

CHANGE LETTER

POLICY AND PROCEDURE DIRECTIVES MANUAL	CHANGE LETTER NO. 18
SUBJECT: Title Page; Table of Contents; Policy and Procedure Directives No. 14a and No. 19a.	EFFECTIVE DATE: November 5, 2014

SUMMARY:

NOTE: Unless otherwise specified, changes issued under this Change Letter are effective for projects with a bid opening date on or after November 5, 2014. Retain items removed from the Materials Policy and Procedure Directives Manual under this change letter for use as necessary on projects with a bid opening date prior to November 5, 2014.

1. TITLE PAGE - The Title Page has been revised to show the latest Change Letter number and revision date. Please replace the existing Title Page with the attached.
2. TABLE OF CONTENTS - The Table of Contents has been revised to reflect the changes made in this Change Letter. Please replace the existing Table of Contents with the attached.
3. The following Policy and Procedure Directives have been revised. Please replace the existing Policy and Procedure Directives with the attached.

P.P.D. No. 14a - "TESTING AND CERTIFICATION OF BITUMINOUS DISTRIBUTOR TRUCKS"

P.P.D. No. 19a - "ADOT SYSTEM FOR THE EVALUATION OF TESTING LABORATORIES"

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Attachments

MATERIALS
POLICY AND PROCEDURE
DIRECTIVES MANUAL



PREPARED BY:
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
MATERIALS GROUP

REVISED TO CHANGE LETTER NO. 18
(November 5, 2014)

**MATERIALS
POLICY AND PROCEDURE
DIRECTIVES MANUAL**

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POLICY AND PROCEDURE DIRECTIVE

TO: ALL MANUAL HOLDERS	PPD NO. 14a
SUBJECT: TESTING AND CERTIFICATION OF BITUMINOUS DISTRIBUTOR TRUCKS	EFFECTIVE DATE: November 5, 2014

1. GENERAL

1.1 Prior to the spreading of bituminous material on any ADOT project, bituminous distributor trucks shall have been tested in accordance with Arizona Test Method 411, “Determination of Bituminous Distributor Truck Transverse Spread Rate”, and shall have been certified within 12 months prior to the date of spreading in accordance with the requirements of Subsection 404-3.02(A) of the ADOT Specifications.

1.2 ADOT Regional Materials Engineers are responsible for the certification of bituminous distributor trucks.

1.3 All testing, including the preparation of test pads and test plates, shall be performed by an independent testing laboratory which has been approved by the respective ADOT Regional Materials Engineer. A professional engineer, registered in the State of Arizona and employed by the independent testing laboratory, shall be responsible for all testing and test results.

1.4 The distributor truck owner shall be responsible for all costs associated with the testing performed by the independent testing laboratory.

1.5 Upon completion of testing, the independent testing laboratory shall issue a letter to the owner of the distributor truck. The letter shall include the following:

1.5.1 A statement that the testing was performed in accordance with the requirements of Arizona Test Method 411.

1.5.2 The name and location of the facility where the testing was performed.

1.5.3 The date that the testing was performed.

1.5.4 Identification of the truck for which testing was performed. Such identification shall consist of:

1.5.4.1 Name of the owner of the distributor truck.

1.5.4.2 Truck Number.

1.5.4.3 Truck License Plate Number.

1.5.4.4 Truck Make and VIN Number.

1.5.5 Name of person performing the testing.

1.5.6 Name, signature, and seal of the registered professional engineer responsible for the testing and test results. The date shall be recorded as part of the seal.

1.5.6.1 An example of a typical letter from the independent testing laboratory to the owner of the distributor truck is shown in **Attachment #1**.

1.5.7 A copy of the test results shall be attached to the letter from the independent testing laboratory. The test results shall be sealed, signed, and dated by the engineer responsible for the testing.

1.5.7.1 An example of the test results is shown in **Attachment #2**.

1.6 The owner of the distributor truck shall submit the letter from the independent testing laboratory, along with the accompanying test results, to the respective ADOT Regional Materials Engineer.

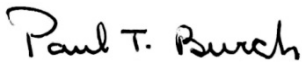
1.6.1 The Regional Materials Engineer shall review the submittal from the owner of the distributor truck for accuracy and completeness. If the submittal is satisfactory, the Regional Materials Engineer will approve the test results.

