

CHAPTER 800. NATURAL AND CULTURAL RESOURCES PROTECTION

SECTION 807. SOILS AND GEOTECHNICAL HAZARDS

807.1. Intent and Purpose

The intent and purpose of this section is to evaluate the suitability of soils for the proposed development and identify any subsurface conditions or geological hazards that may need mitigation or avoidance.

807.2. Applicability

- A. All applications where structures are proposed and construction is authorized shall include a Soils and Geotechnical/Geological Engineering Report containing the information meeting the requirements of this section. Areas proposed for development shall be evaluated for soil suitability and investigated for existing geologic hazards and the presence of poor soil conditions or other factors that may affect the improvements proposed for the site. At the developer's option and where the proposed development of single-family homes are on lots of one (1) acre or more of uplands, the Geotechnical/Geological Engineering Report may be completed for each lot at the time of Building Permit submittal. Where the developer chooses this option, it shall be noted on each deed.
- B. All development or structures in unincorporated Pasco County for which applications are submitted after March 1, 2008, and not otherwise exempt by this section, shall be subject to this section.

807.3. Exemptions

- A. Exemptions from the Geotechnical/Geological Engineering Report submittal requirements are:
 - 1. Structures on lands which do not require preliminary site plan, preliminary development plan, subdivision, or construction plan approval or for which the land is subject to a valid approval issued prior to March 11, 2008. However, this exemption expires with the expiration of the said development approval. Included in this exemption are the alterations of the same to include detached structures such as garages, barns, and swimming pools.
 - 2. Limited Family Lot Divisions
 - 3. Developments for which a completed development application has been submitted prior to March 11, 2008. However, this exemption expires with the expiration of the said development application or the expiration of the subsequent approval of the application.

B. Exemption from land development compaction requirements:

Developments where a hard copy Site Development Permit for a Class I, II or III development approval has been issued prior to March 11, 2008. However, this exemption expires with the expiration of the approval.

807.4. **Geotechnical/Geological Engineering Report**

The report shall be prepared by a qualified professional geologist in accordance with Chapter 492, Florida Statutes, and a qualified professional engineer in accordance with Chapter 471, Florida Statutes, or a professional engineer with experience in the geotechnical field in accordance with Chapter 471, Florida Statutes. All development permit applications required to submit a geotechnical/geological engineering report must also contain certification of an appropriate design professional that the proposed project complies with the geotechnical /geological engineering report recommendations.

The report shall be project specific and shall identify, within the scope of the investigation and with reasonable probability, subsurface conditions encountered, and recommendations in each of the topic areas. Reports shall be prepared in accordance with the accepted industry standard for evaluation of a site and shall include, at a minimum:

- A. Project description and general site information.
- B. Map or map series of the area(s) proposed for development depicting site specific test location performed as part of the geologic evaluation, including soils composition and locations of features related to known or found geologic hazards.
- C. Evaluation of the site including, but not limited to, the following:
 - 1. Evaluation of subsurface, soils, and groundwater conditions.
 - 2. Conclusions as to the presence of known or found geologic hazards.
 - 3. Subsurface conditions, including boring logs along with a map(s) of location of borings overlaid with the proposed development plan. At a minimum, borings appropriate for the proposed development shall be required under areas where roadways, structures, and retention/detention areas are proposed to be located.
 - 4. The County soil survey information, which, at a minimum, includes a map of generalized soils, description of the soils likely to be present on the site, or laboratory data substantiating soil characteristics relied upon in the engineering/geological analysis of the site. The Soil Survey of Pasco County - Natural Resources Conservation Service maps may be used for general reference.

5. Groundwater information, which, at a minimum, includes depth to groundwater, seasonal high water table, and any other pertinent information.
 6. Appendices containing maps, boring logs, and other subsurface data collected during the geological analysis of the site.
- D. Development and construction recommendations based upon the engineering/geotechnical analysis of the site including, but not limited to, the following:
1. Site preparation, including demucking and deleterious material removal.
 2. Fill placement and subgrade preparation.
 3. Pavement designs consideration.
 4. Foundation construction requirements.
 5. Maximum allowable soil bearing pressure.
 6. Discussion of potential land settlement issues.
 7. Soil and groundwater conditions.
 8. Drainage and groundwater concerns.
 9. Minimum requirements for construction inspection and testing.
 10. Recommendations for mitigation of known or found geological hazardous areas, as necessary, for the development proposed. In the alternative, recommendations for additional or more detailed analysis, as may be necessary, to understand or quantify geological hazard(s), whether remediation measures are recommended, and to evaluate remediation options.

807.5. **Land Development Construction Requirements**

- A. Remediation as required by the Geotechnical/Geological Engineering Report.
- B. Infiltration-based green infrastructure techniques are encouraged to be considered.

- C. Should any noticeable soil slumping or sinkhole formation become evident, the applicant/developer shall immediately notify the County, Tampa Bay Water, and the Southwest Florida Water Management District (SWFWMD) and adopt one (1) or more of the following procedures as determined to be appropriate by the County and SWFWMD:
1. If the slumping or sinkhole formation becomes evident before or during construction activities, stop all work (except for mitigation activities) in the affected area and remain stopped until the County and SWFWMD approve resuming construction activities.
 2. Take immediate measures to ensure no surface water drains into the affected areas.
 3. Visually inspect the affected area.
 4. Excavate and backfill or grout, as required, to fill the affected area and prevent further subsidence.
 5. Use soil reinforcement materials in the backfilling operation when appropriate.
 6. If the affected area is in the vicinity of a water-retention area, maintain a minimum distance of two (2) feet from the bottom of the retention pond to the surface of the limerock or karst connection.
 7. If the affected area is in the vicinity of a water-retention area and the above methods do not stabilize the collapse, relocate the retention area.
- D. Discharge of stormwater into depressions with direct or demonstrated hydrologic connection to the Floridan Aquifer shall be prohibited.
- E. The site shall be graded to within twelve (12) inches of the final grade. Where fill is proposed, it shall be placed in compliance with the Geotechnical/Geological Engineering Report recommendations (including any lift depths recommended) and compacted to a minimum density of ninety-five (95) percent of the modified Proctor maximum dry density. Density tests to confirm compaction shall be required within the building pad area before the next lift is placed. Upon completion of the land development construction, a professional engineer shall provide a certification to the County that the project, including each pad area, complies with the recommendations of the Geotechnical/Geological Engineering Report.

807.6. **Building Permit Application Requirements**

The Building Permit application shall be accompanied by a statement of an appropriate design professional that they have reviewed the Geotechnical/Geological Engineering Report and that either remedial action is required or that remedial action

is not required or that the proper foundations have been designed for the structures proposed to be built thereon.

The type and size of all foundations for structures in the area of the project development shall be designed in accordance with the design recommendations of the project geotechnical engineer to minimize the potential for ground settlement impacts.

807.7. **Building Permit Inspection Requirements**

Prior to conducting the first inspection, evidence shall be provided that compressible/collapsible material has been excavated and removed or recompact; the site is free from the presence of organic materials, construction debris, and/or clay soils to prevent ground settlement in all areas of project development; or, in the alternative, that proper foundations have been designed for use with the compressible/collapsible materials.

All Building Permit inspection requirements shall be in accordance with the technical standards adopted in Chapter 18, Building Regulation, Pasco County Code of Ordinances, and per density testing/certification as required by the Building Official.