

Green Line Technical and Advisory Committee Member Resumes

DONALD C. FAIRBAIRN

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OVERVIEW

Don Fairbairn is an independent management consultant with extensive private, public and non-profit sector leadership experience.

PROFESSIONAL EXPERIENCE

DCF CONSULTING – VANCOUVER, BC

2002-Present

PRESIDENT

Current Activities:

- City of Calgary – (www.calgary.ca) – Chair, Technical and Risk Committee-Green Line LRT project
- Confidential Client – advisor – supporting resolution of contract claims.
- CRD (www.crd.bc.ca) – Board Chair, Capital Regional District Wastewater Project.
- Houle Electric (www.houle.ca) – Board Chair
- Norland Limited (www.norlandlimited.com) – Advisory Board Member
- Board member of two privately-held companies.

Past Activities:

- Transportation Investment Corporation (www.ticorp.ca) – Board Chair, a crown corporation operating a \$3.4 billion highway and developing \$5+ billion of transportation projects (7 year role).
- Columbia Basin Trust (www.cbt.org) – advisor – acquisition of \$1 billion partnership interest in a hydroelectric generating plant.
- PartnershipsBC (www.partnershipsbc.ca) – advisor – procurement due diligence and re-financings of existing P3 concessions.
- AESO (www.aeso.ca) – advisor – acquisition of portfolio of renewable electricity resources.
- Petronas (www.petronas.com.my) – advised on First Nations and commercial matters for a large LNG project.
- Columbia Power Corporation (www.columbiapower.org) – advised CEO on strategic planning, corporate and project development.
- TransLink (www.translink.ca) - advised on commercial matters and resolution of a significant contract dispute.
- AESO (www.aeso.ca) – Procurement advisor for a \$1.5 billion electric transmission project.
- Vancouver Community College (www.vcc.ca) – Chair of Board of Governors.
- Streethome Foundation (www.streethome.org) – Board member and co-founder, focused on reduction and prevention of chronic homelessness. Created innovative funding model and raised \$55 million in land and cash contributions for the development of 1000 units of supportive housing.
- Managed \$350 million bond issue and negotiated partnership interests in a \$1 billion hydroelectric project.
- Advised partnership of First Nations on structuring an ownership interest in a pipeline.

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- Advised CEO and senior executives of an investor-owned energy utility on strategic planning and project development (two year assignment).
- Advised on procurement and financial matters for a \$1 billion highway, a \$3 billion toll highway, port expansions, hospitals and other infrastructure projects.
- Led procurement, funding and concession agreement negotiations for a \$2 billion light rail rapid transit project. Implemented financial controls, reporting, treasury and risk management systems (three year assignment).
- Led over \$1.0 billion of successful acquisitions on behalf of corporate and pension fund investors (two year assignment).
- Led initial development of and raised \$4 million of seed investments in a venture fund focused on delivering both financial and social objectives.

TERASEN INC. – VANCOUVER, BC

1986-2002

A leading Canadian energy company (acquired by Fortis Inc.)

VICE-PRESIDENT – BUSINESS DEVELOPMENT

Responsible for strategy development, mergers and acquisitions.

- Initiated and closed over \$600 million in accretive acquisitions.
- Developed and implemented over \$100 million of utility asset leasing arrangements with municipalities.
- Managed development of a corporate strategy that resulted in five years of growth in shareholder value that exceeded 10% annually.

INLAND PACIFIC ENTERPRISES LTD. (Terasen company)

1993-1997

A group of companies offering infrastructure development and energy management services.

VICE-PRESIDENT

Responsible for operations, business development and investment management.

- Led operations of four companies with over \$40 million annual revenues and 60 employees resulting in 20% EBIT growth over three years.
- Managed business growth and change initiatives.
- Led development activities for numerous successful energy and infrastructure projects.

NW ENERGY LTD. (Terasen venture)

1989-1993

A North American power plant development joint venture.

PRESIDENT

Responsible for all aspects of the business.

- Led development and operations of a \$150 million power project.
- Led joint venture development of power projects in Canada and the United States.

INLAND NATURAL GAS COMPANY LTD. (Terasen predecessor)

1986-1989

A natural gas transmission and distribution company.

DIRECTOR, RATES

Responsible for management of product pricing and customer contracts.

- Managed transition to market pricing for delivery of natural gas and related services.
- Policy witness at numerous national and provincial regulatory hearings.

INPROHEAT INDUSTRIES LTD. – VANCOUVER, BC

1980-1986

A distributor and manufacturer of combustion systems, industrial equipment and commodities.

MARKETING MANAGER

Marketed and sold custom engineered combustion systems, equipment and refractory products.

