Section 1043

All stone shall meet the approval of the Engineer. While no specific gradation is required, there shall be equal distribution of the various sizes of the stone within the required size range. The size of an individual stone particle will be determined by measuring its long dimension.

Stone or broken concrete for rip rap shall meet Table 1042-1 for the class and size distribution.

<p>| TABLE 1042-1 |
| ACCEPTANCE CRITERIA FOR RIP RAP AND STONE FOR EROSION CONTROL |</p>
<table>
<thead>
<tr>
<th>Class</th>
<th>Required Stone Sizes, inches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td>A</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

No more than 5.0% of the material furnished can be less than the minimum size specified nor no more than 10.0% of the material can exceed the maximum size specified.

SECTION 1043

AGGREGATE FROM CRUSHED CONCRETE

1043-1 GENERAL

Aggregate from crushed concrete is a recycled product made by crushing concrete obtained from concrete truck clean out, demolition of existing concrete structures or pavement, or similar sources and transported from a crushing facility. It does not include concrete pavements that are rubblelized, broken or otherwise crushed in place on the roadway.

The crushed material must meet all sources approval requirements described in Sections 1005 and 1006 with the exception of the sodium sulfate test requirement. Deleterious materials shall not be more than 3%.

Sampling and acceptance for the determination of gradation, LL and PI will be performed as described in the Aggregate QC/QA Program Manual and the Aggregate Sampling Manual.

1043-2 AGGREGATE BASE COURSE

The material shall meet the ABC gradation. The LL of the material shall be raised 5 points to no more than 35.

1043-3 AGGREGATE SHOULDER BORROW

The material shall meet Section 1019.

1043-4 CLEAN COARSE AGGREGATE FOR ASPHALT

The material shall meet the gradation of a standard size in Table 1005-1. Use of the material shall be approved by the Engineer, and the mix shall meet all requirements.

1043-5 CLEAN COARSE AGGREGATE FOR CONCRETE

The material shall meet the gradation of a standard size in Table 1005-1. Use of the material is restricted to Class B concrete mixes only. Use of the material shall be approved by the Engineer, and the concrete shall meet all requirements.

SECTION 1044

SUBSURFACE DRAINAGE MATERIALS

1044-1 SUBDRAIN FINE AGGREGATE

Subdrain fine aggregate shall meet No. 2S or 2MS in Table 1005-2.
1044-2 SUBDRAIN COARSE AGGREGATE
Subdrain coarse aggregate shall meet No. 78M in Table 1005-1.

1044-3 PIPE AND FITTINGS
Pipe and fittings may be, at the option of the Contractor, either concrete, corrugated steel, bituminized fiber or corrugated plastic.

1044-4 CONCRETE PIPE AND FITTINGS
Non-perforated concrete pipe and pipe fittings shall meet AASHTO M 86 for standard strength nonreinforced concrete pipe.
Perforated concrete pipe shall meet AASHTO M 175 for standard strength perforated nonreinforced concrete underdrainage pipe.
Joint materials shall meet Section 1028.

1044-5 CORRUGATED STEEL PIPE AND FITTINGS
Non-perforated corrugated steel pipe and pipe fittings shall meet Subarticle 1032-3(A).
Perforated corrugated steel pipe shall meet AASHTO M 36.
Fabricate the corrugated steel pipe from steel sheets having a minimum thickness of 0.052".

1044-6 PVC PIPE
PVC pipe shall meet ASTM D1785.

1044-7 CORRUGATED PLASTIC PIPE AND FITTINGS
Corrugated plastic pipe and fittings shall meet AASHTO M 252 for heavy duty tubing, except that the maximum stretch resistance shall be 10%.

1044-8 OUTLET PIPE
Outlets constructed of PVC Schedule 40 pipe shall meet ASTM D2665. HDPE pipe shall meet AASHTO M 294, Type S.

SECTION 1046
GUARDRAIL MATERIALS

1046-1 GENERAL
Use guardrail materials from sources meeting requirements of the Department’s Brand Registration Program for guardrail. A list of these sources is available from the Materials and Test Unit’s Central Laboratory. The Department will remove a manufacturer of guardrail materials from this program if the monitoring efforts indicated that non-specification material is being provided or test procedures are not being followed.
The following types of guardrail materials and all associated accessories may be accepted under this program: rail elements, posts and offset blocks, terminal sections, anchor units, transition sections and hardware.

1046-2 RAIL ELEMENTS
The rail element and terminal sections shall meet AASHTO M 180 for Class A, Type 2.

1046-3 POSTS AND OFFSET BLOCKS
(A) General
(1) The Contractor may furnish any one of the following types of steel guardrail posts. Only one type of post will be permitted at any one continuous installation.