STAFF REPORT

TO: CITY COUNCIL

THRU: PETE ROSE, CITY MANAGER

FROM: RAY STURTZ, COMMUNITY DEVELOPMENT DIRECTOR

SUBJECT: CONTRACT APPROVAL WITH STEWARD AND ASSOCIATES FOR THE SUSTAINABLE DEVELOPMENT PROGRAM STUDIES

FOR MEETING OF: JUNE 5, 2006

ISSUE

Shall the City Council authorize the City Manager to execute a contract in an amount not to exceed $150,000 with Steward and Associates (Attachment A) to prepare the environmental studies and alternative development standards as part of the Sustainable Development Program?

STAFF RECOMMENDATION

That Council authorize the City Manager to execute a contract with Steward and Associates in an amount not to exceed $150,000 to prepare the Sustainable Development Program environmental studies and alternative development standards.

POLICY DECISIONS

Council approval is required for all contracts of $20,000 or greater. The subject contract will provide a consultant team to prepare the Sustainable Development studies and related work to provide the analysis necessary to:

- Substantiate the need to maintain the low-density (R-1) designation in the eastern portion of the City for environmental, endangered species, infrastructure adequacy, and other Growth Management reasons, and
- Develop policies and regulations in response to the R-1 zone area moratorium.

The City Council has approved a budget amendment utilizing beginning balance funds to cover the cost of this contract.

BACKGROUND

On April 10, 2006, the City Council directed staff to solicit consultant teams qualified to conduct the Sustainable Development Program studies. A request for qualifications was issued on April 21st from consulting firms for:

- Review and analysis of environmentally critical areas in the City,
- Identification of potential impacts of development on such areas, and
- Recommendations for protection measures pursuant to the Growth Management Act.

Three teams of consultants responded to the City's RFQ; Steward and Associates (Attachment B), Pentec Environmental (Attachment C), and The Watershed Company (Attachment D).

Work to be performed by the consultant consists of professional services to review and analyze certain areas of the City for the presence of critical areas, rank these critical areas and make recommendations on the appropriate intensity of development to protect these areas, consistent with the requirements of the Growth Management Act (GMA) to: "protect the functions and values of critical areas" and "give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries" (RCW 36.70A.172).

Protection of the natural environment has been identified by the City Council as an important component to the vitality and overall well being of the community. On March 20, 2006, the City Council imposed a building and land use moratorium in the R-1 zone area of the City to allow time for the subject environmental studies and protection measures to be adopted. The City Council has specific goals to work with other entities toward the recovery of the Puget Sound Chinook Salmon; a threatened species under the Federal Endangered Species Act.

On the other hand, the City has obligations and adopted policies to promote quality economic development and accommodate growth in housing, jobs and population. Balancing these goals and obligations is an increasingly important challenge for the City. This balance is seen as consistent with the City's Comprehensive Plan vision for maintaining a high quality environment in the community, supporting a diverse and vital mix of businesses and is also a welcoming place for families. The City has been pro-active in establishing policies and programs to carry out GMA objectives to support growth, economic development and environmental protection.

In 2002, the City approved its major five-year update to its Comprehensive Plan to include an Environmental Element. In 2004, the City updated its Critical Areas Ordinance to enhance protection of critical areas during land use development. In 2005, the City prepared a draft Economic Development Plan

to encourage a vibrant and diverse mix of businesses. In 2006, the City has initiated an update of its Shoreline Master Program, under the new guidelines of the Department of Ecology.

The City is experiencing a steady rate of residential growth. The City Council wants to further study how the City can maintain its quality of life, improve its economic development and accommodate growth and development where adequate public facilities exist; while also protecting natural resources, especially anadromous fisheries, in a manner consistent with its adopted goals and policies and the requirements of the GMA. In order to accommodate this, the City Council has budgeted $150,000 for the Sustainable Development Program studies. The City Council is now at the point of authorizing the City Manager to enter into a contract with a team of qualified consultants to conduct these studies.

FACTS & FINDINGS

1. The City, through its Comprehensive Goals and Policies, is committed to accommodating and encouraging appropriate levels of urban development in accordance with applicable Growth Management Act directives. This includes a balance of economic growth, housing, and environmental protection appropriate for the Woodinville community.

2. At the Fall 2005 retreat, the Council discussed strategies for managing growth and development in Woodinville and indicated interest in a program to implement such strategies.

3. At the December 5, 2005 Council meeting, as part of the "Annual Goals Update", the City Council received a proposed "Action Plan" for addressing the issue of strategies for managing growth and development.

4. At the December 12, 2005 Council meeting, the City Council received a report on proposed concepts for a transportation concurrency program, which is part of an overall strategy for managing growth and development through a sustainable development program.

5. At the March 13, 2006 Council meeting, the City Council received a staff report on Sustainable Development, a program for managing the City's growth and natural environment.

6. At the March 20, 2006 Council meeting, the City Council enacted Ordinance No. 419, establishing an emergency moratorium on building and land use permits in the R-1 zone.

7. On May 22, 2006, the City Council approved a budget amendment utilizing a beginning cash balance for 2006 to put the contract amount of $150,000 into place.

8. Three qualified teams responded to the City's RFQ issued on April 21, 2006, as directed by the City Council.

9. The consultant team, led by Steward and Associates provides, the necessary breadth and depth of experience and expertise to complete the environmental studies in the R-1 zone area of the City prior to the September 20, 2006 R-1 zone area moratorium six-month deadline.

ANALYSIS

As described in prior staff reports referenced under "Facts & Findings", comprehensive studies are needed to ascertain the level of potential environmental risk from future land use actions in the City's lowest-density residential zone.

Ordinance No. 419, approved by the City Council on March 20, 2006, which established the moratorium in the R-1 zone, is intended to prevent further potential impacts while the environmental studies are undertaken. Based on the results of the studies, decisions can be made on appropriate future development that will also provide adequate environmental protections.

The areas of expertise to conduct the studies include:

- hydro-geologist (soils, ground water)
- geologist/geotechnical engineer (geologic hazard areas)
- civil engineer (roads, water, sewer and other utilities)
- transportation engineer (traffic and roadways)
- biologist (wildlife)
- fisheries biologist (fish and habitat)
- tree ecologist (pervious surface, tree canopy)
- land use planner (zoning densities and land use design)
- GIS technician (mapping and data layers)
- wetland biologist (wetlands)

The Steward and Associates team was the only consultant team that provided expertise in all of these areas plus one more: limnologist, the study of fresh water lakes and ponds. The presence of Lake Leota in the R-1 area deemed this an important addition.

Individual team members have experience and knowledge of the City and surrounding areas including the Cold Creek/Bear Creek drainage system. The team also provides expertise and experience with low impact development

standards. According to their response to the RFQ, the Steward and Associates teams' intent is to submit a draft R-1 area report by August 1st and draft report on the balance of the City by mid-October. This schedule may make it possible for the City to have appropriate policies and regulations adopted for the R-1 zone area prior to the 6-month moratorium deadline.

ALTERNATIVES:

1. Authorize the City Manager to execute a contract with Steward and Associates. This would allow the Sustainable Development Program studies to begin immediately.

2. Direct staff to seek out other consultants to prepare the Sustainable Development Program studies. This would delay the initiation of these studies and shorten the time period to complete these studies prior to the R-1 moratorium six-month deadline of September 20, 2006.

RECOMMENDED MOTION:

I MOVE THE CITY COUNCIL AUTHORIZE THE CITY MANAGER TO EXECUTE A CONTRACT WITH STEWARD AND ASSOCIATES FOR AN AMOUNT NOT TO EXCEED $150,000 FOR THE PREPARATION OF THE SUSTAINABLE DEVELOPMENT PROGRAM STUDIES.

Attachments:

A - Steward and Associates Contract and Scope of Services
B - Steward and Associates proposal
C - Pentec Environmental proposal
D - The Watershed Company proposal

AGREEMENT FOR SERVICES
BETWEEN THE CITY OF WOODINVILLE
AND
Steward and Associates

THIS AGREEMENT is made this ___day of _____, 2006, by and between the City of Woodinville (hereinafter referred to as "City"), a Washington Municipal Corporation, and Steward and Associates (hereinafter referred to as "Service Provider"), doing business at 120 Avenue A, Suite D Snohomish, WA 98290.

WHEREAS, Service Provider is in the business of providing certain services specified herein; and

WHEREAS, the City desires to contract with Service Provider for the provision of such services for Sustainability Development Program Studies, and Service Provider agrees to contract with the City for same;

NOW, THEREFORE, in consideration of the mutual promises set forth herein, it is agreed by and between the parties as follows:

T E R M S

1. **Description of Work**. Service Provider shall perform work as described in Attachment A, Scope of Work, which is attached hereto and incorporated herein by this reference, according to the existing standard of care for such services. Service Provider shall not perform any additional services without the expressed permission of the City.

2. **Payment**.

   A. The City shall pay Service Provider at the hourly rate set forth in Attachment B, but not more than a total of One hundred fifty thousand dollars ($150,000) for the services described in this Agreement. This is the maximum amount to be paid under this Agreement, and shall not be exceeded without prior written authorization from the City in the form of a negotiated and executed supplemental agreement.

   B. Service Provider shall submit monthly payment invoices to the City after such services have been performed, and the City shall make payment within four (4) weeks after the submittal of each approved invoice. Such invoice shall detail the hours worked, a description of the tasks performed, and shall separate all charges for clerical work and reimbursable expenses.

   C. If the City objects to all or any portion of any invoice, it shall so notify Service Provider of the same within five (5) days from the date of receipt and shall pay that portion of the invoice not in dispute. The parties shall immediately make every effort to settle the disputed portion.

3. **Relationship of Parties**. The parties intend that an independent contractor - client relationship will be created by this Agreement. As Service Provider is customarily engaged in an independently established trade which encompasses the specific service provided to the City hereunder, no agent, employee, representative or subcontractor of Service Provider shall be or shall be deemed to be the employee, agent, representative or subcontractor of the City. None of the benefits provided by the City to its employees, including, but not limited to, compensation, insurance and unemployment insurance, are available from the City to the Service Provider or his employees, agents, representatives or subcontractors. Service Provider will be solely and entirely responsible for his acts and for the acts of Service Provider's agents, employees, representatives and subcontractors during the performance of this Agreement. The City may, during the term of this Agreement, engage other independent contractors to perform the same or similar work that Service Provider performs hereunder.

4. **Project Name**. Sustainability Development Program Studies

5. **Duration of Work**. Service Provider shall complete the work described in Attachment A on or before December 31, 2006.

6. **Termination**.

   A. *Termination Upon the City's Option*. The City shall have the option to terminate this Agreement at any time. Termination shall be effective upon ten (10) days written notice to the Service Provider.

   B. *Termination for Cause*. If Service Provider refuses or fails to complete the tasks described in Attachment A, or to complete such work in a manner unsatisfactory to the City, then the City may, by written notice to Service Provider, give notice of its intention to terminate this Agreement. After such notice, Service Provider shall have ten (10) days to cure, to the satisfaction of the City or its representative. If Service Provider fails to cure to the satisfaction of the City, the City shall send Service Provider a written termination letter which shall be effective upon deposit in the United States mail to Service Provider's address as stated below.

   C. *Rights upon Termination*. In the event of termination, the City shall only be responsible to pay for all services satisfactorily performed by Service Provider to the effective date of termination, as described in the final invoice to the City. The City Manager shall make the final determination about what services have been satisfactorily performed.

7. **Nondiscrimination**. In the hiring of employees for the performance of work under this Agreement or any subcontract hereunder, Service Provider, its subcontractors or any person acting on behalf of Service Provider shall not, by reason of race, religion, color, sex, marital status, national origin or the presence of any sensory, mental, or physical disability, discriminate against any person who is qualified and available to perform the work to which the employment relates.

8. **Indemnification / Hold Harmless.** The Service Provider shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

   Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Service Provider and the City, its officers, officials, employees, and volunteers, the Service Provider's liability hereunder shall be only to the extent of the Service Provider's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Service Provider's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

9. **Insurance.** The Service Provider shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Service Provider, their agents, representatives, employees or subcontractors.

   A. Minimum Scope of Insurance. Service Provider shall obtain insurance of the types described below:

      1. *Automobile Liability* insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

      2. *Commercial General Liability* insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract. The City shall be named as an insured under the Service Provider's Commercial General Liability insurance policy with respect to the work performed for the City using ISO additional insured endorsement GC 20 10 10 01 and GC 20 37 10 01 or substitute endorsements providing equivalent coverage.

      3. *Workers' Compensation* coverage as required by the Industrial Insurance laws of the State of Washington.

B. Minimum Amounts of Insurance. Service Provider shall maintain the following insurance limits:

1. *Automobile Liability* insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000 per accident.

2. *Commercial General Liability* insurance shall be written with limits no less than $1,000,000 each occurrence, $2,000,000 general aggregate and $2,000,000 products-completed operations aggregate limit.

C. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions for Automobile Liability and Commercial General Liability insurance:

1. The Service Provider's insurance coverage shall be primary insurance as respect to the City. Any insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Service Provider's insurance and shall not contribute with it.

2. The Service Provider's insurance shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

D. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.

E. Verification of Coverage. Service Provider shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Service Provider before commencement of the work.

F. Subcontractors. Service Provider shall include each subcontractor as insured under its policies or shall furnish separate certifications and endorsements for each subcontractor. All coverage shall be subject to all of the same insurance requirements as stated herein for the Service Provider.

10. **Entire Agreement**. The written provisions and terms of this Agreement, together with all documents attached hereto, shall supersede all prior verbal statements of any officer or other representative of the City, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in any manner whatsoever, this Agreement.

11. **City's Right of Supervision, Limitation of Work Performed by Service Provider**. Even though Service Provider works as an independent contractor in the performance of his

duties under this Agreement, the work must meet the approval of the City and be subject to the City's general right of inspection and supervision to secure the satisfactory completion thereof. In the performance of work under this Agreement, Service Provider shall comply with all federal, state and municipal laws, ordinances, rules and regulations that are applicable to Service Provider's business, equipment, and personnel engaged in operations covered by this Agreement or accruing out of the performance of such operations.

12. **Work Performed at Service Provider's Risk.** Service Provider shall be responsible for the safety of its employees, agents and subcontractors in the performance of the work hereunder and shall take all protections reasonably necessary for that purpose. All work shall be done at Service Provider's own risk, and Service Provider shall be responsible for any loss of or damage to materials, tools, or other articles used or held for use in connection with the work.

13. **Ownership of Products and Premises Security.**

    A. All reports, plans, specifications, data maps, and documents produced by the Service Provider in the performance of services under this Agreement, whether in draft or final form and whether written, computerized, or in other form, shall be the property of the City.

    B. While working on the City's premises, the Service Provider agrees to observe and support the City's rules and policies relating to maintaining physical security of the City's premises.

14. **Modification.** No waiver, alteration or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of the City and Service Provider.

15. **Assignment.** Any assignment of this Agreement by Service Provider without the written consent of the City shall be void.

16. **Written Notice.** All communications regarding this Agreement shall be sent to the parties at the addresses listed below, unless notified to the contrary. Any written notice hereunder shall become effective as of the date of mailing by registered or certified mail, and shall be deemed sufficiently given if sent to the addressee at the address stated in this Agreement or such other address as may be hereafter specified in writing.

17. **Non-Waiver of Breach.** The failure of the City to insist upon strict performance of any of the covenants and agreements contained herein, or to exercise any option herein conferred in one or more instances shall not be construed to be a waiver or relinquishment of said covenants, agreements or options, and the same shall be and remain in full force and effect.

18. **Resolution of Disputes, Governing Law.** Should any dispute, misunderstanding or conflict arise as to the terms and conditions contained in this Agreement, the matter shall be referred to the City Manager, whose decision shall be final. In the event of any

litigation arising out of this Agreement, the prevailing party shall be reimbursed for its reasonable attorney fees from the other party. This Agreement shall be governed by and construed in accordance with the laws of the State of Washington.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year above written.

CITY OF WOODINVILLE

By: _____

City Manager

SERVICE PROVIDER

By: _____

Title: _____

Taxpayer ID #: _____

CITY CONTACT

Ray Sturtz, Community Development Director

City of Woodinville

17301 133rd Avenue NE

Woodinville, WA 98072

Phone: 425-489-2757, x 2281

Fax: 425-489-2705

SERVICE PROVIDER CONTACT

_____

_____

_____

_____

Phone: _____

Fax: _____

ATTEST/AUTHENTICATED

By: _____

City Clerk

APPROVED AS TO FORM

By: _____

Office of the City Attorney

Scope of Work and Budget

Steward and Associates ("Consultant") would assist Woodinville ("the City") with its Sustainable Development Program, including an analysis of critical areas city-wide, with an emphasis on the R-1 Area; an evaluation of current and potential densities in the R-1 Area and their potential impacts on critical areas; an evaluation of strategies the City could take to improve protections for critical areas elsewhere in the City; written and oral reports on these subjects to a Citizen Advisory Panel (CAP), the Planning Commission and the City Council; and assistance with the adoption process for related City actions. Consultant shall use sub-consultants to assist with this work, but shall be fully responsible for all final deliverables. The budget for this project shall not exceed $150,000.
Consultant reserves the right to transfer funds among tasks as necessary to produce the deliverables listed below, notifying the City promptly if total costs for any task appear likely to depart by more than 20% from the estimates below.
John Lombard shall be Project Manager and the primary contact on this project for Consultant; the City shall assign a Contract Manager and the primary contact for this project for the City.

Task 1: Project Initiation

Consultant shall develop a proposed scope of work for the project, including work that may be performed by subcontractors, and shall work with the City to refine and finalize this scope and related contracts and subcontracts. The Project Manager shall attend one City Council meeting to answer questions about the contract and to assist in its adoption.
Deliverables: Draft and final scope of work. Attendance at City Council meeting.
Target Completion: June 5, 2006.
Estimated Cost: $6,527

Task 2: Field Trip to R-1 Area

Consultant shall work with the City to organize and carry out a field trip to the R-1 Area and adjacent critical areas that may be affected by it. At a minimum, the trip shall include Cold Creek, Lake Leota, Woodin Creek, fish and wildlife habitat conservation areas within the R-1 Area, and geologically hazardous areas within and adjacent to the R-1 Area. The trip shall provide opportunities to assess the overall tree canopy and the potential for low impact development in the R-1 Area, and may have additional goals as the City may direct. Not all members of the consultant team shall attend the entire field trip; members shall focus on areas of their expertise.
Deliverables: Itinerary for field trip, and participation on it.
Target Completion: No later than June 15, 2006.
Estimated Cost: $6,306

Task 3: Document Review

Consultant shall review existing documents relevant to this project as determined jointly by the City and Consultant. Examples include the Draft Environmental Impact Statement for the

proposed Wood Trails/Montevallo Plats development, the City's critical area regulations and supporting documentation, King County analysis of groundwater in the vicinity of the R-1 Area, water quality records for Lake Leota, aerial photographs, relevant City maps, analysis of drainage issues and geologic hazards in and adjacent to the R-1 Area, the City's Comprehensive Plan and relevant subarea plans, and analysis of traffic issues in the R-1 Area. An initial review of documents shall help determine the itinerary for the field trip in Task 2.
Deliverables: E-mail and phone conversations to identify and request documents; brief e-mail assessments of key issues from the documents, as appropriate.
Target Completion: End of June 2006.
Estimated Cost: $12,018

Task 4: Pre-Draft Briefings of CAP, members of Planning Commission and City Council

Prior to submitting the draft R-1 report, Consultant shall provide up to four briefings of the CAP. These briefings are anticipated to include an orientation to the project; a review of existing knowledge regarding critical areas in or affected by the R-1 Area and how they might be impacted by increases in density; and a review of preliminary findings and recommendations from this project. The project budget includes time for responses to e-mail and phone requests from individual members of the CAP, Planning Commission and City Council, following protocols established with City staff.
Deliverables: Handouts and other meeting materials; limited Power Point presentations, as requested; attendance at meetings; records of e-mail and phone conversations. Target Completion: Mid-June through July 2006.
Estimated Cost: $17,822

Task 5: Coordination with City and Team

Throughout the project, the Project Manager shall coordinate closely with City staff and the consultant team to ensure a clear, shared understanding of the status and goals of the project and upcoming activities. The budget for this task includes meetings with the City, meetings between Consultant and sub-consultants, and phone and e-mail conversations between these parties that are not specifically related to other tasks. Consultant has not budgeted to provide meeting minutes to the City, but shall provide e-mail summaries of meeting results, as needed or as requested by the City.
Deliverables: E-mails, phone conversations, attendance at meetings.
Target Completion: Throughout project.
Estimated Cost: $14,023

Task 6: Additional Field Visits

Consultant and sub-consultants shall make additional field visits to the R-1 Area to evaluate issues in more depth than will be possible under Task 2, as needed based on their professional judgment or, as resources allow, as requested by the City. These visits shall directly relate to issues for the report on the R-1 Area. Consultant anticipates that this task shall include field verification for a survey of vegetation in the R-1 Area, which shall be based initially on aerial photographs provided by the City. The budget for this task also allows a half-day or less visit to other parts of the City, as needed for the City-Wide report.
Deliverables: Brief e-mail messages summarizing the results of field visits.
Target Completion: End of July 2006 for R-1 report; end of October 2006 for City-Wide report.

Estimated Cost: $7,569

Task 7: Draft R-1 Report

Consultant, working in coordination with sub-consultants, shall draft a report evaluating the environmental basis for maintaining R-1 zoning in the City. The report shall use best available science and apply criteria from the Growth Management Act and decisions by the Central Puget Sound Growth Management Hearings Board and the courts. At a minimum, Consultant anticipates applying criteria from *Litowitz v. City of Federal Way* (Central Puget Sound Growth Management Hearings Board Case No. 96-3-0005), but Consultant shall be guided by the Contract Manager and the City's attorney regarding which criteria should be applied in the report and how the criteria should be characterized with respect to the City's legal obligations. The draft report shall take into account comments from the CAP, City staff and, if applicable, members of the Planning Commission and the City Council, but the report shall reflect the independent judgment of Consultant. It may recommend alternative zoning in some or all of the R-1 area, but the budget does not provide for analysis to justify any specific alternative zoning density. The report shall be provided in Word format for review by City staff, the CAP, the Planning Commission and the City's attorney.
Deliverables: Draft report, in Word format.
Target Completion: August 1, 2006.
Estimated Cost: $28,066

Task 8: Revise R-1 Report

The Contract Manager shall coordinate and organize City comments on the R-1 Report, with a target date of delivery to Consultant by August 18, 2006. Consultant shall attend one City Planning Commission meeting to discuss the report prior to the final delivery of comments. In consultation with the Contract Manager and sub-consultants, Consultant shall revise the R-1 Report based on comments received, and shall submit a final draft by August 31, 2006, with copies as described below.
Deliverables: Final R-1 Report, including 10 hard copies and five electronic copies in pdf format on compact discs.
Target Completion: August 31, 2006.
Estimated Cost: $11,341

Task 9: Research and Draft City-Wide Report

Consultant shall research and draft a report evaluating strategies the City could employ outside of the R-1 Area to improve protections of critical areas, which shall assume no change in existing buffers and other requirements of the City's critical area ordinance. At a minimum, the report shall evaluate regulations and programs to protect native vegetation and soils, amendments to the City's standard stormwater requirements, and opportunities to employ low-impact development techniques. The depth and extent of the report may be limited by available resources. Project Manager and Contract Manager shall refine the goals for this report prior to a draft report being developed. The draft report shall take into account comments from the CAP, City staff , the Planning Commission and the City Council, but the report shall reflect the independent judgment of Consultant. It shall be provided in Word format for review by City staff, the CAP, the Planning Commission and the City's attorney.
Deliverables: Draft report, in Word format.

Target Completion: October 13, 2006.
Estimated Cost: $18,464

Task 10: Revise City-Wide Report

The Contract Manager shall coordinate and organize City comments on the R-1 Report, with a target date of delivery to Consultant by October 24, 2006. Consultant shall attend one City Planning Commission meeting to discuss the report prior to final delivery of comments. In consultation with the Contract Manager and sub-consultants, Consultant shall revise the City-Wide Report based on comments received, and shall submit a final draft by October 31, 2006, with copies as described below.
Deliverables: Final City-Wide Report, including 10 hard copies and five electronic copies in pdf format on compact discs.
Target Completion: October 31, 2006.
Estimated Cost: $6,470

Task 11: Assist Adoption Process

Consultant shall attend up to two meetings of the City Planning Commission (in addition to meetings included in Tasks 8 and 10) to answer questions and assist the Commission in completing its reports and recommendations regarding the R-1 Area and issues raised in the final City-Wide Report. Consultant shall attend up to four City Council meetings to answer questions and assist the Council in taking final actions on the R-1 Area and issues raised in the final City-Wide Report. The budget also includes time for responses to e-mail and phone requests from the Planning Commission and City Council, following protocols established with City staff.
Deliverables: Handouts and other meeting materials; limited Power Point presentations, as requested; attendance at meetings.
Target Completion: Meetings on R-1 Area, September 2006; meetings on City-Wide issues, December 2006.
Estimated Cost: $21,396

Steward and Associates

Hourly Billing Rates

Effective January 1, 2006

Classification	Professional	Billing Rate
Principal/Senior Scientist	Cleveland Steward	$150.00
Policy Analyst	John Lombard	$125.00
Sr. Biologist/Biologist III	Janne Kaje	$105.00
Sr. Biologist/Biologist III	Eric Doyle	$105.00
Biologist II	Dustin Hinson	$90.00
Biologist II	Jacob Venard	$90.00
GIS Technician/Biologist I	Michael Maher	$75.00
Administrative Support		$50.00

Markup of Sub-Contractor's fees 10% of Sub-Contractor's fee

Reimbursable Expenses:

Mileage	IRS standard mileage rate
Printing/Photocopying (In House)	$0.10 per copy
	$1.00 per color copy
Fax	$1.00 per page
Other	Actual Cost

Printing & Copying (Out of House)
Postage & Shipping
Meals/Travel Expenses
Parking/Ferry Charges
Long Distance Telephone/Teleconferencing

ATTACHMENT B

Sustainable Development Program: Analysis and Recommendations

A Proposal Submitted to

The City of Woodinville

By

Steward and Associates
120 Avenue A, Suite D
Snohomish, Washington 98290

www.stewardandassociates.com

May 5, 2006

Introduction

Steward and Associates is pleased to submit this proposal to the City of Woodinville in response to your Request for Qualifications for environmental consulting services to assist your Sustainable Development Program. We believe we have assembled an excellent team that can meet the full range of the City's needs for this project, from technical and planning expertise to experience with the public and political processes.

After briefly reviewing our team, this proposal:

- Discusses our understanding of the Sustainable Development Program;
- Highlights the strengths of individual team members in each of the areas of expertise identified in the RFQ (and one additional subject area we believe is important to the success of this project);
- Reviews our preliminary proposed scope of services; and
- Summarizes our preliminary budget.

We understand that the City will work with the selected contractor to determine a final scope of services and budget. Resumes for all key team members are included as an appendix. References and examples of our work on related projects are included in the discussion of individual team members.

