



*****GENERAL REWRITE - PLEASE READ CAREFULLY.*****

APPROVED PRODUCER PROGRAM AND CERTIFIED AGGREGATES

APPROVED PRODUCER PROGRAM

In order to furnish certified aggregates to projects, an aggregate producer shall be on the approved aggregate producer listing (Appendix B, attached). This will also apply to recycled product yards and/or processors. The specific requirements, including the details of the required quality control program are in Appendix A (attached).

Specification limits for aggregates being produced are found in Appendix C and D. For complete details on aggregate quality and gradation requirements, refer to the appropriate referenced specification.

Non-compliance to the approved Producer Quality Control Program shall constitute grounds for the source and/or producer to be placed on conditional status by the District Materials Engineer. Continued non-compliance will be considered sufficient grounds to remove the producer from the Approved Producer List.

Appendix E contains the "Notification of Violations of the Approved Producer's Quality Control Program". This is a written notice from the District Materials Coordinator or District Materials Engineer to a Producer identifying violation(s) of the Producer's Quality Control Program or requirements of the Approved Producer Program. A written response is required from the Producer describing how the violation occurred, how the violation will be rectified, and what will be done so the violation will not occur or continue to occur in the future.

An Aggregate Review Board will meet, as needed, for disciplinary actions and appeals involving Approved Producers.

The Aggregate Review Board shall consist of:

- The State Materials Engineer
- The Chief Materials Geologist

CERTIFIED AGGREGATES – SAMPLING AND TESTING

The Aggregate Producer shall be responsible for source product quality control. Aggregate quality will be determined by testing samples secured by District Materials personnel. This will not relieve the producer or supplier of their responsibility for quality of the material. Producers must meet the responsibilities outlined in *Guidelines for Aggregate Producer Quality Control Program*, IM 209 Appendix A.

Not less than 24 hours before start up, or as soon as possible for a production change, the appropriate District Materials Engineer shall be notified. The notification shall include the estimated daily production and total production, the intended use (project or warehouse stock), production

production ledge(s) if applicable, and responsible person(s). Failure to notify may result in additional quality sampling and testing, or rejection of the material.

Aggregates to be used in highway construction projects shall be subject to sampling and testing, including Producer Quality Control (QC) sampling and testing. Sampling and testing shall be performed during production in accordance with the minimum frequencies listed in the table below.

TABLE 1. SOURCE SAMPLING AND TESTING REQUIREMENTS

Sample Type	Producer Quality Control Testing Frequency	Iowa DOT Verification Testing Frequency
Proportioned Aggregates		
Gradation	1/1500 T ⁽¹⁾ minimum	1/18,000 T ⁽²⁾
Quality	1/12,000 T or 1/month, whichever is more frequent ⁽³⁾	1/12,000 T or 1/month, whichever is less frequent ⁽²⁾
Non-Proportioned Aggregates		
Gradation	1/3000 T ⁽¹⁾ minimum	1/18000 T ⁽²⁾
Quality	1/12,000 T or 1/month, whichever is more frequent ⁽³⁾	1/12,000 T or 1/month, whichever is less frequent ⁽²⁾

Notes:

- 1 Additional QC testing may be required at the time material is shipped to a project, for a stockpiled material carried over a winter season or if there is evidence of segregation, contamination, or degradation.
- 2 May be adjusted by the DME for source specific needs.
- 3 When required by the DME for sources where historic quality test results have approached or exceeded the specification limits (IM 307, 344, and 368).

A. Producer Quality Control Sampling & Testing

Producer QC sampling and testing personnel, laboratories, and equipment shall be qualified in accordance with the Iowa DOT Technical Training & Certification Program (IM 213) and the Materials Laboratory Qualification Program (IM 208). If Producer gradation test results are used as part of an acceptance decision, they will be evaluated under the Independent Assurance Program.

It is recommended that a Producer Quality Control Program include quality control testing to assist with ledge control and pit quality. Such tests may include: specific gravity (IM 307), clay lumps and friable material (IM 368), or shale in fine aggregate (IM 344). If historic data from a source indicate that quality test results approach or exceed specification limits the Engineer

may require specific data be provided by the aggregate producer or supplier to the Iowa DOT (obtained by qualified persons and procedures). These data may include those tests listed above. See Table 1 for frequencies.

B. Iowa DOT Verification Sampling & Testing

The District Materials Office will be responsible for monitoring the Producers Quality Control Program. Verification of quality and gradation is through independent sampling and testing. Verification sampling and testing is done by Agency personnel. Agency sampling and testing personnel, laboratories, and equipment will be qualified in accordance with the Iowa DOT Technical Training & Certification Program (IM 213) and the Materials Laboratory Qualification Program (IM 208).

