTHER SITE IMPROVEMENTS. ADDITIONAL REQUIRED MEASURES AND SEQUENCE OF WORK ARE SHOWN ON SUBSEQUENT SHEETS (STAGE II/SHEET C5) AND ARE SPECIFIED IN THE NARRATIVES, SEQUENCE OF WORK, AND STATEMENT OF COMPLIANCE WITH THE MINIMUM STANDARDS.
2. REFER TO SHEET C6 FOR 'EROSION & SEDIMENT CONTROL (E&SC) NARRATIVE' AND REFER TO SHEET C6 FOR LISTING AND 'STATEMENT OF COMPLIANCE WITH THE MINIMUM STANDARDS (MS-19).'
3. REFER TO SHEET D2 FOR STANDARD E&SC DETAILS AND DESIGN SUMMARY DATA.
4. WHERE APPLICABLE, THIS SHEET SHOWS THE DRAINAGE AREAS (DIVIDES) AND THE TOTAL AREA (IN ACRES) DRAINING TO CRITICAL E&SC CONTROL MEASURES. THE AREAS DENOTED REPRESENT THE MAXIMUM AREA DRAINING TO A GIVEN MEASURE.
5. WHERE APPLICABLE, THIS DRAWING SHOWS THE TYPES AND APPROXIMATE LIMITS OF SOILS ANTICIPATED TO BE ENCOUNTERED ON THE SITE. ALL SOIL DATA IS TAKEN FROM UNITED STATED DEPARTMENT OF AGRICULTURE – NATURAL RESOURCES CONSERVATION SERVICES – NATIONAL COOPERATIVE SOIL SURVEY PUBLICATIONS.
6. REFER TO E&SC NARRATIVE ON SHEET C6 FOR INFORMATION REGARDING 'CRITICAL EROSION AREAS.'
7. A CERTIFIED RESPONSIBLE LAND DISTURBER (RLD) SHALL OVERSEE AND BE INVOLVED IN ALL ASPECTS OF THE LAND DISTURBANCE ACTIVITIES (FROM INITIAL LAND DISTURBANCE THROUGH FINAL STABILIZATION). THE NAME OF THE RLD SHALL BE PROVIDED TO PLAN REVIEWING AUTHORITY AT OR PRIOR TO THE PRECONSTRUCTION CONFERENCE. THIS PERSON SHALL ATTEND THE PRECONSTRUCTION CONFERENCE AND PROVIDE A COPY OF HIS RLD CERTIFICATE.

SEQUENCE OF ACTIVITIES ~ GENERAL

1. GENERAL:

1.1 IN ORDER TO MINIMIZE THE POTENTIAL FOR SOIL EROSION AND SEDIMENTATION OF DOWNSTREAM WATERWAYS AND PROPERTIES, THE WORK OF THE PROJECT SHOULD BE STAGED AND EXECUTED GENERALLY CHRONOLOGICALLY IN ACCORDANCE WITH THE GENERAL SEQUENCE OF WORK OUTLINED BELOW.

1.2 THIS SEQUENCE OF WORK IS NOT INTENDED TO PROVIDE THE CONTRACTOR AND THE RESPONSIBLE LAND DISTURBER (RLD) WITH SPECIFIC DIRECTION REGARDING MEANS AND METHODS OF CONSTRUCTION NOR IS IT INTENDED TO ADDRESS EACH AND EVERY REQUIRED STEP TO COMPLY WITH THE INTENT OF THE EROSION AND SEDIMENT CONTROL PLAN.

1.3 THE CONTRACTOR SHOULD BE FAMILIAR WITH AND AWARE OF THE SEQUENCING PROVISIONS OF THE 'VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS' AND THOSE CONTAINED IN THE CITY OF SALEM 'EROSION AND SEDIMENT CONTROL ORDINANCE.' THE GENERAL SEQUENCE OF WORK MAY BE ALTERED UPON SUBMISSION AND APPROVAL OF WRITTEN AMENDMENTS OR APPROVED FIELD REVISIONS.

