District of Lake Country

Proposal For

TOWN CENTRE TRAIL AND PARK PLAN AND COST ESTIMATE SWALWELL PARK WATER PARK DESIGN

CATHERINE BERRIS ASSOCIATES INC.
Richard Findlay Landscape Architect Inc.
DMD Associates Ltd.
Ecoscape Environmental Consultants Ltd.
Earth Tech

May 2008

CATHERINE BERRIS ASSOCIATES INC.

- *Land Use + Environmental Planning*
- *Landscape Architecture*

May 12, 2008

District of Lake Country
Customer Service Centre
10150 Bottom Wood Lake Road
Lake Country, B.C. V4V 2M1

Dear Mr. Shaffrick,

Re: Reference No. RFP03-2008

TOWN CENTRE TRAIL AND PARK CONCEPT/DETAIL PLAN AND COST ESTIMATE, SWALWELL PARK WATER PARK CONCEPT PLAN, DETAILED DRAWINGS AND CONSTRUCTION MANAGEMENT

We are very pleased to submit a proposal for the above project. We have formed a team with the skills and experience to provide a professional, practical, and creative response to the project requirements. Because of our work on this site in the past, we are already briefed on much of the background and we are therefore ready to proceed directly with the design assignment.

Our team includes the following subconsultants:

- **Richard Findlay Landscape Architect Inc.** – Richard specializes in water parks and water features, including the design and mechanical work, and his office is adjacent to ours making collaboration very convenient..
- **DMD Associates Ltd.** – electrical engineers with strong skills in recreation facilities, including water parks and park lighting.
- **Ecoscape Ltd.** – local biologists familiar with this site who understand RAR and senior government agency methods and requirements.
- **Earth Tech** – Kelowna office will advise on creative methods for addressing water park water reclamation.

Please contact me if you would like additional information. We look forward to working with you on the continued implementation of Lake Country's trail system and Swalwell Park.

Sincerely,
CATHERINE BERRIS ASSOCIATES INC.

Catherine Berris, FCSLA, MCIP
President

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1.0 PROJECT UNDERSTANDING

1.1 Context

The District of Lake Country is in the process of developing a town centre. An integral part of this development is the dedication of parkland adjacent to Vernon Creek, planned to accommodate approximately 1.2 km of multi-use trail with associated viewpoints and use areas. The town centre road construction is expected to be complete at the end of 2009 with park and trail construction to be done in phases over three years.

Past work by our firm included a conceptual layout for the trail system on both sides of Vernon Creek (2000), the Swalwell Park Master Plan (2006), and recent landscape architecture input into the design of the pavilion building in Swalwell Park.

The proposal presented here includes three components:

1. Schematic design of the trail on the west side of Vernon Creek illustrating the trail alignment, viewpoints, gathering areas, park use areas, public art, bridge crossing, and any other features. This plan needs to be assessed sufficiently from an environmental perspective to be reasonably sure that the environmental agencies will support it.

2. Detailed design of the trail, including benches and lighting, to a sufficient level of detail that a cost estimate can be prepared, and that the District can use the plan and cost estimate to apply for Local Motion grant funding from the Provincial Government.

3. Schematic design, detailed design, cost estimate, and design services during construction for a water (spray) park in Swalwell Park. The experience of our water park expert indicates that the water park should be located in the sunniest location, suggesting that it should likely shift farther east than where shown in the Swalwell Park Master Plan.

1.2 Objectives

The following are some of the objectives for this project from the Request for Proposal:

1. Meet environmental best practice standards. In particular, RAR standards will be met and water reclamation of the spray park water will be considered.

2. All facilities will be designed to be accessible by all citizens, including those in wheelchairs.

3. Trail lighting concepts will address the interest in preservation of "night sky".

4. Opportunities for viewing Vernon Creek will be preserved and enhanced.

5. Developments along the trail will be designed to encourage and support physical fitness and public gathering, in keeping with the District's role as an Active Community, and the associated goal of increasing physical fitness in the community by 20% by 2010.

The following are some additional objectives that we put forward for consideration:

6. Opportunities for nature interpretation and education will be integrated into the trail/park design.

7. Consider the year-round value that the water park can and should provide, with integration of public art being one way to achieve this.

8. Ensure that the water park is creative and suited to its context and surroundings, offering a fun and safe play experience for all, and a safe and comfortable environment for those watching and supervising.

1.3 Approach

The following are some highlights to our approach:

- **Collaborative.** As always is our custom, our team members will work together with a high level of coordination, and we will work closely with the client, stakeholders and the public. We will use consensus-building techniques as required to build support for the design. We have used this approach successfully on many projects and find that it is constructive, efficient, and energizing. Where applicable, documents to be reviewed at meetings will be circulated in advance, to support the consideration of ideas over a longer period than the meeting itself. We will respond to all comments received. In addition to the meetings outlined in the work plan, we will be in touch by telephone, FAX, e-mail, and courier as required.

- **Options.** Also a custom of ours, we will prepare options for the schematic plan, and allow for client, stakeholder, and possibly public input on the options. This ensures our team and you that a range of possibilities has been considered, and the generation of options leads to superior design.

2.0 WORK PLAN

An outline of proposed tasks is as follows. We are willing to refine the scope of work as required. The work plan is described for the core team according to the three phases, with the electrical design and environmental work plans described separately. As illustrated in section 4.0, Phases 1 and 2 will take place concurrently with Phase 3.

2.1 Phase 1: Schematic Design of Trail/Park

Project Start-up / Site Visit

- Attend a meeting with Lake Country staff to initiate the design process. The agenda will include the following:
  - a review of the project objectives, approach, work program and schedule, with refinements as required,
  - collection of any new information that is relevant to the park design, e.g., plans for the Town Centre,
  - collection of digital site survey (assumed to be provided by the District), and
  - a tour of the site together. Photographs and notes will be taken to document resources, facilities and conditions. Discussions prior to and during the tour will address the resources, opportunities and constraints, possible visions for the site, and program and design ideas.
- Import digital information and prepare a base plan suitable for the design work.

Site Inventory and Analysis

- Prepare a summary site inventory and analysis (plan and text), including information, opportunities and constraints related to the following, some of which will be provided by the environmental consultants (see section 2.5):
  - Existing vegetation/wildlife and habitat,
  - Topography, – ~~Are~~ IS THIS INCLUDED IN PROPOSAL
  - Soils and hydrology, – ARE THEY INCLUDE GEOTECH IN PROPOSAL
  - Cultural context,
  - Existing structures and utility locations,
  - Existing and potential access and circulation,
  - Existing and potential park use,
  - Visual resources - views into and from the site, landscape character, visual features,
  - Surrounding influences, including relationship with Town Centre, other public spaces, and residences.

- Compile information on regulatory considerations, including: Town Centre plans, environmental regulations.

Schematic Plan Options

- Prepare a draft vision, objectives, and program for the trail/park, and two or three alternative design approaches.

- Prepare two or three schematic plan options, with sub-options if we think it is necessary for a full exploration of ideas. The plans will graphically illustrate to scale the overall layout, including trail location and width; bridge crossing location; park use areas, e.g., plazas, picnic/gathering areas; viewpoints; general grading concept; seating; general lighting concept; general landscape treatment; public art; and any other features. Each option will be accompanied by a written description which clearly describes the rationale for the schematic plan.

- Prepare supporting graphic materials as required to illustrate the schematic plans, potentially including cross-sections, sketches, or character images.

District Staff Meeting/Stakeholder Meeting

- Attend two meetings on the same day; one with Lake Country staff and another with stakeholders. Facilitate the meetings to obtain input on the draft vision, objectives, and program for the trail/park; and the schematic plan options.

- Discuss with Lake Country staff the information to be presented at the public open house, e.g., how many/which options, or one preferred plan.

Public Open House

- Prepare materials for the open house, likely including:
  - Display panels (which can also be provided for posting on the District's Web site),
  - Powerpoint presentation, if desired,
  - Summary handout for the open house and the Web site,
  - A written comment form for the open house and the Web site.
- Send the above material to District staff for review prior to the public open house, and make any revisions required.
- Attend and facilitate a public open house. Assist in setting up the panels and meeting space, engage with participants, and be available to make a presentation and to discuss the project informally, depending on the meeting format.
- Summarize the results of the public open house, including a compilation of the discussions and responses on the written comment forms.

Preferred Plan and Cost Estimate

- Prepared a preferred plan, based on the input received. This will be a more refined version of the schematic plans, and it will be drafted in AutoCAD.

- Prepare a preliminary cost estimate for the preferred plan.

Report

- Prepare a draft report on the Trail/Park Plan describing all aspects of the project. The document will include the following components:
  - Introduction - context and purpose of project
  - Site Analysis – summary of site inventory, opportunities and constraints (text and plan formats)
  - Guiding Statements - Vision, Goals and Objectives
  - Preferred Plan (including park plan and illustrative graphics)
    - description of proposed program
    - description of the design
  - Preliminary Cost Estimate
  - Appendices
    - summary of alternative plans considered,
    - summary of review meetings,
    - other relevant support information.

Presentation (optional)

- If an presentation is desired on a separate day from the meetings otherwise described, present the project, with Powerpoint, to the Parks and Recreation Advisory Commission and/or Council.

2.2 Phase 2: Detailed Design of Trail

Draft Design (50%)

- Prepare draft detailed design drawings for the trail, including: paving, pathway connections, and lighting. The detailed design plans will include:
  - Detailed design plan showing the proposed locations of the multi-use trail, pathway connections, benches, and lighting. The plan will indicate surface materials, with primary dimensions (e.g., path widths), identification of type of light fixtures and standards, bench style,
  - Grading plan showing proposed contours tying in with existing contours, spot elevations where required, any slope stabilization measures, and proposed drainage patterns (we

assume that subsurface storm drainage will not be required since the design will be based on site infiltration, however if subsurface drainage is required, the extent will be indicated),

- Lighting and related electrical plan (see section 2.4).
- Proposed planting and grass areas to restore disturbed areas or for environmental compensation, with quantities and typical species sufficient for estimating costs.

District Staff Meeting

- Attend a meeting with Lake Country staff to review the draft detailed design before it is completed.

Final Detailed Design and Cost Estimate – WHAT CONSULTANTS WILL BE A PART OF THIS?

- Complete the detailed design drawings described above.
- Prepare a cost estimate based on the drawings.

Final Products

- At the conclusion of all three phases of work, provide CAD and pdf files of all final work on CD to the District.

2.3 Phase 3: Detailed Design of Water Park

Project Start-up / Site Visit

- Concurrent with the Phase 1 meeting, Richard Findlay will attend and visit the Swalwell Park site. At this meeting, the water park budget will be confirmed, potential design ideas for the water park will be explored, the municipal utilities within Swalwell will be investigated in detail, considerations related to the trees near the proposed play areas will be discussed,

Preliminary Design

- Prepare a preliminary design for the water park, including: layout of splash pad, connecting pathways, water park elements, labelling of all materials, adjacent seating/gathering areas, site slopes and grades. This plan will serve as the precursor to the formal Building Permit Drawing.

District Staff Meeting/Stakeholder Meeting

- Concurrent with the Phase 1 meeting, Richard Findlay will attend the meetings with Lake Country staff and stakeholders. The preliminary design for the water park will be reviewed to ensure that all concerns, including maintenance aspects, are addressed.

Public Open House

- Richard Findlay will prepare a graphic plan of the water park for display at the open house.

Detailed Design and Specifications

- Prepare detailed design drawings for the water park, and submit these for Building Permit. After the Building Permit drawings are approved, prepare contract documents for tendering. The detailed design plans will indicate:
  - Layout and Materials
  - Grading
  - Subsurface Drainage
  - Mechanical Plans and Details
- The drawing(s) will be at a suitable scale to be determined, in order to fully describe the work to be tendered to contractor(s). All specifications will be on the drawings.

District Staff Meeting

- Attend a meeting with Lake Country staff to review the detailed design before it is completed.
- After the meeting, make the required revisions.

Cost Estimate

- Prepare a cost estimate based on the drawings.

Design Services during Construction

- Provide information to the District as needed during the Tender process.
- Attend any "prebid" meeting which we would suggest be mandatory for all bidders.
- Visit the site 4 additional times during construction and prepare notes describing each visit.

~~IS CONST~~

→ BIDDING

→ PROJECT MANAGEMENT (IE APPROVAL OF INVOICES, BOOK UP)

2.4 Electrical Work Plan

Phase 2 Work

- Perform lighting calculations to determine pole layout, and to ensure desired illumination level and uniformity are achieved along the 1.2km trail.
- Prepare a lighting design, including electrical servicing, for the lighting along the 1.2km trail.
- Submit design for review and approval. Revise design, if necessary, in order to receive final approval.

Phase 3 Work

- Prepare a design for the electrical servicing to the water park pump(s).

2.5 Environmental Work Plan

Ecoscape's proposed work plan is intended to address environmental best practices and to provide guidance for development of a linear park trail system adjacent to Vernon Creek. The proposed work program will consist of two primary tasks as follows:

Task 1 – Environmental Planning Recommendations and Riparian Areas Regulation Setback Determination

The intent of Task 1 is to provide CBA with detailed environmental information collected during field inventories and data review, so that trail and water park plans can be prepared. Ecoscape understands that several factors need to be considered, including but not limited to, trail location, future creek crossing, the provincial Riparian Areas Regulation, the Federal Fisheries Act, and fulfilling the objectives of the Master Plan for Swalwell Park.

- Attend a start-up meeting and one additional design meeting. Following each iteration in the park planning process, general requirements for mitigation or other environmental due diligence will be presented.
- Conduct a field inventory of the 1.2 km of creek within the park. As part of this assessment, a total of 11 cross sections will be completed for each segment of stream within the study area, which will be used to identify the provincial Riparian Areas Regulation setbacks. During the stream inventory, preferred stream crossing locations will be identified. Also, key wildlife features observed during the inventories will be recorded (e.g., large wildlife trees). Finally, potential areas for enhancement and restoration opportunities within the study area will be catalogued and prioritized.

- Prepare an Environmental Overview report. This report will present a summary of the data collected during field inventories and provide clear recommendations for incorporation into the detailed designs. The primary intent of this report will be to provide guidance to CBA so that environmental impacts can be mitigated by design where feasible;

Task 2 - Environmental Impact Statement for the Proposed Trail and Water Spray Park Projects

The intent of Task 2 is to review trail and waterfront park development plans and prepare an environmental impact statement, including detailed mitigation recommendations to facilitate permitting with other agencies such as the Ministry of Environment.

- Conduct a detailed review of the proposed water park and proposed trail.

- Prepare a draft Environmental Impact statement (EIS) for the proposed water park and trail. The EIS will include draft mitigation and/or restoration plans for review and comment;

- Prepare a final EIS including detailed mitigation plans, recommendations for habitat enhancements, recommendations for proposed stream crossings, and other information as required. The intent of this report will be to facilitate permitting with other agencies, such as the Ministry of Environment and/or Department of Fisheries and Oceans. It is believed that most of the impact statement will focus on the trail development portion of the project.

2.6 Civil Engineering Work Plan

The civil engineering work will focus on helping the team to identify creative options for reclamation of the drainage from the water park. If needed, the engineers will also provide an opinion on the need for subsurface drainage at the water park and along the trail. A minimal amount of drainage design is allowed for, if needed. Should there be a need for extensive drainage design, a scope change will be required.

2.7 Qualifiers

The following tasks are not included in this proposal:

- Detailed design of viewpoints, plazas, and other gathering and use areas along the trail; these are excluded partly because they may not qualify for Local Motion funding, and because it isn't possible to provide a fee estimate for this since the extent of work is unknown,
- Contract documents and specifications for the trail,
- Site survey,
- Quantity surveyor (because we are accustomed to preparing this type of cost estimate),
- Additional meetings,
- Additional rounds of revisions beyond those identified,
- Design for a larger construction budget than the one for the water park stated in the RFP – fees will be 12% for any construction budget increase,
- Engineering drawings for more than one design,
- Geotechnical engineering,
- Coordination of stakeholder meeting and public open houses (it is assumed that Lake Country staff will distribute invitations, place ads, book meeting rooms, provide refreshments, etc.),
- The environmental work plan assumes the RAR setbacks can generally be adhered to, possibly utilizing the flex option for stream crossings (i.e., exchanging land of equivalent value), and that a Harmful Alteration, Disruption, or Destruction of Fish Habitat (HADD) will not occur. If a HADD is proposed, this will be considered a scope addition. Ecoscape understands that it is generally preferred to avoid permitting with the Department of Fisheries and Oceans (i.e., a HADD), and therefore assumes that hard engineering (e.g., hydrologist or engineer) will not be required for completion of mitigation plans. Hard engineering requirements, if required, can be determined and costs prepared as necessary.

3.0 QUALIFICATIONS

3.1 Team Highlights

Our team is specifically suited to complete this project in an exceptional manner. We offer the following:

- **Lake Country Trail and Swalwell Park experience.** Since our company completed the previous work on these sites, we have a very solid understanding of the requirements, including the physical resources and external factors.

- **directly related experience.** CBA and our team have worked on many directly related projects as outlined in the following sections.

- **consensus-based planning.** Many of CBA's projects involve consensus-based planning and facilitation. We have particular training and expertise in consensus-based planning, including methods for conducting meetings that are highly effective and engaging. Those skills will be useful in working towards creative solutions on this project.

- **conceptual skills.** We are often involved in developing new methods and techniques in our planning and design efforts. Each of our projects is different, and many are innovative. CBA has received seventeen professional awards for our work in the past twenty-two years.

- **communication skills.** All of our work involves communication and we take pride in constantly honing those skills. Our written materials and graphics have received recognition and praise, and through extensive experience in giving presentations at review meetings, professional seminars, conferences, and public meetings, we also have presentation skills which are highly regarded.

- **high professional standards.** As an award-winning firm established firm in British Columbia, our reputation is based on high professional standards and a scope of service which encompasses environmental and landscape planning and landscape architectural site design. Our standards have resulted in steady repeat clients and a full workload.

- **subconsultants.** The subconsultants on our team have been specifically selected to provide the expertise required. RFLA and DMD have water park and playground experience that is likely second to none in B.C. Ecoscape and Earth Tech provide knowledge of local conditions and offer proximity to the site for the situations when it could be required.

- **commitment.** Our team is committed to the implementation of successful parks and open space systems and to the protection and enhancement of environmentally sensitive areas. Because of that commitment and interest, we are enthusiastic about projects like this, and we devote high levels of energy and excitement to them.

3.2 Catherine Berris Associates Inc.

Catherine Berris Associates Inc. (CBA) is a consulting firm establish in 1985 providing services in research, planning, and design of land and water areas to public and private clients. The company is known for its environmentally sensitive approach, open and productive relations with client, interest and public groups, and innovative approaches. Please refer to the appended brochure and to our Web site www.cbainc.bc.ca for additional information.

The primary responsibilities and qualifications of project team members will be as follows:

Catherine Berris, MCIP, FCSLA, will be the principal in charge. Catherine is a Landscape Architect and a Registered Planner who brings to the team skills in landscape design, environmental and land use planning, and consensus-based planning. In 1999, she was honoured by being appointed a Fellow of the Canadian Society of Landscape Architects. Catherine has led all of CBA's projects in Lake Country to date.

