



Office of Materials Technology
Graded Aggregate Base
Plant Certification Procedure

Soils and Aggregate Technology Division
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GAB Plant Contacts

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Introduction

This document details the certification procedure of Graded Aggregate Base Plants and serves as a guideline for Aggregate Producers who request for the certification of their GAB plants. The Certified GAB Plants List will be updated and published online on a quarterly basis on the last day of January, April, July and October of each year. Plant Certification will be valid for two years. GAB Plants are certified when they are issued with an Approved JMF Letter and their QC Plan has been approved by MDOT, SHA. All plants are required to satisfy the MDOT SHA's Standard Specification for Construction and Materials, section 915.04 Base Course Plants (https://roads.maryland.gov/ohd2/2021_Standard_Specifications.pdf) Plants to maintain their certification.

GAB producers are responsible for keeping track of their records, including due dates for submitting a Job Mix Formula (JMF) determination request and Quality Control Plans review. Producers are also responsible for informing the Soils and Aggregate Technology Division of any changes to producer information, such as producer name, quarry name, subsidiary producer's name, contact information, qualified use of aggregate.

The following acronyms will be used throughout the document:

GAB: Graded Aggregate Base

RC-GAB: Recycled Concrete -Graded Aggregate Base

SATD: Soils and Aggregate Technology Division

MDOT: Maryland Department of Transportation

SHA: State Highway Administration

JMF: Job Mix Formula

QC: Quality Control

QA: Quality Assurance

GAB Plant Requirements

GAB Plants producing graded aggregate base material shall meet MDOT SHA's Standard Specification for Construction and Materials Section 915.04 .

Once a written request has been received, a facility visit will be scheduled to inspect all Quality Control testing equipment and to witness the GAB production process and verify the required documentation is posted and/or on file at the GAB Plant:

The facility visit will witness and/or verify the following:

A. Lab

1. Lab facility condition & functionality
2. Lab & Truck scale certifications
3. QC Testing equipment
4. Production sample storage
5. Approved JMF / Approved QC Plan / Approved Contract List / Plant Certificate (Posted on a bulletin board)
6. Daily Production Log
7. Records

B. Technician Certification(s)

1. MARTCP Certificate
<https://www.roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=53>
2. Reciprocal Certificate (State)

C. GAB Plant Production

1. Pug Mill mixer box
2. Stockpile
3. Belt

D. QC Testing/Reporting Procedures

1. Frequency of test for Gradation and moisture determination
2. Sampling (AASHTO R 90)
3. Reporting requirements (Form 43)
4. First load ticket (Form GAB-1)

E. Reporting/Material Failure Resolution Procedures

1. Re-sample for QC re-test
2. Stop shipping
3. Notify all stakeholders (Internal and External)

GAB Plant Certification Process

Written Request:

The GAB producer shall submit a written request to:

