# General

## Summary

* + 1. The Work of this Section includes, but is not limited to the following:
       1. Reference standards and Codes
       2. Authorities having jurisdiction
       3. Independent inspection and testing agency requirements
       4. Inspection and testing agency reports
       5. Quality assurance
       6. Metric vs. Imperial equipment
       7. Permits
       8. Exterior sanitary and storm sewer video inspection
       9. Interior under slab sanitary and storm drainage video inspection
       10. Testing procedures
       11. Testing laboratories
       12. Notification of non-compliance

## Reference standards and codes

* + 1. “Reference standards” means consensus standards, trade association standards, guides, and other publications expressly referenced in Contract Documents.
    2. Where an edition or version date is not specified, referenced standards shall be deemed to be the latest edition or revision issued by the publisher at the time of bid closing. However if a particular edition or revision date of a specified standard is referenced in an applicable code or other regulatory requirement, the regulatory referenced edition or version shall apply.
    3. Reference standards establish minimum requirements. If Contract Documents call for requirements that differ from a referenced standard, the more stringent requirements shall govern.
    4. If compliance with two or more reference standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Consultant for clarification.
    5. Within the Specifications, reference may be made to the following standards writing, testing, or certification organizations by their acronyms or initialisms:

**RoD SPEC NOTE:** Edit the following list to add and delete names, so that all reference standard writing organizations referenced in the technical Specifications are listed. The list provided does not necessarily include all industry and trade associations that publish standards or have quality testing or certification programs. In particular, it does not include those operating only at the provincial level.

* + - 1. Aluminum Association (AA)
      2. American Concrete Institute (ACI)
      3. American Institute of Steel Construction (AISC)
      4. American National Standards Institute (ANSI)
      5. American Society of Mechanical Engineers (ASME)
      6. American Society for Testing and Materials (ASTM)
      7. Architectural Woodwork Manufacturers Association of Canada (AWMAC)
      8. American Wire Producers Association (AWPA)
      9. Brick Institute Association (BIA)
      10. Canadian Construction Association (CCA)
      11. Canadian General Standards Board (CGSB)
      12. Canadian Institute of Steel Construction (CISC)
      13. Canadian Prestressed Concrete Institute (CPCI)
      14. Canadian Standards Association (CSA)
      15. Canadian Sheet Steel Building Institute (CSSBI)
      16. Canadian Welding Bureau (CWB)
      17. Insulated Cable Engineers Association (ICEA)
      18. International Concrete Repair Institute (ICRI)
      19. Institute of Electrical and Electronics Engineers (IEEE)
      20. Insulating Glass Manufacturers Association of Canada (IGMAC)
      21. Leadership in Energy and Environmental Design (LEED)
      22. Master Painters Institute (MPP)
      23. Manufacturers Standardization Society of the Valve and Fittings Industry (MSS)
      24. National Association of Architectural Metal Manufacturers (NAAMM)
      25. National Electrical Manufacturers Association (NEMA)
      26. National Fire Protection Association (NFPA)
      27. National Hardwood Lumber Association (NHLA)
      28. National Lumber Grades Authority (NLGA)
      29. Ontario Concrete Masonry Block Association (OCBA)
      30. The Society for Protective Coatings (SSPC)
      31. Terrazzo, Tile and Marble Association of Canada (TTMAC)
      32. Underwriters' Laboratories of Canada (ULC)
    1. Perform the Work in accordance with the requirements of the latest editions of the following statutes and codes in force at the time of the Contract:
       1. Canadian Gas Association CSA/CGA B149.1-10 Natural Gas and Propane Installation Code
       2. Code book B139 for gas installations as per TSSA requirements.
       3. Electrical Safety Authority
       4. Municipal building and fire codes and by-laws
       5. National Building Code
       6. National Fire Protection Association
       7. Ontario Building Code
       8. Ontario Construction Safety Act
       9. Ontario Electrical Safety Code
       10. Ontario Fire Code
       11. Ontario Hydro
       12. WHIMS
    2. Comply with any applicable revisions to codes and regulations after the date of the agreement. Costs of such revisions shall be compensated for through a Change Order.
    3. Precedence of standards:
       1. Where applicable, ensure that all materials and equipment conform to the applicable standards listed.
       2. Canadian standards take precedence over American standards in the case of duplication or conflict.

## Authorities having jurisdiction

* + 1. Where reference is made to "authorities having jurisdiction", it shall mean all authorities who have within their constituted powers the right to enforce the laws of the place of the building.

## Independent inspection and testing agencies

* + 1. Except as otherwise specified, Owner will retain and pay for independent inspection and testing agencies to inspect, test, or perform other quality control reviews of parts of the Work.
    2. Retain and pay for inspection and testing that is for Contractor’s own quality control or is required by regulatory requirements.

**RoD Spec Note:** Delete the following paragraph if independent inspection and testing is not identified as a Cash Allowances item in Section 01 21 00.