When requested by the Agency, Producer or Contractor personnel shall assist with the sampling as directed and witnessed by the certified Agency personnel. The sample location and time will be randomly selected by the Agency (except when noted elsewhere) and will only be given to the Producer immediately prior to sampling. To maintain the integrity of the sample, it will be transported by Agency personnel or secured by a tamper proof method and transported by the Producer. The Agency may spilt the verification sample and give a portion to the Producer.

Verification gradation test results, when non-complying, will normally be provided to the Producer within 3 working days of sampling.

At no time will the District Materials Office representative issue directions to the producer. However, the representative will have authority and responsibility to question and where necessary reject any operation, which is not in accordance with the Specifications, Special Provisions, and Instructional Memorandums.

C. Validation of Test Results

The verification gradation test results will be compared to the QC test results to validate the QC results for non-proportioned aggregate. Validation is based on the verification test results being within the specification limits. When the QC test results cannot be validated, the dispute resolution process will be used. Material shall not be shipped from the stockpile until the dispute is resolved. **NOTE:** Verification test results may be used solely for acceptance. When verification test results are used solely for acceptance, the acceptance criteria is Article 4109.

D. Dispute Resolution System

Validation disputes arising between the Contracting Agency and the Producer or Contractor will be resolved in a reliable, unbiased manner usually within two weeks of notification of a dispute. If necessary, an evaluation will be performed by the Iowa DOT Central Materials Laboratory. Resolution decisions by the Iowa DOT Central Materials Laboratory will be final.

Unless specified elsewhere, the District Materials Engineer will select some or all of the following steps for the dispute resolution:

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1. Perform a comparison between the verification result and QC result(s) for the same time period (If the QC sample is from a split with the verification sample, also compare the previous independently taken QC result). Use the tolerances in IM 216. If the results are within the tolerance, validation is achieved.
 2. Check all numbers and calculations.
 3. Isolate material in dispute and begin a new stockpile. Resample stockpile material in dispute.
 4. Perform tests on split obtained by Agency personnel.
 5. Review past proficiency and validation data.
 6. Review sampling and testing procedures.
 7. Check equipment operation, calibrations and tolerances.
 8. In the event of multiple validation failures for a source, the DME may use F-test and t-test statistical methods to compare the set of QC results with the set of verification results. A 0.05 level of significance will be used and a set of at least 5 verification test results.
 9. Involve the Central Materials Laboratory.

If the discrepancy cannot be resolved using the steps listed above then the Agency test results will be used for the acceptance decision for that lot.

E. Small Quantities

Verification sampling and testing may be waived by the DME for product quantities of less than 2000 tons. For quantities of less than 200 tons of non-critical aggregate, the DME may waive QC testing and approve the stockpile based on a visual inspection by the DME or the Engineer.

CERTIFIED AGGREGATES – DOCUMENTATION

A. Producer Test Documentation

All producer test results performed on certified aggregates, whether compliant or non-compliant, shall be reported weekly or as designated to the District Materials Engineer on Form #821278. These reports shall indicate whether the aggregate is being produced for direct project delivery, stockpiling for a specific project, or for advance warehouse stock.

Selected production limits shall be included on Form #821278.

Production limits for aggregate produced for use in HMA or PCC mix designs are generated by the contractor and supplied to the aggregate producer on Forms #955 and #955QMC respectively.

B. Certified Aggregate Delivery Documentation

Documentation may be accomplished by numbered truck ticket, transfer list or shipment statement (such as Form #821278), or by a bill of lading (for rail or barge shipments). The certified documentation shall be furnished to project inspection personnel or receiving contractor before material is incorporated.

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- For aggregates as bid items measured by weight (mass), the certified truck tickets shall be numbered and include signatures or initials in accordance with Article 2001.07.
 - A “secure electronic signature” as defined by IM 209 Appendix G may be acceptable for certification of truck tickets in lieu of an original signature.
 - In the case of shipment by rail or barge, the documentation shall be sent to the project engineer and receiving contractor or ready mix operator no later than the same day as shipment source departure. The documentation shall include the rail car or barge number(s).
 - Documentation not having an exact weight (mass) shall include an estimated quantity (i.e. transfer listings or Form #821278, etc.).
 - Summary quantity documentation shall also be provided for non-proportioned aggregates. The summary documentation shall be signed, include the type of material and source, the total quantity, and the project number and the gradation results. **NOTE:** District 2 will provide gradation results to the project instead of the producer.