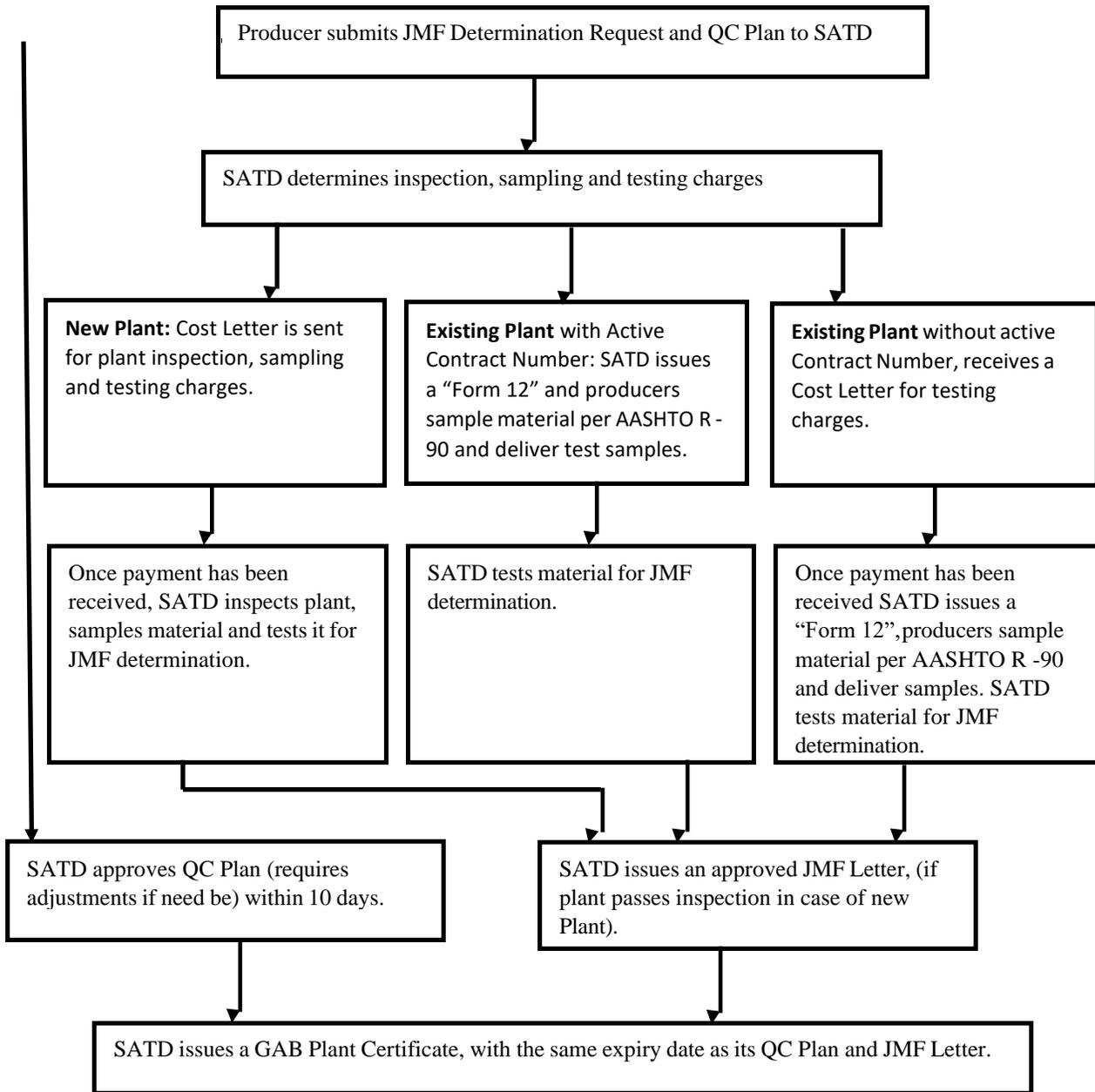
Dr. Intikhab Haider, Division Chief
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Maryland State Highway Administration
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- A. SATD requires GAB producers to submit their written requests, for the renewal of JMF Letters and approval of QC Plans, 60 days before the expiration of an existing JMF Letter and/or a QC Plan. In case of a new plant or a change to the JMF, producers can send their written requests at any time of the year. Test samples shall be delivered to MDOT SHA laboratory, at least 45 days prior to the next publication date of the GAB Certified Plant List.
- B. Please refer to Appendix A for “Job Mix Formula (JMF) Letter - Request Form”. Producers shall complete and submit this form for certifying a new or existing GAB Plant.
- C. Please refer to Appendix B for “GAB Quality Control Plant Template”. Producers will complete and submit their Quality Control Plan using the format provided in this template.
- D. Safety Data Sheet (SDS): RC-GAB requests must be accompanied by a Safety Data Sheet with **specific material identification and source(s) of material.** No RC-GAB sample will be accepted prior to receipt of the SDS.

Confidentiality:

All information provided by a Producer, Fabricator or Supplier will be kept confidential by SHA and OMT. An exception could occur when the Producer, Fabricator or Supplier makes it publicly available or when agreed upon with SHA and OMT. If the need arises for the release of confidential information by either law or contractual requirements, the Producer, Fabricator or Supplier would be informed of the release of information unless prohibited by law. This confidentiality includes information obtained from sources other than the Producer, Fabricator or Supplier (e.g., complainant, regulators).

GAB Plant Certification Process Flow Chart



GAB: Test Frequency and Sample Quantity Requirements

GAB Category	Required Tests	Specifications (AASHTO)	% Max	Sampled / Delivered by	Test Frequency	Material Quantity
Virgin Aggregate GAB	Sieve Analysis	T-27	N/A	SATD	10 production days / 1000 Tons of production	1 bag of GAB (35 lbs.)
	Specific Gravity & Absorption	T-85	N/A	SATD	6 months	1 bag of #57 (35 lbs.)
	For JMF Determination					
	Density Moisture Relationship	T-180	N/A	Producer	2 year	3 bags of GAB (35 lbs.)
	Plasticity Index	T-90	6	Producer		
Recycled Concrete GAB	Sieve Analysis	T-27	N/A	SATD	10 production days/ 1000 Tons of production	1 bag of GAB (35 lbs.)
	pH Test	T-289	12.4			
	Specific Gravity & Absorption	T-85	N/A	SATD	6 months	1 bag of #57 (35 lbs.)
	For JMF Determination					
	Density Moisture Relationship	T-180	N/A	Producer	2 year	3 bags of GAB (35 lbs.)
	Plasticity Index	T-90	6			
	pH Test	T-289	12.4			
	Los Angeles Abrasion	T-96	50			
Magnesium Sulfate Soundness	T-104	18				