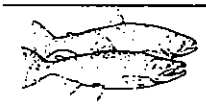
The Steward and Associates Team

The City's RFQ identifies the need for a wide range of technical expertise. Steward and Associates would be the prime contractor and overall project manager. We would also assign individuals to the project with expertise in fisheries biology, wildlife biology, wetland biology, and Geographic Information Systems. We are an environmental consulting firm specializing in salmon biology, with expertise in all related issues, from planning and regulations to fisheries and stream science.

Since 2002, Steward and Associates has served as the City's liaison to the WRIA 8 (Greater Lake Washington Watershed) salmon conservation planning process. We have also assisted the City in the past with its grant application to purchase key parcels of land under the Little Bear Creek Land Acquisition Project; with its public outreach and education program to promote awareness of environmental stewardship and enlist community support for efforts to recover wild salmon; and, with the delineation and management of a wetland adjacent to the "Tent City" location in the lower Bear Creek corridor.

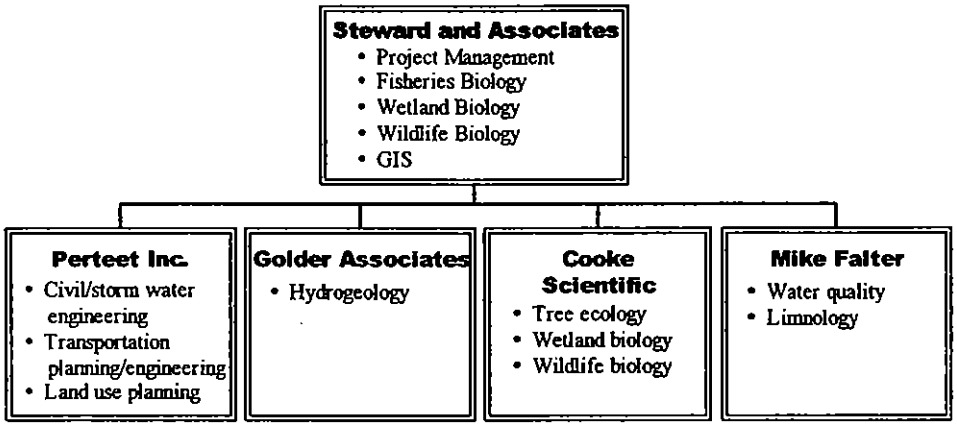
Perteet Inc. provides our team with expertise in civil engineering, low impact development and related stormwater issues, transportation engineering (including multi-modal transportation planning), and land use planning. Perteet is one of the region's premier planning and design firms for transportation, utilities and surface water management. Steward and Associates has worked with Perteet on numerous projects in recent years.

Others on our consulting team include Golder Associates, with expertise in hydrogeology; Cooke Scientific, with expertise in terrestrial and wetland ecology, with salient expertise in



plant community ecology and forestry; and Professor Mike Falter, a limnologist and water quality expert who we believe will be invaluable for our team's ability to evaluate Lake Leota in the City's R-1 zone.

The following figure summarizes the roles and relationships of team members.



Understanding of the Project

Our team has extensive experience with the City of Woodinville. Joel Birchman, P.E., who would lead Perteet's contribution to the project, was the City's first Public Services Administrator and led development of the Transportation, Utilities and Capital Facilities elements in the City's first Comprehensive Plan. John Lombard, overall Project Manager, has represented the City in WRIA 8 planning processes since 2002. He also was King County's Lake Washington Watershed Coordinator from 1996 to 2000, which provides him with an excellent understanding of the Little Bear Creek, Bear Creek and Sammamish River systems. Cleve Steward, Principal and Senior Scientist of Steward and Associates, has been a member of the Steering Committee overseeing development of the WRIA 8 salmon conservation plan since its inception in 1998. As a University of Washington fisheries graduate student, Cleve conducted research on Bear Creek in the early 1980's, and has extensive experience studying salmon and their habitats in Lake Washington and its tributaries. He is also director of the Sustainable Fisheries Foundation, and a member of the Technical Recovery Team for the Lower Columbia and Willamette River regions, and would be able to apply his knowledge and experience to Woodinville's Sustainable Development Program.

Sarah Cooke of Cooke Scientific was responsible for the Wetland Inventory for the City as part of the King County wetland inventory, and assisted the City with third party reviews of development proposals for critical areas impacts and mitigation from 1997 to 2000. Other team members have performed additional work for the City or in the Woodinville area, as discussed below.

In our role as the City's consultant, and as friends and acquaintances of many Woodinville residents, we truly appreciate the unique qualities and vision reflected in the saying,

"Country living, city style." Woodinville has been distinguished as a "Tree City USA" since 1996, and has explicitly acknowledged the benefits of preserving its "northwest woodland character" in its design and development guidelines. The City has been a regional leader in supporting protection and restoration of Little Bear Creek and the Sammamish River, and has supported WRIA 8 efforts to protect and restore Bear Creek as one of the most productive salmon streams in lowland Puget Sound and one of the "Tier 1" priorities for the Lake Washington watershed.

At the same time, we recognize that the City wants to promote the vitality and diversity of its economy and that it is experiencing steady residential growth. The City must meet a variety of requirements of the Growth Management Act, including both the accommodation of its share of regional growth and protection of its critical areas. The City Council must ultimately balance all of these objectives in setting policy both for Woodinville as a whole and for its different neighborhoods, including the R-1 zone that will be the primary (though not exclusive) focus of this project.

The temporary building and land use moratorium that the City Council has established in the R-1 zone is obviously of great interest to City residents, developers and businesses in the area. The information developed through this project and the resulting decisions and actions taken by the City will be carefully scrutinized and widely discussed. For this reason, we believe it is crucial that the City and your consultant work closely with the Citizen Advisory Panel (CAP) that the City is forming. Although much of the work for this project will unavoidably take place during the summer, we propose that the project team meet regularly with the CAP during this period, and that CAP members be kept informed of progress through e-mails and phone conversations between meetings.

It is important that CAP members understand the legal requirements the City is obligated to meet, including key decisions by both the courts and the Growth Management Hearings Boards. They must also understand how scientific knowledge and uncertainty relate to meeting GMA requirements. The key GMA standard at issue for the R-1 zone is the so-called "Litowitz Test," which was first articulated in *Litowitz v. City of Federal Way* (Central Puget Sound Growth Management Hearings Board Case No. 96-3-0005):

> [W]hen environmentally sensitive systems are large in scope (e.g., a watershed or drainage sub-basin), their structure and functions are complex and their rank order is high, a local government may...choose to afford a higher level of protection by means of land use plan designations lower than 4 du/acre. (Litowitz v. City of Federal Way, Final Decision and Order, July 22, 1996)

Other relevant cases include *Kaleas, Horst and Futurewise vs. City of Normandy Park* (Central Puget Sound Growth Management Hearings Board Case No. 05-3-0007c) and *Fuhriman II vs. City of Bothell* (Central Puget Sound Growth Management Hearings Board Case No. 05-3-0025c).

However, in *Viking v. Holm* (155 Wn.2d 112), the State Supreme Court stated last year that Growth Management Hearings Boards do not have the authority to establish "bright line" definitions of acceptable standard densities in urban or rural areas, such as 4 units/acre. We

would defer to the City's attorney as to how the City wishes to evaluate its options regarding density requirements. Whatever conclusion is reached should be shared with the CAP, since it will likely play an important role in the City's final decision regarding how to proceed.

Our technical study would primarily focus on the potential effects of changes in development density of the R-1 area on critical areas that, following the Litowitz criteria, are large in scope, with complex structures and functions and a high rank order. We believe that the two critical areas that best fit these criteria and are affected by the R-1 zone are Cold Creek (a tributary of the Bear Creek system) and Lake Leota, though we may identify others during our study. Our evaluation would also consider possible impacts on public health and safety caused by increased densities, such as contamination of critical aquifer recharge areas or destabilization of geologically hazardous areas. We recognize that the effects of density can be mitigated through the application of low impact development techniques, special stormwater requirements, tree retention, expanded critical area protections and other regulatory and management approaches. We will work with the City and the CAP to identify the range of potential options, and to recommend actions that are most likely to meet GMA requirements and the City's goals. We will also work with the City and the CAP to identify other parts of Woodinville and other factors that influence anadromous fish habitat, and will expand our study as appropriate. Finally, we will ensure that this project is coordinated and consistent with other related City initiatives, such as the transportation concurrency program.

Key Team Members

This section of our proposal discusses the qualifications of key team members, focusing on the areas of expertise that the City identified as a high priority in its RFQ. For each team member, we also provide references and examples of relevant previous experience.

Project Manager

John Lombard, Senior Policy Analyst at Steward and Associates, would manage this project. He would have overall responsibility for our final products and be our lead representative with City staff, the CAP, Planning Commission and City Council.

John has managed numerous large projects for Steward and Associates, including the Snohomish ESA Strategy, Oak Harbor's critical areas update and the Camano Island Nonpoint Pollution Prevention Plan, discussed further below. He has been Woodinville's liaison to the WRIA 8 salmon conservation planning process since 2002, representing the City on the WRIA 8 Technical Committee, which is responsible for developing the technical foundation for the WRIA 8 plan. Before coming to Steward and Associates in January 2002, John was in the Director's Office of the King County Department of Natural Resources, where he oversaw development of the Sammamish River Corridor Action Plan, in coordination with the cities of Woodinville, Redmond, Bothell and Kenmore as well as the U.S. Army Corps of Engineers. From 1996 to 2000, he was King County's Lake Washington Watershed Coordinator, working with all 30 local governments in the 700-square-mile area to protect and restore salmon habitat and water quality and address regional flooding hazards.

As Senior Policy Analyst at Steward and Associates, John has managed our contracts to assist the cities of Bothell, Snohomish, Oak Harbor and Roslyn to update their critical area regulations. In Oak Harbor, we were responsible for updating the City's entire critical area code and advising on related policies in its comprehensive plans. The Snohomish ESA Strategy included a thorough field evaluation of aquatic and wetland habitat and water quality throughout the City's Urban Growth Area, as well as a comprehensive review of City activities that affect the environment, particularly fish habitat. The Strategy prioritized City resources and recommended new or amended City programs and regulations to meet the City's environmental goals, including compliance with the Endangered Species Act, Clean Water Act, Growth Management Act and Shoreline Management Act. John is currently managing our contract with Island County to develop the Camano Island Nonpoint Pollution Prevention Plan. This involves facilitating a citizen-based Watershed Management Committee, coordinating with implementing agencies, and drafting the Plan for adoption by the Board of Island County Commissioners and approval by the Washington Department of Ecology.

John is the author of Saving Puget Sound: A Conservation Strategy for the 21st Century, to be published by the American Fisheries Society and the University of Washington Press in Fall 2006. The book develops a proposal to conserve the major ecosystems of the Puget Sound region in the face of long-term population growth. Details are available at www.savingpugetsound.com.

References:

Woodinville Liaison to WRIA 8 Planning Process
Yosh Monzaki
Surface Water Engineer
City of Woodinville
yoshm@ci.woodinville.wa.us
Tel. (425) 877-2294

Oak Harbor Critical Areas Update
Larry Cort
Senior Planner
City of Oak Harbor
larry.cort@oakharbor.org
Tel. (360) 279-4513

Hydrogeologist

Bob Anderson has been practicing hydrogeology in Washington State since 1987 and has addressed groundwater resource issues from both a physical standpoint (groundwater quantity and quality) and a jurisdictional standpoint (regulatory management issues). He will provide input to the team on groundwater protection issues, particularly the influence of groundwater on baseflow to Cold Creek. He has evaluated relationships between streamflows, groundwater levels, development patterns, and climatic cycles in the Puget Sound area. Bob has prepared groundwater management plans and wellhead protection plans that quantify, to varying degrees and levels of detail, vulnerability to both water quality and

water quantity. He has addressed water supply vulnerability in Snohomish County, Cross Valley Sole Source Aquifer, and Bear Creek Watershed as a component of water supply planning.

Mr. Anderson is currently under contract to Snohomish County in support of the Critical Aquifer Recharge Area components of the County's Critical Areas Ordinance. His familiarity with local groundwater conditions, combined with regulatory familiarity related to groundwater protection at both state and local regulatory levels is unique to the Steward project team.

References:

Cross Valley Sole Source Aquifer
Gary Hajek
Manager
Cross Valley Water District
Tel. (360) 668-6766 ext 102

Snohomish County Critical Aquifer Recharge Areas
Bill Leif
Water Quality Manager
Snohomish County Public Works, Surface Water Management
Tel. (425) 388-3464 ext 3418

Civil/Stormwater Engineer

Dean Franz has more than 21 years experience in designing and managing both public and private sector civil engineering projects. Dean is a recognized leader in Sustainable Development. He served as an advisor on the committee for determining Low Impact Development Credits in drainage analysis as part of the Washington Department of Ecology stormwater program.

While working on Low Impact Development Standards for Snoqualmie Ridge II, Dean developed LID drainage standards to be implemented by the City of Snoqualmie, with the goal of achieving a high level of stormwater quality management and environmental protection of the receiving waters. The work included preparation of construction cost estimates using LID techniques as compared with conventional drainage design. Dean gave presentations to the Planning Commission and City Council on the benefits and uses of LID techniques for surface water management.

Working for the city of Marysville, WA, on their Ash Avenue Park-n-Ride project, Dean designed the drainage system, stormwater quality treatment system, pavement with brick pavers, and the sanitary sewer and grading using Low Impact Development techniques. This resulted in a construction cost savings of over $300,000 for drainage facilities on the project. Brick paver areas were used to dispose of stormwater and to provide water quality treatment using an amended soil media beneath the pavers. Dean also designed a sanitary sewer pump station and force main to serve the surrounding residential properties.

Dean also designed a rain garden, which was incorporated into the drainage system for 51st Avenue at 108th Street, in Snohomish County, WA. The rain garden is an LID technique that provides water quality treatment and shallow-depth detention for the management of stormwater. The resulting aesthetic and functional benefits were well received by the County.

References:

Low Impact Development Standards, Snoqualmie Ridge II
Gina Estep
Associate Planner
City of Snoqualmie
Tel. (425) 888-5337

Ash Avenue Park-n-Ride
Jeff Massie
Physical Engineer
City of Marysville
Tel. (360) 651-5100

51st Avenue at 108th Street
Steve Dickson
Physical Engineer
Snohomish County
Tel. (425) 388-6442

Transportation Engineer/Assistant Project Manager

Joel Birchman has more than 32 years of experience in the public and private sector. He has solid credentials as an accomplished project manager and utility designer engineer. He has an in-depth background in permitting and multi-agency coordination as well as the right-of-way acquisition process and coordination of record keeping that is necessary for a project to remain in compliance with governing agency standards.

While at the City of Woodinville, Joel led the effort and the Citizens Advisory Panels in the development of its first Transportation, Utilities, and Capital Facilities Plan Elements for the GMA Comprehensive Plan. Because of the quality and thoroughness of the Woodinville Comprehensive Plan, the state's Department of Community, Trade, and Economic Development uses the Woodinville Comprehensive Plan as a model for newly incorporated cities. At the completion of the comprehensive planning process the City of Woodinville began the process to annex the Grace area north of the City and across the King-Snohomish County line. As part of the annexation study, Joel identified the infrastructure financial, capital, and service impacts. This study included the storm water utility, gas tax, and development permit revenues that could result from the annexation. There were also numerous coordination issues that had to be resolved with the existing special purpose districts within the annexation area.

Joel completed the Cemetery Creek Trunk Sewer Feasibility Study for the City of Snohomish. This study looked at the feasibility of extending a 24-inch trunk sewer into the

unincorporated areas within the City's GMA growth boundary. The cost of construction and financing of the trunk sewer were not only determined, but the study also projected the offsetting revenues from connection fees, utility rates, development fees, and property taxes.

References:

Transportation, Utilities, and Capital Facilities Plan Elements for the GMA Comprehensive Plan
Mick Monken
Physical Engineer, Public Works Director
City of Woodinville
Tel. (425) 489-2700

Cemetery Creek Trunk Sewer Feasibility Study
Larry Bauman
City of Snohomish
Tel. (360) 568-3115

Land Use Planner

Patricia Love brings 16 years of planning and environmental review experience to Perteet Inc. As the Senior Planner for the City of Mukilteo, Patricia was responsible for implementing the directives of the Growth Management Act by preparing Comprehensive Plan Amendments, Subarea Plans, Zoning Code Amendments, Environmental compliance at the State and Federal level, and policy changes while working interactively with the City Council, Planning Commission, and citizen groups.

As the leader of Mukilteo's City Comprehensive Plan Amendment team, Patricia prepared and managed several major rewrites and updates to the City's Comprehensive Plan during her 14 years with the City. With the 2004 Comprehensive Plan update, Patricia led the City's efforts to determine if they City met the State's urban density definition of four units per acre. This effort involved preparing a land use inventory of the Single Family Residential RD 12.5 zone. Land uses inventoried included: critical areas, parks and open space, roadways, storm drainage facilities, and public utilities. To determine if the City was compliant with the Hearings Board guidance on urban densities, all of the inventoried items were subtracted from the gross land area. This analysis identified the net buildable land area, which resulted in slightly less than four units per acre. As a result, reasonable measures, such as a cottage housing ordinance, were adopted by the City.

As project manager for Mukilteo's Harbour Pointe Master Plan Update, Patricia prepared amendments to the Master Plan and the various segregated 'sectors' for specific land use, density, critical areas, transportation facilities, open space, drainage alternatives, and utilities. She analyzed wetlands, fish and wildlife, geotechnical data, and traffic reports to evaluate land use alternatives, and determined what type of mitigation would be necessary to approve the selected land use alternatives. Patricia was responsible for processing the Master Plan through the City's public review process. She also made environmental determinations and helped prepare staff reports, findings, and recommendations. Final approval was gained through presentations to the Planning Commission and City Council at public hearings.

In her capacity as Senior Planner at the City of Mukilteo, Patricia provided current and long range planning and SEPA expertise. Her knowledge of current planning was instrumental to understanding how policy and regulations affect the built environment. Patricia was the City's lead planner on writing and implementing the City's zoning and development code amendments for ten years. These land use code amendments included Critical Areas Code Amendments: Fish and Wildlife, Wetlands, and Geologic Sensitive Areas Regulations. With Perteet, Patricia helped draft the Geologic Sensitive Areas Ordinance for the City of Oak Harbor, and an update to the City of Mukilteo's Wetland Ordinance that was approved by the Central Puget Sound Growth Hearings Board.

References:

Mukilteo Comprehensive Plan Amendments
Heather McCartney
FAICP
City of Mukilteo
Tel. (425) 355-4141

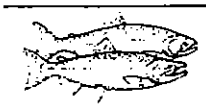
Harbour Pointe Master Plan Update
Heather McCartney
FAICP
City of Mukilteo
Tel. (425) 355-4141

Oak Harbor Zoning Code Amendments
Larry Cort
City of Oak Harbor
Tel. (360) 279-4500

Fisheries Biologist

Cleve Steward, principal scientist and owner of Steward and Associates, is a fisheries biologist and consultant with over 30 years experience and education in salmon and trout ecology and management, both as a government employee and as a consultant. He has extensive experience in the fisheries management field and has undertaken numerous projects for federal and state agencies, Indian tribes, universities, private firms, and environmental groups from throughout the region. He is a recognized authority on the habitat and migratory requirements of juvenile salmonids and has broad expertise in freshwater ecology and fisheries management. He is frequently solicited to provide technical analysis, policy guidance, and expert opinion for projects related to wetland ecology, surface water management, watershed impacts, salmon hatchery impacts, salmon smolt passage survival and behavior, and monitoring and evaluation techniques.

Cleve has served as a citizen representative on the WRIA 8 Steering Committee since its inception, and is a longstanding member of the NOAA Fisheries-appointed Technical Recovery Team for the Lower Columbia-Willamette River. He would provide project management oversight, fisheries science expertise, and QA/QC services.



References:

Lower Columbia and Willamette Technical Recovery Team
Paul McElhany
TRT Chair
NOAA Fisheries, National Marine Fisheries Service
paul.mcelhany@noaa.gov
Tel. (206) 860-5608

Dustin Hinson is a fisheries biologist with Steward and Associates and has an advanced degree in aquatic ecology. He was the lead field biologist on the Snohomish ESA Strategy, assessing stream, wetland and riparian habitat across the City's Urban Growth Area and developing recommendations for restoration projects and protection priorities on the Snohomish and Pilchuck Rivers as well as three smaller creek systems. He has worked closely with John on all of our contracts helping local governments update their critical area regulations, including testifying before the Snohomish City Council and the Oak Harbor Planning Commission. Dustin has worked extensively with tribes, federal agencies, non-governmental organizations and universities on issues related to fisheries management and aquatic community response to habitat alteration and degradation.

References:

Larry Bauman
City of Snohomish ESA Response Strategy
City Manager
City of Snohomish
bauman@ci.snohomish.wa.us
Tel. (360) 568-3115

Additional references for Dustin Hinson may be found in the Wetland Biologist section below.

Wildlife and Wetland Biologist

Sarah Cooke has 19 years of experience in wetlands ecological research and environmental consulting, in the Pacific Northwest. She specializes in habitat creation, restoration and enhancement projects, both in design and implementation. Sarah excels in permitting assistance on the local, state, and national level. She was a co-senior investigator for the Puget Sound Wetland and Stormwater Management Research Program, a 10-year total wetland ecosystem study conducted under the auspices of the Environmental protection Agency, The US Geological Survey, Washington State, and King County in Washington State. Sarah has more experience in developing assessment methodologies than any other private wetlands consultant in the PNW. She has extensive experience in classroom instruction of wetlands ecology, restoration ecology and implementation, delineation protocols, functional assessment, weed identification and control, hydric soils, and wetland plant identification. She has 16 years experience in managing multidisciplinary teams, supervising subcontractors, and generating reports, and marketing from a consulting perspective. Sarah currently teaches restoration ecology and implementation, wetland

botany, and weed ecology and control at Portland State University. She is a former instructor for the Wetland Certification Program at the University of Washington and Wetland Ecology and Science for the graduate program at the Evergreen State College. She is also the senior author/editor of the *A Field Guide to the Common Wetland Plants of Western Washington & Northwestern Oregon.*

Sarah Cooke performs on average 25 delineations a year. Sarah has performed hundreds of delineations with 18 years of experience, and has experience in atypical and problem area wetlands. She has taught wetland delineation methodology for the US Army Corps of Engineers and the City of Seattle planning department wetland delineation classes. She verifies wetland boundaries as part of her third party review.

References:

King County Wetland and Stream Inventory
Erik Stockdale
Wetlands Staff
Washington State Department of Ecology
Tel. (206) 649-7061

Patrick Stockdale
Project Planner
Snohomish County
(425) 388-3311 ext 2745

Dustin Hinson is also Steward and Associates' lead wetland biologist, and frequently performs critical area studies regarding development impacts on streams and wetlands for both local governments and developers. In addition, Dustin reviews submitted development applications for the Cities of Snohomish and Mount Vernon for ecological and regulatory consistency. Dustin has provided assistance to City of Woodinville staff regarding the management of a wetland adjacent to the "Tent City" location in the lower Bear Creek corridor.

References:

Woodinville "Tent City" Wetland Management
Yosh Monzaki
Surface Water Engineer
City of Woodinville
yoshm@ci.woodinville.wa.us
Tel. (425) 877-2294

Additional references for Dustin Hinson may be found in the Fisheries Biologist section above.

Tree Ecologist

Sarah Cooke is also a forestry ecologist and terrestrial plant community expert. She possesses an experienced understanding of native vegetation and how birds and wildlife

utilize vegetated habitat such as the tree canopy. Sarah has worked on projects involving the role of the tree canopy in basin hydrography, and in addition she has extensive experience working with mitigation plans that address impacts to riparian corridors associated with critical areas.

References:

Keith Niven
Planning Director
City of Issaquah MDRT
Tel. (425) 837-3430

Tom Hruby
Senior Ecologist, Shorelands
Washington State Department of Ecology
Tel. (360) 407-7274

Limnologist and Water Quality Expert

Mike Falter is a professor of limnology and aquatic ecology and the University of Idaho in Moscow. He is responsible for developing research programs in aquatic resources as well as teaching upper division and graduate courses in limnology, aquatic ecology and the management of lakes, streams, and reservoirs. With an emphasis on water body management planning as well as lake and stream ecology, Dr. Falter has designed and led more than 100 limnological projects on lakes, streams, and reservoirs of the United States, Africa, and Australia. While consulting for a variety of federal, state, regional, and private entities, Dr. Falter has detailed aquatic ecology, assessed sediment and nutrient loading, and designed management plans for long-range optimization of water body uses.

At the University of Idaho, Dr. Falter developed and taught undergraduate and graduate courses including Limnology, Aquatic Pollution Ecology, Wildland Field Ecology, International Land Use Planning, Fish Biology, and Aquatic Restoration Ecology. Since leaving the University of Idaho, he has continued these research and management issues on a number of projects for public and private entities.

He has been active in continuing education for federal, state, and industrial resource managers via workshops and continuing education courses. He guided 55 Master's and Doctoral students as major advisor and continues with graduate and Web-based teaching since leaving the University.

References:

Ralph Myers
Water Quality Program Supervisor
Idaho Power Company
RMyers@idahopower.com
Tel. (208) 388-2358

Phillip Cernera
Director Lake Management Dept.
Coeur d'Alene Tribe
lakemanagement@cdatribe-nsn.gov
Tel. (208) 686-6008

GIS Technician

Michael Maher is Steward and Associates' lead Geographical Information Systems analyst and cartographic specialist. A mapping component is an invaluable part of any plan and remarkably useful for conveying concepts and information about any area under examination. Michael has extensive experience producing high-quality environmental and natural resources map products for wide and varying audiences. As lead author on NOAA Fisheries' "Atlas of Salmon and Steelhead Habitat in the Oregon Lower Columbia and Willamette Basins," Michael created hundreds of watershed-scale maps depicting basin conditions and salmonid habitat. Michael has a comprehensive background utilizing GMA and critical areas data in identifying conservation priorities and employing GIS-based methods of environmental problem solving. As evidenced by his work with the NOAA Northwest Fisheries Science Center's "Lewis River Case Study" team, Michael is familiar with mapping current and future landscapes while considering planned land use and restoration / preservation actions.

References:

Atlas of Salmon and Steelhead Habitat in the Oregon Lower Columbia and Willamette Basins
Paul McElhany
Conservation Biologist
NOAA Fisheries NWFSC
paul.mcelhany@noaa.gov
Tel. (206) 860-5608

Lewis River Case Study Team
Ashley Steel
Quantitative Ecologist
NOAA Fisheries NWFSC
ashley.steel@noaa.gov
Tel. (206) 860-3406

Preliminary Scope of Services

We consider the following to be a very preliminary and general scope of services, which we have developed based on our current understanding of the project. We expect to revise both the scope and accompanying budget after further discussion with the City and our initial assessment of project-related issues.

At the outset of the project, we would want to meet with the City to discuss the scope of work in greater detail. We understand that the City is uncertain of some details at this stage, and so it would be prudent to convene an initial meeting to jointly review and refine the scope of work. The meeting may include a site visit, but we would expect to return later for a more extensive tour of affected areas in Woodinville, focusing on the R-1 zone and the adjacent Cold Creek Natural Area. We hope to receive copies of all project-relevant documents from the City and review them prior to undertaking an extended tour so that we could identify the most relevant issues and places to visit.

