SECTION 02231
AGGREGATE BASE COURSE

PART 1 -- GENERAL

1.01 WORK INCLUDED

A. Aggregate base course.

1.02 RELATED SECTIONS

A. Section 02050 - Excavation, Demolition and Disposal

B. Section 02223 - Backfilling

C. Section 03300 - Concrete

1.03 REFERENCES

A. AASHTO M147-65 - Materials for Aggregate and Soil Aggregate.

B. ASTM C1 36 - Sieve Analysis of Fine and Course Aggregates.

C. ASTM D 698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb rammer and 12 inch drop.

D. ASTM D 1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.


1.04 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Samples: Submit 10 lb sample of each type of aggregate to testing laboratory.
PART 2 -- PRODUCTS

2.01 MATERIALS

A. Coarse Aggregate: Crushed stone; free of shale, clay, friable materials and debris; graded in accordance with ADOT&PF, Subsection 703-2.03 Table 702-2, D-1, within the following limits:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/2 inches</td>
<td>---</td>
</tr>
<tr>
<td>1 inch</td>
<td>100</td>
</tr>
<tr>
<td>3/4 inch</td>
<td>70 to 100</td>
</tr>
<tr>
<td>3/8 inch</td>
<td>50 to 80</td>
</tr>
<tr>
<td>No. 4</td>
<td>35 to 65</td>
</tr>
<tr>
<td>No. 8</td>
<td>20 to 50</td>
</tr>
<tr>
<td>No. 40</td>
<td>8 to 30</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 to 6</td>
</tr>
</tbody>
</table>

B. In addition, aggregate shall meet the following requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Test Method</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Wear</td>
<td>AASHTO T 96</td>
<td>50 max</td>
</tr>
<tr>
<td>Degradation Value</td>
<td>ATM T-13</td>
<td></td>
</tr>
<tr>
<td>Percent Fracture</td>
<td>ATM T-4</td>
<td>70 min</td>
</tr>
</tbody>
</table>

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Verify subbase has been inspected, gradients and elevations are correct and are dry.

3.02 AGGREGATE PLACEMENT

A. Spread course aggregate over prepared subbase to the total designed thickness.

B. Place course aggregate in 4 inch layers and compact.

C. Level and contour surfaces to elevations and gradients indicated.

D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

E. Compact placed aggregate materials to achieve compaction to 95 percent of its maximum dry density in accordance with ASTM D1557.

F. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
G. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.

3.03 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

B. Scheduled Compacted Thickness: Within 1/4 inch.

C. Variation from True Elevation: Within 1/2 inch.

3.04 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01400.

B. Gradation of Aggregate: In accordance with ASTM C136.

C. Compaction testing will be performed in accordance with ASTM D1556 and with Section 01400.

D. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to the Department.

E. Frequency of Tests: Refer to Section 01400, Quality Control.

END OF SECTION