The following certification statement is required to be on the document used to certify the material being delivered (i.e. truck ticket, Form #821278, etc.): “**This is to certify the material herein described meets applicable contract specifications.**” **NOTE:** This certification statement shall be signed or initialed by an authorized representative of the aggregate supplier.

To ensure proper identification of delivered aggregates, the following additional information is required on the certification document:

Proportioned Aggregate

When the aggregate represented is for use in HMA or PCC mixtures, the project number is preferred when practical, as in the case when shipping to a single project paving plant site, and not required when impractical, as in the case when shipping into warehouse stock at a ready mix plant or when shipping to a plant supplying material to multiple projects.

PCC Aggregate: Gradation number, quantity, source name or T203 A-number, production beds (for quarried stones) and the delivery date. **NOTE:** For aggregate being delivered for use in a Concrete Design Mixture (CDM), the product size is required in lieu of the Iowa DOT gradation number.

HMA Aggregate: Product size, quantity, source name or T203 A-number, production beds (for quarried stones), and delivery date.

Non-proportioned Aggregate

Iowa DOT gradation number, project number, quantity, source name or T203 A-number and the delivery date. **NOTE:** Documentation for revetment stones shall include production beds.

REHANDLING OF CERTIFIED AGGREGATES

When certified aggregates are rehandled the District Materials Engineer shall be notified and afforded the opportunity to monitor the re-handling procedure.

For the purpose of this IM, re-handling is meant to include the physical unloading and reloading of aggregate at a temporary storage site before the aggregate is delivered to its final destination. Rehandled certified aggregates may be required to be re-tested, with or without re-weighing and recertified on a numbered shipment ticket with proper identification and certification statement.

ACCEPTANCE

At the Contractor's and Producer's own risk, aggregates may be certified for project use before quality sample test results are reported based on the following:

- Complying Quality Control and Verification gradations
- Documentation of consistent previous compliance to specified quality requirements from the source or ledge.

A. Proportioned Aggregate

In the case of HMA or PCC proportioned aggregates, acceptance tests will be performed on verification samples obtained at the proportioning plant.

Certified proportioned aggregate may be incorporated into a project on the basis of the certified truck ticket, certified bill of lading, shipment listing, certified transfer listing or Certified Gradation Test Report (Form #821278).

A file of certified shipment or transfer documents for the HMA or PCC proportioned aggregate will be maintained by the contractor or ready mix operator and made available for inspection at each plant or project site during the project period. Project inspection personnel shall verify that all material incorporated in the project is properly certified and document this verification and quantity on each of the appropriate daily or periodic construction reports. No other project documentation for the incorporated aggregate is required.

B. Non-Proportioned Aggregate

Acceptance of non-proportioned aggregates will be based on proper certification, visual examination by the contracting authority to ensure against obvious contamination or segregation, Producer quality control test results, and Agency verification test results.

Minor quantities of non-critical aggregates may be visually inspected by the contracting authority and recorded in the project field book. Quantities less than 200 Mg (ton) are considered minor. An example of a non-critical aggregate is a non-proportioned aggregate such as granular backfill material for bridge abutments.

C. Independent Assurance Program (IAP)

If Producer QC test results are used in the acceptance decision for non-proportioned aggregate, each certified technician who performs the QC sampling or testing and their test equipment will be independently checked by Iowa DOT certified technicians (IAP personnel) as per Materials IM 205 at least once per year. IAP personnel must not be involved in gradation verification testing for the aggregate source being tested.

IAP personnel will witness the Producer technician taking a random sample and splitting that sample. The splits of the sample will be tested by the Producer's technician and by the Iowa DOT District Laboratory. District Laboratory IAP testing equipment must not be the same equipment that is used for gradation verification for that source.

The results will be compared using IM 216. If acceptable correlation is not found, IAP personnel will contact the Producer's technician and review the results for the following:

1. Check for recording, weighing, or calculating errors.
2. Check to see that the balance is working correctly.
3. Check the sieves for damage or out of tolerance openings.
4. Check for overloading of sieves.
5. Check for incomplete sieving.
6. Resolve any problems, repeat the sampling, splitting, and observe the testing of a new sample.

The IAP results are not to be used in the acceptance decision for the material. Any non-complying IAP results should result in a visit by the Iowa DOT inspector responsible for verification testing at that location.

This method of IAP is called a System Approach and requires the Iowa DOT to report a summary of the results annually to the FHWA. Document when the Producer's Technician was visited, which Producer's laboratory was used, the results, and any follow-up if required. This documentation should be retained in the event of an FHWA audit.