1.6.2 Upon approval of the bituminous distributor truck transverse spread rate test results, the respective ADOT Regional Materials Engineer will issue a completed "Certificate of Test" and a completed "ADOT Bituminous Distributor Truck Certification" sticker to the owner of the distributor truck. Illustrations of a blank Certificate of Test and a blank certification sticker are shown in **Attachment #3** and **Attachment #4**, respectively.

1.7 The owner of the distributor truck shall apply the completed certification sticker to the inside of the driver's side door of the truck in a clearly visible location. The Certificate of Test shall be kept in the distributor truck and shall be readily available for review by the Engineer.

1.8 Bituminous distributor trucks that do not have a valid and current Certificate of Test and ADOT certification sticker will not be allowed to supply bituminous materials on ADOT projects.

1.9 Regardless of certification, the Engineer may at any time require that distributor trucks be tested to determine their acceptability.



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Materials Group

Attachments (4)

Letterhead of Approved Independent Laboratory
(Name of Laboratory is shown as "ABC" below)

Month, Day, Year

First Name, Last Name

Title of Position Held

Owner of Distributor Truck *(Company Name is shown as "XYZ" below)*

Address

City, State Zip

RE: Bituminous Distributor Truck Certification

Dear (_____),

As requested and authorized by XYZ Company, ABC laboratory has completed testing on the following bituminous distributor truck which is owned and operated by XYZ.

Truck Make: _____ VIN Number: _____

Truck Number: _____ License Plate Number: _____

Testing was performed in accordance with the requirements of Arizona Test Method 411, "Determination of Transverse Distributor Spread Rate".

Testing was conducted by the undersigned at *(name of testing facility)* on *(Date)*. Prior to performing the testing, the pads were prepared, weighed, and assembled in accordance with Arizona Test Method 411. Spray bar application of the bituminous material was observed. The pads were removed from the metal sheets and weighed to determine the application rate of the bituminous material. The data was analyzed per Arizona Test Method 411 and Subsection 404-3.02(A) of the ADOT Specifications.

A summary of the test results is attached to this report for your information and review. Please submit this letter, along with the accompanying test results, to the respective ADOT Regional Materials Engineer for their approval and certification of the referenced bituminous distributor truck.

If you have any questions regarding this information, or if we may be of further assistance in any way, please do not hesitate to contact us.

Sincerely,

(Name)

(Title of Position Held)

(Signature)

Reviewed By: _____
(Name)

(Title of Position Held)

(Sealed, Signed, and Dated)

Attachment

**EXAMPLE OF LETTER FROM THE INDEPENDENT TESTING
LABORATORY TO THE OWNER OF THE DISTRIBUTOR TRUCK**

(Name of Approved Independent Laboratory)
TRANSVERSE DISTRIBUTOR TRUCK SPREAD RATE
 Arizona Test Method 411

DISTRIBUTOR TRUCK OWNER: _____ TESTED BY: _____ DATE: _____

TRUCK #: _____ LICENSE PLATE #: _____ VIN #: _____ SPRAY WIDTH: _____ FT.