SEQUENCE OF ACTIVITIES ~ STAGE I

2. FLAG THE LIMITS OF LAND DISTURBANCE. STAKE THE LOCATION OF THE CONSTRUCTION ENTRANCE.

3. CONSTRUCTION ENTRANCE (CE):

3.1 THE CONTRACTOR MAY USE THE EXISTING ASPHALT ENTRANCE AND GRAVEL AREA AS INITIAL STAGING AND CONSTRUCTION ENTRANCE AREA FOR THE WORK OF THE PROJECT, HOWEVER A FULL CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO WHOLESALE GRADING ON THE SITE. THE CONTRACTOR SHALL ENSURE VEHICLES LEAVING THE WORK AREA ARE FREE OF EXCESS MUD, DIRT, AND DUST. IF EXCESS MUD, DIRT, AND DUST CANNOT BE CONTROLLED (AS DETERMINED BY CITY E&SC INSPECTOR) A VEHICLE WASH-DOWN AREA SHALL BE REQUIRED.

4. PERIMETER MEASURES:

4.1 INSTALL SILT FENCE (SF) & SUPER SILT FENCE (SSF) ALONG THE SOUTH PERIMETER ADJACENT TO BACK OF CURB AT K&W CAFETERIA AND AT OTHER PERIMETER LOCATIONS WHERE SHOWN. LIMIT LAND DISTURBANCES TO ONLY AREAS REQUIRED FOR INSTALLATION OF THE TEMPORARY SILT FENCE.

4.2 INSTALL RIP-RAP FILTER BERM/ROCK CHECK DAM (CD) WHERE ON-SITE FLOW CONCENTRATES IN SOUTHWEST CORNER OF THE SITE. THIS MEASURE IS INTENDED TO SLOW-DOWN AND DISPERSE THE SEMI-CONCENTRATED FLOWS FROM THE UP-SLOPE UNDISTURBED AREA.

4.3 IT IS NOTED THAT THE EASTERN, NORTHERN, AND WESTERN PERIMETER OF THE SITE ALL DRAIN INTO THE SITE AND TO THE SOUTH.

4.4 INSTALL NEW STORM DRAINAGE PIPE FROM EXISTING 24-INCH OUTFALL LINE TO NEW SWM BASIN RISER STRUCTURE. INSTALL OUTLET PROTECTION ON THE OPEN END OF THE PIPE AS WORK PROGRESSES AND AT THE END OF THE PIPE AS WORK IS COMPLETED. INSTALL RISER STRUCTURE AND INSTALL INLET PROTECTION (IP) / RIP-RAP FILTER BERM (DIP) AT PRINCIPAL ORIFICE/RISER.

4.5 UPON COMPLETION OF ABOVE TASKS CALL FOR INSPECTION OF THE INSTALLED MEASURES. MAKE ADJUSTMENTS AS NEEDED TO ENSURE COMPLIANCE WITH THE SPECIFICATIONS SHOWN ON THE PLANS AND MAKE ADJUSTMENTS AND/OR ADD ADDITIONAL MEASURES BASED ON INSPECTION BY E&SC INSPECTOR FINDINGS/RECOMMENDATIONS.

5. INITIAL GRADING:

5.1 IF ENCOUNTERED, STRIP AND STOCKPILE TOPSOIL ON-SITE (AT LOCATION SHOWN HEREON) AS NECESSARY TO ENSURE ADEQUATE TOPSOIL IS AVAILABLE TO DRESS CONSTRUCTED SLOPES AND LANDSCAPE ISLANDS. PROTECT STOCKPILE FROM EROSION WITH PERIMETER SILT FENCE (SF) AND TEMPORARY SEEDING (TS).

