

# WSDOT Standard Practice QC 12 (ASA)

## Standard Practice for Evaluation of Aggregate Sources

### 1. Scope

The standard specifies procedures for approval of aggregate sources. This standard may involve hazardous, operations and equipment. It does not address all of the safety problems associated with their use. It is the responsibility of those using this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### 2. Referenced Documents

#### 2.1 AASHTO Standards

- 2.1.1 M 6 Standard Specification for Fine Aggregate for Hydraulic Cement Concrete
- 2.1.2 M 80 Standard Specification for Coarse Aggregate for Hydraulic Cement Concrete
- 2.1.3 R 18 Standard Recommended Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories
- 2.1.4 T 2 Standard Method of Test for Sampling of Aggregates
- 2.1.5 T 11 Standard Method of Test for Materials Finer Than 75- $\mu\text{m}$  (No. 200) Sieve in Mineral Aggregates by Washing
- 2.1.6 T 21 Standard Method of Test for Organic Impurities in Fine Aggregate for Concrete
- 2.1.7 T 27 Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregate
- 2.1.8 T 71 Standard Method of Test for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
- 2.1.9 T 176 Standard Method of Test for Plastic Fines and Graded Aggregates and Soils by Use of the Sand Equivalent Test
- 2.1.10 T 84 Standard Method of Test for Specific Gravity and Absorption of Fine Aggregate
- 2.1.11 T 85 Standard Method of Test for Specific Gravity and Absorption of Coarse Aggregate
- 2.1.12 T 96 Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- 2.1.13 T 112 Standard Method of Test for Clay Lumps and Friable Particles in Aggregate
- 2.1.14 T 113 Standard Method of Test for Lightweight Particles in Aggregate
- 2.1.15 T 303 Standard Method of Test for Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction

## 2.2 ASTM Standards

- 2.2.1 C 1567 Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated=Mortar-Bar Method)
- 2.2.2 C 1293 Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction

## 2.3 WSDOT Standards

- 2.3.1 *Standard Specifications for Road, Bridge, and Municipal Construction* M 41-10
- 2.3.2 *Materials Manual* M 46-01
- 2.3.3 WSDOT Test Method T 113 Method of Test for Determination of Degradation Value

## 3. Terminology

- 3.1 AASHTO – American Association of State Highway and Transportation Officials
- 3.2 ASA – Aggregate Source Approval data base
- 3.3 ASR – Alkali Silica Reactivity
- 3.4 Department – The Washington State Department of Transportation
- 3.5 QAP – Quality Aggregate Program
- 3.6 QC – Quality Control
- 3.7 QCP – Quality Control Plan
- 3.8 SE – Sand Equivalent
- 3.9 Sp. G. – Specific Gravity
- 3.10 WAQTC – Western Alliance for Quality Transportation Construction

## 4. Significance and Use

This standard specifies procedures for approval of aggregate sources.

## 5. Sources requesting entry into the QAP

- 5.1 Submit QCP per QC 11 and payment.
  - 5.1.1 To initiate submittal process contact the ASA Engineer at 360-709-5442
  - 5.1.2 Payment may be by check mailed to 1655 S 2<sup>nd</sup> Ave SW, Tumwater, WA 98512 or by credit card through website <http://www.wsdot.wa.gov/Business/MaterialsLab/Materials-Evaluation-Program.htm>
  - 5.1.3 Once payment is received and processed the QCP will be reviewed.
- 5.2 If the QCP is not accepted, it will be returned with comments noting concerns and deficiencies where it does not meet the requirements of QC 11
- 5.3 If QCP is accepted and payment is received, the Department will sample the stockpile of Materials and test materials for Washington Degradation, Los Angeles wear, Specific gravity, and SE or ASR if applicable. The stockpile must be at least 10 tons.
- 5.4 If passing results are obtained the source will be listed in the ASA.
- 5.5 On annual basis, the aggregate source will follow their accepted QCP and submit it to the Department by email to [ASA2@WSDOT.WA.GOV](mailto:ASA2@WSDOT.WA.GOV) by January 31<sup>st</sup>. The data to be submitted is LA Wear and Sp. G. All other QC tests will be kept at the Aggregate source suppliers QC office. Copies of these tests should be sent to the Project Engineer Office, when supplying WSDOT Contracts.
- 5.6 The Aggregate source shall contact the Department, State Materials Laboratory to make a request to be resampled on the interval established by the Department, up to a maximum interval of five years per Section 5.4.
- 5.7 The sources listing on the ASA will be suspended, if:
  - 5.7.1 If the data submitted under the QCP does not indicate compliance with *Standard Specifications* Section 9-03.
  - 5.7.2 If the Departments' tests do not indicate compliance with *Standard Specifications* Section 9-03.
  - 5.7.3 If the aggregate source does not make payment for renewal sampling at testing.

## 6. Aggregate Sources not in QAP

- 6.1 To initiate submittal process contact the ASA Engineer at 360-709-5442
- 6.2 Payment may be by check mailed to 1655 S 2<sup>nd</sup> Ave SW, Tumwater, WA 98512 or by credit card through website [www.wsdot.wa.gov/Business/MaterialsLab/Materials-Evaluation-Program.htm](http://www.wsdot.wa.gov/Business/MaterialsLab/Materials-Evaluation-Program.htm)
- 6.3 Once payment is received, the Department will sample the stockpile of Materials and test materials for Washington Degradation, Los Angeles wear, Sp. G., and SE or ASR if applicable. The minimum of 10 ton stockpile is required for the department to perform sampling and testing.
- 6.4 If passing results are obtained, the source will be listed in the ASA, for maximum of two years.
- 6.5 In order to continue listing on ASA, aggregate source must enter the QAP.