TEST FACILITY: _____ JOB #: _____

TYPE OF BITUMINOUS MATERIAL USED: _____ TEMP.: _____ TEST RESULT: PASS: X FAIL: _____

PAD #	WT. PAD + BIT. MATL.	PAD TARE	WT. BIT. MATL.	* SPREAD RATE	PAD OUT	REMARKS	PAD #	WT. PAD + BIT. MATL.	PAD TARE	WT. BIT. MATL.	* SPREAD RATE	PAD OUT	REMARKS
1		8.9	0.0	0.000		OMIT	26	21.0	8.8	12.3	0.132		
2	21.7	8.8	12.8	0.137			27	20.8	8.9	12.0	0.128		
3	21.9	8.9	13.0	0.139			28	20.6	8.8	11.8	0.126		
4	22.0	8.7	13.3	0.142			29	20.9	8.9	12.1	0.129		
5	22.2	8.8	13.3	0.142			30	21.0	8.8	12.3	0.132		
6	21.9	8.8	13.1	0.140			31	20.3	8.9	11.4	0.122		
7	21.5	8.9	12.7	0.136			32	21.2	8.8	12.4	0.133		
8	21.6	8.8	12.8	0.137			33	21.9	8.8	13.2	0.141		
9	21.0	8.8	12.1	0.129			34	21.6	8.8	12.8	0.137		
10	21.7	8.8	12.9	0.138			35	21.8	8.8	13.0	0.139		
11	22.3	8.9	13.4	0.143			36	21.2	8.8	12.4	0.133		
12	20.5	8.9	11.6	0.124			37	21.1	8.8	12.3	0.132		
13	22.0	8.9	13.1	0.140			38	20.0	8.8	11.2	0.120		
14	21.7	8.9	12.8	0.137			39	20.2	8.9	11.3	0.121		
15	21.1	8.9	12.2	0.131			40	21.9	8.8	13.1	0.140		
16	19.6	8.8	10.9	0.117	X		41	21.5	8.8	12.7	0.136		
17	20.9	8.9	12.1	0.129			42	21.8	8.8	13.0	0.139		
18	20.8	8.9	11.9	0.127			43	21.0	8.8	12.2	0.131		
19	20.3	8.9	11.4	0.122			44	21.1	8.8	12.2	0.131		
20	20.9	8.8	12.1	0.129			45	21.7	8.9	12.8	0.137		
21	21.0	8.9	12.2	0.131			46	21.6	8.8	12.8	0.137		
22	20.9	8.8	12.1	0.129			47	22.3	8.8	13.5	0.144		
23	21.2	8.8	12.4	0.133			48	23.0	8.8	14.2	0.152	X	
24	20.7	8.8	11.9	0.127			49	21.5	8.8	12.6	0.135		
25	20.7	8.8	11.9	0.127			50	19.9	8.9	11.0	0.118	X	
* SPREAD RATE = GALLONS PER SQ. YD.							51		8.8	0.0	0.000		OMIT

TOTAL NUMBER OF PADS OUTSIDE ACCEPTABLE RANGE: 3

AVG. PAD TARE: 8.8

AVG. SPREAD RATE: 0.133 GALS./SQ. YD.

TOTAL SPREAD: 6.5 GALS.

ACCEPTABLE RANGE: UPPER: 0.146 LOWER: 0.120

SPECIFICATION LIMITS: Average Spread Rate ±10% or ±0.02 Gallons per Sq. Yd., whichever is less, per Subsection 404-3.02(A)

REMARKS: _____

Tested By: _____

Reviewed By: _____

Testing Facility: _____

(Sealed, Signed, Dated)

EXAMPLE TEST RESULTS



Certificate of Test

RE: Bituminous Distributor Truck Transverse Spread Rate
(Arizona Test Method 411)

Name of Approved Independent
Laboratory Performing Testing: _____

Test Date: _____ Distributor Truck Owner: _____

Truck Make: _____ VIN Number: _____

Truck Number: _____ License Plate Number: _____

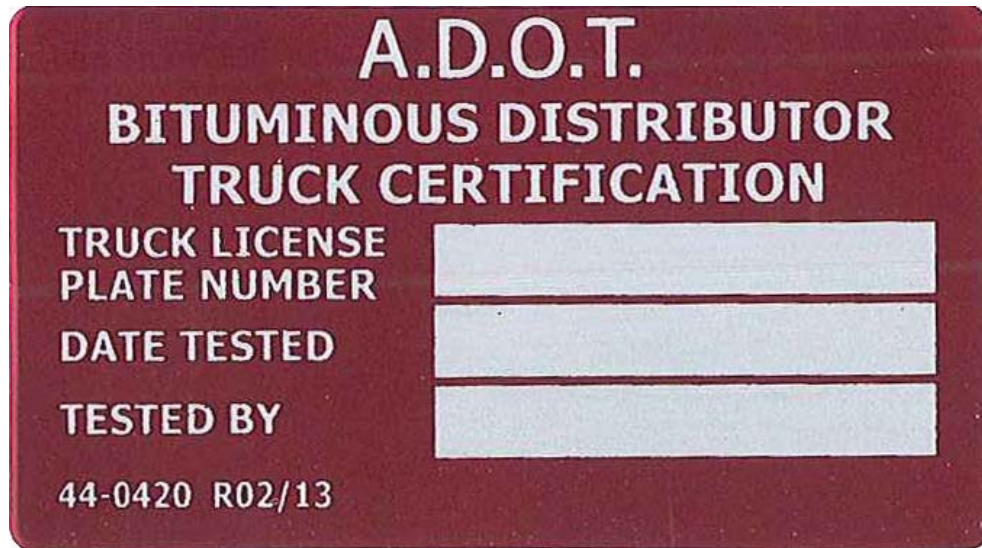
Date of Certificate Issuance: _____

Date of Certificate Expiration: _____

This is to certify that the distributor truck identified above complies with the requirements of Arizona Test Method 411 and Subsection 404-3.02(A) of the ADOT Specifications.

