APPLEBEE'S INTERNATIONAL, INC.
CHALLENGER AVENUE (U. S. HWY 221 & 460)
ROANOKE, VA
MARCH, 2006

NARRATIVE

Project Description: This project is located in the Wal-Mart and Lowe's shopping center in the Bonsack section of Roanoke County, Virginia. The site is located at the intersection of Challenger Avenue (U.S. Highway 221 & 460) and the shopping center access road. The site is a graded, grassed pad that was constructed by F. & W. Community Development Corporation in conjunction with the neighboring Wal-Mart project. The proposed development will include an approximate 5,130 square feet, single-story, free-standing restaurant building with associated surrounding pavement and landscaped areas. This project consists of grading, paving, storm drainage, storm water management, utility installation, and erosion and sediment control for the construction of an Applebee's Restaurant. The total site area is approximately 1.40 acres ± with a total disturbed area of 1.86 acres±. The construction will be approximately from Spring of 2006 until Fall 2006.

Construction Sequence:

- Construct the temporary construction entrance.
- Install perimeter silt fences, diversion swales, temporary sediment basins, and outlet protections.
- Commence site grading.
- Disturbed areas of the site where construction activity has ceased for more than 14 days shall be temporarily seeded and watered.
- Install inlet/outlet protection at the locations of all grate inlets, curb inlets, and at the ends of all exposed storm sewer pipes.
- Finalize pavement subgrade preparation.
- Construct all curb and gutter, gutter inlets, area inlets, and storm sewer manholes, as shown on the plans. Inlet protection may be removed temporarily for this construction.
- Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
- Install base material as required for pavement.
- Carry out final grading and seeding and planting
- Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.
- Remove temporary construction entrance only prior to pavement construction in this area (This area is to be paved last).

Existing Site Conditions: The existing site is "pad ready" and mostly grassed. Slopes on the site range from 2% to 40%.

Adjacent Areas: The property is bordered by Lowe's parking lot to the northwest, by U. S. Highway 460 (4 lane divided highway with a grassed median) to the southeast, by a medical clinic to the south, and by the shopping center entrance road to the north and northeast.

Critical Areas: The critical areas for potential erosion and sediment loading are on the cut and fill slopes. The areas contained by these slopes will be graded with mild to gentle slopes so erosion should not be excessive; however, the storm drainage structures require protection to eliminate sediment from being discharged through these systems. The cut and fill slopes are to be graded at a maximum of 2:1 slopes and will be stabilized as soon as construction permits.

Off-site Areas: This project will require grading on the adjacent Lowe's property.

Soils: A geotechnical report was prepared in June 2005 by Froehling & Robertson, Inc. Froehling & Robertson, Inc. drilled five test borings to analyze the soil conditions of the site. Based on the subsurface conditions encountered in the test borings, the report recommends that foundations be designed for a maximum allowable bearing pressure of 2,000 pounds per square foot (psf). The report also suggests that ground floor slabs be designed as a slab-on-grade supported by approved residual soils or, if needed, newly placed controlled fill.

The test borings revealed low consistency soils (N<5) at depths ranging from 3 to 10 feet below existing site grades. They also revealed dense residual soil (N>30) and partially weathered rock near the surface. Auger refusal was not encountered in the test borings above the envisioned bottom of footing elevations. The geotechnical report noted scattered areas of saturated soils and/or standing (perched) water puddles throughout the site. Depending on the response of these saturated soil materials during proofrolling, undercutting and/or in-place stabilization may be required before further at-grade construction. Likewise, the report stated that difficult excavation techniques could be required in portions of the site to achieve foundation and/or pavement subgrade elevations.

The geotechnical report determined that a Site Classification "D" should be used for further evaluations relative to Earthquake Load design. It is also recommended that the moisture content of soils be maintained within three percentage points of the optimum moisture.

Residual soil materials encountered per the geotechnical report for Roanoke Applebee's site performed by F&R were generally described as clays (CH), sands (SC & SM), and gravel. Partially weathered rock, generally described as silty sand (SM) and augar refusal material was also encountered. This geologic region is prone to sinkholes and very hard soil layers that may require blasting for removal.

Erosion Control Measures: All erosion and sediment control measures and devices are to be in accordance with the latest edition of the Virginia Erosion and Sediment Control Handbook, VDOT Road and Bridge Standards Manual. If the measures and devices specified do not effectively control erosion and sediment loading, additional measures may be required by the Local Sediment and Erosion and Control Office and/or Engineer (see plans for exact locations).