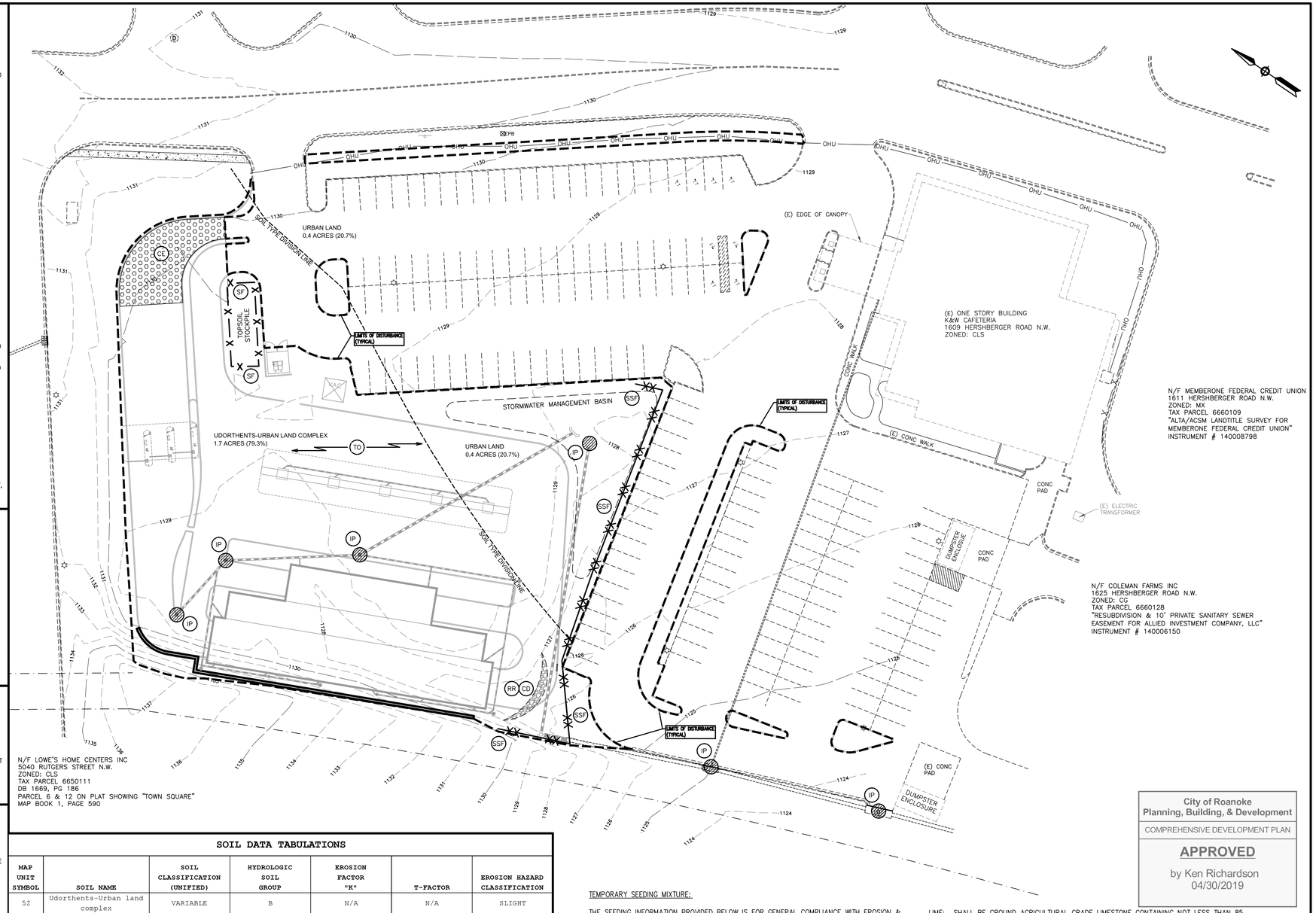
5.2 SINCE THE AREA OF LAND DISTURBANCE FOR THIS PROJECT IS VOID OF MATURE TREES. IT IS NOT ANTICIPATED THAT EXTENSIVE LOGGING WITHIN THE LIMITS OF LAND DISTURBANCE WILL BE REQUIRED. PERFORM SELECTIVE TREE REMOVAL / LOGGING WITHIN THE LIMITS OF LAND DISTURBANCE. PROTECT TREES TO REMAIN AS SHOWN ON THE LANDSCAPE PLAN. MINIMIZE LAND DISTURBANCE DUE TO LOGGING. BURNING OF CLEARED VEGETATION WILL NOT BE PERMITTED. REMOVE CLEARED VEGETATION FROM WORK SITE AS THE WORK PROGRESSES.

