

NOTE: DURING CONSTRUCTION THE 5" ORIFICE SHALL BE TEMPORARILY PLUGGED. ONCE SITE STABILIZATION IS ACCOMPLISHED, DEWATERING STRUCTURE MAY BE REMOVED, DEWATERING ORIFICE PERMANENTLY PLUGGED, AND BOTTOM OF BASIN SHALL BE FILLED TO SPOT ELEVATIONS SHOWN ON GRADING PLAN SHEET C07 AND SLOPED TO PERMANENT 5" OUTLET ORIFICE.

SEDIMENT BASIN AND STORMWATER MANAGEMENT POND OUTLET DETAIL N.T.S.

STRUCTURE SCHEDULE

- 1 181.7 LF 15" CLJII RCP @28.95% INV. IN=1102.00 INV. OUT=1049.40
- 1A VDOT STD. MH-2 TOP=1056.00
- 1B 38.7 LF 15" CLJII RCP @8.53% INV. IN=1049.30 INV. OUT=1046.00
- 2 VDOT STD. DI-3B L=6' TOP=1108.50
- 3 118 LF 15" CLJII RCP @ 1.00% INV. IN=1091.20 INV. OUT=1080.00
- 4 VDOT STD. DI-3B L=10' TOP=1097.00
- 5 56 LF 15" CLJII RCP @ 1.00% INV. IN=1091.85 INV. OUT=1091.30
- 6 VDOT STD. DI-3B L=8' TOP=1097.00
- 8 20.7 LF 15" CLJII RCP @1.45% INV. IN=1084.50 INV. OUT=1084.20
- 9 VDOT STD. DI-3B L=8' TOP=1089.46
- 10 29.1 LF 15" CLJII RCP @ 1.37% INV. IN=1085.00 INV. OUT=1084.6
- 11 VDOT STD. DI-3B L=8' TOP=1089.56
- 12 48" CONC. W/ DI-7 TOP RIM=1049.00 5" ORIFICE ELEV=1044.1
- 13 33 LF 24" CLJII RCP @ 1.00% INV. IN=1044.00 INV. OUT=1043.67
- 14 MONO CURB INLET L=6FT TOP=1087.12
- 15 20.6 LF 24" CLJII RCP @ 0.97% INV. IN=1063.60 INV. OUT=1063.40
- 16 VDOT STD. MH-2 (60"DIA) W/IS-1 TOP=1087.42
- 17 98.6 LF 24" CLJII RCP @ 2.94% INV. IN=1066.89 INV. OUT=1063.70
- 18 VDOT STD. MH-2 (60"DIA) W/IS-1 TOP=1070.60
- 19 73.4 LF 24" CLJII RCP @ 3.37% INV. IN=1069.17 INV. OUT=1066.70
- RFD1 260LF 6" PVC ROOF DRAIN INV IN: 1103.5 INV OUT:1102.2
- RFD1 260LF 6" PVC ROOF DRAIN INV IN: 1103.5 INV OUT:1102.2
- RFD2 106LF 10" PVC ROOF DRAIN INV IN: 1102.2 INV OUT:1101.6
- RFD3 260LF 10" PVC ROOF DRAIN INV IN: 1101.6 INV OUT:1092.5
- RFD4 90.5LF 12" PVC ROOF DRAIN INV IN: 1092.5 INV OUT:1092
- RFD5 197LF 10" PVC ROOF DRAIN INV IN: 1110.0 INV OUT:1097.0
- RFD6 38.7LF 10" PVC ROOF DRAIN INV IN: 1097.0 INV OUT:1084.75

NOTE: END SECTIONS ARE REQUIRED ON STRUCTURES # 1B, 3, AND 13. PIPE LENGTHS SHOWN ABOVE ARE INCLUSIVE OF PROPOSED END SECTIONS.

STORM ELEVATIONS
2 YEAR STORM: 1047.67
10 YEAR STORM: 1048.61
25 YEAR STORM: 1049.08
100 YEAR STORM: 1049.35

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:

This site is located on the south side of Peters Creek Road just west of its intersection with Williamson Road (Route 11). The development consists of five buildings that house a total of 40 townhomes. Water and sewer will be extended to the site from Peters Creek Road and a neighboring property. Stormwater runoff will be controlled via curb & gutter, drop inlets, pipe, and stormwater management facility. Approximately five acres will be disturbed.

EXISTING CONDITIONS

The existing conditions of this site consist of grassed areas and minimal woodlands. This development drains into Deer Creek. The topography consists of slopes that range from 2% to nearly 25%. The majority of the construction will take place on smaller slopes on top of the hill.

ADJACENT PROPERTY

This property is bordered by commercial development to the north, east and south. Deer Creek runs north/south on the east side of the property. Residential property borders the site to the southwest and west, and a school is also bordering the property on the west.

The impact made to these neighboring properties will be minimized by attempting to control the storm water runoff from the proposed development. Using all specified erosion and sediment control measures, will reduce sediment transport problems to the downstream properties.

SOILS

Soils information obtained from the "Soil Survey of Roanoke County and the Cities of Roanoke and Salem, Virginia". The soils consist primarily of the Chilhowie Silty Clay Loam along Deer Creek (3E3) and the slopes adjacent to Deer Creek (3D3), and Udorthents-Urban Land Complex (52) on top of the ridge.