Catherine has been professionally active in landscape architecture and planning projects for the past thirty years. Since receiving two professional degrees, she has spent over twenty-five years practising in southwestern B.C., two and a half years as a university faculty member engaged in teaching and research, and she has worked and studied with exceptional professionals and researchers in Canada and the U.S. Her thoughtfulness in planning, her energy and commitment to projects, and her abilities to communicate with project teams and the public have earned her the respect of colleagues and clients. Catherine has managed all of the projects undertaken by CBA which are described in this proposal.

Anita Green, MCIP, MBCSLA, will be the project landscape architect. Anita is a registered Landscape Architect and Planner. Anita received her Master of Landscape Architecture with distinction from the University of Manitoba; her thesis focused on the importance of natural areas in neighbourhood planning. She has professionally worked for the past twenty years in both the public and private sectors and as a faculty member in the School of Construction and the Environment at BCIT.

Anita provides a broad and accomplished range of design and planning expertise. She has excellent skills in site analysis, conceptual design and the overall integration of a project within its natural or urban context. Anita has been involved in all aspects of landscape and planning practice, including project management, detailed design, contract documents, planning reports and working closely with the client/user groups.

Anita brings work experience in park design from the early stages of park and open space planning, to detailed park design, and through to construction. Projects include the City of Surrey's Cloverdale Parks Master Plan, the District and City of North Vancouver Parks Master Plan and the City of Richmond Parks Master Plan. Anita cultivated her detailed design experience by working for several years on high-end residential garden design.

Niki Strutynski, B.Sc. (Agriculture), **MLA**, will serve as landscape technician. A recent graduate of the Master of Landscape Architecture program at the University of British Columbia, Niki was the top student in her class and has won awards for both academic performance and community involvement. She has excellent graphic and layout presentation skills. Recently, she volunteered

with Smart Growth BC to assist in the Salmon Arm Smart Growth Project. She prepared an information flyer about Smart Growth principles that was widely distributed in the Friday AM, a free local paper. She has facilitated public workshops, written reports, and she has been immersed in design and production since beginning work with CBA in November 2007.

Related Projects

Garden City Community Park
Richmond, B.C. 1998 and 2002

See project sheet following.

Blakeburn Park
City of Port Coquitlam, B.C. 1999 - 2000

See project sheet following.

Mill Lake Park Design
Abbotsford, B.C. 2002 - 2006.

See project sheet following.

Lang Park
Richmond, B.C. 1993 - 94.

See project sheet following.

Fishtrap Creek Nature Park
Abbotsford, B.C. 1991 - 1995.

See project sheet following.

Swalwell Park Master Plan
District of Lake Country, B.C. 2004 - 2006

Swalwell Park, just over 9 acres in size, is a major community park along Vernon Creek in the town centre of Lake Country. The facilities in the park range from sports fields and a skateboard park to public art sculptures and gathering areas used for festivals. The park has been developed incrementally over time without the benefit of a Master Plan. CBA engaged the community in a master planning process to develop a vision for the park, an appropriate program, and an ultimate plan that will make this park the "jewel" of Lake Country.

Lake Country Vernon Creek Corridor
Lake Country, B.C. 2000.

A new town centre is being developed in the District of Lake Country. The proposed town centre includes a "Main Street", one side of which is close to a major Kokanee river. This project involved analyzing the creek corridor, then developing a schematic plan for the park and design guidelines for the commercial development between Main Street and the creek. Key objectives were to protect environmental values, address recreational and tourist needs, and to encourage an appropriate development character.

Swalwell Park Construction Phase I and II
District of Lake Country, B.C. 2006 - 2008

The first two phases of implementing the Swalwell Park Master Plan involved construction of the pavilion; Phase I – washrooms, Phase II – picnic shelter/stage, storage and concession. CBA were the landscape architects on the project, which incorporates a green roof irrigated with gray water from the washrooms. A butterfly garden is also proposed at the entry to the pavilion.

Tynehead Regional Park Perimeter Trail
Surrey, B.C. 2005

The 2004 Tynehead Regional Park Management Plan confirmed zoning for the park, including a 30 to 50 metre wide buffer zone around the perimeter of the park intended to accommodate a multi-use trail. With a variety of potential future uses proposed in and surrounding the park, it was important to identify the parkland required for a safe and attractive trail. This project involved preparation of a conceptual plan for the Tynehead Park perimeter trail system, including: assessment of potential trail opportunities and constraints, trail layout, ballpark cost estimate, guidelines for trail siting in relation to the golf course, and graphics suitable for fund-raising.

Master Trail Design Guidelines
City of Coquitlam, B.C. 2001 - 2002

The City of Coquitlam was developing a Master Trail Plan for off-road recreation trails. CBA's work involved preparation of Trail Standards and Guidelines including a trail classification system and trail design guidelines. The work was guided by an Advisory Committee as well as interest group and public consultation. The result is a graphic guidebook on trail development standards. CBA also completed GIS mapping of the trail network.

Rotary Marshes at Brandt's Creek
Kelowna, B.C. 1992-96.

Brandt's Creek enters Okanagan Lake just east of the town centre of Kelowna. The creek mouth was filled in over many years and was a channelized ditch when this project began. This work involved the restoration of native habitat in the creek mouth area, with wetlands, trails, boardwalks, interpretive facilities, and special features and planting to attract birds. Initiated by the Rotary Club, the purpose of the project was to ensure that there is a natural "sanctuary" space along a waterfront which is primarily developed.

Nature Discovery Launch
City of Burnaby, B.C. 2005

The City of Burnaby, in consultation with GVRD Parks, was interested in developing a new use area in Burnaby Lake Park with the objectives of providing an appealing park entry, a launch site for small boaters, a use area for picnicking, a tribute to Doreen Lawson, and an interpretive facility. CBA provided a conceptual plan and illustrative graphics to support this initiative. The plan respects the environmental and heritage resources of the location, and provides a unique sense of place.

Nechako Park Master Plan and Detailed Design
City of Prince George, B.C. 2003 - 2005.

The Nechako Park site consists of 9.5 ha of parkland that is classified as District Athletic Park. The property is an old gravel extraction area situated north of an elementary school and east of the Nechako River. This project involved developing a long-term master plan for the park, and a detailed design phase. A stakeholder group and public meetings helped to guide the process. The park facilities will include 4 slo-pitch diamonds and associated facilities, trails connecting with the river, and a play area and field house. Phase 1, including two slopitch fields, has been built.

Surrey Bike Park
City of Surrey, B.C. 2005

The Surrey Bike Park is a mountain bike skills development facility adjacent to designated mountain bike trails. CBA provided site planning to improve the entry and character of the site, in consultation with City staff and the biking user group.

Lower Seymour Conservation Reserve
North Vancouver, B.C. 2007 - 2008

Seymour Dam is in the process of being seismically upgraded. CBA is conducting the landscape restoration, and is also assisting Metro Vancouver in designing and improving park amenities in the Lower Seymour Conservation Reserve. These include pathways, viewpoints and park entries provided partly as compensation for the Seymour Dam upgrading.

Nature Trail Network Plan
City of Langley, B.C. 2004

The City of Langley has an established network of trails throughout the City. However, some linkages are lacking, there is a lack of design consistency and character, and support facilities could be improved. The primary purpose of this project is to develop a long-term strategy for improving the City's off-road trail system. The work involves: developing a trail network plan, preparing a trail classification system and design standards, establishing design criteria that will result in an identifiable character for the trails, planning for support facilities, and recognizing environmental considerations and heritage resources.

Lighthouse Park Management Plan
District of West Vancouver, BC, 2003

This project involved preparation of a Management Plan for Lighthouse Park that provides principles and guidelines for the long-term management of the park's natural, cultural and recreational features. Catherine Berris facilitated a consensus-building process with a multi-interest group with input also invited from the public. Some of the primary issues included the extremely high levels of use in this environmentally significant site, and dog management. The plan was adopted by Council.

Blackie Spit Park Master Plan
Surrey, B.C. 1999

Blackie Spit Park is unique as a municipal park because of its size, the richness of the habitat in and near the park, the history of the area, and the diversity of recreational uses within the park. The project involved description and mapping of resources and development of a park Master Plan which provides opportunities for passive recreation while protecting the natural features of the site. A Steering Committee and public meetings guided the development of the park plan. The final plan was adopted by Surrey Council.

Elgin Heritage Park
Surrey, B.C. 1997.

Elgin Heritage Park is a unique municipal park. It features a rich and diverse environment of wetlands, river edge, sloughs, creeks and forest as well as two historic farms and an old marina. The project involved design development and detailed design of proposed park improvements. Catherine Berris Associates Inc. provided input to the engineers on hard landscape elements including parking layout, walkways, gates, boardwalk, interpretive signage structures, lighting, and special viewing facilities. CBA also developed detailed planting plans.

Cumberland Wetland
Cumberland, B.C. 2005 ongoing

The Village of Cumberland is planning a progressive sewage treatment wetland downstream of their existing sewage lagoons. CBA is designing the public component of the project, which will include input into the configuration of the wetland cells, and design of staging areas, trails, viewing areas, and interpretive facilities. The plan will take advantage of wildlife-viewing opportunities and it will be integrated into the Village's proposed trail system.

References

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3.3 Richard Findlay Landscape Architect Inc. (RFLA)

Richard Findlay, BCSLA, has 26 years of experience as a landscape architect. He is a specialist in water parks, water features, and children's play areas. He has designed and seen built 4 water play/ water splash facilities in the Lower Mainland and the Pacific Northwest in the last 8 years; most of this has been custom designed work, but Richard has also collaborated with the various suppliers and used their equipment. Richard has designed and seen built over 20 other types of water features in the US and Canada, often as a specialist consultant to other landscape architects.

In addition to water, Richard has designed children's playgrounds for the City of New Westminster and the City of Vancouver. He understands how children play, and how to design both safe and interesting spaces for kids. He does most of his own civil and mechanical work, so he understands water flow with respect to drainage. Richard believes that doing something fun and interesting with the drainage from water parks is an opportunity that should not be missed.

RFLA has access to the following experts if required:

Mark Pederson, Canadian Climatrol Systems Ltd. Mark is principal of his own firm specializing in Electrical control and water management. Mark is the leader for custom design on variable speed motors, control valves and water pumps. Canadian Climatrol Systems Ltd. has over 20 years experience designing/building custom controls for water management. His knowledge with PLC's and programming languages as well as his ability to build/assemble the controls is extremely valuable. His input on the McMinneville Oregon splash park project was absolutely invaluable.

Tony Bloom, Artist, Stonecrop Studios. Tony is an award-winning metal artist and sculptor living and working primarily out of his studio Stonecrop, in Canmore Alberta. Tony has completed many projects with RFLA in the Lower Mainland and his projects range in size and scale from hand-held to monumental size (see examples in appendix).

The following are some of the highlights of RFLA's expertise and approach:

- **design approach.** In collaboration with CBA, Richard will base the design of the water park on a properly researched design with a theme that will be both imaginative and creative, offering years of enjoyment for all users and onlookers.

- **custom work.** Richard is not affiliated with any specific supplier of proprietary pieces, as many water park designers are, so he has no vested interest in the sale of one specific product over another. He will investigate the best options based on the budget, site and theming constraints and/or opportunities. Richard believes that a strong "custom designed" central piece sets the stage, with the other components and strong site design completing the theme around this. RFLA designed all the custom pieces for Ryall Park and took these to a local site furnishings fabricator to construct them.

- **mechanical design for water.** Over the past 8 years of having a practice on his own, Richard completed the mechanical design on over 25 different water features of all shapes and sizes, with and without custom displays, including the 4 water parks mentioned. He has done both water-to-waste systems, and recirculating closed loop systems. Richard pays attention to the details, and his contract documents are very complete and well thought out. He understands the types of problems often encountered and typical construction costs associated with this type of work.

- **senior expertise.** When you choose RFLA Inc., you get Richard Findlay, not a junior landscape architect learning on your project. Richard has stayed as a "one person firm" deliberately, so that he can be on top of all aspects of our projects. He prefers to collaborate with other "design specialists" to optimize the results for clients.

- **familiarity with municipal work.** Richard has completed numerous projects for municipalities, and is familiar with the public consultation process, and practised at working with Municipal Staff. He works hard with staff to achieve the best solutions for both long term maintenance and life cycle costs.

- **construction phase.** Richard routinely prepares tender documents, often tenders these on behalf of clients and reviews/comments on bids for completeness. He is also experienced in construction administration, the most important aspect in bringing design to reality.

Related Projects

The following are some of RFLA's related projects (see additional information in the appendix).

Water Parks

- Ryall Park Splash Park, City of New Westminster
- Erma Stephenson Water Splash Park, Surrey BC
- Delta Social Heart Open Space, City of Delta, BC
- McMinneville Southwest Park, McMinneville Oregon

Water Features and Children's Playgrounds

- numerous; see examples in Firm Profile/Resume

References

City of New Westminster, BC
Paul Daminato, Director of Parks when Ryall Park was constructed. Phone: (604) 527-4551.
Dean Gibson, Director of Parks and Recreation, Phone: 604 527-4628
Andrew Banks, Parks Department Construction Manager, Phone: 604 830-6962
Projects include: City Hall Plaza and Library Plaza, playgrounds, sportsfields and a water park.

Murase Associates, Seattle and Portland
Mark Tilbe, Landscape Architect, ASLA, Principal Seattle Offices 1 (206) 322-4937
Jonathan Beaver, Landscape Architect, Associate Portland Offices 1 (503) 242-1477
Projects include: many water features including mechanical systems, McMinneville Oregon Project at Southwest Park.

City of Surrey, BC
Tiina Mack, Acting Manager-Surrey Parks Recreation and Culture Department
Phone: (604) 501-5102
Tiina was the Landscape Architect/Project Manager for the Erma Stephenson Water splash Park completed as a collaborative effort with Maruyama + Associates in 2004.

3.4 DMD Associates Ltd.

DMD's qualifications and experience are outlined in the appendix. The following individual will be the primary electrical engineer on this project.
Daniel Wong, PEng, a principal and senior electrical designer with DMD and Associates Ltd, a 20 person electrical engineering firm based in the Lower Mainland. Dan has worked as an electrical sub-consultant to RFLA on many of Pacific Northwest water features, parks and urban plazas. His firm always ensures that all associated power feeds and distribution documentation is well thought out and completed to exemplary standards. Daniel has extensive experience dealing with local electrical utility companies such a BC Hydro, and as such fully understands service requirements.

3.5 Ecoscape Environmental Consultants Ltd.

Ecoscape's qualifications and experience are outlined in the appendix. The following individuals will work on this project.

Jason Schleppe, M.Sc., R.P. Bio., will act as the project biologist for this work program. Jason has worked on several large projects in the Okanagan Valley and has expertise in the collection and management of large bio-inventories. Responsibilities for this project include field surveys, data analysis, and review of reporting. Jason is a certified Danger Tree Assessor for Urban and Recreational Areas and brings a strong fisheries background to the project with extensive specific local knowledge.

Danielle Drieschner, B.Sc., BIT, (Dani) has extensive local experience and will help complete field work, prepare reports, and be involved in most aspects of the project. Dani has strong fisheries skills and has completed numerous similar projects with Ecosacpe.

Robert Wagner, B.Sc. GIS/AutoCAD Specialist, has extensive experience preparing data accurately using GIS and AutoCAD. He has prepared and mapped several large bio-inventories including The Kelowna Shorezone Fisheries and Wildlife Habitat Assessment. Rob will be responsible for preparation of all mapping (GIS) and AutoCAD works.

References

Terry Barton, Parks Planner
City of Kelowna
250-469-8830

Todd Cashin, Environmental Supervisor
City of Kelowna
250-763-6011

Brent Magnan, Environmental Planner
Regional District Central Okanagan
250-469-6213

3.6 Earth Tech

Earth Tech's qualifications and experience are outlined in the appendix. Joe Mocilac will work on this project along with other professional, technical and support staff as required.

4.0 SCHEDULE

The following is an illustration of the proposed study schedule. Assuming a starting time of early June 2008, and the ability to schedule meetings as indicated, we are available to complete the schematic and detailed trail design before the end of September 2008, and the water park detailed design by mid September 2008. We assume that one stakeholder meeting and one public meeting will be held to discuss both the trail and the water park.

	Jun	Jul	Aug	Sept
Phase 1: Schematic Design				
Project Start-up Meeting / Site Tour	*			
Site Inventory and Analysis				
Schematic Plan Options				
District Staff Meeting / Stakeholder Meeting		*		
Public Open House		*		
Preferred Plan and Cost Estimate				
Report				
Total Phase 1				
Phae 2: Detailed Design of Trail				
Draft Design (50%)				
Final Design				
Cost Estimate				
Total Phase 2				
Phase 3: Detailed Design of Water Park				
Project Start-up Meeting / Site Visit	*			
Preliminary Design				
Stakeholder Group Meeting		*		
Public Open House		*		
Detailed Design				
Specifications				
Cost Estimate				
Design Services During Construction				
Total Phase 1				

5.0 FEES

An outline of anticipated fees based on our proposal is provided. Should you wish to discuss the scope of services, we will be happy to negotiate with you regarding the tasks and associated fees. This was a difficult project to estimate due to some lack of clarity around the specific deliverables required, e.g., extent of environmental work, level of detail needed for trail detailed design.

The following are the hourly rates of the individuals involved:

• C. Berris	$160	• Joe Mocilac	$150
• A. Green	$100	• Earth Tech Engineer	$120
• Support staff	$ 65	• Jason Schelppe	$ 90
• Richard Findlay	$150	• Danielle Drieschner	$ 68
• Dan Wong	$160	• Robert Wagner	$ 75
• Jason Furness	$115		

The following charts show the estimated time allocations of the core team members.

	CB	LA	NS	RF	Total
Phase 1: Schematic Design of Trail/Park					
Project Start-up Meeting / Site Visit	12	12	4		3,380.00
Site Inventory and Analysis	4	16	16		3,280.00
Schematic Plan Options	4	12	24		3,400.00
District Staff Meeting/Stakeholder Meeting		12			1,200.00
Public Open House	4	24	16		4,080.00
Preferred Plan and Cost Estimate	4	16	24		3,800.00
Report	8	16	8		3,400.00
Presentation (optional)		10	4		1,260.00
Total Phase 1	**36**	**118**	**96**		**22,540.00**
Phase 2: Detailed Design of Trail					
Draft Design (50%)	8	24	60		7,580.00
Staff Meeting		8			800.00
Final Detailed Design and Cost Estimate	4	24	60		6,940.00
Final Products	2	4	4		980.00
Total Phase 2	**14**	**60**	**124**		**15,320.00**
Phase 3: Detailed Design of Water Park					
Project Start-up Meeting / Site Visit				12	1,800.00
Preliminary Design	4	6		12	3,040.00
District Staff Meeting/Stakeholder Meeting				8	1,200.00
Public Open House (graphics)				4	600.00
Detailed Design and Specifications	4	6		90	14,740.00
Staff Meeting				8	1,200.00
Cost Estimate				7	1,050.00
Design Services During Construction (5)	2			32	5,120.00
Total Phase 1	**10**	**12**		**173**	**28,750.00**
Total	**60**	**190**	**220**	**173**	**66,610.00**

23,800

16,300

68,850

The following is a budget summary for the above scope of work:

Fees	
• Catherine Berris Associates Inc.	$44,800.00
• Richard Findlay LA Inc. – Phase 3 only	$ 25,950.00
• DMD Associates Ltd. – Phases 2 and 3	$ 5,000.00
• Ecoscape – Task 1	$ 3,800.00
• Ecoscape – Task 2	$ 2,640.00
• Earth Tech – Phases 2 and 3 (allowance)	$ 2,500.00
Subtotal Fees	**$84,690.00**
• Expenses (e.g. travel, plotting, courier) at cost	$ 7,000.00
Total	**$91,690.00**

GSTwill be charged in addition.

