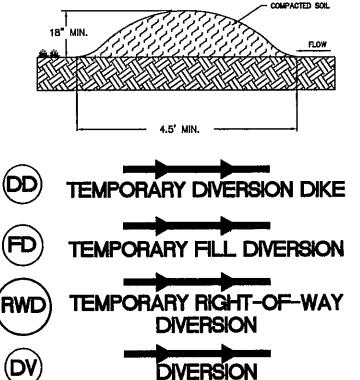
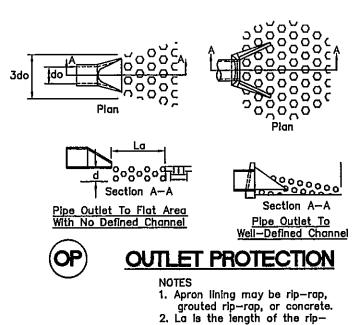


SEDIMENT TRAP

FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS LARGER THAN 3.0 ACRES A SEDIMENT BASIN IS REQUIRED. SEE DETAIL THIS SHEET.



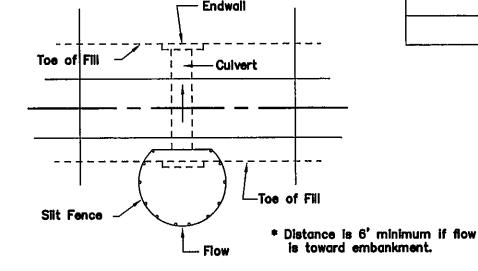


as practical to minimize erosion.

rap apron as calculated using plates 1.36d and 1.36e.

stone diameter, but not less than 6".

3. $\dot{d} = 1.5$ times the maximum



FENCE CULVERT INLET **PROTECTION**

MS-7: Care has been taken in design to minimize drainage over slopes and provide a suitable protective stabilization method. Contractor

MS-8: Where concentrated runoff has been routed down slopes care has been taken to design an adequate channel or drain. Contractor

MS-10: Inlet or culvert inlet protection is proposed for the inlets of all storm sewers or culverts on-site. RLD shall insure proper installation

MS-12: When working in and around a live watercourse, the contractor shall take great care to minimize impact on the stream. Assure that

MS-13: Where more than 2 trips in 6 months are expected across a live watercourse obtain the necessary permit and install a temporary

MS-16: Regarding utility installations, no more than 500 LF of trench may be open at a given time. Excavated material shall be placed on

uphill side of trench. Effluent of any dewatering system used must be filtered. Trenches shall be proper backfilled and compacted per detail

MS-17: The contractor shall provide adequate means of cleaning mud from trucks and / or other equipment prior to entering public streets.

MS-19: Increases in stormwater volume, velocity, and peak runoff have been addressed in the plan per calculations submitted for review.

Responsible Land Disturber shall pay particular attention to off—site areas contributing runoff to the site, off—site locations receiving runoff

MS-11: RLD shall verify that adequate channel linings and proper outlet protection is in place prior to operation of storm sewer system.

shall install these measures along with their stabilization as soon as practical to protect slope.

MS-14: Other federal, state, and local regulations must be met when working in live watercourses.

MS-15: The bed and banks of disturbed watercourses must be stabilized immediately.

MS-18: See Maintenance under ESC Narrative for CE, IP, SF, and TS/PS at a minimum.

from this project, and proper operation of stormwater management practices on-site.

MS-9: Seepage through slopes is not anticipated to be encountered on this project.

and assure adequate sizing based on drainage area of each inlet.

and specs. Completed installation shall be re-stabilized immediately.

EROSION AND SEDIMENT CONTROL NARRATIVE

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW PUBLIC ROAD TO SERVE SIX SINGLE FAMILY DWELLINGS. IT ALSO INCLUDES THE NECESSARY WATER LINE CONSTRUCTION TO SERVE THIS DEVELOPMENT.

3.19

EXISTING SITE CONDITIONS
THE EXISTING SITE IS WOODED WITH SLOPES OF 10-20 PERCENT.

THE SITE CURRENTLY DRAINS INTO THE SMITH MOUNTAIN LAKE.

