



GRANT WALDIE, PE, P.Eng.

Assistant VP, Sr. Director, National Rail Bridge Leader



Years with WSP

< 1

Industry Experience

18

Professional qualifications

- AREMA Committee 10; Structures, Maintenance & Construction
- Professional Engineer (PE) in:
 - Washington State
 - Illinois
 - Texas
 - Colorado
- Professional Engineer (P.Eng.)
 - British Columbia
 - Alberta
 - Saskatchewan
 - Manitoba
 - Ontario
 - Nova Scotia

Coursework / Training

- Aerial and Scissor Lift Safety, 2016, 2021
- Fall Protection Refresher, 2021
- Corrosion, Protection, and Strengthening of Existing Concrete Structures, 2019
- Parsons Project Management Certificate, 2018
- Canadian National Railway Bridge Inspector Training, 2018
- Canadian National Railway Contractor Safety Program, 2017
- Federal Aviation Administration – Small Unmanned Aircraft Systems, 2016

HIGHLIGHTS

- Heavily experienced in Project / Program Management, Business Development / Proposal Creation, and has an expertise in structural bridge inspections, having carried out over 1,600 across the USA and Canada
- Has worked with six out of seven Class I Railways (not yet KCS) as well as Amtrak, California High Speed Rail, WMATA, and MARTA.
- Sits on AREMA's Technical Committee 10 – Structures, Maintenance & Construction.

EDUCATION

Diploma, Civil Engineering Technology, Camosun College, Canada	2007
Advanced Diploma, Civil Engineering, Camosun College, Canada	2008
B.A.Sc., Civil Engineering, University of British Columbia, Canada	2010

AREA OF EXPERTISE – STRUCTURAL ENGINEERING AND INSPECTIONS

Grant Waldie's previous experience in the construction industry has given him the capability to apply practical solutions to technical problems. Before Grant became full-time involved in Project Management and Business Development, his technical background / expertise was in structural engineering, specifically as it applies to the inspection of bridges and other structures. He has been involved in the inspection of over 1,600 bridges, culverts and marine structures, of which he has been the Engineer-of-Record for 300. He has worked to develop reconstruction strategies and provided construction site services for rehabilitation projects across the USA and Canada.

AREA OF EXPERTISE – PROJECT / PROGRAM MANAGEMENT

Since beginning his engineering career, Grant has been intimately involved in every step of project management and was the youngest *Management Certified* project manager in Canada before he transferred to the USA at his former firm. Grant is experienced in each of the four phases of a project from planning to build-up to implementation to closeout. He takes pride in being involved in all tasks of a project, while maintaining a hands-off approach when tasks are outside of his areas of expertise. His book, "*Random Advice for Business & Life*" on project management that made its way into the top 1% of sales on Amazon.com.

AREA OF EXPERTISE – BUSINESS DEVELOPMENT / PROPOSAL DEVELOPMENT

Grant has been very fortunate in that he has been involved in proposal writing and direct marketing to clients since he was a student intern. In 2018, while living in Canada, he was the proposal manager for 29 proposals, all of which were successfully awarded. It was this success that caught the eye of US Executives and led to him transferring to the Denver, CO office. Since moving to the US, Grant has been involved in large-scale proposals and just recently led a proposal for the Washington Metro Area Transit Authority's \$10 million modernization of their subway terminals, Atlanta Metro (MARTA) \$7 million on-call services, and won Amtrak's \$75 million facilities upgrade proposal.



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Coursework / Training (Cont'd)

- Pacific Ropes – Fall Protection, 2016
- Alberta Bridgeworks Bridge Inspection Truck Operation, 2016
- WHMIS Training, 2015
- Envirosafety - Fall Protection, 2013
- FHWA-NHI - National Highway Institute Introduction to Safety Inspection of In-Service Bridges, 2012
- Envirosafety - Confined Space Awareness, 2012
- American Railroad Engineering and Maintenance-of-Way Association (AREMA) – Bridge Inspection Seminar

Years with other firms

- Parsons – Project Manager & Principal Engineer, 2009-2022
- Stantec – Structural Designer, 2008 (Summer)
- Read Jones Christofferson – Site Inspector, 2007 (Summer)
- Scansa Construction – General Labourer on High-Rise Apartment Buildings, 2006 (Summer)
- Vickery and Sons – General Labourer on Residential Developments and Home Renovations, 2004 / 2005 (Summer)

PROGRAM MANAGEMENT

Grant has worked in program management for New Jersey Transit's Positive Train Control Implementation Program. He attended weekly meetings with NJT as well as the client's engineer-of-record firm. As the project was coming to a close, these meetings were in regard to project closeout and are focused on resolving final invoicing issues, onboarding / training of staff of the PTC software / hardware, and resolving all outstanding issues to successfully closeout this \$240 million program.

