

# Brevard County Land Development Testing Requirements

## Public and Private Improvements

### PIPE PLACEMENT

1. **Density Test Requirement For Backfill Over Sewer Pipe.** Compact the material to not less than 98% of maximum density as determined by AASHTO T-180. One test, for each one foot lift, for each two hundred feet, or between structures, placed within the 2 to 1 slope of the pavement.
2. **Density Test Requirement For Backfill Over Drainage Pipe.** Compact the material to not less than 98% of maximum density as determined by AASHTO T-180. One test, for each one foot lift, for every four hundred feet or each pipe run placed between structures, placed within the 2 to 1 slope of the pavement.
3. **Density Test Requirement For Backfill Adjacent To Structures.** Compact the material to not less than 98% of maximum density as determined by AASHTO T-180. One test, for each one foot lift, around each structure, placed within the 2 to 1 slope of the pavement.
4. **Pipe And Structures Outside The 2 To 1 Slope Of The Pavement.** Compact the material to not less than 100% of maximum density as determined by AASHTO T- 99, method C. One test, for each one foot lift, around each structure, and between structures, every 400 feet of pipe placed outside the 2 to 1 slope of the pavement.

### ROADWAY CONSTRUCTION

1. **FDOT Type B Stabilized Subgrade – To Establish Limerock Bearing Ratio (LBR)** – The Geotechnical Engineer will determine the frequency which on site representative samples of the proposed subgrade material must be taken. A minimum LBR value of 40, with no under tolerance, and if clay like material is used, the maximum LBR value is 55.
2. **Type B Stabilized Subgrade Testing Requirement** – Minimum compaction shall be 98% of maximum density as determined by Test Method “D” of AASHTO T-180 (Modified Proctor). Test must be taken every 500 feet in alternating lanes for each lift. Parking lots will require testing intervals representative of 40,000 square feet per test. Independent testing of Curb Pad density is required at the same frequency.
3. **Base Course - To Establish LBR** - The Geotechnical Engineer will determine the frequency which on site representative samples of proposed base material must be taken. A minimum LBR value of 100 is required for all base materials.
4. **Base Course Construction** – No lifts greater than 8 inches will be allowed. Compact the material to not less than 98% of maximum density as determined by AASHTO T-180. The Engineer will perform at least three density determinations on each day’s final compaction operations on each course and at more frequent intervals, if deemed necessary by the Engineer. Parking lots will require testing intervals representative of 40,000 square feet per test.
5. **Asphalt Pavement Construction** - Marshall Stability Asphalt Testing (min. 1500 lbs. Marshall Stability), AM and PM samples and reports for each day of paving. See attached letter dated Feb. 1, 2007 for additional testing requirements.
6. **Concrete Curb and Driveway Construction** – Construct a type B stabilized subgrade with a minimum LBR value of 40 and minimum compaction of 98% of maximum density as determined by Test Method “D” of AASHTO T-180 (Modified Proctor). Test must be taken every 500 Feet in alternating lanes for each lift for curb pad density. Parking lots

will require testing intervals representative of 40,000 square feet per test. Compressive strength of concrete test shall be taken randomly for each day of operation.



February 1, 2007

**Re: Land Development Asphalt Testing Policy Revisions**

Attn: Engineers / Developers

Due to changes in the availability of certain types of asphalt friction courses utilized within Brevard County and the increased use of Superpave asphalt, Brevard County Land Development, in conjunction with the Brevard County Transportation Engineering, and Road & Bridge Departments, have reviewed the current Land Development Asphalt Testing Policy used for permitted development projects. The review indicated that revisions to the policy were needed to closely follow the Florida Department of Transportation (FDOT) Standards for Road and Bridge Construction asphalt testing and quality assurance requirements.

As such, the following testing requirements will replace the current Brevard County Land Development Asphalt Testing Policy. This revised policy will be enforced on all projects currently under active Brevard County Land Development permits that have not completed the asphalt phase of the project. The enforcement of this policy will be limited to all projects within public and/or private road rights-of-way.

