

**STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT 1069  
PREQUALIFIED AGGREGATE SUPPLIER PROGRAM**

**July 20, 2012**

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**1069.01 Description.** This supplement defines the requirements for prequalified suppliers who will provide aggregate materials to the Ohio Department of Transportation conforming to the requirements of the Construction and Material Specifications. Prequalified suppliers will conform to this supplement, ODOT specifications and Department written instructions. This supplement does not change or revise applicable ODOT, ASTM or AASHTO aggregate materials specifications.

If providing aggregate from either a raw material source, an intermediate supply point, or storage area, conform to this supplement's requirements. All aggregate material supplied to ODOT, either directly or indirectly to a contractor or subcontractor will be furnished by prequalified suppliers.

## **1069.02 Definitions**

**AASHTO.** American Association of State Highway Transportation Officials

**ACI.** American Concrete Institute

**ASTM.** American Society for Testing and Materials

**Critical Sieve.** The sieve determined by the Department to be the most important to control the overall gradation consistency of an aggregate material.

**Home District.** One of the Department's twelve (12) district offices assigned by the central office to manage a producer or supplier's quality control plan.

**QCP.** Quality Control Plan

**QCR.** Quality Control Representative

**ODOT.** Ohio Department of Transportation

**OAIMA.** Ohio Aggregates and Industrial Minerals Association

**Laboratory.** Office of Materials Management.

**Round Robin Tests.** A statistical comparison of all testing agencies' capabilities by using the individual test results of each participating agency compared to the results of all participating agencies.

**Sitemanager.** Software consisting of a series of forms or templates used by the Department to enter contract and construction data into a centralized database and access contract and construction data from a centralized database.

**Supplier.** Redistribution yards taking ownership of aggregate materials at an intermediate storage site.

**Producer.** A manufacture of aggregate material(s) who mines, processes, and sells aggregate material(s) at the same location.

**Test Results.** All pencil data, hand generated or computer generated values that represent the data used to establish a quality control test. Tests include any required under the accepted QCP, deficient materials tests, round robin testing, quality assurance comparison results or any other tests required under or by this program.

**Training, Level I.** Successful completion of the ODOT/OAIMA level I training.

**Training, Level II.** Successful completion of the ODOT/OAIMA level II training.

**Training, Level III.** Successful completion of the ODOT/OAIMA level III training.

**User District.** The ODOT district receiving the aggregate or where the project is located.

**Quality Assurance Tests (QA).** Tests obtained by the Department to assess and verify the production, stockpiling, and loadout processes of the Producer or Supplier.

**Quality Control Tests (QC).** Tests obtained by the Producer or Supplier to assess and adjust production, stockpiling, and loadout processes so as to control the level of quality being produced in the end product.

**Private Laboratories.** Testing facility meeting the requirements of 1069.07.

**Administrator.** The Administrator of the ODOT Office of Materials Management.

**Special Aggregate Size.** Coarse or fine aggregate manufactured to the gradation limits defined by the Producer or Supplier for asphalt and concrete use.

**1069.03 General Prequalification Requirements.** If providing aggregate as a producer or supplier, conform with this supplement's requirements to become prequalified. Prequalification will require Level I and II training and certification and may include Level III training and certification.

**1069.04 Testing Facility.** Provide testing facilities large enough for all required quality control tests specified in the QCP. Provide the facility with adequate lighting, good ventilation, adequate water supply, and a suitably heated work area for cold weather. Temporary facilities are acceptable if totally enclosed.

#### **1069.05 Testing Facility Equipment Requirements**

A. To meet Level II testing requirements provide the following equipment:

Scales/balances adequate to handle sample size and accuracy, and meeting ODOT S1004

Mechanical splitters conforming to AASHTO T248

Mechanical sieving equipment conforming to AASHTO T27

Wire cloth sieves meeting ASTM E-11.

Drying equipment meeting AASHTO T27 and ODOT supplement S1004 (microwave drying equipment is acceptable if correlations have been run with standard ovens).

B. If Level III tests listed in 1069.06.B are being performed, provide suitable equipment required to run the tests. The Department will evaluate and accept the equipment.