* + 1. Section 01 21 00; Specifies a cash allowance for independent inspection and testing services to be retained and paid for by Contractor. Cash allowance excludes any inspection and testing that is for Contractor’s own quality control or is required by regulatory requirements.
       1. Payment for reinspection and retesting of defective and rejected Work shall be made by the Owner and back charged to the Contractor.
    2. Employment of inspection and testing agencies by Contractor or Owner does not relieve Contractor from responsibility to perform the Work in accordance with Contract Documents.
    3. Qualifications of inspection and testing companies:
       1. Companies engaged for inspection and testing shall provide equipment, methods of recording and evaluation, and knowledgeable personnel to conduct tests precisely as specified in reference standards.
       2. If requested, submit affidavits and copies of certificates of calibration made by an accredited calibrator to verify that testing equipment was calibrated and its accuracy ensured within the previous twelve months.
       3. Inspection and testing of concrete and concrete materials will be carried out by a CSA Certified testing laboratory to CSA A283, for review in accordance with CSA A23.1/A23.2.
    4. Responsibilities of the Consultant:
       1. The Contractor will submit a list of Inspection and Testing companies to the Consultant for their review.
       2. The Consultant and Contractor will direct inspection and testing companies in the type and extent of inspection and testing to be undertaken.
       3. The Consultant will receive submitted reports of inspections and tests for evaluation and will decide upon any actions that may be required.
       4. The Consultant will provide Drawings and Specifications required by inspection and testing companies.
    5. Responsibilities of the Contractor:
       1. Inspection and testing performed by firms engaged for source and field quality control specified in other Sections shall not relieve the Contractor from responsibility of performing their Work in accordance with the Contract Documents.
       2. Provide access for inspection and testing personnel to Work in progress and to fabricator's operations.
       3. Provide samples of materials to be tested in required quantities at locations testing is performed.
       4. Submit copies of mill test reports.
       5. Provide labour and facilities:
          1. To facilitate inspections and tests.
          2. For storing of specimens at required temperature and free from vibration, in conformance with reference standard and inspection and testing company instructions.
          3. For obtaining, handling and transporting of samples at site and plant.
       6. Notify Consultant, and inspection and testing company at least 48 hours before Work to be inspected and tested commences.
       7. When it is discovered on inspection that Work is proceeding with incorrect materials or methods, ensure that corrections are immediately made and that improperly completed Work is replaced.
       8. Inspect all Work done by Subcontractors prior to application of final cover materials i.e. pressure plates, drywall ceilings, concrete slab pours and the like.
    6. Inspection and testing procedures:
       1. Perform specified inspection and testing only in accordance with specified reference standards, or as approved.
       2. Observe and report on compliance of Work to requirements of Contract Documents.
       3. Ensure that inspectors are on site or at fabricator's operations for full duration of critical operations, and as otherwise required to determine that Work is being performed in accordance with the Contract Documents.
       4. Identify samples.
       5. Identify sources of materials.
       6. Review and report on progress of Work. Report on count of units fabricated and inspected at fabricator's operations.
       7. Observe and report on conditions of significance to Work in progress at time of inspection or at fabricator's operations. Include where applicable and if critical to Work in progress:
          1. Time and date of inspection.
          2. Temperature of air, materials and adjacent surfaces.
          3. Humidity of air, and moisture content of materials and adjacent materials.
          4. Presence of sunlight, wind, rain, snow and other weather conditions.
       8. Include in reports all information critical to inspection and testing.
       9. Ensure that only materials from the Work and intended for use therein are tested.
       10. Determine locations for Work to be tested.
    7. Allow and arrange for inspection and testing agencies to have access to the Work, including access to offsite manufacturing and fabrication plants.
    8. For inspection and testing required by Contract Documents or by authorities having jurisdiction, provide Consultant and inspection and testing agencies with timely notification in advance of required inspection and testing.
    9. Submit test samples required for testing.
    10. Provide labour, Construction Equipment and temporary facilities to obtain and handle test samples on site.

## Inspection and testing agency reports

* + 1. For inspection and testing required by Contract Documents or by regulatory requirements, and performed by Contractor retained inspection and testing agencies, submit to Consultant and Owner an electronic copy of reports. Submit within five (5) Working Days after completion of inspection and testing.
    2. For inspection and testing performed by Owner retained inspection and testing agencies, copies of inspection and testing agency reports will be provided to Contractor.
    3. Each report shall include:
       1. Date of issue.
       2. Project name and number.
       3. Name and address of inspection and testing company.
       4. Name and signature of inspector or tester.
       5. Date of inspection or test.
       6. Identification of Product and technical trade Sections covering inspected or tested Work.
       7. Location of inspection or from which tested material was derived.
       8. Type of inspection or test.
       9. Remarks and observations on compliance with Contract Documents.

## Quality assurance

* + 1. Regulatory requirements: The provisions of the Occupational Health and Safety Act and Regulations are in full effect and in force on this Project, and as follows:
       1. For all the purposes of this Act, the Contractor is responsible for the health and safety of the workers at the site and shall post the appropriate notice on the site as required.
       2. All personnel employed at the Place of Work shall receive education and training in regard to the requirements of the Workplace Hazardous Materials Information System (WHMIS).
       3. For every Product delivered to the site which requires a Safety Data Sheet (SDS) provide an electronic copy of all SDS's to the Owner.