CATHERINE BERRIS ASSOCIATES INC.

CATHERINE BERRIS ASSOCIATES INC.

GARDEN CITY COMMUNITY PARK

Location: *Richmond, B.C.*
Client: *City of Richmond*

CBA prepared a Master Plan for McLennan North (since renamed Garden City) Community Park in 2000. The plan balances active recreation with protection of the natural features of the site. A Steering Committee and public meetings guided the development of the park plan. Beginning in 2003, CBA undertook design development and detailed design for the first phase of park construction; a stormwater management pond/wetland system located prominently within the centre of the park. A pedestrian bridge was custom designed to fit with the park setting.

View of Pond Immediately After Construction

Park Master Plan

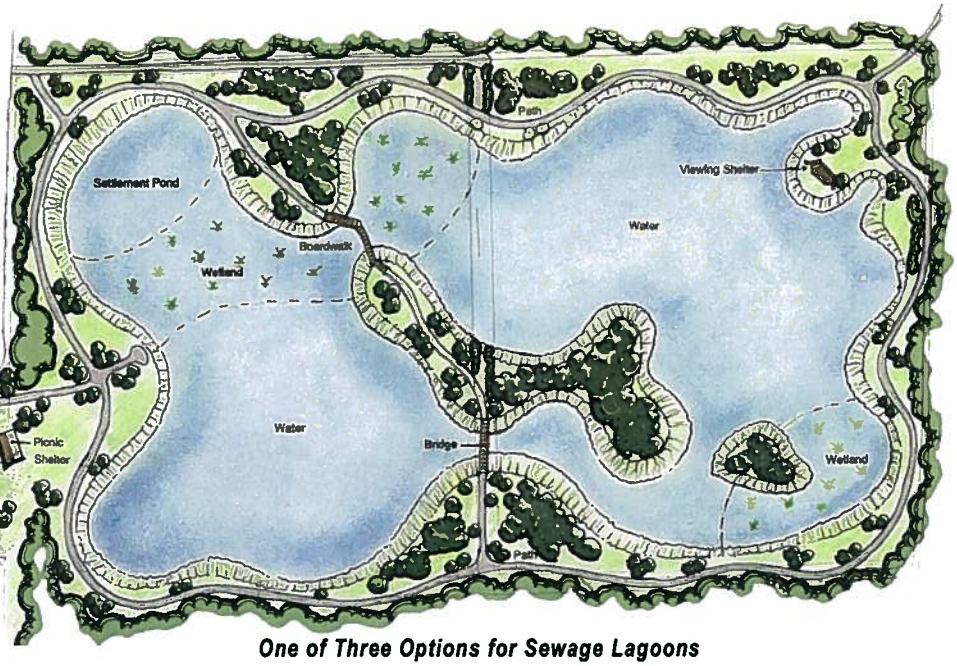
CATHERINE BERRIS ASSOCIATES INC.

BLAKEBURN PARK AND LAGOONS

Location: *Port Coquitlam, B.C.*
Client: *City of Port Coquitlam*

The Blakeburn Lagoons are old sewage lagoons located adjacent to an elementary school. This project involved development of a Master Plan for the lagoon site and a neighbourhood park. The project provides an excellent opportunity to develop an environmentally sensitive, natural-appearing type of park with education and interpretation possibilities, integrated with an active recreation park catering to children of various ages. The project also included detailed design and design services during construction for the neighbourhood park. CBA was the prime consultant. One public workshop was held and interest groups were involved throughout the process.

Neighbourhood Park (built)



One of Three Options for Sewage Lagoons

CATHERINE BERRIS ASSOCIATES INC.

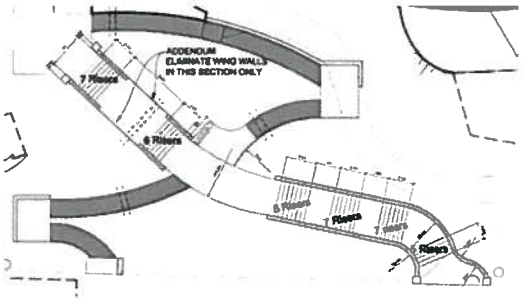
MILL LAKE WEST SIDE

Location: *Abbotsford, B.C.*
Client: *City of Abbotsford*

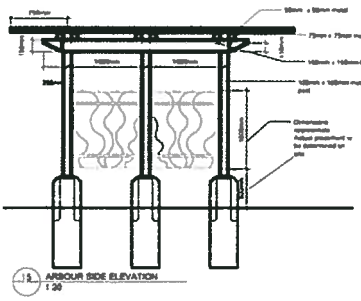
CBA prepared a detailed design for a major entry to Mill Lake Park. The plan involves making the entry to the park universally accessible and adding plantings and hard landscape elements that are appropriate for this City-wide park. The project is currently under construction.

Before

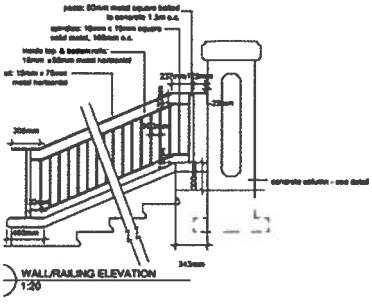
After: Main Park Entrance Under Construction



Plan of Stairs and Ramps



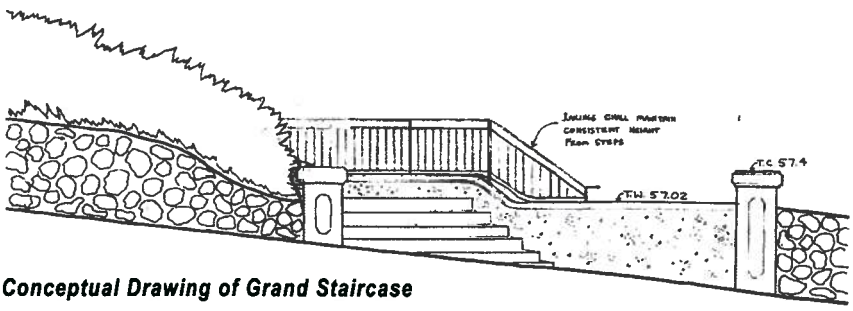
Arbour



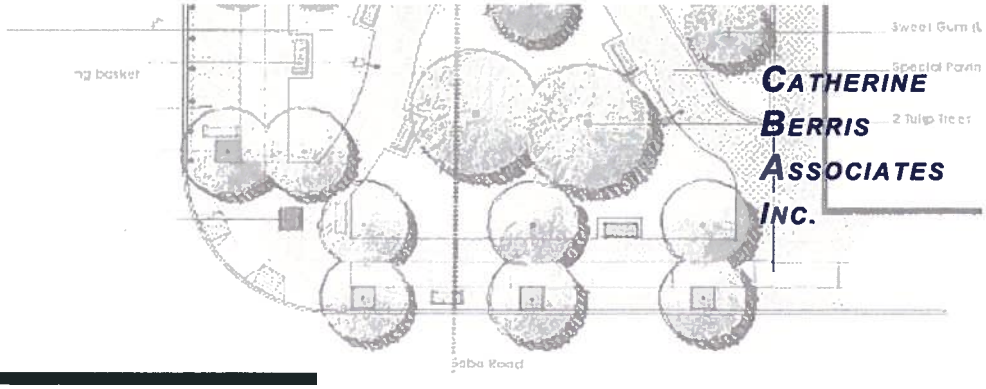
Stair Detail

Before

After: Grand Staircase Under Construction



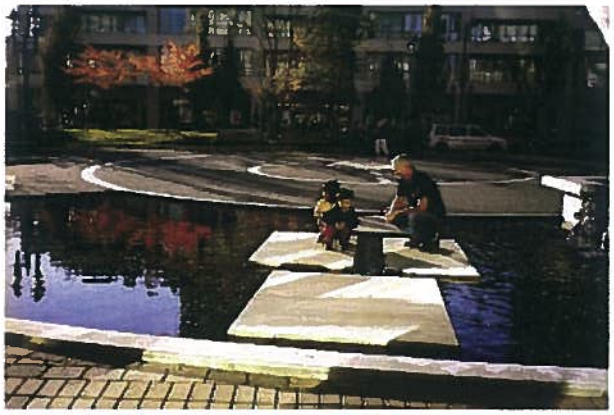
Conceptual Drawing of Grand Staircase



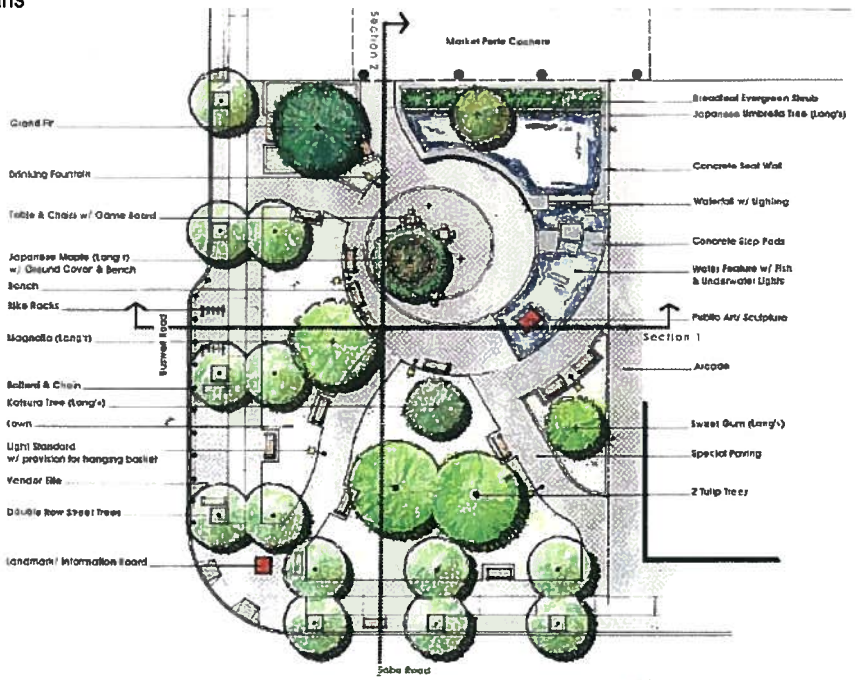
CATHERINE BERRIS ASSOCIATES INC.

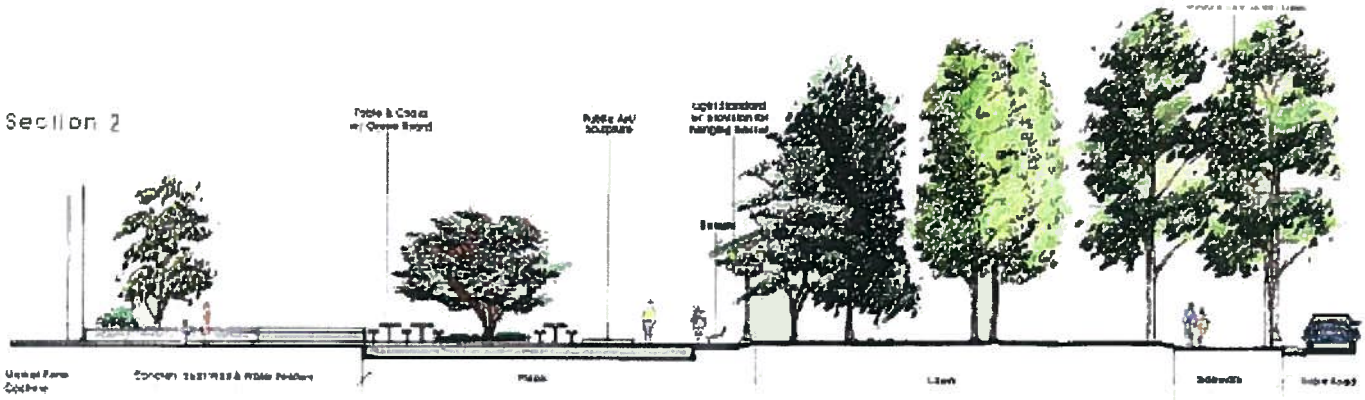
LANG PARK

Location: *Richmond, B.C.*
Client: *City of Richmond*



This project involved development of a master plan for a small park in the new town centre of Richmond. The park is adjacent to a public market and is surrounded by high-rise buildings. The design includes a water feature, heritage trees, historic elements, a central plaza area, and surrounding grass and trees. A Steering Committee had extensive input into the design process, and circulated draft plans to various public groups. Consensus on a final plan was reached with CBA guiding the process.





CATHERINE BERRIS ASSOCIATES INC.

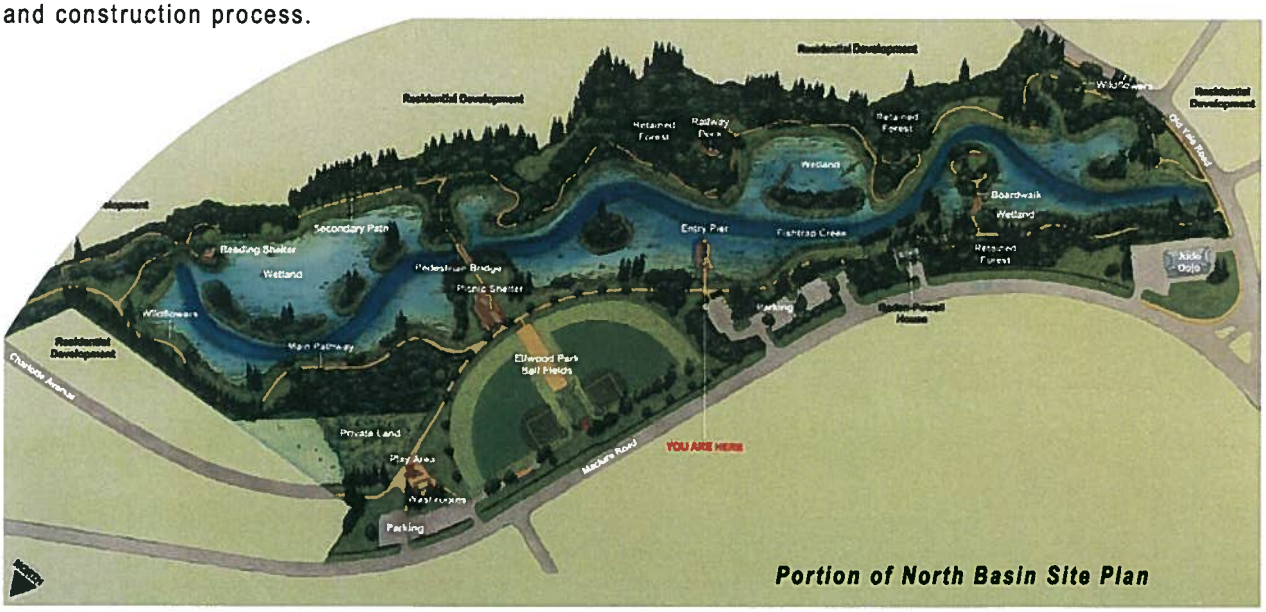
FISHTRAP CREEK NATURE PARK

Location: *Abbotsford, B.C.*
Client: *City of Abbotsford*

Increased suburban development in the Fishtrap Creek watershed had resulted in downstream flooding of agricultural lands, resulting in a need for large detention basins. The landscape architectural component of the project focused on the design of a nature-oriented community park around the detention basins. Re-alignment of the creek, variations in the shape of the basin, development of peninsulas and islands and preservation of existing vegetation were used to create a variety of landscape settings. Wetland, forest and meadow areas were planted, with facilities including walkways, a pedestrian bridge, a picnic shelter, lookout points, interpretive sites, and lighting. Plantings were designed to reflect local, indigenous conditions and to enhance habitat for fish and wildlife. CBA was involved in every phase of the design and construction process.

Overview of Park Showing Entry Pier

View of Reading Shelter



Portion of North Basin Site Plan

Catherine R. Berris

President
Catherine Berris Associates Inc.
Suite 420, 1639 West 2nd Avenue
Vancouver, B.C. V6J 1H3
604 736-6336
cberris@cbainc.bc.ca

Education

Master of Landscape Architecture, University of Michigan, 1982.
Coursework in landscape planning, computer techniques, remote sensing, visual assessment, design, architecture, conflict resolution, historic and cultural preservation, graphics, golf course design, forest ecology, coastal dynamics, real estate and environmental psychology.

Thesis - Coastal Planning and Management: A Framework for the Sunshine Coast Regional District.

Bachelor of Landscape Architecture, University of Guelph, Ontario, 1977.

Professional Experience

Catherine Berris Associates Inc., Vancouver, British Columbia. September 1985 ongoing. Landscape architecture and coastal and land planning on a wide range of project types and scales. Special services include computer applications and consensus-based planning.

Assistant Professor, Program in Landscape Architecture, Colorado State University. January 1983 to August 1985. On leave 1985-86. Curriculum structuring, course development and teaching in planning, design and construction; advising, research and public service in a three faculty member, ninety student, four year accredited landscape architecture program.

Catherine Berris Landscape Architect, Fort Collins, Colorado. January 1983 to August 1985. Consultant independently and with interdisciplinary groups involved in planning and design projects in Colorado.

EDAW, Inc., Fort Collins, Colorado. Summer 1983. Landscape architect on team undertaking design and working drawings for Hewlett-Packard courtyard in Greeley, Colorado.

EDAW, Inc., San Francisco, California. Summer 1981. Landscape architect on planning and design team for a 30 acre urban development in downtown Salt Lake City, a 5000 acre mixed use development in Utah, and a golf course industrial park project.

William Newcomb Golf Course Architects, Ann Arbor, Michigan. Spring 1981. Assistant designer and graphic coordinator for winning entry of design competition for Elk Grove Golf Course, Illinois. Preliminary grading and design development for the golf course.

Pavelek and Associates Landscape/Interior Architects, Vancouver, British Columbia. March 1977 to August 1980. Project landscape architect in planning, design and construction supervision of housing, recreational, industrial and commercial developments, parks, and school campuses.

Moura Quayle Landscape Architects, Victoria, British Columbia. February 1978 to February 1979. Landscape architect involved in all phases of planning, site development, urban design and visual assessment projects.

Colvin and Moggridge Landscape Architects, Filkins, Gloucestershire, England. Summer 1976. Construction supervision at recreational reservoir site in North Wales, design of playground, and other project work.

New Brunswick Department of Tourism, Fredericton, New Brunswick. Summer 1974. Involvement in planning and design of provincial parks.

Archaeological Dig, Carrascosa del Campo, Spain. Summer 1973. Interpreter, surveying assitant, digging and documentation of finds.

License/Registration

British Columbia Society of Landscape Architects #78.

Registered Planner, Planning Institute of British Columbia.

Associations

Canadian Institute of Planners - Member.

Planning Institute of British Columbia - Member.

Canadian Society of Landscape Architects – Member (Fellow), Board of Governors Director 1989.

British Columbia Society of Landscape Architects – Member, President 1988.

American Society of Landscape Architects – Member, Colorado Chapter Director 1984/85.

Vancouver Urban Design Panel - Member 1992-94.

Academic Awards

Canada Mortgage and Housing Corporation Scholarship, 1981-82.