(Region Name) Regional Materials Engineer: _____ (Name) _____

_____ (Signature) _____



(Sticker shown above is larger than actual size.)

(Sticker has silver lettering on a red background.)

**BLANK ADOT BITUMINOUS DISTRIBUTOR
TRUCK CERTIFICATION STICKER**

POLICY AND PROCEDURE DIRECTIVE

TO: ALL MANUAL HOLDERS	PPD NO. 19a
SUBJECT: ADOT SYSTEM FOR THE EVALUATION OF TESTING LABORATORIES	EFFECTIVE DATE: November 5, 2014

1. GENERAL

1.1 This Policy and Procedure Directive specifies the requirements which materials testing laboratories must meet in order to be approved by ADOT to perform sampling and testing activities for the Department.

1.2 This *ADOT System for the Evaluation of Testing Laboratories* incorporates the procedures and requirements of the *AASHTO Accreditation Program (AAP)* in conjunction with *AASHTO R 18, "Establishing and Implementing a Quality Management System for Construction Materials Laboratories"*, as part of the requirements for a laboratory to demonstrate competency in the performance of specific tests on construction materials. Laboratories which are approved by ADOT must obtain and maintain AASHTO accreditation for any AASHTO or ASTM test method specified or referenced by a contract document. In addition, AASHTO accreditation is required for any AASHTO or ASTM test method which an Arizona Test Method modifies.

1.3 On all projects advertised/awarded by ADOT, the materials testing laboratory must satisfy the qualification criteria as specified herein and be approved by ADOT Materials Group prior to performing materials sampling and testing activities for the Department. For Certification Acceptance projects that are advertised/awarded by a local government agency, AASHTO accreditation in applicable test methods is sufficient. Those laboratories submitting asphaltic concrete mix designs must also meet the requirements of *Materials Group Policy and Procedure Directive No. 4, "Asphaltic Concrete Mix Design Proposals and Submittals"*, and be approved by the Materials Group Bituminous Engineer. Approved laboratories will be periodically evaluated to verify compliance with this system. This system is administered by the ADOT Materials Group Quality Assurance Section, under authority delegated by the State Engineer. This system will apply to any laboratory performing sampling and testing activities for the Department, directly or as a subconsultant.

1.4 The *ADOT System for the Evaluation of Testing Laboratories* is revised periodically. The latest version of this Policy and Procedure Directive can be obtained by accessing the ADOT Materials Group website.

2. ADOT SYSTEM CRITERIA

2.1 The following requirements are in addition to Section 3, “AASHTO Accreditation Program Criteria”, of the *AASHTO Accreditation Program Procedures Manual for the Accreditation of Construction Materials Testing Laboratories* (hereinafter referred to as the “AAP Procedures Manual”):

2.1.1 **Subsection 3.1 “Quality Management System Criteria”** of the AAP Procedures Manual is modified to add the following:

2.1.1.1 The laboratory shall have and maintain the current ADOT Materials Testing Manual. The manual shall be readily accessible to all laboratory personnel.

2.1.2 **Subsection 3.2 “On-Site Assessment and Quality Management System Evaluation Criteria”** of the AAP Procedures Manual is modified to add the following:

2.1.2.1 Any laboratory performing materials sampling and testing in Arizona, or within 100 miles of its borders, for ADOT projects shall be open for inspection by Arizona Department of Transportation personnel at any time. ADOT Materials Group Quality Assurance Section shall regularly schedule and conduct periodic on-site equipment and procedural inspections at all approved permanently based laboratories. The laboratory shall demonstrate the capability to perform tests according to the current ADOT Materials Testing Manual for those testing services offered under the scope of this system.

2.1.2.2 Approval will be given for those AASHTO/ASTM test methods which the laboratory has obtained AASHTO accreditation and which are successfully demonstrated during the ADOT inspection. Approval will be given for those Arizona Test Methods which modify AASHTO/ASTM methods, if the laboratory has AASHTO accreditation for the AASHTO/ASTM methods, and the Arizona Test Methods are successfully demonstrated during the ADOT inspection. Approval will also be given for unique Arizona Test Methods that are successfully demonstrated during the inspection.

2.1.2.3 A written response to any deficiencies noted during ADOT inspections shall be submitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of notification. **Failure to respond to noted deficiencies within the 30 day limit will be grounds for revocation of ADOT approval.**

2.1.2.4 Laboratory inspections performed by ADOT Materials Group Quality Assurance Section will be conducted according to **Table 1**.