ADJACENT AREAS
THIS DEVELOPMENT IS BOUNDED TO THE NORTH BY ROUTE 654, IN THE SOUTH BY SMITH MOUNTAIN LAKE, ON THE EAST BY SOUTH POINTE DEVELOPMENT (MAINLY DRAINFIELD AREAS) AND TO THE WEST BY UNDEVELOPED WOODED AREAS.

NO OFFSITE FILL OR BORROW SITES ARE COVERED BY THIS EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL MEASURES

TEMPORARY SEDIMENT TRAP DATA

188

20 X 30

32 X 42

39 X 49

1.4

TOP (WET)

TOP (DRY)

209

8.4

1.75

2.75

3.04

3.05

3.06

3.07

3.11

STRUCTUR

<u> Construction entrance (3.02)</u> — a stone construction entrance will be installed TO MINIMIZE THE AMOUNT OF MUD TRANSPORTED ONTO EXISTING ROADWAYS.

<u>SILT FENCE (3.05)</u> — SILT FENCE WILL BE INSTALLED TO BELOW DISTURBED AREAS TO CAPTURE SEDIMENT LADEN RUNOFF FROM SHEET FLOW DRAINAGE.

<u>SEDIMENT TRAP (3.13)</u> — SEDIMENT TRAP WILL BE UTILIZED TO DETAIN SEDIMENT —LADEN RUN—OFF FROM DISTURBED AREAS.

<u>CULVERT INLET PROTECTION (3.08)</u> — WILL BE INSTALLED TO INTERCEPT SEDIMENT LADEN RUN—OFF PRIOR TO ENTERING THE CULVERT.

ROCK CHECK DAMS (3.20) — WILL REDUCE THE VELOCITY OF CONCENTRATED STORMWATER FLOWS, THEREBY REDUCING EROSION OF THE DITCH OR SWALE. ALSO WILL TRAP SEDIMENT GENERATED FROM ADJACENT AREAS BY PONDING OF THE STORMWATER RUNOFF.

STORMWATER CONVEYANCE CHANNEL (3.17) — TO PROVIDE FOR THE CONEYANCE OF CONCENTRATED SURFACE RUNOFF WATER TO THE EXISTING SEDIMENT BASIN.

STORMWATER MANAGEMENT

MAY. 1 - AUG. 31

THE DEVELOPMENT DRAINS TO A NATURAL WATERCOURSE THAT DRAINS INTO SMITH MOUNTAIN LAKE AND THEREFORE NO STORMWATER MANAGEMENT FACILITIES ARE

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. IN PARTICULAR:

- 1. INLET AND OUTLET PROTECTION WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF STONE IS CLOGGED BY SEDIMENT, IT WILL BE REMOVED AND CLEANED OR REPLACED.
- 2. THE SILT FENCE WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE
- SEDIMENT BUILDUP REACHES THE MIDWAY POINT OF THE SILT FENCE. 3. DIVERSION DIKES AND SEDIMENT TRAP SHALL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP
- AND SEDIMENT TO BE REMOVED AS NECESSARY TO ALLOW MEASURES TO FUNCTION PROPERLY.
- 4. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEEDED AS REQUIRED TO ACHIEVE A GOOD STAND OF GRASS.
- 5. THE CONSTRUCTION ENTRANCE WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP. IF STONE IS CLOGGED BY SEDIMENT, IT WILL BE REMOVED AND CLEANED, OR REPLACED.

TEMPORARY SEEDING MIXTURE

PLANTING DATES	SPECIES	RATE (LBS./ACRE)
SEPT. 1 — FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI—FLORUM) & CEREAL (WINTER) RYE (SECALE CEREALE)	50 - 100
FEB. 16 — APR. 30	ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)	60 - 100

TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

GERMAN MILLET (SETARIA ITALICA)

TEMPORARY SEEDING

SYMBOL

-x -x -x -x -

TILE

TEMPORARY GRAVEL

CONSTRUCTION ENTRANCE

CONSTRUCTION ROAD

STABILIZATION

STRAW BALE BARRIER

SILT FENCE

BRUSH BARRIER

STORM DRAIN

INLET PROTECTION

CULVERT INLET PROTECTION

TEMPORARY DIVERSION DIKE

TEMPORARY FILL DIVERSION

TEMPORARY RIGHT-OF-WAY

DIVERSION

DIVERSION

TEMPORARY SEDIMENT TRAP

TEMPORARY SEDIMENT BASIN

TEMPORARY SLOPE DRAIN

PAVED FLUME

STORMWATER CONVEYANCE

CHANNEL

OUTLET PROTECTION

SAFETY FENCE

TEMPORARY SEEDING SHALL BE APPLIED WITHIN SEVEN DAYS TO ANY DISTURBED SURFACE THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS TO reduce damage from sediment and runoff to downstream or off—site AREAS, AND TO PROVIDE PROTECTION TO BARE SOILS EXPOSED DURING CON-STRUCTION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.