Given the importance of the CAP to this entire project, we would want to work with the City from the very beginning to think through how the CAP can add the greatest value to the project while minimizing time demands on its citizen volunteers. We expect there might be as many as four CAP meetings during the months of June and July, when most of the work on this project would presumably take place. CAP meeting agendas might conceivably include:

- An orientation to the goals and constraints of the project and the scope of work ahead;
- A review of existing knowledge and existing protections for critical areas that are in or are affected by the R-1 zone, and how they might be impacted by increases in density;
- A review of preliminary findings of the study, and their implications for recommendations;
- A review of preliminary recommendations for the draft report, due August 1.

During the same time period, team members would make further field visits to the City and the R-1 zone, as needed, and consult with local experts on key issues. The Project Manager would be available for briefings to the Planning Commission and City Council, or their individual members, as directed by City staff.

We would deliver our draft R-1 Area report by August 1 for review by staff, the CAP, the Planning Commission and the City's attorneys. The Project Manager and individual team members would be available to answer questions during this review. We anticipate attending at least one meeting of the CAP and the Planning Commission, perhaps in a joint session. By the end of the month, we would make final revisions to the R-1 Area report, based on comments from the review.

In September, we anticipate attending both a Planning Commission meeting and at least one meeting of the City Council to answer questions about the R-1 report, and to provide advice during their deliberations prior to the end of the six-month moratorium. We also would

begin drafting the City-wide report, working in consultation with City staff, the CAP, the Planning Commission and the City's attorney. We would provide a draft of this report by October 13, and a final report based on review comments by the end of the month. In November and December, we would again anticipate attending both a Planning Commission meeting and at least one meeting of the City Council, to answer questions about our report and provide advice regarding actions the City may take based on it.

Preliminary Budget

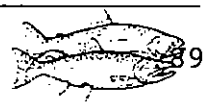
Given the uncertainty regarding the final scope of work, we have developed a tentative budget based on the full $150,000 the City has allocated for this project. After we meet with the City to discuss details of a final scope of work, including how some responsibilities may be shared between City staff and the consultant team, we may be able to offer a reduction in our proposed budget.

About 40% of our proposed budget is allocated to working directly with the CAP, Planning Commission and City Council. Close communication with all three bodies will be extremely important to the ultimate success of this project; however, the time allotted to briefing these parties and receiving their input and guidance could potentially be reduced.

Project success will be measured by the City's ability to implement our recommendations in a way that a substantial majority of interested citizens can understand and support, and by the measure's ability to withstand legal scrutiny if appealed to the Central Puget Sound Growth Management Hearings Board or the courts.

Title	Budget Allocation
Project Manager	$32,000
Hydrogeologist	$22,000
Civil/Stormwater Engineer	$12,000
Transportation Engineer	$12,000
Land Use Planner	$10,000
Fisheries Biologists	$12,000
Wildlife Biologists	$8,000
Wetland Biologists	$8,000
Tree Ecologist	$6,000
Limnologist	$20,000
GIS Technician	$8,000
Total	**$150,000**

Where individual team members play multiple roles, their contributions have been divided across those positions. Where multiple team members are subsumed under the same title, the budget allocation reflects their combined contributions. Budget allocations include administrative and other costs (e.g., mileage, copying, etc.).



Appendix A: Résumés

John Lombard

Senior Policy Analyst
2002- present

John Lombard is a senior policy analyst with more than 13 years experience in watershed management, basin planning, development regulations, intergovernmental coordination and endangered species policy. He currently manages our work advising clients on issues relating to salmon recovery, watershed planning and compliance with the Endangered Species Act, Growth Management Act and other state and federal regulations.

Recently, Mr. Lombard has been managing the firm's contracts advising local governments with updates of their critical area regulations. He also managed our contract to develop an Endangered Species Act Strategy for the City of Snohomish, which serves as a comprehensive strategy for the City to prioritize its resources to meet its environmental goals and comply with federal and state environmental laws, including the Clean Water Act, the Growth Management Act and the Shoreline Management Act, in addition to the Endangered Species Act.

Education

Bachelor of Arts with honors, 1983: Washington University, St. Louis, MO
Degree Emphasis: Politics, Philosophy and Economics.

Professional Background

King County Department of Natural Resources (KCDNR)
Senior Policy Analyst, Director's Office, 2000–2001

Oversaw development of Action Plan for the Sammamish River, which connects Lake Sammamish and Lake Washington. Advised King County water supply planners on issues related to salmon and watershed planning. Assisted development of King County Executive's Air Quality Initiative, to reduce emission of greenhouse gases and pollutants from county operations and facilities.

King County Department of Natural Resources (KCDNR)
Lake Washington Watershed Coordinator, 1996-2000

Led coalition of 30 local governments, public/private Steering Committee, scientists and interested citizens developing salmon recovery plan for the 700-square-mile Greater Lake Washington watershed. Created partnership of 20 local governments and Corps of Engineers to construct $2.4 million project at Ballard Locks to improve passage for juvenile salmon. Facilitated technical, citizen and government prioritization of $10 million of habitat projects in Lake Washington watershed for submittal to the Salmon Recovery Funding Board. Managed team of eight responsible for acquiring more than 1,500 acres of prime salmon habitat, identifying and prioritizing factors limiting salmon recovery in watershed, and managing and coordinating more than $2 million of research.

Metropolitan King County Council, *Legislative Analyst*, 1992-1996

Lead staff to King County Council on utility issues. Responsible for adoption of plans guiding land use and capital expenditures to protect salmon, improve water quality and reduce flood hazards in four stream basins covering 150 square miles. Led revision of policies governing water and sewer utilities in 1994 comprehensive plan. Annually reviewed $100-200 million budgets for Health and Public Works departments.

St. Louis Mayor's Office, St. Louis, MO, *Administrative Assistant to the Mayor*, 1985-1990

Developed policy, wrote speeches and served as community liaison for Mayor of St. Louis. Staffed Tax Reform Commission, which revised the city's entire system of business taxes and fees. Oversaw development of Hope House, one of largest transitional housing programs for homeless families in the country.

St. Louis Business Journal, St. Louis, MO, *Reporter*, 1983-1985

Reported on auto industry, Monsanto, court cases and other news and feature stories.

Robert H. (Bob) Anderson, L.Hg.

Principal Hydrogeologist

QUALIFICATIONS

- Experience managing multi-disciplinary water supply and watershed management teams
- Experience working with stakeholder groups and multiple technical and policy objectives
- Familiarity and experience with characterization of aquifer systems throughout Central Puget Sound
- Familiarity with urban, residential, and agricultural issues related to land use, water quality, and groundwater

YEARS OF EXPERIENCE: 20

EDUCATION

B.S. Geology, University of Washington, Washington, 1983.

M.S. Geology, University of Wisconsin, Milwaukee, Wisconsin, 1987.

AFFILIATIONS

Registered Washington Professional Geologist:, Hydrogeology Specialty license #636

SELECTED PUBLICATIONS

Anderson, R., 2002. Conjunctive Use and River Enhancement (CURE): Integrated use of ground water and surface water for habitat enhancement and consumptive use. AWWA Pacific Northwest Chapter Annual Conference, Eugene, OR.

Dugan, R., and Anderson, R. H., 2000. Groundwater Exploration in Alaska. American Water Specialty Conference Proceedings: Water resources in Extreme Environments. Anchorage, Alaska, April 2000.

Anderson, R.H., 1999. The Importance of Groundwater to Municipal Water Supply in Washington. American Water National Conference Proceedings: Watershed Management to Protect Declining Species. Seattle, WA, Dec. 1999.

Anderson, R.H., 1997. Development of Groundwater Resources - Issues and Approaches for Mitigation of Streamflow Impacts, 2nd Annual Symposium on the Hydrogeology of Washington State. Olympia, WA, September, 1997.

Anderson, R.H., 1995, Beyond Water Witching, Civil Engineering, July, 1995.

Mr. Anderson is a Principal Hydrogeologist at Golder Associates with over 20 years experience in water resources characterization and planning, focused primarily in the Pacific Northwest. He has completed significant water resources assessments and technical projects involving the assessment and protection of groundwater and surface water sources in collaboration with local planning committees, technical advisory groups, and regulatory agencies. He was an invited member of a technical panel supporting Washington Department of Ecology policy on the issue of surface water impacts from groundwater withdrawals. He has completed wellhead protection plans, groundwater management plans, watershed plans, habitat conservation plans (HCP), aquifer storage and recovery (ASR) projects, and many technical hydrological assessments.

Relevant topical experience

Mr. Anderson has addressed water resource issues from both a physical standpoint (resource issues) and jurisdictional standpoint (regulatory management issues). He has evaluated relationships between streamflows, groundwater levels, development patterns, and climatic cycles that are relevant to the Pacific Northwest. He has addressed water supply vulnerability as a common component of water supply planning, and for implementation of regulatory programs that require characterizing vulnerability at a local level. Mr., Anderson has prepared groundwater management plans and wellhead protection plans that quantify, to varying degrees and levels of detail, vulnerability to both water quality and water quantity. Mr. Anderson is currently under contract to Snohomish County to address Critical Aquifer Reacharge Area (CARA) elements of the County's Critical Areas Ordinance.

Cross Valley Water District Wellhead Protection Plan Snohomish, Washington

Project Manager for wellhead protection plan for the Cross Valley Sole Source Aquifer. Objective of the project was to delineate wellhead protection areas around 10 municipal supply wells, conduct an inventory of potential contaminant sources and develop management strategies. Work involved developing conceptual hydrogeologic model, constructing a hydrogeologic database, preparing a groundwater flow model and capture zone delineation, and conducting an inventory of potential contaminants. The contaminant inventory included a risk analysis using EPA methods and was automated in a database/GIS format to allow updating. Wellhead protection strategies were also evaluated including development of contingency plans, spill response plans, and public involvement plan.

Critical Aquifer Recharge Area Delineation Everett, Washington

Delineated critical aquifer recharge areas for Snohomish County. Collaborated with aquifer protection committee and developed mapping approaches and regulatory framework based on compilation of similar recharge protection programs throughout the Pacific Northwest. Calculated fixed radius wellhead protection areas for every Group A and B water system in Snohomish County. Developed a checklist system that addressed aquifer protection issues for County permitting processes.

Western Snohomish County Groundwater Management Plan Washington

Appendix A:

Resumés

Golder Associates

Robert H. (Bob) Anderson, L.Hg.

Principal Hydrogeologist

QUALIFICATIONS

- Experience managing multi-disciplinary water supply and watershed management teams
- Experience working with stakeholder groups and multiple technical and policy objectives
- Familiarity and experience with characterization of aquifer systems throughout Central Puget Sound
- Familiarity with urban, residential, and agricultural issues related to land use, water quality, and groundwater

YEARS OF EXPERIENCE: 20

EDUCATION

B.S. Geology, University of Washington, Washington, 1983.

M.S. Geology, University of Wisconsin, Milwaukee, Wisconsin, 1987.

AFFILIATIONS

Registered Washington Professional Geologist :, Hydrogeology Specialty license #636

SELECTED PUBLICATIONS

Anderson, R., 2002. Conjunctive Use and River Enhancement (CURE): Integrated use of ground water and surface water for habitat enhancement and consumptive use. AWWA Pacific Northwest Chapter Annual Conference, Eugene, OR.

Dugan, R., and Anderson, R. H., 2000, Groundwater Exploration in Alaska. American Water Specialty Conference Proceedings: Water resources in Extreme Environments. Anchorage, Alaska, April 2000.

Anderson, R.H., 1999. The Importance of Groundwater to Municipal Water Supply in Washington. American Water National Conference Proceedings: Watershed Management to Protect Declining Species. Seattle, WA, Dec. 1999.

Anderson, R.H., 1997. Development of Groundwater Resources - Issues and Approaches for Mitigation of Streamflow Impacts. 2nd Annual Symposium on the Hydrogeology of Washington State, Olympia, WA, September, 1997.

Anderson, R.H., 1995, Beyond Water Witching, Civil Engineering, July, 1995.

Project manager for development of management plan including groundwater flow and water quality evaluations, risk assessment, and interaction with a 35-member Groundwater Advisory Committee. A geohydrology assessment identified and prioritized potential groundwater impacts throughout the County, which includes urban, rural, agricultural and forest land-uses. Technical analyses were presented regarding groundwater use, stormwater and wastewater infiltration, and groundwater vulnerability to contamination from many sources including commercial/industrial facilities and transportation spills. The technical work was completed largely within the ARC/INFO GIS software and using existing coverages for the project area.

Snohomish County Comprehensive Plan Support **Everett, Washington**
Prepared Groundwater section of Comprehensive Plan and evaluated land use effects on aquifer recharge and baseflow to streams. Analysis relied on GIS database containin g land use and land cover characteristics for various alternatives, combined with surface hydrologic modeling conducted by the county.

Lower Issaquah Valley Wellhead Protection PlanIssaquah, Washington
Project Manager for wellhead protection plan for the Lower Issaquah Valley. Objective of the project was to delineate wellhead protection areas around six municipal supply wells. Work involved developing conceptual hydrogeologic model, groundwater flow modeling and capture zone delineation, installation of monitoring wells, water-level and water quality monitoring program, inventory of potential contaminants, evaluation of wellhead protection strategies, development of contingency plans, spill response plans, and public involvement plan.

Grand Ridge Development Groundwater Analysis **Issaquah, Washington**
Performed several water quantity and water quality analyses of possible impacts from a proposed urban development on an aquifer recharge area: A probability-based mass-balance water quality analysis to assess sewer options and stormwater infiltration scenarios; Geophysical exploration to evaluate stratigraphy and identify preliminary locations for proposed stormwater infiltration facilities; and Groundwater flow modeling to evaluate possible groundwater quantity impacts resulting from the development

Aggregate Site Permit -Third Party Review Snohomish Co., Washington
Third-party technical review of hydrogeologic aspects of an Environmental Impact Statement (EIS) for a proposed expansion of the High Rock Gravel Mine near Monroe. The High Rock site is located near domestic water supplies and wetlands and was the site of a rare "aquifer break" in 1992. An independent analysis of the hydrogeology was conducted and recommendations for permitting conditions were submitted to Snohomish County. The findings of the review and recommendations were submitted to a hearings examiner and testimony was presented during an appeal of the EIS.

Cross Cascade Pipeline EIS **Snohomish, Washington**
Project manager for development of initial response comments for an Environmental Impact Statement proposed to route a gasoline pipeline through wellhead protection areas and a sole source aquifer in Snohomish County. Response was expanded for submittal as testimony for hearings regarding the proposed project.

Dean Franz, PE — Surface Water Manager

Education:
BS, Civil Engineering / Walla Walla College
Registration:
Professional Engineer, Washington 1990, Idaho 2000

Dean Franz has more than 21 years experience in designing and managing both public and private sector civil engineering projects. Dean is a recognized leader in Low Impact Development (LID) techniques. He has provided LID presentations to several organizations, including the City of Redmond, City of Kirkland, City of Snoqualmie, and the North Puget Sound Drainage Group. Dean worked with the City of Snoqualmie on providing Low Impact Development (LID) design alternatives. He has provided the city with a detailed analysis on LID techniques, an impact assessment compared with conventional drainage design, and cost comparisons for utilizing LID techniques for road collectors and single-family residential neighborhoods. He served as an advisor on the committee for determining LID Credits in drainage analysis, as part of the Washington Department of Ecology storm water program.

Relevant Project Experience

Snoqualmie Ridge II – Low Impact Development, Snoqualmie, WA

Owner Contact: Nancy Tucker, Sr. Planner
Owner Ph. (425) 888-5337

This project entailed preparing low impact development (LID) drainage standards to be implemented by the City of Snoqualmie, for the goal of achieving a high level of stormwater quality management and environmental protection of the receiving waters. Dean worked with City staff on preparing development standards, and he gave presentations at public meetings on the benefits and uses of LID techniques for surface water management. These presentations were made at the Planning Commission and City Council meetings. The work also included doing an environmental study on the benefits of LID, and preparing construction cost comparisons using LID techniques as compared with conventional drainage design.

Dean coordinated with multiple-interdisciplinary teams on this project, including a wetland biologist, stream biologist, hydrogeologist, planner, land-use attorney, and landscape architect.

Ash Avenue Park-n-Ride – Marysville, WA

Owner Contact: Jeff Massie, Asst. City Engineer
Owner Ph. (425) 651-5100

Dean designed the drainage system, stormwater quality treatment system, pavement with brick pavers, the sanitary sewer and grading for this park-n-ride, using Low Impact Development (LID) techniques. This resulting in a construction cost savings of over $300,000 for drainage facilities on the project. Brick paver areas were utilized to dispose of stormwater and to provide water quality treatment using an amended soil media beneath the pavers. Dean also designed a sanitary sewer pump station and force main to serve the surrounding residential properties.

Low impact pavement design

Appendix A:

Resumés

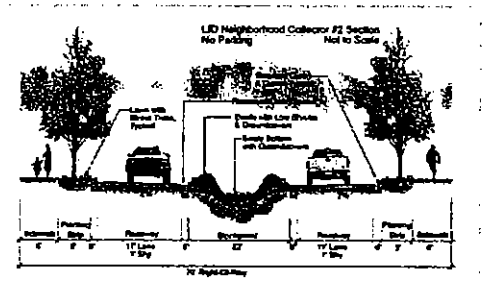
Dean coordinated with multiple-interdisciplinary teams on this project, including an electrical engineer, and maintenance staff at the City.

This project received the ACEC Silver Award for "Exceeding Client Needs", 2004.

51st Avenue at 108th Street – Snohomish County, WA

Owner Contact: Bruce Duvall, PE

Owner Ph. (425) 388-6404



LID Road Section

Dean designed the drainage system using a rain garden in the center of the roundabout. The rain garden is a Low Impact Development (LID) technique that provides water quality treatment and shallow-depth detention for the management of stormwater. This provided a landscape area in the road corridor that was aesthetically positive and well received by the County. Dean also conducted a backwater analysis for the upgrading of an existing storm trunk pipe system that conveyed stormwater from the surrounding area through the intersection. Dean coordinated with multiple-interdisciplinary teams on this project, including environmental and maintenance staff at the County.

Appendix A:

Resumés

Joel Birchman, PE — Role: Public / Private Investment Strategy

Joel Birchman has more than 32 years of experience in the public and private sector. As Vice President at Perteet, he provides oversight and leadership especially in the areas of municipal services and developing and administering funding opportunities for our clients. He has solid credentials as an accomplished project manager and utility designer engineer. He has an in-depth background in permitting and multi-agency coordination as well as the right-of-way acquisition process and coordination of all record keeping so necessary for a project to remain in compliance with governing agency standards.

Joel has worked extensively with ISTEA, TIB, FEMA, and HUD Block Grant programs. Under these programs, he has prepared grant applications, supervised preparation of construction documents, prepared invoices, and successfully completed the federal and state audit process. Joel provides the record keeping systems for these projects to ensure that all guidelines of the grant regulations were being met. Joel has a unique understanding of federally funded projects. In addition to administering federally funded projects, Joel and his staff have helped clients obtain more than $46 million in grant funding in the last five years

Relevant Project Experience:

- Transportation, Utilities, and Capital Facilities Plan Elements for the GMA Comprehensive Plan – Woodinville, WA. While at the City of Woodinville, Joel led the effort and the Citizens Advisory Panels in the development of its first Transportation, Utilities, and Capital Facilities Plan Elements for the GMA Comprehensive Plan. Because of the quality and thoroughness of the Woodinville Comprehensive Plan, the state's Department of Community, Trade, and Economic Development uses the Woodinville Comprehensive Plan as a model for newly incorporated cities.

  At the completion of the comprehensive planning process the City of Woodinville began the process to annex the Grace area north of the City and across the King-Snohomish County line. As part of the annexation study, Joel identified the infrastructure financial, capital, and service impacts. This study included the storm water utility, gas tax, and development permit revenues that could result from the annexation. There were also numerous coordination issues that had to be resolved with the existing special purpose districts within the annexation area.
- Cemetery Creek Trunk Sewer Feasibility Study – Snohomish, WA. Joel completed the Cemetery Creek Trunk Sewer Feasibility Study for the City of Snohomish. This study looked at the feasibility of extending a 24-inch trunk sewer into the unincorporated areas within the City's GMA growth boundary. The cost of construction and financing of the trunk sewer were not only determined, but the study also projected the offsetting revenues from connection fees, utility rates, development fees, and property taxes.
- 48th Avenue Sewer Extension, Water Main Replacement and Roadway L.I.D. – Mountlake Terrace, WA. Joel administered the Local Improvements District for a major street widening project and the design of sanitary sewer extensions to areas within the City that were not currently receiving sanitary sewer service. The project included the installation of over one mile of 12-inch water transmission line. The L.I.D. was combined with F.A.U.S. funds to finance this project. This project received the 1991 Local Program of the Year award from APWA/WSDOT due to the combining of four different funding sources, its design challenges, and project management.

Appendix A:

Resumés

[redacted]

Patricia Love — Project Manager, Environmental and Community Planning

Patricia is an expert in Comprehensive Plan Amendments, Subarea Plans, Zoning Code Amendments, and State Environmental Policy Act (SEPA) and National Environmental Policy Act (NEPA) compliance.

Patricia Love brings 16 years of planning and environmental review experience to Perteet Inc. As the Senior Planner for the City of Mukilteo, Patricia was responsible implementing the directives of the Growth Management Act by preparing Comprehensive Plan Amendments, Subarea Plans, Zoning Code Amendments, Environmental compliance at the State and Federal level, and policy changes while working interactively with the City Council, Planning Commission, and citizen groups.

Her community planning experience continued to expand at Perteet. While at Perteet she helped prepare the Arlington Transportation Plan Element on their comprehensive plan, drafted a critical areas ordinance for Oak Harbor, and drafted a re-write of the City of Mukilteo's wetland ordinance in response to a Growth Hearings Board remand decision.

Patricia brings an understanding and background of interagency coordination at the State and local agency levels working with Snohomish County, Washington State Community Trade and Economic Development, Department of Ecology, Washington Department of Fish and Wildlife and Department of Natural Resources, and the Washington State Department of Transportation.

Relevant Project Experience:

Comprehensive Plan – Mukilteo, WA

As the leader of the City Comprehensive Plan Amendment team, Patricia prepared and managed major rewrites and updates to the City's Comprehensive and Harbour Pointe Master Plan for nearly ten years. Updates included revisions to the land use, critical areas, housing, parks, utilities, and transportation elements. This work required coordination with the local sewer, water, and school districts, as well as with County and State representatives. In addition to preparing the proposed amendments, Patricia was responsible for ensuring that each of the Comprehensive Plan updates was compliant with the Growth Management Act, environmental requirements, and public review processes. Public involvement included presenting the Comprehensive Plan updates and amendments at workshops, open houses, Planning Commission and City Council public hearings, and to citizen organizations.

With the 2004 Comprehensive Plan update, Patricia lead the City's efforts to determine if they City met the State's urban density definition of four units per acre. This effort involved preparing a land use inventory of the Single Family Residential RD 12.5 zone. Land uses inventoried included: critical areas, parks and open space, roadways, storm drainage facilities, and public utilities. To determine if the City was compliant with the Hearings Board guidance on urban densities, all of the inventoried items were subtracted from the gross land area. This analysis in a net buildable land area, which resulted in slightly less than four units per acre. As a result Reasonable Measures, such as a cottage housing ordinance, was adopted by the City. These Reasonable Measures would allow and increase in the underlying density without compromising the general character of the neighborhoods.

Harbour Pointe Master Plan Update - Mukilteo, WA

For ten years, Patricia was the City's project manager on preparing amendments to and implementing the Harbour Pointe Master Plan. Harbour Pointe is a 2,350-acre Master Planned Community located in the southern

portion of the city, with approximately 4,600 housing units, 420,000 square feet of commercial/retail development, 3.3 million square feet of industrial space, four schools, a library, and around 500 acres of open space.

As project manager, Patricia prepared amendments to the Master Plan and the various segregated 'sectors' for specific land use, density, critical areas, transportation facilities, open space, drainage alternatives, and utilities. As the City's project manager, she managed and processed amendments to the Master Plan consistent with city policies and regulations; analyzed wetland, fish and wildlife, geotechnical, traffic reports to evaluate land use alternatives, and determined what type of mitigation would be necessary to approve the selected land use alternatives. Patricia was responsible for processing the Master Plan through the City's public review process, issued environmental determinations, prepared staff reports, findings, and recommendations. Final approval was through presentations to the Planning Commission and City Council at public hearings.

Subarea Plan Amendments and Creation of Development Standards - Mukilteo, WA

Patricia was the project manager responsible for three major successive subarea plan amendments and adoption of corresponding development standards. These projects required coordinating between the property owner, consultants, City departments, interested public and community groups, and outside agencies. The subarea plans and development standards were negotiated and then reviewed through a public process, which included environmental review, public hearings, Planning Commission review and final adoption by the City Council. As project manager, Patricia was responsible for negotiating and drafting development regulations acceptable to both the City of Mukilteo and the property owners. Development regulations drafted through implementing ordinances addressed a range of standards including: permitted uses; residential density, residential and commercial development standards; landscaping, buffers, transition zones, open spaces, parking, roadway standards, trail standards, building and plaza design guidelines, signage, sensitive/critical area mitigation, airport compatibility, and modification and flexibility options.

This in-depth level of planning analysis and environmental assessment allowed future development to occur without additional studies or environmental review. The end result allowed a submitted proposal to be permitted out rightly if it met the minimum requirements of the approved plan - no addition environmental review, studies, or public hearings were required.

- Boeing Development Agreement, Approved April 2004: Project rezone and Comprehensive Plan Amendment from Industrial Park to Single Family Residential with development options to build up to 150 standard single family residential, compact, or cottage housing units on a 40-acre parcel.
- Mukilteo Town Square Development Agreement; Approved December 2002: Project rezone and Comprehensive Plan Amendment from Industrial Park to Planned Community Business to allow a neighborhood shopping center (up to 250,000 square feet) on approximately 25 acres of land next to the Mukilteo Speedway.
- Village Center Development Agreement; Approved October 1998 (PSRC Vision 2020 Award): Project rezone and Comprehensive Plan Amendment from Industrial Park to Planned Community Business to allow a mixed-use community consisting of small lot single family residential units, multi-family apartments / condominium units, open space, trails and mixed-use commercial retail space on 135 acres.

Appendix A:

Resumés

Zoning Code Amendments – Mukilteo, WA

Patricia Love, in her capacity as Senior Planner at the City of Mukilteo, provided current and long range planning and SEPA expertise. Her knowledge of current planning was an asset and used to understand how policy and regulations affect the built environment. Patricia was the City's lead planner on writing and implementing the City's zoning and development code developments for ten years. Major land use code amendments included:

- Mukilteo Zoning Code Update (Integration of Snohomish County zoning standards into the City's regulation after an annexation)
- Critical Areas Code Amendments: Fish and Wildlife, Wetlands, Geologic Sensitive Areas Regulations
- Cottage Housing Ordinance
- Project Permit Processing (Original and Update)
- School and Park Impact Fees
- SEPA / GMA Integration Ordinance
- Wireless Communication Facilities
- Permitted Use and Bulk Regulations
- Sign Code
- Assisted with the Downtown Business District Design Standards
- City Engineering Development Standards Resolution

Zoning Code Amendments – Perteet Inc.