Best Thesis Contents and Presentation Award, University of Michigan Department of Landscape Architecture, 1982.

University of Michigan Lloyd Scholarship, 1981-82.

University of Michigan Foreign Student Scholarship, 1981-82.

Helen M. Kippax Memorial Scholarship, 1974.

Other Honours

Fellow, Canadian Society of Landscape Architects – 1999.

Society for Canadian Women in Science and Technology. Profile on Xplore Science Careers. CD Rom and Web Site: www.harbour.sfu.ca/scwist/pathfinder/explore/berris1.htm

Southeast False Creek Design Charrette Invited Professional Participant. Vancouver, B.C. October 1998.

By Design Television Series by Knowledge Network. Segment in series showcasing Canadian design talent. 1999.

Technical Expert on Salmon Aquaculture Review. Environmental Assessment Office, B.C. 1996-97.

Member of Clayoquot Sound Scientific Panel on Sustainable Forestry Practices. Clayoquot Sound, B.C. 1993-94.

Publications

- A Stormwater Wetland Becomes a Nature Park. In Handbook of Water Sensitive Planning and Design. Robert France, Ed. 2002. Lewis Publishers, New York.
- An Environmental Approach to Park Design. In Parks and Recreation Canada. March/April 1999.
- Salmon Aquaculture Review, Technical Advisory Team Discussion Papers, Volume 3. British Columbia Environmental Assessment Office. August 1997. Victoria, B.C.
- Using GIS for Municipal Environmentally Sensitive Area Planning. GIS 95 Proceedings. March 1995, Vancouver, B.C.
- Design and Simulations of Harvesting by VQO Class. GIS '92 Proceedings. February 1992. Vancouver, B.C.
- Simulations Help Visualize the Future. GIS World. September 1991, Vol. 4, No.6. Fort Collins, Co, USA.
- Sechelt Inlets Coastal Strategy: Conflict Resolution in the Coastal Zone Using Consensus-Based Planning. Coastal Zone '91 Proceedings. Long Beach, Ca, USA.
- GIS and Computer Video-Imaging in Forest Landscape Management. GIS '90 Proceedings. March, 1990. Vancouver, B.C.

- Logging in Kootenay Landscapes: The Public Response. Ministry of Forests. Land Management Report No. 57. February 1989. Victoria, B.C.
- 140 Megabytes and 10 Billion Neurons of Land Use Planning. GIS Seminar Proceedings. November, 1989. Toronto, Ontario.
- Appropriate Accuracy. 12th Land Resource Science Workshop Proceedings. February, 1988. Vancouver, B.C.
- Interactions of Elk and Residential Development: Planning, Design and Attitudinal Considerations. Landscape Journal. Vol. 6, No. 1. Spring 1987. Madison, WI, USA.
- Planning for Canada's Sunshine Coast. Landscape Architecture Magazine. March/April, 1983, Vol. 73, No.2. Louisville, KY.

Invited Lectures

Conferences

- Society for Ecological Restoration. Planning and Design for Restoration within Communities. August 2004. Victoria, B.C.
- Environmental Design Research Association 35. Sustaining the Spirit of Local Places. June 2004. Albuquerque, New Mexico.
- B.C. Land Summit. Green Infrastructure. May 2004. Vancouver, B.C.
- International Federation of Landscape Architects. Nature in our Midst. May 2003. Calgary, Alberta.
- B.C. Recreation and Parks Association. Healthy Parks – Contributing to a Sustainable Park System. May 2003. Vancouver, B.C.
- Canadian Water & Resources Association. The Role of Naturalization in Aquatic Habitat and Stormwater Management. June 2003. Vancouver, B.C.
- Canadian Institute of Planners. Greenways and Watercourses – BC Projects. May 2002. Vancouver, B.C.
- B.C. Wildlife Federation Wetlands Institute. Presentation and Panel Discussion. July, 2000. Langley, B.C.
- BCRPA Annual Provincial Parks Spring Training. Native Plants in the Landscape. March, 2000. Langley, B.C.
- Water Sensitive Ecological Planning and Design. A Stormwater Wetland Becomes a Nature Park. Feb. 2000. Harvard University.
- Can West Hort Show. Native Plants in the Landscape. September 1999, Vancouver, B.C.
- Working in Harmony with BCRPA-CP/RA. Parks in the Environment and the Environment in Parks. May 1998. Penticton, B.C.
- Coastal Zone Canada '98. Participant in Panel Discussion on Coastal Planning in Canada. August 1998. Victoria, B.C.
- GIS 95. Using GIS for Municipal Environmentally Sensitive Area Planning. March 1995, Vancouver, B.C.
- International Right of Way Association Education Seminar and Forum. Land Use Issues as we Approach the 21st Century - What's New in GIS and Computerized Imagery? March 1995, Vancouver, B.C.
- PIBC 1994 Conference. Tourism and Planning. April 1994, Whistler, B.C.
- BCRPA 17th Annual Seminar. Parks in the 21st Century. March 1994, West Vancouver, B.C.
- Canadian Coastal Conference 1993. Coastal Tourism Resource Planning. May 1993, Vancouver, B.C.
- PIBC Lower Mainland Chapter Event. Planners and Computers: From Concept to 3D. February 1993. Vancouver, B.C.
- Public Sector Park Planner and Designers Association. Surrey ESA Study. October 1992. Surrey, B.C.
- Digital Resource Systems User's Conference. Directions in Visual Impact Assessment. May 1992. Nanaimo, B.C.
- Globe '92. Environmental Planning Crossroads. March 1992. Vancouver, B.C.
- GIS '92. Design and Simulations of Harvesting by VQO Class. February 1992. Vancouver, B.C.
- PICS/URISA Conference. Case Studies in Planning and Visual Analysis. May 1991. Victoria, B.C.
- Coastal Zone '91. Sechelt Inlets Coastal Strategy: Conflict Resolution in the Coastal Zone Using Consensus-Based Planning. April 1991. Long Beach, Ca, USA.
- GIS Seminar. 140 Megabytes and 10 Billion Neurons of Land Use Planning. November 1989. Toronto, Ontario.
- 12th Land Resource Science Workshop. Appropriate Accuracy. February 1988. Vancouver, B.C.

Universities/Colleges

- UBC School of Community and Regional Planning, Community and Professional Programs. Urban Design Workshop for Professionals. March 1996, Richmond, B.C.
- UBC School of Community and Regional Planning, Community and Professional Programs. Planning as a Consultant: Projects, Opportunities and Challenges. February 1996, Vancouver, B.C.
- UBC Centre for Human Settlements. Planning the City-Centred Region for Sustainable Development. November 1995, Vanc., B.C.
- Silviculture Institute of B.C. Forest Landscape Management. November 1993, Surrey, B.C.
- University of British Columbia Centre for Continuing Education. Managing Geographic Information Systems. May 1993.
- University of British Columbia. Landscape Planning 2-Week Studio Course. Fall 1992. Vancouver, B.C.
- B.C. Institute of Technology GIS Program. Management Issues in GIS. April 1992. Vancouver, B.C.
- University of Washington. Department of Landscape Architecture. April 1991. Lecture and Office Tour.
- The Banff Centre for Management. "Tools for Sustainable Development" Course. February 1991. Sechelt Inlets Case Study.
- University of British Columbia. Landscape Architecture Program. Professional Practice Interviews. Annually.
- University of British Columbia, Landscape Architecture Program, Soil Sciences and Forestry. Miscellaneous lectures on planning projects.

Professional Awards and Professional Projects

Refer to lists for Catherine Berris Associates Inc.

Anita Green

Landscape Architect and Planner
Catherine Berris Associates Inc.
Suite 420, 1639 West 2nd Avenue
Vancouver, B.C. V6J 1H3
604 736-6336
agreen@cbainc.bc.ca

Education

Master of Landscape Architecture, University of Manitoba, 1988

Bachelor of Fine Arts, Queens University, Ontario, 1981

Subdivision Bylaws, University of British Columbia
AutoCad I and 2, British Columbia Institute of Technology
Vectorworks and 3D Vectorworks , Langara College

Professional Experience

Catherine Berris Associates Inc., Vancouver, British Columbia. 2008 ongoing. Project manager for selected landscape architecture and planning projects.

Education Co-ordinator CAGRT, School of Construction, BCIT. 2006 - 2008. Responsible for the development, delivery and administration of green roof courses through part-time studies and in the Bachelor of Architecture Technology program; presentations at conferences and workshops. Responsible for the planning and installation of Phase 2 of the Green Roof Research Facility and the development of a sub-apline native plant trial.

City of Surrey, Surrey, BC. 2005 - 2006. Planner I (50% Planner & 50% Landscape Permits). Responsible for planning reports to Council, and review of landscape plans and development applications with respect to environmental and urban design considerations.

Paul Sangha Ltd., 2003 to 2005. Senior Landscape Architect / Planner. Project manager overseeing installation of large scale high-end residential landscapes. Responsibilities included: obtaining Development and Building Permits (Variance Applications when required), preliminary cost estimates, prelimir:ary and detailed design, preparation and overseeing production of construction documents, design services during construction, and interaction with clients and contractors to realize the plans.

Davidson Yuen Simpson Architects. 1992 - 2003. Planner / Landscape Architect. Responsible for community profile and analysis, site planning, urban design, open space and park planning in public and private sector work. Projects included: Neighbourhood Concept Plans and Sub-Area Plans for municipalities, large scale master plans for developers in conjunction with municipalities, golf course community design, and the development of design guidelines for industrial and residential areas.

Philips Wuori Long, Vancouver, BC. 1989 - 1992. Landscape Planner. Responsible for park planning, residential design development, construction documents, planting plans and irrigation layout.

Cambridge City, Cambridge England. 1988 - 1989. Assistant Landscape Architect. Responsible for public consultation, detailed design, cost estimates, specifications and tender documents for park and housing projects. Projects included detailed design and construction for Cherry Hinton Park and landscape development for council housing.

Green Landscape, Winnipeg, Manitoba. 1987 - 1988. Consultant. Responsible for the detailed design and site supervision of the landscape development for the Bethania Personal Care Home in Winnipeg. The three-acre site was designed to integrate with the special needs of the users, their recreational programs and the existing landscape.

License/Registration

British Columbia Society of Landscape Architects

Associations

Member of British Columbia Society of Landscape Architects

Member of Planning Institute of British Columbia

Academic Awards

Canadian Society of Landscape Architects, Award of Merit, 1989

Canadian Mortgage and Housing Corporation, University Scholarship, 1986 to 1987

Selected Projects

- McLennan South Neighbourhood Concept Plan, for City of Richmond. Worked with municipal planners to develop a comprehensive plan for the infill development of an existing neighbourhood of 330 homes. Through workshops and public meetings, developed the goals, objectives, policies, and land use plan. The Development Permit Guidelines outlined the street standard for roads and vegetation.
- Upper Lands and Rogers Creek Neighbourhood Plan for British Properties. Co-coordinated this planning study and the rezoning application for the Rogers Creek neighbourhood. The plan was based on an extensive inventory and analysis of slope, vegetation, creeks/watershed, environmentally sensitive areas and visual analysis by a group of consultants.
- City of Surrey, Cloverdale Parks and Recreation Master Plan.
- City and District of North Vancouver Parks Master Plan
- Richmond Town Centre Parks Master Plan
- Coal Harbour Master Plan and Conceptual Design
- Landscape development plans for commercial, multi-family and residential developments including hard landscape details, detailed planting plans, and irrigation plans.

Niki Strutynski

Intern Landscape Architect
Catherine Berris Associates Inc.
Suite 420, 1639 West 2nd Avenue
Vancouver, B.C. V6J 1H3
604 736-6336
nstrutynski@cbainc.bc.ca

Education

Master of Landscape Architecture, University of British Columbia, 2007

Bachelor of Science Global Resource Systems, University of British Columbia, 2003
Specialized in Sustainable Agriculture and the Americas

Professional Experience

Catherine Berris Associates Inc., Vancouver, British Columbia. November 2007 ongoing. Intern Landscape Architect. Assistance in landscape architecture and planning projects including: site design, planting plans, graphics, CAD, report and proposal preparation, public consultation, and cost estimates.

VanDusen Botanical Garden, Vancouver, British Columbia. 2003 - 2007. Gardener. Seasonal employee for four years at VanDusen with responsibilities including propagation, planting, watering, installation, and general maintenance.

Rush Wright Associates, Melbourne, Australia. May – August, 2006. Student Intern. Tasks at this landscape architecture and urban design firm included: computer drafting, rendering and layout, preparing concept image boards and sketch design posters, and writing for a concept development report.

City of Vancouver Social Planning Department, Vancouver, British Columbia. September – December 2005. Student Intern. Completed a research project on edible landscaping for the Vancouver Food Policy Council. Responsibilities included: compiling a table of edible species suitable for Vancouver, creating an information brochure for the general public and a city bulletin for developers, and writing a final report outlining challenges and opportunities for edible landscaping.

Green Community Society of the Shuswap. Salmon Arm, BC. May – November 2001. Coordinator of the Community Garden Project. Researched and wrote a proposal for a youth employment project to build a community garden. As the project leader, hired six youth, planned work schedules, facilitated workshops, planned and worked with youth to build the garden, distributed produce, completed project reports and evaluations, did the bookkeeping, maintained communication with funders, and ensured the continuation of the garden for take-over by a group of local citizens.

Awards

BC Recreation and Parks Association Prize 2007

University Graduate Fellowship 2005

Landscape Architecture Entrance Scholarship 2004

AF Barss Prize in Horticulture 2003

Rotary International Cultural Ambassadorial Scholarship 2002

ASLA Student Awards Competition 2007

IFLA Eastern Region Student Competition 2006

Service

Smart Growth, BC Vancouver, BC. Project Volunteer Aug 2007 – present. As the liaison for the Salmon Arm smart growth process, supported a local organization by preparing promotional material, and helped to plan and facilitate a series of public workshops in Salmon Arm, BC.

LASA (Landscape Architecture Student Association), UBC. Class Rep Sept 2006 - May 2007. Planned events and organized the Landscape Architecture Brown Bag Speaker Series.

Community Studio, Vancouver, BC. Member Sept 2004 – present. Involved with this collaborative of landscape architecture, architecture, and planning students that supports community initiated projects with graphic and technical skills, design information and resources, and design workshops.

City Farmer, Vancouver, BC. Wormshop Leader Jan 2004 – 2006. Gave educational workshops that taught composting to school children and promoted City Farmer's urban agriculture activities at local events.

Canada World Youth, Ontario / Thailand. Participant 1998. Participant in a Canada World Youth Agricultural Exchange volunteering with an intercultural team of youth on community projects in rural areas, while also living and working with host families on their farms.

Projects

Bowen Island AT Field Site Planning. CBA. Assistance in all aspects of project including site analysis, design, CAD, cost estimating, report production.

Official Community Plan for Electoral Area 'E'. Columbia Shuswap Regional District, CBA. Assistance in public consultation process.

Colony Farm Agricultural and Park Service Yard Location Study, CBA. Assistance in all aspects of project including, design, CAD, cost estimating, report production.

Sea to Sky Highway, CBA. Planting design and AutoCAD.

Newman Farm Design, UBC Graduate Project Central Saanich, BC. 2006 – 2007. Design that explored the integration of active agriculture and public parkland on a 16-acre farm in Central Saanich that was donated to the community to become a park. Project mentors: Patrick Mooney and Derek Masselink.

Landscape Architecture Design Build, UBC course 2007. Facilitated public workshop and feedback process, co-created standards for social sustainability, and reviewed construction document. Instructor: David Hohenschau

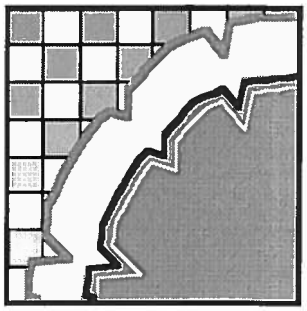
Farm Vigano Masterplan 2006, Rush Wright Associates, Melbourne, Australia. Concept and precedent research, poster layout, and rendering.

International City Masterplan, Dubai. Rush Wright Associates. Drafting, rendering, plant research, and concept report writing and layout.

Richard Findlay Landscape Architect Inc.

Richard Findlay Landscape Architect Inc.

Landscape Architecture + Urban Design



410 -1639 W. 2nd Avenue
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Facsimile 604 736-8372
Email: richard@rfla.ca

FIRM PROFILE/ RESUME

Richard Findlay, BCSLA, CSLA

REGISTERED LANDSCAPE ARCHITECT/Principal

Richard Findlay Landscape Architect Inc. was founded in May of 1999 and is a progressive detail oriented firm providing a full range of professional landscape architectural services to both private sector and public sector clientele. Over the past eight years the firm's portfolio of work has included urban plazas, institutional facilities, urban parks, sportsfields and other recreational facilities, historical landscape estate restorations, as well as smaller residential gardens and children's playgrounds. **We have also been providing mechanical design and consultation services on numerous water features in the Lower Mainland and the greater Pacific Northwest area.** Prior to this venture I was with the firm of Durante Kreuk Ltd. for six years here in Vancouver. Previous to DKL I operated my own landscape design/build operation in Toronto, Ontario. I have also worked with the landscape architectural firms of Ferris + Quinn Associates and the EDA Collaborative Inc. for four combined years in Toronto after graduation. I have been involved in the landscape industry in one facet or another for the past 26 years starting in nursery operations, progressing into residential and larger scale contracting, and now exclusively as a Design Consultant for the past 19 years. I have gained valuable "hands-on" experience with my construction work. I believe this has increased my communication strengths while enhancing my practical, design, construction detailing and contract administration skills.

My primary role as a sole practitioner is all encompassing, with particular strengths in the areas of detail design, drawing production and contract administration/site supervision. I have focused my interest in design and detailing of hard landscapes/urban plazas including water features, and as such was involved in most of the larger scale urban projects and water features designed at DKL during my tenure with them. I have continued to place emphasis with my own practice on hard urban landscapes and recreational open spaces, and have been very fortunate to continue work on some very interesting water features/spray park projects as well. Current water related projects on the "boards" include: The Agua Caliente Cultural Museum Water Features in Palm Springs California and Sapperton Plaza for the City of New Westminster. I am also involved in the preliminary redesign of a new splash park for City of New West as part of their redesign/new masterplan for Moody Park.

Recently Completed/Built Projects Include:

- **THOMPSON'S LANDING PARK AND PLAYGROUND,** New West., B.C.
  This project is a $400k upgrade to the Queensborough Community in the City of New Westminster. The project involved reclaiming a "lost parcel" that was used as a municipal "dumping ground" and turning it into a very successful active and passive play/open space Community Park, for the residents of Queensborough. It included arrival plazas, custom entry arbour features and seat walls, a new walking path link with the greater perimeter trail system that included pedestrian land bridges over on site water management streams and swales. There was a $75K children's playground area as the centre piece for the new park. Completed in Fall 2007, I was responsible for the entire project from managing the public "Open House" and design development phase through tender and successful completion. Minor deficiency resolutions remain this Spring to oversee.

