



May 10, 2024

**City of Winnipeg
Approved Testing Laboratories**

The following Testing Laboratories have been approved for the 2024 construction season.

Eng-Tech Consulting Ltd.

H. Manalo Consulting Ltd.

Stantec Consulting Ltd.

Trek Geotechnical

WSP E&I Canada Limited - Manitoba

Copies of CCIL Certification be submitted directly to:

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2024 APPROVED TESTING LABORATORIES - AGGREGATE

	Testing Method	ASTM/AASHTO/CSA/L S	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Aggregate Quality Control Laboratories (Type C)	Reducing Samples of Aggregate to Testing Size	C702	✓	✓	✓	✓	✓
	Minerals finer than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing	C117	✓	✓	✓	✓	✓
	Sieve Analysis of Fine and Coarse Aggregates	C136	✓	✓	✓	✓	✓
	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	D4791	✓	✓	✓	✓	✓
	Determining the Percentage of Fractured Particles in Coarse Aggregate	D5821	✓	✓	✓	✓	✓
Aggregate Physical Property Laboratories (Type D)	Resistance to Degradation of Small & Large-Size Coarse Aggregate by Abrasion and Impact in the L.A. Machine	C131 & C535	✓	✓	✓	✓	✓
	Relative Density (Specific Gravity) and Absorption of Coarse Aggregate	C127	✓	✓	✓	✓	✓
	Relative Density (Specific Gravity) and Absorption of Fine Aggregate	C128	✓	✓	✓	✓	✓
	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	C88	✓	✓	✓	✓	✓
	Organic Impurities in Fine Aggregates for Concrete	C40	✓	-	✓	-	✓
	Resistance of Unconfined Coarse Aggregate to Freezing and Thawing	A23.2-24A	✓	-	-	✓	-
	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	D6928	✓	✓	✓	✓	✓
	Resistance of Fine Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	D7428	✓	✓	✓	✓	✓
	Detection of Alkali-Silica Reactive Aggregate by Accelerated Expansion of Mortar Bars	A23.2-25A	-	-	✓	✓	-

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2024 APPROVED TESTING LABORATORIES – AGGREGATE (CONT'D)

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Superpave Aggregate Consensus Properties	Uncompacted Void Content of Fine Aggregate	C1252	✓	-	✓	-	✓
	Sand Equivalent Value of Soils and Fine Aggregate	D2419	✓	-	✓	-	-
	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	D4791	✓	✓	✓	✓	-
	Determining the Percentage of Fractured Particles in Coarse Aggregate	D5821	✓	-	✓	✓	-
Soil Physical Property Tests	Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft ³ (600 kN-m/m ³))	D698	✓	✓	✓	✓	✓
	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft ³ (2,700 kN-m/m ³))	D1557	✓	-	✓	✓	✓
	Specific Gravity of Soil Solids by Water Pycnometer	D854	-	-	✓	✓	-
	Liquid Limit, Plastic Limit, and Plasticity Index of Soils	D4318	✓	✓	✓	✓	✓
	Particle Size Analysis of Soils	T88	✓	-	✓	✓	✓
	Permeability of Granular Soils (Constant Head)	D2434	-	-	-	✓	-