As a Project Manager for Perteet Inc., Patricia has continued working on Comprehensive Planning and Zoning Code Amendments for various agencies within the Puget Sound area. Patricia helped with the City of Arlington's Transportation Plan Element of the City's Comprehensive Plan, she wrote the Geologic Sensitive Areas Ordinance for the City of Oak Harbor, and she drafted an update to the City of Mukilteo's Wetland Ordinance that was approved by the Central Puget Sound Growth Hearings Board.

Appendix A:

Resumés

Cleveland R. Steward, III

Principal

1992- present

Steward and Associates principal and lead scientist Cleve Steward is a fisheries scientist and consultant with over 25 years experience and education in salmon and trout ecology and management, both as a government employee and as a consultant. His firm – Steward and Associates – provides technical assistance in analyzing environmental impacts, complying with governmental regulations, and resolving conflicts involving fisheries and aquatic resources, with emphasis on water management, watershed analysis, habitat restoration, and fisheries research and management.

Mr. Steward serves in a variety of roles providing technical analysis and policy guidance on salmon recovery, delisting criteria, limiting factors, and habitat restoration measures. He has extensive experience in the fisheries management field and has undertaken numerous projects for federal and state agencies, Indian tribes, universities, private firms, and environmental groups from throughout the region. He is a recognized authority on the habitat and migratory requirements of juvenile salmonids and has broad expertise in freshwater ecology and fisheries management. He is frequently solicited to provide expert opinion and help resolve conflicts involving fisheries and aquatic resources, including surface water management, watershed impacts, salmon hatchery impacts, salmon smolt passage survival and behavior, and monitoring and evaluation techniques.

Education

Ph.D. Candidate, Dissertation in progress: University of Idaho, Moscow, ID
Degree Emphasis: Fishery Science

Master of Science, 1983: University of Washington, Seattle, WA
Degree Emphasis: Fishery Science

Bachelor of Science, Summa cum laude, 1978: University of Montana, Missoula,
Degree Emphasis: Wildlife, Aquatic Option

Professional Experience

Steward and Associates, Snohomish, WA.

Principal, 1992- present

Owner and lead consultant in a firm that specializes in fisheries management, ESA recovery and compliance planning, biological assessments, research design and implementation, Columbia River and Puget Sound fisheries issues, dam-related impacts and relicensing, dispute resolution, and programmatic review for public agencies, Indian tribes, and non-profit conservation groups. Clients include the Bonneville Power Administration, National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, Northwest Power Planning Council, various Indian tribes (Nez Perce, Yakama, Cowlitz, Quileute, and Skokomish) Seattle Aquarium, Seattle Public Utilities, University of Washington, Boeing, Save Our Wild Salmon, Trout Unlimited, American Rivers, URS, various law and engineering firms, and others. Responsible for several contracts; author of key publications.

In 2000, Mr. Steward was appointed by the National Marine Fisheries Service to serve as a scientific advisor to federal and state agencies engaged in the recovery of threatened and endangered salmon and steelhead in the Willamette and Lower Columbia Rivers. Mr. Steward also serves on the Greater Lake Washington Watershed Steering Committee and Technical Committee. He also serves as technical advisor to Bonneville Power Administration on matters of implementation and compliance with habitat provisions set forth in the current Biological Opinion for Federal Columbia River Power System. Mr. Steward has also worked extensively with the

Appendix A:

Resumés

Lower Columbia River Fish Recovery Board, supervising watershed assessment work in support of salmon recovery planning in 5 counties in southwest Washington.

Sustainable Fisheries Foundation, Snohomish, WA
Executive Director, 1994- Present
Co-founded an international (U.S. and Canada) 501(c)(3) research and education foundation in 1994 to promote a balanced approach to fisheries resource management and use, so that Pacific salmon and trout populations remain viable, productive, and accessible to future generations. The SFF works closely with other non-governmental and scientific organizations on a number of salmon-related initiatives, most notably the development of a Sustainable Fisheries Strategy for West Coast Salmon and Trout Populations; the Timber, Fish and Wildlife process in Washington State; and the King County Watershed Resource Inventory Area (WRIA) 8 (Greater Lake Washington Watershed) Conservation Plan.

As Director of the SFF, Mr. Steward provides scientific oversight and represents the interests of the environmental community in salmon recovery planning and watershed assessment and management processes. He sits on the WRIA 8 Steering Committee and the King County Technical Advisory Committee to direct Limiting Factors Analysis and Conservation Plan development for WRIA's 7, 8, and 9.

For his efforts on behalf of salmon conservation, Mr. Steward was named co-recipient of the President's 1997 Conservation Award, presented by the American Fisheries Society.

Appendix A:

Resumés

Dustin Hinson

Fisheries Biologist II/Wetland Ecologist
2002-Present

Dustin R. Hinson is a fisheries biologist and wetland ecologist with an advanced degree in aquatic ecology. He is Steward and Associates' lead wetland ecologist and has completed the Army Corps of Engineers Wetland Delineation and Management Training Program. Mr. Hinson has worked extensively with local governments, tribes, state and federal agencies, non-governmental organizations, and universities in managing a variety of wetland and fisheries projects that include technical field surveys and delineations, assessment of habitat function, design of mitigation and aquatic restoration plans, and analysis of environmental impacts to aquatic species and habitats.

Education

Master of Science, 2003: University of Idaho, Moscow, ID
Degree Emphasis: Environmental Science (Aquatic Ecology)

Bachelor of Science, 1999: University of Idaho, Moscow, ID
Degree Emphasis: Fishery Resources (Management Option)

Continuing Education

Preparing Shoreline Characterizations for SMP Updates, Workshop - 2006
Coastal Training Program, Washington State
Certified Wetland Delineator and Manager, 2003
Richard Chinn Environmental Training, Inc.
Army Corps of Engineers Wetland Delineation and Management Training Program

Professional Background

Idaho Power Company, Boise, ID, *Consulting Fisheries Biologist*, 2002

Prepared a written report regarding the status of an endangered aquatic snail species occurring in the Middle Snake River of southern Idaho. Job duties included using a GIS, personal communication, literature search, data manipulation, statistical analysis, and technical report writing.

University of Idaho, Moscow, ID, *Graduate Research Assistant and Teaching Assistant*, 2002

Characterizing the benthic sediment and associated aquatic communities in the mid-Snake River, Idaho. This work included data processing, supervision of lab technicians, analyses, manuscript and report writing. Teaching assistant for a graduate level aquatic restoration ecology course.

University of Idaho, Moscow, ID, *Graduate Research Assistant*, 2000-2001

Collected benthic sediment, aquatic macrophytes, and aquatic macroinvertebrates to assess various point-source impacts on the mid-Snake River, Idaho. This work included organizing and leading a field crew, operating a prop-powered river vessel, and measuring and recording water quality/community data.

University of Idaho, Moscow, ID, *Fisheries Field and Laboratory Technician*, 1997-2000

Identified aquatic macrophytes and aquatic macroinvertebrates and calculated various diversity indices. Quantified attached benthic algae communities through chlorophyll analysis. Field duties included operation of a Smith-Root electrofishing vessel, netting and identification of fishes, measuring and recording meristics, extraction of stomach contents, trolling for larval fish, gill netting, and radio telemetry. Laboratory duties included extraction of otoliths, and identification of fish stomach contents and benthic macroinvertebrate samples.

Appendix A:

Resumés

Cooke Scientific

4231 NE 110TH STREET
SEATTLE, WA 98125
COOKESS@AOL.COM

PHONE: (206) 695-2267
FAX: (206) 368-5430
WWW.COOKESCIENTIFIC.COM

Sarah Spear Cooke, Ph.D.

Wetlands Ecologist, Soil Scientist, Plant Ecologist and Taxonomist

Expertise

- Wetlands creation, restoration, and enhancement , CAD design and implementation
- Wetlands delineation and delineation methodology instruction
- Invasive weed identification and development of control strategies, control manuals, and field oversight of control efforts
- Regulatory and Permitting Assistance, on local, state and national levels
- Wetland Functional Evaluation, including the "SAM" method and a botanical expert on the development of the State wetland manual
- Masters in Botanical taxonomy, Doctorate in Botany and soils, specializing in wetland plants
- Author *A Field Guide to the Common Wetland Plants of Western Washington & Northwestern Oregon,* published by the Seattle Audubon Society
- Certified soil scientist (hydric soils), soils mapping and classification
- Watershed Analysis
- Rare plant surveys and mapping
- Mine reclamation ecology and uplands restoration

Dr. Cooke has 19 years of experience in wetlands ecological research and environmental consulting, and 20 years of experience in ecological and geological research, in the Pacific Northwest. She specializes in habitat creation, restoration and enhancement projects, both in design and implementation. She excels in permitting assistance on the local, state, and national level. She was a co-senior investigator for the Puget Sound Wetland and Stormwater Management Research Program, a 10-year total wetland ecosystem study conducted under the auspices of the Environmental protection Agency, The US Geological Survey, Washington State, and King County in Washington State. Dr. Cooke's areas of expertise include: wetland and stream inventories, delineation, restoration/mitigation designs, baseline studies, permitting, and monitoring programs; weed identification and control; rare plant surveys and vegetation mapping; soil assessments; watershed analysis; and environmental assessments in the region. She has more experience in developing assessment methodologies than any other private wetlands consultant in the PNW. She has extensive experience in classroom instruction of wetlands ecology, restoration ecology and implementation, delineation protocols, functional assessment, weed identification and control, hydric soils, and wetland plant identification. She has 16 years experience in managing multidisciplinary teams, supervising subcontractors, and generating reports, and marketing from a consulting perspective. She currently teaches restoration ecology and implementation, wetland botany, and weed ecology and control at Portland

State University. She is a former instructor for the Wetland Certification Program at the University of Washington and Wetland Ecology and Science for the graduate program at the Evergreen State College. She is also the senior author/editor of the *A Field Guide to the Common Wetland Plants of Western Washington & Northwestern Oregon.*

Education

Ph.D., University of Washington, Dissertation title: The Edaphic Ecology of Two Northwest American Composite Species. Major: Botany, Geology, and Soils; minor Statistics, Plant Physiology, and Genetics

M.S., Plant Taxonomy, University of Washington, 1987.

Honors Degree, Geobotany, McGill University, 1979.

B.S., Biology and Geology, McGill University, 1979.

Undergraduate studies in Biology and Geology at Purdue University 1974-76.

Experience

- Self-employed, Cooke Scientific. Seattle Washington. Projects include wetland mitigation (restoration, enhancement, and creation), wetland delineations, weed identification and control, wetland inventories, wetland functional assessments, wetland and sensitive areas permitting (federal, state and local jurisdictions), rare plant surveys, vegetation and soil mapping, environmental evaluations, environmental impact statements, watershed analysis, and mine reclamation, third party regulatory review for various small jurisdictions. 2003-present.
- Instructor, Washington State Wetland Rating System in Western Washington. Coastal Training Program, Washington State Department of Ecology, classroom instruction, and field trips. 6-class contract, 2005- 2006.
- Instructor, Weeds of the Pacific Northwest. Portland State University, Portland, Oregon. Syllabus development, classroom instruction, and field trips. Summer 2004.
- President Pacific Northwest Chapter Society of Wetland Scientists. May1999- May 2000. Executive Vice President SWS PNW Chapter 1998-1999.
- Instructor, WNPS Native Plant Stewardship program, King, Snohomish, Pierce Counties, Washington Native Plant Society, Syllabus development, classroom instruction, Fall 1996- present.
- Instructor, Habitat Restoration, Portland State University, Portland, Oregon. Syllabus development, classroom instruction, and field trips. Fall 1998- present.
- Owner, Cooke Scientific Services, Inc. Seattle, Washington. Principal Scientist and President of company. Projects include wetland mitigation (restoration, enhancement, and creation), wetland delineations, wetland inventories, wetland functional assessments, wetland and sensitive areas permitting (federal, state and local jurisdictions), rare plant surveys, vegetation and soil mapping, environmental evaluations, environmental impact statements, watershed analysis, and mine reclamation in upland and wetland areas. 1995-2003.
- Instructor, Wetland Plants of the Pacific Northwest; Winter trees and shrubs; and Grasses, Sedges, and Rushes. Portland State University, Portland, Oregon. Syllabus development, classroom instruction, and field trips. Spring 1998- present.

Appendix A:

Resumés

- Principal Scientist, wetlands group, Pentec Environmental Inc., Edmonds, Washington. Started, marketed, and managed the wetlands group. Projects included wetland mitigations (restorations, enhancements and creations), wetland delineations, wetland inventories, wetland functional assessments, wetland and sensitive areas permitting (federal, state and local jurisdictions), rare plant surveys, vegetation and soil mapping, environmental evaluations, environmental impact statements, watershed analysis, mine reclamation in upland and wetland areas. 1990 – 1995.

Awards

- International fellow. Society of Wetland Scientists. Dr. Cooke was one of three internationally scientists recognized by the SWS for our contributions to Wetland Science. 2003.
- Elected President, Society of Wetland Scientists, Pacific Northwest Chapter. 1999-2000.
- Best Paper Award. International Serpentine Conference, Society of Serpentine Ecology. 1999.
- Sigma Xi, Forestry Society. Elected to be a member of the Washington State Chapter of Sigma Xi, the professional Foresters Society. 1994.

C. Michael Falter, PhD

May, 2006

Limnology & Aquatic Ecology

Professor Emeritus, University of Idaho, Dept. of Fish & Wildlife Resources
736 Homestead Place, Moscow, ID 83843-3241
Voice/Fax 208-882-3676 cmfalter@moscow.com

Aquatic Ecology Specialist in Lakes, Streams, and Reservoirs

- Environmental assessment & controlling factors analysis
- Lake ecology & management
- Organism identification & population monitoring
- Ecological restoration analysis & planning

Dr. Falter specializes in domestic and international activities in aquatic ecology where multi-disciplinary and teamwork approaches, often with engineering and hydrological specialists, are emphasized.

Education:

B.S.	Kansas State University	1964	Fish and Wildlife Biology
M.S.	University of Pittsburgh	1966	Limnology
Ph.D.	University of Idaho	1969	Fisheries and Aquatic Sciences

Professional Experience:

Professor of Limnology and Aquatic Ecology, College of Natural Resources, University of Idaho, Moscow, Idaho, 1969-2002; Emeritus Professor since 2002.
Responsibilities included developing research programs in aquatic resources as well and teaching upper division and graduate courses in the aquatic sciences. Research and teaching was in limnology, aquatic ecology, and management of lakes, streams, and reservoirs.

Career Emphasis Areas:

Lake and reservoir ecology
Stream and river ecology
Aquatic pollution ecology
Assessment of specific aquatic impacts on fish and other aquatic organisms
Biomonitoring
Eutrophication response of lakes, streams, and reservoirs
Water body management planning

Dr. Falter designed and led more than 100 limnological projects on lakes, streams, and reservoirs of the United States, Africa, and Australia from 1969-2006. These projects, conducted for a variety of federal, state, regional, and private entities, detailed aquatic ecology, assessed sediment and nutrient loading, and designed management plans for long-range optimization of water body uses.

At the University of Idaho, Dr. Falter developed and taught undergraduate and graduate courses including Limnology, Aquatic Pollution Ecology, Wildland Field Ecology, International Land Use Planning, Fish Biology, and Aquatic Restoration Ecology. Since leaving the University of Idaho, he has continued these research and management issues on a number of projects for public and private entities.

He has been active in continuing education for federal, state, and industrial resource managers *via* workshops and continuing education courses. He guided 55 Master's and Doctoral students as major advisor and continues with graduate and Web-based teaching since leaving the University.

Appendix A:

Resumés

Michael Maher

Biologist I/GIS Technician
2005-Present
Michael Maher is a GIS analyst and ecologist with extensive experience working with data related to salmon populations and recovery planning. With a background in ecology and conservation biology, Mr. Maher has also developed substantial expertise in statistical analysis, scientific writing, database management, and implementing GIS-based methods of environmental problem solving. Mr. Maher has worked extensively with the Lower Columbia / Upper Willamette Technical Recovery Team and as part of this work, he has compiled, developed and analyzed GIS and ecological data necessary for salmon recovery planning in the Pacific Northwest. Mr. Maher is experienced working with data types including vector data, GRID data, remotes sensing imagery, and other appropriate data layers for identifying conservation priorities.

Education

Bachelor of Science, 2003: University of Washington, Seattle, WA
Degree Emphasis: Biology

Continuing Education

Preparing Shoreline Characterizations for SMP Updates, Workshop - 2006
Coastal Training Program, Washington State

Professional Background

NOAA Fisheries / NWFSC, Seattle, Washington
Research Biologist, 2003-2005

Received a post-educational fellowship to conduct work and research with NOAA Fisheries. Worked to create a GIS database of the historical salmonid populations for the Willamette / Lower Columbia Technical Recovery Team involving the collection, editing and compilation of numerous hydrologic and biologic datasets. Created a map oriented "habitat atlas" for all the watersheds and concurrent ESA listed salmonid populations in the Willamette / Lower Columbia Recovery Domain. The task involved compiling a list of potential data types and sources, assessing data quality, developing consistent approaches and protocols for analysis, contacting key personnel, acquiring data and performing GIS analyses. The final product is a book of maps along with their accompanying text, charts and tables (due to be published by NOAA Fisheries in 2005). Worked on the Lewis River Case Study Project with a team of fisheries biologists to develop a Decision Support System which analyzes a suite of model outputs and restoration scenarios to help watershed managers with difficult recovery planning decisions.

University of Washington, Seattle, Washington
Research Assistant, 2001-2003

Experience in HPV laboratory doing research procedures, gels, dishwashing, autoclaving, database/computer manipulation, slide making/filing. Experience with handling hazardous chemicals and samples.

University of Washington, Seattle, Washington
Botany Teaching Assistant, 2002

Prepared for and managed a laboratory section of Botany 113, summer quarter 2002. Taught plant identification and classification techniques to full class of students. Prepared quizzes, graded tests, collected plant material from Eastern Washington and local sites.

Qualifications for
Environmental Consulting Services for
Sustainable Development Program
Woodinville, Washington

Prepared for
City of Woodinville

May 5, 2006
06-4-1600-036

PENTEC ENVIRONMENTAL
Delivering smarter solutions

PENTEC ENVIRONMENTAL

Delivering smarter solutions

Qualifications for Environmental Consulting Services for Sustainable Development Program Woodinville, Washington

Prepared for
City of Woodinville
17301 133rd Avenue NE
Woodinville, WA 98072

May 5, 2006
06-4-1600-036

Prepared by
Hart Crowser, Inc. - Pentec Environmental

A Division of Hart Crowser, Inc.
120 Third Avenue South, Suite 110
Edmonds, Washington 98020-8411
Fax 425-778-9417
Tel 425-775-4682

QUALIFICATIONS FOR ENVIRONMENTAL CONSULTING SERVICES FOR SUSTAINABLE DEVELOPMENT PROGRAM WOODINVILLE, WASHINGTON

PROJECT UNDERSTANDING

We are pleased to submit our qualifications to assist the City of Woodinville (City) in reviewing critical areas within the City, assessing the impact of development on these areas and providing protective measures to minimize the impact of proposed development. Our project team has reviewed the Request for Qualifications, the Supplemental Findings in Support of Development Moratorium, and Zoning and Critical Areas maps for the City of Woodinville.

We believe that fulfilling the following objectives best accomplish the goals of the project by:

- Cataloging, mapping and detailing critical areas within the limits of the City of Woodinville;
- Applying a priority ranking system based on intrinsic values of the critical areas, with discussion between City planners and our team; and
- Determine potential impacts of various levels of development on the critical areas and suggesting appropriate measures to provide protection to the crucial values of the critical areas

PRELIMINARY SCOPE OF SERVICES

Our proposed scope of work will address each of the bulleted items listed above in much more detail.

Delineation of Critical Areas

We will begin with the City's Identified Critical Areas map and "ground-truth" this map by visiting sites to perform initial data collection in representative locations. We will also complete reconnaissance-level investigations of remaining selected areas within the City limits to determine if other critical areas exist that are not currently shown on the map. These areas will be divided into subcategories, depending on the type of critical areas. For example, wetlands, streams and other critical habitat areas will be separated from geologic landslide and steep slopes to

allow the expertise of our individual staff members to focus on their areas of specialty.

Given that most of Woodinville's critical areas likely have already been mapped and have associated ratings we will compile existing data where possible. We will perform a brief field verification of these areas to gather any new data and confirm the existing ratings. Other locations will be scouted and given an appropriate standardized rating (such as applying the Western Washington Wetland Rating System to wetlands) as well as quantitatively evaluated with our developed criteria matrix.

Criteria Matrix and Critical Areas Ranking

Then we will develop a matrix of critical area criteria, in coordination with the City's planners, that will be used to assess the intrinsic values for each category of Critical Area. This will include, but will not be limited to:

- Present state of development in and adjacent to the critical area;
- Amount of native vegetation in habitat-related critical areas;
- Overall size of critical area;
- Level of complexity of structure and functions of critical area;
- Functions of the critical area within the greater ecosystem; and
- Overall rank of relevant categorization within standardized state and local ranking systems.

A functional assessment will be completed for all wetlands. We will use either the Draft Western Washington Rating System that was recently released for comment or the second edition of this document (1993). Stream function will be assessed based on published watershed management plans, our knowledge of these basins, and site reconnaissance of the areas. We have not included detailed habitat inventories in our scope. Those stream reaches known to provide spawning habitat for federally listed fish species (i.e., Chinook salmon or bull trout) or large and structurally diverse wetlands associated with streams and frequently flooded areas will be assumed to constitute high-functioning systems.

All of this information and other relevant characteristics, as defined by the developed critical area criteria matrix, will be compiled to provide a relative ranking of critical areas.

Obviously, given that the risk of loss or impact to different types of critical areas has different consequences, it will not be completely relevant to compare certain types

of critical areas with other types. The loss of a large wetland complex, for example, will have drastically different consequences from the development of landslide hazard area. So while it will be important to be able to compare the relative impact of development, rank order cannot be determined based only on science, some level of policy decision(s) will likely be required by the City.

Development Impacts and Protective Measures

This list will then serve as a starting point for addressing the impacts of proposed development on each location. We will investigate the impacts of multiple levels of development that will likely include commercial development, high-density residential, low density residential or a no development alternative. Additionally, we will provide recommendations for protection measures for individual critical areas or where applicable regional groups of critical areas.

Our intent is to develop a relatively precise, defensible and repeatable method based on accepted mapping, science, and classification schemes that provide a relative ranking of the critical areas within the city limits of Woodinville. The analysis also will identify the relative sensitivity of the critical areas to disturbance and any level and characteristics of existing disturbance or degradation. Upon discussions with the City we will better be able to determine the ultimate goals of this project and focus our efforts in a more succinct manner.

HART CROWSER, INC. – PENTEC ENVIRONMENTAL QUALIFICATIONS

We are uniquely qualified to perform this analysis as our diverse mix of scientists and engineers have been delineating and working with critical areas for approximately 20 years. We also regularly identify, analyze and determine potential impacts of development with respect to these critical areas.

We work regularly with local municipalities, specifically the City of Bothell and the City of Mukilteo, to provide technical oversight, review of proposed development and delineation of critical areas. However, we also work regularly with developers on similar projects determining potential impacts to critical areas, recommending mitigation and developing impact analysis. This provides us with a dual perspective into the methods and impacts that result from development projects as well as the review methods employed by local municipalities.

Our list of projects shown below demonstrates the large list of municipalities that we work with, as well as our expertise working with all types of local critical areas involved in this project (and others, such as marine habitat and shorelines). We have completed more than fifty projects for the City of Bothell over the past 8

years. Most of these projects have involved third party reviews of critical areas studies prepared for proposed development projects. Given that Woodinville shares a border with Bothell, we feel that we have developed a comprehensive understanding of the critical areas and sensitive environments in the region, particularly streams, wetlands, steep slopes, and Fish and Wildlife Habitat Conservation Areas. We have gained this understanding through the process of completing third party reviews of these projects as well as the completion of a Bothell-wide mitigation opportunities and constraints analysis and a multitude of other critical areas project work in the region for various clients.

Our staff has extensive experience in the following subject areas: hydrogeology, fisheries biology, wildlife biology, wetland biology, tree ecology, Geographic Information Systems (GIS), and engineering geology, environmental, civil and geotechnical engineering. The staff members on our team who fill these rolls are listed below in the Key Staff section of this Statement of Qualifications (SOQ), and their individual specialties are detailed in the Cost Breakdown section of this SOQ. Additionally, we have several existing subconsultant agreements in place with local firms to provide the necessary remaining areas of expertise such as surveying and land use planning.

Bothell Litowitz Test

We have previously authored a report for the City of Bothell that employed a version of the Litowitz test to determine relative rankings of critical areas in the subareas of Bothell. The specific purpose of this project was to facilitate examination of whether the zoning densities below the bright line of four dwelling units per acre (DU/ac) rendered in past Central Puget Sound Growth Management Hearings Board (CPSGMHB) decisions was justified in four subareas of the City of Bothell. This test was developed from the final decision and order in Litowitz et al. v. City of Federal Way (Case No. 96-3-0005). In this case, the CPSGMHB determined that lower than four DU/ac zoning densities can be warranted to better protect critical areas. It is our understanding through discussions with Carl Smith, former Planner for the City, that the City already has a copy of this report and that this Request for Qualifications has some basis on this report and the outcome provided to the City of Bothell.

This Bothell project had a number of similarities with the proposed description of this project. It is our belief that our experience in developing appropriate criteria for use in the Bothell Litowitz test will provide unique and valuable insight into creating a similar methodology for determining appropriate rank of critical areas in Woodinville.

region and for four years as a field engineer for Hart Crowser performing work related to geotechnical and environmental remediation projects.

James E. Starkes, Senior Project Fisheries Biologist. Mr. Starkes has 14 years of experience as a fisheries biologist, evaluating the effects of anthropogenic activities on anadromous fish and their habitats. Since the listing of the Puget Sound chinook salmon and bull trout, Mr. Starkes has been deeply involved with ESA issues including research, ESA program development, and regulatory permitting and compliance. He has managed two bull trout monitoring programs in the Puget Sound basin, one of which was an acoustic tagging study to electronically monitor the movements of anadromous bull trout in tidal freshwater and marine environments. He managed juvenile salmon monitoring programs as part of biological opinions issued by NMFS (now NOAA Fisheries) to determine the migratory timing and potential exposure of juvenile chinook salmon to contaminated sediments. Mr. Starkes is a project manager on the environmental team assisting the City of Tacoma in the environmental cleanup and redevelopment of the City's waterfront along the Thea Foss Waterway of Commencement Bay. He has conducted field investigations collecting fish, sediments, surface water, and benthic community samples in stream, lake, and estuarine systems.