Recently Completed/Built Projects continued:

- **UBC GRAHAM (Green) COLLEGE COURTYARD,** UBC, Vancouver, BC
  This project was a redesign of the filled rear pool deck and greenhouse area at the rear of the existing Green College complex on the older north portion of UBC Campus-part of the greater Cecil Green College Complex. The project was completed on time and on budget for approximately $450k in late Spring of 2007. The project was designed to fit within the existing courtyard space and remnant feature elements of the old pool diving tower and an existing greenhouse used by the school kitchen staff. New elements included: architectural coloured concrete paving and an exposed aggregate trail which sliced through the Plaza, a custom metal trellis/arbour and covered walkway suspended from the old greenhouse, soft landscaping, night lighting and irrigation systems. As prime Consultant I was responsible for overall design and implementation of the entire project including tender and field supervision services through it's successful completion in June 2007.

- **MCMINNEVILLE SW PARK (DAYBREAK PARK),** McMinneville, Oregon
  This project was a $1 million US Community Park designed by Murase + Associates, Portland. Our roles was as sub-consultant or "mechanical specialist" in design of the "water splash deck" within the park. This is an interactive splash pad with 9 zones, a total of 54 computer controlled nozzles with spray heights that vary and "ramp-up" slowly from 0" to 10' in hgt. It uses a recirculating water system, PLC + VSD computer controls, specialized valves and was designed to swimming pool standards with respect to sanitation. The project was completed late in the Spring of 2005. The Budget was approximately $350K US.

- **DELTA SOCIAL HEART PLAZA-SPLASH POOL,** Delta City Hall, Delta, BC
  This project was unique in that this was our first "design-build project" in collaboration with Cedar Crest Lands BC Ltd- an award winning landscape construction company here in the Lower Mainland. Our role was as mechanical design specialist for the "water to waste" water splash deck at the site's west end. The greater project includes a paved pedestrian loop, a memorial wall which we detailed, and included a large open common plaza/gathering space, with both hard and soft landscaping designed by Municipal Staff. The project was completed late in the Fall of 2005. The Budget was approximately $300K overall with approx. $80k dedicated to the "splash deck" component.

- **ERMA STEPHENSON WATERSPLASH PARK,** Surrey , British Columbia
  This was a Custom Watersplash Park designed in collaboration with Maruyama Associates, Vancouver. This was their first splash park and we were hired as their sub-consultant/"mechanical specialist" to assist them. Our role included initial conceptual design and theming; included assistance in managing the "public open-house/community input process" with Surrey Parks Staff and Maruyama Associates. This is an interactive splash pad with varying custom designed apparatus and a main central piece. including a "seining vessel" which was our concept. It uses a "water to waste" system and PLC controls. The project was completed for Opening in Spring of 2004. The Budget was approximately $140K.

- **RYALL PARK WATER SPRAY PARK AND PLAYGROUND,** New West., B.C.
  This project is a $400k upgrade to the Queensborough Community Center Park surrounds and included a new double tennis court, a $115K water spray park with a "working river theme" incorporating my custom designed central tug boat feature with log boom; expanded children's playground areas with a Spacenet climber and passive open spaces with all appropriate pedestrian circulation links. Completed in June 2000, I was responsible for the entire project from design development through tender and successful completion.

Project List continued:

- **UBC GORDON SHRUM BUILDING PLAZA AND SURROUNDS,** UBC, Van., BC
  This project involved both hard and soft landscape for a new "commons area block" within the student residences at Place Vanier on the UBC Campus. The greater project includes a Paved Pedestrian Allee with a large open common plaza/gathering space, a open passive play area designed to sand-based sportsfield standards, with the main building itself having appropriate perimeter landscaping with irrigation. The project also includes 2 custom metal "terminus structures" which blend the new architectural canopy and detailing with the older covered walkways. The project is still underway and is scheduled for completion this summer. The Budget is approximately $500K and RFLA have played an expanded role as "construction managers" in overseeing this complicated scope.

- **UBC EARTH AND OCEAN SCIENCES COURTYARD,** UBC, Vancouver, BC
  This project was a redesign of the main entrance plaza and pedestrian circulation routes around the existing 1970's building of the Earth and Ocean Science's Building on the main UBC Campus. The project was completed on time and on budget for approximately $400k in late Spring of 2004. The project was designed to fit within the existing courtyard/frontage and features elements such as: architectural coloured concrete paving and basalt medallions with sandblasted images, a custom metal trellis/arbour structure with a copper wind vein, soft landscaping, pedestrian lighting as well as a "public art" component which RFLA designed in collaboration with artist Tony Bloom. The artwork is called the "Earthball" and is a wonderful piece which takes a different look at the standard earth "cut away", exposing the earth's core. It isolates different metals such as stainless, copper and mild steel from one another. As prime Consultant I was responsible for overall design and implementation of the entire project including tender and field supervision services through it's successful completion in June 2004.

- **LIBRARY PLAZA,** New Westminster, British Columbia
  This project was a redesign of the main entrance plaza and pedestrian circulation routes around the existing 1970's building of British Columbia's first public library. The project was completed on time and on budget for approximately $200k in late Spring. The project was designed to fit within the existing architecture and parking lot and features elements such as architectural "salt rock" finished/coloured concrete paving and seatwalls, soft landscaping, pedestrian lighting as well as a "public art" component which RFLA designed in collaboration with artist Tony Bloom. The artwork includes an "Alphaball" as well as several precast concrete "books" with intriguing literary quotations cut into the surface, set along the site wall faces. As prime Consultant I was responsible for overall design and implementation of the entire project including tender and field supervision services through it's completion in June 2002.

- **UBC TEC DE MONTERREY,** University of British Columbia, Vancouver, BC
  This project involved both hard and soft landscape for a new 6 storey student residence at Place Vanier on the UBC Campus. The greater project includes a Paved Pedestrian Mall/Fire Access Route with a large open common, while the main building has perimeter landscaping with irrigation. The project also includes a planted "green roof". The project is presently underway and is scheduled for completion in 2003. The Budget is approximately $200K and RFLA was sub-consultant to Busby Associates Architects.

- **CITY HALL PLAZA,** New Westminster, British Columbia
  Finishing construction for the Remembrance Day Ceremonies, the Plaza is a new multi-purpose war memorial plaza/informal gathering space on the front lawn of City Hall. The project was completed on time and on budget for $300k. The project was designed to fit within the context of the established landscape and is complete with a tastefully detailed cantilevered pedestrian overlook platform, central "stepped promenade", a parade and marching route and features architectural concrete/granite paving and seatwalls, soft landscaping, pedestrian and festival lighting. As prime Consultant I was responsible for overall design and implementation of the entire project including tender and field supervision services through it's completion in Fall of 2000.

Project List continued:

- **MERCER PARK SPORTSFIELDS** Phases 1+2 North/South Fields, New West., B.C.
  These projects were a $200K and $240K upgrade to the first two of three planned sportsfield redesigns within the larger Mercer Park/New Westminster Secondary School "precinct". Phase 1 was completed in September 2001 and Phase 2 was recently completed in September of 2002. I was responsible on both projects for initial design development and budget estimating, through drawing production, tender and field supervision services. These projects involved construction of two new 65m x 120m sand based/seeded sportsfields including sub-surface drainage and irrigation systems with ball control fencing and service access routes. The Phase 1 field is currently in use and the Phase 2 field is presently in a protected "grow-in" status and will be open for use in the late Summer of 2003.

- **HUME PARK LACROSSE BOX** (Ab Brown Lacrosse Box), New Westminster, B.C.
  This project was a $200K upgrade to the existing 20 yr. old lacrosse box located in Hume Park. Completed in July 2001, I was responsible for the entire project from initial design development and budget estimating, through drawing production, tender and field supervision. The project involved construction of a new 60m x 28m asphalt surfaced exterior Lacrosse Box complete with a "heavy detailed" board system/players box and timekeepers area. The project also included an integrated seatwall and spectator overlook area designed into the adjacent bank overlooking the box. The challenge was to design and detail a simple, durable and functional board cladding system which was easily repaired and aesthetically pleasing with as much noise abatement characteristics as possible, and of course fit the client's budget. We believe we accomplished this-time will be our test.

- **QUEEN'S PARK PLAYGROUND**, , New Westminster, B.C.
  This project involved a total reconstruction of the largest children's' play area within Queen's Park. The work was done to bring the playground upto current safety legislation for children's playspaces while offering a more comfortable and interesting playspace for users and caregivers alike. The work included construction of paths/circulation using primary coloured and various textured concrete with interesting custom seating details, new play equipment of course and adjacent soft landscape remediation. RFLA was responsible from evaluation planning and design, through daily site visits for the 8 week period of construction tc ensure the project was completed on time and in a compliance with the Owner's expectations. The Budget was approximately $150K and it was completed in early April of 2005.

PROFESSIONAL AFFILIATIONS

Member, British Columbia Society of Landscape Architects(BCSLA) 1998, Stamp #274
Member, Canadian Society of Landscape Architects(CSLA) 1998
Associate Member, Ontario Association of Landscape Architects(OALA) 1990(Leave of Absence, 1994)
Member Firm, Irrigation Association of British Columbia(presently working on Certification as Certified Turf Commercial Designer)

EDUCATION

Diploma in Landscape Architectural Technology, Ryerson Polytechnical Institute 1988
Legal Concepts Relevant to Professional Practice, University of British Columbia, 1998
Construction Law, Toronto Construction Association, 1991
Second Year Kinesiology(Human Movement), Simon Fraser University, 1985
First Year Physical and Health Education, University of Western Ontario, 1994

CLIENTS(References can be supplied if required)

City of New Westminster Parks and Recreation Department
City of New Westminster Planning Department
City of Vancouver Board of Parks and Recreation
Burnaby Parks and Recreation Department
Douglas Park Community Association
Dalla-Lana Griffin Architects(now DGBK)
Jericho Tennis Club
Jones and Jones Architects and Landscape Architects
Kirkor Architects & Planners
IBI Group
Busby Associates Architects
MacMillan Bloedel Ltd.
Henderson Developments Ltd.
Aoki Corporation
British Columbia Buildings Corporation
Surrey Parks Recreation and Culture
UBC Properties Trust
UBC Land and Building Services
Vancouver Resource Society
Murase & Associates, Seattle and Portland

OTHER PROJECT EXPERIENCE(Completed "Packages"/Admin. Projects):

CIBC IS Facility, Toronto, ON (90)
Highpoint Business Park, Milton, ON(88)
Richmond Marriott Hotel, Richmond(98)
Sinclair Place Playground, New West.(99)
Tisdall Park, Vancouver(98)
Enver Creek Elem. School, Surrey(96)
Salmon Arm Senior Sec., Salmon Arm(97)
Castlegar RCMP Station, Castlegar(96)
Ceperley Field, Vancouver(96)
Harris Residence, Shaughnessy(01)
Coull Residence, Vancouver(02)
Ho Residence, Toronto, ON(88)
Findlay Residence, Vancouver(84/90)
Laing Residence , Vancouver(00)
Chinatown Centre, Toronto, ON (89)
Jericho Tennis Club, Vancouver(98/99/02)
Connaught Hghts. Greenwy., New West.(99)
Acadia Student Residences., UBC.(02)
Sea-Tac Airport Water Feature-troubleshooting now.
McmInneville Oregon Water Splash Feature-tendering in next month
Epic Systems Corporate Campus Water Feature(4)-designing now

International Village Lot E, Vancouver(00)
Douglas Park Jogging Trail, Vancouver(98)
Water Feature - Provid. Hospital, Everett(00)
Water Feature - City Hall., North Van.(99)
Water Feature - 45th and Ash, Van.(99)
Water Feature - North Vancouver RCMP(96)
Water Feature - Int'l Village Lot E, Van.(00)
Water Feature - Westin Resort Whistler(98)
Water Features - Bayshore Shoreline(2)(99)
Water Feature - NE8th Street, Bellevue(01)
Water Feature - Immunex HQ, Seattle,(02)
Water Feature - Interlocken, Boulder, CO(02)
Water Feature - Swedish Ctr, Seattle, WA(02)
Water Feature - Wilsonville Water TP, OR(02)
Irrigation - New West Quay, New West.(01)
Longlac Waterfront, Longlac, ON(88)
Christchurch Cathedral(Metal),Van.(98)

Richard Findlay Landscape Architect Inc.

Landscape Architecture + Urban Design

Southwest(Daybreak) Park

McMinnville, Oregon

Project Profile

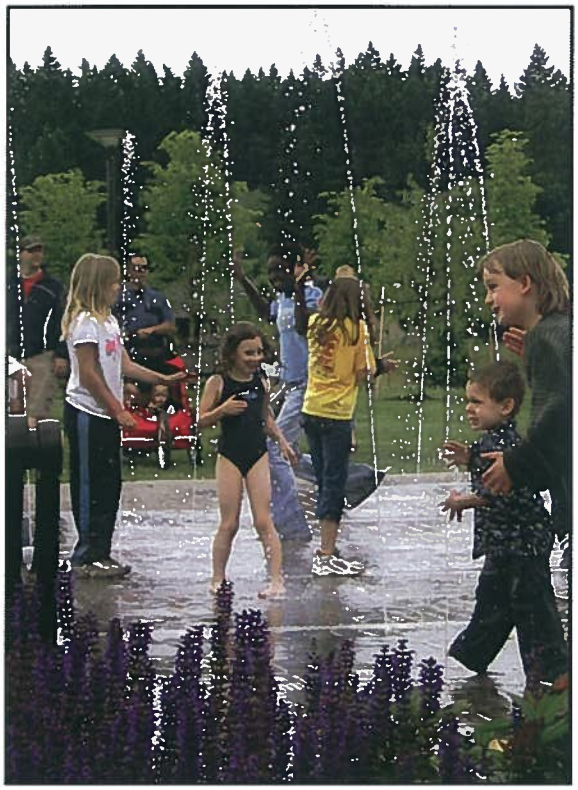
Project Type:
Watersplash Deck

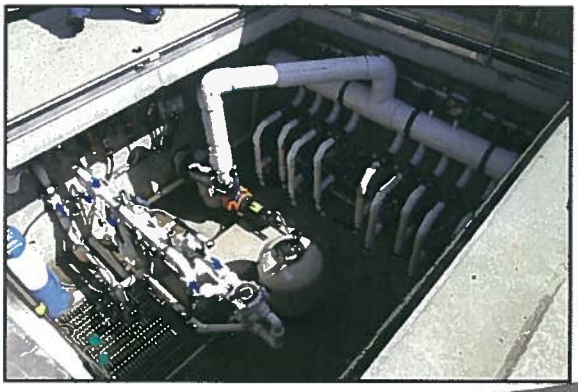
Role:
Mechanical Specialist

Construction Cost
$350K US

Date Completed:
Spring 2005

Client:
Murase Associates
Landscape Architects,
Portland





Project Description:

This project was a $1 million US Community Park designed by Murase + Associates, Portland. Our roles was as sub-consultant or "mechanical specialist" in design of the "watersplash deck" within the park. This is an interactive splash pad with 9 zones, a total of 54 computer controlled nozzles with spray heights that vary and "ramp-up" slowly from 0" to 10' in hgt. It uses a recirculating water system, PLC + VSD computer controls, specialized valves and was designed to swimming pool standards with respect to sanitation. The project was completed late in the Spring of 2005. The Budget was approximately $350K US.

Richard Findlay Landscape Architect Inc.

Landscape Architecture + Urban Design

Ryall Park Splashpark

New Westminster, British Coloumbia

Project Profile

Project Type:
Watersplash Park

Role:
Prime Consultant

Construction Cost
$±400K overall

Date Completed:
Spring 2000

Client:
New Westminster
Parks Department

Project Description:

This project is a $400k upgrade to the Queensborough Community Center Park surrounds and included a new double tennis court, a $120K water spray park with a "working river theme" incorporating my custom designed central tug boat feature with log boom; expanded children's playground areas with a Spacenet climber and passive open spaces with all appropriate pedestrian circulation links. Completed in June 2000, I was responsible for the entire project from design development through tender and successful completion.

Richard Findlay Landscape Architect Inc.

Landscape Architecture + Urban Design

Water Features

Various Locations-USA and Canada

Project Profile

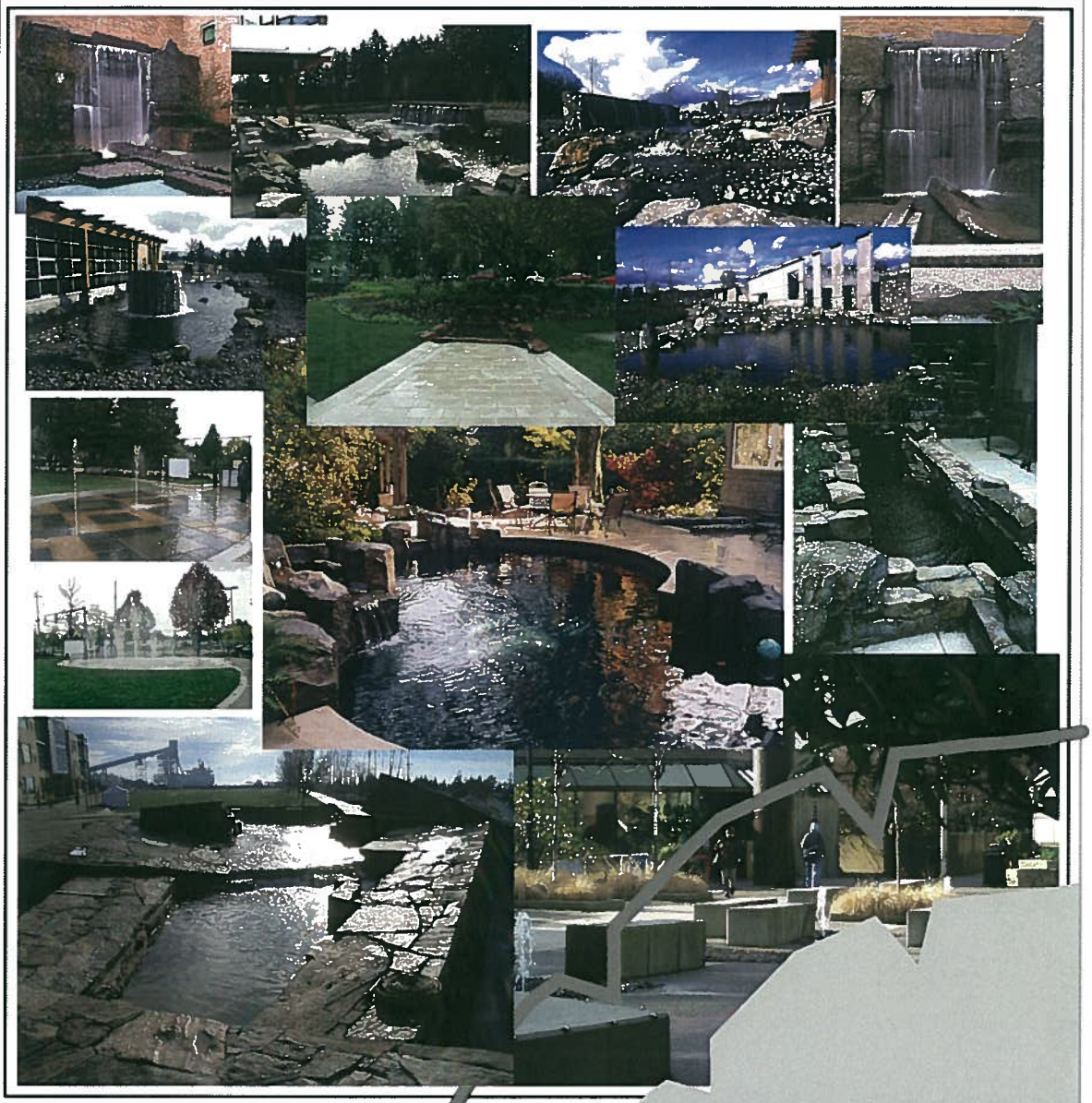
Project Type:
Water Features

Role:
Mech. Consultant

Construction Cost
To $1million

Date Completed:
2000-2006

Client:
Various



Project Description:

The above is a photo montage of several projects completed by RFLA Inc. where we were the mechanical design consultant and/or the prime consultant. The projects varied in size and scope with budgets upto $1 million US dollars. Many were done in collaboration with Murase Associates Inc., Seattle WA.

