

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

|  |  |   |
|--|--|---|
| <br><b>UKAS</b><br>TESTING<br><b>7971</b><br><br>Accredited to<br><b>ISO/IEC 17025:2017</b> | <b>Ashghal Centre for Research and Development</b> |   |
|  | Issue No: 018 Issue date: 03 November 2025         |   |
|  | Ain Khaled<br>Doha<br>State of Qatar               | Contact: Eng.Badr Mohammed H A Darwish<br>Tel: +974 40353330<br>E-Mail: bdarwesh@ashghal.gov.qa<br>Website: <a href="http://www.ashghal.gov.qa">http://www.ashghal.gov.qa</a> |

**Testing performed by the Organisation at the locations specified below**

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

| Location details                                       | Activity  | Location code   |   |
|--|---|---|---|
| <b>Address</b><br>Ain Khaled<br>Doha<br>State of Qatar | <b>Local contact</b><br>Eng.Badr Mohammed H A Darwish<br>Tel: +974 40353330<br>E-Mail: bdarweshi@ashghal.gov.qa | Water - Chemical & Microbiological tests<br>Soils - Physical & Mechanical tests<br>Aggregates – Physical & Mechanical tests<br>Bituminous Mixtures - Physical & Mechanical tests<br>Hardened Concrete - Physical & Mechanical tests | A |

#### Site activities performed away from the locations listed above:

| Location details                                     | Activity   | Location code   |   |
|--|--|---|---|
| <b>Address</b><br>Commercial and Industrial Premises | <b>Local contact</b><br>Eng.Badr Mohammed H A Darwish<br>Tel: +974 40353330<br>E-Mail: bdarwesh@ashghal.gov.qa | Aggregates – Physical & Mechanical tests<br>Bituminous Mixtures - Physical & Mechanical Tests | B |



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DETAIL OF ACCREDITATION

| Materials/Products tested       | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used   | Location Code |
|---------------------------------|---|--|---------------|
| <b>Microbiological Analysis</b> |   |  |               |
| WATERS                          | <u>Microbiological Tests</u>                          | Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2023' (Published by APHA - ISBN 9780875532998) |               |
| Treated effluent                | Enumeration:<br>Total Coliform / Ecoli                | Method MICRO101- IDEXX Quantitray using APHA 9223 B  | A             |
| Treated effluent                | Faecal Coliform                                       | Method MICRO102 - IDEXX Quantitray using APHA 9222 D (ATP) Colilert -18  | A             |
| Treated effluent                | Nematode eggs   | Method MICRO103 using WHO Modified Bailenger method 1996   | A             |
| Sea Water                       | Enterococci   | Method MICRO104 - IDEXX Quantitray using APHA 99230 D Enterolert   | A             |
| <b>End of Section</b>           |   |  |               |



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| <b>Chemical Analysis</b>              |   |  |               |
| WATERS                                | <u>Chemical testing</u>                               | Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2023' (Published by APHA - ISBN 9780875532998) |               |
| Untreated and treated sewage effluent | pH  | Method CHEM101 using APHA 4500-H B   | A             |
| Untreated and treated sewage effluent | Electrical Conductivity<br>TDS by Calculation         | Method CHEM106 using APHA 2510 B   | A             |
| Untreated and treated sewage effluent | Total suspended solids (TSS)                          | Method CHEM112 using APHA 2540 D   | A             |
| Untreated and treated sewage effluent | Alkalinity  | Method CHEM102 using APHA 2320 B   | A             |
| Treated sewage effluent               | Magnesium by calculation                              | Method CHEM107 using APHA 3500-Mg B  | A             |
| Untreated and treated sewage effluent | Turbidity   | Method CHEM109 using APHA 2130 B   | A             |
| Treated sewage effluent               | Residual Chlorine                                     | Method CHEM110 using APHA 4500-Cl I  | A             |
| Untreated and treated sewage effluent | Biochemical Oxygen Demand                             | Method CHEM103 using APHA 5210 B   | A             |
| Untreated and treated sewage effluent | Chemical Oxygen Demand                                | Method CHEM104 using APHA 5220 D   | A             |
| Untreated and treated sewage effluent | Total Phosphate                                       | Method CHEM105 using APHA 4500-P B+C   | A             |
| Treated sewage effluent               | Ammonia Nitrogen                                      | Method CHEM 113 using APHA 4500-NH3 A,B+C  | A             |
| Untreated and treated sewage effluent | Total Kjeldahl Nitrogen                               | Method CHEM 116 using APHA 4500-N B+C  | A             |