Maintain all aggregate sampling and testing equipment in good working order. Annually perform equipment verification and calibration. Record equipment verification and calibration work on Department forms or on forms approved by the Department. Maintain equipment verification and calibration forms for a minimum of 5 years.

**1069.06 Testing Personnel Requirements.** Provide trained personnel conforming to the following requirements:

A. Minimum Requirements:

All samplers will successfully complete ODOT/OAIMA level I.

All personnel performing testing will successfully complete ODOT/OAIMA level II. Level II certification covers the following test procedures:  
Sieve Analysis (S1004 and S1005)  
Fracture Count (ASTM D-5821)

B. Requirements to perform Level III tests

Meet all requirements of Level I and II training and certification. Successfully complete Level III training and become proficient in one or more of the listed Level III test procedures. The Department will determine proficiency.

Sand Equivalency (AASHTO T-176)  
Fine Aggregate Specific Gravity (AASHTO T-84)  
Coarse Aggregate Specific Gravity (AASHTO T-85)  
Sodium Sulfate Soundness (AASHTO T-104)  
Flat and Elongated (ASTM D-4791)  
Fine Aggregate Angularity (AASHTO T-304)  
Los Angeles Abrasion (AASHTO T-96)  
Micro-Deval (AASHTO T-327)  
Deleterious Material (S1029)  
Organic Impurities (AASHTO T-21)

C. ODOT Level I, II, and III certifications and proficiencies will be maintained by OAIMA and be valid for a period of five years. OAIMA will post a listing of certified and proficient technicians on their website ([www.oaima.org](http://www.oaima.org)).

**1069.07 Use of Private Laboratories.** Producers or Suppliers may use private laboratories to fulfill Level II and III testing requirements. Private laboratories will meet all applicable requirements of this supplement and will hold AASHTO Accreditation for each required test. Testing personnel will conform to 1069.06. Private laboratories will provide ODOT complete access to items specific to Supplement 1069.

**1069.08 Submittal Requirements.** Submit a letter to the Administrator requesting inclusion into the program and signed by a representative having the legal authority to bind the company to all the requirements of this certification program. Provide a copy of the total submittal to the home district. Include:

- A. The legal name of the producer or supplier.
- B. Location and address of the producer where the aggregate is produced. Location and address of the supplier where the aggregate will be intermediately stockpiled and sold from if other than the production location.
- C. A statement that the producer or supplier understands the requirements of being prequalified including conformance with this supplement.
- D. A Quality Control Plan (QCP) meeting 1069.09.

**1069.09 Quality Control Plan (QCP).** Establish a QCP. Develop the QCP to aid in producing uniform, specification quality materials. Include at least the following in the QCP:

A. Identify what tests will be performed, what frequency they will be performed, and where the samples will be obtained. The Department’s minimum frequencies are shown in the following table.

**TABLE 1069.09-1  
MINIMUM AGGREGATE SAMPLING AND TESTING FREQUENCIES**

<b>Test Type</b>	<b>Producer / Contractor Testing</b>		<b>Department Testing</b>
	<b>Production QC</b>	<b>Load-out QC</b>	<b>QA</b>
Coarse Aggregate Gradation (T27)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Fine Aggregate Gradation (T27)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
P-200 Wash (T11)	[1]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Dense Graded Aggregate Gradation (S1005)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Fracture Count (D5821) – Coarse Aggregate (gravel)	[1]	3 tests a year <sup>[3]</sup>	1 test every 10,000 tons shipped to ODOT
Fracture Count (D5821) – Dense Graded Aggregate (gravel)	[1]	3 tests a year <sup>[3]</sup>	1 test every 10,000 tons shipped to ODOT
Specific Gravity (T85) – Coarse Aggregate	[1]	4 tests a year <sup>[3]</sup>	1 test annually
Specific Gravity (T84) – Fine Aggregate	[1]	4 tests a year <sup>[3]</sup>	1 test annually

<sup>[1]</sup> Production testing is not required, but recommended to help ensure a consistent aggregate product.

<sup>[2]</sup> Production testing is required; the frequency of testing is established by the producer.