5.3 BEGIN GRADING (FILLING AND EXCAVATIONS) IN ACCORDANCE WITH THE CONTOURS AND LINES SHOWN ON THE PLANS. STOCKPILE EXCESS SUITABLE MATERIAL FOR HAUL-OFF OR FOR USE IN BACKFILLING BUILDING FOUNDATIONS. AS WORK PROGRESSES TO THE SUBGRADE / EARTHEN LEVEL PROTECT ALL EXISTING STORM DRAIN INLET AND PIPES WITH INLET PROTECTION (IP) MEASURES.

5.4 INSTALL STORM DRAINAGE SYSTEM AS SHOWN ON PLANS AS EARLY IN THE SEQUENCE AS POSSIBLE. SEE PARAGRAPH 6. BELOW FOR MORE DETAILED REQUIREMENTS. INSTALL INLET PROTECTION (IP) AT END OF OPEN PIPES AND ON ALL INLETS AS THEY ARE INSTALLED. ENSURE DOWNSTREAM STORM DRAINAGE SYSTEM IS COMPLETE AND FUNCTIONING AS WORK PROGRESSES.

5.5 APPLY PERMANENT (PS) OR TEMPORARY SOIL (TS) STABILIZATION MEASURES TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

5.6 APPLY TEMPORARY SOIL STABILIZATION (TS) MEASURES 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 STABILIZATION MEASURES (PS) SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.



SOIL DATA TABULATIONS

MAP UNIT SYMBOL	SOIL NAME	SOIL CLASSIFICATION (UNIFIED)	HYDROLOGIC SOIL GROUP	EROSION FACTOR "K"	T-FACTOR	EROSION HAZARD CLASSIFICATION
52	Udorthents-Urban land complex	VARIABLE	B	N/A	N/A	SLIGHT
53	Urban land	VARIABLE	B	N/A	N/A	SLIGHT

ALL DATA TAKEN FROM SOIL SURVEY OF ROANOKE COUNTY AND THE CITIES OF ROANOKE AND SALEM, VIRGINIA, UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE.

NOTE: URBAN LANDS ARE HIGHLY VARIABLE AND CONSIST OF A MIXTURE OF MANY SOILS. SOIL PARAMETER DATA IS NOT REDIALY AVAILABLE FROM THE SOURCE QUOTED.

PROPOSED DISTURBED AREA

THE PROPOSED DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 1.39± ACRES (60,422 SF)

EROSION CONTROL LEGEND

- (CE) CONSTRUCTION ENTRANCE (STD. 3.02)
- (IP) INLET PROTECTION (STD. 3.07)
- (SF) SILT FENCE (STD. 3.05/PLATE 3.05-2)
- (SSF) SUPER SILT FENCE (STD. 3.05/PLATE 3.05-1)
- (RR) RIP RAP (STD 3.19)
- (TO) TOPSOILING (STD 3.30)
- (CD) CHECK DAM (STD. 3.20)
- SOIL TYPE DIVIDE
- LIMITS OF DISTURBANCE

SEE SHEET D2 FOR EROSION CONTROL DETAILS (UNLESS OTHERWISE NOTED)

CALL THREE WORKING DAYS BEFORE YOU DIG 811 ONE CALL SYSTEMS INC.
CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION

NOTICE TO CONTRACTORS REGARDING EXISTING UTILITIES

Contractors are specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is approximate only. The information is not to be relied on as being exact or complete.

The Contractor must call the appropriate utility provider or one-call system a minimum of 72 hours before beginning any construction activities in order to verify the locations of all existing utilities. It is the responsibility of the contractor to verify the utility locations and determine if any existing utilities conflict with the proposed construction.