Grant was also the PM for Norfolk Southern's IT / Communication Inventory Program. NS has many legacy software / hardware assets across its network Grant was tasked with taking a full inventory and then implementing a modernization / unification program so that all NS employees are using the same tools to carry out IT / Communication work across the rail line.

PROJECT MANAGEMENT ANALYST

After ten years of successfully managing numerous multi-disciplinary projects (as listed in the "Project Manager of Bridge Inspections" section below), Grant was asked to use his wide variety of skills to assist other project managers as a Project Management Analyst. On large scale, multi-million dollar civil projects with multiple project managers, a Project Management Analyst continuously checks budgets, schedules, and deliverables across multiple disciplines and reports back to the Senior Project Manager about areas of slippage and suggests course corrections. Grant has just recently fulfilled this role on the following project:

- CREATE CSX – "Chicago Regional Environmental and Transportation Efficiency Program", a \$3.2 billion project to improve rail and highway efficiency in the downtown Chicago core. 2019-2021

STUDIES / LIFE CYCLE COST ANALYSIS

Reviewed documents, interpreted data, and produced sections of reports for:

- Norfolk Southern – IT / Communications Inventory Program, 2021;
- Public Works Procurement Services – Alaska Highway Investment Analysis Report, 2018;
- CalTrans California Hi-Speed Rail – Tuolumne Life Cycle Cost Analysis Report, 2017;
- MetroLinx / GoTransit – 40-Year Budget Forecasting, Railway Bridge Infrastructure, 2016; and
- Ministry of Transportation – Central Okanagan Planning Study, 2015.

CONCEPTUAL DESIGN:

- Parks Canada – Pacific Traverse Trail, Ucluelet to Tofino, BC, 2016-2019;
- Municipality of Hope, BC – Coquihalla River New Pedestrian Bridge Crossing, 2019;
- BC Parks – North Coast Trail New Pedestrian Bridge Crossing, 2018;
- BC Parks – Saltspring Island, New Pedestrian Bridge Crossing, 2018.

INDEPENDENT DESIGN REVIEW:

Created 3D computer models and performed detailed calculations using in-house software to produce Structural Certification for the following project:

- SNC-Lavalin - Southeast Stoney Trail, highway bridge Design Review, 2010, 2011.



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PRESENTATIONS/PUBLICATIONS/PERSONAL:

- Camosun College, Civil Engineering 2nd Year Students – “Bridge Inspection and Management” 2019, 2020;
- American Concrete Institute, Vancouver Chapter Dinner – “Deterioration of Bridges, Inspection, and Rehabilitation Techniques” 2019;
- Camosun College, UBC Transfer Program Students – “Career Advice for Undergraduates” 2018.
- Multiple internal Parsons WebEx presentations regarding UAV/Drone technology
- Author: Random Advice for Business & Life – TOP 1% of book sales on Amazon.com
- Summited Mt. Kilimanjaro, September 2019

BRIDGE INSPECTIONS: Grant has progressed from Junior Inspector to Lead Inspector to Project Manager and now serves as a subject matter expert on major bridge inspection projects across North America. He is responsible for all aspects of project management as well as coordinating and performing detailed inspections all across North America on superstructures, substructures, decks and approaches for cracks, collision damage, corrosion, local failures, fatigue, delamination, general condition, etc. and also composing final inspection reports, on the following projects:

RAILWAY BRIDGES:

- LA Metro, Route 66 Bridge, 2020;
- CDOT North Avenue at Union Pacific Railway, 2020
- Union Pacific – Land Acquisition Rights for California High Speed Rail, 2019;
- Hudbay Minerals - Main Gate Trestle Inspection, 2016;
- OmniTrax - Hudson’s Bay and Carlton Trail Railway Rail bridge inspections, 2014-2019;
- OmniTrax / BNSF - Kettle Falls International Rail bridge inspections, 2016-2019;
- Keewatin Railroad Bridge Inspections, 2016-2019;
- Trillium Railway - Rail bridge inspections, 2016, 2017, 2018;
- Sydney Coal Railway - Rail bridge inspections, 2016, 2017; and
- Rail America / Genesee Wyoming - Cape Breton, Goderich Exeter, Ottawa Valley, and Southern Ontario Rail bridge inspections, 2016, 2017, 2018.