Richard Findlay Landscape Architect Inc.

Landscape Architecture + Urban Design

Erma Stephenson Splashpark

Surrey, British Coloumbia

Project Profile

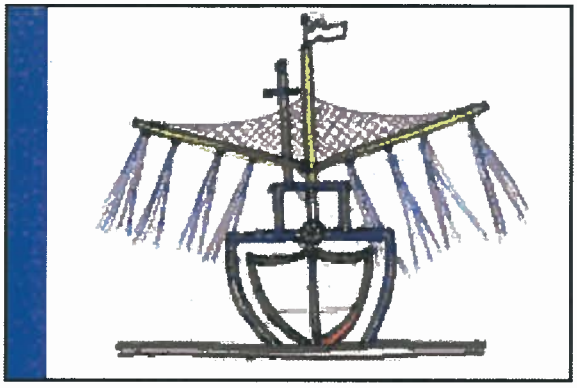
Project Type:
Watersplash Park

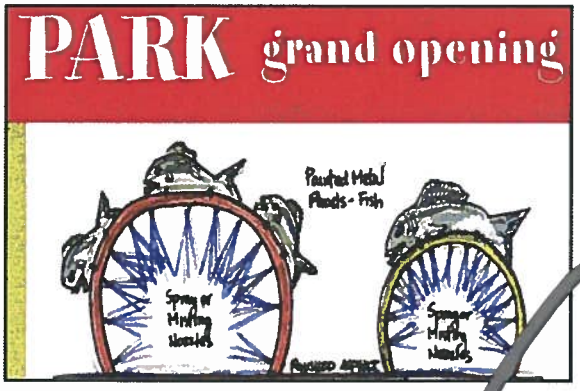
Role:
Mechanical Specialist
Design Consultant

Construction Cost
$±140K

Date Completed:
Spring 2004

Client:
Maruyama Associates
Landscape Architects,
Vancouver





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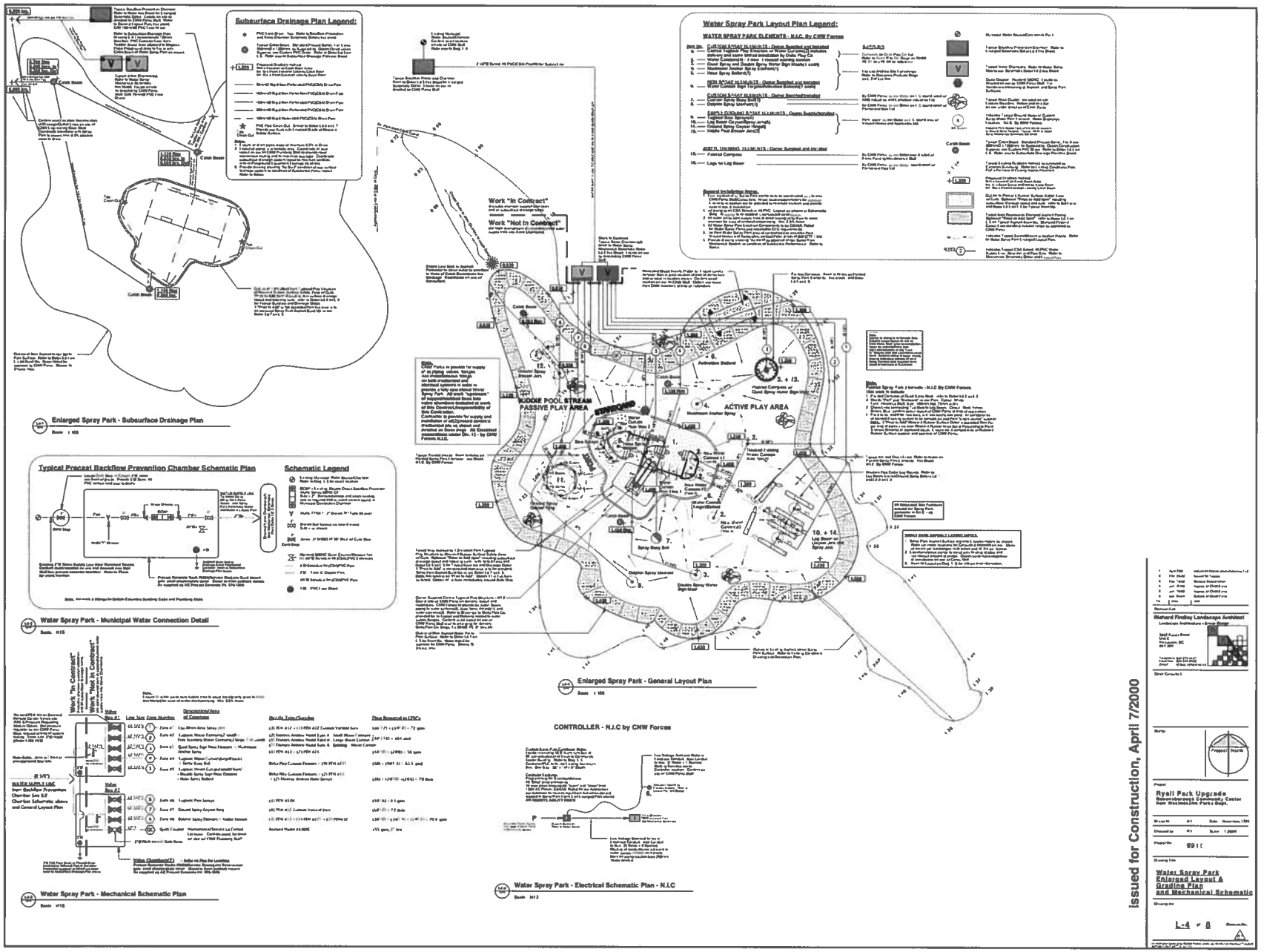
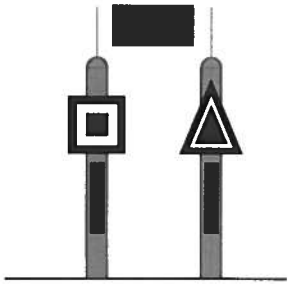

Subsurface Drainage Plan Legend:
Water Spray Park Layout Plan Legend:
Work "In Contract"
Work "Not In Contract"
KIDDIE POOL STREAM
PASSIVE PLAY AREA
ACTIVE PLAY AREA
CONTROLLER - N.I.C by CNW Forces
Enlarged Spray Park - Subsurface Drainage Plan
Enlarged Spray Park - General Layout Plan
Water Spray Park - Municipal Water Connection Detail
Water Spray Park - Mechanical Schematic Plan
Water Spray Park - Electrical Schematic Plan - N.I.C
Typical Precast Backflow Prevention Chamber Schematic Plan
Schematic Legend
issued for Construction, April 7/2000
Richard Findlay Landscape Architect
Ryall Park Upgrade
Queensborough Community Center
New Westminster Parks Dept.
Water Spray Park
Enlarged Layout & Grading Plan
and Mechanical Schematic
L-4 of 8

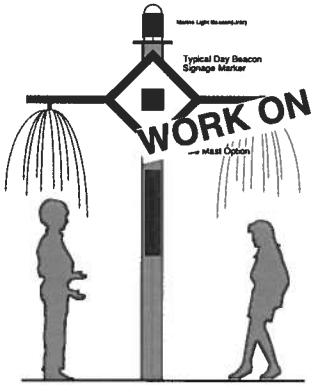
DESIGN DRAWINGS ONLY; FOR GENERAL INFORMATION.
REFER TO DETAIL DRAWINGS BY:

DISCOVERY PRODUCTS LTD.

19154-95A AVE. SURREY, B.C., CANADA V4N 3S5

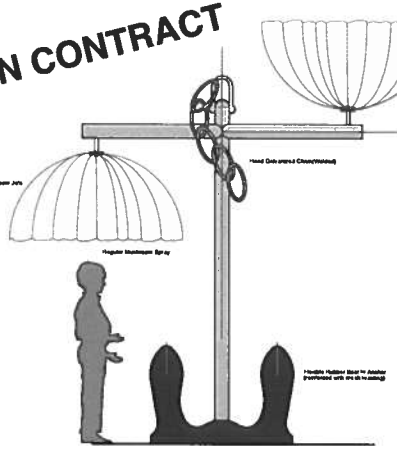


Water Cannon Target/Activation Bollards



Double Spray Sign Mast Element

Quad Spray Sign Mast Element



Mushroom Anchor Spray Element

Issued for Construction, April 7/2000

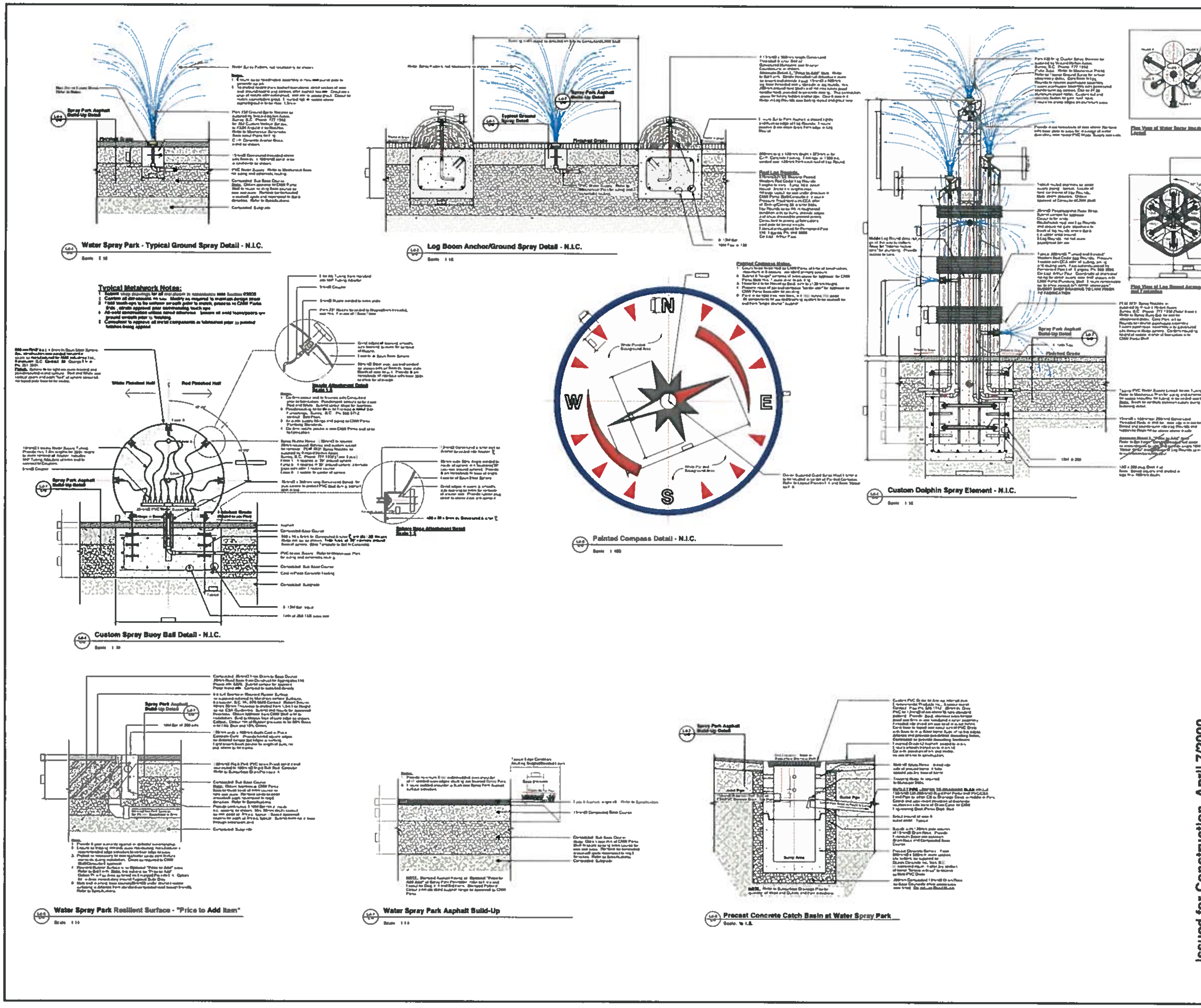
Richard Findlay Landscape Architect

Ryall Park Upgrade

Project No. 9911

Water Spray Park
Owner Supplied
Custom Spray Elements

L-6 - 8



Issued for Construction, April 7/2000

Richard Findlay Landscape Architect

Ryall Park Upgrade

Queensborough Community Center

New Westminster Parks Dept.

9911

Water Spray Park Details

L-5 of 8

DMD Associates Ltd.

Education
University of British Columbia, Vancouver
Bachelors, Electrical Engineering, 1990

Professional Registration
British Columbia
Alberta
Yukon
Washington
Nevada

Professional Affiliations
Illumination Engineering Society of North America (IESNA)

International Municipal Signal Association (IMSA)

Dan Wong, PEng P.E. PTOE

Senior Electrical Engineer

Dan Wong has over 17 years of experience managing the design and construction of electrical engineering projects, including control systems, traffic signals, street and roadway lighting, closed circuit television (CCTV), fiber optic and transportation-oriented communications systems, and medium- and low-voltage power distribution. His expertise includes programmable logic controls (PLC) and changeable message signs (CMS). He has participated in projects as large as $100 million in construction cost. His experience includes design-build projects and value engineering and planning. Dan's attention to detail means that owners and clients receive construction documents that clearly communicate project goals and reduce risks.

Selected Project Experience

Woodlands Development
New Westminster, British Columbia

Electrical engineer for the conceptual redevelopment design of a 25-acre health care, residential and commercial site. The scope of work included electrical engineering input into typical road cross sections to define conduit and luminaire pole locations in the corridor, showing the location and requirements of duct banks, junction boxes, manholes, switchgear and low profile transformers for a 12kV, 3-phase power distribution system. The project also involved computer-aided lighting calculations to define typical luminaire pole spacing, and development of traffic signal requirements. Construction cost estimates were prepared for all electrical elements.

North Shore Arterial Roads Project
Port Moody, British Columbia

Engineer for the electrical design and development of specifications and construction cost estimates for two arterial roadways in Port Moody. The scope of work included over 2.5 kilometers of roadway lighting, traffic signalization at six intersections and pre-ducting for a future traffic management system. Project included design of lighting on bridge structures and using luminaires with full cut-off optics to reduce glare and spill light. The use of low-wattage, light-emitting diode (LED) signal displays improved safety and energy efficiency. Project also included considerable coordination with local power utility. Construction services included project coordination, field inspections, and review of contractor submittals and production of detailed record drawings.

Lang Centre Development
Richmond, British Columbia

Engineer for street and roadway lighting, signal design, and production of specifications and cost estimates for a major commercial development. The project included decorative streetscape lighting, tree lighting and design of traffic signals. Lighting elements utilized metal halide (MH) light sources to improve the nighttime visual experience. Extensive computer-aided lighting design was undertaken to reduce capital and operating costs through optimized pole spacing. Construction services included the review of shop drawings, site inspections, review of progress payments and the preparation of record drawings. This development was the first beautification project in the downtown core and formed the basis for all future developments in the area. Many

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International Municipal Signal Association (IMSA)

of the details presented on the design and construction drawings were later adopted by the City of Richmond and added to their standard construction documents.

No. 2 Road Bridge Project
Richmond, British Columbia

Electrical engineer for design of roadway lighting, traffic signals and power distribution for all roadway and bridge infrastructure along No. 2 Road, from Westminster Highway to Miller Road. Prepared contract documents and detailed construction cost estimates, as well as performing field observation services and review of extra work claims. Coordinated all electrical aspects for the entire project. Special bridge project features included coordinating with the structural and civil designer to locate conduits and concrete bases in the bridge structure, as well as installing receptacles inside the bridge box girder. The project featured decorative lighting while maintaining the required illumination levels with pole height constraints.

Aberdeen Centre Development
Richmond, British Columbia

Electrical engineer for the design of traffic signals as part of a commercial development. The project included production of specifications and detailed construction cost estimates. Additional project features included the design of tree lighting and a traffic signal interconnect system. Budget and schedule requirements required prepurchasing of pole structures.

Traffic Signal Lens Upgrade
Township of Langley, British Columbia

Electrical engineer for the preparation of construction drawings and contract documents for improvements to thirty signalized intersections. The project included upgrading to larger signal displays with high visibility backboards and the installation of light-emitting diode (LED) displays to reduce power costs. Pole capacity calculations were performed to determine if poles required replacement to accommodate higher wind loads associated with the larger effective projected area of the new signal displays. Construction services included project coordination, inspections and review of progress billings and change orders.

Concord Pacific Place
Vancouver, British Columbia

Electrical engineer for power distribution, street lighting and traffic signals for the renovation of the former Expo site into a residential and commercial development, community park and event venue. Special features included incorporation of BC Transit poles into the street lighting to reduce costs, design of decorative lighting to meet architectural goals, and temporary overhead wiring to maintain existing street lighting during construction.

Municipal Design Standards
Richmond, British Columbia

Engineer for the preparation of design specifications for the City of Richmond, defining the minimum requirements for electrical street lighting and traffic signals within the City.

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International Municipal Signal Association (IMSA)

Feasibility Study for Locating Transmission Lines Near Highways
Victoria, British Columbia

Engineer and co-author for a British Columbia Ministry of Transportation study and report dealing with issues and impact of locating high voltage transmission lines in road right-of-ways. The report included a review of current practices and policies in other states and provinces in North America, types of structures commonly used for roadway-adjacent high-voltage transmission lines, typical safe clearances from highways, and information on electrical and communication impacts and issues. The report formed the basis for new government policy.

Feasibility Study for UPS Systems for Traffic Signals
Victoria, British Columbia

Electrical engineer for a British Columbia Ministry of Transportation study to determine the feasibility of using uninterruptible power supplies (UPS) with traffic signals to increase safety during power outages. Several operational modes were considered, including full operation and flash mode with the use of incandescent lamps and low wattage LED displays. Each operation mode was reviewed from initial and long-term maintenance cost standpoints. Other safety devices such as signal-ahead signs and high visibility backboards were also considered. The report included recommendations for implementation.

Sullivan Heights Park Irrigation Service
Surrey, British Columbia

Engineer of record for supplying service to an irrigation system. Key elements included design or irrigation control cabinet complete with metering, main and distribution panel, coordination with local electrical utility and irrigation control supplier and the design of a primary duct bank to accommodate a future building.

Kensington Irrigation Service
Burnaby, British Columbia

Design engineer for electrical power supply to an irrigation system. Key elements included coordination with local electrical utility, review of existing equipment on-site, review of future power requirements, and design of primary power supply, power distribution and controls and development of installation details.

Tree Lighting
Fort St. John, British Columbia

Electrical engineering of record for lighting of trees in a traffic median on an arterial roadway. Key elements included researching available technologies and recommended best life cycle value, determining number of lights required for each tree, evaluation of the suitability of existing street light services, voltage drop and load calculation, developing installation specifications and details.