“Appendix A”: Job Mix Formula (JMF) Letter - Request Form

Job Mix Formula (JMF) Letter - Request Form

Date Submitted: _____

Organization's Name (Parent Aggregate Producer): _____

Office / Facility's Name (Subsidiary Aggregate Producer): *Same as above* _____ *or*

Supervising Office's Mailing Address:

Street or P.O. Box: _____

Town / City: _____

State: _____ Zip: _____

E-Mail Address: _____

Phone No(s): _____

Fax No.: _____

Plant's Name (If Applicable): _____

Plant's Number (If Applicable): _____

Street or P.O. Box: _____

Town / City: _____ State: _____ Zip: _____

Entitled Point of Contact: _____

Title / Position: _____

E-Mail Address: _____

Phone No(s): _____

Fax No.: _____

SDS Provided: Yes _____ No _____

Source Material: Virgin Aggregate Recycled Concrete

Testing Charges: Bill Direct (Yes or No) _____.

If No,

MDOT SHA Contract #/Charge #: _____

MDOT SHA Project # (if available): _____

Proposed Job Mix Formula: Material meeting MDOT SHA Specification for Construction and Materials, Table 901 A and 901 B.

Sieve Size	2"	1 1/2"	3/4"	3/8"	#4	#30	#200
Design Range	100	[95-100]	[70-92]	[50-70]	[35-55]	[12-25]	[0-8]
JMF % Passing							

“Appendix B”: GAB Plant - Quality Control Plan (Template)

(The purpose of the GAB QC Plan Template is to have all GAB producers submit their Quality Control Plans in a consistent manner. Producers may cut and paste their current plans and submit in a similar format as the template. Additional pages may be added, for technician certifications.)

Company Name: (company letterhead)

Plant Number:

Year: _____

Revision Date: _____
(If applicable)

Plant Quality Control Plan

QC Manager Name: _____

Contact Information: _____

For SHA OMT Use only:

Reviewed By: _____

Reviewed Date: _____

Approved By: _____

Approval Date: _____

Expiration Date: _____

Quality Control Plan for GAB Plants

Reference: MD Standard Specifications for Construction and Materials Sections 915 /

AASHTO T-27, AASHTO T-11, MSMT 251, R 90

1. Plant Description
 - 1.1 Plant Type
 - 1.2 Plant Address
2. Plant Certified Technicians
MARTCP Qualified Personnel / Contact Information/Card#/Expiry Date
(Submit copies of all MARTCP cards)
3. Product Description
4. Sampling and testing frequency procedures
5. Corrective Action Procedure
6. Documentation (all documentation will be reported to GAB@MDOT.Maryland.gov)
 - 6.1 24 Hour Notice (form 43) to be sent to the GAB email address and retained on file.
 - 6.2 Form GAB-1 (First Load Ticket) will be sent to project and retained on file.
 - 6.3 Report production Form 43 (or cancellation) with QC testing the following workday and send to the GAB email address and retained on file.
7. Truck Scales (915.01.04)
Calibration Frequency (submit copies of Scale Certifications)
8. Lab Scales Weighing / Measuring Devices (915.01.04)
Calibration Frequency (submit copies of Scale Certifications)
9. Construction and Maintenance of GAB and Aggregate Stockpiles (915.01.03)

“Appendix C”: GAB -1 First Load Ticket

Maryland Department of Transportation

State Highway Administration

Date: _____

Time: _____

SUBJECT: CERTIFIED BASE COURSE TECHNICIAN ON DUTY

To: Administration Project Engineer

Re: MDSHA Project Number _____

This letter certifies that a Certified Base Course Plant Technician is performing Quality Control Duties and is inspecting the production of base course material.

JMF Number: _____

Producer: _____

Location: _____

Certified Technician Number: _____

Name of Technician: _____

Technician's Signature: _____

Note: The original letter shall be sent to each project, daily, with the first truck Load. A copy will be retained in the Plant File.

“Appendix D”: Form – 43 GAB Plant Report