MOVEABLE BRIDGES:

- CN Rail – Conneaut Swing Bridge, 2019-2020;
- Langdale Transfer Deck – BC Ferries, 2019;
- Parks Canada – Chambly Canal Moveable Bridge Inspections, 2011.

CULVERT / OUTFALLS / TUNNELS:

- Detroit-Windsor International Tunnel Inspection, 2020;
- New Westminster Pedestrian Tunnel, 2019;
- Ed’s Creek – Public Services Procurement Canada, 2019;
- CN Rail – Culvert Inspection Program, 2017;
- CP Rail – Culvert Inspection Program – unsuccessful proposal, 2017;
- OmniTRAX – Railway Culvert Inspection Program, 2017, 2018;



- FortisBC – Alex Fraser Bridge Culvert, 2016;
- Metro Vancouver – Pump Station Inspection, 2016;
- District of West Vancouver – Outfall Inspections, 2013;
- BC Ministry of Transportation & Infrastructure (BC MoT) – Highway Culvert Inspection, 2013; and
- District of West Vancouver – Culvert Inspections, 2012.

LONG-SPAN BRIDGES:

- Zilwaukee Bridge, Saginaw Michigan, 2021;
- Mackinac Bridge Authority – Mackinac Bridge, Michigan, 2020;
- Public Works and Government Services Canada – Alexandra Bridge, Ottawa, Ontario, 2016;
- Public Works and Government Services Canada – Lower Liard Suspension Bridge, Alaska Highway, British Columbia, 2011, 2013, 2015; and
- Thousand Islands Bridge Inspection, Ontario, 2012.

MEDIUM-SPAN BRIDGES, RURAL ROADS:

- Public Works and Government Services Canada – Alaska Highway Truss Bridge Focused Inspection on cracks in end-posts, 2017;
- LEDCOR – Sierra Yoyo Desan Resource Road Bridge Inspections, 2011, 2013, 2016, 2017, 2018, 2019;
- Public Works and Government Services Canada – Alaska Highway Bridge Inspection, Fort St. John to Watson Lake, 2011, 2013, 2015;
- Public Services Procurement Canada – Alaska Highway Truss Bridge Focused Inspections, 2018-2020; and
- Parks Canada – Banff, Jasper National Park Bridge Inspections, 2010.

MEDIUM-SPAN BRIDGES, URBAN ROADS:

- New Westminster Bridges and Retaining Walls, 2019
- Teck Resources – Industrial Chemical Plant Bridge, 2017, 2018, 2019;
- City of Chilliwack - Five-Year Program for City Bridge Inspections, 2012-2016; and
- Port Metro Vancouver - Clark Drive/Main Street/Westshore/ Commissioner/ Fraser Wharves Bridge Inspections, 2011, 2015, 2017, 2018, 2019.

HIKING TRAIL BRIDGES:

- Metro Vancouver – Belcarra and Minnekhada trail rehabilitation, 2019,2020;
- Sunshine Coast Regional District Hiking Trail Bridge Inspections, 2017;
- BC Parks – Juan de Fuca Trail Bridge Inspections, 2017, 2018;
- Parks Canada – West Coast Trail Bridge Inspections, 2012, 2015;
- City of Chilliwack – Parks bridge trail inspections, 2014;
- City of Burnaby – Patterson Pedestrian Bridge Inspection, 2014;
- Public Works and Government Services of Canada - Tofino Trail Bridge Inspections, 2014; and
- Parks Canada – Jasper, Yoho, Kootenay National Park Trail Bridge Inspections, 2012.