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DMD & Associates Ltd.

PROJECT PROFILE

Power Distribution

DMD staff members apply insight gained from years of experience to every project, reducing risk to and providing solutions that meet expectations.

DMD electrical engineers and designers provide power distribution design for high-, medium- and low-voltage power systems for a wide variety of facilities. The experience and capabilities of our staff members includes transportation-related projects as well as municipal, industrial, institutional, commercial and retail facilities.

- Civic Stadium Primary and Secondary Power Replacement
  Bellingham, Washington
- Starfire Sports Indoor Soccer Center
  Tukwila, Washington
- Amgen Helix Water Feature
  Seattle, Washington
- Civic Stadium New North Concessions and Restroom Facility
  Bellingham, Washington
- UC Berkeley Water Feature
  Berkeley, California
- Woodlands Redevelopment
  New Westminster, British Columbia
- Kensington Irrigation Service
  Burnaby, British Columbia
- Transmission Line Policy Review
  Victoria, British Columbia
- Silver Valley Sanitary Sewer Pump Station
  Maple Ridge, British Columbia
- Sullivan Heights Irrigation Service
  Surrey, British Columbia
- Kadenwood Subdivision
  Whistler, British Columbia
- Gatehouse Power Supply
  Vancouver International Airport, British Columbia
- Canadian Forces Area Support Unit
  Chilliwack, British Columbia

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DMD & Associates Ltd.

PROJECT PROFILE

Buildings

Owners benefit from the ability of DMD's staff to provide coordinated design for building power, lighting and communications systems.

DMD electrical engineers and designers provide power and communications distribution design as well as lighting design for buildings projects. Our expertise includes fire alarm and security systems, CCTV, and considerations for energy efficiency and backup power.

- Starfire Sports Indoor Soccer Center
  Tukwila, Washington
- Fred Gumprich Building
  Chilliwack, British Columbia
- Civic Stadium New North Concessions and Restroom Facility
  Bellingham, Washington
- Guilford Recreation Center
  Surrey, British Columbia
- Clayton Heights Townhouses
  Coquitlam, British Columbia
- Dominion Street Condominiums
  Burnaby, British Columbia
- Joint Use Vehicle Inspection Station
  Kicking Horse Pass, British Columbia
- Canadian Forces Area Support Unit
  Chilliwack, British Columbia
- Kadenwood Subdivision
  Whistler, British Columbia
- Airport Gatehouse
  Vancouver International Airport, British Columbia
- Civic Stadium New Primary Power Supply
  Bellingham, Washington
- India Gate Center
  Kent, Washington
- Taylor Avenue Dock Uplands Park Restroom and Storage Facility
  Bellingham, Washington

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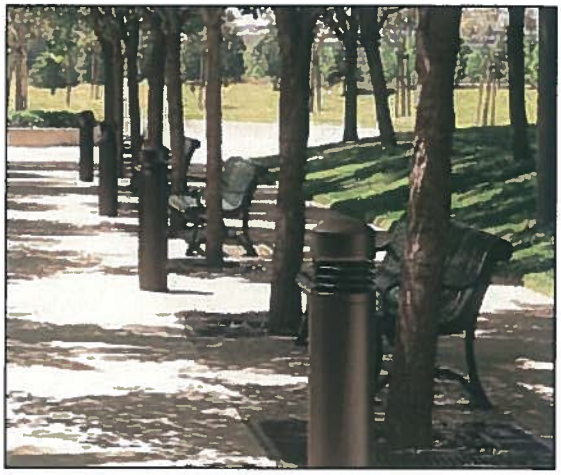
DMD & Associates Ltd.

PROJECT PROFILE

Pathways and Pedestrian Lighting



DMD's expertise in pathway lighting means owners receive most appropriate designs that meet the needs of users and neighbors.

DMD's lighting specialist provide pathway lighting design that meets the needs of individual facilities with respect to aesthetics, energy efficiency, proper illumination levels and control of obtrusive light. Our experience includes lighting for community parks, off-roadway walkways and bikeways and pedestrian/bicycle tunnels.

- Judkins Park Pathway Lighting
  Seattle, Washington
- Starfire Sports Pedestrian Lighting
  Tukwila, Washington
- Southwest Community Park
  McMinnville, Oregon
- Moody Park Pathway Lighting
  New Westminister, British Columbia
- St. Annes Drive Pedestrian Lighting
  North Vancouver, British Columbia
- "The Pier" Pedestrian Lighting
  North Vancouver, British Columbia
- Grimston Park Pathway Lighting
  New Westminster, British Columbia
- St. Albans Development Pedestrian and Pathway Lighting
  Richmond, British Columbia
- Cottonwood Park Pathway Lighting
  Coquitlam, British Columbia
- Fishtrap Creek Pathway Lighting
  Abbotsford, British Columbia
- Tatlow Avenue Pedestrian Lighting
  North Vancouver, British Columbia
- Lynn Valley Creek Pathway Lighting
  North Vancouver, British Columbia
- Southpoint Drive Pedestrian Lighting
  Burnaby, British Columbia
- Southwest Community Park
  McMinnville, Oregon
- Taylor Avenue Dock Uplands Park
  Bellingham, Washington
- Wedge Park Pedestrian Lighitng
  Fife, Washington

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DMD & Associates Ltd.

PROJECT PROFILE

Burnaby Lake Sports Park

Burnaby Lake, British Columbia

A DMD & Associates staff member performed the design of sports lighting for three new artificial turf soccer/football fields at Burnaby Lake under a challenging fast-track schedule. The work was performed when the staff member was an employee of another firm.

The project included electrical design for a new 10,000 SF clubhouse and maintenance building; parking lot, patio and walkway lighting; traffic signals and roadway lighting.

The sports field lighting system design featured a number of amenities, including convenience outlets, as well as irrigation controls. Consideration for scoreboards was also included in the installation of underground conduit. Based on a recommendation from DMD the infrastructure for the public address (PA) system was included with the contract for the sports lighting, saving the client several thousand dollars over their original plan to have the PA system installed under a totally separate contract.
The sports lighting system was designed for elevated illumination levels to accommodate TV broadcast of selected events. Because of the facility's location adjacent to a major highway and nearby sensitive properties, special attention was given to the control of off-site glare and spill light.

Because the project was performed on an extremely fast-track basis, considerable coordination with structural, civil, geotechnical, landscape and architectural disciplines was required to meet project milestones. DMD & Associates provided construction administration for the project, and evaluated the performance of the illumination system following construction by taking horizontal and vertical illumination readings on the field surfaces and at key points along the facility property line. The $15 million project included over $1.5 million of electrical construction.

DMD & Associates sports lighting team is composed of key personnel with focused experience delivering quality outdoor sports lighting projects under challenging conditions.

Reference
Merideth Botta
City of Burnaby, B.C.
604/294-7155

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DMD & Associates Ltd.

PROJECT PROFILE

Architectural and Human-Scale Lighting

We listen carefully to architects and owners to provide right-fit lighting solutions that complement and enhance architectural themes while satisfying budget constraints goals for energy conservation.

Our lighting specialists work closely with architects and owners to develop architectural and human-scale illumination systems consistent with facility usage, energy code requirements, environmental constraints and design themes. Our experience includes best-fit solutions for monuments, flags and banners, pathways, fountains, trees and vegetation, plazas, campgrounds and parks.

- Outdoor Illumination Modeling for The Pier Redevelopment
  North Vancouver, British Columbia
- St. Annes Drive and Ridge Drive Human-Scale Pathway Lighting
  North Vancouver, British Columbia
- Amgen Helix Water Feature Lighting
  Seattle, Washington
- Fishtrap Creek Park Pathway Illumination
  Abbotsford, British Columbia
- Cottonwood Park Pathway Lighting
  Coquitlam, British Columbia
- UC Berkeley Water Feature Lighting
  Berkeley, California
- 100 Avenue Tree Lighting
  Fort St. John, British Columbia
- Edgemont Village Northgate Plaza Lighting
  North Vancouver, British Columbia
- Edgemont Village Southgate Plaza Lighting
  North Vancouver, British Columbia
- SkyTrain Renfrew Station Plaza Lighting
  Vancouver, British Columbia
- SkyTrain Rupert Station Plaza Lighting
  Vancouver, British Columbia
- Gilmore Plaza Lighting
  Vancouver, British Columbia
- Moody Park Pathway Lighting
  New Westminster, British Columbia
- Lynn Valley Town Centre Lighting
  North Vancouver, British Columbia
- SkyTrain Sperling Station Traffic and Pedestrian Lighting
  Vancouver, British Columbia

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Ecoscape Environmental Consultants Ltd.

ECOSCAPE
Environmental Consultants Ltd.

INTRODUCTION AND SERVICES

Ecoscape Environmental Consultants Ltd. is pleased to announce that we are now providing Qualified Environmental Professional Services in the Southern Interior of British Columbia. Ecoscape was first established in February of 1997 and recently incorporated to bring together over 18 years of professional expertise in the fields of fisheries and wildlife, and aquatic and terrestrial ecology.

Drawing from our individual backgrounds and previous work, Ecoscape Environmental Consultants Ltd., together with our Associates, provide an array of environmental services including:

Services

- Environmental Impact Assessments and environmental monitoring;
- Environmental monitoring for construction projects;
- Ecological mitigation and compensation plans for aquatic and terrestrial habitats;
- Land use planning;
- Fish and fish habitat assessments and Sensitive Habitat Inventory and Mapping (SHIM);
- Wetland and riparian community inventory and evaluations;
- Water quality assessments and monitoring;
- Operational-level wildlife assessments;
- Professional GPS/GIS mapping services;
- Raptor and breeding bird surveys
- Rare and Endangered wildlife species surveys and development of provincial and federal status reports;
- Wildlife management services;
- Habitat restoration; and,
- Surveys and inventories (taxonomic identification) of aquatic invertebrates.

We also bring to the company skills in land use planning, including environmental sensitivity analysis and neighbourhood planning, and the interpretation of local Policy Documents (i.e., OCPs and Land Use Bylaws), Development Permit Guidelines, provincial Best Management Practices, the Riparian Areas Regulation, Canadian Wildlife Act, Fisheries Act, and Species At Risk Act. Our work conforms to sampling standards such as those produced by the Resource Information Standards Committee (RISC) for British Columbia. In addition to field techniques, our group has developed a strong background in data analyses, interpretation, and report production.

If you have any questions about our services, please feel free to contact us at your convenience. We look forward to working with you in the future.

Ecoscape Environmental Consultants Ltd.
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Phone: (250) 764-1202 Fax: (250) 979-0035

ECOSCAPE
Environmental Consultants Ltd.

Fish and Fish/Aquatic Habitat Assessments

Ecoscape Environmental Consultants Ltd. and staff biologists have completed numerous fish habitat assessments for shoreline development, land use planning, and research oriented projects. Fish habitat assessments have been completed in several different areas of the province of British Columbia and Ecoscape's biologists have expertise with a variety of different species. Ecoscape's biologists have also participated in the creation of Aquatic Habitat Indexes, which use biological data to prepare shoreline sensitivity ratings based upon fish habitats present. Our extensive experience in experimental design, fish and fish habitat assessments, and use of highly accurate GIS/GPS equipment and software allow interpretation of data that can be used to better understand aquatic habitats.

Project Examples

City of Kelowna Shorezone Fisheries and Wildlife Habitat Assessment
Client: City of Kelowna
Budget: $ 150,000
Description: In this project, senior biologists with Ecoscape prepared a work program to determine shoreline sensitivity based upon species utilization, presence of critical or important habitats, and a variety of other biophysical characteristics. An index was prepared based upon information collected and was used to generate a shoreline sensitivity rating based upon the current condition of the shoreline.

NOTE: The biologist with Ecoscape was the project scientists on this project. The project was commissioned to EBA Engineering Consultants Ltd. Ecoscape's biologist prepared the work program, carried out field work, prepared the Aquatic Habitat Index, and prepared most sections of the final report.

Effects of Overwater Structure on Shore Spawning Kokanee
Client: Ideas Management
Budget: $ 36,000
Description: The intent of our study (*year-1 data collection complete*) is to observe and enumerate shore spawning Kokanee at six locations on the westside of Okanagan Lake at three sites containing over water structures (i.e., docks) and three control sites (i.e., no structures). Tissue samples (adipose fin clips) were also collected at all six sites for genetic analysis by UBC-O as part of the study to investigate spawning site fidelity.

Sensitive Habitat Inventory Mapping (City of Kelowna)
Client: City of Kelowna
Budget: $ 50,000
Description: Sensitive Habitat Inventory Mapping is a provincial methodology for mapping streams. The methodology utilizes GPS receivers to document the current location of the stream centerline, which often varies from stream lines shown on most maps. Data collected was analyzed and a summary report documenting the current condition of the stream and riparian habitats provides planners with useful information regarding habitats present along the stream corridor.

Barona Beach Resort - Marina and In-lake Heat Exchange System
Client: Happy Valley Ventures Ltd.
Project Cost: $500,000
Budget: $ 5,000
Description: The Barona Beach Resort development consisted of a condominium development and an 88 slip private moorage. A large part of the assessment was to document existing fish habitat features to determine potential effects of a geothermal lake loop exchange. As part of this project a simplistic model for the effects of a temperature discharge were evaluated and design guidelines and recommendations were prepared. Ongoing work on this project will involve implementation of a temperature monitoring program to prepare adaptive management strategies to minimize potential environmental effects.

RESUME

ECOSCAPE
Environmental Consultants Ltd.

NATURAL RESOURCES BIOLOGIST

Jason Schleppe, M.Sc., R.P.Bio
Ecoscape Environmental Consultants

Mr. Schleppe has seven (7) years of environmental experience and has an assortment of published technical and peer reviewed reports. He has worked on a variety of different projects in lake and stream ecosystems. Mr. Schleppe has completed projects with water utilities, oil and gas exploration, linear corridor construction and maintenance, and urban land development within local government jurisdictions. Mr. Schleppe has conducted and project managed numerous large and small aquatic resource studies in lake, river and wetland environments and has experiences carrying out detailed fish and fish habitat assessments, stock assessments, spawning surveys, fish stream classifications, stream crossings assessments, and aquatic invertebrate community assessments (taxonomy). In addition to aquatic resource studies, Mr. Schleppe was also the project biologist for a large-scale aquatic habitat sensitivity analysis for 35 km of shoreline with the objective of ranking aquatic habitats based upon fish utilization, habitat quality, and biophysical properties. Mr. Schleppe has also prepared several large environmental monitoring plans for stream and lakes habitats. Finally, Mr. Schleppe has been involved in projects related to the municipal sewerage regulations and local waterworks, where he has prepared fish habitat assessments, water quality monitoring programs, drought contingency and water conservation plans, and educational materials.

The following are a small selection of projects related to the variety of works above:

Kelowna Shore Zone Fish and Wildlife Habitat Assessment
Mr. Schleppe prepared a large workplan with the objective of addressing important and sensitive fish and wildlife habitats along 35.5 km of shoreline within the municipal boundaries of Kelowna. Mr. Schleppe carried prepared the methodology and carried out field collections using a variety of methods to determine the importance of shoreline habitats to fish species in Okanagan Lake. The primary objective of the assessment was to prepare an Aquatic Habitat Index for shoreline segments based upon the physical and biological characteristics of the shoreline.

Linear Corridor Planning for Gopher Creek, City of Kelowna Waterfront
Mr. Schleppe has worked on several linear corridor projects for the City of Kelowna. Recently, Mr. Schleppe has been retained to complete environmental planning for proposed improvements along the City of Kelowna shoreline. In this project, Mr. Schleppe is responsible for completion of inventories, and preparation of compensation plans for the waterfront area for parks improvements. Mr. Schleppe has also completed assessments of creek corridors (Gopher Creek) for parks, where he was responsible for preparing recommendations for trail locations, avoidance areas, etc.

Note: More project profiles are available upon request.

Years of Consulting Experience: 7

Education

M.Sc Biology
University of Lethbridge,
Lethbridge, AB

B.Sc. Biology
Okanagan University College,
Kelowna BC

Summary of Recent Experience

2006 – Consulting Biologist.
Ecoscape Environmental Consultants

2003-2006, Consulting Biologist.
EBA Engineering Consultants Ltd.

2003, Solid Waste Management Technician, Regional District of North Okanagan

Affiliations

Member, British Columbia College of Applied Biology

Member, British Columbia Association of Professional Biologists

Member, Environmental Advisory Commission, Regional District Central Okangan

Certifications and Training

Electroshocker Crew Supervisor

First Aid Level 1 with Travel Endorsement

Certified for Riparian Areas Regulation Assessments

Certified Danger Tree Assessor for Urban and Recreational Areas

Environmental Monitoring for Construction Projects Training

RESUME

ECOSCAPE
Environmental Consultants

NATURAL RESOURCE BIOLOGIST

Danielle Drieschner, BSc, B.I.T.
Ecoscape Environmental Consultants Ltd.

Ms. Drieschner has six (6) years of environmental experience with consulting firms, municipal government and non-profit organizations. Her experience has focused largely on aquatic ecosystems as they relate to urban land development, dock and marina construction, fisheries projects, stewardship and conservation initiatives.

Projects have included: fisheries and fish habitat assessments, spawning surveys, Sensitive Habitat Inventory and Mapping (SHIM), restoration and enhancement of urban streams and wetlands, invasive weed management and environmental monitoring of a variety of restoration and construction projects. Ms. Drieschner has prepared a number of Environmental Impact Assessments and ecological mitigation and compensation plans relating to urban development for aquatic and terrestrial environments. Additionally, she has coordinated numerous environmental education and stewardship initiatives that focus on watershed health, sustainable living and minimizing bear-human conflict in urban areas. A sampling of relevant projects are as follows:

BX SHIM
Ms. Drieschner collaborated on the completion of detailed Sensitive Habitat Inventory and Mapping (SHIM) of approximately 27 km of BX Creek in the City of Vernon and North Okanagan Regional District. Following inventory of the watercourse, Ms. Drieschner compiled the findings into an inventory summary report which will act as an effective land use planning tool for local government and stakeholder groups.

Kokanee Dock Study
For the past two years, Ms. Drieschner has participated in an ongoing study on pile supported overwater structures and their influence on shore spawning Kokanee (*Oncorhynchus nerka*) behaviour and reproductive success. She has conducted snorkel surveys of Kokanee shore spawning activity in Okanagan Lake and collected genetic material from spawning kokanee, to be used in ongoing genetics/site fidelity research at the University of British Columbia Okanagan.

Environmental Monitoring of Sheerwater Marina Project
Ms. Drieschner provided environmental monitoring services for initial phases of The Mission Group's Sheerwater Marina Project in Kelowna, BC. To date, the project has included an underwater concrete pour for the marina anchoring system. The environmentally risky project involved a helicopter transporting concrete to a hopper located on a floating barge on Okanagan Lake. Commercial divers completed the pour of 7 forms at a maximum depth of 45 feet. Monitoring involved working with all parties to ensure works were designed and completed with due diligence, as well as providing onsite mitigation strategies and direction where potential aquatic impacts ensued.

Naito Environmental
Ms. Drieschner has worked with Naito Environmental to conduct stream survey/ baseline fisheries data/habitat inventory on various watercourses within the Southern Interior of BC, including English Creek, Crazy Creek, Whatshan River and Mill Creek. Data collection has included in situ water quality measurements, fish sampling using electrofishing, minnow trapping and snorkel surveys, benthic invertebrate sampling, depth and flow transects, and habitat typing.

