Hydroelectric
Transportation
Resource Sector

POWER AND TRANSPORTATION SERVICES

FULLY INTEGRATED DESIGN SERVICES
ABOUT US

Klohn Crippen Berger Ltd. (KCB) is an international engineering, geoscience and environmental consulting firm with its head office in Vancouver and nine offices in strategic locations in Canada, Australia, Peru and Brazil. We have a strong reputation for quality service and technical expertise in a range of services including: Power, Transportation, Mining, Environmental, Water, and Oil and Gas. Since forming in 1951, we have a long history of participation in local projects, as well as a strong international reputation. We are working on some of the largest, most challenging engineering projects, both nationally and internationally.

Team Leaders

Shane Johnson, Vice President, has over 30 years of project management, design, contract structuring, construction and commissioning experience on hydroelectric, irrigation, highways, rapid transit, pump storage, drainage, flood protection, water supply and environmental projects.

Dan Campbell has more than 30 years of varied experience relating to hydroelectric projects, movable bridges, ports and drydock projects.

Garry Stevenson has over 35 years of experience in a variety of soil and rock projects including site investigations, designs, construction supervision and project management for hydroelectric, bridges, highways and rapid transit projects.

Bruce Hamersley has over 25 years of engineering experience with a focus on bridge design, soil-structure interaction, and construction engineering.

Neil Heidstra has over 35 years of civil and structural engineering experience in the electrical power-generating field.

Steve Ahlfield has more than 35 years of diverse experience spanning Canada, the United States and overseas.

Bruno Bagnérès is a civil engineer with more than 25 years of international experience relating to hydroelectric and water resources projects.

Geoff Cooper has over 30 years of engineering experience in the fields of civil, structural, marine and rapid transit.

Scott Crozier has more than 15 years of experience on civil infrastructure projects including hydroelectric, oil sands and mining.

Ryan Douglas has over 20 years of experience in civil, hydrotechnical and geotechnical engineering and project management related to hydroelectric and other heavy civil projects.

Simon Douglas has over 15 years of experience in the fields of civil and hydrotechnical engineering and water resource infrastructure.

David Dowdell has over 20 years of experience in the seismic design and retrofit of bridges, buildings and hydroelectric structures.

Rick Ghag has over 24 years of experience in bridge engineering and natural gas and resource sector infrastructure.

Andrew Port has over 17 years of experience in geotechnical services for a variety of projects including heavy industrial facilities, dams, mining, infrastructure and transportation.

Phil Porter has over 30 years of experience in the field of mechanical engineering.

Thava Thavaraj has over 15 years of experience in geotechnical and earthquake engineering.
KCB has over 60 years of domestic and international hydro experience including projects in Canada, the United States, Thailand, Laos, Vietnam, Indonesia, Philippines, Papua New Guinea and elsewhere. KCB provides a complete range of engineering, environmental and construction phase services for small to large hydro projects from concept to final design, through to construction and commissioning. Our clients include major utilities as well as Independent Power Producers that utilize our services for green-field projects and for rehabilitation and life extension projects. Our engineering services include full-service civil, structural, geotechnical, hydrotechnical, mechanical and electrical design capabilities. Our socio-environmental services include biological sciences plus community, consultation and socio-economic services.

KCB’s transportation experience includes bridges, rapid transit, highways / roads, airports and marine infrastructure projects. We have the experienced, full-service engineering capability that major Design-Build constructors and project Owners require for complex, challenging projects such as the recent construction engineering services we provided for the new San Francisco – Oakland Bay Bridge project and the final design and construction services for the Deltaport Container Terminal in Vancouver.

The Power and Transportation Group’s multi-discipline engineering capability is also being utilized on a broad range of resource sector projects from oil sands projects in Alberta to mine tailings handling projects in North and South America and Australasia.
Klohn Crippen Berger has been providing a complete range of integrated hydroelectric, environmental and engineering consulting services for over 60 years. Our clients include owners and contractors for Design-Bid-Build, Design-Build and Public Private Partnership contracting strategies. Recent projects range from the 54 MW Snoqualmie Falls Redevelopment to the 1074 MW Nam Theun 2 project.

**Engineering, Environmental and Permitting Studies**
Constructing a new hydro facility or rehabilitating an existing hydro facility requires appropriate studies. KCB staff is experienced in hydrological studies (flow determination, flood studies), environmental and permitting studies, energy calculations and power studies, and equipment optimization studies.