2024 APPROVED TESTING LABORATORIES – CONCRETE

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Basic Concrete (Type Q)	Sampling plastic concrete	A23.2-1C	✓	✓	✓	✓	✓
	Making and curing concrete compression and flexural test specimens	A23.2-3C (Compressive)	✓	✓	✓	✓	✓
	Air content of plastic concrete by the pressure method	A23.2-4C	✓	✓	✓	✓	✓
	Slump of concrete	A23.2-5C	✓	✓	✓	✓	✓
	Compressive strength of cylindrical concrete specimens	A23.2-9C	✓	✓	✓	✓	✓
	Temperature of freshly mixed hydraulic cement concrete	A23.2-17C	✓	✓	✓	✓	✓
Additional Tests (Type Q)	Testing for properties of flowable grout	A23.2-1B	✓	✓	✓	-	✓
	Determination of bond strength of bonded toppings and overlays and of direct tensile strength of concrete, mortar, and grout	A23.2-6B (Procedure A)	✓	✓	✓	-	✓
	Making and curing concrete compression and flexural test specimens	A23.2-3C (Flexural)	✓	✓	✓	✓	✓
	Flexural strength of concrete (using simple beam with third-point loading)	A23.2-8C	✓	✓	✓	✓	✓
	Water content, density, absorption, and voids in hardened concrete, grout, or mortar	A23.2-11C	✓	-	✓	-	✓
	Obtaining and testing drilled cores for compressive strength testing	A23.2-14C	✓	✓	✓	✓	✓
	Slump flow of concrete	A23.2-19C	✓	✓	✓	✓	✓
	Passing ability of self-consolidating concrete by J-ring and slump cone	A23.2-20C	✓	-	-	-	-

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2024 APPROVED TESTING LABORATORIES – CONCRETE (CONT'D)

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Concrete Aggregate (Type R)	Sampling aggregates for use in concrete	A23.2-1A	✓	✓	✓	✓	✓
	Sieve analysis of fine and coarse aggregate	A23.2-2A	✓	✓	✓	✓	✓
	Clay lumps in natural aggregate	A23.2-3A	✓	✓	✓	✓	✓
	Low-density granular material in aggregate	A23.2-4A	✓	✓	✓	✓	✓
	Amount of material finer than 80 µm in aggregate	A23.2-5A	✓	✓	✓	✓	✓
	Relative density and absorption of fine aggregate	A23.2-6A	✓	✓	✓	✓	✓
	Test for organic impurities in fine aggregates for concrete	A23.2-7A	✓	✓	✓	✓	✓
	Bulk density of aggregate	A23.2-10A	✓	✓	✓	✓	✓
	Relative density and absorption of coarse aggregate	A23.2-12A	✓	✓	✓	✓	✓
	Flat and elongated particles in coarse aggregate	A23.2-13A	✓	✓	✓	✓	✓
Additional Tests (Type R)	Soundness of fine and coarse aggregate by use of magnesium sulphate	A23.2-9A	✓	-	-	✓	-
	Surface moisture in fine and coarse aggregate	A23.2-11A	✓	✓	✓	-	✓
	Resistance to degradation of small-size coarse aggregate by abrasion and impact in the Los Angeles machine	A23.2-16A	✓	-	✓	✓	✓
	Resistance to degradation of large-size coarse aggregate by abrasion and impact in the Los Angeles machine	A23.2-17A	✓	-	✓	✓	✓
	Test method for the resistance of fine aggregate to degradation by abrasion in the Micro-Deval apparatus	A23.2-23A	✓	-	✓	✓	-
	Test method for the resistance of unconfined coarse aggregate to freezing and thawing	A23.2-24A	✓	-	-	✓	-
	Test method for detection of alkali-silica reactive aggregate by accelerated expansion of mortar bars	A23.2-25A	-	-	✓	✓	-
	Determination of potential alkali-carbonate reactivity of quarried carbonate rocks by chemical composition	A23.2-26A	-	-	-	✓	-
Test method for the resistance of coarse aggregate to degradation by abrasion in the Micro-Deval apparatus	A23.2-29A	✓	-	✓	✓	-	

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2024 APPROVED TESTING LABORATORIES – CONCRETE (CONT'D)