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EDUCATION

Queen's University - Kingston, Ontario
Bachelor of Applied Science - Chemical Engineering

1974-1979

PROFESSIONAL TRAINING & DEVELOPMENT

- Executive Utility Management Program - Stone & Webster
- Various M&A and Professional Development courses

COMMUNITY CONTRIBUTIONS

- Past Chair – Vancouver Community College
- Past Board Member – Streetohome Foundation
- Past Cabinet Member – United Way
- Past Board Member – Saint Paul's Hospital Foundation

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iCgroup of companies

CURRICULUM VITAE

Erich Neugebauer

CONTACT

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www.ic-group.org

POSITION

Leading Expert with iC
consulanten Austria
President of iC interdisciplinary
consultants Canada Ltd.

YEAR OF BIRTH

1963

DISCIPLINE

Geotechnics and Tunneling

EDUCATION

Civil Engineer - Dipl.-Ing. (FH)

LANGUAGES

German
English

SYNOPSIS

Erich is a civil and structural engineer with more than 25 years of experience in design and construction of international underground projects, including techno-commercial project management, design management, lead geotechnical and construction supervision, geotechnical monitoring. He has worked on tunnel and shaft design and construction projects using various construction methods such as New Austrian Tunneling Method (NATM), Tunnel Boring Machines (TBM) and Cut & Cover, both in hard rock and soft ground conditions.

Erich has a strong background in both design and construction works since he worked in his professional career also for contractors.

In addition to having broad design and onsite construction experience he has provided expert reporting and advice on temporary and permanent support measures during construction and design implementation.

PROFESSIONAL HISTORY

2018-dato	Employee of iC Consulanten 2T GmbH <ul style="list-style-type: none">Development of iC Canada, acquisition and project management
2013-2018	Employee of Dr. Sauer & Partners GmbH <ul style="list-style-type: none">Eglinton Crosstown LRT Project - Toronto, Canada, 3 metro station caverns, total ca. 1000 m length, NATM, detail design, lead geotechnical and construction supervision, design implementationOttawa Light Rail Project - Ottawa, Canada, 2,5 km running tunnel and 3 metro station caverns, NATM, detail design, lead geotechnical and construction supervision, design implementation
2010 - 2013	Employee of Alpine Bau GmbH <ul style="list-style-type: none">Tapovan-Vishnugad HEPP, Construction of HRT - India, 10 km headrace tunnel, NATM/TBM, overall project management, member of executive committee, lead technical consultancy, recovery of TBM
2008 - 2009	Employee of Atlas Copco Mai GmbH <p>Marketing and product management rock reinforcement products, testing and market roll-out of new series</p>
1993 - 2010	Employee of Geoconsult 2T GmbH <p>Metro Budapest- Hungary, metro station and running tunnels, tender design</p> <ul style="list-style-type: none">Koralmbahn Railway Graz-Klagenfurt - Austria, exploratory and main tunnels, tender and detailed execution design, lead geotechnical site supervision, head of contract management (client)HSR Taipei-Kaoshiung Lots C230/C240/C260- Taiwan, highspeed rail tunnels, coordination of design and team setup, lead geotechnical

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site supervision

- Metro Hong Kong, Tseung Kwan O Extension - SAR China, metro running tunnels, tender design, independent checking engineer
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- CERN LHC Lot 5 - Switzerland, large experimental caverns, lead geotechnical site supervision, design implementation
- Bolu Tunnel - Turkey 2x3,100 m, detail design, lead geotechnical site supervision, design implementation
- Tarsus-Adana-Gaziantep Motorway- Turkey, Tunnels P1 to P4, total ca. 2x5000 m, detail design, lead geotechnical site supervision, design implementation

Lead Roles in design, consultancy and construction of various projects

- Semmering Base Tunnel Lot SBT 2.1 - Austria
- MTR South Island Line Admiralty Integrated Station - Hong Kong
- Railway Munich - Verona, Northern Access Line Lot H3-6-Austria
- Jing Ping HEPP Stage II Auxiliary Tunnels - China
- Ningbo-Shengzhou Expressway Contract YJECC 1- China
- Bypass Trieste, Tunnels Cattinara and Carso - Italy
- Hsin Yi Branch Line Taipei - Taiwan

MY PROFESSIONAL HIGHLIGHTS

During my professional career, I got involved into a number of challenging projects from the early design stage until completion of construction including onsite presence, of which some went very well and others facing substantial problems like excessive deformations, collapses, major earthquakes and TBMs buried in fault zones.

Having been involved in middle European projects at the beginning of my career it was definitely another experience to design and especially being involved in tunnel construction works in foreign countries with all their different cultural as well technical and commercial approaches to complete a project.

One of the most challenging ones was the Bolu Tunnel in Turkey, a 2 x 3 lane motorway tunnel, being built in the North Anatolian Fault Zone complex and having an active fault passing the tunnel alignment, a project which I accompanied over a 11 years period. After experiencing excessive deformations and the implementation of both flexible and extremely stiff support system, the project was hit by a major earthquake which led to a partly collapse of the temporary supported tunnel, requiring realignment of the tunnel and implementation of new support systems for both the temporary and the permanent structure in order to stably withstand in long term.