Arthur J. Fleming, P.E., Civil Engineer. Mr. Fleming is a civil engineer with more than 26 years of experience in civil engineering in a wide variety of contexts. He is experienced in the project management and design of civil and mechanical phases of fish hatcheries, fish passage structures, and fish ladders. Mr. Fleming also designs storm drainage systems, pumping systems for dewatering systems, site development projects, municipal water supply projects, and roadway stabilization projects. He has provided hydraulic design of piping and weir systems for small and large dams. Mr. Fleming's restoration experience includes evaluating alternative restoration sites for mitigation projects from a design perspective, and designing created wetlands that enhance wildlife habitat.

Bruce Rummel, Associate Biologist. Mr. Rummel approaches environmental consulting with over 25 years of professional experience. In the field of wetland conservation, Mr. Rummel has sought to balance protection of wetland functions with resource development, according to applicable regulations. He has performed over a score of wetland delineations, verifications, and assessments on projects in transportation, communications, and retail, utility, and recreational development. This work has included meeting with governmental agencies responsible for implementing wetland protection regulations. He has applied the Washington State Wetland Rating System to determine a wetland rating for an area under consideration for development. In separate projects, Bruce has designed a wetland replacement area to mitigate effects of a site development and planted a designed wetland area for process water treatment. He has prepared a technical

memorandum on identification and analysis of issues in wetland restoration in the Duwamish Waterway/Elliott Bay area; this report discussed the types of wetland habitats that could be created, historical habitat types in the estuary, selection criteria for sites, costs, and an assessment of potential sites in the estuary.

Celina Abercrombie, Wetland Ecologist and Restoration Specialist. Since 2000, Ms. Abercrombie has performed research and analysis of fish and marine mammal species and habitat in the Puget Sound region. She has completed studies of biological and ecological natural functions, the influence of human development impacts, policy and regulations related to natural resource use and conservation, and assessment and design of restoration and mitigation solutions. Celina has performed wetland delineations and categorizations, and prepared wetland and buffer mitigation plans, impact analyses, restoration, planting and monitoring plans. Celina has performed environmental and habitat assessments in a range of Northwest ecosystems including: freshwater and saltwater wetlands; streams and rivers; lakes; and marine shorelines. Celina also manages projects for environmental permitting requirements.

Roy E. Jensen, L.H.G., Associate Hydrogeologist. Mr. Jensen is a senior-level hydrogeologist with 27 years of experience. He has managed and directed environmental investigation and remediation projects for numerous properties. These projects have spanned a wide range of contamination issues, involved multiple stakeholders and potentially responsible parties, and included evaluation of cost responsibility. Roy will provide hydrogeologic services, as needed. He has managed geologic and hydrogeologic investigations for a variety of industrial and governmental clients. Responsibilities include planning, developing, directing, conducting, and overseeing technical analysis for dewatering and for groundwater and surface water investigations. He has expertise in groundwater monitoring, tidal influence studies, groundwater and contaminant transport modeling, and borehole geophysics. Roy is familiar with a wide range of Washington State and federal regulations such as MTCA, CERCLA, RCRA, and many other through his work on environmental assessment and remediation projects. His dewatering experience has given him a solid understanding of NPDES and local municipal water treatment and disposal regulations.

Chris Gardner, GIS Specialist. Chris has 6 years of experience in geology and GIS systems. His expertise includes collection and plotting of GPS data for production purposes, from report figures to large-scale maps. His experience with GIS-related tasks includes digitizing, layer/theme creation, layer/theme re-projection, layer/theme editing, data sourcing, data conversion and compilation; and map design, annotation, and production.

PREVIOUS EXAMPLES OF RELEVANT EXPERIENCE

City of Bothell, Litowitz Test, Bothell, Washington. We worked in cooperation with the City of Bothell to perform a quantitative ranking of critical areas in multiple chosen subareas of the City of Bothell. The Litowitz Test is the name given to a part of a relatively recent CPSGMHB decision in Litowitz et al. v. City of Federal Way (Case No. 96-3-0005). In final decision and order of that case, the CPSGMHB established the Litowitz Test for determining when it may be reasonable to adopt a zoning density of less than four DU/ac to better protect the functions and values of environmentally sensitive or critical areas as required by the Growth Management Act (GMA). Pentec worked together with the City's planners to develop a matrix of criteria to apply this test to critical areas within the portions of the subareas being considered. The purpose of this project was to develop an accurate, repeatable, and defensible method for evaluating whether additional protection provided by lower zoning densities was warranted to protect sensitive areas meeting the Litowitz Test criteria. The method was intended to produce objective information to assist the City's Department of Community Development and Planning Commission in their GMA-required code and comprehensive plan updates.

City of Bothell, Bothell Wetland and Stream Mitigation Opportunities and Constraints Analysis, Bothell, Washington. We prepared a wetland and stream mitigation opportunities and constraints analysis for properties owned by the City of Bothell. The focus of this study was to evaluate whether the City of Bothell has sufficient available area and opportunities to mitigate potential impacts of planned transportation projects and to determine if there may be opportunities to allow portions of Bothell lands to be used by developers for mitigating their project-related impacts. This analysis also evaluated potential future mitigation needs from proposed municipal transportation projects and development. To perform this analysis we reviewed applicable City of Bothell planning documents, created a matrix, with input from the City of Bothell staff, for evaluating potential mitigation sites and applied the matrix to applicable sites within the project area. This resulted in recommendations for wetland and stream mitigation locations within four local drainage basins and potential difficulties associated with each location.

Snohomish County, Update of Critical Areas Ordinance, Snohomish County, Washington. We worked in cooperation with Snohomish County Planning and Development Services and Perkins Cole to update the County's Critical Areas Ordinance (CAO). Our biologists and geotechnical engineers were responsible for preparation of technical reports identifying the best available science (BAS) for the protection of sensitive areas, including streams, wetlands, and geologically sensitive areas to ensure that the CAO update revisions comply with the BAS mandate of the Growth Management Act. Staff scientists and engineers collaborated with County staff to develop a range of alternatives to be considered as part of the SEPA process

and generation of the final scientific rationale for the recommended alternative and development of the BAS consistency for each component of the revised CAO.

Snohomish County, Implementation of Growth Management Act, Snohomish County, Washington. We directed this interdisciplinary critical areas evaluation for the western portion of Snohomish County and 21 participating cities. The purpose of the study was to assist the County and cities with Growth Management Act implementation by developing a classification system for critical areas including fish and wildlife conservation areas, geologically sensitive areas, and wetlands; producing maps for each critical area; developing and writing draft ordinances for each critical area; and participating in citizen involvement meetings. The classification systems gave local jurisdictions a mechanism for determining the type, class, or category and quality of each critical area resource. Information provided to the County and cities was considered and incorporated into the planning process and protection ordinances, policies, and guidelines for three critical areas as required under the Growth Management Act.

Confidential Client, Chinook Salmon Critical Habitat Assessment, Idaho. We conducted field surveys to determine if habitat conditions in a small tributary to the Salmon River in south-central Idaho justified designation of these reaches as critical habitat for endangered Chinook salmon. We performed a detailed habitat inventory of the creek in question to characterize the type of habitat (e.g., pools, riffles) and current habitat conditions (e.g., substrate composition, pool frequency, structure). The habitat inventory was stratified by geomorphic channel type to identify the range of variability that exists in the creek. Habitat conditions in each channel type were compared to documented habitat requirements for Chinook salmon to determine adequacy for designation as critical habitat. Current habitat conditions were also compared with habitat conditions in a neighboring stream of similar geomorphic type that has not experienced the mining-related disturbance of the study stream. The location and extent of Chinook habitat in the undisturbed drainage were used as a guide to estimate the location and extent of Chinook habitat that may have existed in the study creek prior to placer mining.

City of Mukilteo, Use of Best Available Science in City of Mukilteo Buffer Regulations, Mukilteo, Washington. We assisted the City of Mukilteo in updating their critical areas ordinances to comply with the GMA that requires municipalities to include BAS in their CAO to protect the functions of critical areas. Our report to the City of Mukilteo identified existing mechanisms for protection of streams and wetlands; provided an overview of existing CAO provisions for protecting streams and wetlands; identified existing streams, wetlands and buffers and the associated functions; and presented an analysis of the effectiveness of existing stream and wetland buffers for protecting steam and wetland functions compared to larger stream and wetland buffers.

City of Everett and Port of Everett, Water Resources Inventory Area (WRIA) 7, 8 and 9 Technical Committee Experience, multiple locations, Washington. Since 1999, Pentec has served as the City of Everett and Port of Everett technical representative on WRIA 7 Fish Technical Committee, a body of fishery biologists, aquatic scientists, and planners engaged in development of a conservation plan for salmonids in that basin. In WRIA 7, we have completed several writing tasks that aided in the preparation of a multi-agency conservation plan for salmonids in the watershed. Also, from 1998 through 2001, we represented the Port of Seattle on the Green/Duwamish watershed (WRIA 9) Fish Technical Committee and the Planning Work Group, again providing key written analyses that have been incorporated into WRIA salmon recovery documents. Finally, in 2001 we assisted the WRIA Technical Committee with habitat mapping and modeling as input to the IDT salmon population response analysis.

PROFESSIONAL REFERENCES

Mr. Graham Anderson, Senior Planner
Port of Everett
2911 Bond Street
Everett, WA 98201
(425) 388-0703
Fax (425) 388-0702
grahama@portofeverett.com

Ms. Heather McCartney, Planning Director
4480 Chennault Beach Road
Mukilteo, WA 98275
(425) 355-4141 Ext. 226
Fax (425) 347-4544
hmccartney@ci.mukilteo.wa.us

Mr. Jeff Smith, Senior Planner
City of Bothell
9654 NE 182nd Street
Bothell, WA 98011
(425) 486-8152 Ext. 4439
Fax (425) 486-2489
jeff.smith@ci.bothell.wa.us

WAYNE C. ADAMS, E.G.

Principal – Regional Office Manager

EDUCATION

M.S., Geography and Environmental Engineering, Johns Hopkins University, 1996

REGISTRATIONS

Symposium on Watershed Assessment in Washington State, NMFS, Seattle, Washington 1997

AFFILIATIONS

American Geophysical Union, Hydrology Section

Mr. Adams has gained extensive technical experience in geotechnical engineering design and construction observation. He has completed a wide range of projects from studies such as environmental impact statements, to sub-surface investigations through engineering design and construction observation. He has applied these skills successfully in several specific areas including but not limited to; landslide remediation, expert witness testimony, third party review, quantitative analyses of landslides, shallow building foundations, pile supported foundations, reinforced earth retaining walls, earth dam embankments, infiltration/detention ponds, waste disposal containment structures, mine closures, road/slope grading and drainage plans. He has been the primary design engineer - team leader for plans and specifications created for bid, cost estimates, submittal reviews and construction observation. He has successfully completed project management and principal-in-charge duties on numerous engineering, geology and construction projects.

REPRESENTATIVE PROJECT EXPERIENCE

Washington State Department of Natural Resources, Slope Hazard Assessment System for Washington's Forested Land, WA. Principal researcher to develop guidelines for evaluation of mass movement on forested land in Washington State. Work on this project was guided by the Sediment, Hydrology and Mass Wasting Steering Committee (SHAMW) to provide methods to identify and rate potential site-specific slope stability problems associated with proposed or existing forest roads.

Washington State Department of Transportation, I-90 Snoqualmie Pass East EIS, Hyak, WA. Project manager and technical lead for Final Geology and Soils Discipline Report to complete Environmental Impact Statement. Alternatives included tunnels and improved safety conditions along 15-mile corridor of high hazard areas. Worked directly with Transportation Department personnel to address local concerns and design constraints.

Chief Seattle Council of the Boy Scouts of America, Pulali Point, WA. Project Manager and lead investigator of engineering geology for hazard assessment of steep slopes to support Timber Harvest Plan. Site covers approximately 80-acre parcel of mixed timber infected with root rot. Project work required close coordination with Washington Department of Natural Resources hydrogeologist. Included evaluation of opposing professional opinions and developing defensible arguments for permit application addressing Class IV Special designation.

Washington State Department of Transportation I-90 Snoqualmie East Improvement Project Draft EIS. Project Engineer for the Geology and Soils

Discipline Report section of the EIS in 2002. The project involved widening and safety improvements for a 15-mile section of the I-90 from Hyak to Easton, Washington. Wayne was responsible for writing the draft EIS describing for engineering geology and soil hazards. He reviewed the site conditions and project documents that had been developed in support of the EIS, and reviewed hazard mapping, and rock quarry development. He evaluated three alternative alignments and the impact of those alternatives on existing conditions and hazards. He also evaluated potential impacts to aquifer systems and high avalanche hazard areas. Two of the alternatives involved tunneling; one included elevated sections over Lake Keechelus.

Gifford Pinchot National Forest, Vancouver, WA. Supervised geological engineers in surface and subsurface investigations. Completed engineering analyses and recommendations in preliminary forest road locations, construction, and reconstruction. Directed three field teams to complete geotechnical hazards mapping. Oversaw and completed landslide site investigations for road construction and bridge foundations. Participated in a rock bolt installation study for logging tower anchors, and joint set mapping and stress testing to confirm installation methods to support "tower" logging operations.

City of Bothell, Bridlewood Project, Bothell, WA. Project Manager for engineering geology third party review of steep slopes and landslide issues at proposed development.

City of Bothell, Wayne Golf Course Project, Bothell, WA. Review Team leader third party review of steep slopes, groundwater and landslide issues at proposed two phase development in ancient landslide area.

Eaglemont Golf Club, Culvert Removal Project, Mount Vernon, WA. Project manager for site investigation and soil engineering review of 900 feet high valley fill over arched culvert. Removal of fill and culvert required for salmon habitat restoration. Challenges included developing recommendations for removal of deleterious fill.

JONATHAN P. HOUGHTON, PH.D.

Senior Principal Marine/Fisheries Biologist

EDUCATION

Ph.D., Intertidal Ecology, College of Fisheries, University of Washington, 1973. Dissertation: Intertidal ecology of Kiket Island, Washington, with emphasis on age and growth of *Protothaca staminea* and *Saxidomus giganteus* (Lamellibranchia: Veneridae)

A.B. *cum laude*, Biology, Harvard University, 1964

REGISTRATIONS

Ecological Risk Assessment Short Course - Society of Environmental Chemistry and Toxicology, 1994

AFFILIATIONS

Washington Public Ports Association

Society of Environmental Toxicology and Chemistry

American Institute of Fisheries Research Biologists, (former chapter vice-director)

Western Society of Naturalists

Society for Ecological Restoration

Pacific Estuarine Research Society

Dr. Houghton is a senior biologist with more than 33 years of consulting experience in the Pacific Northwest, the Rocky Mountains, and Alaska. This experience has met a wide range of client needs, including baseline studies, environmental impact assessment, natural resources injury assessment, ecological risk assessment, and mitigation and remediation planning. He is equally comfortable working in freshwater, marine, or estuarine environments. Dr. Houghton is very familiar with NEPA and SEPA regulations, and the ESA and its implications for project permitting and operation. He has prepared numerous biological assessments to assist federal agencies in meeting the requirements of Section 7 of the ESA and has conducted a detailed review of a biological opinion prepared by NMFS (now NOAA Fisheries). In addition to an excellent working knowledge of freshwater and estuarine habitat requirements of anadromous salmonids, Dr. Houghton has strong professional relationships with scientists working on ESA issues within NOAA Fisheries and USFWS in Washington and Oregon.

REPRESENTATIVE PROJECT EXPERIENCE

City of Edmonds, Marine Outfall Repair, Baseline Surveys, Edmonds, WA. Directed surveys of eelgrass along the route of the City of Edmonds' existing and proposed marine sewage outfall. Negotiated a mitigation and monitoring plan to replace eelgrass that would be disturbed by rebuilding the line. Directed eelgrass transplanting to supplement natural recolonization of the work area by eelgrass.

City of Tukwila, Application of Best Available Science to Riparian Conditions, Tukwila, WA. Analyzed the City of Tukwila's buffer requirements in shoreline areas including the Green and Duwamish Rivers. Evaluated whether the City's current or proposed buffer requirements are consistent with best available science (BAS) and, where not consistent, described potential modification necessary to meet BAS requirements. Provided any justifications for not meeting BAS.

City of Everett, Shoreline Buffer Evaluation, Everett, WA. Analyzed the City of Everett's buffer requirements in shoreline areas including Port Gardner Bay (nearshore) and the Snohomish River estuary. Evaluated whether the City's current or proposed buffer requirements are consistent with best available science (BAS) and, where not consistent, described potential modifications necessary to meet BAS requirements. Provided any necessary justifications for not meeting BAS.

Port of Edmonds, Master Plan, Endangered Species Act (ESA) Response Planning, Edmonds, WA. Provided environmental perspective on team preparing a revised

master plan for the Port. Participated in planning sessions evaluating alternative port facilities, locations, and priorities. Developed analysis of environmental implications of alternatives in light of the existing environmental constraints and the recent listings of Puget Sound salmonids as threatened under ESA.

City of Everett, Snohomish Estuary Wetland Integration Plan (SEWIP) Salmon Overlay, Everett, WA. Directed revisions to the SEWIP to reflect the recent listings of anadromous fish under the Endangered Species Act and the need for a regional restoration plan. Activities included facilitating an interagency technical committee preparing a model to describe listed-salmonid habitat functions in the Snohomish Estuary. Conducted field surveys to score 132 assessment units throughout the estuary using the model. Prepared a management plan that defines the use of the model and the field data in compensatory mitigation actions within the estuary and in development of a restoration plan for the estuary.

City of Bellevue, North Fork Snoqualmie Water Supply Project, King County, WA. Directed studies of effects of a proposed water supply/hydropower project on fish habitat in the reservoir and downstream areas. Studies included application of instream flow incremental methodology (IFIM) to assess effects of flow changes on resident and anadromous salmonids, as well as assessment of mitigation/enhancement options for small tributary streams.

Mobrand Biometrics, Lake Washington (WRIA 8) Salmon Recovery Planning, King County, WA. Participating on a team of fisheries experts on the Lake Washington drainage in modeling fish habitat responses in the river, lakes, ship canal, and adjacent nearshore areas. Used previously developed habitat model to characterize function of estuary and nearshore habitats.

Port of Edmonds, Willow Creek Outlet Channel Improvement Assessment, Edmonds, WA. Directed an evaluation of the potential benefits of daylighting the outlet of an intertidal marsh and the potential for establishment of self-sustaining salmon runs in marsh tributary streams.

Port of Everett, Union Slough Intertidal Wetland Restoration and Mitigation Bank, Lower Snohomish Estuary, WA. Managed permitting activities for the restoration of a ± 32-acre agricultural site to a tidally influenced brackish marsh. Conducted detailed studies of seasonal use of adjacent habitats by juvenile salmonids, and used results to develop detailed site-restoration plans. Currently negotiating with agencies to develop a memorandum of understanding that will allow the Port to use the restored saltmarsh/mudflat complex as a mitigation bank. The project received the 2001 Environmental Improvement Award from the American Association of Port Authorities in the Mitigation category.

Port of Grays Harbor, Environmental Assessment of Newskah Creek for Proposed Channel Realignment, Grays Harbor, WA. Performed SEPA environmental assessment of Newskah Creek and adjacent upland areas in conjunction with the proposed development of a regional airport. Conducted surveys of wetlands and terrestrial vegetation, aquatic invertebrates, and water quality. Developed mitigation plans for the loss of existing habitat.

DEREK R. ORMEROD, P.E.

Water Resources Engineer/Wetlands Hydrologist

EDUCATION

M.S., Environmental Fluid Mechanics and Hydrology, Stanford University, 2004

B.S., Environmental Engineering, Brown University, 1993

REGISTRATION

Professional Engineer, Water Resources Engineering (Civil)

Derek has participated in a wide variety of project activities, including wetland and buffer installation and oversight, wetland and critical area delineation, critical areas project review, hydrologic projects, stream habitat surveys, surface water computer modeling, stormwater and water quality monitoring, marine fisheries investigations, marine and freshwater habitat evaluations and mapping, eelgrass transplanting, GIS, GPS, site supervision, and construction monitoring. Previously Derek worked as a contract employee for several environmental engineering firms in the Puget Sound region and for four years as a field engineer for Hart Crowser performing work related to geotechnical and environmental remediation projects.

REPRESENTATIVE PROJECT EXPERIENCE

Swanson Wetland Mitigation and Stormwater Management, Paine Field, Mukilteo, WA. Supervised installation of a 13-acre, 11,000-plant wetland mitigation with multiple subcontractors. Managed on-site stormwater to comply with specific hydrologic conditions.

Multiple Wetland Delineations, Various sites, WA. Performed wetland and critical areas field delineations and generated reports for a variety of residential and commercial development projects ranging from 1 to 20 acres.

Geodecke South Wetland Mitigation, Auburn, WA. Performed regulatory support for a wetland delineation and conceptual mitigation report of a Public Works upgrade project impacting wetlands adjacent to the West Valley Highway.

Bothell Amphitheater Wetland Mitigation Project, Bothell, WA. Performed annual monitoring of constructed wetland mitigation project. Evaluated habitat enhancement performance standards and wetland and riparian hydrology and vegetation performance and created monitoring report.

Hydrologic Computer Modeling, Centralia, WA. Performed hydrologic modeling of a creek impoundment associated with expansion of a mine. This included two separate watershed and creek systems, with multiple iterations to determine applicable regulatory requirements.

Wetland Rating System, Mukilteo, WA. Performed field analysis of updated State of Washington Wetland Rating System to all of the wetlands within the City limits of Mukilteo, WA.

Discharge Monitoring, Port of Seattle Wetland Mitigation Project, Auburn, WA.

Performed monitoring of discharge into the Green River from groundwater dewatering activities for wetland mitigation project. Worked with regulators and administrators to determine appropriate sampling methods and standards, as well as performing and analyzing samples.

Sunrise Development Wetland 41, Pierce County, WA. Performed hydrologic analysis of wetland prior to development of surrounding area. Met with regulators to discuss the impacts from construction regarding the hydrologic regime of the wetland and adjacent critical areas.

Port of Everett Marina Water Quality Study, Everett, WA. Performed water quality monitoring and analyzed resultant data to determine water quality and resultant trends within the 12th Street Marina.

Sea-Tac International Airport Groundwater Mapping, SeaTac, WA. Coordinated and performed extensive explorations for the Port of Seattle's Third Runway expansion and related projects. The focus was subsurface mapping of groundwater and soil units, using 150 borings (30 in wetlands monitored by USACE), 150 test pits, 100 monitoring well installations, water infiltration testing, and groundwater slug rod testing.

Wetland Buffer Enhancement, Washington Mutual Development Center, SeaTac , WA. Performed installation of a critical areas buffer enhancement, including the installation of 100: 30-foot Cedar trees, invasive vegetation removal and installation of an irrigation system.

Lebanon Area Wide Groundwater Study, Lebanon, OR. Boring and installation of approximately 30 groundwater monitoring wells in several different water units, including discrete soil sampling and groundwater analysis.

Sewer Outfall Replacement, Bellingham, WA. Analyzed multiple alternatives to determine most cost-effective solution for replacing an on and offshore sewer outfall from the Post Point Wastewater Facility. Used AutoCAD to map alternatives.

Proposed Buckhorn Mine SEIS, Okanagan County, WA. Used computer modeling to determine amount of sedimentary erosion generated by multiple storm design events for a proposed mine site and prepared summary report for the United States Forest Service Supplemental EIS.

TransAlta Centralia Mining Corporation, Centralia, WA. Performed hydrologic modeling of a creek impoundment associated with expansion of a mine. This included two separate watershed and creek systems, with multiple iterations to determine applicable regulatory requirements.

Former Unocal Bulk Facility, Edmonds WA. Supervised upland and wetland removal of petroleum and heavy metals contaminated soils. Performed oversight and documentation of construction personnel and soil verification sampling. Performed quarterly groundwater monitoring and sampling.

Knik Arm Beach Seining, Anchorage, AK. Participated in fieldwork for marine fisheries impact assessments of proposed development in the Knik Arm of Cook Inlet. In addition, performed data analysis with large data set to determine relevant trends for report generation.

JAMES E. STARKES, B.S.
Fisheries Biologist

EDUCATION

B.S., Fisheries, University of Washington, 1983

AFFILIATIONS

American Fisheries Society

Mr. Starkes has 14 years of experience as a fisheries biologist, evaluating the effects of anthropogenic activities on anadromous fish and their habitats. Since the listing of the Puget Sound chinook salmon and bull trout, Mr. Starkes has been deeply involved with ESA issues including research, ESA program development, and regulatory permitting and compliance. He has managed two bull trout monitoring programs in the Puget Sound basin, one of which was an acoustic tagging study to electronically monitor the movements of anadromous bull trout in tidal freshwater and marine environments. He managed juvenile salmon monitoring programs as part of biological opinions issued by NMFS (now NOAA Fisheries) to determine the migratory timing and potential exposure of juvenile chinook salmon to contaminated sediments. Mr. Starkes is a project manager on the environmental team assisting the City of Tacoma in the environmental cleanup and redevelopment of the City's waterfront along the Thea Foss Waterway of Commencement Bay. He has conducted field investigations collecting fish, sediments, surface water, and benthic community samples in stream, lake, and estuarine systems.

REPRESENTATIVE PROJECT EXPERIENCE

Washington State Department of Ecology, Nearshore Impact Assessment of the Maury Island Gravel Mine, Puget Sound, WA. Managed the preparation of a nearshore impact assessment of the Maury Island Gravel Mine. Conducted an assessment of the potential impacts of a proposed mining operation to critical nearshore marine resources and habitats. Analyzed potential impacts, including noise, turbidity, habitat loss, chemical contaminants, prop wash, light shading, sand and gravel spills, and longshore sediment transport. Directed assessment to the newly listed Puget Sound chinook salmon and several candidate species including Pacific herring, walleye pollock, Pacific hade, Pacific cod, and copper, brown, and quillback rockfish.

City of Kent, Rock Creek Watershed Studies, Kent, WA. Conducted salmonid spawning survey in Rock Creek, a tributary of the Cedar River. Enumerated spawning sockeye and coho salmon, and steelhead trout, in five reaches of the stream. Conducted carcass surveys to determine carcass retention within the stream.

King County Department of Natural Resources, State of the Nearshore (SON) Report, Water Resource Inventory Areas (WRIAs) 8 and 9, Puget Sound, WA. Managed and co-authored the SON report with Battelle Pacific Northwest National Laboratory. Conducted a comprehensive assessment and review of the nearshore literature of central Puget Sound, Washington. Provided a current, fundamental understanding of major ecological conditions, habitat, processes, and resources that

occur in the nearshore zone of WRIAs 8 and 9 within central Puget Sound. Developed a comprehensive summary of the nearshore ecosystem in WRIAs 8 and 9 that serves as a foundation for future work and decision making.

Water Resource Inventory Area (WRIA) 9 Scientific Technical Committee, King County, WA. As a member of this planning group responsible, under the ESA, for implementing salmonid recovery programs in the Green/Duwamish basin, identified, evaluated, and prioritized restoration strategies and scientific research. Scoped studies addressing habitat decline and baseline data needs. Identified and prioritized crucial data gaps that exist within the basin.

City of Bothell, Schnitzer Business Park Development Third Party Review of Biological Evaluations (BE), Bothell, WA. Project manager conducting third party reviews of two BEs for the City of Bothell, Department of Community Development. Provided expertise and permitting experience to the City in evaluating BEs produced by other contractors on building development projects adjacent to North Creek, a chinook salmon bearing stream within the City. Evaluated the effects and take analyses in the BEs, prepared recommendations on conservation measures, and reported all findings to the City.