1. **Temporary Construction Entrance** - Gravel construction entrances will be installed as shown on the plans to help prevent tracking of mud and silt on existing pavements. Washing, sweeping, etc., as necessary will be required to insure that pavements remain clean. Install per VA E&S Std. 3.02.
2. **Silt Fence** - Will be installed as shown on the plans to protect the site and adjoining properties from sediment loading. Install per VA E&S Std. 3.05.
3. **Storm Drain Inlet Protection** - Will be installed as shown on the plans to protect the system from sediment loading using gravel with wire mesh, silt fence, or block to filter water going into a storm drain structure per VA E&S Std. 3.07 and 3.08.
4. **Temporary Seeding** - Will be installed whenever construction schedules do not permit permanent seeding within the optimum seeding dates, as specified in the General Notes or within seven days on areas disturbed that will have no construction activity for 14 days or longer.
5. **Sodding** - Will be installed as shown on the plans to stabilize disturbed areas with sod per VA E&S Std. 3.33.
6. **Outlet Protection** - Rip rap will be installed as shown to help reduce erosion and flow velocities
7. **Temporary Slope Drain** - 18" TSD will be installed as shown on the plans to conduct concentrated runoff safely from the top of the disturbed slope without causing erosion on or below the site per VA E&S Std. 3.15.
8. **Temporary Right of Way Diversion** - Will be installed as shown on plans to divert runoff to a stabilized outlet per VA E&S Std. 3.11.
9. **Temporary Diversion Dike** - Will be installed as shown on plans to divert sediment laden runoff to a temporary sediment trap as per VA E&S Std. 3.09.
10. **Temporary Sediment Trap** - Will be installed as shown on plans to detain sediment laden runoff for enough time to allow most suspended solids to settle out per VA E&S Std. 3.13.
11. **Inlet Protection** - Will be installed as shown on plans to trap sediment around inlets per VA E&S Std. 3.07.
12. **Culvert Inlet Protection** - Will be installed as shown on the plans to prevent sediment from entering, accumulating, and being transferred by a culvert per VA E&S Std. 3.08.
13. **Diversion** - Will be permanently installed as shown on the plans to divert stormwater runoff to a stabilized outlet per VA E&S Std. 3.12..

Permanent Stabilization: Areas not paved or built on shall be seeded. See permanent seeding specifications and temporary seeding schedule on erosion and sediment control details sheet C5.3. No soil tests are required. No area shall remain unstabilized for more than 14 days.

Stormwater Runoff Considerations/Management: A new storm drain system will collect storm water runoff from the site and discharge into an existing channel. Stormwater management requirements for development of the site were met as part of the adjacent development (see 2-19-03 letter attached). Stormwater runoff from the site discharges into Cook Creek, which drains into Glade Creek, which discharges into Tinker Creek, which drains into Roanoke River.

Maintenance: See Erosion and Sediment Control devices, General Notes on Drawings and details.

Calculations: See included calculations and attached letter from Roanoke County Department of Community Development.

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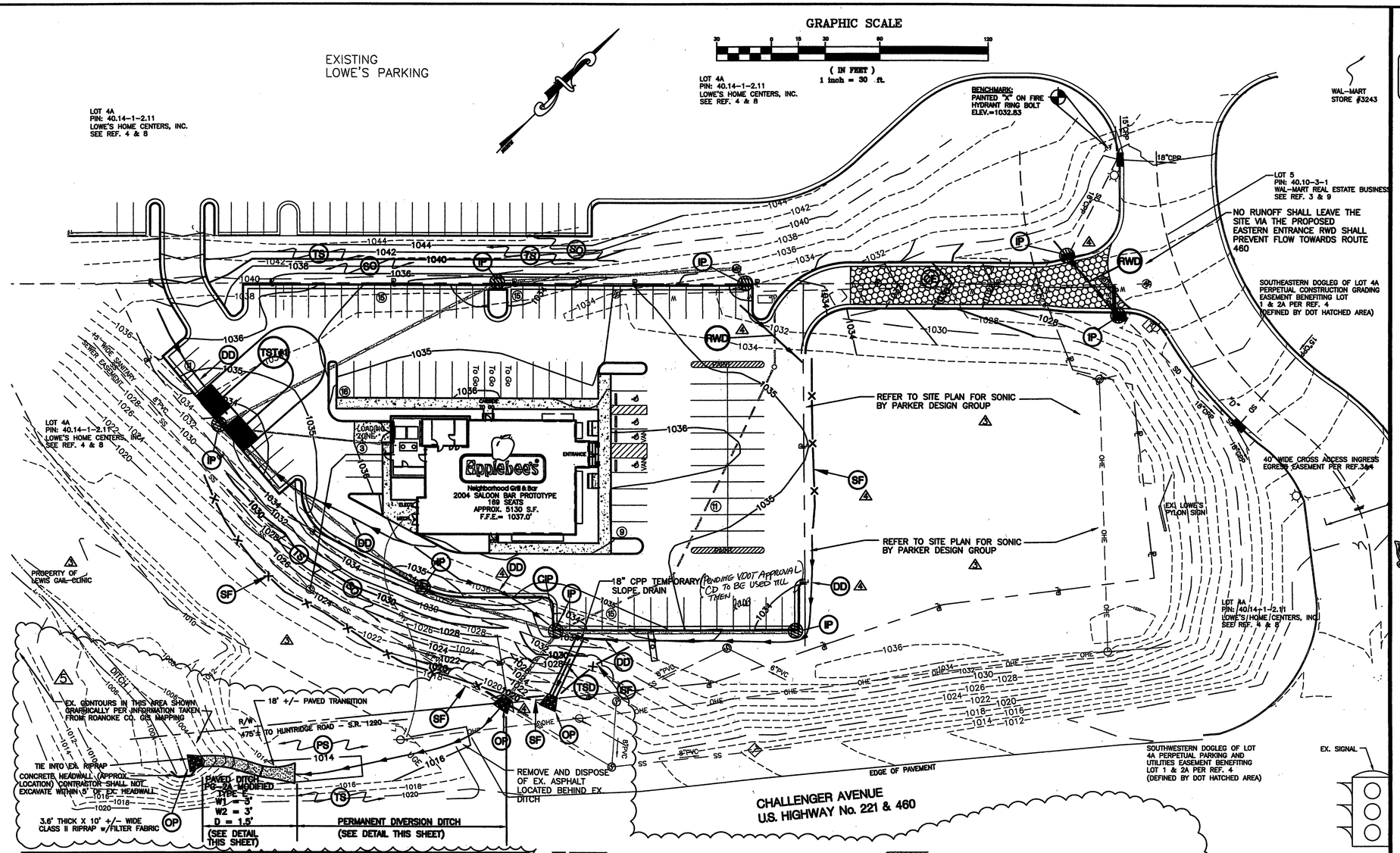
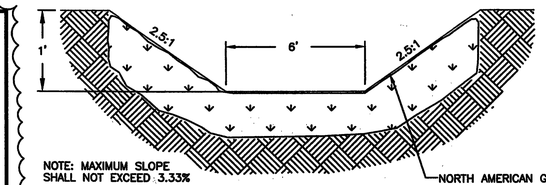


