GUIDELINES - STRUCTURAL FILL FOR OVER STRUCTURE AREAS

PART I - PRODUCTS

1.51 MATERIALS

A. Provide a Lightweight Structural Fill listed below that will meet the ASTM standards as follows:

3/4" Stalite Expanded Slate 100%
Angle of Internal Friction (Loose) 40 degrees
Angle of Internal Friction (Compacted) 43 – 46 degrees
Void Ratio .962
Permeability (Hydraulic Conductivity) (ASTM D2434 or D5084):
Cm/sec @20 C: 1.2E-01

Gradation

A. 3/4" STALITE Rotary Kiln Expanded Slate

1. ASTM C29 Unit Dry Weight loose (48 lb./cf to 50 lb./cf)

2. ASTM C127 Specific Gravity to meet 1.45 to 1.70, SSD

3. ASTM C330: ASTM Gradation 3/4" - #4 size

3/4" to #4

Sieve Size	% Passing
1"	100
3/4"	90 - 100
3/8"	20-50
#4	0 - 10

4. Absorption (ASTM C127) : 5% to 12%

5. Test for degradation loss using Los Angeles Abrasion testing in accordance with ASTM C-131 modified method FM 1-T096. No more than 31% of the weight of the aggregate must be lost to degradation.

Supplier
Carolina Stalite Company
Chuck Friedrich, RLA, GRP
800-898-3772

PART I I - EXECUTION

1.52 PREPARATION

A. GENERAL

1. The contractor shall obtain necessary approvals before placing the material.

2. The paving contractor shall use adequate numbers of skilled workmen who are thoroughly trained in the necessary crafts and are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.

3. The contractor must provide access for and cooperate with the testing laboratory.

4. Adequacy of the final compaction of all elements requiring compaction shall be determined in the field, by the engineer, to achieve the minimum specified compaction level.

Source: Carolina Stalite Company, Chuck Friedrich, RLA, ASLA 877-737-6284

1.53 PLACING FILL BY CONTRACTOR

A. GENERAL

1. Adequacy of the final compaction shall be determined in the field by the engineer to achieve compaction

2. The Structural Fill shall be placed in approximately ten inch uniform lifts over drainage board above the membrane of specified area of project and compact each lift. Construction equipment, other than for compaction, shall not operate on the exposed structural soil mix. Over-compaction should be avoided. After compaction no foot or equipment traffic will be allowed on the compacted material until the paving is placed.

B. COMPACTING

B.1. Use of portable vibratory plate compacting machine (Recommended)

1. Place fill in horizontal lifts not exceeding 10 inches of compacted depth. Use a minimum of two passes, of not less than 10 seconds per pass, before moving the vibratory plate to the next adjacent location. Additional passes may be required and should be determined in the field by the engineer to insure stability of the layer. Continue placing and compacting 10” lifts until the specified depth is reached.

B.2. Use of vibratory steel roller for larger areas.

1. For large spaces, a vibratory steel roller weighing no more than 12 tons static weight can be used. Horizontal lifts should not exceed 10" compacted. The minimum number of passes is two and maximum number is four. Additional passes may be required and should be determined in the field by the engineer to insure stability of the layer.

1.54 PLACING GROWING MEDIA COURSE BY PAVING CONTRACTOR

A. GENERAL

1. All necessary approvals shall be obtained from the contractor before placing the laying course

B. PLACING LAYING COURSE BY THE PAVING CONTRACTOR

1. After placing the specified filter fabric follow the procedures below:

a. Spread the mix evenly over the filter fabric area to planted or receiving pavement treatment.
b. Screed and level a final growing layer over the fill layer to achieve the thickness and grades specified on the drawings after final compaction.
c. Do not disturb the fill course once it is compacted, screeded and leveled. If the fill course is disturbed, recompact and reshape it until it meets the requirements in this section.

1.55 PAVING INSTALLATION

A. Stub out rough in conduit as specified on drawings.

B. Install the pavers or plantings as per drawings and specifications.

C. No vehicles or heavy equipment are permitted on the compacted layer course until paving is completely installed.

1.56 Paver gap fill

CA#9 Grade Stalite

Sieve Size	% Passing
#4	85-100
#8	10-40
#16	0-10
#50	0 - 5

1.57 CONCRETE PLACEMENT

Concrete can be placed as specified directly on the compacted structural Fill.