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Advanced Concrete (Type S)	Measuring mortar-strength properties of fine aggregate	A23.2-8A	✓	-	✓	-	✓
	Making concrete mixes in the laboratory	A23.2-2C	✓	-	✓	-	✓
	Density and yield of plastic concrete	A23.2-6C	✓	-	✓	-	✓
	Water content, density, absorption, and voids in hardened concrete, grout, or mortar	A23.2-11C	✓	-	✓	-	✓
Additional Tests (Type S)	Accelerating the curing of concrete cylinders and determining their compressive strength	A23.2-10C (Procedure A & C)	✓	-	-	-	-
	Making, curing, and testing compression test specimens of no-slump concrete	A23.2-12C (incl. 18C)	✓	-	-	-	-
	Splitting tensile strength of cylindrical concrete specimens	A23.2-13C	✓	-	✓	-	-
	Determination of total water content of normal weight fresh concrete	A23.2-18C	✓	-	-	-	-
	Test Method for length change of hardened concrete	A23.2-21C	✓	-	-	-	-
	Scaling resistance of concrete surfaces exposed to deicing chemicals using mass loss	A23.2-22C	✓	-	-	-	-
	Electrical indication of concrete's ability to resist chloride ion penetration	A23.2-23C	✓	-	✓	-	-
	Bulk electrical resistivity of concrete	A23.2-26C	✓	-	-	-	-

2024 APPROVED TESTING LABORATORIES – ASPHALT

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Asphalt Mix Compliance - Marshall Method (Type B)	Preparation of Bituminous Specimens Using Marshall Apparatus	D6926	✓	✓	✓	✓	✓
	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures	D2726	✓	✓	✓	✓	✓
	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples	D1188	-	✓	✓	✓	-
	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method	D6752	-	✓	✓	✓	-
	Marshall Stability and Flow of Asphalt Mixtures	D6927	✓	✓	✓	✓	✓
	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures	D2041	✓	✓	✓	✓	✓
	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	D3203	✓	✓	✓	✓	✓
	Percent VMA in Compacted Mixture	MS-2	✓	✓	✓	✓	✓
	Quantitative Extraction of Bitumen From Bituminous Paving Mixtures	D2172	✓	✓	✓	✓	-
	Asphalt Content of Hot-Mix Asphalt by Ignition Method	D6307	✓	✓	✓	✓	✓
Mechanical Size Analysis of Extracted Aggregate	D5444	✓	✓	✓	✓	✓	
Asphalt Mix Compliance - Superpave Method (Type B)	Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Gyratory Compactor	T312	-	-	✓	-	✓
	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures	D2726	-	-	✓	-	✓
	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures	D2041	-	-	✓	-	✓
	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	D3203	-	-	✓	-	✓

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2024 APPROVED TESTING LABORATORIES – ASPHALT (CONT'D)

	Testing Method	ASTM/AASHTO/CSA/LS	Testing Laboratories				
			Eng-Tech	H. Manalo	Stantec	Trek	WSP
Asphalt Mix Design Laboratory - Marshall Method (Type A)	Reducing Samples of Aggregate to Testing Size	C702	✓	✓	✓	✓	✓
	Minerals Finer than 75-µm (No.200) Sieve in Mineral Aggregates by Washing	C117	✓	✓	✓	✓	✓
	Sieve Analysis of Fine and Coarse Aggregates	C136	✓	✓	✓	✓	✓
	Relative Density (Specific Gravity) and Absorption of Coarse Aggregate	C127	✓	✓	✓	✓	✓
	Relative Density (Specific Gravity) and Absorption of Fine Aggregate	C128	✓	✓	✓	✓	✓
	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	D4791	✓	✓	✓	✓	✓
	Determining the Percentage of Fractured Particles in Coarse Aggregate	D5821	✓	✓	✓	✓	✓
	Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage	D4867	✓	✓	✓	-	✓
Asphalt Mix Design Laboratory - Superpave Method (Type A)	Superpave Volumetric Design for Asphalt Mixtures	R35	-	-	✓	-	-
	Mixture Conditioning of Hot Mix Asphalt (HMA)	R30	-	-	✓	-	-
	Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage	D4867	-	-	✓	-	-
	Uncompacted Void Content of Fine Aggregate	T304	-	-	✓	-	-
	Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures (if required)	C1252	-	-	✓	-	-
	Sand Equivalent Value of Soils and Fine Aggregate	D2419	-	-	✓	-	-

Should you have any questions, or if clarification is required, please contact me at your convenience.

Yours truly,



Ahmed Ghazy, Ph.D., P.Eng., PMP, Research and Standards Engineer