

LAND USE	SEED ¹	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue ¹ Perennial Ryegrass ² Kentucky Bluegrass ³	90-100% 0-10% 0-10% TOTAL: 200-250 lbs.
High-Maintenance Lawn	Minimum of three (3) up to five (5) varieties of Kentucky Bluegrass from approved list for use in Virginia ¹	TOTAL: 125 lbs.
General Slope (3:1 or less)	Tall Fescue ¹ Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ³	125 lbs. 2 lbs. 20 lbs. TOTAL: 150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue ¹ Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ³ Crownvetch ⁴	108 lbs. 2 lbs. 20 lbs. 20 lbs. TOTAL: 150 lbs.

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4894 or at <http://suden.ces.vt.edu/turf/turfpublications/publications2.html>

2 - Perennial Ryegrass will germinate faster and at lower soil temperatures than Tall Fescues, thereby providing cover and erosion resistance for seedbed.

3 - Use seasonal nurse crop in accordance with seeding dates as stated below.

March, April - May 15 th	Annual Rye
May 16 th - August 15 th	Foxtail Millet
August 16 th - September, October	Annual Rye
November - February	Winter Rye

4 - All legume seed must be properly inoculated. If Flatpea is used, increase to 30 lbs/acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30-40 lbs/acre.

APPLICATION DATES	SEED	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50-100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60-100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME

- Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site. Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/wes/html/bouls>

Erosion & Sediment Control Technical Bulletin No. 4 Nutrient Management for Development Sites

C. When applying maintenance fertilizer on established sod,

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
September	1	1	0	0
October	1	1	0	0
Early November	0	0	0	0
April	0	0	0	0
May	0-0.5	0-0.05	1	1
June	0	0	1	0
July/August	0	0	0	1
Yearly Lbs. N/1000 sf	2.5	2.5	2	2

Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is less than 50 percent WIN

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
August 15	1.5	1.5	0	0
October 1	1.5	1.5	0	0
April	0	0	1.5	1.5
May 15	0	0	0	0
June	0	0	1.5	1.5
Yearly Lbs. N/1000 sf	3	3	3	3

Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is more than 50 percent WIN

WU MULCHING SPECIFICATIONS

ESC CONSTRUCTION SEQUENCE

- SILT FENCE & INLET PROTECTION SHALL BE INSTALLED FOR THE EXISTING INLETS ON-SITE TO PROTECT THE EXISTING STORM SEWER SYSTEM FROM SEDIMENT.
- DEMOLITION ACTIVITIES MAY COMMENCE AT THIS TIME.
- MINIMAL GRADING IS EXPECTED TO OCCUR ON-SITE, THESE OPERATIONS MAY COMMENCE AT THIS TIME.
- BUILDING CONSTRUCTION MAY BEGIN.
- TEMPORARY SEEDING SHALL BE PROVIDED FOR ALL AREAS THAT WILL NOT RECEIVE PAVEMENT OR OTHER PERMANENT IMPROVEMENTS WITHIN 14 DAYS.
- AS THE PARKING AREA IS BROUGHT TO FINAL GRADE, BASE STONE AND PAVEMENT SHALL BE INSTALLED.
- PERMANENT STABILIZATION SHALL BE APPLIED TO THE ISLANDS AS NECESSARY AFTER COMPLETION OF WORK IN EACH OF THESE AREAS.
- AFTER ALL AREAS HAVE BEEN STABILIZED, INLET PROTECTION MAY BE REMOVED.
- ROANOKE COUNTY INSPECTION AND APPROVAL IS REQUIRED PRIOR TO THE REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES.
- NO DEVIATIONS TO THE PLANS SHALL TAKE PLACE UNLESS PRIOR APPROVAL FROM THE OWNER, PROJECT ENGINEER, AND THE APPROPRIATE REVIEW AGENCIES.