City of Tacoma, Public Works Department, Biological Evaluations (BEs), Tacoma, WA. Managed and prepared eight separate BEs as required under Section 7c of the ESA. Evaluated the potential impacts of several large-scale development projects proposed in the Thea Foss Waterway and Ruston Way shore of Commencement Bay, Washington. These BEs evaluated the potential for the proposed projects to affect Puget Sound chinook salmon, bull trout, and bald eagles-all listed as threatened under the ESA. BEs also evaluated the potential impacts of pile driving, construction disturbances, runoff, and overwater structures.

Washington State Department of Natural Resources, Ecological Risk Assessment (ERA) of the Cherry Point Herring Stock, Puget Sound, WA. Conducted a screening ERA of the Cherry Point herring stock, a candidate species for listing under ESA. Applied risk assessment methodologies to evaluate the impact of natural and anthopogenic stressors on the Cherry Point herring stock from a proposed pier extension project. Analyzed local and regional temperature regimes, the lack of vegetation and spawning substrate, food supply, disease, predation, fishing, light shading, wave shading, vessel traffic, ship ballast, and contaminants.

ARTHUR J. FLEMING, B.S., P.E.

Civil Engineer

EDUCATION

B.S., cum laude, Civil Engineering, West Virginia University, 1977

REGISTRATIONS

Registered Professional Engineer, State of Washington, 20309

Registered Professional Engineer, State of Alaska, CE6697

Registered Professional Engineer, Territory of Guam, 748

AFFILIATIONS

Tau Beta Pi

Chi Epsilon

American Society of Civil Engineers

Mr. Fleming is a civil engineer with more than 26 years of experience in civil engineering in a wide variety of contexts. He is experienced in the project management and design of civil and mechanical phases of fish hatcheries, fish passage structures, and fish ladders. Mr. Fleming also designs storm drainage systems, pumping systems for dewatering systems, site development projects, municipal water supply projects, and roadway stabilization projects. He has provided hydraulic design of piping and weir systems for small and large dams. Mr. Fleming's restoration experience includes evaluating alternative restoration sites for mitigation projects from a design perspective, and designing created wetlands that enhance wildlife habitat.

REPRESENTATIVE PROJECT EXPERIENCE

City of Everett, Wastewater Treatment Plant Expansion, Everett, WA. Project Engineer for design of all civil/site work and outside piping for the City of Everett's wastewater treatment plant. Project included design of two major river crossings, a 36-inch water pipeline, and a 60-inch combined sewer outfall pipeline, plus two 48-inch plant outfalls.

City of Goldendale, Pumping Station, Goldendale, WA. Project Engineer responsible for the design of a 6-MGD pumping station, a 16-inch forcemain, and an 18-inch effluent pipeline for wastewater treatment facilities. Performed a hydraulic transient analysis on the forcemain, and verified results by instrumenting the forcemain during start-up testing.

City of Bremerton, Bremerton Overwater Park Mitigation Project, Bremerton, WA. Project Engineer responsible for verifying sunlight-shadow calculations for Overwater Park, and evaluating alternative mitigation beach restoration sites. Evaluated several off-site mitigation options which consisted of improving other nearby existing beach habitat areas.

City of Everett, Snohomish River Bicycle Path, Everett, WA. Project Engineer for the design of a 2-mile paved bike path along the Snohomish River and Union Slough. The path was constructed along an existing dike which required extensive repairs in some areas, primarily replacing unsuitable soils with imported fill. The path also included several pull-out areas to facilitate construction and to provide space for future amenities. The bicycle path was built as part of the City of Everett's wastewater treatment plant expansion project.

City of Seattle, Booster Pump Station Expansion, Seattle, WA. Project Engineer

during construction of the Water Department's expansion of the First Hill Booster Pump Station and construction of a new Broadway Booster Pump Station. Each station had a capacity of approximately 11 MGD.

City of Bellingham, Intake Pipeline, Bellingham, WA. Project Manager for a detailed investigation of the City's municipal water supply pipeline in Lake Whatcom. Participated on a team of divers to observe the exterior and interior of the pipeline, and collected samples of the various support components. Upon completion of the investigation phase, a design package was prepared to retrofit several components.

City of Blaine, Primary Water Supply Well Pump Replacement, Blaine, WA. Designed and specified a replacement well pump for one of the City's primary water supply wells. Also designed a pump for a new well.

City of Issaquah, Well Pump Design, Issaquah, WA. Designed and specified a well pump for the City's new Well #6. The system was designed to be expanded from the current City water right of 800 gpm to 1,300 gpm (the well's capacity) in the future when a new water right is obtained.

City of Yakima, Irrigation Master Plan, Yakima, WA. Project Manager for the detailed investigation (Phase 1) of the City's municipal irrigation system; prepared a Master Plan (Phase 2) for the City's 60-year-old irrigation system. The investigation phase was accomplished by digging test pits and cutting out small sections of the pipeline. A video camera was used to view more than 400 feet of the pipe interior at each test pit. An ultrasonic thickness gage was used to measure pipe thickness, and coupons were sampled for corrosion. During Phase 2, hydraulic models were developed to investigate pipeline modifications, such as sliplining, and costs were developed to determine the most cost-effective method of rehabilitating the system.

City of Portland, Aquifer Storage and Recovery Well, Portland, OR. Performed a detailed study of technologies available for sealing electrical connections to pressurized wells.

BRUCE W. RUMMEL
Associate Biologist

EDUCATION

Fish 507: Special Topics in Wetlands; College of Fisheries, University of Washington, Summer Quarter 1990

M.S., Oceanography, Department of Oceanography, University of Washington, 1976

B.S., Life Sciences, Department of Biology, Massachusetts Institute of Technology, 1971

In the field of wetland conservation, Mr Rummel has sought to balance protection of wetland functions with resource development, according to applicable regulations. He has performed over a score of wetland delineations, verifications, and assessments on projects in transportation, communications, and retail, utility, and recreational development. This work has included meeting with governmental agencies responsible for implementing wetland protection regulations. He has applied the Washington State Wetland Rating System to determine a wetland rating for an area under consideration for development. In separate projects, Bruce has designed a wetland replacement area to mitigate effects of a site development and planted a designed wetland area for process water treatment. He has prepared a technical memorandum on identification and analysis of issues in wetland restoration in the Duwamish Waterway/Elliott Bay area; this report discussed the types of wetland habitats that could be created, historical habitat types in the estuary, selection criteria for sites, costs, and an assessment of potential sites in the estuary.

REPRESENTATIVE PROJECT EXPERIENCE

City of Bothell, ME@Canyon Park LLC, Bothell, WA. Performed review for City of Bothell to mitigate wetland impacts of commercial development. Assessed wetland functional values. Visited site and reviewed planting plans to assure compliance with municipal code. Recommended actions for City to take to assure success of mitigation plan.

City of Bothell, West Ridge Bothell Gateway, Bothell, WA. Performed review for City of Bothell to mitigate wetland impacts of commercial development. Reviewed wetland delineation, functional assessment, and application of municipal code to compensatory mitigation. Provided conclusions to City on compliance of project and factors that could require adjustment in mitigation plan.

Rick Bussey, Bussey Property, Bellevue, WA. Performed wetland reconnaissance on 1.7-acre parcel to determine wetland status according to Washington State Department of Ecology wetland identification and delineation methods. Prepared letter report on finding of nonwetland status.

Scott Foss, Foss Property, Renton, WA. Performed wetland delineation on 10.7-acre parcel according to Washington State Department of Ecology wetland identification and delineation methods. Assessed wetland functional values. Prepared letter report documenting wetlands and showing buffer areas.

Fort McMurray, Alberta, Canada. Researched planting techniques and planted cattails (Typha sp.) in created wetland used to treat wastewater from oil sands

processing operation.

King and Snohomish Counties, WA. Performed wetland assessments, delineations, and verifications on 10 sites in King and Snohomish Counties. Projects included wetland assessment, delineation, and verification by federal three-parameter method (soil, hydrology, plant cover) and determining wetland rating according to methods established by Washington Department of Ecology.

Habitat Restoration, Seattle, WA. Prepared technical memorandum on identification and analysis of issues in wetland restoration in the Duwamish Estuary. Memorandum discussed types of wetland habitats that could be created; historical habitat types in the estuary; selection criteria for sites; costs; and an assessment of potential sites in the estuary.

Old Colony Railroad Project, Boston, Massachusetts. Delineated wetlands for commuter railroad project, including 10 station sites and portions of right of way. Met with and described program to local groups responsible for wetland protection (conservation commissions).

Stamski and McNary, Inc., Acton, Massachusetts. Delineated wetlands, designed wetland replacement areas, prepared permit applications for residential subdivisions and site developments. Developed outline of environmental protection procedures for site development. Met with and described development plans to local groups responsible for wetland protection (conservation commissions.

Kupper Associates, Piscataway, NJ. Performed drainage analysis using United States Department of Agriculture Soil Conservation Service Technical Release 55 TR55) methods and Hydro/Plus applications software for residential subdivision and commercial developments. Wrote drainage reports. Prepared environmental impact statements (EIS) for residential subdivisions and commercial developments.

CELINA ABERCROMBIE

Wetland Ecologist and Restoration Specialist

EDUCATION

M.S., Environmental Studies, The Evergreen State College, Currently Pursuing

Wetland Delineation Training & Field Practicum (Wetland Training Institute)

Advanced Biological Evaluation (BE) Training (Washington State Department of Transportation)

B.A., English, University of Washington, 2000

Since 2000, Ms. Abercrombie has performed research and analysis of fish and marine mammal species and habitat in the Puget Sound region. She has completed studies of biological and ecological natural functions, the influence of human development impacts, policy and regulations related to natural resource use and conservation, and assessment and design of restoration and mitigation solutions. Celina has performed wetland delineations and categorizations, and prepared wetland and buffer mitigation plans, impact analyses, restoration, planting and monitoring plans. Celina has performed environmental and habitat assessments in a range of Northwest ecosystems including: freshwater and saltwater wetlands; streams and rivers; lakes; and marine shorelines. Celina also manages projects for environmental permitting requirements.

REPRESENTATIVE PROJECT EXPERIENCE

Buckman Wetland Delineation, Mason County, WA. Performed wetland delineation and categorization for lacustrine-fringe wetland associated with Star Lake. Prepared impact analysis and restoration plan for proposed single-family residence.

Brown Wetland Delineation, Mason County, WA. Performed wetland delineation and categorization for forested slope wetland. Prepared impact analysis and restoration plan for proposed garage.

Kukuk Habitat Management Plan, Mason County, WA. Developed Habitat Management Plan, Impact Analysis and Restoration Plan to address unpermitted activities within the Fish and Wildlife Conservation Area buffer of a Type 1 stream. Site assessment and mitigation for proposed development.

Norris Wetland Delineation, Mason County, WA. Performed wetland delineation and categorization for isolated, depressional wetland. Assisted with preparation of impact analysis and restoration plan to address unpermitted site preparation activities.

Grotjan Wetland Restoration, Mason County, WA. Prepared environmental permitting documents for restoration work on a Category II lake-fringe wetland associated with Tenas Lake. Oversaw restoration crew.

Munro Wetland Delineation, Mason County, WA. Performed wetland delineation and categorization for isolated, depressional wetland associated with Coon Lake.

Hood Canal Communications Environmental Report, Mason County, WA. Prepared environmental report for rural utility service project for five project areas within

Mason County.

Pontius Wetland Delineation, Thurston County, WA. Performed wetland delineation and categorization of Category III depressional wetland. Prepared impact analysis and restoration plan to address unpermitted site clearing for proposed single-family residence.

Provasoli Wetland Delineation, Thurston County, WA. Performed wetland delineation and categorization of Category II palustrine depressional wetland.

Little Water Rights Permit, Thurston County, WA. Performed site assessment to determine drainage and hydrologic connections for water rights permit. Analyzed hydrologic and geographical data.

Orin Group Site Assessments, King, Pierce and Clark Counties, WA. Performed several site assessments for proposed cellular tower construction. Examined topography, vegetation, water features and adjacent development. Prepared written report and photographic documentation of site conditions.

Allen Habitat Management Plan, Mason County, WA. Developed Habitat Management Plan, Impact Analysis and Restoration Plan to address unpermitted activities within the Fish and Wildlife Conservation Area buffer of a marine shoreline. Prepared report addressing restoration of unstable slope using bioengineering treatments and installation of compensatory plantings.

Dalton Restoration, Clark County, WA. Site assessment and installation supervision of riparian buffer restoration project.

Jones Wetland Delineation, Ocean Shores, WA. Performed wetland delineation and categorization of mosaic wetland system.

Central Washington University, Mason County, WA. Performed wetland delineation and categorization for riverine and estuarine wetlands associated with an unnamed drainage and Hood Canal.

Forberg Wetland Delineation, Lacey, WA. Performed wetland delineation and categorization for Category II lake-fringe wetland associated with Southwick Lake.

ROY E. JENSEN, L.H.G.

Senior Hydrogeologist

EDUCATION

M.S. 1983, Geology, Loma Linda University

B.S. 1979, Medical Technology, Walla Walla College

B.S. 1978, Biology. Walla Walla College

Geology and Hydrogeology, Postgraduate Work, 1983-1988, South Dakota School of Mines and Technology, Rapid City, SD.

LICENSES/CERTIFICATES

Licensed Geologist and Hydrogeologist, WA

Registered Professional Geologist, OR

Registered Geologist, CA

Licensed Well Driller, WA

Registered Site Assessor, WA

Roy is a senior-level hydrogeologist with 27 years of experience. He has managed and directed environmental investigation and remediation projects for numerous properties. These projects have spanned a wide range of contamination issues, involved muliple stakeholders and potenially responsible parties, and included evaluation of cost responsibility. Roy will provide hydrogeologic services, as needed. He has managed geologic and hydrogeologic investigations for a variety of industrial and governmental clients. Responsibilities include planning, developing, directing, conducting, and overseeing technical analysis for dewatering and for groundwater and surface water investigations. He has expertise in groundwater monitoring, tidal influence studies, groundwater and contaminant transport modeling, and borehole geophysics. Roy is familiar with a wide range of Washington State and federal regulations such as MTCA, CERCLA, RCRA, and many other through his work on environmental assessment and remediation projects. His dewatering experience has given him a solid understanding of NPDES and local municipal water treatment and disposal regulations.

REPRESENTATIVE PROJECT EXPERIENCE

Remedial Design Investigations. Frontier Hard Chrome Superfund Site, Vancouver, WA. Conducted multiple-phase hydrogeologic investigations in support of a remedial design of a dissolved chromium plume at a Superfund site for the EPA. Conducted site investigations consisted of borings, installation of wells, borehole geophysics, aquifer testing, and development of a groundwater and well log database, water level measurements, and groundwater and soil sampling. Developed and conducted a two phased groundwater level monitoring program that demonstrated that water levels at the site were directed related to the stage of the tidally-influenced Columbia River. Developed a flow and transport model using MODFLOW and MT3DMS to understand historical changes in plume configurations and predict plume behavior. Transport model was used to evaluate potential of natural attenuation to reduce chrome groundwater concentration.

Groundwater/Surface Water Interaction Study, Renton, WA. Conducted a groundwater/surface water interaction study of the Cedar River adjacent to the Renton Airport and a major aircraft manufacturing facility for the Boeing Company. The study determined the hydraulic influence of the Cedar River on the fate and transport of several petroleum and solvent groundwater plumes.

Dewatering Plan, Renton, WA. Developed a dewatering plan for the Boeing Company to support the construction of large municipal sewer line. The work consisted of reviewing the local hydrogeology and using the computer program

FLOWPATH to predict the quantity of pumping required, to provide the necessary and cone of depression to dewater the sewer trench and prevent the movement into areas of the aquifer not impacted by contaminated groundwater.

Hydrogeologic Assessments, Various Sites, Puget Sound Region, WA. Completed numerous hydrogeologic assessments of properties as required for land use planning and environment impact studies. Typical tasks included the following: (1) Reviewing the available geologic, hydrologic and soil information relative to the site and surrounding areas; (2) Conducting a reconnaissance of the site and adjacent areas; (3) Evaluating the vegetation, soil, geology and water conditions at the site by completing on-site explorations; (4) Collecting representative environmental media samples to evaluate site conditions and determine pertinent characteristics; (5) Evaluating hydrologic conditions by reviewing available regional and local data and on-site explorations; (6) Assessing site-specific conditions in accordance with federal, state and local regulations; (7) Performing a hydrogeologic assessments and evaluating potential changes to the sites conditions; (8) Developing and providing recommendations for mitigating environmental concerns.

Technical Review, Various Sites, Regions 9 and 10, WA, OR, AK, CA. Provided technical hydrogeology review in support of groundwater investigations of over 20 Superfund and Department of Defense sites for EPA Regions 9 and 10 (Washington, Oregon, Alaska, California). At the direction of the EPA project manager, reviewed and evaluated work plans, groundwater investigation reports, groundwater model reports and other technical documents.

Technical Review, Various Sites, Commencement Bay, WA. Provided technical review for the EPA for various proposed or constructed sediment disposal sites in the Hylebos, Blair, Theo Foss, Sitcum and Milwaukee Waterways within the Commencement Bay Superfund sites. Tasks included review of the work plans, groundwater investigations and remedial designs to determine if they meet the projects and protectiveness to human health and the environment.

Groundwater Remedial Alternative Analysis, Aerojet Superfund Site, Sacramento, CA. The objective of this project for the EPA was to evaluate six groundwater remedial alternatives at a large aerospace design and manufacturing facility. The proposed remedial alternative consisted of extracting groundwater contaminated with perchlorate from four separate aquifers and discharging treated water to a local stream drainage. To meet the projects objectives developed several powerful tools based on particle tracking to predict the extent of the plume and determine the relative efficiency of extraction wells for the various remedial alternatives. An existing flow model was modified and adapted for use for particle tracking using MODPATH. A tool was developed to process the files generated by MODPATH in order to compare the various remedial alternatives.

Wetlands Assessments. Various Sites, Puget Sound Region, WA. Completed several wetland assessments and recovery plans to meet regulatory requirements for environmental assessments.

Groundwater Monitoring Plan, Gravel Mining Operation, Pierce County, WA. Developed a groundwater monitoring work plan to monitor impacts of gravel mining operation on water quality of a critical drinking supply aquifer. There was a concern that the mining operation would impact water quality by increasing salt-water intrusion.

CHRIS GARDNER

Field Geologist, GIS Specialist

EDUCATION

B.S., Geological Sciences, 1995, University of Washington

Chris has 5 years of experience with a variety of environmental and geotechnical drilling techniques associated with groundwater well installations. He has extensive experience sampling, developing, and slug-testing groundwater wells. Chris is skilled in collecting and analyzing down-hole pressure transducer data generated from slug tests and long-term hydrogeologic monitoring efforts. His data compilation and presentation skills have been used for many Port of Seattle reports.

Chris has 6 years of experience in geology and GIS systems. His expertise includes collection and plotting of GPS data for production purposes, from report figures to large-scale maps. His experience with GIS-related tasks includes digitizing, layer/theme creation, layer/theme re-projection, layer/theme editing, data sourcing, data conversion and compilation; and map design, annotation, and production.

Chris also performs construction observation activities, including augercast pile installation, soldier pile installation, tieback anchor installation and stress testing, nuclear density testing, subgrade inspection using T-Probe, and placement and compaction of structural and non-structural backfill. He is experienced with soil sampling and headspace readings using PID, and completing borehole logs during Geotechnical/Environmental Hollow-Stem Auger/Strataprobe borehole drilling operations.

REPRESENTATIVE PROJECT EXPERIENCE

Rock Creek Basin GIS Services, Auburn, WA. Hart Crowser is working on a hydrogeologic study for the City of Kent to characterize the groundwater flow and surface water interactions, to assess the impact of continued water supply withdrawals from Clark Springs. Chris developed detailed land use maps using current aerial photography to overlay higher resolution topographic base maps. His work involved extensive data layering and annotation. The ArcMap GIS has been used to categorize sub-catchments on a parcel-by-parcel basis to quantify land use developments, vegetation cover, and soil type. This will facilitate analysis and potential management alternatives.

Post Point Outfall GIS Services, Bellingham, WA. This project involves assistance with a submerged CSO outfall that had become filled with sediment in up to 200 feet of the offshore segment. Hart Crowser surveyed eelgrass using Hart Crowser's proprietary Sea-All™ underwater video system, which features a Differential Global Position System. Chris integrated aerial photography data, underwater video data, and GPS data into a GIS map. The map was used to evaluate alternatives to determine the most cost-effective pipeline rehabilitation alternatives that minimize

disturbance to the eel grass bed, reducing the need for mitigation. Hart Crowser and Chris are being highly responsive to client schedule needs for this project.

Landfill 9 GIS Services, Fort Lewis, WA. Created a GIS map of a 14-acre abandoned landfill used for disposal of vegetation, medical waste, and municipal waste. The map incorporated new soil boring and monitoring well locations. The work was done for the Corps of Engineers and Fort Lewis Public Works.

Monorail Development GIS Services, Seattle, WA. Created EDR maps associated with environmental site assessments for development of a regional transit system. The Monorail Green Line will cover a 14-mile route to connect the urban downtown area with neighborhoods.

Coal Creek Steam Vent GIS Services, Cougar Mountain, WA. Used a LiDAR base GIS map to display locations of coal seam features for the Office of Surface Mining.

City of Bellingham Eel Grass and WWTP GIS Services, Bellingham, WA. Integrated aerial photography data, underwater video data, and GPS data into GIS map.

Embankment Fill Monitoring Program (EFMP), SeaTac, WA. Chris developed and slug-tested the 15 monitoring wells installed to form the EFMP monitoring well network. Additionally, Chris was a member of the team that performed monthly groundwater sampling of the EFMP network wells for the duration of the 18-month baseline study. Chris is currently working to analyze slug test data collected from EFMP replacement wells.

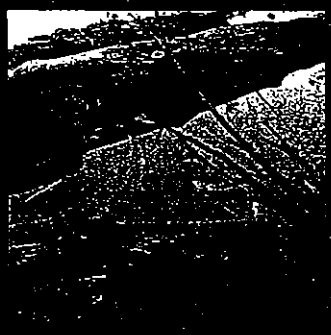
Thea Foss Waterway, Tacoma, WA. Assisted with installation of pressure transducers that are being used to monitor settlement during deposition of dredged sediments at this Superfund site.

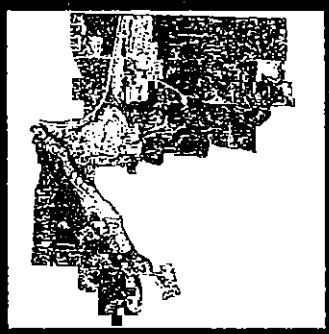
Seattle Packaging Property, Seattle, WA. To assess soil contamination from industrial activities, sampled sediments and oversaw installation of groundwater sampling wells.

Seattle Art Museum Park, Seattle, WA. Supervised contractors during excavation of contaminated soil. Screened soils using PID. Conducted stockpile and verification confirmation chemical sampling and analysis.

Port Angeles Graving Dock Geotechnical and Hydrogeologic Study, Port Angeles, WA. Chris observed the completion of 5 geotechnical borings and the installation of 3 monitoring wells. His oversight responsibilities included logging soils during borehole drilling activities and observing monitoring well installations. Additionally, Chris performed well development tasks and assisted with both pumping test execution and relative elevation surveying of the installed dewatering and monitoring wells.

Confidential Client Groundwater Well Installation and Monitoring, Eastern WA. Chris observed drilling, installation, and development activities associated with several monitoring wells. Air rotary drilling techniques were used to advance select borings on the site to depths as great as 150 feet within the gravelly soils encountered. Chris logged, screened (using a PID), and sampled soils during drilling of the borings. Additionally, Chris returned to the site as a groundwater sampling team member and completed a comprehensive sampling effort.





CITY OF WOODINVILLE
REQUEST FOR QUALIFICATIONS
ENVIRONMENTAL CONSULTING SERVICES FOR SUSTAINABLE DEVELOPMENT PROGRAM

Prepared for:

City of Woodinville
Department of Community Development
17301 133rd Avenue NE
Woodinville WA 98072

Prepared by:

The Watershed Company
1410 Market Street
Kirkland WA 98033
p 425.822.5242
&
AHBL
2215 North 30th Street
Suite 300 Tacoma WA 98403
p 253.383.2422

May 2006

THE WATERSHED COMPANY

SCIENCE & DESIGN

May 5, 2006

Ray Sturtz
Community Development Director
City of Woodinville
17301 133rd Avenue NE
Woodinville, WA 98072

Re: RFQ for Environmental Consulting Services for Sustainable Development Program

Dear Mr. Sturtz and City staff:

The Watershed Company is pleased to respond to your request for qualifications for environmental consulting to include a review and assessment of Woodinville's critical areas, an analysis of potential development impacts and recommendations for protection. We have assembled an outstanding and creative multidisciplinary team to cover the skills required and to ensure that the City meets state requirements pursuant to the Growth Management Act while it strives to protect the natural amenities so important to its unique woodland character.

The Watershed Company, a Kirkland-based environmental consulting firm with 23 years of experience in the assessment and restoration of critical areas, particularly streams, wetlands and wildlife habitat, will be prime consultant. **AHBL, Inc.,** of Seattle and Tacoma, national leaders in Low Impact Development (LID) research, techniques, design guidelines and site design, will provide a full range of engineering and planning support services. **Pacific Groundwater Group** of Seattle, leaders in the fields of hydrogeology and watershed assessment, will provide additional technical support for the project.

Our strengths for this work include:

- Outstanding qualifications and experience analyzing critical areas, prioritizing areas for protection and recommending preservation and enhancement measures in the context of growing population pressures,
- Experience in working with an extensive catalog of regional geospatial data, modeling ecological processes, modeling patterns of future development, facilitating conservation planning and producing powerful, highly communicative cartography and other graphics,
- Extensive knowledge of the requirements of the Growth Management Act, familiarity with Woodinville's natural resources and its Critical Area's Ordinance and the latest Low Impact Development ordinances and techniques, and
- Experience with creating satisfying and successful public process that involves, educates and coalesces the community through the use of scientifically-sound but easy to understand maps and documents as well as open and well-run public forums.

The Watershed Company has completed city-wide critical areas assessments, ordinances and conservation plans for multiple jurisdictions in the Puget Sound region, including the Kirkland, Monroe, Shoreline, Medina, Stanwood, and Mercer Island. Much of this work has been to

1410 Market Street Kirkland, WA 98033
425 822-5242 425 827-8136(f) watershedco.com

satisfy State Growth Management Act requirements. As well, the firm has completed corridor-wide protection plans for Thornton Creek in Seattle, the Sammamish River and Bear Creek in Redmond and Tibbetts Creek in Issaquah. The Watershed Company's multidisciplinary staff includes technically skilled biologists, planners, engineers, geologists, Geographic Information Systems specialists and landscape architects intimately familiar with local, state and federal environmental regulations and regional goals for resource enhancement. The firm's mission is to study and restore natural environments, drawing on the best scientific methods and aesthetic considerations. We have found that many human goals for growth can be achieved without harming the natural environment, but that this requires careful study and planning.