At the time when I have been working for a contractor I could gladly experience also the other side of projects, e.g. meaning the difficulties to organize and execute a complex Hydropower project located in India in the upper Himalayan region with a very difficult and unexperienced client. Apart from frequent contractual difficulties, the encountered grounds differed substantially from the contract documents and thus required much more support efforts than predicted, the TBM got several times stuck in major fault zones and had to be recovered, all without real acknowledgement by the client. The client's design for the conventional sections of the HRT tunnel was totally inadequate and the contractor was forced to shut down tunneling operations several times due to serious safety hazards. An overall resume of having worked over the years for international projects in various countries is that the project set up, regardless if for design or construction works, needs to consider first the local environment, i.e. cultural effects, contract form and clients organisation, available knowledge and resources et cetera, only then project success may be envisioned.

" Do not pion for a project having only your own' s country style in mind. "

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ALBERT SWEETNAM P.ENG.

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Email: albert.sweetnam@gmail.com Cell: (403) 608-0316 LinkedIn: ca.linkedin.com/in/albertsweetnam

EXPERT SUPPORT - STRATEGIC ADVISOR

Transit - Highways - Bridges - Infrastructure - Construction - Oil and Gas - Mining - Nuclear Energy

Expert Support - Strategic Advisor with a record of success leading engineering and construction business units in Canada, West and Southern Africa, India and South America - and managing Mega (multibillion dollar), major (> \$500M), complex national and international multidisciplinary projects in the public and private sector, with multi levels of government and with multi-lateral funding agencies.

Professional Strengths: Leadership, strategic thinking, business cases, commercial strategies, complex contract negotiations, worldwide procurement, management of multidisciplinary design and construction teams, safe, on time and on budget project delivery, complex stakeholder management, working with Local, Regional, Provincial and Federal governments, expert support, financial management, team assembly and integration, driving change, unwavering commitment to health and safety, and the ability to work in unionized and multicultural environments.

Industry Expertise: Mass Transit; Highways and Bridge Construction; Industrial Plants; Oil and Gas, Program - Project and Construction Management; Municipal Roads; Sewer and Water; Airport Development; Nuclear Energy; Mining.

Professional Strengths: Leadership, strategic thinking, complex contract negotiations, management of multidisciplinary design and construction teams, safe, on time and on budget project delivery, working with Local, Regional, Provincial and Federal governments, financial management, team assembly and integration, driving change, unwavering commitment to health and safety, and the ability to work in unionized and multicultural environments.

Industry Expertise: Highways and Bridge Construction; Municipal Roads, Sewer and Water; Mass Transit; Airport Development; Nuclear Energy; Mining; Industrial Plants; Oil and Gas, Program, Project and Construction Management.

**Registered Professional Engineer in British Columbia and Ontario, Canada; B.A. Sc. Civil Engineering, University of Waterloo
Certified Administrative Manager (C.A.M.) Seneca College; Business Administration Certificate, Ryerson University; Nuclear
Reactor Technology Course, Massachusetts Institute of Technology**

VALUE OFFERED

<p>▶ Business Unit Leadership - Managed engineering and construction divisions of SNC-Lavalin, a large international engineering procurement construction firm, in Canada (Ontario and Manitoba), Nigeria, Ghana, South Africa, Madagascar, India, and Guyana.</p> <p>▶ Procurement - Contract Negotiations - Successfully led complex contract negotiations for multibillion dollar projects in many countries.</p> <p>▶ Management of Multibillion Dollar, Complex Multidisciplinary Projects - Many years' experience leading multi-trade contractors and multi-disciplinary engineering teams in the delivery of large-scale, domestic and international projects in EPC and EPCM project environments.</p>	<p>▶ Stakeholder Management - Effective working with municipal, regional, federal and provincial government agencies in permitting, environmental, regulatory and legislative processes. Developed strong governmental and stakeholder relations.</p> <p>▶ Transit/ Highways/ Bridges - Extensive experience in the procurement, design and construction of transit systems, highways and bridges in Canada and internationally. Worked with private and multi-lateral financing agencies in complex project financing in the PPP sector.</p> <p>▶ Expert Support/Strategic Advisor - Acted in the role of Strategic Advisor and provided Expert Support to the World Bank, Ontario, BC and Canadian Governments, multiple international governments and Encana Corporation</p>
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Program Director (2015 - 2018)

CAPITAL REGIONAL DISTRICT-Victoria, British Columbia, Canada

Program Director (2013 - 2015)

ONTARIO POWER GENERATION, INC. - Toronto, Ontario, Canada

Executive Vice President Nuclear Projects (2009 - 2013)

SNC-LAVALIN - Montreal, Ontario, Canada

Senior Vice President/ Project Director/ General Manager - SNC-Lavalin - (1998 - 2008)

Vice President Major Projects - SNC-Lavalin Construction/ Transportation Groups (1995 -1998)

Vice President - SNC-Lavalin West Africa (1983 -1995)

ENCANA CORPORATION - Calgary, Alberta, Canada

The Encana Corporation is a leading North American energy producer focused on growing its portfolio of diverse resource plays producing natural gas, oil and natural gas liquids.