**Dams and Intakes**
Whether the project is run-of-river with a low coanda weir and minimal storage or a world class roller-compacted concrete (RCC) dam for flood control, irrigation and power generation, our engineers and environmental scientists understand how to permit, design and build economic structures to store, divert and control a project’s water.

**Geotechnical Design**
Geotechnical risk can be one of the most significant risk issues associated with hydro developments. Our extensive geotechnical experience with tunnels (both drill-and-blast and tunnel boring machine, excavated), other underground works and open-cut excavations for powerhouses, tunnel portals, and canals is known throughout the world.

**Water Conveyance System**
KCB’s experience will ensure the water conveyance components including canals, tunnels and penstocks are configured in a practical, economic arrangement based on a sound technical design that provides appropriate hydraulic performance.

**Powerhouses**
KCB has extensive experience with the civil-structural and equipment layout design of powerhouses utilizing Francis, Pelton and Kaplan turbines. Our staff is experienced with the mechanical and electrical equipment layout for the entire water-to-wire equipment package.

**Project Services**
KCB also offers project management and construction supervision services in roles as diverse as Lender’s Engineer, Owner’s Engineer and Buyer’s Due Diligence.
Experience

Nam Theun 2 Hydroelectric Project, Laos
This is the most important project in a long-term collaborative effort between the Lao People’s Democratic Republic (Laos) and Thailand to develop hydropower energy in Laos for export to Thailand. We provided bid design, final design and construction engineering services for the two main civil works packages of this 1074 MW project.

Site C, BC, Canada
KCB has provided comprehensive engineering and support services since the earliest days of the Site C hydroelectric project, located on the Peace River 7 km southwest of Fort St. John. Since 2009 we have been a part of an integrated engineering team optimizing the project to meet current seismic, safety, and environmental guidelines.

Snoqualmie Falls Redevelopment, Washington, USA
This project involves a combination of upgrading and/or replacing existing generating equipment and structures. The aesthetic aspects of the 110 year old generating site will be preserved.

KCB was retained by to carry out the condition assessment, preliminary and detailed design and preparation of tender documents for Plants 1 and 2. The scheduled commission date for this redevelopment is mid-2014.

Waneta Hydro Project, BC, Canada
This project involves a 330 MW powerhouse addition to an existing development. KCB has provided Owner’s Engineer services from the project development phase through to construction scheduled for completion in 2014.

Arrow Lakes Generating Station, BC, Canada
KCB was the Owner’s Engineer for this 170 MW project, responsible for conceptual design, reviewing the EPC contractor’s design and monitoring the work of the EPC contractor during construction and commissioning. We continue to be involved in the safety monitoring and provide engineering support to the client.

Cleveland Dam Safety Review, BC, Canada
KCB was retained to provide engineering services for the final design of the remedial works comprised of structural upgrades including strengthening the drum gate cantilever, raising the upstream girder of the spillway bridge to allow passage of the PMF and grouting of the abutments to allow for load sharing under seismic conditions. The mechanical components of the spillway and outlet facilities were given thorough condition assessments including operability reviews and test operations.

Zeballos Hydro Project, BC, Canada
This project added 22 MW of ECOLogo certified green power to the provincial power grid. KCB designed the tunnel, penstock and powerhouses for this project that was placed in service in 2009.

Irrican Project, Alberta, Canada
This is a 7 MW run-of-canal project. Three existing irrigation canal drops were bypassed and the water put through a small generating station that utilizes an S-type turbine. KCB designed the powerhouse, intake and all associated mechanical and electrical works.
KCB has been providing integrated structural engineering and geotechnical design for major transportation projects for over 60 years. The team has played lead design roles for roads and bridges, in Design-Build and Design-Bid-Build project delivery models. The group has also been responsible for construction engineering for major bridges.

Our engineers have received many awards for their design innovations, including Consulting Engineers of British Columbia Awards of Merit for the rehabilitation of the Oak Street and Lions Gate Bridges, and the CEBC Award of Excellence for the design of the Deltaport Container Terminal.

**Services include:**
- Design of bridges in short, medium and long span ranges
- Construction engineering for major bridges
- Comprehensive civil and structural engineering for marine port facilities
- Seismic retrofit and rehabilitation of bridges and port facilities
- Road and highway design
- Design of retaining walls and rockfall protection systems
- Condition assessment and load rating of roads and bridges

Our integrated teams provide a full range of services for transportation projects.