AHBL has been working with local jurisdictions and private developers to advance Low Impact Development (LID) in the Puget Sound region since 2001. This work has involved research and analysis of techniques, the development of LID ordinances and design guidelines for 11 jurisdictions, and the application of LID to specific site development projects. In addition to these services, AHBL works with public clients on GMA comprehensive plans, design standards and zoning codes, subarea planning and studies, public involvement, and development guidelines. AHBL was founded in 1969 to bring a collaborative approach to the development of built environments. Services include community and land use planning, civil and structural engineering, landscape architecture, and survey. The firm is committed to creative design, cost effective solutions, capturing and maintaining the sense of community, and integrating our area's natural and cultural heritage into our ever-changing communities.

Pacific Groundwater Group (PGG) is a water resource and environmental consulting firm that specializes in water-resource management, groundwater supply development, and hydrologic analyses related to land use change. Since 1987, the firm has assisted a wide variety of clients in solving complex water-resource and environmental challenges. PGG provides the hydrogeologic tools and analytical expertise needed to manage groundwater resources in the face of rapid growth, maintaining their quantity and quality for the future.

The City of Woodinville has been wise to take a breath and consider the impacts of development and how future growth can be more ecologically sustainable. The building and land use moratorium in the R-1 zone gives the City and its citizens time to study the potential environmental impacts of further growth and use this information to make informed decisions on the appropriate location and intensity of new development. The challenge will be to accommodate growth and allow reasonable use of private property, while protecting and enhancing the environment and quality of life. The goal of our team will be to bring appropriate scientific information to bear on these issues, craft thoughtful recommendations for consideration, and help you design and execute a public involvement process that builds informed consent for an ecologically and politically sustainable solution.

Materials, including the required statement of understanding, company profiles, relevant projects, references, scope and budget follow. We are eager to get started and meet your scheduled completion for the R-1 report in August and the City-wide report in October of 2006.

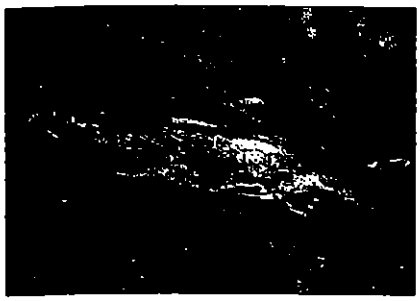
Sincerely,

A. William Way

President

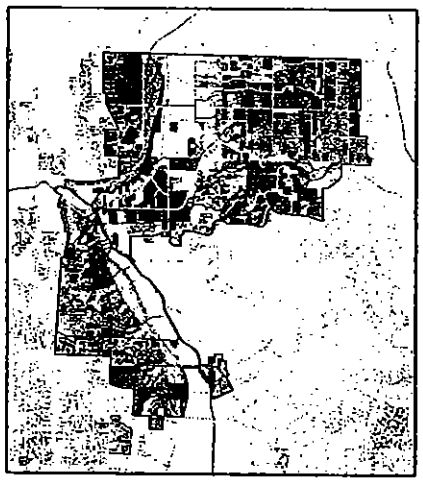
1410 Market Street Kirkland, WA 98033
425 822-5242 425 827-8136(f) watershedco.com

Statement of Understanding: Maintaining natural resources and community character while accommodating growth



Preserving Woodinville's natural systems and character, while accommodating growth, has long been the central challenge and is a consistent theme in the City's Comprehensive Plan. The City Council's adoption last fall of a *sustainable development* goal reflects current efforts to cope with growth pressures in the community. The City recognizes that population growth must be managed in ways that maintain or improve Woodinville's quality of life, environmental attributes and Northwest woodland character. Consistent with the Growth Management Act, the City recognizes that it must "show it's work" in establishing appropriate zoning and development regulations. Additional information and specific implementation actions are necessary to protect critical areas and give special consideration to the protection of anadromous fisheries. At stake is not just compliance with state and federal law, but the very character of the City and the integrity of the physical environment.

Concerns are most acute in the Wellington and Lake Leota areas of the City, where the Comprehensive Plan allows up to four units per acre, but current zoning (R-1 Zone) allows only one dwelling unit per acre. The R-1 Zone includes the headwaters of Bear Creek, as well as a groundwater aquifer. Portions of the area also drain into Little Bear Creek and Woodin Creek. These streams are known to contain salmonids, including threatened Chinook salmon. Since incorporation, the City has allowed this portion of the City to be converted to the higher density through a public hearing process with developer-provided extensions of sewer lines. Two recent rezone and development proposals in this area, Wood Trails and Montevallo, have resulted in increased public concern. The City recently imposed a building and land use moratorium in the R-1 zone to allow for environmental studies and the development of protection measures. This decision gives the City time to study the potential environmental impacts of further development and use this information to make informed decisions on the appropriate intensity of new development.



In order to appropriately guide new development, the City must have sufficient information about the resources present and the natural processes and functions that are at risk. The goal is to better understand the ecological importance and contribution of the R-1 Zone and other portions of the City to the larger watershed. Documentation of the types of habitat and functions this area provides, the importance of these habitats and functions in regional ecology, and the impacts of potential conversion, is key to determining the location and level of necessary protection. This information will also be important for demonstrating compliance with GMA and related case law regarding the

provision of compact urban development and appropriate methods of critical area protection. With the recent *Normandy Park* decision by the King County Superior Court and the erosion of the "4 dwelling units per acre" bright line rule, the City has additional flexibility to determine appropriate levels and types of development. However, it must "do its homework" to demonstrate it is planning to meet GMA goals, as well as Endangered Species Act requirements.

Once a baseline of existing conditions information and the likely impacts of development are established, the City will evaluate various tools for managing growth. These tools include modifying the existing zoning and revising land use policies, regulations and practices to protect at risk resources. The challenge is to protect these resources while still meeting growth targets and allowing reasonable use of affected lands consistent with the Growth Management Act, takings case law and City policy. In addition to refining existing zoning, some of the tools that could be examined and implemented include broader definitions for critical areas, better development regulation metrics, Low Impact Development (LID) standards, additional tree retention incentives, land cover conversion controls, basin specific stormwater requirements, and perhaps even density transfer mechanisms.

This project would appear to be as much a planning and community development challenge as it is a scientific assessment. ***The successful team will not only help the City bring the community to a better understanding of the ecological resources at risk, but also help demonstrate how the interests of the various stakeholders can be balanced and how solutions to growth can be crafted that reflect the values of the citizens of Woodinville.***

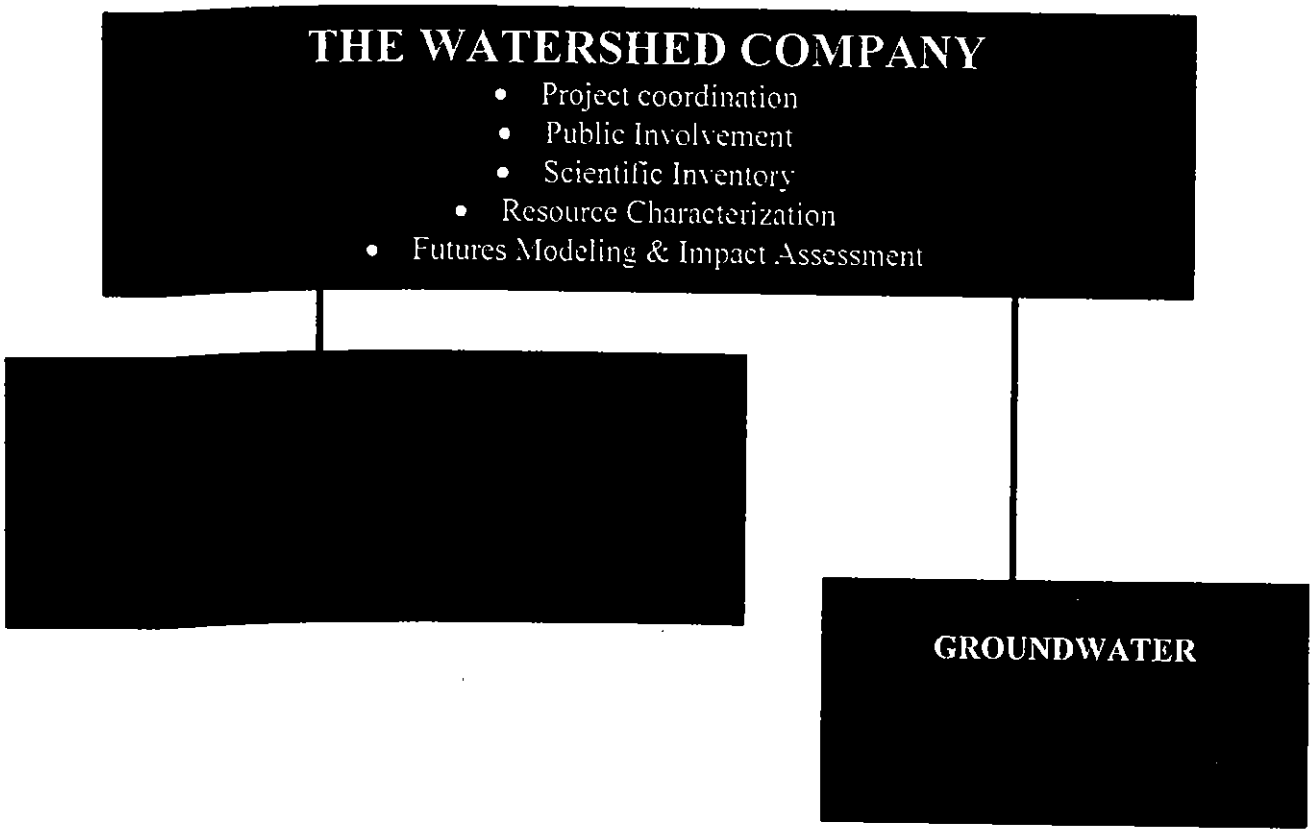
For these reasons, **The Watershed Company**, an award-winning environmental consulting firm specializing in the management and restoration of natural resources, has teamed with **AHBL,** a planning, engineering and design firm that is a recognized leader in Low Impact Development (LID), and **Pacific Groundwater Group**, hydrogeologists. In addition to technical skills and ethics that are beyond reproach, the team brings political sophistication and a respect for public process that allows it to do more that simply provide data and recommendations and then retreat to the ivory tower. Our team understands the need for information that City staff can use to establish and maintain credibility, build consent, and allow decision makers to implement actions that are both politically and ecologically sustainable.

With the recent development moratorium and the resulting public scrutiny, it is clear that the key to a successful outcome will be to engage the public in meaningful ways to help shape the focus of the study and the options that are considered. Learning from recent work by CommEn Space and The Cascade Land Conservancy, we will be able to use public involvement to help craft alternative futures and recommendations for consideration and provide a "bottom up" approach to building informed consent for a desired future outcome. The power that comes from stakeholder response to visual models is increasingly recognized by public involvement experts as an effective way to ensure citizens become invested in the process and responsible for the solutions.

Project Roles, Responsibilities and Key Staff

The City of Woodinville has identified an extremely rapid timeframe for this work in the RFQ. We believe the only way to meet the City's needs and expectations for this project is to assign a significant number of highly experienced staff who have the expertise to do the efficient assessment the City requires. The key will be to set up the project with clear goals and expectations so that we can move forward with the City from a clear base of understanding. The Watershed Company and AHBL have assigned an outstanding team of senior planners, engineers and scientists to the Woodinville Sustainable Development Program. We have established a clear delineation of leadership and functional responsibility within this team. The Watershed Company will coordinate all aspects of the project and lead the scientific inventory, resource characterization, futures modeling and impact assessment. AHBL will assist with impact assessment and lead the analysis of zoning, land use planning and code recommendations, including stormwater, street, and site development standards. The two firms will share responsibility for public involvement. The two firms will be supported by the specific technical expertise of the Pacific Groundwater Group.

Project Team Organization



Project Team

The Watershed Company

The Watershed Company has more than 24 years of experience in natural resources assessment and conservation planning, and restoration design. The firm includes a multi-disciplinary team of biologists, geologists, engineers, planners and landscape architects to perform an evaluation of natural resources, processes and structures in both the R-1 Zone and the City as a whole, with a specific focus on the protection of anadromous fish. The Watershed Company is currently working with Woodinville to ensure the adequacy of the Wood Trails and Montevallo EIS, and has done conservation planning, environmental impact assessment, code development and restoration project design throughout Western Washington, including current work for the cities of Lake Forest Park, Shoreline, Kirkland and Issaquah. Recent relevant projects include:

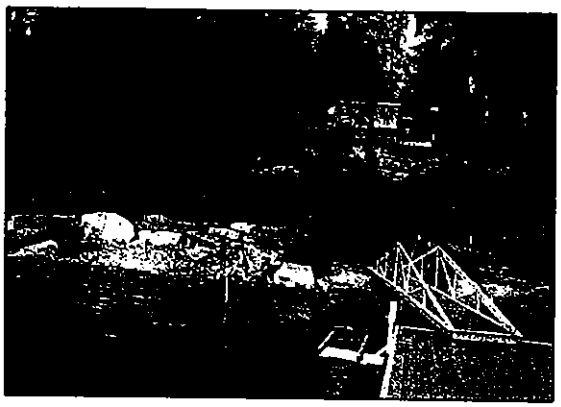
Kirkland Shoreline Master Plan Update, City of Kirkland, WA, 2005-2006. The Watershed Company is assisting the City with an update to its Shoreline Master Plan as required by the Washington Growth Management Act. Work so far includes a comprehensive inventory and characterization of the City's shorelines which describes existing conditions, assesses ecological functions and ecosystem-wide processes and provides the foundation and direction for development of the updated SMP. Field survey was supplemented with existing City documents and draft GIS maps, scientific literature, personal communications, aerial photographs, and internet data. The Watershed Company is assisting with development of GIS maps and required submissions to the Department of Ecology.

Shoreline Master Program Update/Shoreline Study - City of Marysville, 2005. The Watershed Company prepared the shoreline inventory and characterization report, including a restoration plan. Marysville's shorelines include Ebey Slough and Steamboat Slough, tidally influenced portions of the Snohomish River system, and Quilceda Creek. The analysis supported development of the Shoreline Master Program and the cumulative impacts analysis.

Shoreline Master Program Update/Inventory and Critical Areas Regulations – City of Monroe, 2001-2004. The Watershed Company conducted physical inventories and reviewed the literature to prepare a report examining current and historical fish and wildlife conditions in the Skykomish Basin, and in the in-City portions of the Skykomish River and Woods Creek for the SMP Update. The firm then assisted the City of Monroe with the update of its Critical Area Regulations as required by the Growth Management Act, Shoreline Management Act, and the federal Endangered Species Act.

Shoreline Mater Program Update and Shoreline and Stream Study – City of Stanwood, 2001-2002. The Watershed Company examined current and historical fish and wildlife conditions in the Stillaguamish Watershed, and in the in-City portions of the Stillaguamish River and Church and Douglas Creeks based on physical inventories and literature reviews. Our report included a best available science discussion and made recommendations for restoration of fish and wildlife habitat. It also proposed policies and regulations for inclusion in the Comprehensive Plan, Shoreline Master Program, and critical areas ordinances.

Critical Areas Regulations Update and BAS – City of Sammamish, 2005. The Watershed Company provided a review of the best available science (BAS) during the recent update to the critical areas regulations for the City of Sammamish. This included a review of the existing and proposed regulations based on the scientific literature and participation in the Citizen Advisory Committee meetings to describe the reasoning and justification for the proposed changes.



Lake Sammamish State Park Wetland, Stream and Lakeshore Restoration Plan – Washington State Parks Commission, 2005. The Watershed Company prepared an award winning sensitive area restoration plan for the 512-acre Lake Sammamish State Park in Issaquah as part of park master planning and redevelopment work. Watershed Company staff completed extensive field assessment of the landscape and then identified, evaluated, and ranked specific prospective project areas within the park for restoration of natural lands and associated buffers. Presentations were made to parks and citizens groups. The work won a Washington Association of Landscape Architects Honor Award, the highest possible, for environmental planning.

Shoreline Master Program Update/Inventory and Waterfront Sub-area Plan – City of Wenatchee, 2002-2003. The Watershed Company performed a shoreline inventory and analysis in support of both the ongoing visioning process for the development of the sub-area plan, and the update of Wenatchee's Shoreline Master Program (SMP). Our work won an American Planning Association award for natural resource assessment and planning.

Critical Areas Regulations Update and BAS - City of Mercer Island, 2002-2004. The Watershed Company assisted the City of Mercer Island with an update to its critical lands regulations to comply with the Washington State Growth Management Act and the Endangered Species Act. Revised regulations were developed in conjunction with "best available science" and other criteria and measured for consistency with the City's Comprehensive Plan. The Watershed Company participated in stakeholder meetings to ensure the revisions were consistent with the City's various interest groups.

Staff Assigned

President A. William Way, a stream protection and restoration pioneer with 29 years of relevant experience, will help shape the project vision, conceptual design and provide aquatic science expertise and quality control. Project manager, **Gabe Snedeker**, AICP, former Principal Planner for the City of Mercer Island, will coordinate the activities of the project team. Mr. Snedeker will provide the City with a single point of contact that can bridge the divide between science and public policy in the municipal context. He has a proven track record leading critical area inventories, ordinances, plans and assessments for local governments. His experience with watershed planning for the US Forest Service, as well as local government, will provide additional perspective. **Matt Stevenson,** with an impressive record of GIS landscape analysis and conservation projects for the non-profit CommEN Space, has joined The Watershed Company to harness the full power of this analytical tool for rapid watershed assessment and futures modeling.

Project Team

Professional Wetland Scientists **Jennifer Creveling** and **Hugh Mortensen,** will assess the wetland resources and functions. **Greg Johnston,** Certified Fisheries Professional, will address fisheries habitat issues and offer ideas for restoration and preservation. **Mark Indrebo,** Licensed Geologist and fluvial geomorphologist, brings specialized training and experience in stream flow and migration. **Mark Garff,** Registered Landscape Architect, has extensive knowledge of native plants and tree ecology. **Amy Myers** and **Suzanne Tomassi,** wildlife and wetland biologists, join the team to assist with field work and add their experience with Shoreline Management Plan updates. Fisheries biologist **Aaron Bosworth** will share his expertise with WRIA 8 resource goals

AHBL

AHBL, Inc., leaders in Low Impact Development (LID) research, techniques, design guidelines and site design, will provide a full range of engineering and planning support services. By demonstrating excellence and providing superior services over its 37-year history in the Puget Sound region, AHBL has grown to over 100 staff, including one of the largest private sector planning departments in the state. The firm's 17 planners have diverse backgrounds spanning urban design, municipal planning, landscape architecture, and private land use consulting. Clients for comprehensive long range and current planning services include public agencies, private developers, architects, and school districts. Municipal services include GMA comprehensive plans, annual updates and subarea planning and studies, development guidelines, public involvement, design standards and zoning codes. The firm has extensive experience with large-scale, multi-disciplinary projects and is skilled in explaining complex issues and concepts in a concise, straightforward manner to the public and appointed/elected officials. Recent relevant projects include:

Puget Sound Action Team Low Impact Development Assistance – Phase I & II. AHBL provided land use planning consulting services for Puget Sound Action Team. Services included consulting with 11 jurisdictions within the Puget Sound, including the cities of Bellingham, Marysville, Redmond, Issaquah, and Poulsbo; and Thurston, Kitsap, Jefferson, Whatcom, Clallam, and Snohomish counties. AHBL met with staff teams to determine the jurisdictions' interests and areas of concern in implementing low impact development (LID). AHBL then evaluated existing codes to determine impediments to implementation of and recommended amendments to facilitate the use of LID tools. AHBL also provided supplemental materials including LID facility maintenance specifications, roadway and parking standard comparisons, potential incentives, and existing LID documentation and standards from other jurisdictions. The project was completed in April, 2006. AHBL was subsequently selected to offer consulting services for Phase II of the project beginning in May of 2006, which will include working with the cities of Woodinville, Kirkland, Port Orchard, Edmonds, Port Angeles, Lacey, Normandy Park, and Mason County.

Sehmel Homestead Park, Gig Harbor, WA. AHBL is providing civil and structural engineering, land use planning, landscape architecture, and land survey services to Peninsula Metro Parks for the development of Sehmel Homestead Park. The 98-acre site is located in unincorporated Pierce County, near Gig Harbor and features steep slopes. Because of the site's location in a rural overlay district, the firm was required to utilize the Low Impact Development Chapter of the Pierce County Stormwater Management and Site Development Manual. This is the first major project being

designed under this newly adopted chapter. With a site complicated by steep slopes, and wetlands and their buffers, civil engineers achieved the following with the site design: retained over 65% of native soils and vegetation; minimized stream crossings; limited the impervious area to less than 10% through the use of pervious pavement and parking, and managed stormwater through the use of pervious pavement, a raingarden and sheet flow dispersion to maintain existing flow patterns.

Meadow on the Hylebos Low Impact Development, Pierce County, WA. AHBL is providing land use planning, civil engineering and landscape architecture services for this unique residential development in Pierce County. The private developer's vision is to create a residential community using Low Impact Development (LID) techniques as a demonstration project. AHBL has been working closely with Pierce County staff on LID regulations and the conceptual redesign of existing projects. The Meadow on the Hylebos is an opportunity to utilize the LID concepts within an actual 35-lot residential subdivision. Construction began in Spring of 2005. The 8.9-acre site is located between Milton and Fife in unicorporated Pierce County, at the geographic center of an urban growth area. The site is bisected by Hylebos Creek and an associated wetland, and contains soils with poor infiltration rates.

Staff Assigned

Associate Principal Julia Walton, AICP, will bring her 21 years of planning experience and award winning public involvement skills to bear. With assistance from The Watershed Company, she will use her expertise as a certified coach and facilitator to help the City lead the stakeholders through these complex issues. AHBL is the leading expert in LID ordinances in Western Washington and has done several developments that demonstrate the viability of the new codes and approach on the ground. AHBL LID Expert, **Len Zickler,** AICP, ASLA, will communicate the vision behind this approach to development and will be supported by **Doreen Gavin,** Principal/PE and **Laura Gringnon**, PE, who have specific expertise in the design of stormwater and street infrastructure. In addition to LID, AHBL has extensive experience with crafting comprehensive plans, subarea plans, zoning map refinement and code development throughout the Puget Sound. Senior Planners **Wayne Carlson** and **Owen Dennison** will provide the project team with additional planning and zoning muscle and depth.

Pacific Groundwater Group

PGG

Aquifer assessment and protection has been identified as an important issue in this study. Pacific Groundwater Group, leaders in the fields of hydrogeology and watershed assessment, will provide their geologic expertise. Pacific Groundwater Group (PGG) is a water resource and

environmental consulting firm that specializes in water-resource management, groundwater supply development, hydrologic analyses related to landuse change, and contaminant assessment/remediation. Since 1987, PGG has assisted a wide variety of clients in solving complex water-resource and environmental challenges throughout the Pacific Northwest. PGG offers extensive consulting experience and recognized expertise in groundwater and surface-water evaluations that incorporate disciplines ranging from geology, hydraulics, and chemistry to climate and soil science. Advanced tools for modeling groundwater flow, surface water / groundwater connections, wellhead capture, and deep percolation for recharge analyses are used. Recent Relevant Projects include:

WRIA 17 Level I Assessment, Jefferson County, WA. PGG performed a Level 1 assessment of Salmon Snow Watershed. The firm characterized precipitation patterns, water-right allocations, groundwater quality, hydraulic continuity, groundwater use and groundwater recharge (for a water-budget analysis), and relationships between land use and groundwater. Because of its efficiency for handling large data sets, the firm used GIS approaches to maintain data, perform analyses, and generate maps.

South King County Groundwater Management Plan, King County, WA. PGG assisted South King County in the development of a comprehensive Groundwater Management Plan. Services included: characterizing the hydrogeology of the area, developing a database and GIS for the project, designing and implementing a network for long-term data collection

City of Redmond Wellhead Protection Plan, Redmond, WA. PGG characterized the hydrogeology near five supply wells owned by the City of Redmond. The hydrogeologic setting of the area featured glacial and alluvial aquifers, as well as surface water bodies such as the Sammamish River, Lake Sammamish, and several creeks. We delineated wellhead-protection areas using an analytical-element groundwater model (TwoDAN) and compiled a contaminant database. To identify contaminant sources, we queried governmental databases and linked the data to GIS. This approach allowed the City to graphically interpret the data for wellhead protection areas and prioritize threats to water quality.

Staff Assigned

Charles T. Ellingson, RPG/CGWP, principal hydrogeologist, brings 22 years of consulting experience in groundwater impact predictions. **Linton Wildrick,** RHG, associate hydrogeologist, brings 30 years of well-rounded experience, both as a private consultant and as senior hydrogeologist and technical supervisor for Ecology's Water Resources Program.

We believe that we have assembled a team that can quickly provide the City with the necessary required decision making tools. If there is any additional technical expertise that is identified after further refinement of the scope and completion of the data gap analysis based on the input of the consultant team, City and the Citizen's Advisory Panel (CAP), we are prepared to provide it.

References

The Watershed Company

- **Paul Stewart** ..... **(425) 587-3227**
  Deputy Director of Community Development, City of Kirkland
- **Richard Hart** ..... **(206) 236-3593**
  Director of Development Services, City of Mercer Island
- **Dave Davis** ..... **(425) 257-8913**
  Director of Engineering/Public Services, City of Everett

AHBL

- **Bruce Wulkan** ..... **(360) 725-5455**
  Stormwater Program Manager, Puget Sound Action Team
- **Joe Scorcio** ..... **(253) 798-4661**
  Asst Public Works Director, Pierce County
- **Mark Burlingame** ..... **(253) 564-8900**
  Public Works Director, City of Fircrest

Pacific Groundwater Group

- **Dan Smith** ..... **(360) 754-4140**
  Public Works Department, City of Tumwater
- **Lys Hornsby** ..... **(425) 277-5539**
  Public Works Department, City of Renton

Scope of Work

Task 1: Project Coordination

Our first goal will be to refine the focus of the City's Sustainable Development Program. This initial step is key to establish a shared vision and expectation for content and methodology contained in both the R-1 Zone Report and the City-wide Report. The Consultant will create draft informational materials and provide recommendations on public process design and facilitation as determined necessary by the City. In addition, the Consultant should confer with all other appropriate entities that may have useful scientific, technical or cultural information, including federal agencies, watershed management planning units, salmon recovery lead entities, universities and other institutions. The Watershed Company will manage and coordinate the work of AHBL and Pacific Groundwater Group and serve as the primary contact with the client.

- **Deliverables:** CAP kick-off informational materials, stakeholder scoping letter and initial coordination and scoping meeting with City staff. Note: project scope will be refined based on City and CAP input.

- **Completion:** June 2, 2006. Please note that this schedule assumes the contract is signed on May 26, 2006 as stated in the RFQ.