Years of Biological Experience: 6

Education

BSc Natural Resource Management, Fish and Wildlife Management Major

University of Northern BC
Prince George, BC

Recreation, Fish and Wildlife Technology Diploma

Selkirk College
Castlegar, BC

Summary of Experience

Spring 2007-present: Ecoscape Environmental Consultants Ltd
Natural Resource Biologist

2004 –2007: City of Kelowna
Environmental Technician/Watershed Coordinator

2006: Ecoscape Environmental Consultants Ltd
Biological Technologist

2005/2006: Naito Environmental
Biological Technician

2005: BC Conservation Foundation
Bear Aware Program Delivery Specialist

2003: Dillon Consulting Ltd
Watershed Restoration Crew Leader

2001/2002: City of Kelowna
Watershed Restoration Crew Member

Training and Certificates

Electrofishing Crew Leader

Selkirk College Award of Excellence in Technical Writing and Communications, 1998/1999

WCB– Occupational First Aid Level I
With Transportation Endorsement

RESUME

ECOSCAPE
Environmental Consultants Ltd.

ENVIRONMENTAL SCIENTIST / GIS SPECIALIST

Robert Wagner, B.Sc.
Ecoscape Environmental Consultants Ltd.

Mr. Wagner has extensive experience in the following areas: GIS mapping and analysis, AutoCAD drafting, environmental monitoring, riparian area regulation (RAR) assessments, Sensitive Habitat Inventory Mapping (SHIM), Terrestrial Ecosystem Mapping (TEM), database management; environmental impact and risk assessments for land use applications, laboratory experience with inorganic and biological agents, extensive land surveying experience, air photo interpretation, and site rehabilitation using natural revegetation techniques.

Mr. Wagner has worked on a variety of large and small scale projects with respect to terrestrial and aquatic ecosystems. Mr. Wagner's role in many projects has included the creation of multivariate maps, drafting, database creation, and data analysis. Specifically, Mr. Wagner provided all the mapping for the City of Kelowna Shore Zone Fish and Wildlife Habitat Assessment, Terrestrial Ecosystem mapping for properties within the Vernon Commonage, and various typical and detailed designs for ecosystem restoration projects.

Robert has also worked as an independent, contracted consultant for a variety of companies such as Aqua-tex Scientific Consulting, Golder Associates, RCL Consulting, EarthTech, and Powell & Associates BC Land Surveyor. Mr. Wagner worked on a variety of sites doing Phase 1 assessments, environmental monitoring and impact assessments, stream rehabilitation, plan checking, subdivision designs, GIS and AutoCAD drafting, as well as eight years of experience land surveying for commercial, residential and industrial land applications.

Kelowna Shore Zone Fish and Wildlife Habitat Assessment
Mr. Wagner completed all the GIS and AutoCAD mapping of important and sensitive fish and wildlife habitats along 35.5 km of shoreline within the municipal boundaries of Kelowna. Mr. Wagner was responsible for database management and accuracy of data. As part of this assessment, Mr. Wagner performed numerous different spatially analyses for the project.

Big White Powder Bowl Reservoir Construction
Mr. Wagner was responsible for the development of an environmental management plan for the construction of a drinking water reservoir at Big White Shi Resort. Upon implementation of the project, Mr. Wagner completed a Rare and Endangered plant inventory, conducted environmental monitoring to ensure compliance with best management practiced throughout the project.

Mount Boucherie Environmental Impact Assessment
In this project, Mr. Wagner was responsible for conducting an environmental impact assessment and rockfall hazard assessment to support a development permit for School District No. 23. As part of the project, multivariate maps were created in GIS to both analyze slope hazards and identify environmentally sensitive areas. The resulting maps were used to establish no disturb areas and to establish areas to mitigate rockfall hazards.

Years of Consulting Experience: 5

Education

B.Sc., Environmental Science
Royal Roads University,
Victoria, BC

Post-Graduate Diploma,
Georgian College of Applied Arts & Technology,
Barrie, ON

Diploma, Georgian College of Applied Arts & Technology,
Barrie, ON

Summary of Experience

2006 – present,
Environmental Scientist / GIS Specialist. Ecoscape Environmental Consultants Ltd

2004 – 2006, Environmental Scientist / GIS Specialist. EBA Engineering Consultants Ltd

2001 – 2004, Professional Contractor, Environmental Technologist. Various companies.

Publications

"The Development of Detention Options for the Douglas Creek Watershed" (Royal Roads University and Friends of Mount Douglas Park Society), August 2003

"Independent Study on Ethanol Awareness" (Georgian College of Applied Arts and Technology), August 2000

"Technical Report on the Dissociation of Hexavalent Chromium" (Georgian College of Applied Arts and Technology), August 1999

Earth Tech

SERVICES

Project Delivery Services

Whether you want feasibility studies, plans, designs or construction management services, Earth Tech offers a menu of service areas to choose from.

Program Management

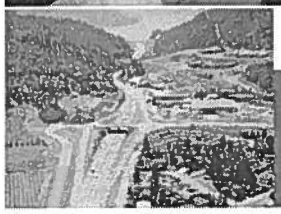
Earth Tech offers program management services to respond to the increasing complexity and cost of construction for major projects. By incorporating construction analysis, managers and schedulers work with architects and engineers to provide constant time, cost and performance evaluations of design options. This is the first phase of any project, where most of the money and timing decisions are made. Earth Tech believes it is important to generate a clear project direction, budget and schedule before proceeding to avoid costly mistakes and delays. Our services include Master Planning and Programming, Feasibility Studies and Needs Assessment, Space Standards, Budget Generation, Schedule Development, Site Selection, Due Diligence and Value Engineering.

Project Management

Earth Tech's ability to quickly assemble the right program manager and support team of professionals helps clients integrate all stages of their program for timely, cost-effective results. Earth Tech assists clients with the complete life cycle of their facilities from scope definition and master planning through financial procurement, value engineering and construction program management, to the start-up and operation of maintenance guidance.

Construction Management

We ensure project success through proper processes and procedures at all levels. Our team is made up of skilled professionals in the management, technology, economic, social and environment aspect of the construction and project development. Our services include health and safety, environmental, quality assurance, cost estimating, data processing, computer support and contract administration. Emphasis is placed on time, cost, methods and techniques, resources, conflict and financial issues surrounding the management of construction.



ENGINEERING DISCIPLINES

Transportation

Essential to today's world is the efficient movement of commerce throughout our transportation infrastructure networks. At Earth Tech, we work with clients to help plan, design and construct projects to keep our communities moving forward. With international experience, technical expertise and local knowledge, the Earth Tech Transportation Team treats each project with special care and attention. Offering engineering services in planning, design and construction, we work on airports, ports and marine terminals, inter and multi-modal centres, highways, bridges, tunnels, public transit and both light and heavy rail.

Our transportation group includes engineers and technicians working on traffic, transportation, civil, structural and hydraulics. We specialize in alternative project delivery methods including design, design-build, and design-build-finance-operate.

Transportation Planning and Traffic Engineering

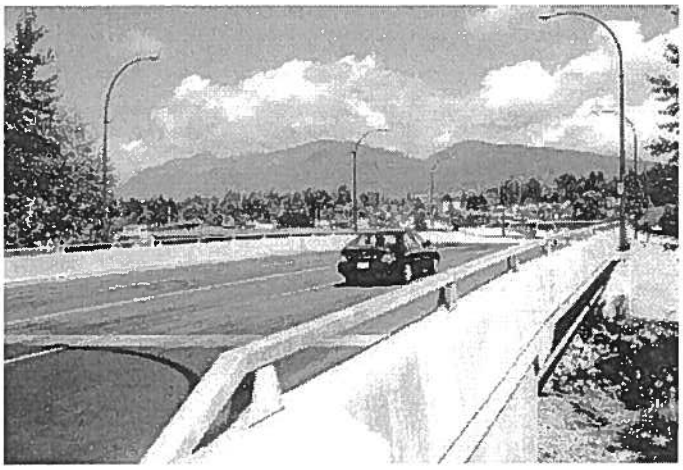
The expertise of our transportation and traffic engineering department includes:

- **Transportation Planning** – strategic, conceptual and tactical planning (including public consultation and impact studies)
- **Transportation Engineering** – design of minor and major municipal road improvement projects varying from existing intersection improvements to major new roadways
- **Traffic Safety** – pedestrian, bicycle and vehicular traffic safety (including safety audits and value engineering)
- **Traffic Signal Design and Standards** – pedestrian, bicycle and vehicular traffic operations (including design, installation, timing and rail pre-emption crossing control)
- **Traffic Signing** – design, installation and standards development of all types of traffic signs and systems
- **Roadway Pavement Markings** – design and installation of pavement marking systems
- **Lighting Design and Standards** – design, installation and standards development of lighting systems (including roadway, parking, pathway and recreation)
- **Infrastructure Management** – transportation infrastructure management (roads, bridges, lighting, signals, signs and drainage)

Earth Tech provides a total systems approach in the analysis and evaluation of transportation facilities, identifying practical and innovative operational solutions to transportation system problems. We also provide ongoing operations and maintenance support throughout the life of all types of transportation facilities. We provide traditional, as well as alternative project delivery methods, including fast-track scheduling, design-build and/or design-build-finance-operate methods.

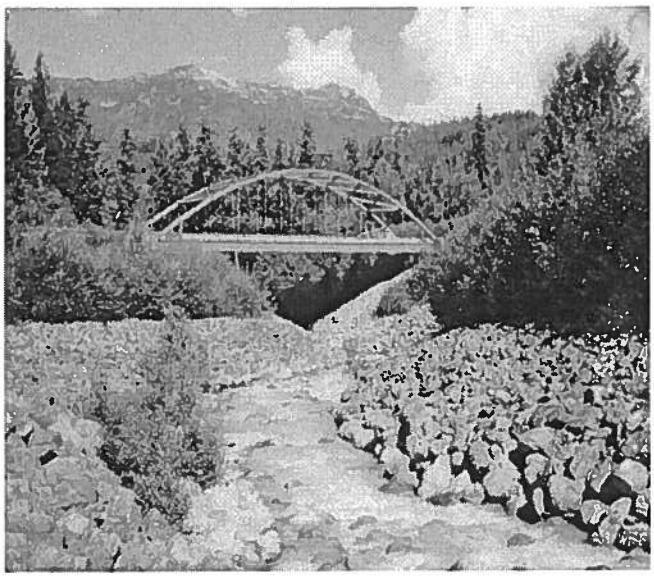
Urban Infrastructure

Our urban infrastructure division provides solutions to meet our private and governmental clients' water distribution, wastewater collection and municipal design needs by providing traditional engineering consulting, as well as design-build services. The group provides the full complement of infrastructure program management, pre-design, class environmental assessment, approvals, engineering design and construction services to companies in various sectors. Services include: master servicing plans/needs studies, advisory/municipal engineering services, water infrastructure, sewer and CSO modelling, stormwater management, and land development design, construction and approvals.



Bridge Deck Testing and Inspection

In Canada, Earth Tech inspects 120 to 130 bridges annually, with about 30 of those bridges being in British Columbia. This includes extensive testing and assessment of existing concrete bridge decks. Specific test approaches include: half-cell (CSE) testing, chloride testing, de-lamination survey, reinforcement cover depth survey, hardened air entrainment parameters, carbonation depth, alkali aggregate reaction, wearing surface depth and concrete compression strength and chemical analysis.



Light Rail Transit

Earth Tech has been providing transportation engineering services for public and private clients for the past 100 years. With the renaissance of urban rail transit over the past three decades, Earth Tech has provided engineering services for light rail transit (LRT); advanced light rail transit (ALRT), high speed rail (HSR) and commuter rail passenger transport systems in North America and Europe.

Planning – The transportation planning services provided by the firm are as follows:

- Transit system modelling and travel demand forecasting
- Route location
- Conceptual & detailed designs
- Visual impact assessment
- Cost estimates
- Public consultation
- Value engineering
- Regulatory submissions and permits

Design and Construction – the firm's involvement in the design and construction of rail transit projects includes the following system components:

- Track and track-bed
- Bridges and other structures
- Stations
- Park N' Ride facilities
- Maintenance facilities

The engineering services provided by Earth Tech for LRT and commuter rail include functional and detailed design, cost estimates, contract drawings and specifications, permitting, resident engineering and value engineering.

Operations and Maintenance – Earth Tech provides engineering and advisory services for operational rail transit systems related to the following components:

- Track system performance review
- Track and track-bed inspection
- Rail grinding programs
- Direct fixation rehabilitation
- Structural systems inspection

Our water supply expertise includes the following:

- Watershed and groundwater protection
- Watershed and well field capacity analysis
- Drought analysis
- Permitting
- Intake structures
- Surface and groundwater water quality evaluations and monitoring
- Qualitative risk assessments
- Dams and impoundments

Selecting the most appropriate water treatment process is key to achieving the desired results, with efficiency, cost-effectiveness, and consistency. At Earth Tech, we have the depth of experience and expertise to undertake any water treatment project.

Wastewater

Earth Tech's wastewater team has over 100 years of combined experience in both municipal and industrial wastewater treatment. Working with public agencies, private utilities, and industrial clients to deliver quality, cost-effective wastewater treatment solutions that address issues such as aging equipment and increased demand. Our experience includes municipal and industrial wastewater treatment, as well as wastewater conveyance and water reuse systems for clients around the globe. Our extensive services and ongoing commitment to excellence are characterized by an emphasis on highly individualized solutions, comprehensive environmental compliance planning and, when necessary, accelerated timetables.

We have expertise in all areas of municipal wastewater engineering, including project management, process design, BNR, odour control, biosolids treatment and handling, activated sludge and disinfection. Our expertise also extends to treating industrial effluent. This includes oil-water separation, treating organic and inorganic wastes, and toxic chemical disposal.

Water/Wastewater

Black Mountain Irrigation District

Earth Tech has provided ongoing consulting engineering for the Black Mountain Irrigation District (BMID) for the last 15 years. The BMID is the largest supplier of water in the Central Okanagan with peak summer demand reaching 160 ML/day. Their primary source of water is Mission Creek, which is the largest tributary to Okanagan Lake.

BMID provides water for irrigation and domestic use to approximately 18,000 persons in the Kelowna area. Water treatment was only through extended settling and disinfection with chlorine.

In the spring of 1997 the Mission Creek watershed was subjected to excessive rainfall and snowmelt resulting in saturated slopes and several slides on the creek. This resulted in an unstable creek base and channel relocation in several places. Although the District had watershed monitoring and protection programs in place, the raw water quality was completely out of their control. In early 1998, a pilot study was conducted on the Mission Creek raw water during the spring runoff. The results showed that the raw water quality could be significantly improved through a conventional coagulation/flocculation clarification process.

An expandable treatment facility was designed in early 1998 and constructed in 1999 for a price of $3,200,000. The design capacity of the plant is 104 ML/day making it the largest water treatment plant in the Province. It contains two parallel process trains to allow optimization of plant performance. Expansion is possible to 156 ML/day. The raw water quality in the peak demand times in the summer met the Guidelines for Canadian Drinking Water Quality for turbidity and for color. Therefore, the maximum daily demand was not the process design horizon used. The process as designed, allows for future upgrades of filtration. It is an excellent cost effective first stage for improving water quality for the BMID. Earth Tech's subsidiary company Aquatrol Technologies Ltd. operated the system for the two years, optimizing the treatment process and providing operations procedures. Now in the third year of operations, the plant has successfully reduced raw water turbidities of over 125 NTU to less than 1.5 NTU without filtration.

I. JOSEPH MOCILAC, OFFICE MANAGER

Mr. Mocilac is the regional manager in Earth Tech's Kelowna office. He specializes in municipal administration, project management, municipal infrastructure design and operations. Prior to joining Earth Tech, he spent 12 years working in local government, gaining experience in all aspects of project management, public works operations, municipal engineering and land development. He has exceptional local government and regulatory knowledge, having previously served as director of operations and acting chief administrative officer for the District of Peachland. He has technical expertise in public works operations, municipal engineering and knowledge of municipal planning and government processes.

Project Experience

District of Peachland, Public Works and Engineering, Peachland, British Columbia. Responsible for the daily operation and administration of the public works and engineering departments. Provided administration, project management and technical support for the delivery of municipal services and infrastructure planning and design with an average operation budget of $2.0 million and a capital budget of $1.5 million.

District of Peachland / Ministry of Transportation/Regional District of Central Okanagan, Trepanier Bench Road/Highway 97C - On-Off Ramp, Peachland, British Columbia. Provided project management for the construction of an on-off ramp onto Trepanier Bench Road. [2005]

District of Peachland, Phase 2 Sanitary Sewer, Peachland, British Columbia. Provided project administration for a $9.24 million sewer servicing project, including two lift stations, more than 100 SRWs and five separate construction contracts. [2003-2004]

District of Peachland, Princeton Avenue / Highway 97 Intersection Reconstruction, Peachland, British Columbia. Provided project management for the installation of sanitary and storm mains along with the reconstruction of a major highway intersection. [2002]

District of Peachland, Water Utilities, Peachland, British Columbia. Administered the operation of three separate water utilities with an annual operating budget of $0.5 million and capital programs of $1.0 million.

City of Williams Lake, South Lakeside Sewer, Williams Lake, British Columbia. Provided contract administration and design review for an $8 million municipal water and sewer project. [1999]

City of Williams Lake, Frizzi Road Storm Realignment, Williams Lake, British Columbia. Provided project management and construction services for a storm system and river valley outfall program. [1999]

City of Williams Lake, Concrete Dump Storm Relocation, Williams Lake, British Columbia. Provided project management, design and construction services for the installation of 600mm HDPE storm line on a 45% slope and the construction of two settling ponds.

EDUCATION

Diploma, Civil and Structural Engineering, British Columbia Institute of Technology, 1993

PROFESSIONAL MEMBERSHIPS

Applied Science Technologists and Technicians

Public Works Association of British Columbia

Canadian Water Resource Association

EMPLOYMENT HISTORY

01/2006 - present, Earth Tech
05/2002 - 12/2005, District of Peachland

02/1999 - 05/2002, City of Williams Lake

1994 - 01/1999, City of Prince George

City of Williams Lake, Road Reconstruction, Williams Lake, British Columbia. Provided project management, design and construction services for multiple road rehabilitation and beautification projects.

City of Williams Lake, Zone 2 Water Improvements, Williams Lake, British Columbia. Provided project management, design and construction services using trenchless technology and installation of new water mains. [2001]

City of Williams Lake, Engineering Services, Williams Lake, British Columbia. Responsible for providing engineering services, subdivision and servicing reviews and delivery of capital works projects. Project managed and administered the development of a subdivision and servicing Bylaw, creation of an integrated survey area and review of zoning and OCP bylaws.

City of Prince George, Prince George, British Columbia. Provided construction services and design for multiple water, sewer, storm and road rehabilitation projects, new development applications and commercial projects.

City of Prince George, Tyner Boulevard, Prince George, British Columbia. Provided construction services for the installation of a rural arterial road construction project.

City of Prince George, Ospika Boulevard Extension, Prince George, British Columbia. Provided construction services for an urban arterial road construction project.

City of Prince George, University Way Reconstruction, Prince George, British Columbia. Provided construction services for an urban arterial road construction project.