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| WATERS (cont'd)                       | <u>Chemical testing (cont'd)</u>                      | Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2023' (Published by APHA - ISBN 9780875532998) |               |
| Treated sewage effluent               | Nitrite<br>Nitrate                                    | Method CHEM 115 based on APHA 4110B using Ion Chromatography   | A             |
| Treated sewage effluent               | Hardness as CaCo3                                     | Method CHEM108 using APHA 2340 C   | A             |
| Treated sewage effluent               | Calcium as CaCo3                                      | Method CHEM107 using APHA 3500-Ca B  | A             |
| Untreated and treated Sewage effluent | Total Organic Carbon (TOC)                            | Method CHEM 118 based on APHA 5310   | A             |
| <b>End of Section</b>                 |   |  |               |



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| <b>Construction Materials Testing</b>                   |   |  |                 |
| SOILS for civil engineering purposes                    | Water (Moisture) Content                                    | ASTM D2216-19  | A               |
|   | Liquid Limit  | ASTM D4318-17e1                                      | A               |
|   | Plastic Limit   | ASTM D4318-17e1                                      | A               |
|   | Plasticity Index  | ASTM D4318-17e1                                      | A               |
|   | California Bearing Ratio of laboratory compacted soils      | ASTM D1883-21  | A               |
|   | Laboratory compaction characteristics using modified effort | ASTM D1557-12 (2021)                                 | A               |
|   | Amount of materials finer than 75 µm (No. 200) by washing   | ASTM D1140-17  | A               |
|   | Sieve Analysis  | ASTM D6913/D6913/M-17                                | A               |
|   | Sand Equivalent   | ASTM D2419-22  | A               |
|   | AGGREGATES  | Amount of materials finer than 75 µm (No. 200) sieve | ASTM C117-17-23 |
| Sieve analysis of fine and coarse aggregates            |   | ASTM C136/C136M-19                                   | A               |
| Percentage of Fractured Particles in Coarse Aggregates. |   | ASTM D5821-13(2017)                                  | A               |
| Flat and Elongated Particles in course aggregates       |   | ASTM D4791-19 (2023)                                 | A               |
| Reducing samples of aggregate to testing size           |   | ASTM C702/702M-24                                    | A               |
| Sand Equivalent   |   | ASTM D2419-22  | A               |
| Specific gravity of fine aggregates                     |   | ASTM C128-22   | A               |



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| AGGREGATES (cont'd)       | Soundness   | ASTM C88-24  | A             |
|                           | LA Abrasion   | ASTM C131M-20,<br>ASTM C535-16 (2024)              | A             |
|                           | Clay lumps  | ASTM C142/C142M-17 (2023)                          | A             |
|                           | Organic Impurities  | ASTM C40/C40-20                                    | A             |
|                           | Aggregate Crushing Value  | BS 812 Part 110:1990                               | A             |
|                           | Resistance of coarse aggregate to degradation by abrasion (micro-deval) | ASTM D6928-17                                      | A             |
|                           | Resistance of fine aggregate to degradation by abrasion (micro-deval)   | ASTM D7428-15 (2023)                               | A             |
|                           | Detection of Harmful Clays of the Smectite Group Using Methylene Blue   | AASHTO T330-22<br>BS EN 933-9:2022                 | A             |
|                           | Lightweight Particulates  | ASTM C123-23                                       | A             |
|                           | Uncompacted Voids in Fine aggregate                                     | ASTM C1252-23                                      | A             |
|                           | Specific Gravity of Soil solid by Water Pycnometer                      | ASTM D854-23                                       | A             |
|                           | Geometrical properties – shell content. Percentage of shells            | BS EN 933-7:1998                                   | A             |
| CONCRETE - Hardened       | Specific gravity of coarse aggregates                                   | ASTM C127-24                                       | A             |
|                           | Shape and dimensions of specimens                                       | BS EN 12390-1:2021                                 | A             |
|                           | Density   | BS EN 12390-7:2019                                 | A             |
|                           | Compressive strength of cubes including curing                          | BS EN 12390-2:2019<br>BS EN 12390-3:2019           | A             |
|                           | Rebound hammer test   | ASTM C805/C805M-18                                 | A             |