<sup>[3]</sup> The Department will notify supplier when gravity testing and fracture count testing is to be performed. The supplier will respond with gravity test results within 30 working days.

B. Procedures for reporting to the home district and the Laboratory any major events, including plant start up and changes that could affect quality. Describe quality control procedures for dealing with these major events.

C. Procedures for analyzing quality control test results to ensure quality production including:

1. Updating interval
2. Action plan for when material is outside PWL limits or specification limits including:
  - a. The procedure(s) used to identify the cause(s) of material outside PWL limits or specification limits.

- b. When, where and frequency of sampling and testing to ensure new production is within limits.
  - c. Procedures for halting or diverting any new production from adding to the existing stockpile if the test results indicate the material is still outside limits.
  - d. Disposition of any material failing to meet limits and how recorded and documented.
  - e. Methods used to distinguish failing material from specification material.
3. Method of distributing quality control information.

D. Describe your company's correction methods for out of specification material when found at the final product location. Describe your company's general procedures for working with the shipper, contractor, and project to correct aggregate materials provided to ODOT.

E. Provide a weekly summary report. Include total tonnages shipped for each specification or special aggregate size, directly and indirectly.

1. Sequentially number the reports.
2. Date the report.
3. Show type of aggregate and size.
4. Include quantity shipped.
5. Include aggregate destination, and if a known shipment to ODOT, include the project number or purchaser.

E-mail reports to the Home District Engineer of Tests. Supply the report in hard copy only if approved during review of the quality control program.

F. Sampling and testing procedures conforming to Department, ASTM and AASHTO standards and referenced in the Standard Construction and Materials Specifications, appropriate supplemental specifications and special provisions.

G. The name of the QCR responsible for QCP's compliance and ODOT supplement conformance and an alternate QCR.

H. Names, certifications, and documentation for all sampling and testing personnel and backup options for having qualified personnel to perform all sampling and testing. Using private laboratories, multi-plant coverage, new employee internal training or multiple trained employees may be options. Meet minimum personnel requirements during aggregate production and supply operations.

I. List phone numbers of the aggregate sites, the QCRs, the sampling and testing locations and the location and type of testing facility.

J. Define methods for establishing statistical data to evaluate percent within limits, (see section 1069.15) including the mean, standard deviation, and software conversion to excel format. Spreadsheet programs will perform statistical evaluation of gradation results. Program ownership will be held by supplier. ODOT will supply QA data for the supplier to incorporate into the program. If requested, provide ODOT copies of the spreadsheet and data by electronic transfer.

K. Materials requested for certification. If a special aggregate, provide a copy of the customer or company gradation requirements and acceptance ranges.

**1069.10 Acceptance as a Prequalified Producer or Supplier.** Submit documentation conforming to 1069.08 and 1069.09. The Home District and the Laboratory will review the submittal. The Laboratory will notify the supplier upon completion of review. If acceptable, ODOT will perform an inspection to evaluate the supplier's laboratory facilities.

Changes to an accepted QCP require review by the Laboratory and the Home District. Provide a yearly update of accepted QCP's.

Re-qualification is required if ownership changes. New ownership may request inclusion into the program. Only continue operations after acceptance of a new owner's QCP. Any changes in testing equipment, facilities or laboratory will also require inspection.

To add additional aggregate materials to a QCP see 1069.13

**1069.11 Shipping and Records Documentation Requirements.** Keep all test results and laboratory data worksheets for at least five (5) years. Include on the worksheets the technicians that sampled and tested the material.

Keep records of where and to whom materials were supplied and, if known, the ODOT project numbers of direct shipments. Documentation will be available upon request.

**1069.12 Supplier Notification of Shipments.** Notify the Home District of the first shipment of aggregate for each calendar year.

A. Provide a delivery ticket with each aggregate shipment. Include:

1. Aggregate type and size
2. Shipping date
3. Weight or volume shipped
4. Supplier
5. Location: production source and/or point of shipment
6. Project No. or purchaser
7. The statement "ODOT Prequalified Aggregate Supplier"

B. Provide the weekly summary report of shipped material described in the QCP to the Home District and the Laboratory. Furnish the Home District the previous week's summary report by the following Friday.

