

Laboratory Certification For

National Engineering Services for Rehabilitation of Afghanistan (NESRA)

Lab ID: LCP-004

Issue date: Oct 10<sup>th</sup>, 2018

Expiry date: April 9<sup>th</sup>, 2019

This letter confirms the completion of inspection and certification for the NESRA Lab, which is located at House# 105, Street # 12, Behind Cheragh Hospital, Salim Karwan Square, Qala-e-Fatullah, Kabul, Afghanistan. This laboratory should now be considered as **Certified for a period of 6-months** from the date of this letter. This laboratory should now be considered as certified for use by the US Army Corps of Engineers Transatlantic Afghanistan District (USACE TAA) and other clients, for all tests listed in Table 1 to Table 7, as attached to this letter. The following tests (**ASTM D1196, ASTM D4791, ASTM D4643, ASTM D3080, and ASTM C151**) are not permitted under this period of Certification. This certification will be included with records that are maintained at the ABA and USACE TAA Headquarters in Bagram Airbase, Afghanistan. Retaining the certification will require yearly inspections by the ABA. This certification is also contingent upon the following conditions:

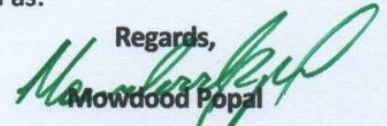
- A. Continued employment of the below individual while without his oversight, the laboratory will require recertification:
  - a. Mr. M. Hashim Malikzai the laboratory manager;
- B. If the calibration certificates of equipments expire or become invalid as per the relevant standard;
- C. If the laboratory is moved to a new location, it will require recertification; and
- D. If the laboratory fails to comply by the approved lab quality management plan, safety standards, and other criteria set forth in the most up-to-date ABA lab certification manual, the lab certification may be suspended.

For verification and good standing of this certification please check our online directory of laboratories at [http://aba.af/lcp\\_directory.php](http://aba.af/lcp_directory.php). The inspection and certification process for the NESRA adhered to procedures outlined by the Materials Testing Center (MTC), which is located at the Geotechnical and Structures Laboratory (GSL), U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Mississippi, USA. The MTC is the USACE-authorized agency for certifying laboratories for use in quality control testing for USACE construction projects. To facilitate construction in Afghanistan, the USACE TAA has authorized the ABA to conduct laboratory certifications with strict adherence to MTC protocol. Qualifications of the authors for conducting these certifications include: 12 years of laboratory experience, 12 years of teaching classes on construction materials, and six years of teaching university-level construction classes.

Certified to perform 114 tests, as shown on attached sheets and summarized as:

Table 1:	26
Table 2:	9
Table 3:	21
Table 4:	24
Table 5:	25
Table 6:	6
Table 7:	3

Regards,

  
Mowdood Popal

President of Afghanistan Builders Association



### NESRA Certified Laboratory Tests

Table 1. List of Certified Soil Tests

No	Test Method	Test Procedure Title
1	AASHTO T89	Standard Method of Test for Determining the Liquid Limit of Soils
2	AASHTO T90	Standard Method of Test for Determining the Plastic Limit and Plasticity Index of Soils
3	AASHTO T224	Standard Method of Test for Correction for Coarse Particles in the Soil Compaction Test
4	ASTM C136	Particle Analysis of Soils
5	ASTM D421	Standard Practice for Dry Preparation for Particle Size Distribution & Soil Constants
6	ASTM D422	Standard Test Method for Particle Size Analysis of Soils (Hydrometer not available)
7	ASTM D558	Moisture- Density (Unit Weight) Relation of Soil-Cement Mixtures
8	ASTM D698	Standard Test Method for Compaction Characteristics by Standard Effort
9	ASTM D854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
10	ASTM D1140	Standard Test Method for Amount of Material in Soils Finer than 75 mm (No. 200) Sieve
11	ASTM D1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand-Cone Method
12	ASTM D1557	Standard Test Method for Laboratory Compaction Characteristics by Modified Effort
13	ASTM D1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soil
14	ASTM D2166	Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
15	ASTM D2216	Standard Test Method for Laboratory Determination of Water(moisture) Content of Soil and Rock By Mas
16	ASTM D2487	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
17	ASTM D2488	Standard Practice for Description & Identification of Soils (Visual-Manual Procedure)
18	ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purpose
19	ASTM D4220	Standard Practice for Preserving and Transporting Soil Samples
20	ASTM D4318	Standard Test Methods Liquid & Plastic Limits & Plasticity Index
21	ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
22	ASTM D4959	Standard Test Method for Determination of Water (Moisture) Content of Soil by Direct Heating
23	ASTM D6026	Practice for Using Significant Digits in Geotechnical Data
24	ASTM D6913	Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
25	ASTM D6951	Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
26	CRD-C 654	Standard Test Method for Determining the California Bearing Ratio of Soil

**Table 2. List of Certified Advance Soil Tests**

No	Test Method	Test Procedure Title
1	ASTM D1452	Practice for Soil Exploration and Sampling by Auger Borings
2	ASTM D1586	Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
3	ASTM D1587	Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes
4	ASTM D2113	Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation
5	ASTM D2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
6	ASTM D5434	Standard Guide for Field Logging of Subsurface Exploration of Soil and Rock
7	ASTM D6032	Standard Test Method for Determining Rock Quality Designation (RQD) of Rock Core
8	ASTM D6951	Standard Test Method for used Dynamic Cone Penetration for Shallow Pavement Application
9	ASTM D5731	Standard Test Method for Determining Point Load Test