For "S" Type asphalt as specified in the (2000)-(2004) FDOT Standard Specifications:

1. Provide an Engineer of Record approved design mix to the County five business days prior to paving. The mix design shall meet FDOT minimum requirements as outlined in section 331-4.3 (2000)
2. Extraction/gradation tests in accordance with section 331-4.4.2. (2000)
3. Marshall Stability testing in accordance with section 331-5.5.1. (2000)
4. Surface tolerance testing for roadways with design speeds of 35 MPH or greater in accordance with section 330-13.3. (2000)
5. Core Borings for thickness and density in accordance with the Roadway portion of section 330-2.2. (2004)

For Superpave (SP) asphalt as specified in the (2007) FDOT Standard Specifications:

1. Provide an Engineer of Record approved design mix to the County five business days prior to paving. The mix design shall meet FDOT minimum requirements as outlined in section 334-3. (2007)
2. Gradation and binder content testing in accordance with section 334-5. (2007) However, the sample(s) may be taken at the project location in lieu of at the asphalt plant as specified. Results must be provided to the County within one-week after the completion of paving.
3. Quality Control density and thickness testing in accordance with 334-5.4.3. (2007)
4. Quality Control surface tolerance testing for roadways with design speeds of 35 MHP or greater in accordance with 330-12.4.5. (2007)

For Friction Course FC-5 as specified in the (2007) FDOT Standard Specifications:

1. Provide an Engineer of Record approved design mix to the County five business days prior to paving. The mix design shall meet FDOT minimum requirements as outlined in section 337-4. (2007)
2. Gradation and binder content testing in accordance with section 334-5. (2007) However, the sample(s) may be taken at the project location in lieu of at the asphalt plant as specified. Results must be provided to the County within one-week after the completion of paving.
3. Quality Control core boring for thickness testing using section 334-5.4.3. (2007)
4. Quality Control surface tolerance testing for roadways with design speeds of 35 MPH or greater in accordance with section 330-12.4.5 (2007)

For Superpave Friction Courses FC-9.5, FC-12.5 (FC-6) asphalt as specified in the (2007) FDOT Standard Specifications:

1. Provide an Engineer of Record approved design mix to the County five business days prior to paving. The mix design shall meet FDOT minimum requirements as outlined in section 337-4.2. (2007)
2. Gradation and binder content testing in accordance with section 334-5. (2007) However, the sample(s) may be taken at the project location in lieu of at the asphalt plant, as specified. Results must be provided to the County within one-week after the completion of paving.
3. Quality Control density and thickness testing in accordance with 334-5.4.3. (2007)
4. Quality Control surface tolerance testing for roadways with design speeds of 35 MPH or greater in accordance with 330-12.4.5. (2007)

Sections within the FDOT Standard Specifications limiting testing requirements based on lot size, sub-lot size, tonnage, minimum thickness, or spread rate will not apply to Land Development inspected roadway projects. At a minimum, one set of tests will be required for all paving projects larger than 50 tons and additional testing may be required on a case by case evaluation of the project. Also, testing requirements at the asphalt plant will not apply. Waivers to any of the above-mentioned minimum requirements can be submitted in writing to the Land Development Department for consideration on a case by case basis.

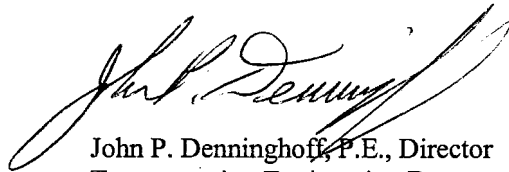
Please be aware that the above testing requirements will be valid for Land Development permitted projects only. However, similar or more stringent testing requirements may be required on a case by case basis for Capital Improvement Projects within the Transportation Engineering Department and on selected projects within the Road and Bridge Department.

