

ODOT Fine Aggregate Source Approval Policy

1. Scope:

Fine aggregates comprise a large quantity of the aggregates used in transportation projects. Fine aggregates may have different test requirements and specifications depending on their use. Fine aggregate uses, specifications and test requirements can be found in the ODOT Standard Specifications for Highway Construction and in any pertinent special provisions. An aggregate source must be approved by the ODOT Materials Division before it can be incorporated into ODOT projects. Approved fine aggregate sources will be monitored by the ODOT Materials Division by an ongoing system of random sampling and testing. Acceptance of fine aggregates at the project level is based primarily on gradation testing of aggregate from an approved source, at frequencies defined by the Resident Engineer. This policy describes the approval process for fine aggregate sources.

2. Background:

For the purposes of this approval policy, fine aggregates used in transportation projects can be divided into two broad categories.

- Fine aggregates used in materials that also contain Portland cement (Section 701 of the ODOT Standard Specifications). Fine aggregate in this category will be approved using the procedure described in sections 3 and 4.
- Fine aggregates used in all other applications will be approved using the procedure in section 5.

3. Preliminary Assessment:

The fine aggregate source is responsible for employing the services of a Construction Materials Laboratory (CML) that is accredited by the AASHTO Accreditation Program (AAP). The CML shall be accredited in the specific test procedure described in appendix A, "Instructions for CML". A list of current AASHTO accredited laboratories is available on the [AASHTO re:source website](#). Under the [Accreditation Directory](#), enter the laboratory name or location to find a specific lab and a listing of the accredited procedures for that lab. The CML shall be familiar with ODOT material specifications and testing requirements. The fine aggregate source is responsible for furnishing a copy of this policy, including Appendix A, to the CML in order to ensure it is aware of its responsibilities and requirements when conducting their portion of the preliminary assessment.

The fine aggregate source shall process sufficient material to produce a stockpile of standard sized material that is representative of the fine aggregate that is to be produced from that source. A typical sized fine aggregate should meet the requirements of section 701.05 of the 1999 ODOT Standard Specifications for Highway Construction.

The CML shall follow the instructions outlined in Appendix A when conducting its sampling and testing for the preliminary assessment. The CML shall submit a copy of the report with test results directly to the office of the [ODOT Materials Division Engineer](#).

4. Final Approval:

The final approval is the responsibility of the ODOT Materials Division and consists of a review of the submitted CML report and supplemental testing by ODOT. Laboratory test results from the preliminary assessment will be compared to aggregate material specifications. If the lab testing indicates a sufficient material quality, the Materials Division will make a site visit, obtain samples and begin supplemental testing. Some fine aggregate specifications have testing requirements in addition to the tests performed in the preliminary assessment. The types of additional testing will be based on the proposed uses of the aggregate. Final approval for specific uses of the fine aggregate source will be based on information provided during the preliminary assessment and on results from any additional laboratory testing by ODOT.

5. Simplified Approval Process for Fine Aggregate:

It is recognized that fine aggregates used in certain applications do not have an extensive set of material specification requirements and can come from locally available sources. In these situations extensive laboratory testing would be unnecessarily expensive and time consuming for making an approval decision. Test samples for these fine aggregates shall be made far in advance of the anticipated material use to ensure the laboratory has sufficient time for testing and evaluation.

Fine aggregates used for filter sand and class B standard bedding material will be approved by the Resident Engineer. Fine aggregates used in asphaltic concrete will be approved during the mix design approval process.

Appendix A

Instructions for Construction Materials Laboratory (CML)

Preliminary Assessment: Fine Aggregate

A fine aggregate producer (pit) interested in getting their material qualified for use in ODOT projects is required to hire a CML to conduct a preliminary assessment of the quality of the aggregate. The intent of this document is to describe the sampling and testing requirements that as a minimum must be completed to meet the requirements of the preliminary assessment. For the purpose of the preliminary assessment of fine aggregates, the CML shall have sufficient experience and knowledge to be proficient in the test methods described below. ODOT reserves the right to ascertain the proficiency of a CML in the test methods. The CML shall be accredited by the AASHTO Accreditation Program (AAP) for the procedures listed.

The CML shall sample a representative quantity of aggregate from a stockpile at the pit. The producer may submit the sample to the CML for testing. If the sample is submitted by the producer it should be noted in the final report. Enough material shall be obtained so a split sample remains (untested) for subsequent examination and testing by ODOT if deemed necessary. A test report shall be submitted by the CML directly to the office of the Materials Division Engineer. The report shall contain as a minimum all of the information listed in Table 6 (items a - j) of AASHTO R 18. The report shall contain a visual description of the material addressing any visual observations, deleterious substances, or unusual test results. A copy of these instructions and the accompanying cover letter should be included with the report. The list of test procedures given below are a minimum, and may need to be supplemented by other testing as deemed necessary based on visual observations or test results.

Required Tests:

T 2	Standard Practice for Sampling Aggregates
R 76	Reducing Samples of Aggregate to Testing Size
T 11/ T 27	Sieve Analysis
T 84	Specific Gravity and Absorption of Fine Aggregate (Report the Bulk Specific Gravity - SSD, and Absorption)
T 112	Friable Particles
T 21	Organic Impurities
T 104	Soundness of Aggregate by Sodium Sulfate or Magnesium Sulfate

Revision History:

3/5/2015: Changed all instances of “Materials Engineer” to “Materials Division Engineer” and all instances of “Materials Division” to “Materials Division”. Changed “Materials Division Engineer” hyperlink (located at end of section “3. Preliminary Assessment”) to new URL. Changed wording of the fourth sentence (fifth line) under section “3. Preliminary Assessment” from “Choose the AASHTO R18 link under the Accreditation Directory” to “Under the Accreditation Directory, enter the laboratory name or location” and made “Accreditation Directory” a hyperlink. Changed “(AMRL) website” hyperlink (located under section “3. Preliminary Assessment”), to new URL.

4/27/2015: Changed “Materials Division Engineer” hyperlink (located at end of section “3. Preliminary Assessment”) to new URL.

6/24/2016: Changed “Materials & Research Division Engineer” instances to “Materials Division Engineer” and “Materials & Research Division” instances to “Materials Division”.

7/7/2016: Updated “Materials Division Engineer” hyperlink (located at end of section “3. Preliminary Assessment”) to current URL.

10/18/2016: Changed “AASHTO Materials Reference Laboratory (AMRL) web site” to “AASHTO re:source website” and made “AASHTO re:source website” a hyperlink to go to the current URL. Also updated “Accreditation Directory” hyperlink to the new URL (all located near the middle of the paragraph of section “3. Preliminary Assessment”). Changed “T 248” to “R 76” due to reclassification of the test procedure by AASHTO (located in the second row of the table named “Required Tests” of “Appendix A”).

1/13/2021: Changed “ODOT Materials Division Engineer” hyperlink (located at end of section “3. Preliminary Assessment”) to new URL.