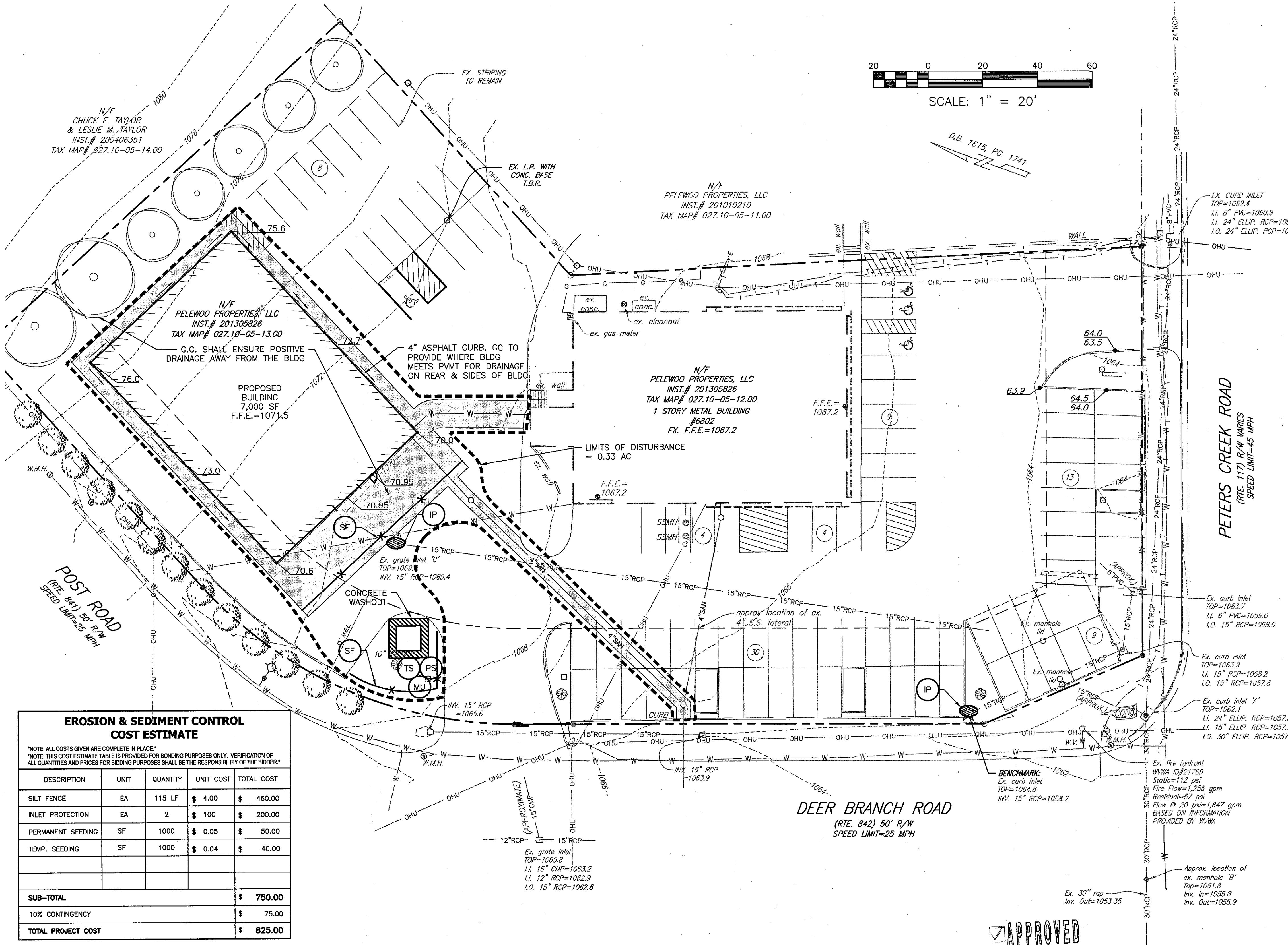
GRADING NOTES

- NO CONSTRUCTION/FIELD CHANGES WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER AND THE COUNTY OF ROANOKE.
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES WITH EXISTING UTILITIES ARE LOCATED DURING THE GRADING PROCESS FOR THE SITE.
- G.C. TO COMPLY WITH ALL O.S.H.A. STANDARDS AND REGULATIONS DURING CONSTRUCTION.
- G.C. TO ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED AND THAT THERE ARE NO AREAS OF PONDING WATER.
- SLOPES IN THE HANDICAP PARKING AREA SHALL NOT EXCEED 2.0% IN ANY DIRECTION. ACCESSIBLE ROUTE SHALL NOT EXCEED 2% CROSS SLOPE AND 5% LONGITUDINAL SLOPE.

ESC LEGEND

REFER TO VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR DETAILS

3.05	SILT FENCE	SF
3.07	STORM DRAIN INLET PROTECTION	IP
3.31	TEMPORARY SEEDING	TS
3.32	PERMANENT SEEDING	PS
3.35	MULCHING	MU



DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
SILT FENCE	EA	115 LF	\$ 4.00	\$ 460.00
INLET PROTECTION	EA	2	\$ 100	\$ 200.00
PERMANENT SEEDING	SF	1000	\$ 0.05	\$ 50.00
TEMP. SEEDING	SF	1000	\$ 0.04	\$ 40.00
SUB-TOTAL				\$ 750.00
10% CONTINGENCY				\$ 75.00
TOTAL PROJECT COST				\$ 825.00

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COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 047338
3/20/18
PROFESSIONAL ENGINEER

STAR CITY TIRE EXPANSION
6802 PETERS CREEK ROAD
GRADING & ESC PLAN
HOLLINS MAGISTERIAL DISTRICT
ROANOKE COUNTY, VIRGINIA

DRAWN BY KRO
DESIGNED BY CPB
CHECKED BY CPB
DATE 02/21/2018
SCALE 1"=20'

REVISIONS:
3/20/2018

SHEET NO.
C4
JOB NO. 03170147.00