Program Director Cutbank Ridge Program (2015 - 2018)

The Cutbank Ridge Program includes two 400 million cubic feet per day gas plants - Sunrise and Saturn, and one 200 million cubic feet per day gas plant and water resources hub - Tower, all located in the Montney Region of northeastern British Columbia. These gas plants are the largest gas plants to be built in Canada in the last 30 years and represent a \$2.6B capital investment.

Program Director for the CDN\$2.6B Cutbank Ridge Program:

- Led the team that conducted the negotiations for the \$ 400 million EPCM and the \$600 million Works Contracts
- Management of the Owners' team that manages and provides oversight for the design and construction of the Cutbank Ridge Program
- Program completed \$264MM under budget and the plants were started 1 to 5 months early

CAPITAL REGIONAL DISTRICT-Victoria, British Columbia, Canada

The regional district is made up of 13 municipalities and three electoral (unincorporated) areas and is directly accountable for regional and sub-regional services. The CRD has over 200 service, infrastructure and financing agreements with municipalities and electoral areas to deliver a broad range of services.

Program Director - Greater Victoria's Wastewater Program (2013 - 2015)

Program Director for the \$787 million Greater Victoria's Wastewater Program which includes a 108 million liter a day wastewater treatment plant, a 2.1 km ocean outfall, an 950m tunneled harbor crossing, a resource recovery centre for the recovery of biogas, phosphorous and biosolids and a complete network of pipelines and pumping stations in the region.

- **Directed the CDN\$787m wastewater program:**
 - Established and led teams that conducted the Request for Qualifications (RFQ), Request for Proposals (RFP) and negotiation process.
 - Developed teams and processes for oversight of the design, construction, financing and commissioning of the program

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- Managed the Program's interaction with the Board and the Commission, the interaction with seven mayors, the Provincial government, the Federal government and the interface with the public and the media.
- Chief spokesperson for the Greater Victoria's Wastewater Program and rebranded the Program.

ONTARIO POWER GENERATION, INC. - Toronto, Ontario, Canada

One of the largest power companies in North America, Ontario Power Generation (OPG) produces the power used in most homes, schools, hospitals and businesses in Ontario, and owns and operates 2 nuclear power stations, 5 thermal power stations, 65 hydroelectric power stations on 24 river systems, and 2 wind power turbines.

Executive Vice President Nuclear Projects (2009 - 2013)

Led 1,200 staff and CDN\$50B in projects including the two new multibillion dollar nuclear power plants to be built in Ontario and the refurbishment of four 900MW nuclear units.

Directed the CDN\$18B - \$208 Nuclear New Build project:

- Established and led team that conducted the Request for Proposal (RFP) and negotiation process.
- Negotiated a CDN\$135M reduction in the first phase of this project.
- Developed the strategy and led team that obtained the Environmental Assessment and The License to Prepare the Site approvals in 2012, the first of their kind in Canada in over 25 years.
- Developed teams and processes for oversight of the design, construction, licensing and commissioning of two new nuclear power plants. Managed the interface with 4 levels of government.
- Managed senior level stakeholder relations and developed organizational capability to operate the facility.

Led the CDN\$6B-\$10B Darlington Nuclear Refurbishment Project and Nuclear Project Portfolio:

- Negotiated a CDN\$548M savings in the main EPC contract for this project.
- Managed the overall Nuclear Project Portfolio (CDN\$300M/year) and the Nuclear Inspection and Maintenance organization (555 staff). Managed interface with 4 levels of government.
- Negotiated new contracts with two main contractors for rates that were 50% lower than traditionally paid by OPG resulting in a CDN\$15M/year savings.

Managed OPG's Long-Term Nuclear Waste Disposal/ Decommissioning:

- Managed OPG's 92% interest in the Nuclear Waste Management Organization, tasked with the design and construction of the CDN\$1B Deep Geologic Repository for low and intermediate level waste.
- Provided management oversight to the CDN\$26B Adaptive Phase Management project for fuel waste.
- Directed the decommissioning group tasked with the planning and execution of the safe storage and decommissioning of Ontario's 22 nuclear units. Provided interface with the Board.