**Key areas of expertise include:**
- Project management and construction monitoring for major projects
- Geotechnical investigations and foundation design for bridges, transit, and port facilities
- Geotechnical and structural design for tunnels and retaining structures
- Mechanical and electrical engineering for tunnels and transit stations
- Civil, drainage, and utilities design
- Environmental engineering services
- Geotechnical and geohazard assessment for rail and road corridors
Experience

San Francisco-Oakland Bay Bridge, California, USA
KCB was engaged as lead construction engineer for the largest self-anchored suspension bridge in the world. Temporary support structures and foundations were designed for support of the steel box girder deck until loads were transferred to the suspension cables, and for the erection of the single steel suspension tower. The $350M temporary structures required 25,000 tonnes of steel. Analysis of the permanent structure was undertaken to verify geometry and stress limits at each stage of the erection.

South Fraser Perimeter Road / Highway 17 Interchange, BC, Canada
KCB managed a multi-discipline design team and performed the design management, structural design, and geotechnical design a new $50M interchange connecting the south end of the South Fraser Perimeter Road with Highway 17. The interchange required 3 bridges including a 3-span steel, 4-lane, trapezoidal box girder bridge on a curved alignment over the CN Rail tracks.

Seismic Retrofits, Major BC Bridges, Canada
KCB provided comprehensive seismic assessment and retrofit designs for the Oak Street Bridge, the Lions Gate Bridge North Approach Viaduct, and the substructures and foundation for the Knight Street and Mission Bridges. Tender documents were developed and construction services provided for 14 separate contracts with total construction value of approximately $50M.

KCB performed the design engineering for the design build Contractor for civil, structural, geotechnical, ventilation, mechanical and electrical components for a 700 m cut and cover transit tunnel as part of the Millenium Line project. The twin-box reinforced concrete structure cut into steeply sloping ground required assessment and design for major earthquake demands.

Kicking Horse Cantilevered Structure, BC, Canada
KCB performed a Value Engineering redesign for the Contractor of a 4-lane widening project for 2.1 km of the Trans Canada Highway in the Kicking Horse Canyon. The road alignment was adjusted and the largest cantilever structure in BC was designed to support part of the roadway over the Kicking Horse River. The redesign eliminated the need for two bridges which were to cross the river resulting in savings of $2.5M.

Crownest Highway Reconstruction / Loop Bridge and CPR Overhead, BC, Canada
KCB provided complete design services for realignment and reconstruction of 2 km of Highway 3, replacement of Loop Bridge over Michel Creek, and design of new railway overhead to remove an at-grade crossing. Design work including highway / geomatics, detours and staging plans, drainage, structural, geotechnical, environmental, and utility relocations.
Klohn Crippen Berger has provided comprehensive geotechnical services for projects in Canada and internationally for over 60 years. Our team of project managers, engineers and geoscientists has a broad range of analytical, design and construction experience on a wide variety of projects having complex and challenging geotechnical problems. Our skills and experience have enabled us to offer our clients practical and cost effective design and construction solutions. Klohn Crippen Berger’s geotechnical services are further backed up by our strengths as a full-service engineering consultant.

- Geotechnical site investigations including geological mapping, drilling and in-situ testing, geophysical testing, subcontract management
- Dynamic measurements of standard penetration test (SPT), Becker penetration tests (BPT) and piles
- Natural hazard assessment and risk and decision analysis
- Geotechnical laboratory testing in our own laboratory
- Foundation engineering including shallow and deep foundations for heavy civil structures and equipment, dynamic loading and seismic design, ground improvement
- Retaining walls and structures including geosynthetic reinforced walls
- Rock slope engineering
- Tunnel and cavern engineering
Experience

Jericho and Seaforth Armouries, BC, Canada
KCB performed investigations, static and seismic foundation design, and construction monitoring for seismic upgrading of the existing Dept of National Defence Seaforth Armoury, and for the excavation support and foundation for the adjacent new Jericho Detachment Armoury.

