DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

REPORTS FOR RETAINING WALLS AND OTHER STRUCTURES

INTRODUCTION

A. Retaining Walls

Retaining wall reports are prepared to provide designers with foundation recommendations for a variety of retaining walls that the Department allows. The wall types that the Department most commonly uses today include:

1. Cantilever Walls
2. Gravity Walls
3. Mechanically Stabilized Earth (MSE) Walls
4. Tieback Walls
5. Soil Nail Walls

In addition, Doublewals, Insert Walls, H-pile panel walls and several other wall types have also been used in the past for special applications. The boring locations should be set up based on the wall type that is proposed, as noted in the attached drilling criteria. Retaining wall reports can be stand-alone reports, or issued in conjunction with a Bridge Foundation Investigation (BFI) report if the wall is part of a bridge end abutment. Examples of these reports are included in this section. Some of the information that should be covered in the wall report includes:

1. Bearing capacity
2. Soil parameters, including unit weight, internal friction angle, cohesion and coefficient of sliding friction.
3. Information on groundwater and recommendations for treatment if required.
4. Information on soft foundation soils and recommendations for treatment if required.
5. Recommendations for waiting periods or stage construction if required.
6. Recommendations for footing embedment or proposed footing elevations, if required.

If the proposed wall type is unknown, include recommendations on allowable wall types. These may be based on the wall height, the type construction (cut or fill), and the foundation conditions.

It should also be noted that the retaining wall designer typically addresses internal stability of the wall system, but not external stability. If the wall will be constructed over soft soils, on a slope, or in other areas in which the geometry and/or the loads may present a problem, a global stability analysis may have to be performed to ensure the external stability of the wall. If a stability analysis is required, the Department typically uses the WinStabl program for analysis.

B. Other Structures

Other structures that may require field work include high-mast lighting, culverts, deep culvert junction boxes (to check for rock), and buildings for truck weigh stations, welcome centers, area and district offices and other structures. The locations, depths and number of borings for these structures will vary. Information on the culverts is normally included on the soil survey report, while high-mast lighting and building foundations are usually covered in a separate report.