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SNC-LAVALIN - Montreal, Ontario, Canada

One of the leading engineering and construction groups in the world, SNC-Lavalin is a major player in the ownership of infrastructure and in the provision of operations and maintenance services. SNC-Lavalin companies provide engineering, procurement, construction, project management and project financing services to a variety of industry sectors including agrifood, pharmaceuticals and biotechnology, hydrocarbons & chemicals, environment, heavy construction, mass transit, mining and metallurgy, power and water management.

Senior Vice President/ Project Director - SNC-Lavalin -Ambatovy Nickel Project, Madagascar (2007 - 2008)

Project Director for the CDN\$4.5B Ambatovy Nickel Project which included Greenfield development of an open pit mine, an ore processing plant, a 220 km pipeline, 146km of access roads, 2 bridges, port development, railway construction, a pressure acid leach plant, nickel and cobalt refineries, tailings facilities, ocean outfall and 7 ancillary plants including lime, air separation, acid, hydrogen and a 120MW coal fired power plant.

Managed the 13,000 project staff and CDN\$2.5B spent to 2008 including all design, procurement and construction aspects of this CDN\$4.5B project.

The project included 145 bidding packages, 2 bridges, 146km of access roads, 120km pipeline, 271 vessels, 15 different materials, 2,040km of electrical cable, 450km of piping, 21 million m³ of earthwork, 15,200 tons of steel, 165,000 m³ of concrete and numerous valves in titanium and exotic alloys.

- Also included in the project were all of the support facilities such as sewage and water plants, 4 construction camps and all of the environmental assessments, permitting and approvals. The project was funded through structured project financing - the largest debt financing ever in the history of mining projects. Managed interface with Canadian, Japanese and Korean Boards and shareholders.
- Achieved a safety milestone of 31 million man hours without a lost time incident.
- Exceeded training and empowerment targets set by the Madagascar government, having trained more than 10,000 persons and developed more than 220 new businesses.
- Managed Board interface for SNC's 5% investment and interface with Madagascar government.

Senior Vice President and General Manager - SNC-Lavalin (2001- 2006)

Directed the environmental, transportation, municipal, waste management, design and construction divisions (150 personnel) operating out of Ontario, Manitoba and 12 countries worldwide. Also managed the design/build infrastructure and international departments, the SNC-Lavalin Construction Group based in Toronto, Ontario, Canada (including execution of direct construction work in the Arctic regions), and management of the SNC-Lavalin office in Winnipeg, Manitoba, Canada (comprising of engineering studies, design and construction management operations).

- Grew revenues from CDN\$30M to CDN\$50M per year with a profit margin that increased from 8% to 22% during this same timeframe.

Senior Vice President/ Project Director - SNC-Lavalin/ Ferrovial (SLF) Joint Venture (1998 - 2001)

Led the SLF Joint Venture, a 120 person JV of SNC-Lavalin and Ferrovial Agroman of Spain . The JV's role was to operate the existing highway and design and construct an additional 45 km of 6/4 lane fully electronic toll freeway for Highway 407 including 51 structures and all environmental approvals in 27 months on a lump sum turnkey basis (CDN\$4.5 billion) .

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- Selected, coordinated and managed 32 subcontractors, 23 sub-consultants, 30 suppliers, 4 supervising agencies, 3 Regional Governments and 5 municipalities.
- At the time this was one of the largest infrastructure projects in Canada and was completed below budget in 2001. The Highway 407 project was completed 4 months ahead of schedule and generated CDN\$47M in construction profits. Managed all interface with the Board, 4 levels of government and the media.
The project also included the largest structured financing in Canada in 1999 at CDN\$4.5B.

Vice President Major Projects - SNC-Lavalin Construction Group (1997 -1998)

Led the bid team for the development of a CDN\$300M new world-class international airport in Durban, South Africa. The project included the revalidation of the traffic forecasts; development of the master plan, business plan, financing plan, architectural and engineering design; sourcing of both local and international financing; and the rezoning, environmental impact statement, firm construction schedule and submission of a lump-sum turnkey price. This project was won after a world-wide competition.

- Led the design and construction team for the financing, design, construction and operation of the 57km Alliston to Collingwood water pipeline. The project was completed 3 months early with a 30% profit margin.

Vice President- SNC-Lavalin Transportation Group (1995 -1997)

Led the teams for a series of large(> CDN\$400M) infrastructure projects including the Karachi mass transit project (business development, bidding process engineering, sourcing of financing, procurement, scheduling and initial site works), the Tren Urbano light rail project (business development and bidding process) in Puerto Rico, and a series of mass transit projects in Turkey.

Vice President - SNC-Lavalin West Africa (1983 -1995)

Managed SNC-Lavalin business interests and operations in Nigeria and Ghana .