TABLE 1
LABORATORY INSPECTION REQUIREMENTS

TYPE OF LAB	Evaluate personnel, Quality Management System Manual, etc.	INSPECT Procedures and Equipment on a Regular Schedule or As Needed	Approve via Acceptance Letter	Include in the ADOT Directory of Approved Testing Labs	Performing Acceptance Sampling and Testing for ADOT: INSPECT Procedures and Equipment PER PROJECT	Performing Quality Control Sampling and Testing for the Contractor: INSPECT Equipment PER PROJECT
All ADOT Labs Statewide	X	X	X	X		
AASHTO Accredited Independent Labs within Arizona* which are ADOT Approved	X	X	X	X		
Project Labs** within Arizona* of an ADOT Approved Independent Lab					X***	X***
Project Labs** within Arizona* of an out-of-state AASHTO Accredited Independent Lab which is not ADOT Approved	X				X***	X***

* Operating within Arizona, or within 100 miles of Arizona borders.

** Any portable or permanently based lab facility operating under the authority, and AASHTO accreditation of, a main laboratory facility ("parent" lab).

*** The Resident Engineer shall notify the ADOT Materials Group Quality Assurance Engineer in writing to request an inspection (See Subsection 2.1.2.6).

2.1.2.5 To perform materials acceptance or quality control sampling and testing on a project, a lab facility must be located within a reasonable distance from the project site. Project personnel, which may include the Resident Engineer and the Regional Materials Engineer, will ensure that the distance is such that the integrity of the sample is maintained. In addition, the lab must be completely equipped for all phases of project-related materials sampling and testing, as required by the contract specifications.

2.1.2.6 Any Project laboratory, as described in **Table 1**, which is contracted to perform materials acceptance or quality control sampling and testing must be inspected by ADOT Materials Group Quality Assurance personnel at least 10 working days prior to performing the required testing. The Resident Engineer shall notify the ADOT Materials Group Quality Assurance Engineer, in writing, to request the inspection.

2.1.2.7 Any AASHTO accredited independent laboratory within Arizona which is not ADOT approved, which is contracted to perform materials acceptance or quality control sampling and testing must become an ADOT approved laboratory. The laboratory shall contact the ADOT Materials Group Quality Assurance Engineer, in writing, at least 20 working days prior to performing the required testing to request an inspection of the laboratory procedures and equipment. In addition, the personnel, Quality Management System Manual, etc. will also be evaluated.

2.1.2.8 When multiple ADOT projects use the same laboratory for materials acceptance or quality control sampling and testing, the Quality Assurance Engineer will decide if an inspection of the laboratory is necessary for each project.

2.1.2.9 As an addendum to their AAP Quality Management System Manual, each approved lab shall submit, for review and acceptance by ADOT, written policy and procedures that address the following issues:

1. How project laboratories maintain test method and specification compliance while sampling and testing materials for ADOT projects.
2. How inspection and calibration of sampling and testing equipment at project laboratories are performed and documented.
3. How the correlation testing program is performed between the accredited "parent" laboratory and its project laboratories.

2.1.2.10 Copies of AMRL and CCRL inspection reports and responses to any deficiencies shall be transmitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of receipt of the inspection report.

2.1.2.11 Additional information regarding laboratory inspections can be found in Series 900 “Materials Quality Assurance Program” of the ADOT Materials Testing Manual, obtained by accessing the ADOT Materials Group website. This website also provides information specifically related to the Laboratory Inspection Program.

2.1.3 **Subsection 3.3 “Proficiency Testing Criteria”** of the AAP Procedures Manual is modified to add the following:

2.1.3.1 The laboratory shall participate in the ADOT Proficiency Sample Program, performing at least those test methods for which ADOT approval has been granted. A written response to any noted deficiencies shall be submitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of notification. **Failure to respond to noted deficiencies within the 30 day limit will be grounds for revocation of ADOT approval.** If a laboratory does not perform testing on two consecutive sets of proficiency samples of the same material type, that laboratory will be removed from the ADOT Proficiency Sample Program entirely. If that laboratory is also an ADOT approved laboratory, it will lose ADOT approval to perform sampling and testing on ADOT projects.

