

## **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.
- E. ASTM D 1557 - Test Method for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb rammer and 18 inch drop.
- F. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

##### 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:

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

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

Percent of Wear	AASHTO T 96	50 max
Degradation Value	ATM T-13	45 min.
Percent Fracture	ATM T-4	70 min.

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