Vancouver (YVR) International Airport, BC, Canada
KCB has completed design and construction monitoring services for numerous projects at YVR including new terminal buildings, the parallel runway, aprons and taxiways. Geotechnical services included site investigation; foundation, pile and ground improvement design; earthquake engineering; liquefaction assessment; settlement analysis; preload design; risk / decision analysis; and technical specifications.

Seymour Falls Dam Seismic Upgrade, BC, Canada
KCB performed investigations, static and seismic design including dynamic analyses, designed explosive and dynamic compaction to improve the foundation, and resident engineering services during construction of a new earthfill dam downstream of the existing dam. The dam is one of three to provide Greater Vancouver with its water supply. KCB also provides ongoing review of the dam safety instrumentation data.

Trans Canada Highway, BC, Canada
KCB provided geotechnical and structural design services for the Golden to West Portal design-build project. The work included realignment and widening of 4 km of the Trans Canada Highway east of Golden, through rugged terrain. A major detour design was required for Highway 1 to accommodate construction.

Annacis Island Wastewater Treatment Plant, BC, Canada
KCB has been involved with all phases of the Annacis Island WWTP expansions. KCB has performed site investigations; foundation and ground improvement design; earthquake engineering; liquefaction assessment; settlement analysis; preload design; risk / decision analysis; FLAC analysis and technical specifications.

DND Comox Fuel Jetty, BC, Canada
KCB conducted a marine drilling program, followed by large diameter steel pipe pile design and construction monitoring of the DND Fuel Jetty in Comox. The piles form berthing / mooring dolphins for 8000 tonne fuel barges.

Highbury Interceptor Jet Grouting, BC, Canada
The Highbury Interceptor carries wastewater from Vancouver under the Fraser River to the Iona Wastewater Treatment Plant through three large diameter pipes. The interceptor was leaking and required repair using Cured-in-Place-Pipe (CIPP) lining. The pipes are located 10 m below the water table, and KCB was retained to provide engineering and monitoring services for construction of an access shaft to each pipe, formed by jet grouted columns.

Seabridge Gold KSM Development, BC, Canada
KCB provided feasibility design services for the proposed KSM Mine, near Stewart, BC. The development will include tunnels totaling 24 km for site access and to transport ore to the mill site. The ultimate development will include up to 20 km of tunnels in the mine area to provide drainage and to route surface water around the mine. Services included site investigation, and tunnel geotechnical and hydraulic design.
For over 60 years, Klohn Crippen Berger, its affiliates and predecessor organizations have been active in the planning, design and construction of a wide variety of ports, harbours, and marine terminals. Our experience ranges from economic evaluations, structural assessments and remedial designs, through to site development, wharf design and site services for major new terminals. KCB's background of marine engineering experience is a significant advantage to clients on port projects.

We can meet the diverse project requirements of our port and harbour clients through the following areas of expertise:

- **Port Feasibility & Planning** from pre-investment and feasibility studies to site selection and conceptual design.
- **Marine & Structural Engineering** ranging from dredging, reclamation works, loading ramps, piled decks, bulkheads and caisson wharves.
- **Geotechnical & Environmental Engineering** including shallow and deep foundations for heavy civil structures and equipment, dynamic loading, seismic design, and ground improvement.
- **Coastal & River Engineering** including aquatic construction considerations such as water levels, floods, foundation and flow considerations particular to wet structures and infrastructure.

**Construction Management Services** including field inspection, contract administration, claims negotiation, scheduling and cost estimating.
Experience

Deltaport Container Wharf and Terminal, BC, Canada
KCB was retained as prime consultant to carry out detailed engineering and contract administration for the Deltaport Berth 3 Extension project in Vancouver, Canada. This project follows up on our successful 1993 design for Berths 1 and 2 and landside terminal works at Deltaport Container Terminal, which won the Consulting Engineers of British Columbia award of excellence in 1997.

Guam Kilo Ammunition Wharf Extension, Guam
KCB was retained by the US Navy as part of the Moffatt & Nichol team in early 2006 for detailed engineering for the Kilo Ammunition Wharf Extension project on Guam, Marianas Islands. Kilo Wharf, located in the outer Apra Harbour, is the primary and most strategically important ordnance facility within the Pacific fleet area of operations. The wharf extension comprises 6 caissons of varying sizes, designed to resist seismic events plus seismic retrofit of existing caissons.

