

ST. TAMMANY PARISH COUNCIL

ORDINANCE

ORDINANCE CALENDAR NO: 5563

ORDINANCE COUNCIL SERIES NO: \_\_\_\_\_

COUNCIL SPONSOR: DEAN/BRISTER

PROVIDED BY: DEVELOPMENT

INTRODUCED BY: MR. BELLISARIO

SECONDED BY: MR. STEFANCIK

ON THE 7 DAY OF APRIL , 2016

ORDINANCE AMENDING THE ST. TAMMANY PARISH CODE OF ORDINANCES, APPENDIX B, CHAPTER 40 SUBDIVISION REGULATORY ORDINANCE NO. 499 TO REVISE THE TESTING STANDARDS FOR ROADWAY CONSTRUCTION AND CLARIFY REQUIREMENTS RELATED TO DRAINAGE AND UTILITY TRENCH BACKFILL.

WHEREAS, the roadway construction testing standards outlined in the current ordinance were established to ensure roadways were constructed in manner that is safe and structurally sound;

WHEREAS, the Department of Engineering has referenced the Louisiana Department of Transportation and Development’s manual, Louisiana Standard Specifications for Roads and Bridges (“LSSRB”), which addresses roadway construction and testing;

WHEREAS, the Department of Engineering acknowledges that the current roadway testing standards exceed those required in the LSSRB manual;

WHEREAS, the Department of Engineering and Department of Planning and Development wish to revise the roadway testing requirements to a level that is reasonable yet ensures safety and minimal maintenance;

THE PARISH OF ST. TAMMANY HEREBY ORDAINS that the St. Tammany Parish Code of Ordinances is hereby amended to provide therein the following regulations that are applicable thereto, and to otherwise provide as follows: see (Exhibit ”A”).

REPEAL: All ordinances or parts of Ordinances in conflict herewith are hereby repealed.

SEVERABILITY: If any provision of this Ordinance shall be held to be invalid, such invalidity shall not affect other provisions herein which can be given effect without the invalid provision and to this end the provisions of this Ordinance are hereby declared to be severable.

EFFECTIVE DATE: This Ordinance shall become effective fifteen (15) days after adoption.

MOVED FOR ADOPTION BY: \_\_\_\_\_ SECONDED BY: \_\_\_\_\_

WHEREUPON THIS ORDINANCE WAS SUBMITTED TO A VOTE AND RESULTED IN THE FOLLOWING:

YEAS: \_\_\_\_\_

NAYS: \_\_\_\_\_

ABSTAIN: \_\_\_\_\_

ABSENT: \_\_\_\_\_

THIS ORDINANCE WAS DECLARED DULY ADOPTED AT A REGULAR MEETING OF THE PARISH COUNCIL ON THE 5 DAY OF MAY , 2016 ; AND BECOMES ORDINANCE COUNCIL SERIES NO \_\_\_\_\_.

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MARTY DEAN, COUNCIL CHAIRMAN

ATTEST:

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THERESA L. FORD, COUNCIL CLERK

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PATRICIA P. BRISTER, PARISH PRESIDENT

