

## FOOTINGS PLACEMENT OF CONCRETE

### ONTARIO BUILDING CODE

#### 9.12.1.1. Removal of Topsoil and Organic Matter

- (1) The topsoil and vegetable matter in all unexcavated areas under a building shall be removed.
- (2) In localities where termite infestation is known to be a problem, all stumps, roots and other wood debris shall be removed from the soil to a depth of not less than 300 mm (11 ¾ in) in unexcavated areas under a building.
- (3) The bottom of every excavation shall be free of all organic material.

#### 9.12.1.2. Standing Water

- (1) Excavations shall be kept free of standing water.

#### 9.12.1.3. Protection from Freezing

- (1) The bottom of excavations shall be kept free from freezing throughout the entire construction period.

#### 9.12.2.1. Excavation to Undisturbed Soil

- (1) Excavations for foundations shall extend to undisturbed soil.

#### 9.12.4.1. Compacting or Filling with Concrete

- (1) The soil in trenches beneath footings for sewers and watermains shall be compacted by tamping up to the level of the footing base or shall be filled with concrete having a strength not less than 10 Mpa (1500 psi) to support the footing.

### OBJECTIVE

Soil conditions may vary from site to site or even within the building area. When poor soil conditions such as, sensitive clay, frost susceptible soils, high ground water etc., are encountered during the excavation, the site supervisor must adopt at least one of the following precautions:

- Extend the excavation to good stable soil.
- Have a soil test performed to determine the foundation design requirements. (Costs associated with soil tests can range from \$125.00 to \$250.00).
- Investigate the feasibility of installing a compacted granular layer to obtain the required bearing capacity.

In wet and cold conditions, the following must also be observed.

- Standing water in the excavated area shall be pumped out and the soil examined for adequate bearing capacity.
- Protect the bottom of the excavation from freezing throughout the construction period to avoid settling, frost heave and possible damage to the structure after the soil thaws. A good practice in Markham is to line the bottom of the excavation with a substantial layer +/- 600 mm (24 in) of straw and covered with a polyethylene tarp.

For additional information on this subject, please refer to the 'Soils Manual for Home Builders' published by TARION and the Ministry of Municipal Affairs and Housing