Managed more than US\$550M of World Bank funds and US\$600M of government funds for projects in the various sectors in Nigeria from 1991 to 1995. The SNC-Lavalin operations included both EPC and EPCM mandates with 7 offices and 3 operational companies across the region. Projects were in the oil and gas sector and infrastructure sector including dams, sewage, water, boreholes, roads, highways, bridges, buildings, hospitals and waste management.

Grew the Nigeria and Ghana business unit from 5 employees and a loss situation in 1983 to a regional business of 50 expatriates and 1,200 locals generating CDN\$50M of revenue per year with a 35% profit margin in 1995.

- Reporting to the Board managed 2 local companies in Nigeria and one in Ghana including all government and media interfaces
- Subject Matter Expert to The World Bank in the water sector for several appraisal missions during this period.

Project Director - SNC-Lavalin Nigeria (1981-1983)

Delta Steel Township, Warri, Nigeria, West Africa: Project manager for a 23 person team to execute the design, tendering and construction of the infrastructure for 1000 residential units in Warri, Nigeria including all electrical, sewage, water and road infrastructure as well as schools, clinics and administrative buildings(\$3 00M). Project was

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completed 8 months ahead of schedule and generated a 20% profit.

PROFESSIONAL ASSOCIATIONS AND BOARDS

Fellow of Engineers Canada

Fellow of the Canadian Society for Civil Engineering

Gold Seal Project Manager - Canadian Construction Association

Gold Seal Construction Manager - Canadian Construction Association

Board of Directors - Consulting Engineers of Ontario

Board of Directors - Canadian Private Public Partnerships

Board of Directors - Toronto Construction Association

Departmental Audit Committee - Federal Department of Transport

Departmental Audit Committee - Canada Border Services Agency

Disciplinary Committee - Professional Engineers of Ontario

Board of Directors - Community Share Food Bank

EDUCATION

Registered Professional Engineer in British Columbia and Ontario, Canada

Nuclear Reactor Technology Course, Massachusetts Institute of Technology, Boston, USA, 2010

M.B.A. Level Courses, Brunel University, London, UK, 1988

Certified Administrative Managers Program (C.A.M.), Seneca College, Toronto, Ontario, Canada, 1979-1980

Business Administration Certificate, Ryerson University, Toronto, Ontario, Canada, 1978

B.A. Sc. Civil Engineering, University of Waterloo, Ontario, Canada, 1977

Personal: Competitive sailor and avid squash player

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ERIC TROMPOSCH, P.ENG.

Box 685, Bragg Creek, Alberta · (403) 949-2736

Email · eric.tromposch@outlook.com

Eric Tromposch is a structural engineer who has been involved in a wide variety of projects. He has been involved in the planning, design and inspection of buildings, bridges and water retaining structures. The bridge projects have included major river bridges, marine structures and overpasses for both road, Light Rail Transit (LRT) and heavy rail projects. He has also provided these same services to clients for numerous pedestrian bridge structures.

Eric has carried out a management role on both a project and on a corporate basis. He has effectively assembled and led design teams on a variety of projects from concept to project completion. He has conducted internal training sessions on project management and on Stantec's Oracle Enterprise system. He is a former business unit leader responsible for the financial performance of over 100 staff.

EXPERIENCE**AUGUST 1989 TO JUNE 2019****STANTEC CONSULTING LTD**

During Eric's 30 years with Stantec he held a number of positions with the company. Eric carried out a number of these roles concurrently. His roles are summarized as follows:

Vice President, Special Discipline Lead Bridge Design - Responsible for leading and reviewing major bridge projects in the Company.

Vice President, Structural Discipline Lead - Responsible for coordinating Structural Engineering Services throughout Stantec.

Business Unit Managing Leader - Eric was responsible for managing a Business Unit of up to 100 staff for over 13 years.

Project Engineer - Eric has been actively involved in leading bridge and building projects throughout his career.

Structural Design Engineer - Eric started his career with Stantec as a structural design engineer where he developed tender documents and inspected construction.

Major projects that Eric worked on during his career with Stantec are summarized in the Project Experience section below.

FEBRUARY 1986 TO JUNE 1986**BOLTER PARISH TRIMBLE LTD., BRIDGE DESIGN ENGINEER**

Eric was a Bridge Design Engineer and worked on a number of projects. Most notably he carried out substructure design on the Dudley Menzies LRT Bridge in Edmonton and he also produced the design for the piers for the Peace River Bridge at Weberville.

JUNE 1981 TO DECEMBER 1983**DELCAN, ENGINEER IN TRAINING**

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EDUCATION

JUNE 1987

MASTER OF SCIENCE IN CIVIL ENGINEERING, UNIVERSITY OF ALBERTA

JUNE 1981

BACHELOR OF SCIENCE IN CIVIL ENGINEERING, WITH DISTINCTION, UNIVERSITY OF ALBERTA

REGISTRATION

Professional Engineer #M32951, Association of Professional Engineers and Geoscientists of Alberta

ASSOCIATION ACTIVITIES

Member of the Canadian Standards Associations Section 2 Subcommittee of the Canadian Highway Bridge Design Code, CSA S6.