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Ken Richardson
04/30/2019

TEMPORARY SEEDING MIXTURE:

THE SEEDING INFORMATION PROVIDED BELOW IS FOR GENERAL COMPLIANCE WITH EROSION & SEDIMENT CONTROL REQUIREMENTS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL TECHNICAL REQUIREMENTS.

FERTILIZER: SHALL MEET REQUIREMENTS OF FEDERAL SPECIFICATION O F 241. PROVIDE FERTILIZER THAT IS COMPLETE, INORGANIC, UNIFORM IN COMPOSITION, AND SUITABLE FOR APPLICATION WITH APPROVED EQUIPMENT. PROPORTIONS OF FERTILIZER NUTRIENTS SHALL BE THE FOLLOWING:

10 LBS. OF ACTUAL NITROGEN
10 LBS. OF ACTUAL PHOSPHATE
10 LBS. OF ACTUAL POTASH

TEMPORARY SEED MIXTURE: SHALL HAVE THE FOLLOWING CHARACTERISTICS:

SEEDING DATE	SPECIES	PERCENTAGES (MINIMUM)			SEEDING RATE LBS. PER ACRE
		WGT.	PURITY	GERM.	
02/15-03/30	OATS	100	98	85	96
05/01-08/31	MILLET	100	98	80	40
09/01-11/15	RYE	100	96	85	140

LIME: SHALL BE GROUND AGRICULTURAL GRADE LIMESTONE CONTAINING NOT LESS THAN 85 PERCENT CALCIUM AND MAGNESIUM CARBONATES. FINENESS SHALL BE SUCH THAT 100 PERCENT WILL PASS A NO. 20 SIEVE, AND NOT LESS THAN 50 PERCENT WILL PASS A NO. 100 SIEVE. BURNT LIME OR HYDRATED LIME MAY BE SUBSTITUTED IN EQUIVALENT CARBONATES, IF REQUESTED.

MULCH: TYPE I MULCH SHALL BE CURLEX BLANKET EROSION CONTROL FABRIC BLANKET. THE FABRIC SHALL BE MANUFACTURED OF MATERIALS WHICH DEGRADE IN 6 TO 8 MONTHS UNDER OUTDOOR EXPOSURE. TYPE II MULCH COMPOSED OF THRESHED STRAW OF CEREAL GRAIN, PINE NEEDLES, OR WOOD FIBER SHALL BE FREE OF OBJECTIONABLE WEED SEEDS OR OTHER HARMFUL MATERIAL.

BINDER: SYNTHETIC MULCH BINDER FOR USE WITH TYPE II MULCH: CURASOL, DCA 70, PETROSET, OR TERRA TACK.

NOTE: THE CONTRACTOR SHALL FOLLOW VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN NO. 4 'NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES' WHEN DURING THE ESTABLISHMENT OF ALL VEGETATIVE COVER

(TS) TEMPORARY SEEDING MIXTURE
(STD. & SPEC. 3.31)

EROSION CONTROL PLAN ~ STAGE 1

30' 0' 30' 60'

REV.	DATE	BY

PROPOSED CONSTRUCTION PLANS
ULTIMATE SHINE CAR WASH
RUTGERS STREET N.W., ROANOKE, VA
EROSION CONTROL PLAN ~ STAGE 1

HIGHLANDS ENGINEERING, LLC
4132 Bristol Highway, Suite 2 ~ Johnson City, TN 37601
Phone: (423) 926-2007 E-mail: highlandscnp@gmail.com

JONATHAN B. LEWIS
Lic. No. 042917
4/02/2019
PROFESSIONAL ENGINEER
SEAL WILL BE RED ON ORIGINALS ONLY

DRAWN BY:	CAS
CHECKED BY:	JBL
DATE:	02-20-19
SCALE:	1"=30'
DRAWING NAME:	WILD ROANOKE 07
SHEET NUMBER:	C4
OF	16
	SHEETS