TITLE

ROCK CHECK DAMS

LEVEL SPREADER

EGETATIVE STREAM BANK

STRUCTURAL STREAM BANK

STABILIZATION

STABILIZATION

EMPORARY VEHICULAR

UTILITY STREAM CROSSING

DEWATERING STRUCTURE

TURBIDITY CURTAIN

SUBSURFACE DRAIN

TOPSOILING

TEMPORARY SEEDING

PERMANENT SEEDING

SODDING

BERMUDA GRASS AND

OYSIAURASS ESTABLISHMENT

MULCHING

SOIL STABILIZATION

TREES, SHRUBS, VINES

AND GROUND COVERS

REE PRESERVATION

AND PROTECTION

DUST CONTROL

BLANKETS AND MATTING

SURFACE ROUGHENING

STREAM CROSSING

SYMBOL

----PS

----(50)-----

---P---

(DC)

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS OR IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING WILL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. PERMANENTLY SEEDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH STRAW MULCH.

PERMANENT SEEDING MIXTURE

ACCOMPANY THE INSPECTOR (S). Permanent Seedina:

Minimum Care Lawn: Per Acre

Commercial or Residential 200–250 Lb/Ac. Kentucky 31 or turf type tall fescue 0-10% Improved perennial rye grass* Kentucky Bluegrass

Minimum of three (3) up to five (5) varieties of blue grass from approved list for use in VA 125 Lb/Ac.

General Slope (3:1 or Less): Kentucky 31 Fescue 128 Lb./Ac. 2 Lb./Ac. Red Top Grass Seasonal Nurse Crop** 20 Lb./Ac. 150 Lb./Ac.

Low Maintenance Slope (Steeper than 3:1): Kentucky 31 Fescue 108 Lb./Ac. 2 Lb./Ac. Red Top Grass 20 Lb./Ac. Seasonal Nurse Crop** 20 Lb./Ac. Crownvetch*** 150 Lb./Ac.

*Perennial rye grass will germinate faster and at a lower soll temperature than fescue, thereby providing cover and erosion resistance for seedbed.

**Use seasonal nurse crop in accordance with seeding dates as stated below: March, April thru May 15.... ...Foxtail Millett May 16th thru August 15th. August 16 thru Sept., Oct.... Nov. Thru Feb..... ...Annual Rye .Winter Rye

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

Lime shall be applied at a rate of 2 tons/acre pulverized agricultural grade limestone (90 lbs/1000 ft^2)

Fertilizer shall be applied at a rate of 1000 ibs/acre 10-20-10 or equivalent nutrients (23 lbs/ 1000ft^2) Straw mulch shall be applied to all permanently seeded areas at a rate of ninety (90)

pounds per one thousand square feet over the seeded area. Straw mulch shall be anchored or tacked down with string or other approved materials.

The contractor shall inspect seeded areas 2 weeks after seeding, at which time sparse areas shall be prepared and reseeded to establish permanent cover on all disturbed

Any areas not achieving adequate stabilization within one year will be restabilized. Permanent seeding shall be in accordance with specification 3.32 of the 1992 Virginia Erosion & Sediment Control Handbook.

MM ANE ONT ОШ

THOMAS C. DALE

6/27/05

LUMSDEN ASSOCIAT ENGINEERS-SURVEYORS-PJ ROANOKE, VIRGINIA

CTION No. 12
WATERFRONT
PREPARED FOR
KL HOLDINGS, LLC LC DIST

- | 0 | 0 | 4 | u JUNE 27, 2005

SCALE: NO SCALE OMMISSION NO: 2005-014

SHEET 8 OF 9

