LABORATORY QUALIFICATION PROGRAM

The District Materials Office will qualify the other laboratories and maintain records of the qualification for three years. The District Staff will check the following prior to qualifying a laboratory:

1. Establish the type of laboratory (Aggregate, Hot Mix Asphalt, PC Concrete).
2. Check for current manuals and test procedures covering the qualified testing.
3. Check the certification of the testing personnel.
4. Document that proper equipment is available to perform qualified testing.
5. Check documentation system.

Scheduling of the qualification review will be discussed with the laboratories seeking qualification. The District Materials Engineer should be contacted for laboratories that have been qualified in other states. The District Materials Office may qualify a laboratory based on an acceptable qualification report and qualification program from another state transportation agency.

Table 1 and the pages following cover the list of items to be reviewed.

An oral close out on any deficiencies will be held with the testing personnel. Written notice will be sent within two weeks of the inspection. District personnel will re-inspect after correction of any deficiencies.

A form showing the laboratory type, the date qualified, and the expiration date will be issued by the District Materials Engineer.

The list of Qualified Laboratories will be maintained on a database accessible by authorized Materials Personnel.

NON-COMPLIANCE/DISPUTE RESOLUTION

A laboratory that does not meet the requirements of the IM is subject to elimination from the qualification program.

The office responsible for the qualification will resolve disputes concerning calibration and correlation of equipment. For disputes that cannot be resolved at the District level, the Central Materials Laboratory will be the final authority.

Table 1 - Laboratory Qualification Checklist

	√	**Calib./Verif. Interval**	**Calib./Verif. Procedure**
Tester Qualifications-Proper Iowa DOT certifications			
Current Written Test Procedures			
Current Calibration Procedures & Records			
Documentation of correlation results and corrective actions taken for previous construction season.			
Aggregate Laboratory			
Balances		12 months	Iowa 917-B
Sieves- wear, tear, size, and opening size		12 months	Iowa 1506-A
Splitter- condition		12 months	(Visual)
Mechanical Shakers- condition (if used)		12 months	Iowa 1502-A
HMA Laboratory			
Balances- and water bath		12 months	Iowa 917-B
Sieves- wear, tear, size, and opening size		12 months	Iowa 1506-A
Splitter- condition		12 months	(Visual)
Mechanical Shakers- condition (if used)		12 months	Iowa 1502-A
Rice equipment- vacuum and flask		12 months	IM 350
Thermometers		12 months	Iowa 1607-A
Ovens- temperatures		12 months	Iowa 1501-A
Gyratory Compactor and molds		12 months	Iowa 1524-A
Marshall Hammer and molds		12 months	Correlation Checks
PCC Laboratory			
Balances		12 months	Iowa 917-B
Sieves- wear, tear, size, and opening size		12 months	Iowa 1506-A
Splitter- condition		12 months	(Visual)
Mechanical Shakers- condition (if used)		12 months	Iowa 1502-A
Air Meter		12 months	IM 318
Slump Cone and equipment-condition		12 months	
Beam Breaker		12 months	Central Lab

LABORATORY ITEMS

The following list contains, as a minimum, what is required for a qualified asphalt laboratory. The test equipment to perform each of the required tests is contained in the respective IM.

- Field Lab and Office [Suggested size 8 ft. x 44 ft. (2.4 m x 13.41 m)]. Locate the Field Lab so it is convenient to the plant, but outside the influence of plant vibration.

  Air-conditioned
  Personal computer
  Phone
  Fax machine
  Copy Machine
  Sample storage
  Work table
  Bulletin board
  Water available to perform necessary testing
  Desk and chair
  Incidental spoon, trowels, pans, pails.

- The personal computer shall be capable of running Iowa DOT programs. It is recommended to have at least Windows 2000 or newer software on the computer. Iowa DOT programs have been checked and are capable of running on Windows 2000 and newer software.

  3.5” high-density floppy disk drive (CD drive recommended)
  Color monitor, VGA or better
  Printer, ink jet recommended.

- Diamond saw for cutting core lifts.

- Diamond core drill (minimum 4” diameter core).