Halifax Caisson Jetty "NJ", Nova Scotia, Canada
In 2002, the Department of National Defence decided to construct a replacement wharf for their existing timber jetties in Halifax Harbour. This new $35M marginal wharf, Jetty "NJ", is to provide full-service berthing for Canadian Patrol Frigates and Advanced Logistic Support Carriers. KCB was selected as caisson designer for conceptual and final engineering phases, tender assistance and field review.

Esquimalt Graving Dock, BC, Canada
Esquimalt Graving Dock is the largest civilian dry dock on the west coast of the Americas. Since 1990, KCB has been retained by Public Works Canada multiple times, to carry out structural, fatigue and mechanical inspections of the 30t, 45t and 150t dockside gantry cranes at two-year intervals. Separately, KCB has been involved in mechanical assessments, performance monitoring, fatigue analyses and retrofits for all three cranes, and complete refurbishment, relocation and renewal programs for the 30t crane as the Owner’s Engineer.

Rocky Point Jetty Condition Inspection & Structural Evaluation, BC, Canada
KCB conducted a full inspection of the jetty above and below water, including: all piling, pile wraps, sheet piled, caissons, deck structure and the fender pile system.

Esquimalt Graving Dock – South Jetty Wharf Development, BC, Canada
KCB was retained by Public Works Canada to carry out detailed designs for replacement of the timber-piled South Jetty at Esquimalt Graving Dock in Victoria, BC with a new steel-piled jetty. KCB was the prime consultant, with responsibility for geotechnical, civil, structural, mechanical, electrical and marine engineering. This project depended on KCB’s knowledge of the existing facilities and our ability to incorporate state-of-art seismic solutions to satisfy the client’s expectations.
RESOURCES DEVELOPMENT

Services

We integrate engineering, science and socio-environmental consultation to study, design, build and close projects in the mining and energy sectors.

**Tailings and Mine Rock Management**
- Tailings technologies – thickened, paste, dewatered, de-sulphidized
- Design for all types of climatic, physiographic, environmental and social conditions
- Dam and impoundment design
- Design for sustainable and low risk closure
- Water management and seepage mitigation

**Surface Water**
- Water balance
- Water quality and water management
- Hydraulic structures
- Lake and stream flow modelling

**Groundwater**
- 2-D and 3-D modelling
- Seepage collection and groundwater management
- Monitoring wells and pit dewatering systems
- Cut-off walls, liners and seepage mitigation systems

**Geotechnical Design / Hazard Identification**
- Site investigation & characterization
- Geohazard assessment
- Seismic hazard & design
- Foundations and tunnels

**Process, Pipelines and Mechanical**
- Slurry pipelines and pumps
- Water supply and reclaim systems
- Drainage and irrigation
- Pump barge / dredge specifications
- Boilers and steam distribution
- Industrial heating, ventilation and air conditioning

**Electrical, Power and Instrumentation**
- Generators
- Transmission lines
- Power distribution and load studies
- Transformers and switchyards
- Instrumentation and control systems
- Excitation and SCADA systems

**Transportation and Structures**
- Pre-fabricated truss stream crossings to internationally recognized cable stay bridges
- Swing and Floating spans
- Hard rock and cut / cover tunnels
- Retaining walls and rock fall protections
- Mining access roads to highway interchanges
Experience

**In Pit Pumping System, Alberta, Canada**
KCB designed a land-based intake to transport thin mature fine tailings (thin MFT). The land-based intake was configured as an economical alternative to a barge system where difficult soil conditions made launching a barge impractical. KCB evaluated a permanently powered and diesel driven system.

**Highland Valley Copper Mine, BC, Canada**
The life of this large copper / molybdenum mine has been extended to 2035, requiring raising of the tailings dam. KCB is performing the civil / structural / architectural and mechanical / piping engineering for the new cyclone building that will extract sand from tailings slurry to provided material required for dam construction.

KCB also designed a multiplate overpass which allows loaded Cat 797B mining trucks access from the main pit to the new rock dump facility northeast of the Mill. The multiplate arch has a 15 m span, a 6.6 m maximum clearance and is 58 m long.

**Pine River Gas Plant Bridge Replacements, BC, Canada**
KCB was retained to provide geotechnical, hydrological, structural and construction services for the replacement of two washed out bridges on the access road to their Pine River Gas Plant. Both bridges had experienced previous washouts so extensive hydraulic modelling was performed to establish flood water elevation and scour protection design.

