Dumont Washington Promenade – Summary of Upcoming Work
September 5, 2018

Upcoming Site Work Improvements

1. Storm drainage pipe, sanitary sewer pipe and on site water main work will continue on lot 20, with trenches being filled and compacted as they are completed.
2. Continuing to put the site to grade, cutting material from one location and placing it in lifts in locations that need to be brought up.
3. Lot 1 is being cut to grade, and underground storm water detention installation will begin.

Off-Site Improvements

1. Storm main upgrades have been completed on Washington Avenue.
2. Storm main upgrades have been completed on Stratford.
3. Barbara Rd. sanitary sewer pipe burst will take place.

Upcoming Building Work

1. Footings and foundations are being installed for the buildings on Lot 20.
2. Block stair towers and elevator shafts are being constructed.

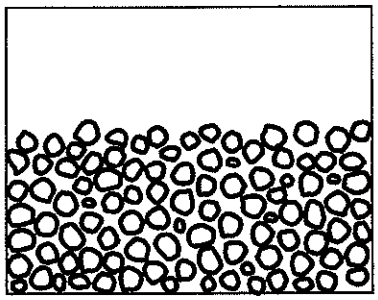
Soil Compaction

Soil compaction is defined as the method of mechanically increasing the density of soil. In construction, this is a significant part of the building process.

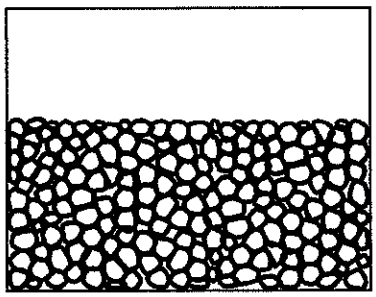
If performed improperly, settlement of the soil could occur and result in unnecessary maintenance costs or structure failure.

Almost all types of building sites and construction projects utilize mechanical compaction techniques.

SOIL DENSITY



Loose Soil (poor load support)



Compacted Soil (improved load support)

Figure 1

What is soil?

Soil is formed in place or deposited by various forces of nature—such as glaciers, wind, lakes and rivers—residually or organically. Following are important elements in soil compaction:

- Soil type
- Soil moisture content
- Compaction effort required

Why compact?

There are five principle reasons to compact soil:

- Increases load-bearing capacity
- Prevents soil settlement and frost damage
- Provides stability
- Reduces water seepage, swelling and contraction
- Reduces settling of soil

Types of compaction

There are four types of compaction effort on soil or asphalt:

- Vibration
- Impact
- Kneading
- Pressure

These different types of effort are found in the two principle types of compaction force: static and vibratory.

Static force is simply the deadweight of the machine, applying downward force on the soil surface, compressing the soil particles. The only way to change the effective compaction force is by adding or subtracting the weight of the machine. Static compaction is confined to upper soil layers and is limited to any appreciable depth. Kneading and pressure are two examples of static compaction.

Vibratory force uses a mechanism, usually engine-driven, to create a downward force in addition to the machine's static weight. The vibrating mechanism is usually a rotating eccentric weight or piston/spring combination (in rammers). The compactors deliver a rapid sequence of blows (impacts) to the surface, thereby affecting the top layers as well as deeper layers. Vibration moves through the material, setting particles in motion and moving them closer together for the highest density possible. Based on the materials being compacted, a certain amount of force must be used to overcome the cohesive nature of particular particles.

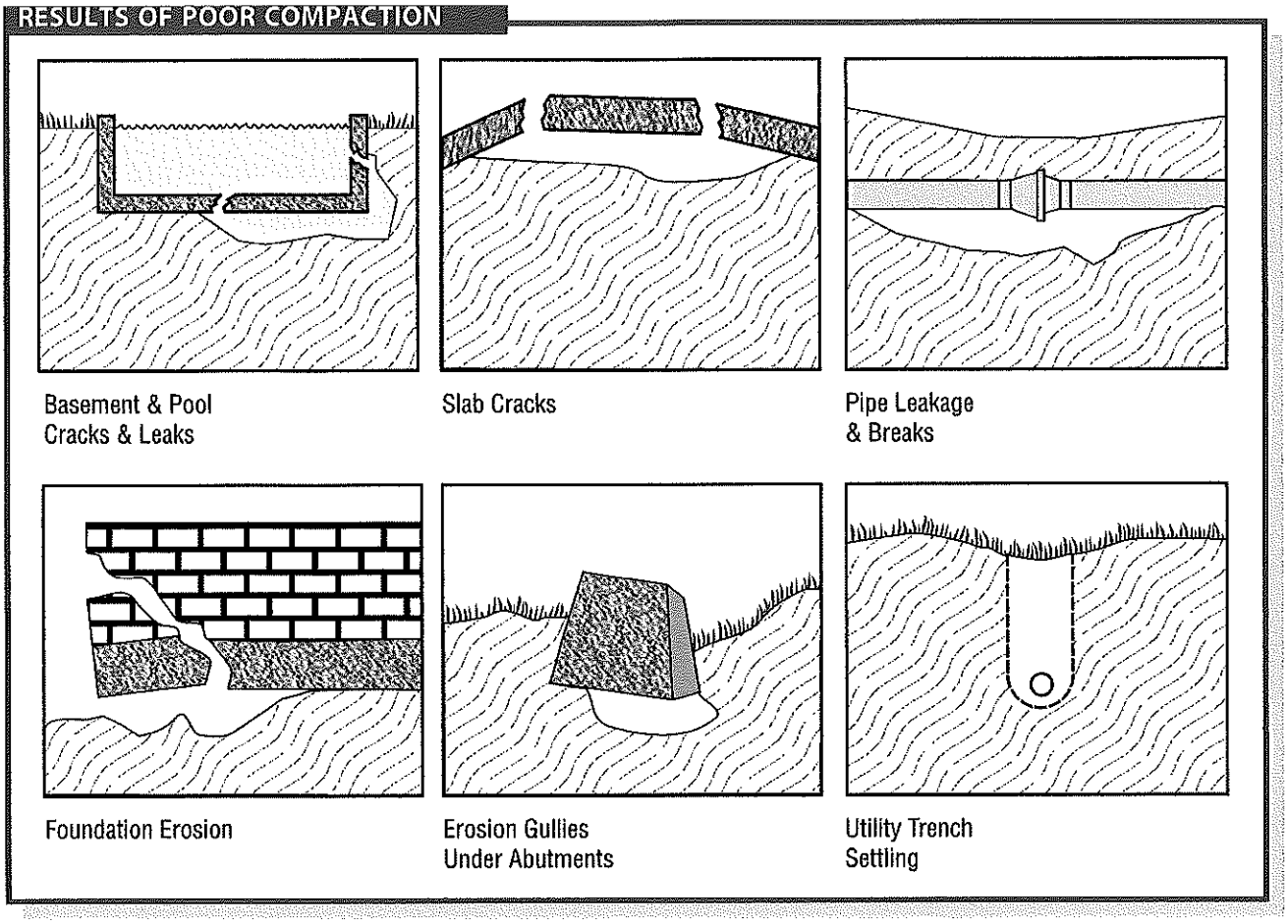


Figure 2

These illustrations show the results of improper compaction and how proper compaction can ensure a longer structural life, eliminating future foundation problems.