Notify the Home District when aggregate shipment stops for several weeks by stating on the last weekly report "Until further notice, no state work". Cease weekly reporting until shipment begins again. Notify the Home District when this occurs. Notify both the Laboratory and the Home District when shipment stops for the construction season by writing "last shipment for the season" on the weekly summary report.

**1069.13 Prequalification of Additional Materials.** Add materials with approval of the Laboratory.

Submit a QCP addendum conforming to 1069.09 to both the Laboratory and the Home District and include QC data showing that the material(s) meet Department specifications and the requirements for Percent Within Limits (PWL) in Table 1069-1.

If the material is accounted for in an approved QCP and the material has suitable quality history, approval will be granted.

After approval, the Department will obtain QA samples within 30 days of material approval.

Requests from producers or suppliers on probation will not be approved.

**1069.14 Department Monitoring and Quality Assurance Program.** The Home District's DET will keep records of the weekly summary reports. QA testing performed by the Home District or the Laboratory on materials either used in their district or sampled at the supplier's plant will be recorded in Sitemanager..

The Laboratory and the Home District will conduct supplier laboratory inspections, checking equipment, procedures, and personnel prior to admission to the program. Re-inspections will be bi-yearly except if significant changes are made or quality assurance monitoring indicates problems. The Department will monitor, testing facilities, equipment, quality control plan, supplier's sampling and testing procedures and other associated quality control items. Private laboratories will be subject to the same inspection frequency and requirements.

Changing quality control personnel or private laboratories without notification; losing qualified staff, or changing quality control testing may cause loss of prequalified status. Maintain prequalified status by establishing alternatives to ensure adequate personnel for sampling, handling and quality control testing. Failure to maintain the minimum requirements of this Supplement will result in the loss of the Producer or Supplier's prequalified status. The loss of the Producer or Supplier's prequalified status will continue until minimum requirements are obtained and verified.

The Laboratory will provide a formal report to the producer or supplier and home district following each biennial inspection. Deficiencies and requirements for corrective action and a time frame for making corrections will be included. Re-inspection may be required. Failure to correct deficiencies will result in loss of prequalified status.

The Home District will perform independent assurance evaluations of producer or supplier's level I and II technicians. The Laboratory will perform assurance evaluations of level III technicians. The Department will use split samples for independent assurance testing. Evaluations will use the acceptable range of two results in AASHTO T 27 for multi-laboratory precision to compare ODOT and producer or supplier's results. Technicians performing incorrect test procedures will require retraining or other corrective action. Inoperable, inaccurate or non-specification equipment may mean suspension of prequalified status.

All testing facilities, including ODOT, prequalified supplier, and private laboratory, will participate in yearly round robin testing for gradation. The Laboratory will provide samples. The Laboratory will provide a format for reporting results along with a completion date. Suppliers not completing tests will mean re-qualification. Investigate any individual supplier test results greater than two (2) standard deviations from the average of all suppliers test results. For results

greater than three (3) standard deviations, the Laboratory will either move the supplier to probationary status or may require re-certification for the technician.

**1069.15 Quality Assurance Testing.** The Department's Quality Assurance Testing program will be separated into two (2) parts. The first part will cover the gradation or size consistency of the producer or supplier's material. The second part will cover the quality of the producer or supplier's material.

**A. Gradation or Size Consistency.** Home Districts will obtain random quality assurance samples (reduced acceptance) for each prequalified aggregate size covered by this program. The Home District will obtain a QA sample for each 10,000 tons of material supplied to ODOT. The Home District may increase tonnage represented by a QA sample, if the supplier shows a suitable history of quality. Samples will be obtained at the supplier's location except the Home District will obtain a final product location QA sample every 100,000 tons.

The Home District will evaluate final product location test results on a pass/fail basis. If beyond specification limits follow 1069.16. When results are out of specification due to shipping or field segregation, increase the final product location sampling frequency until the problem is resolved.

The Home District will obtain QA samples while accompanied by the producer or supplier's representative. ODOT will comply with all producer or supplier safety requirements. Not providing a representative in a reasonable time may cause loss of prequalified status.

