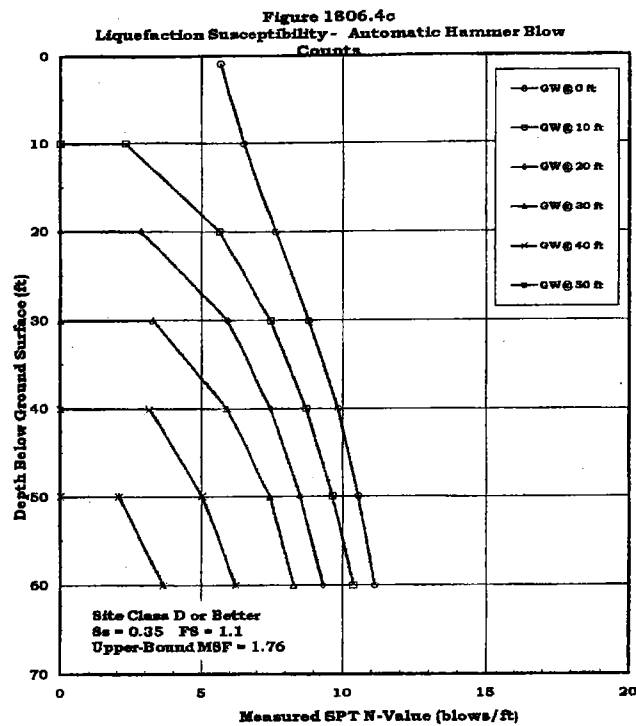


18.00: continued



1807.1.6 Replace as follows:

1807.1.6 Prescriptive Design of Concrete and Masonry Foundation Walls. Concrete and masonry foundation walls shall be permitted to be designed and constructed in accordance with this section, provided that they are laterally supported at the top and bottom, not subject to net hydrostatic pressures or surcharge loadings, and the backfill adjacent to the walls is not subjected to heavy compaction loads.

1807.2 Replace as follows:

1807.2 Retaining Walls. Retaining walls shall be designed in accordance with sections 1807.2.1 through 1807.2.6. The requirements of this section shall apply to any type of retaining structure or system that has any portion of its exposed face inclined steeper than one horizontal to one vertical, including conventional retaining walls, crib and bin wall systems, reinforced or mechanically stabilized earth systems, anchored walls, soil nail walls, multi-tiered systems, boulder walls or other types of retaining structures. The requirements of this section do not apply to slope facings, armor or riprap placed for the sole purpose of protection against surface erosion.

1807.2.1 Design. Retaining walls shall be designed to resist the static and seismic pressures of the retained materials, water pressures, and dead and live load surcharges to which such walls are subjected, and to ensure stability against excessive movements, overturning, sliding, excessive foundation pressure, and water uplift. Retaining walls that support an unbalanced height of retained material greater than six feet (1.83 m), and any retaining system or slope that could impact public safety or the stability of an adjacent structure shall be designed by a *registered design professional*.

1807.2.2 Design Lateral Soil Loads. Retaining walls shall be designed for the lateral soil loads set forth in section 1610, including seismic lateral pressure, or the lateral loads determined by a *registered design professional* based on a geotechnical investigation performed in accordance with section 1803.

18.00: continued

1807.2.3 Safety Factor. Retaining walls shall be designed to resist the lateral action of soil to produce sliding and overturning with a minimum factor of safety of 1.5 in each case. The load combinations of section 1605 shall not apply to this requirement. Instead, design shall be based on 0.7 times nominal earthquake loads, 1.0 times other nominal loads, and investigation with one or more of the variable loads set to zero. The safety factor against lateral sliding shall be taken as the available soil resistance at the base of the retaining wall foundation divided by the net lateral force applied to the retaining wall.

Exception: Where earthquake loads are included, the minimum factor of safety for retaining wall sliding and overturning shall be 1.1.

1807.2.4 Overall Stability. The overall global stability of a retaining wall, considering potential failure surfaces extending through the materials located below, in front of and behind the wall shall be evaluated.

1807.2.5 Discrete Elements. For retaining walls constructed of discrete elements, such as unmortared masonry, rock, boulders, or stacked modular units, the elements shall be bonded or fastened together to prevent dislodgement under static and seismic loading conditions where dislodgement of the elements could pose a risk to public safety.

1807.2.6 Wall Drainage. Retaining walls shall be designed to support a hydrostatic head of water pressure equal to the full height of the wall, unless a drainage system is provided to reduce or eliminate hydrostatic pressure on the wall. Drainage systems shall be designed with sufficient permeability and discharge capacity, and shall be provided with appropriate filters and other design features to prevent blockage due to siltation, clogging, or freezing.

1808.2 Replace the first sentence with the following:

Foundations shall be designed to provide adequate load bearing capacity while limiting settlement, heave and lateral movement to tolerable levels.

1810.1.2 Replace as follows:

1810.1.2 Use of Existing Deep Foundation Elements. Deep foundation elements left in place that have previously supported a partially or fully demolished structure may be used for support of new construction if satisfactory evidence is submitted by a *registered design professional* to the *building official* which indicates that the foundation elements have not been adversely impacted by the demolition, are structurally sound, have adequate load-bearing capacity to support the new design loads, and meet all of the requirements of this code. The load-bearing capacities of the deep foundation elements shall be determined by one of the following methods:

1. Analyses to determine the actual sustained load that the foundations supported satisfactorily in the previous structure.
2. Analyses based on documented foundation geometry and presumptive bearing value of the supporting soil, where applicable to the foundation type.
3. Load testing or re-driving performed on representative foundation elements. Records of previous pile-driving and load testing may be utilized where such records are deemed adequate by the *registered design professional*.

1810.3.2.6 Insert the following exceptions:

Exceptions:

1. Maximum allowable stress for concrete or grout in compression for elements that are cast in place without a permanent casing shall be 0.33 f'c.
2. Maximum allowable stresses for timber foundation elements shall be 80 percent of the values determined in accordance with the AF&PA NDS.