If you have any questions pertaining to the above policy revisions, please contact Richard B. Szyrka, P.E., in the Land Development Section at 321-633-2065.

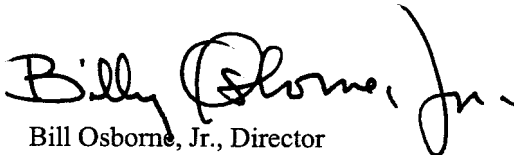
Sincerely,



Edward J. Lyon, Jr., P.E., Director  
Permitting and Enforcement Department



John P. Denninghoff, P.E., Director  
Transportation Engineering Department



Bill Osborne, Jr., Director  
Road and Bridge Department

Cc: Peggy Busacca, County Manager  
Gwen Heller, Land Development Manager  
Richard B. Szyrka, P.E., Land Development Engineer II  
David Trafton, Land Development Specialist IV  
File



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2725 Judge Fran Jamieson Way . Bldg. A-119, Viera, FL 32940

Telephone: (321) 633-2065  
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May 29, 2007

**Re: Land Development Asphalt Testing Policy Revisions Clarification**

Attn: Engineers / Developers

Due to changes in the availability of certain types of asphalt friction courses utilized within Brevard County and the increased use of Superpave asphalt, Brevard County Land Development, in conjunction with the Brevard County Transportation Engineering, and Road & Bridge Departments, issued a Testing Policy Revision letter on February 1, 2007 regarding testing requirements and how they would be implemented.

The February 1, 2007 policy revision was how testing would be accomplished without a substantial increase in cost to the development community while ensuring that a quality product was achieved for acceptance by the County for maintenance.

Questions have arisen with regards to the testing process outlined in section 334-5 of the 2007 FDOT Standards. This section deals with the Acceptance of the Mixture with regards to the testing process for gradation and binder content and was referenced in item #3 of all Superpave testing in the February 1, 2007 letter. The intent was the utilization of sections 334-5.1 and 334-5.1.1 for testing with the following exceptions;

In section 334-5.1, General, the mixture acceptance at the plant will not be required, the mixture acceptance will be from a sample at the jobsite (roadway). As stated in the February 1, 2007 letter testing requirements based on lot size, sub-lot size, tonnage, minimum thickness, or spread rate will not apply. The Asphalt provider may at their expense test the asphalt at the plant, however this testing is not required by Brevard County Land Development.

In section 334-5.1.1, Sampling and Testing Requirements, only sampling for quality control is required and that the sampling process may be performed on the jobsite. Again, as stated in the February 1, 2007 letter, testing at the plant is not required.

Questions have also arisen with regards to section 334-5.9, Minimum Acceptable Quality Levels and section 334-8, Basis of Payment. Both of these sections will not apply to any project permitted through the Brevard County Land Development Department. The only acceptable Quality Control Level will be that the results of all asphalt testing meet the minimum requirements of Table 334-4, Master Production Range and Table 334-5, Between-Laboratory Precision Values. As stated above the asphalt provider may at their expense test the asphalt at the plant, however this testing is not required by Brevard County Land Development.

Please be aware that these clarifications do not change the implementation of the testing requirements outlined in the February 1, 2007 letter. The requirements of the revised policy are being enforced on all projects currently under active Brevard County Land Development permits that have not completed the asphalt phase of the project. The enforcement of this policy will be limited to all projects within public and/or private road rights-of-way.

If you have any questions pertaining to the above policy revisions, please contact Richard B. Szyrka, P.E., in the Land Development Section at 321-633-2065.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward J. Lyon, Jr.", is written over a horizontal line.

Edward J. Lyon, Jr., P.E., Director  
Permitting and Enforcement Department

Cc: Peggy Busacca, County Manager  
Gwen Heller, Land Development Manager  
Richard B. Szyrka, P.E., Land Development Engineer II  
David Trafton, Land Development Specialist IV