



# Geotechnical Reports for Public Street Construction

PDS

Engineering Services Division

ES Policy # 3-04

All public street construction shall conform to the Overland Park Municipal Codes (OPMC) Chapter 13. A geotechnical report must be submitted that either:

- (1) Demonstrates the on-site soils and conditions meet the requirements of Chapters 13.03.150, 13.03.170, 13.03.180, and 13.03.190 of the Municipal Codes **(or)**
- (2) Provides site-specific recommendations for the construction of Public Streets.

**The report must be approved before the project will be released for construction.**

Prior to construction plan approval, the review engineer will require three (3) approved copies of the geotechnical report, sealed by a Kansas licensed Professional Engineer. Submitting three (3) copies of the geotechnical report along with the construction plans' first submittal will help avoid delays in plan approval.

At a minimum, the following items must be addressed in the report:

- (1) The OPMC requires soil for structural fill to have a liquid limit not exceeding 40 and a plasticity index not exceeding 25. If the on-site soils do not meet these requirements, the geotechnical report must specify how the on-site soils will be modified to achieve these requirements. As an alternative, the geotechnical engineer may specify alternative liquid limits and/or plastic indices for consideration, provided adequate justification is given.
- (2) The report must identify the soils to be used for structural fill. The report must contain an evaluation of the soils proposed to be used. The evaluation must include all the following as a minimum:
  - ◆ Sieve analysis
  - ◆ USCS classification
  - ◆ Atterberg limits
  - ◆ Maximum dry density (ASTM D 698)
  - ◆ Optimum moisture content

- ◆ Moisture density curve (Standard Proctor)
- (3) The geotechnical report must also indicate the methods to be used for placement and compaction of the subgrade. If suitable soils are used, as defined by ordinance, placement and compaction must be as outlined in chapter 13.03 of the OPMC. If evaluation of the soils indicates that the available soils are unsuitable, as defined by ordinance, the geotechnical report must clearly and precisely detail the soil treatment (e.g., addition of fly ash or other soil amendments), placement, incorporation and compaction procedures to be used to meet the requirements of the ordinance.
- (4) In addition, the report must include the inspection procedures to be followed during placement and compaction of subgrade. The procedures must include all the following as a minimum:
- ◆ Inspection by the contractor of the subgrade for vertical and horizontal alignment prior to placement of flyash.
  - ◆ Maximum time from flyash incorporation to compaction per KDOT standard specifications(maximum of 2 hours).
  - ◆ Standard Proctor curves for flyash/soil mixtures must be received by the City's on-site inspector one week prior to flyashing field activities.
  - ◆ Finishing and curing per KDOT standard specifications section 310 – Flyash Modification.
- (5) The geotechnical report must also outline the testing and quality control procedures to be used during the placement and compaction of the subgrade. The testing listed in 13.02.140(A) (Test Results Prior to Construction) and 13.02150 (Material Tests During Construction) will be required as a minimum. The testing frequency will be that established in the "Sampling and Testing Frequency Chart for The City of Overland Park", on file in the office of the City Engineer.

In addition, the following testing will be required:

- ◆ Moisture content of soil prior to flyash incorporation.
- ◆ Moisture content of flyash/soil mixture immediately prior to compaction.

The on-site testing lab personnel shall be equipped with soil classification and standard proctor curves for both soil and flyash/soil mixture.