Published Introduction: MARCH 31 , 2016

Published Adoption: \_\_\_\_\_, 2016

Delivered to Parish President: \_\_\_\_\_, 2016 at \_\_\_\_\_

Returned to Council Clerk: \_\_\_\_\_, 2016 at \_\_\_\_\_

## EXHIBIT "A"

### **SECTION 40-032.0 STREETS**

#### **Sec. 40-032.01 Definitions Relating to Streets**

1. Apron(s) as herein used is defined as the access or egress roadbed and road-wearing surface leading to and from a subdivision hereafter approved.
2. Subdivision (see master definition Section 40-010.23).
3. Main street or thoroughfare includes any road, roadbed and road-wearing surface, situated in any subdivision as "subdivision" is herein above defined, which constitutes the main road or roads or traffic arteries situated therein for the purpose of ingress or egress of vehicular traffic into and out of the subdivision and within the subdivision; same shall also automatically include roads which are separated by a median or other separation and also four-lane roads providing for two lanes (2) each for opposing traffic; whether or not so divided by a median or other device situated therein.
4. The Department of Engineering as is herein used is that department as defined in the Code of Ordinances for St. Tammany Parish Louisiana, or any successor agency thereto; should that department be hereafter divided in function, the Parish department herein with jurisdiction over streets and roads shall be the department referred to herein.
5. Reinforcement as used herein shall include mesh, rods and/or a mixture of materials so as to provide the per square-inch strength imposed and required by the Louisiana Department of Transportation and Development for the installation and construction of highway traffic arteries.
6. Testing as used herein shall mean the sampling of a roadbed material for composition, compaction, depth and such other requirements applicable thereto, and of the road surface (all at such intervals as standard testing procedures provide) to determine through state of the art methodology, proper compliance with the specifications imposed.
7. Responsibility for on-site inspections shall be the responsibility of the developer to retain a registered civil engineer, to provide for on-site inspections and observation during all construction activities, including those contingent herein and drainage. Said engineer shall provide periodic inspection reports to the Engineering Department for review and filing. (*Amended per Ord. No. 14-3171, adopted August 7, 2014*).
8. Utility line shall mean any wire, pipe and/or conduit in a system of pipes and/or conduits for conveying utility services including, but not limited to, water, sanitary sewer, natural gas, electricity, steam, fiber, data/communications.

#### **Sec. 40-032.03 St. Tammany Parish Roadway Testing & Inspection Standards for Residential and Commercial Subdivisions**

##### **1. Roadway Subgrade Preparation**

The roadway alignment shall be stripped of all topsoil with organics and other deleterious materials. The topsoil in St. Tammany Parish is generally underlain by moisture sensitive silty soils. These near surface silty deposits shall be examined at the time of construction since they tend to lose their support capabilities if they become wet. Consequently, depending on the site condition at the time of construction, the moisture sensitive soils may have to be undercut and replaced with compacted structural fill.

Once the roadway alignment is stripped and undercut to the required subgrade elevation, the roadway subgrade shall be proofrolled using a single or a tandem axle dump truck or similar heavily loaded rubber tired vehicle weighing about 20 tons. Soils which are observed to rut or deflect under the moving load shall be undercut and replaced with compacted structural fill, disked open to dry or treated to form a stable non-yielding subgrade prior to fill placement. Proofrolling the roadway subgrade shall be witnessed by St. Tammany Parish Inspection personnel or their representative prior to proceeding with fill placement. The approval of the subgrade is valid for ~~24~~ 48 hours. Therefore, the subgrade shall be protected and covered with fill as soon as possible. Should the subgrade be exposed to excessive amount of precipitation, re-approval of the subgrade will be required.

**2. Roadway Fill**

Fill placed along the roadway alignment shall consist of sandy clays, clayey or silty sands free of organics and other deleterious materials. The fill shall have a maximum liquid limit of 40 and a plasticity index less than ~~18~~ 20 percent. The structural fill shall be placed in maximum lifts of 8 inches of loose materials and shall be compacted within 1 percentage point below to 3 percentage points above the optimum moisture content. The fill shall be compacted to at least 95 percent of the fill’s maximum dry density as determined by ASTM D698 (AASHTO T99). Each lift of fill shall be tested by the parish approved testing laboratory and approved prior to placement of subsequent lifts. The edge of the fill shall extend at least 2 feet beyond the edge of the road or face of curb. Field density tests shall be conducted in accordance with ASTM D2922 at ~~100~~ 500 foot intervals along the roadway alignment.

**3. Aggregate Base Course**

The roadway aggregate base shall consist of Class II Base including 610 limestone or crushed concrete meeting the requirements of the latest edition of Louisiana Standard Specifications for Roads and Bridges (LSSRB), Section 1003.3D. The aggregate base shall be compacted to at least 95 percent of the aggregate’s maximum dry density determined by ASTM D698 (AASHTO T99). Field density tests shall be conducted on the base material in accordance with ASTM D2922 at ~~100~~ 500 foot intervals along the roadway alignment. In addition, depth checks shall be conducted at the density test locations to verify compliance with the pavement design and parish requirements.

