

For over 30 years Levelton Consultants Ltd. has provided materials engineering, diagnostic and forensic services to a diverse range of clients and projects. These services have assisted owners, designers and contractors in all aspects of evaluating, selecting and using construction materials, as well as investigating and designing repair and rehabilitation programs for damaged, deteriorated or aging structures. Quality assurance/quality control is a major part of Levelton's involvement in many projects. In addition, Levelton is well known for its expertise in troubleshooting, developing procedures and materials for specific applications and meeting a broad range of inspection and testing requirements.

## Quality Assurance/Quality Control (QA/QC)

- Preparation and implementation of QA/QC programs and specifications
- Audit of QA/QC systems
- Materials testing
- Field review and inspection
- In-plant audit and review

## Speciality Concrete Applications

- High performance concrete for severe exposure conditions, extended service life or high-strength requirements
- Silica-fume or fibre-reinforced shotcrete
- Roller-compacted concrete pavements and dams
- Speciality grouts for industrial applications
- Low-heat mixes for mass concrete
- Low-shrinkage mixes for critical applications and crack control
- Concrete mix design for extended service life
- Development of quality concrete using marginal materials
- Fibre-reinforcement for impact/abrasion resistance
- Grout qualification testing
- Architectural and coloured concrete, precast and cast-in-place
- Shotcrete for structural restoration and underground support

Levelton is one of Canada's leading consultants in the field of concrete technology, grouts and related cement-based materials. The firm has provided consulting services for many large and high profile construction projects including major bridges, marine shipping terminals, buildings, industrial plants, and rehabilitation projects. Clients have included design consultants, governments, institutions, heavy industries, contractors and developers.



### Other Related Areas of Demonstrated Skills



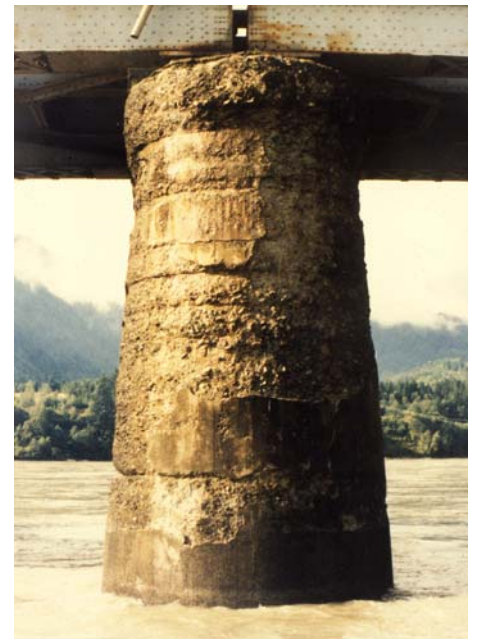
- Evaluation of materials and mix designs for specification compliance
- Preparation and review of technical specifications for special applications
- Investigation and analysis of deterioration, corrosion, chemical attack, structural failure
- Corrosion protection including membranes, coatings, linings and cathodic protection
- Qualification of raw materials; aggregates and aggregate sources; cements and pozzolans; coatings and sealers
- Proof-loading and load testing of structural assemblies, anchor bolts, rock anchors and grouted dowels
- Condition assessments of timber structures, glued laminates, bituminous pavements and composites
- Heavy-duty industrial slabs and pavements

### Physical, Chemical and Diagnostic Tests Include

- Windsor probe, Lok-test, drilled cores
- Corrosion potential, chloride ion concentration, rapid chloride permeability, linear polarization resistance, electrochemical noise
- Sonic impact-echo, ultrasonic pulse velocity
- Strength prediction by maturity method

### Typical Services

- Formulate proprietary products
- Prepare drawing, specifications and tender documents
- Obtain competitive pricing from qualified contractors
- Project management and administration
- Field review and quality assurance
- Ongoing monitoring to allow maintenance to take place in a timely, cost-effective way
- Provide a complete range of field and laboratory testing and instrumentation including, nondestructive testing, failure analysis and troubleshooting



Levelton's unique ability to combine talents through diverse, in-house expertise and laboratory facilities assures a high-quality, comprehensive team approach on all projects. We can call upon experts from all six of our practice groups: Materials Engineering, Materials and Corrosion, Environmental, Building Science, Geotechnical and Physical and Analytical Testing Services.