**Table 3. List of Certified Aggregate (Fine and Coarse) Tests**

No	Test Method	Test Procedure Title
1	ASTM C29	Standard Test Method for Unit Weight and Voids in Aggregate
2	ASTM C40	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
3	ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate
4	ASTM C88	Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate Method
5	ASTM C117	Standard Test Method for Material Finer than 75 $\mu\text{m}$ (No. 200) Sieve
6	ASTM C123	Standard Test Method for Lightweight Particles in Aggregate
7	ASTM C127	Standard Test Method for Specific Gravity & Absorption in Coarse Aggregate
8	ASTM C128	Standard Test Method for Specific Gravity & Absorption in Fine Aggregate
9	ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
10	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
11	ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
12	ASTM C535	Standard Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
13	ASTM C566	Standard Test Method for Total Evaporation Moisture Content of Aggregate by Drying
14	ASTM C702	Standard Practice for Reducing Samples to Testing Size
15	ASTM C1252	Standard Test Methods for Uncompacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface Texture, and Grading)
16	ASTM D75	Standard Practice for Sampling Aggregate
17	ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
18	ASTM D4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by The Calcium Carbide Gas Pressure Tester

No	Test Method	Test Procedure Title
19	ASTM D5079	Standard Practice for Preserving and Transporting Rock Core Samples
20	ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
21	CRD-C171	Standard Test Method for Determining the Percentage of Crushed Particles in Aggregate

**Table 4. List of Certified Cement, Grout, Mortar, & Concrete Tests**

No	Test Method	Test Procedure Title
1	ASTM C31	Standard Practice for Making and Curing Concrete Specimens in the Field
2	ASTM C39	Standard Test Method for Compressive Strength of Cylindrical
3	ASTM C42	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
4	ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [50-mm] Cube Specimens)
5	ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
6	ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
7	ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
8	ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
9	ASTM C185	Standard Test Method for Air Content of Hydraulic Cement Mortar
10	ASTM C187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
11	ASTM C191	Standard Test Method for Time Setting of Hydraulic Cement by Vicat Needle
12	ASTM C192	Standard Practice for Making and Curing Test Specimens in Laboratory
13	ASTM C231	Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method
14	ASTM C430	Standard Test Methods for Fineness of Hydraulic Cement by Sieve No .325
15	ASTM C451	Standard Test Method for Early Stiffening of Hydraulic Cement( Paste Method)
16	ASTM C617	Standard Practice for Capping Cylindrical Specimens
17	ASTM C642	Test Method for Specific Gravity , Absorption and Voids in Hardened Concrete
18	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
19	ASTM C823	Standard Practice for Examination and Sampling of Hardened Concrete in Construction
20	ASTM C1019	Standard Test Method for Sampling and Testing Grout
21	ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
22	ASTM C1314	Standard Test Method for Compressive Strength of Masonry Prisms
23	ASTM C1231	Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders
24	ASMT C1437	Standard Test Method for Flow of Hydraulic Cement Mortar

**Table 5. List of Certified Asphalt Cement and Asphalt Concrete Tests**

No	Test Method	Test Procedure Title
1	AASHTO T79	Standard Method of Tests for Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less than 93°C (200 °F)
2	AASHTO T182	Standard Method of Test for Coating and Stripping of Bitumen-Aggregate Mixtures
3	AASHTO T230	Standard Method of Tests for Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
4	ASTM D5	Standard Test Method for Penetration of Bituminous Materials
5	ASTM D36	Standard Test Method for Softening Point
6	ASTM D70	Standard Test Method for Density of Semi-Solid of Bituminous Materials
7	ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
8	ASTM D113	Standard Test Method for Ductility of bituminous Materials
9	ASTM D140	Standard Practice for Sampling Bituminous Materials
10	ASTM D546	Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
11	ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
12	ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity & Density (Rice)
13	ASTM D2172	Standard Test Methods for Quantitative Extraction
14	ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
15	ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
16	ASTM D3549	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
17	ASTM D3665	Standard Practice for Random Sampling of Construction Materials
18	ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
19	ASTM D5361	Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing
20	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
21	ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
22	ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
23	CRD-C649	Standard Test Method for Unit Weight, Marshall Stability, and flow of Bituminous Mixtures
24	CRD-C650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
25	CRD-C652	Standard Test Method for Measurement of Reduction in Marshal Stability of Bituminous Paving Mixtures Caused by Immersion in Water

**Table 6. List of Certified Bricks & Masonry Units Tests**

No	Test Method	Test Procedure Title
1	ASTM C67	Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
2	ASTM C97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
3	ASTM C140	Standard Test Methods for Sampling and Testing Concrete Masonry and Related Units
4	ASTM C170	Standard Test Method for Compressive Strength of Dimension Stone
5	ASTM C1532	Practice for Selection, Removal, and Shipment of Manufactured Masonry Units and Masonry Specimens from Existing Construction
6	ASTM C1552	Standard Practice for Capping CMU/Related Units/Masonry Prisms for Compression Testing

**Table 7. List of Certified Steel Tests for NESRA**

No	Test Method	Test Procedure Title
1	AASHTO T285	Standard Method of Tests for Bend Test of Bars for Concrete Reinforcement
2	ASTM A370	Standard Test Methods and Definition for Mechanical Testing for Steel Products
3	ASTM E8	Standard Test Methods for Tension Testing of Metallic Materials