The Department will split QA test results into two (2) groups, final product location samples and supplier location test results. Producer or Supplier location QA test results will be used in establishing the supplier's percent within limits. The supplier's QC results and the Department's QA producer or supplier location test results will be combined to establish the average and standard deviation.

To compute the initial percent within limits, use at least 10 results (8 from the supplier and 2 ODOT quality assurance results). The Home District will include results of independent assurance testing (1069.14). Report results as per QCP (1069.09).

Provide materials conforming to specification gradation limits and maintain a combined results PWL of 90 percent for critical sieves and 70 percent on all other specification sieves. If the PWL falls below 90 percent, the Home District will perform additional QA final product location sampling to ensure final quality. Failing to maintain at least an 85 percent PWL for critical sieves or 70 percent on non-critical sieves will mean probation for that product.

**B. Aggregate Quality.** The Laboratory will obtain random QA samples for each prequalified aggregate size covered by this program. The Laboratory will ensure materials consistently meet the Department's material specifications for quality. Failure to maintain consistent aggregate quality conforming to 703 will result in loss of prequalification for that product.

**1069.16 Failing Material Resolution.** The Home District will notify the supplier immediately of any failed QA samples. The Home District will resample and also review the sampling and testing procedures, testing equipment, and qualified personnel. If the failed sample

was from the final product location, the District will notify the supplier of the re-sample time and location.

**A. Producer or Supplier location re-samples.** ODOT will obtain two re-samples from the stockpile's shipping face at the supplier's source, docks or yard and split the samples with the producer or supplier. Average the results of the original quality assurance sample and the two re-samples. If the averaged results meet specification, accept the material. Suppliers will correct material failing to meet specification as described in the supplier's quality control plan. Re-test material to ensure the material is in specification. If still outside specification limits, the supplier will propose other resolution methods to correct the material and the quality control plan's correction methods. All test values will be used in any percent within limits calculations of 1069.15.

**B. Final product location re-samples.** ODOT will obtain two re-samples from the original stockpile, if available, or a new on site stockpile of the same source's material. Split samples will be provided to the supplier. Average the results of ODOT's original and the two re-samples. If averaged results meet specifications, accept the material. If the averages are outside specification limits, reject the material, and ODOT will immediately inform the project engineer, contractor, supplier, and the Laboratory. The supplier will assist the contractor in resolving what corrective action will ensure on site aggregates meet specifications. Any resolution will include material re-sampling testing to document adequate resolution.

When an evaluation of the failed result finds equipment or technician error responsible for the failed result, that result will be thrown out and only the two re-sample results will be used to compute the ODOT average results. Resolution of the equipment and/or technician issues will be required.

Suppliers will test split re-samples and provide data to the Department. Evaluate Department and supplier results against AASHTO T27 gradation limits. Resolve any results outside T27 limits before using results in materials acceptance averages.

Continually providing non-specification aggregate will result in three (3) months probation, whether at the supplier's or final product location.

**1069.17 Dispute Resolution of Test Results.** If the supplier disputes the validity of Department test results, the supplier must notify the Department within 15 days of receiving results. The Department will conduct a review of equipment operation and calibration and invite the supplier to witness the applicable testing procedures. The Department will conduct the investigation in a manner it chooses to best isolate the cause of possible comparison problems which may include conducting testing on Department and supplier equipment with Department and supplier technicians. The Department will analyze results and give them to the supplier.

If original Department test results are validated then they will stand. If Department testing is found to be in error, the Department will make a determination as to whether re-sampling and/or re-testing will be performed; whether an alternative test value (if available) will be accepted and used (i.e. in the case of verification testing); or if some other method of re-evaluating the material in question will be used.

**1069.18 Loss of Prequalification.** Not complying with this supplement, including continually supplying non-specification materials, will mean loss of a supplier's prequalification status.