## Metric vs. Imperial equipment

* + 1. Notwithstanding the requirements set out in the preceding paragraphs, because not all trades have adopted metric material or in cases of adapting to existing, where metric and imperial types of equipment are to be installed under the same contract, the Contractor shall ensure that mating of metric and non-metric equipment is possible.
    2. Supply shop drawings of proposed transition couplings, etc., to the Consultant prior to assembly. The supply and installation of such couplings, adapters, etc., shall be at no additional cost to the Owner.
    3. Provide electronically powered equipment, components, and supplies that are CSA and ULC approved.

## Permits

* + 1. The Owner will obtain and pay for the building permit, permanent easements and rights of servitude only.
    2. Obtain all other necessary permits and approvals required for this project from the authorities having jurisdiction for all completed Work.
    3. Keep a copy of all permits on site.

**RoD SPEC NOTE:** Use the following when site works on the Project is required.

## Exterior sanitary and storm sewer video inspection

* + 1. The Contractor shall retain the services of an independent inspection service to “flush”, video inspect and document, with separate DVD videos and written copies of reports, all exterior sanitary and storm sewers, including all catch basin connections.
    2. The video inspection shall occur prior to the placement of asphalt, providing sufficient time to undertake any remedial Work necessitated to rectify deficiencies identified by the video inspection, and to undertake a second video inspection of the sections of sewer where deficiencies were rectified.
    3. On-site services shall be separate from off-site services.
    4. All sanitary and storm sewers shall be “flushed” by the independent inspection service prior to undertaking the video inspections.
    5. The video inspections shall be undertaken by a self tracking video camera providing colour digital imagery continuous from start to finish of each section of sewer.
    6. The independent video inspection services shall submit one (1) copy each of all DVD videos and reports to the Contractor, Owner and Consultant. The written report shall include documentation of each length of sewer, highlighting the condition, and noting any irregularities or deficiencies. Should any remedial Work and second video be required, submit copies of the new DVD videos and reports as indicated previously.

**RoD SPEC NOTE:** Keep the following paragraph when under slab sanitary and storm drainage is Specified on this Project. Delete when not required.

## Interior under slab sanitary and storm drainage video inspection

* + 1. The Contractor shall retain the services of an independent inspection service to “flush”, video inspect and document, with separate DVD videos and written copies of reports, all interior under slab sanitary and storm drainage,
    2. A video inspection shall be performed on the under slab sanitary and storm drainage at two (2) stages:
       1. After installation of drainage system and prior to pouring of slab;
       2. After pouring of slab.
    3. The video inspections shall be undertaken by a self tracking video camera providing colour digital imagery continuous from start to finish of each section of sanitary and storm drain.
    4. The video inspection prior to the slab pour shall be conducted to provide sufficient time to undertake any remedial Work necessitated to rectify deficiencies, identified by the video inspection, and to undertake a second video inspection of the sections of under slab drainage where deficiencies were rectified, prior to the slab pour.
    5. The Contractor shall be responsible for any and all cutting and patching of slab that may be required as a result of remedial Work necessitated to rectify deficiencies identified by the video inspection conducted after the slab pour.
    6. The independent video inspection services shall submit one (1) copy each of all DVD videos and reports to the Contractor, Owner and Consultant. The written report shall include documentation of each length of under slab drainage pipe, highlighting the condition, and noting any irregularities or deficiencies. Should any remedial Work and second video be required, submit copies of the new DVD videos and reports as indicated previously.

## Testing procedures

* + 1. Perform specified or required tests to verify that control measures are adequate to provide a Product which conforms to Contract requirements. Upon request, supply to the Owner duplicate samples of test specimens for possible testing by the Owner. Testing includes operation and/or acceptance tests when specified.
    2. Procure the services of a competent testing laboratory to perform the following activities and record and provide the following data:
       1. Verify that testing procedures comply with Contract requirements;
       2. Verify that facilities and testing equipment are available and comply with testing standards;
       3. Check test instrument calibration data against certified standards;
       4. Verify that recording forms and test identification control number system, including all the test documentation requirements, have been prepared.
    3. Results of all tests taken, both passing and failing tests, will be recorded for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test will be given.
    4. Failure to submit timely test reports as stated may result in nonpayment for related Work performed and disapproval of the test facility for this Contract.

## Testing laboratories

* + 1. Capability check:
       1. The Owner reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the Contract specifications and to check the laboratory technician's testing procedures and techniques.
       2. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D3740 and ASTM E329.

## Notification of noncompliance

* + 1. The Owner and Consultant will notify the Contractor of any detected noncompliance with the foregoing requirements, take immediate corrective action after receipt of such notice.
    2. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Owner and Consultant may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.
    3. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

# Products – not used

# Execution – not used

End of section