

## 11.2 Back-Filling and Compaction – Excavations shall be filled with

11.2 Back-Filling and Compaction – Excavations shall be filled with approved backfill. Approved backfill consists of either Controlled Density Fill, suitable excavated material or gravel meeting M 1.03.0 or M 1.03.1 of The Standard Specifications. The Permit Holder may select which of these three to use in the excavation. Suitable excavated material shall mean previously excavated granular material but which does not include blacktop, clay, silt, organic material, concrete, roots, boulders, or stones larger than four inches in diameter. If the hole is to be filled with suitable excavated material, a backfill course shall be placed in approximately twelve (12) inch lifts of maximum compaction to four inches below asphalt grade (See Diagrams 1, 2, and 3). A base course consisting of four inches of processed gravel or equivalent (i.e. suitable excavated material containing no stones larger than one and one half inch in diameter) shall then be placed on top of the backfill course. The backfill and base course shall be compacted to not less than ninety- five (95) percent of maximum dry density as determined by the modified Proctor Test in accordance with ASTM 1557 Method D. The Permit Holder if directed by the Awarding Authority or its Representative will retain at its expense, a professionally qualified geotechnical consultant to perform this test. The results of this test shall be given to the Superintendent of Public Works.

If Controlled Density Fill is used as back-fill material it must contain a minimum of 250 pounds of class F flyash or high air (25% plus) 108

and be self-leveling. It must be Type 1E or 2E (very flowable). Flowable fill is to be batched at a ready mix plant and is to be used at a high or very high slump (1-“-12”). In lieu of the slump test, a 6” long, 3” diameter tube may be filled to the top and then slowly raised. The diameter of the resulting “pancake” may be measured and the range of the diameter shall be 9” to 14”. It shall be flowable, require no vibration and after it is placed excavatable by hand tools and/or small machines. The ingredients shall comply with the following:

Portland cement AASHTO M85 Fly Ash AASHTO M 295 Class F Sand M 4.02.02 – ASTM C33 Air M 4.02.05

Type 1E and 2E must meet the following requirements:

Compressive 28 days 90 days Strength 30-80 psi 100psi ma. Slump 10-12 inches Air 1-30%

If Controlled Density Fill is used as back-fill material, it must fill the excavation to immediately below asphalt grade. The Contractor must then place the excavation with a heavy duty steel plate adequate to carry heavy traffic and wait twenty-four hours for the CDF to cure prior to applying the Permanent Patch.

If an excavation is back-filled with Controlled Density Fill in accordance with this By-Law, then a Temporary Patch need not be installed but a Permanent Patch may be installed immediately. Permanent Patches installed over Controlled Density Fill shall consist of four (4) inches of bituminous concrete applied in a two and one-half inch base course and a one and one-half inch top course of bituminous concrete all installed in accordance with this By-Law. If an excavation in a cement concrete Public Way is filled with Controlled Density Fill, then the provisions of paragraph 5(a) of this By-Law may be omitted, but the provisions of paragraph 5(b) and 5(c) must be complied with.

Independent reference excerpt. Consult the official town PDF for authoritative formatting and subsequent amendments.

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