A. Loss of supplier prequalification starts with Probation. Infractions below will move a supplier to probation:

1. Delivering non-specification material.
2. Failure to maintain certified technicians.
3. Failure to maintain equipment meeting this supplement's requirements.
4. Failure to maintain, supply or prepare proper documentation.
5. Failure to follow an approved QCP.
6. Failure to notify the Home District when aggregate shipments start, stop or re-start.
7. Failure to send weekly shipment summaries.
8. Failure of QA/QC results being within 85 percent of PWL limits on critical sieves (based on 10 or more samples).
9. Failure to maintain 70 percent PWL on non-critical sieves (based on 10 or more samples).
10. Failure to be within three (3) standard deviations in round robin testing.
11. Failure to maintain aggregate within aggregate quality specifications.
12. Failure to notify the Home District and the Laboratory if aggregate is not within 0.05 Bulk Specific Gravity.

B. If on probation, provide the Department with proposed corrections to move from probationary status. During probation, provide copies of quality control test results to the home district and the Laboratory. No shipments will be made without Home District authorization. Adjust QA testing to ensure aggregate is within Department specifications during probation. Suppliers on probation will lose prequalification status if repeat infractions are found of probationary items.

C. Automatic Loss of Prequalification Loss of prequalified status is immediate if:

1. A supplier fails to correct non-specification materials.
2. Refuses to supply ODOT with copies of quality control records when requested.
3. Tests results or documents are falsified.
4. Provide materials from a non-prequalified source.
5. Percent within limits drops below 80 percent of limits (based on 10 or more samples).

The Laboratory will notify the supplier by certified mail of suspension of prequalified status. All districts will also be notified.

**1069.19 Restoration to Prequalified Status.**

Suppliers attempting to regain prequalified status will:

1. Reapply in accordance with this program.
2. Update all application documentation.

3. Specifically address the reason for losing the prequalification privilege and propose appropriate re-mediation of the original problem(s).
4. Accept probationary status requirements for at least 12 months.

The Laboratory and the home district will review the new application and notify the supplier of the Department's decision. Notification will be in writing. Reaccepted applicants will obtain the quality levels required of non-probational suppliers in 12 months. Suppliers failing to move from probationary status will be removed from the program for no less than one year.

**TABLE 1069-1. PERCENT WITHIN LIMITS (PWL) COMPLIANCE VALUES FOR ODOT MATERIALS**

ODOT Material		2 1/2 in.	2 in.	1 1/2 in.	1 in.	3/4 in.	1/2 in.	3/8 in.	No. 4	No. 8	No. 16	No. 30	No. 40	No. 50	No. 100	No. 200
703.01, Coarse Aggregate	Size #4		70	70	<b>90</b>	70		70								
	Size #57			70	70		<b>90</b>		70	70						
	Size #6				70	70	<b>90</b>	70	70							
	Size #67				70	70		<b>90</b>	70	70						
	Size #7					70	70	<b>90</b>	70	70						
	Size #78					70	70	<b>90</b>	70	70	70					
	Size #8						70	70	<b>90</b>	70	70					
	Size #9							70	70	<b>90</b>	70			70		
	Size #10							70	70						<b>90</b>	
703.02, Fine aggregate								70	70	70	<b>90</b>	70		70	70	70
703.03, Fine aggregate									70	70				<b>90</b>	70	70
703.05, Fine aggregate								70	70	70	<b>90</b>	70		70	70	70
703.06, Sand cover									70					<b>90</b>		70
Type 1		Same as Items 304, 411, or 617 (703.17 or 703.18)														
703.11, Structural Backfill	Type 2	Same as 703.02 or 703.05 or below														
		70			70	70		70	70	<b>90</b>			70	70		70
				70				<b>90</b>					70			70
Type 3		Same as Size #57 or #67														
703.17, Item 304			70		70	70			<b>90</b>			70				70
703.18, Item 410	Type A			70	70	70		<b>90</b>	70							
	Type B			70	70	70		<b>90</b>	70							
	Type C	Same as Size #4 or #57														
703.18, Item 411				70	70	70		70	<b>90</b>			70				70
703.18, Item 617					70	70		70	<b>90</b>			70				70

Notes: A value of 90 and **bold text** denotes the Critical Sieve for the ODOT material size

Non-standard gradations will require the critical sieve established by supplier and accepted by OMM