2.1.3.2 **Copies of AMRL and CCRL proficiency sample test result reports and responses to deficiencies shall be transmitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of receipt of the report issued by AMRL or CCRL.**

2.1.3.3 Additional information regarding the ADOT Proficiency Sample Program can be found in Series 900 “Materials Quality Assurance Program” of the ADOT Materials Testing Manual, obtained by accessing the ADOT Materials Group website. This website also provides information specifically related to the Proficiency Sample Program.

2.1.4 **Subsection 3.4 “Personnel Qualification Criteria”** of the AAP Procedures Manual is modified to add the following:

2.1.4.1 **An individual who is responsible for supervising sampling and testing** shall meet the requirements given in **Table 2** for the appropriate field in which sampling and testing is being performed.

2.1.4.2 **Individuals who perform actual sampling and testing** shall meet the requirements given in **Table 3** for the appropriate field in which sampling and testing is being performed, and shall be supervised by an individual who meets the requirements of **Table 2** for the appropriate field in which sampling and testing is being performed.

2.1.4.3 Additional information regarding certification requirements can be obtained from ADOT Materials Group Quality Assurance Section, or by accessing the ADOT Materials Group website.

TABLE 2	
REQUIREMENTS FOR SAMPLING AND TESTING SUPERVISOR	
Soils and Aggregate	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) “Field” certification plus one of (a) through (g) below.	Arizona Technical Testing Institute (ATTI) “Laboratory Soils/Aggregate” certification plus one of (a) through (g) below.
Asphaltic Concrete	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) “Field” certification plus one of (a) through (g) below.	Arizona Technical Testing Institute (ATTI) “Asphalt” certification plus one of (a) through (g) below.
Concrete	
<u>Field</u>	<u>Laboratory</u>
American Concrete Institute (ACI) “Concrete Field Testing Technician Grade I” certification plus one of (a) through (g) below.	American Concrete Institute (ACI) “Concrete Strength Testing Technician” certification plus one of (a) through (g) below.
<p>(a) Professional Engineer, registered in the State of Arizona, with one year of highway materials sampling and testing experience acceptable to the Department.</p> <p>(b) Engineer-In-Training, certified by the State of Arizona, with two years of highway materials sampling and testing experience acceptable to the Department.</p> <p>(c) Obtained a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, Construction, or related field acceptable to the Department; and with three years of highway materials sampling and testing experience acceptable to the Department.</p> <p>(d) Certified by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing field as an Engineering Technician (Level III) or higher in the appropriate subfield in which sampling and testing is being performed.</p> <p>(e) Certified by NICET in the Transportation Engineering Technology field as an Engineering Technician (Level III) or higher in the Highway Materials subfield.</p> <p>(f) Certified by NICET as an Engineering Technician, or higher, in Civil Engineering Technology with five years of highway materials sampling and testing experience acceptable to the Department.</p> <p>(g) An individual with eight years of highway materials sampling and testing, and construction, experience acceptable to the Department.</p>	

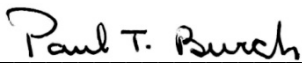
TABLE 3	
REQUIREMENTS FOR SAMPLING AND TESTING TECHNICIAN	
Soils and Aggregate	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) “Field” certification.	Arizona Technical Testing Institute (ATTI) “Laboratory Soils/Aggregate” certification.
Asphaltic Concrete	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) “Field” certification.	Arizona Technical Testing Institute (ATTI) “Asphalt” certification.
Concrete	
<u>Field</u>	<u>Laboratory</u>
American Concrete Institute (ACI) “Concrete Field Testing Technician Grade I” certification.	American Concrete Institute (ACI) “Concrete Strength Testing Technician” certification.

2.1.5 **Subsection 3.5 “Additional General Criteria”** of the AAP Procedures Manual is modified to add the following:

2.1.5.1 Copies of a laboratory’s notification to or from AASHTO of any major change in its quality management system, capability to perform tests for which it is accredited, laboratory ownership, location (for permanent facilities), managerial personnel, facilities, and any other change which may affect the scope of its accreditation shall be transmitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of when the change occurs.

2.1.5.2 The ADOT Materials Group Quality Assurance Engineer must be notified within 30 days of changes in supervisory and key technical personnel.

2.1.5.3 To be eligible to perform referee testing on ADOT projects as an independent testing laboratory, the laboratory must provide proof to the Department of their independent status by submitting a letter to the ADOT Materials Group Quality Assurance Engineer indicating all individuals and corporations that have ownership of the laboratory. In addition, the letter must indicate that each of the owners of the laboratory is devoid of any ownership in contracting firms or materials suppliers who perform work for the Department.



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