**Suncor PAW Pond Pump Station, Alberta, Canada**
KCB designed a large wastewater pump station for the Process Affected Water (PAW) Pond which collects seepage and surface run-off water from the South Tailings Pond (STP) at Suncor’s oil sands mine north of Fort McMurray. The pump station was designed for staged construction to handle the increasing operating head and flow requirement associated with progressive dyke lifts that result in both a higher pump discharge elevation and a larger catchment area.

**Ok Tedi Copper Gold Mine, Papua New Guinea**
KCB provided dredge sand disposal design and construction monitoring for this major project. KCB is currently designing the pipelines, roads and crossings to potential tailings storage facilities as part of OTML’s plans to extend the life of the mine. The pipelines will need to manage a 1400 m difference in elevation from the mine down to the storage facility.
The Socio-Environment Group provides comprehensive services for environmental and social management of resource and infrastructure projects, with a focus on integrating the social and environment aspects into the design of projects for our clients and the community. We assess potential project effects and optimize opportunities to mitigate the environmental footprint of the project and maximize social benefits.

Our environmental teams include specialists in: aquatic and terrestrial biology, hydrology and groundwater, geochemistry, limnology, toxicity, socio-economists, GIS, risk assessment and remediation. We work with local environmental consultants and retain national and international experts to develop teams that work for the client, the community and the environment.

KCB partners with First Nations, Aboriginal, Inuit and Indigenous communities to provide services that enhance local participation in major projects.

Environmental Baseline and Impact Assessments
• Baseline studies: soils, hydrology, water quality, groundwater, aquatic, air & noise, and terrestrial
• Environmental impact assessment
• Cumulative effects assessment
• Environmental management plans and permitting

Environmental Sciences
• Meteorology, air and noise quality
• Aquatic and terrestrial habitat
• Geochemistry
• Limnology & lake / stream characterization
• Soil geochemistry and soil suitability
• GIS and visual terrain modelling

Environmental Engineering
• Aquatic habitat compensation
• Wetland design
• Water conservation
• Mine material management
• Seepage mitigation design
• Water treatment
Experience

**Mica Generating Station Units 5 & 6, BC, Canada**
Environmental Assessment and Certificate Application preparation and review for the final two generating units in the Mica Generating Station to add approximately 1,000 MW of capacity, upgrades to Mica townsite, and development of the Seymour Arms Series Capacitor Station and other associated infrastructure.

**Site C, BC, Canada**
KCB has carried out review of the socio-economic aspects of the proposed development of the 900 MW Site C hydroelectric facility. KCB is also responsible for preparation of permit application and permitting for the project.

**Petroleum Remediation, California, USA**
KCB conducted a large, high-profile, DNAPL remediation project for the US Air Force Center for Environmental Excellence. Remedial activities included redirection of a river, subsurface slurry wall containment of the contaminant plume, creation of aquatic and riparian habitat, and the installation and maintenance of phytoremediation and groundwater pump and treat systems.

**Calgary Bow River Weir, Alberta, Canada**
KCB planned, designed and administered construction of the Calgary Bow River Weir Project. The project’s primary purpose was to eliminate the extreme drowning hazard and enable river passage for non-motorized boats and fish while maintaining water diversions from the Bow River.

**Vale Inco Water Management System, Ontario, Canada**
KCB designed a $100 M retrofit of the site’s water management system, featuring 21 principal reservoirs and fibre optic links to enable real-time monitoring and remote flow control to collect, store, manage and treat water prior to release to the environment.

**Canmore Flood Control Dykes Rehabilitation, Alberta, Canada**
KCB was involved in the rehabilitation of flood control dykes in the Town of Canmore on the Bow River including riprap erosion protection on approximately 570 M of river bank along the river, removing existing riprap and woody debris, supplying and placing fish boulders, willow plugs and cuttings, tree plantings, grass sod and seeding.

**Minto Mine Phase IV-VI Expansion, Yukon, Canada**
KCB carried out the socioeconomic assessment and traditional knowledge study as part of the Minto Mine’s Yukon Environmental and Socioeconomic Assessment Board (YESAB) application to extend the life of the mine. As the mine is located on Selkirk First Nation Category A Settlement Lands, KCB worked closely with the community and Minto to conduct several project activities (ie. workshops, interviews, community meetings) and products.
Down to Earth.
Up to the Challenge.