The Chilhowie soils (3E3 and 3D3) are well drained and are rated "severe" for most development and tend to have shrink-swell problems. Steep slopes can also be a problem with these types of soils. The Chilhowie soils fall in to Hydrologic Group C, having a slow infiltration rate when thoroughly wet.

The Odorthents (52) soils have been disturbed in the past by either fill of excavation and are therefore noted to have "variable" characteristics by the soil survey. These soils have not been assigned a Hydrologic Group.

CRITICAL EROSION AREAS

- The fill areas that will have 2:1 slopes. Measures shall be installed as shown on the plan to reduce erosion of these slopes. The contractor shall inspect these areas periodically and shall install other measures if deemed necessary.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise stated all erosion and sediment control measures shall be constructed and maintained in accordance with minimum standards and specifications of the latest edition of the "Virginia Erosion and Sediment Control Handbook".

STRUCTURAL PRACTICES

Temporary Construction Entrance (3.01) - A temporary construction entrance will be installed to minimize mud being transported onto Peters Creek Road.

Silt Fence (3.05) - Silt Fence shall be placed as shown to reduce sediment laden runoff from leaving the site.

Storm Drain Inlet Protection (3.07) - Storm drain inlet protection will be installed to protect drop inlets from sediment laden runoff.

Temporary Diversion Dike (3.09) - A temporary diversion dike will be installed to direct runoff to temporary sediment traps.

Temporary Fill Diversion (3.10) - A temporary fill diversion shall be placed at the top of the 2:1 slope to direct runoff to the temporary slope drain.

Sediment Trap (3.13) - Temporary sediment traps shall be installed as shown on the plan to collect sediment from stormwater runoff.

Temporary Slope Drain (3.15) - A temporary slope drain shall be installed as shown to protect the proposed 2:1 slope.

Stormwater Conveyance Channel (3.17) - A stormwater conveyance channel will be constructed to carry concentrated flows generated from the site.

Outlet Protection (3.18) - Outlet protection will be installed to prevent scour from stormwater outlets, and to minimize the potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows.

Permanent Seeding (3.32) - Permanent seeding will be installed to reduce erosion

MANAGEMENT STRATEGIES

- Construction will be sequenced to begin and end grading operations as quickly as possible.
- Temporary diversion dikes, silt fence, and sediment traps will be installed as the first step of the grading process.
- All areas shall be seeded with permanent stabilization as soon as they reach final grade.
- The contractor shall be responsible for installation and maintenance of all erosion and sediment control measures.
- Once the site has been stabilized, the temporary erosion and sediment control measures may be removed and those areas brought to final grade and stabilized.

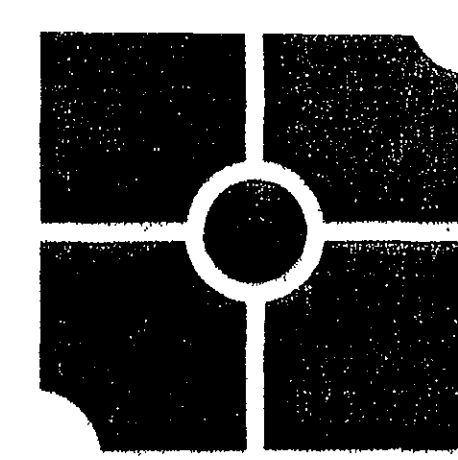
PERMANENT STABILIZATION

All disturbed areas shall receive permanent stabilization accordance with the "Virginia Erosion and Sediment Control Handbook", STD and Spec. 3.32 as soon as those areas are brought to final grade. For permanent seeding mixture see the Erosion and Sediment Control detail sheet.

MAINTENANCE

All sediment and erosion control measures shall be checked daily and after all significant rainfall. In particular:

- Silt Fence shall be checked regularly to ensure that the fabric has not been undermined or has deteriorated. Sediment shall be removed when level of buildup reaches halfway up the barrier.
- Areas which have received seeding shall be checked regularly to ensure that a good stand of grass is maintained. Areas shall be fertilized and reseeded as required.
- The contractor shall utilize an **Erosion and Sediment Control Maintenance Form** to log all activity pertaining to erosion and sediment control. Contact Engineer for a copy of the form.



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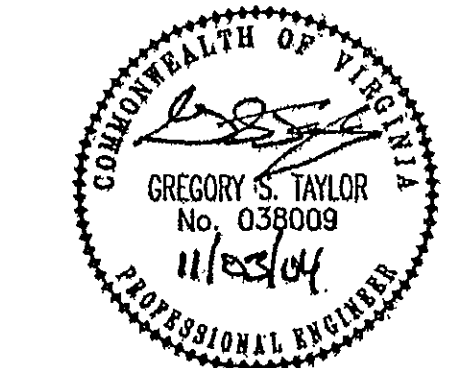
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The Cottages at Stonelyn
Townhome Development
Prepared for Stonelyn LLC
Hollins Magisterial District
Roanoke County, Virginia

REVISIONS:

VDOT, Roanoke County, & Client Comments August 2, 2004
Roanoke County Comments August 21, 2004
VDOT Comments Oct. 8, 2004

DESIGNED BY: SRB

DRAWN BY: SRB

CHECKED BY: GST

SCALE: AS SHOWN

DATE: MAY 28, 2004

SHEET TITLE:

Storm Sewer Details
and Narrative

C10
10 OF 15
PROJECT NUMBER:
S03060-02