**4. Lime Treated Subgrade**

Lime treatment may be used to stabilize the clay subgrade or to dry the in situ soil. It is not intended for use as a pavement base. Lime treatment shall be conducted after the soil has been classified and the plasticity index of the soil is determined to optimize the quantity of lime needed to treat the soil. The following percent of hydrated lime, by weight, is a guide to treat the cohesive soil. The actual amount shall be verified by the approved testing laboratory prior to field application.

% of Hydrated Lime by Weight	Clay Soil Plasticity Index, %
2	18 to 30
4	31 to 45

The percent of lime required to stabilize clays with plasticity indices over 45 percent shall be determined by the independent testing laboratory. Lime treatment of silty soils shall be conducted for drying purposes only.

Lime treatment shall be designated by type in accordance with LSSRB, Section 304. When lime is used to treat the clay sub-base or to prepare for cement treatment, Type B and Type C shall be used, respectively. For Type B and Type C treatments, the pulverized treated soil shall yield 95 percent passing the ¾ inch sieve and 50 percent passing the No. 4 sieve, by weight. The mixture shall be compacted to at least 95 percent of the maximum dry density as determined by ASTM D698 (AASHTO T-99). Field density tests shall be conducted at intervals of ~~200~~ 500 linear feet of roadway. The mixture shall be protected against drying in accordance with LA DOTD specifications.

#### **4.5. Cement Treated Base**

Cement treatment of roadways shall be conducted in general accordance with LSSRB, Section 303. Cement treated base generally involves treatment of the existing subgrade soils or treatment of imported embankment fill to be used as a base course in flexible or rigid pavement sections.

The in situ or embankment fill considered for cement treatment shall have a plasticity index of less than 15 percent. Soils with higher plasticity indices shall be lime treated prior to cement treatment. Cement treated bases for roadways shall be designed to yield a minimum compressive strength of 300 psi at 7 days as determined by a mix design in accordance with DOTD TR 432 Standard Procedure. The mix design shall be conducted on representative samples of the subgrade soil by an independent testing laboratory. Unless the results of the mix design indicate otherwise, the silty soils encountered generally in St. Tammany Parish shall be treated with at least 10 percent of Portland Cement, by volume. The roadway shall be prepared in general accordance with LSSRB, Section 303-04. The moisture content of the mixture shall be within 2 percent of the optimum moisture at the time of treatment. Pulverization of the treated soils shall yield a mixture with at least 60 percent passing the No. 4 sieve.

Compaction and finishing of a treated roadway section shall be completed within 3 hours of the initial cement application to the base course materials. The treated base shall be compacted to at least 95 percent of the mixture's maximum dry density as determined by ASTM D698 (AASHTO T-99). Field density tests shall be conducted on the cement treated base at a frequency of not less than 1 test per ~~100~~ 500 linear feet of road.

Thickness of the cement treated base shall be verified for compliance with the roadway design. The depth of treatment shall be checked during placement at a frequency of not less than 1 test per ~~100~~ 500 linear feet of road. The cement treated base shall be immediately protected against rapid drying by applying an asphalt curing membrane. The treated section shall be allowed to cure for a period of at least 7 days prior to exposure to construction traffic. The contractor shall protect the treated base from damage until the surface course is placed. Damaged base course shall be repaired by the contractor and approved by St. Tammany Parish Engineering Department prior to application of the surface course.

#### **6. Portland Cement Concrete**

Portland Cement Concrete for St. Tammany Parish roadways shall be placed on approved roadway bases. The concrete mix design shall be reviewed in accordance with ACI 301 for compliance with the strength requirements. All materials used in the concrete mix shall be from DOTD approved sources. The materials shall be proportioned, batched, cured and placed in accordance with LSSRB, Section 901.

Prior to placement of concrete, depth checks shall be conducted by string lines trained across the forms to verify the pavement thickness at a frequency of not less than 50 feet and shall be witnessed by St. Tammany Parish Inspector or his representative. Deficiencies noted shall be corrected and approved prior to concrete placement.