LEGEND

SF — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.05 SILT FENCE	DV — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.12 DIVERSION
CE — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.02 CONSTRUCTION ENTRANCE	IP — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.07 INLET PROTECTION
SO — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.33 SODDING	OP — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.18 OUTLET PROTECTION
TS — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.31 TEMPORARY SEEDING	TST — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.13 TEMPORARY SEDIMENT TRAP
DD — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.09 TEMPORARY DIVERSION DIKE	CIP — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.08 CULVERT INLET PROTECTION
RWD — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.11 RIGHT OF WAY DIVERSON	TSD — VA EROSION & SEDIMENT CONTROL STD & SPEC 3.15 TEMPOARY SLOPE DRAIN



PERMANENT DIVERSION DITCH DETAIL

N.T.S.

TST 1
BOTTOM WIDTH = 20 FT
BOTTOM LENGTH = 40 FT
TOP WIDTH = 40 FT
TOP LENGTH = 60 FT
H = 3
H = 2
W = 2.5
MIN. OUTLET LENGTH = 3 FT

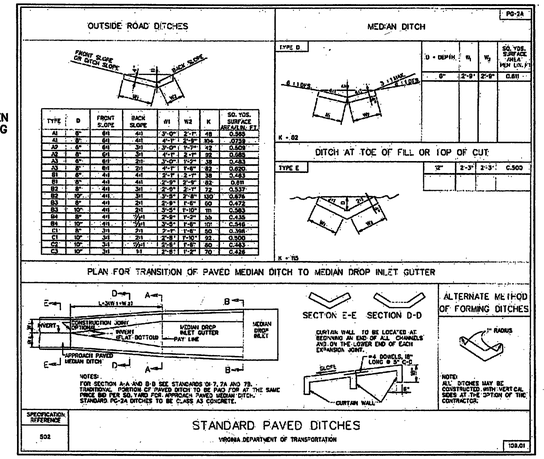
OUTLET PROTECTION

EW-1
1.5' THICK x 10' LONG
x 11.5' WIDE LAYER OF CLASS I
RIPRAP w/FILTER FABRIC @ 0% SLOPE

TSD
1.5' THICK x 10' LONG
x 10' WIDE LAYER OF CLASS I
RIPRAP w/FILTER FABRIC @ 0% SLOPE

GENERAL NOTE

THE LOCATION OF ALL OFF-SITE FILL OR BORROW AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL BE PROVIDED TO ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT BY THE CONTRACTOR. AN EROSION & SEDIMENT CONTROL PLAN OR MEASURES MAY BE REQUIRED FOR THIS AREA.



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Applebee's Neighborhood Grill & Bar
ROANOKE, VIRGINIA

COMMONWEALTH OF VIRGINIA
ROBERT R. CONNER
No. 019270
7/17/06
PROFESSIONAL ENGINEER

PROJECT NUMBER: 80321900
ISSUED FOR PERMIT & BID:

REVISIONS:

NO.	DESCRIPTION:	DATE:
1	OTB PLANS	3/15/06
2	PER CO. COMMENTS 4/26/06	
3	PER CO. COMMENTS 6/1/06	
4	PER CO. COMMENTS 6/12/06	
5	PER VDOT COMMTS 6/21/06	

PROJECT MANAGER: BKB
DRAWN BY: BRA

DRAWING TITLE: Erosion & Sediment Control Plan

DRAWING NUMBER: C3.2

WVWA ID# 6PAL88