GRADING NOTES

REFER TO BUILDING PLANS FOR SUBGRADE AND UTILITY TRENCHES WITHIN 5' OF THE BUILDING ENVELOPE.

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

EXCAVATION FOR STRUCTURES:
a. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1'
b. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
c. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
d. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
e. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM EXCAVATION WITH CONTROLLED FILL.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING.

PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°).

BACKFILLING:
a. COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45° ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.

b. BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS. FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.

PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS:
a. ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTING AS NECESSARY.
b. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" FOR HAND TAMPERS.
c. PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
d. COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR):
   i. 95% UNDER PAVEMENT
   ii. 85% UNDER LAWN OR UNPAVED AREAS

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL, DISK THE ENTIRE TOPSOILED AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

ESC SEQUENCE

1. CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS THE FIRST STEP IN CONSTRUCTION. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. G.C. SHALL

2. AFTER THE SITE IS ACCESSED, SILT FENCE SHALL BE INSTALLED AS SHOWN. SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. A CHECK DAM SHALL BE INSTALLED IN THE EXISTING LOW AS SHOWN ON THE PLAN.

3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED. SILT FENCE SHALL BE INSTALLED ON THE LOW SIDE OF THE STOCKPILE.

4. MAJOR GRADING OPERATIONS SHALL COMMENCE AT THIS TIME.

5. PERMANENT OR TEMPORARY SEEDING SHALL BE APPLIED WITHIN 7 DAYS TO ANY AREA THAT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT SEEDING SHALL BE APPLIED TO ANY AREA THAT HAS REACHED FINAL GRADE OR THAT WILL REMAIN DORMANT FOR LONGER THAN 1 YEAR.

6. AFTER THE BUILDING PAD HAS BEEN PREPARED, BUILDING CONSTRUCTION AND UTILITY INSTALLATION MAY BEGIN. CONCRETE WASHOUT AREA SHALL BE UTILIZED DURING ALL CONCRETE OPERATIONS.

7. PAVEMENT, LANDSCAPING, ETC. SHALL BE INSTALLED AT THIS TIME.

8. ALL AREAS OF THE SITE NOT TO RECEIVE HARDSCAPE SHALL RECEIVE PERMANENT SEEDING OR SOD.

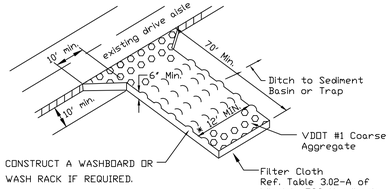
9. AFTER PERMANENT STABILIZATION, SILT FENCE AND CONSTRUCTION ENTRANCE CAN BE REMOVED.

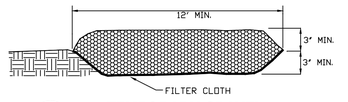
10. APPROVAL REQUIRED FROM CITY OF ROANOKE INSPECTOR PRIOR TO REMOVAL OF ANY ESC MEASURES.

11. LIMITS OF DISTURBANCE SHALL BE STRICTLY ADHERED TO.

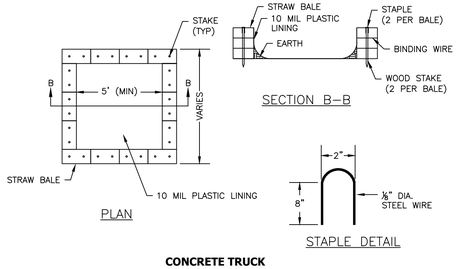
E&SC MEASURES

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
3.05	SILT FENCE	SF
3.31	TEMPORARY SEEDING	TS
3.32	PERMANENT SEEDING	PS
3.35	MULCHING	MU





CE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE



CONCRETE TRUCK WASHOUT DETAIL
NTS

GENERAL NOTES:

1. ACTUAL SIZE TO BE DETERMINED IN FIELD. A MINIMUM OF 10' WIDE BY 10' LONG AND SIZED TO CONTAIN ALL LIQUID AND SOLID WASTE. A MINIMUM OF 12" FREEBOARD SHALL BE INCLUDED.

2. THE CONCRETE WASHOUT SHALL NOT BE PLACED WITHIN 50' OF STORM DRAINS.

3. EXCESS AND SLUMP TEST SOLIDS SHALL BE PLACED ON PLASTIC LINER UNTIL HARDENED. CONTRACTOR MAY CONSIDER INSTALLING WIRE OR REBAR HOOD FOR LATER PICKUP REMOVAL.

4. INSPECTORS SHALL USE THE WASHOUT FACILITY OR PLASTIC FOR CLEANING OF THEIR TOOLS.

MAINTENANCE NOTES:

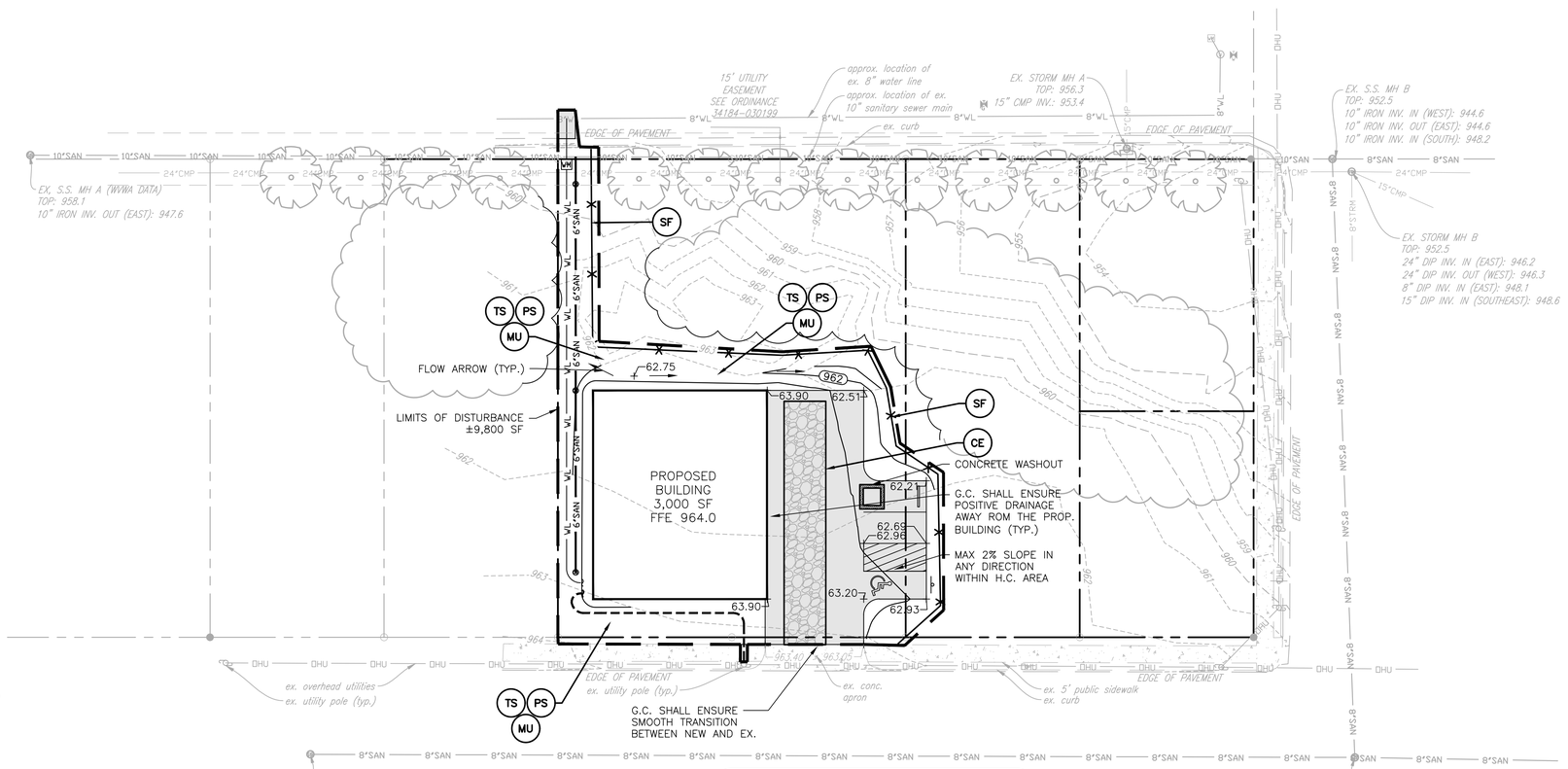
1. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75% CAPACITY. THE FACILITY SHALL BE CLEANED OUT OR CHANGED WHEN 75% FULL.

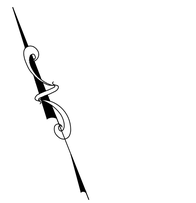
2. INSPECT LINERS DAILY TO ENSURE THAT LINERS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. LINERS SHALL BE REPLACED IF THERE ARE HOLES OR TEARS OBSERVED.

3. CONCRETE WASTE SHALL BE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN. THE HARDENED CONCRETE SHALL BE BROKEN UP AND DISPOSED OF OFFSITE PER APPLICABLE VA. DEQ RULES AND REGULATIONS. LIQUIDS SHALL NOT BE DISCHARGED DIRECTLY INTO WATERWAYS, STORM DRAINS, SWALES, OR DIRECTLY ONTO THE GROUND.

4. REMOVE LIQUIDS OR COVER STRUCTURE BEFORE PREDICTED STORMS TO PREVENT OVERFLOWS.

5. INSTALL A NEW PLASTIC LINER AFTER EVERY CLEANING.





20 0 20 40 60
1" = 20'

* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Aaron Cypher 04/23/2021

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CHRISTOPHER P. BURNS
Lic. No. 47338
4/15/2021
PROFESSIONAL ENGINEER

SQUARE 1
GRADING & E.S.C. PLAN
900 BLOCK OF SHENANDOAH AVE NW
CITY OF ROANOKE, VA

DRAWN BY	KAM
DESIGNED BY	BTC
CHECKED BY	BTC
DATE	1/18/2021
SCALE	1" = 20'
REVISIONS	
4/2/2021	
4/15/2021	

C4
PROJECT NO. 04200055.00

J:\2020\04042000055.00 SHENANDOAH CONSTRACTOR LOTS - THORNTON\CIVIL\dwg\04200055 Base 2021-3-12.dwg PLOTTED: 4/15/2021 3:57:38 PM