SELECTED PROJECT EXPERIENCE

MEGA AND MAJOR PROJECTS

NEW BRIDGE ACROSS THE ST. LAWRENCE, MONTREAL, QUEBEC (INDEPENDENT ENGINEER)

A new 3300 m long cable stayed bridge across the St. Lawrence River along with approach interchange structures. Bridges can accommodate 6 lanes of roadway traffic and two LRT tracks. The project was delivered on a P3 basis.

Construction Cost: ~\$4 Billion

Role: Senior Bridge Engineer as part of the Independent Engineering Team reviewing contractor generated submission. Also involved in periodic field inspections to review major deficiencies.

NORTHEAST ANTHONY HENDAY PROJECT, EDMONTON, ALBERTA (PRINCIPAL/PROJECT BRIDGE ENGINEER)

This P3 Project included a 14-structure systems interchange including two large flyover structures with lengths of 415 m and 315 m, maximum spans in excess of 90 m, and straddle piers. The site was also situated over an abandoned coal mine which required special foundations for two bridges. Extensive large diameter gas and oil line and rail lines in the vicinity of the interchange resulted in a number of high skew bridges with piers designed to straddle over utility lines.

Construction Cost: \$1.8 Billion

Role: Lead Bridge Engineer for Component 3 - Yellowhead Trail Systems Interchange.

CONFEDERATION BRIDGE, NEW BRUNSWICK AND PRINCE EDWARD ISLAND (DESIGN ENGINEER)

Delivered on a P3 basis this 13km long concrete box girder bridge has forty-four 250m long main spans and twenty-one 93 m long approach spans. It is the longest bridge over ice covered waters.

Construction Cost: \$800 Million

Role: Managed the Durability Subconsultants, coordinated the production of the Durability Manual, produced the material specifications and produced the first draft of the Maintenance Manual. Also carried out site inspections during the initial construction start up.

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SOUTH FRASER PERIMETER ROADWAY-TANNERY OVERPASS, SURREY, BC (PRINCIPAL BRIDGE ENGINEER)

The South Fraser Perimeter Roadway connects the Tsawwassen Ferry Terminal with the Trans-Canada Highway. Tannery overpass consists of a two-span 90m long steel girder bridge with a highly variable width. Structure located in a high seismic zone and over deep layers of organic soil. The project was delivered on a P3 basis.

Construction Cost: \$658 Million (Total Project Cost)

Role: Lead the design of the Tannery Overpass.

SOUTHEAST STONEY TRAIL PROJECT, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

This P3 Project included a multi-structure systems interchange with a total of 14 overpass bridge structures many utilized NU girders. The project also included two 75 m long highly skewed single span steel girder bridges and a four span highly skewed bridge with two straddle bents built over active traffic.

Construction Cost: \$769 Million

Role: Carried out high level reviews of the designs and provided assistance in resolving design issues.

SOUTHEAST ANTHONY HENDAY DRIVE, EDMONTON, ALBERTA (SENIOR BRIDGE ENGINEER)

The Southeast Anthony Henday Drive was the first portion of the Edmonton Ring Road delivered on a P3 basis. It extended from HWY 2 to HWY 14.

Construction Cost: ~\$500 Million

Role: Provided advisory services to the design team during the final stages of the project to resolve outstanding issues.

LRT AND RAIL PROJECTS

DUDLEY MENZIES LRT BRIDGE, EDMONTON, ALBERTA (DESIGN ENGINEER)

A 570m long, pre-cast concrete segmental box girder LRT bridge constructed using the balanced cantilever method.

17TH AVE BUS RAPID TRANSIT, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

Provided direction and senior review of the Bow River Bridge, the Deerfoot Trail Bridge and the Western Headworks Canal Bridge during design and construction. All bridges were designed to accept future conversion to LRT.

NORTH CENTRAL LRT CONCEPT STUDY, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

High level review of the capacity of the existing Centre Street Bridge to support an LRT vehicle.

MAGNETIC LEVITATION TEST TRACK, EDMONTON, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

Conceptual design of an elevated test track for a Magnetic levitation rapid transit vehicle.

SOUTH EAST TRANSITWAY (GREEN LINE) CONCEPT VERIFICATION STUDY, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

High level review of the bridge planning issues associated with the 17 bridge structures required for this project and their ultimate conversion from BRT to LRT.

CP WINDERMERE 14.58 BRIDGE FINAL DESIGN AND CONSTRUCTION SERVICES, WASA, BRITISH COLUMBIA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

This project involved pier and abutment rehabilitation along with the replacement of the superstructure for this 8 span, 184 m long heavy rail bridge. While minimizing the disruption to the active rail line.