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| BITUMINOUS MIXTURES                                    | Preparation of Bituminous Specimens using Marshall Apparatus  | ASTM D6926-16                                      | A             |
|  | Marshall Stability and Flow   | ASTM D6927-15                                      | A             |
|  | Thickness of asphalt core   | ASTM D3549/D3549M-18                               | A             |
|  | Bulk specific gravity and density of non-absorptive compacted mixtures  | ASTM D2726/D2726M-19                               | A             |
|  | Theoretical maximum specific gravity  | ASTM D2041/D2041M-19                               | A             |
|  | Stability and Flow (6in diameter)   | ASTM D5581-07a (2013)                              | A             |
|  | Indirect Tensile (IDT) Strength   | ASTM D6931-17                                      | A             |
|  | Asphalt Content of Asphalt Mixture by Ignition Method   | ASTM D6307-19                                      | A             |
|  | Reducing Samples of HMA   | AASHTO R47- 14                                     | A             |
|  | Resistance of compacted asphalt mixtures to moisture induced damage   | AASHTO T283-14                                     | A             |
|  | Sampling compacted asphalt mixtures for lab testing   | ASTM D5361/D5361m-16                               | A             |
|  | Quantitative extraction of bitumen from bituminous paving mixtures  | ASTM D2172-17e1                                    | A             |
|  | Preparation and determination of the Relative Density of asphalt mix specimens by means of the Superpave Gyrotory Compactor | ASTM D6925-15                                      | A             |
| Effect of Moisture on Asphalt Concrete Paving Mixtures | ASTM D4867 / D4867M - 09 (2014)   | A  |               |
| Mechanical Size analysis of extracted aggregates       | ASTM D5444-23   | A  |               |



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| BITUMINOUS MIXTURES (cont'd) | Fatigue Life of Compacted Asphalt Mixtures Subjected to Repeated Flexural Bending | AUST ROADS AGPT/T274-2016                          | A             |
|                              | Dynamic Modulus and Flow Number Using the Asphalt Mixture Performance Tester      | AASHTO T378-17 Procedure A                         | A             |
|                              | Dynamic Modulus and Flow Number Using the Asphalt Mixture Performance Tester      | AASHTO T378-17 Procedure B                         | A             |
|                              | Compaction of Prismatic asphalt (shear box compactor)                             | ASTM D7981-15                                      | A             |
|                              | Resilient Modulus of Bituminous Mixtures by Indirect Tension Test                 | AS/NZS 2891.13.1:2013                              | A             |
| BITUMINOUS MATERIALS         | Penetration of bituminous materials   | ASTM D5/D5M-19                                     | A             |
|                              | Softening Point   | ASTM D36/D36M-14e1                                 | A             |
|                              | Flash and Fire Point  | ASTM D92-18  | A             |
|                              | Ductility of Asphalt Materials  | ASTM D113-17                                       | A             |
|                              | Sieve Analysis of mineral filler  | ASTM D546-17                                       | A             |
|                              | Rolling Thin-Film Oven Test   | ASTM D2872-12e1, AASHTO T240-13 (2017)             | A             |
|                              | Viscosity using Rotational Viscometer   | ASTM D4402-15, AASHTO T316-13                      | A             |
|                              | Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)        | ASTMD6521-13                                       | A             |
|                              | Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR) | ASTM D6648-08(2016)                                | A             |
|                              | Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer          | ASTM D7175-15, AASHTO T315-12 (2016)               | A             |



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|                           | Multiple stress creep and recovery of asphalt binder using a dynamic shear rheometer | ASTM D 7405-15                                     | A             |
|                           | Loss on Heating of Oil and Asphaltic Compounds                                       | ASTM D6/D6M-95 (2018)                              | A             |
|                           | Solubility of Asphalt Materials in Trichloroethylene                                 | ASTM D2042-15                                      | A             |
|                           | Density of Semi-Solid Bituminous Materials (Pycnometer Method)                       | ASTM D70-18a                                       | A             |
| <b>End of Section</b>     |  |  |               |



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| <b>Site Testing and Mobile Laboratory Testing</b> |  |  |               |
| AGGREGATES  | Specific gravity and absorption of coarse aggregates   | ASTM C127-24                                       | B             |
|   | Specific gravity and absorption of fine aggregates     | ASTM C128-22                                       | B             |
|   | Sampling   | ASTM D75/D75-19                                    | B             |
| BITUMINOUS MIXTURES                               | Bulk specific gravity of compacted bituminous mixtures | ASTM D2726/D2726M-19                               | B             |
|   | Theoretical maximum specific gravity                   | ASTM D2041/D2041M-11                               | B             |
|   | Thickness of asphalt core                              | ASTM D3549/D3549M-18                               | B             |
|   | Temperature measurement                                | BS EN 12697-13:2017                                | B             |
|   | Sampling Bituminous Paving Mixtures                    | ASTM D979/D979M-15                                 | B             |
|   | Reducing Samples of HMA                                | AASHTO R47-14                                      | B             |
|   | Sampling compacted asphalt mixtures for lab testing    | ASTM D5361/D5361M-16                               | B             |
| BITUMINOUS MATERIALS                              | Penetration of bituminous materials                    | ASTM D5/D5M-19                                     | B             |
|   | Sampling Asphalt Binder                                | ASTM D140/D140-16                                  | B             |

END