BOARDWALK / ESPLANADE:

- Canadian Mortgage and Housing Corporation – Granville Island Marine Works Inspection, 2014-2020; and
- City of New Westminster – New Westminster Esplanade Inspections and Reconstruction Design, 2012, 2016, 2017, 2018, 2019

EMERGENCIES:

- Fraser Surrey Docks – Tug Boat Impact Damage, 2019;
- BC Parks – Fallen tree across suspension bridge on Juan de Fuca Trail, 2019;
- Genesee Wyoming Railroad – Truck Impact Damage, 2018;
- Genesee Wyoming Railroad – Rail Bridge Overload Assessment, 2018;
- City of Chilliwack – Road Bridge, vehicle impact damage inspection and rehabilitation design, 2018;
- Genesee Wyoming – Rail Bridge in Nova Scotia, Derailment damage inspection, 2017;
- Genesee Wyoming – Rail Bridge in Guelph Ontario, vehicle impact damage inspection, 2016;
- City of Surrey – Nicomekl Sea Dam, overloaded vehicle on load-posted structure, damage inspection, 2014;
- Township of Langley – 16th Avenue at 204 Street, vehicle impact damage inspection, 2014;
- Township of Langley – Glover Road, vehicle impact damage inspection, 2013; and
- TransLink – Post Earthquake Pattullo Bridge Inspection, 2012.

LOAD-RATING INSPECTIONS:

Conducted inspections and coordinated the design team for load ratings on the following projects:

- Canadian Arctic Load Rating Inspection for the Hudson Bay Railroad, 2017;
- Sunshine Coast Regional District Load Rating, 2016;
- City of Chilliwack – Park Bridge Load-Ratings, 2014;
- City of Chilliwack – Bailey Landfill Bridge Load-Rating, 2012; and
- Parks Canada – Chambly Canal Moveable Bridge Load-Ratings, 2011.

BRIDGE/CULVERT/MARINE RECONSTRUCTION PROJECTS:

Developed prioritized repair recommendations, as well as cost estimates, detailed design drawings and specifications, Tender Documents, and helped to perform site-services for the following projects:

- Port Metro Vancouver – Clark Drive Overpass Reconstruction Works, 2018-2020;
- Canadian Mortgage and Housing Corporation – Granville Island Marine Works Reconstruction, 2014, 2015, 2016, 2017, 2018, 2020;
- Public Services Procurement Canada - Alaska Highway – Truss Bridge Repair Program, 2018-2020;
- Juan de Fuca Trail – Hiking Trail Bridge Repair Program, 2017/2018;
- Sydney Coal Railway – Bridge Strengthening Project, 2017;
- Parks Canada – West Coast Trail Hiking Trail Bridges, 2016;
- City of Vancouver – Cambie Street Bridge Trolley Bus Poll Installs, 2016;



- Port Metro Vancouver – Main Street Overpass Reconstruction Works, 2016;
- Public Works and Government Services Canada – West Coast Trail Rehabilitation Design of Bridge Structures, 2016;
- Port Metro Vancouver – Westshore Reconstruction Works, 2015;
- City of Surrey – Nicomekl and Serpentine Reconstruction Works, 2014;
- Goderich-Exeter Railway – Deck Framing Plans, 2014;
- Port Metro Vancouver – Clark Drive Joint and Deck Reconstruction Works, 2013;
- City of Chilliwack - Reconstruction Works Project, 2013;
- Public Works and Government Services Canada – Alaska Highway 113 Creek Bridge Abutment Rehabilitation, 2012; and
- Public Works and Government Services Canada – Bridge and Culver Repairs, 2012.

NEW BRIDGE CONSTRUCTION SITE SERVICES:

Assisted in Contract Administration and on-site inspection during the Construction phase of the following projects:

- Public Works and Government Services Canada - Tofino Bridge and Culvert upgrades, 2015, 2016;
- Township of Langley - Nicomekl 56th Ave. and 211 St. Bridge Replacement, 2013, 2014; and
- BC MoT - South Fraser Perimeter Road Bridges, 2010-2012.

FABRICATION INSPECTIONS:

During the fabrication process, in order to provide Quality Assurance, Grant has witnessed structural elements being made for the following projects:

- Unionport Crankshaft for moveable bridge – Scot Forge, Clinton, WI

CIVIL PROJECTS:

Responsible for Site Services and inspections during the construction phase of the following projects:

- BC Ferries – Sewage tank assessment, 2020;
- Bowen Island – Drinking water tank assessment, 2018, 2019;
- Imperial Oil - Dock Assessment Report, 2016;
- Corporation of Delta - Goldenrod Crescent Retaining wall, 2016;
- District of North Cowichan - Flood wall design, 2015, 2016;
- City of Surrey - Surrey Dyke Floodwall Protection Project, 2011, 2015;
- BC MoT - Gateway Project, Underground Forcemain Thrustblock, 2011;
- City of Surrey - 24th Avenue Repaving, 2010;
- City of Surrey - 32nd Avenue Highway Replacement, 2010