Green Line Technical and Advisory Committee Member Resumes

CPR MILK RIVER BRIDGE, MILK RIVER, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

This two-span steel deck plate girder bridge has a maximum span of 32.6 m and utilized a salvaged span from an abandoned rail line in the vicinity.

PEDESTRIAN BRIDGES

ST. PATRICK'S BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Provided owners engineering services during the design competition and during final design of this unique three span tied arch bridge.

CROWFOOT LRT STATION PEDESTRIAN BRIDGES, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin 37m long tied arch bridges crossing Crowchild Trail.

SCHOONER DRIVE PEDESTRIAN BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin 80m tied arch structure with outwardly spayed arches crossing Stoney Trail.

PEACE BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

126m long clear span helical tube pedestrian bridge crossing the Bow River designed by Santiago Calatrava .

ROAD BRIDGES

STONEY TRAIL SCENIC ACRES LINK RAMP BRIDGE, CALGARY, ALBERTA (PRINCIPAL ENGINEER)

Lead the bridge planning and the preliminary design of this single span NU girder bridge.

NORTHWEST STONEY TRAIL BOW RIVER BRIDGE TWINNING, CALGARY, ALBERTA (PRINCIPAL ENGINEER)

Lead the bridge planning, the preliminary design, detailed design and the tender document preparation of this five span, 509 m long cast in place segmental concrete bridge.

SOUTH WEST STONEY TRAIL FUNCTIONAL PLAN REVIEW, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Carried out a review of the existing functional design and developed technical requirements for the P3 RFP.

SOUTH WEST TRANSIT WAY PROJECT, CALGARY, ALBERTA (SENIOR REVIEW ENGINEER)

Carried out reviews of the planning and preliminary engineering for a roadway underpass for a dedicated Bus Rapid Transit line in addition to two pedestrian bridges.

CROWCHILD TRAIL CONNECTOR BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Two-span, 81.5m long NU girder bridge with both abutments supported by MSE retaining walls.

ALBERTA CHILDREN'S HOSPITAL OVERPASS, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

110m long, three-span bridge with 1.2m deep NU girders and a 42m long central span.

STONEY TRAIL, NOSE CREEK BRIDGES, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin three-span bridges with a total length of 76m.

STONEY TRAIL, CPR CROSSING, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Green Line Technical and Advisory Committee Member Resumes

Twin three-span steel girder bridges with a total length of 114m. West abutment supported on MSE retaining wall.

GLENMORE TRAIL/ELBOW DRIVE INTERCHANGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Project included a 40m long basket weave bridge with a 75-degree skew along with 13,000 square meters of retaining wall.

STONEY TRAIL, TRANSCANADA HIGHWAY OVERPASS, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Two span, 108m long precast concrete NU girder bridge.

FISH CREEK - 37 STREET BRIDGE, CALGARY, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

Five-span, 265m long precast concrete NU girder superstructure.

PEACE RIVER BRIDGE, PEACE RIVER, ALBERTA (DESIGN ENGINEER)

Designed piers for 725m long, steel I girder bridge near Weberville.

CONFEDERATION BRIDGE ONGOING SUPPORT, NEW BRUNSWICK AND PRINCE EDWARD ISLAND (PROJECT ENGINEER)

Evaluation of the bridge to deal with potential maintenance issues including loss of external post-tensioning tendons.

UNIVERSITY DRIVE - CROWCHILD TRAIL SUPERSTRUCTURE REPLACEMENT, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Three-span, 100m long, steel girder bridges using a steel free deck with FRP reinforcement.

SHAWNESSY - CPR/LRT OVERPASS, CALGARY, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

Four-span, 60m long, galvanized steel girder bridge supported by a MSE retaining wall.

OTHER PROJECTS

PINE CREEK WASTEWATER TREATMENT PLANT, CALGARY, ALBERTA (STRUCTURAL PROJECT ENGINEER)

100mL/day facility that includes both liquid and solid streams.

BONNYBROOK WASTEWATER TREATMENT PLANT D EXPANSION, CALGARY, ALBERTA (STRUCTURAL PEER REVIEW)

NEW BIOREACTOR, SECONDARY CLARIFIERS AND PUMP HOUSES.

BONNYBROOK WASTEWATER TREATMENT PLANT BAND C UPGRADES, CALGARY, ALBERTA (STRUCTURAL PEER REVIEW)

NEW SECONDARY CLARIFIERS AND PUMP HOUSE MODIFICATIONS

STANTEC CENTRE PARKADE, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

385 stalls parking structure.

ROCKYVIEW GENERAL HOSPITAL PARKADE EXPANSION, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

62 stall addition.

Green Line Technical and Advisory Committee Member Resumes

FOOTHILLS MEDICAL CENTRE: PARKADE NO. 8 EXPANSION, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

338 stall addition.