During placement of Portland Cement Concrete pavement, observation and testing shall be done on a full-time basis. At a minimum, slump, air content and mix temperature test shall be conducted every ~~50~~ 100 cubic yards of placed concrete. Four (4) compressive strength cylinders shall be cast every 100 cubic yards placed. Cylinders shall be tested as follows: 1 Cylinder at 7 days, 2 cylinders at 28 days and 1 cylinder shall be placed on hold. Additional cylinders shall be cast when high/early mix is used and early concrete strength is required to open the road to traffic with the approval of St. Tammany Parish Engineering Department. The placed concrete shall be finished, cured and protected in accordance with LSSRB requirements. At the discretion of St. Tammany Parish Engineering Department, cores may be obtained for verification of pavement thickness.

**7. Asphaltic Concrete**

All materials used in the mixture shall be from DOTD approved sources. The materials shall be proportioned to produce a pavement mix meeting LSSRB requirements. The proposed mix design shall be submitted for approval to St. Tammany Parish Engineering Department. The asphaltic concrete mixture shall be placed on a stable and approved base.

During placement of asphaltic concrete, observation and testing shall be on a full-time basis. For each 1,000 tons of materials placed, or a fraction thereof in one day, a sample shall be tested at the plant for percent void, Void Mineral Aggregate (VMA), asphalt content and gradation. The results will be used to control the mixture and form a basis for acceptance of the pavement.

Mix temperature shall be checked on each truck load in the field. Loads with low temperatures not meeting specifications shall not be placed.

The final pavement thickness and density of the mixture shall be verified by obtaining 4 inch diameter cores at a minimum frequency of 1 core per ~~400~~ 1000 linear feet of road and not less than ~~3~~ 2 cores per roadway section. The density of the pavement core shall not be less than 92 percent of the maximum theoretical density. The thickness of the cores shall be within ¼ inch of the design thickness. The Parish reserves the right to accept or reject the pavement based on the test results.

**8. Utility Drainage Trench Backfill**

Backfill material for culverts and storm drains shall be placed and compacted in general accordance with LSSRB, Section 701, as modified in this section except as specifically addressed in this Section 8.

Cross drains and side drains in paved areas under roadway areas shall be backfilled with granular fill A-3 material or better. The backfill shall be placed near optimum moisture and shall be compacted in lifts not exceeding 12 inches. Field density tests shall be performed during the backfill operation from 1 foot above the pipe up to the finished grade. Each layer shall be compacted to 95 percent of the fill's maximum dry density as determined by ASTM D698 (AASHTO T-99). The field density tests shall be conducted at a minimum frequency of 1 test per 100 linear feet.

Bedding material shall be provided under the utility drainage lines with a minimum of 6 inches placed under the pipe and extending one half of the pipe diameter beyond the edge of either side of the pipe or minimum of 12 inches, whichever is greater. The pipe shall be side bedded to the mid-height of the pipe or to the pipe spring line, if arch pipe is used. The bedding material shall consist of free draining granular material meeting the requirements of #57 limestone or crushed concrete. Other bedding materials may be considered by St. Tammany Parish Engineering Department. A geotextile fabric shall also be placed around the pipe at each joint to reduce potential migration of the fill into the joints of the pipe.

Utility Drainage trench backfill in non-paved areas shall be either granular material or selected soils as defined by LSSRB, Section 701.08. The fill shall be compacted in lifts to the density of the surrounding soil but not less than 90 percent of the fill's maximum dry density as determined by ASTM D698 (AASHTO T-99).

**9. Utility Trench Backfill**

Utility lines located in non-paved areas or areas not subject to vehicular traffic will not be required to conform to LSSRB Section 701. Utility lines located within paved areas will be required to conform to the LSSRB, Section 701. Utility lines located in paved areas and installed prior to proof rolling the roadway subgrade will not be required to conform to LSSRB, Section 701 provided the proof roll passes inspection.

## **ADMINISTRATIVE COMMENTS**

### **CASE ITEM:**

An ordinance to amend the St. Tammany Parish Code of Ordinances, Appendix "B", of Chapter 40, Subdivision Regulatory Ordinance No. 499, specifically, Section 40-032.0 Streets, relative to road testing standards, drainage and utility trench backfill

### **Staff Recommendation:**

The staff recommended approval.

### **Planning Commission Recommendation:**

The Planning Commission unanimously recommended approval.