Iowa Department of Transportation

MATERIALS LABORATORY QUALIFICATION PROGRAM
Laboratory Inspection - per Materials Instructional Memorandum 208

Company Name: _____

Laboratory name: _____

Laboratory type: Aggregate HMA PCC (Circle one)

Laboratory location: _____

Laboratory contact person: _____

Laboratory technician:	Certification number:	Expires:

Current manuals and written test procedures available? _____

Current calibration procedures and records? _____

Documentation of correlation results and corrective actions taken for previous construction season? _____

Proper equipment available to perform qualified testing? _____

Other remarks: _____

Date of inspection: _____ Qualification expiration date: _____

Inspection performed by: _____
Print name

_____
Sign name

Inspection received by: _____
Print name

_____
Sign name

District Number _____

cc: Materials Engineer, Contractor/Producer, Ames, File

Iowa Department of Transportation

AGGREGATE LABORATORY INSPECTION QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____
Certified Technician: _____ Certification No: _____

		Yes	No
Balances	(Iowa Test Method 917-B)		
	Updated balance calibration records available?	_____	_____
	Check balance using 500 gm & 1000 gm calibrated weights?	_____	_____
	Is balance accurate to 0.1%?	_____	_____
Sieves			
	Is there adequate correlation history to qualify?	_____	_____
	Were go/no-go gauges used to check accuracy?	_____	_____
	Are the sieves in good condition (no loose frames, holes, or tears)?	_____	_____
Splitter			
	Is the splitter in good condition? (i.e., missing shuts, cracked welds, or leaking seams)	_____	_____
Shaker			
	Is shaker apparatus secure and level?	_____	_____
Scale			
	Are the laboratory weights used for routine calibrations accurate? (Use 0.1% difference from our calibrated weights as standard.)	_____	_____

Comments _____

cc:Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____

Date Inspected: _____

Iowa Department of Transportation

HMA LABORATORY INSPECTION
QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____

Certified Technician: _____ Certification No.: _____

		Yes	No
Thermometers	(IM 321, IM 325, IM 325G, IM 350)		
Thermometer Calibration and Documentation available?		_____	_____
Temperature of check:	_____ (25 deg C or 135 deg C)		
State reference thermometer	_____		
Contractor reference thermometer	_____		
Difference	_____		
Rice Pycnometer	(IM 350)		
Calibration chart and/or documentation available?		_____	_____
Equipment achieves between 25.5 and 30mm of mercury vacuum?		_____	_____
Mercury is free of bubbles?		_____	_____
Gyratory/Marshall Compactor	(IM 325/IM 325G)		
Calibration documentation available?		_____	_____
Is equipment generally clean?		_____	_____
Documentation of annual mold measurements?		_____	_____
Ovens	(IM 325/IM 325G)		
Documentation of temperature checks?		_____	_____
General condition satisfactory?		_____	_____
Do all parts work as intended?		_____	_____
Water Bath	(IM 321)		
Temperature?	_____		
Correlation			
Correlation results available for previous year?		_____	_____

Comments: _____

_____

_____

NOTE: HMA labs must also qualify as an aggregate lab.

cc: Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____

Date Inspected: _____

Iowa Department of Transportation

READY MIX/PCC PAVING LABS
QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____

Certified Technician: _____ Certification No: _____

Inspection Checklist Items:

Air Meter (IM 318)	**Yes**	**No**
Check meter using approved 5% pugs.	_____	_____
Is air meter clean?	_____	_____
Proper rod and mallet.	_____	_____
Slump Cone (IM 317)		
Interior of cone free of dents or projections.	_____	_____
5/8" by 24" tamping rod.	_____	_____
Rigid, nonabsorbent base.	_____	_____
Equipment clean and free of hardened concrete.	_____	_____
Beam Breaker (IM 316)		
Current annual calibration sheet	_____	_____
Equipment clean.	_____	_____
Beam Molds (IM 328)		
Molds clean and free of dents	_____	_____
General condition of molds good.	_____	_____

Comments _____

NOTE: PCC labs must also qualify as an aggregate lab.

cc: Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____

Date Inspected: _____