Task 2: Public Involvement

The City will convene a Citizen's Advisory Panel (CAP) for this study as a primary public involvement mechanism. The Consultant will work with the City to establish, manage and staff the CAP and identify any additional stakeholder involvement. Public involvement opportunities will also be provided through Planning Commission and City Council hearings. At part of this initial task, the CAP will provide input to the process of creating the overall strategy for this plan. The Consultant will work with the CAP and staff to determine the appropriate scale and level of detail of the analysis. The Consultant and City Staff will meet with the CAP at appropriate project stages to obtain information and feedback on specific tasks, and informed consent for desired future outcomes and recommendations.

- **Deliverable:** A public involvement plan and meeting schedule will be established. The plan will outline the strategy for effective and meaningful citizen involvement.

- **Completion:** June 2, 2006 (Public Participation Plan). Public participation will be ongoing throughout the project including, CAP, other identified stakeholders, Planning Commission and City Council.

Task 3: Existing Data Inventory and Collection

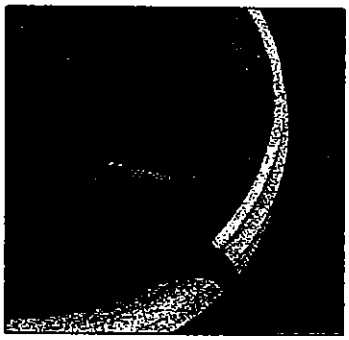
The Watershed Company, with assistance from other members of the team, will work with the City to identify and collect all pertinent and reasonably available data, plans, studies, inventories and other applicable information. These may include, but are not limited to, groundwater studies, recent surficial geology mapping, Little Bear and Woodin Creek Basin Habitat Assessment studies, WRIA 8 Chinook Salmon Conservation Plan,

existing critical area inventory, WA Trout data, USFS data, remote sensing data identified in Task 5, impervious surface coverage studies, and current and historical orthophotos (also see data sources in Task 5). The Consultant will review this information and, after consultation with the City and CAP, determine what additional data collection may be necessary to complete the analysis.

- **Deliverable:** Draft memo submitted to the City outlining existing data sources, data gaps and recommended data collection, including additional analysis of remote sensing data. The Consultant will assist the City in finalizing the Memo for discussion with CAP and stakeholders as appropriate.

- **Completion:** June 9, 2006

Task 4: Field Data Collection



Limited additional fieldwork, focusing on public lands and other accessible properties, will be performed to verify key assumptions and conditions, e.g. verification of stream and wetland presence, location and type and habitat quality. Prior to beginning this work, the Watershed Company will meet with the CAP and other stakeholders to obtain anecdotal information and closely review existing information for known or suspected features. The Watershed Company, aided by Pacific Groundwater Group, will deploy a team of senior scientists, including a stream biologist, professional wetland scientist, fluvial geomorphologist, wildlife habitat biologist and hydrogeologist, to perform a rapid field inventory. Data will be gathered and interpreted for specific processes and resources and will focus primarily on factors that influence anadromous fish habitat presence, abundance and quality.

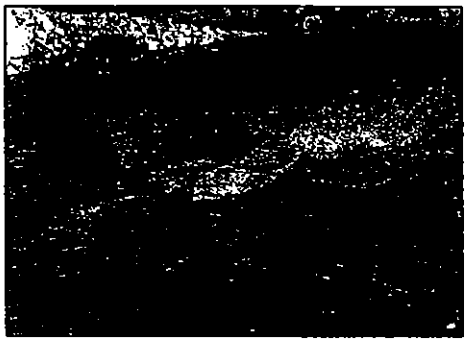
- **Deliverable:** Draft memo submitted to the City outlining data sources, maps, tables and field data collected, and discussion of any additional information that a description of geospatial data be collected at the project review level. Consultant will assist the City in finalizing the memo and discussion with CAP and stakeholders as appropriate.

- **Completion:** June 16, 2006

Task 5: Resource Characterization and Vulnerability Assessment

The Consultant will assess targeted areas of the City where there are known or potential critical areas, including streams, wetlands, steep slopes, geologic hazards, critical aquifer recharge areas, flood hazard areas and fish and wildlife conservation areas. In addition to the R-1 Zone, the Consultant will work with the CAP and staff to determine particular areas of the City that will be analyzed in greater detail and the level of detail necessary, particularly with regards to hydrogeology. Pacific Groundwater Group will provide support for groundwater issues determined to be necessary following

consultation with the City and the CAP. These may include delineating critical aquifer recharge areas and stream capture areas, assessing the origins and role of wetlands and groundwater factors which influence stream flow. The Consultant will assess the current hydrological conditions, identify limiting factors and current stresses on the system.



The assessments will evaluate the resources, processes, functions and habitat in these areas. Factors, such as the relative level and influence of impervious cover on hydrology, water quality and biodiversity will be considered. The use of local wells for local water supply and the location and extent of septic and sewer systems will also be considered. This assessment will occur at multiple scales, to facilitate rapid production of both the Draft R-1 Report and the City-wide Report. Factors considered may include, but are limited to:

- Salmonids and Other Native Fishes: Analysis of fish-bearing and salmon-bearing streams at the scale of the City and the watershed. (Data sources: streamnet, SSHIAP, DNR, DOE)
- Terrestrial Habitat & Connectivity: Analysis of habitat types and rare plant and animal species/communities (Data Sources: statewide habitat-type dataset developed by the Northwest Habitat Institute, ReGAP ecosystems, DNR Heritage, and WDFW PHS)
- Impervious Surface/Developed Land Cover: This is a measurement of the current extent of development, and can be measured several ways. (Data sources: King County Impervious Surface 15' grid, NOAA C-CAP 95-00 change data, ASTER [if necessary])
- Developed/Divisible/Developable Parcels: This analysis will determine the potential number of new structures that can be accommodated within the currently incorporated City limits under existing zoning. (King County Assessor parcel data, City of Woodinville zoning)-
- Calculation of Existing Water Balance: We will use an existing HSPF model or other techniques to determine precipitation fate and net impact on stream flow.

- **Deliverables:** A Draft *Resource Characterization and Assessment* will be submitted to the City. The report will include a narrative, as well as maps and data tables that provide concise information on the factors/questions list above. This assessment will eventually become the first half of both the R-1 Report and the City-wide Report. The R-1 Area and other areas of the City will be considered at a finer level of detail in this document and the organization will reflect this purpose and focus. Consultant will assist the City in finalizing the report and discussion with CAP and stakeholders as appropriate.

- **Completion:** June 30, 2006

Task 6 - Alternative Futures Modeling and Resource Impact Assessment

Borrowing from the recent work of Professor Stan Gregory and others, future land use, impervious surface coverage and land cover will be modeled for the R-1 areas and in the City as a whole based on no more than three (3) land use scenarios. Scenarios will be determined based on discussions with the City and CAP in early project phases and could include:

1) **No Action:** current development types allowed under the existing regulations are projected at least 20 years into the future based on recent growth trends. Under this scenario, rezones to no more than 4 units per acre are allowed R-1 Zone with the extension of sewer.
2) **Low Impact Development:** The same number of units are accommodated within the City, but in the R-1 zone and potentially other identified areas of the City, growth is clustered, larger stream and river corridors are substantially buffered, streets are narrower, and overall impervious surface expansion and loss of canopy cover is minimized.
3) **Zoning Refinement and LID:** Rezone of less sensitive portions of the R-1 area (based on the resource assessment) to allow a net density of four units per acre, establishment of other areas where density is more restricted. LID development occurs in identified areas of the City. Rezone may be contingent on implementation LID standards as a market incentive for landowners.
4) **Transfer of Development Rights (TDR) and Active Restoration:** The most ecologically and/or hydrologically sensitive areas of the City are enclosed by a TDR, and the new units that would have been built in these areas are transferred to higher density zones that have already been substantially developed. Streams, rivers, forests and other habitats are actively restored within identified areas and canopy cover is increased.

Modeling will incorporate assumptions about the City's future population growth rate and housing targets. Essentially, we will "fill up" all of the developable lots with the number of people and housing units we assume will be coming over the next 20 years, and distribute these people over the landscape under the chosen development scenarios. In addition to looking at impacts to riparian resources and land cover, the analysis will also incorporate data regarding groundwater, and thus summer streamflow, impacts. Water balances for the different development scenarios may also be calculated, including the effects of sewerage versus septic systems and the use of small wells versus use of regional water systems.

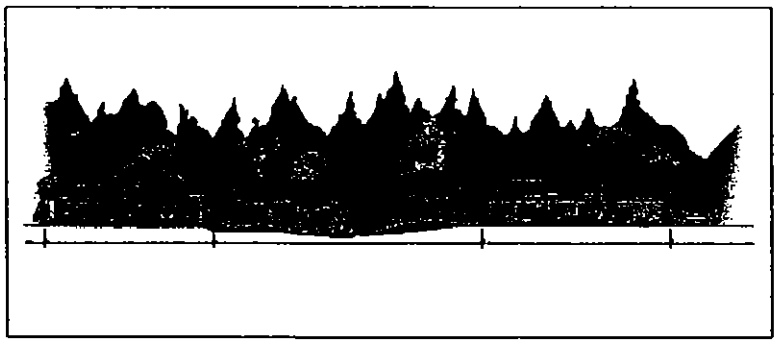
- **Deliverables:** Quantitative and qualitative outputs of the modeling will be provided. Each of the scenarios will be depicted visually with a map and photo-illustrations of the different patterns that would result from each scenario. Quantitative measures may include:

- Increase in impervious surface
- Area/percentage of habitat lost or degraded by habitat/ecosystem type
- Loss or degradation of habitat connectivity
- Length of stream lost or degraded by stream type (fish bearing, salmonid bearing, other)
- Area of wetlands degraded
- Area of floodplain encroachment
- Groundwater and summer streamflow impacts

The graphic representations with summary data will be presented to the CAP and other appropriate stakeholders. Rather than a "top down" approach where the Consultant and the City provide recommendations at this phase, stakeholders will be asked to provide their opinions and thoughts on their desired future. This approach is intended to engage the CAP and other stakeholders in a meaningful way, build informed consent and ensure the community's opinions and values are reflected in the reports.

- **Completions: July 14, 2006**

Task 7 – Policy and Code Options/Recommendations



Based on the feedback from the CAP and the City in Task 6 and environmental impact data obtained through the modeling, the Consultant will provide a draft memo outlining findings and recommendations for development intensities and potential revisions of City policies, regulations and development practices to meet GMA requirements related to anadromous fish resources, while allowing reasonable use of the affected lands and accommodating overall growth targets. In order to meet the client's schedule, the Consultant will begin crafting policy options and recommendations early in the project and will refine these based on the outputs of Task 5 and the stakeholder input in Task 6. Relevant cases and issues that have been ruled on by the Central Puget Sound Growth Management Hearings Board, as well as City policy, will be reviewed and applied to the analysis, as well as biologic and geologic factors. This analysis will occur at multiple scales, to facilitate both a report on the R-1 Zone as well as the City-wide report. At the City's discretion, the Consultant may provide a recommendation on how this analysis can be used for State Environmental Policy Act compliance purposes.

- **Deliverables**: Draft Policy and Code Options and Recommendations Memo.

- **Completion:** July 14, 2006

Task 8 – Draft R-1 Report Production

The Consultant Team will compile and refine the outputs of Tasks 2 through 7 related to the R-1 Zone into a coherent report for review by City Staff.

- **Deliverable:** Draft R-1 Zone Report
- **Completion:** August 1, 2006

Task 9 – Final Draft R-1 Report

Based on the review provided by staff, the Consultant Team will revise the draft report and prepare the final report. The Consultant will assist in further revision of the report as comments and direction are received from the Planning Commission and the City Council.

- **Deliverable:** Final Draft R-1 Report
- **Completion:** August 31, 2006

Task 10 – Draft City-wide Report

The Consultant Team will compile and refine the outputs of Tasks 2 through 7 into a coherent report for review by City Staff.

- **Deliverable:** Draft City-wide Report
- **Completion:** October 13, 2006

Task 11: - Final City-wide Report

Based on the review provided by staff, the Consultant Team will revise the draft City-wide report and prepare the final report. The Consultant will assist in further revision of the report as comments and direction are received from the Planning Commission and the City Council.

- **Deliverable:** Final City-wide Report
- **Completion:** October 31, 2006

Cost Breakdown of Budget Expenditures by Position Title

		TWC										AHBL						PGG	
TASK	DESCRIPTION	TWC Principal, PWS	Sr. Fish Biologist	Sr. Wetland/Wildlife Bio, PWS	Senior Planner, AICP	Sr. GIS Analyst/Modeler, AICP	Landscape Architect, ASLA	Geologist/Fluvial Geomorphologist	Environmental Engineer/Biologist	Biologist	Landscape/Graphics	AHBL Principal, AICP, ASLA, LEED AP	Assoc. Principal, AICP	Senior Project Manager, AICP, LEED AP	Senior Civil Engineer, PE, LEED AP	Civil Engineer, PE	Planner, AICP	PGG Hydrogeologist	TOTAL COSTS
1.0	Project Coordination	10	8		50	16							24					8	$12,620
2.0	Public Involvement	4	8	8	30	4		8			8	16	60	8	8	8	8	8	$23,130
3.0	Data Collection and Inventory		16		8	40		16	8									20	$10,320
4.0	Field Data Collection		32	16	8			24	8	16								8	$10,520
5.0	Resource Characterization and Assessment	8	24	16	8	40		16	8									40	$15,640
6.0	Futures Modeling & Impact Assessment	4	16	16	16	88		16	8							8	8	80	$25,620
7.0	Policy & Code Options/Recommendations	4	8	8	8	8		8				10	20	16	16	24	40	8	$21,860
8.0	Draft R-1 Report	6			16	8	8		40		20		8	8			8	4	$12,250
9.0	Final R-1 Report	4			4		2		8		4		4					2	$2,830
10.0	Draft City-Wide Report	6			16	8	8		40		16		8	8			8	4	$11,970
11.0	Final City-Wide Report	4			4		4		8		4		4					2	$3,020
																	GRAND TOTAL		**$149,780**

Staff Assigned

The Watershed Company

A. William Way, Professional Wetland Scientist
President

A. William Way has 27 years experience in planning, designing, and implementing stream and wetland assessment and rehabilitation projects. He specializes in the habitat needs of salmonid fishes. He founded The Watershed Company in 1982, building a company with an excellent reputation for technical skills, client service and outstanding relationships with regulators. The firm is known for its science-based approach to design and holistic environmental assessments as well as plans that bridge human needs and environmental imperatives. Mr. Way has been a Professional Wetland Scientist as certified by the Society of Wetland Scientists since 1995.

Selected Project Experience:

- Tibbetts Creek Greenway Plan, Issaquah, WA; project manager
- Narbeck Wetland Sanctuary and Snohomish County Airport Wetland Mitigation Bank, Everett, WA;project manager
- Sammamish River Multi-Objective Management Plan, King County, WA; project manager
- Icicle Creek Restoration Plan and Design, U.S. Fish and Wildlife, Leavenworth, WA; project manager
- Lake Sammamish State Park Stream, Wetland and Shoreline Restoration Plan, Washington State Parks; principal in charge

Gabe Snedeker, AICP—PROJECT MANAGER
Senior Planner

Gabe Snedeker brings proven experience in successfully leading and managing multidisciplinary teams to resolve complex issues. He has more than a decade of experience as a land use and environmental planner with local governments, a federal resource management agency and private sector clients. He brings an in-depth knowledge of legal and regulatory issues in environmental and urban planning. Mr. Snedeker was formerly the Principal Planner at the City of Mercer Island and recently joined The Watershed Company after more than a decade as a planner in local and Federal government. He is a regionally recognized SEPA/NEPA expert with six years experience as the SEPA responsible official with two jurisdictions. Gabe brings award winning citizen involvement experience to The Watershed Company team, having played the lead role in multiple comprehensive plan updates, three critical area ordinance revisions and numerous development code revisions. Mr. Snedeker is experienced in tailoring targeted public participation efforts to specific project needs to enhance agency credibility, incorporate participant input and achieve informed consent.

Selected Project Experience:

- Lake Forest Park Shoreline Master Program; Lake Forest Park, WA; project manager
- Critical Areas Ordinance Inventory and Update, City of Mercer Island, WA; project manager
- Comprehensive Plan Update, City of Mercer Island, WA.; project manager
- Comprehensive Plan and Unified Development Code, City of Shoreline, WA; project manager
- Critical Areas Inventory and Ordinance, City of Shoreline, WA; project manager

Staff Assigned

Gregory P. Johnston, Certified Fisheries Professional
Senior Fisheries Biologist

Greg Johnston has 30 years of experience is fish habitat assessment and fisheries enhancement planning and design. He has a Bachelor of Science degree in Civil Engineering and a Master of Science degree in Fisheries Biology, both from the University of Washington. He is a Certified Fisheries Professional, American Fisheries Society, 2000 and 2005, and also holds an Engineer-in-Training Certificate issued in 1979 by the Washington State Department of Licensing. His dual background in civil engineering and fisheries biology enables him to integrate both the physical and biological components of productive riparian communities. He has performed city-wide fisheries and stream inventory work required for state Growth Management Act updates, outlining resource management tools to protect and enhance natural resources.

Selected Project Experience:

- Monroe Shoreline Master Plan Update, Monroe, WA; fisheries assessment
- Shoreline Stream Inventory for City of Shoreline, WA; project manager
- City of Kirkland Shoreline Master Plan Update, Kirkland, WA; fisheries habitat assessment
- Tulalip Tribes Coho Creek Basin Wetland and Stream Assessment and Restoration Plan; project manager
- Stanwood Stream and Shoreline Inventories for SMP Updates, City of Shoreline; fisheries habitat assessment

Mark Indrebo, Licensed Geologist
Fluvial Geomorphologist

Mark Indrebo specializes in hydrologic and geomorphic analysis. Mr. Indrebo holds a Master's degree in Geology from Western Washington University,1999, and received specialized Rosgen's training in stream and river flow. He has used his knowledge of geomorphology to assess and design stream, wetland, and shoreline projects that provide high quality habitat while maintaining and enhancing the natural function of the wetland, stream, estuary, or lake. His related experience includes historic channel migration studies, stream morphology assessment, various hydrologic studies, water quality planning and construction monitoring. He has assisted with roadway designs that work with natural processes to reduce impact to the environment as well as water quality planning efforts to protect surface water quality.

Selected Project Experience:

- Snohomish River Fluvial Assessment at Riverfront Properties, City of Everett, WA; geologist
- Nooksack River Fluvial Assessment, Washington Department of Transportation; geologist
- Blair Water Way Water Quality Planning and Monitoring, Port of Tacoma, WA; project manager

Mark Garff, Landscape Architect/ASLA
Senior Landscape Architect

Broad experience with both public and private clients gives Mr. Garff strong skills to see landscape projects through from conceptual plans to finished product. He combines expertise in landscape structures and landscape design with a thorough knowledge of plants, particularly native Northwest plants and trees. His landscape enhancement and

mitigation work combines aesthetics and biological integrity. Projects at The Watershed Company have ranged from homeowner gardens to mitigation design for highway construction and assessments of landscape potential.

Selected Project Experience:

- Interstate-405 Wetland Mitigation at Thrasher's Corner, Bothell, WA, Washington State Department of Transportation; landscape architect
- Charlottes Way Daylighting, Seattle Public Utilities; landscape architect
- Coho Creek Stream and Wetland Enhancement, Tulalip Tribes, WA; landscape architect

Jennifer Creveling, Professional Wetland Scientist
Senior Wetland Scientist

Jennifer Creveling specializes in wetland and shoreline studies and mitigation designs. She received a Bachelor of Science in Biology from Western Washington University in 1978 and worked primarily for the Washington Department of Wildlife before joining The Watershed Company in 1990. Jenni has been a Professional Wetland Scientist as certified by the Society of Wetland Scientists since 1995. She has worked on many wetland and wildlife projects, such as wetland delineations, inventories of existing conditions, wildlife habitat assessments, impact analyses, mitigation recommendations, and wetland/wildlife restoration projects. She has also prepared and reviewed SEPA and NEPA documents, Corps of Engineers Public Notices, and state agency policies. .

Selected Project Experience:

- Issaquah Creek Stream and Riparian Area Restoration Plan, City of Issaquah, WA; project manager
- City of Kirkland Stream and Wetland Inventory, City of Kirkland, WA; project manager
- Lake Sammamish State Park Stream, Wetland and Shoreline Restoration Plan, Washington State Parks; co-project manager
- I-405 Nickel Project Wetland Mitigation at Thrasher's Corner, Washington State Department of Transportation; project manager

Matt Stevenson
GIS Analyst

Matt Stevenson has a proven track record of applying cutting-edge geospatial technology to complex planning, conservation, and resource management issues. Mr. Stevenson operates at the intersection of planning, policy, and spatial analysis, with a heavy emphasis on Geographic Information Systems (GIS) and information design. Mr. Stevenson has taken the lead on several regional conservation planning projects and devised the methodology for two development risk analyses. Previously, as an analyst at Berk and Associates, he established the firm's GIS capacity and made substantial contributions to economic development and socio-demographic studies conducted for cities and counties throughout Western Washington. He brings the ability to convey complex spatial information with striking cartography and eye-catching graphics. with striking cartography and eye-catching graphics.

Selected Project Experience:

- Sustaining a Livable Lake Forest Park, City of Lake Forest Park, WA; mapping and analytical support.
- Special Study Area Vision, City of Sammamish Town Center, Sammamish, WA; GIS support and analysis

- The Greater Skagit Delta Initiative, The Nature Conservancy, Trust for Public Land, Skagitonians to Preserve Farmland, The Skagit Watershed Council; data analyst, geospace data and cartography

Amy Myers
Permit Coordinator/Wetland-Wildlife Biologist

A thorough knowledge of regulatory requirements coupled with wetland and wildlife expertise give Amy Myers skills to bring projects into compliance and smooth permitting so that work can move forward quickly and meet the highest standards. She brings special expertise in Endangered Species Act consultations and Shoreline Master Program Updates.

Selected Project Experience:

- Shoreline Master Program Updates, Monroe, Stanwood, Marysville, Darrington, and Kirkland, WA; inventory, project manager
- Lake Stevens School District, Lake Stevens WA, wetland assessment, mitigation, permitting
- Sammamish State Park Assessment/Enhancement Plan, Washington State Parks. Field assessment
- Biological Evaluations/Assessments for ESA; project manager on over 150

Suzanne Tomassi
Wetland/Wildlife Biologist

Suzanne Tomassi, wildlife and wetland biologist, specializes in wildlife studies and wetland delineation. She received a Master of Science in Wildlife Biology from Michigan State University in 1991 and worked primarily in wildlife research and management for ten years. Before joining The Watershed Company in 2004, she worked for David Evans and Associates, Inc. and Cooke Scientific Services, Inc. She has prepared NEPA, SEPA, ESA, and USFS Roads Analysis documents, conducted many wildlife surveys, habitat assessments, and wetland delineations.

Selected Project Experience:

- Jefferson County Comprehensive Plan Habitat Management Project; project manager
- U.S. Forest Service Jarbidge Canyon Roads Analysis Process, project manager
- Washington State Department of Transportation Watershed Coordination Pilot Program; wildlife biologist, team coordinator

Aaron Bosworth
Fisheries Biologist

Experience conducting stream habitat assessments and using numerous fish survey methodologies for natural resource management agencies such as the US Fish and Wildlife Service and the US Forest Service provide Mr. Bosworth with a well-grounded background in fisheries management. Recent education in fish population genetic research, statistical analysis, and environmental policy enable him to apply current theories in fisheries science to any project involving stream habitat restoration or ecosystem management. He brings additional expertise in WRIA 8 protection initiatives and masters degrees in both fisheries and public administration with a focus on environmental policy.

Selected Project Experience:

- Beebe Springs Stream Restoration, Washington Department of Fish and Wildlife; habitat assessment, permitting

Staff Assigned

- Valley Creek Stream Habitat Survey, City of Bellevue; fisheries habitat assessment
- White River Fish Habitat Assessment and Fish Distribution Study, U.S. Forest Service; fish habitat assessment, database mapping

ABHL

Julia Walton, AICP
Associate Principal, Planner

Julia Walton has over 21 years experience of professional urban planning and design experience in the field. She is known for her leadership of large, complex multidisciplinary projects, which implement growth management and develop livable, sustainable communities. Trained as an architect and a planner, Julia uses illustration and example to show "what it might look like" as a template for policy and regulation to successfully lead clients and the public through project discussions. As a certified coach, Julia is the winner of two national awards for public involvement, and also specializes in facilitating "difficult conversations" to build agreements that stick. Recent sustainable projects include the 2004 National APA Award winning Chambers Creek Properties Master Site Plan & Implementation, and the Federal Way Parks Plan.

Selected Project Experience:

- Chambers Creek Properties Master Site Plan & Implementation, WA; principal-in-charge/project manager
- Federal Way Parks, Recreation, & Open Space Plan, Federal Way, WA; principal-in-charge
- Mountlake Terrace Melody Hill Sub-area, City of Mountlake Terrace, WA; principal-in-charge

Len Zickler, AICP, ASLA, LEED AP
Principal, Planner, Landscape Architect

Len Zickler has 30 years of experience as a planner and landscape architect and is a principal at AHBL overseeing the Planning and Landscape Architecture Departments. Len's work has focused on all aspects of current and long range planning including comprehensive and community planning, site feasibility and selection, environmental analysis, entitlements, permit coordination, and site master planning. Len's public sector experience includes comprehensive planning and GMA-related consulting for communities throughout Washington. Len is a recognized expert in the field of sustainable site design and low impact development (LID). He has been an invited speaker throughout the Northwest and nation and has consulted with many Washington communities on the application of LID to their codes and ordinances. He has presented to the US Green Building Council, Master Builders Association, American Institute of Architects, Puget Sound Water Quality Action Team, American Society of Landscape Architects.

Selected Project Experience

- Puget Sound Action Team Low Impact Development Assistance, Cities of Bellingham, Marysville, Redmond, Issaquah, and Poulsbo, and Thurston, Kitsap, Jefferson, Whatcom, Clallam, and Snohomish Counties, WA; principal-in-charge
- Low Impact Development Guidelines, Pierce County Department of Planning and Land Services, Pierce County, WA; principal-in-charge

- Low Impact Design Guidelines, City of Olympia Public Works, Olympia WA; principal-in-charge

Wayne Carlson, AICP, LEED AP
Senior Project Manager, Planner

Wayne Carlson is a land use planner and project manager with 14 years of professional experience. Wayne has managed a variety of current and long-range planning projects for public and private-sector clients throughout western Washington. He has considerable GMA and policy planning experience. Wayne managed AHBL's preparation of design standards and guidelines for several Pierce County Communities and managed the preparation of low impact development guidelines for Pierce County. He has also authored environmental reports and assessments for projects under the Washington State Environmental Policy Act (SEPA), the California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA). Wayne worked with Pierce County to write its LID development regulations.

Selected Project Experience:

- Puget Sound Action Team Low Impact Development Assistance, Cities of Bellingham, Marysville, Redmond, Issaquah, and Poulsbo, and Thurston, Kitsap, Jefferson, Whatcom, Clallam, and Snohomish Counties, WA; project manager
- Low Impact Development Guidelines, Pierce County Department of Planning and Land Services, Pierce County, WA; project manager
- Meadow on the Hylebos Single Family Residential LID Pilot Project, Pierce County Department of Planning and Land Services and Private Developer, Pierce County, WA; project manager

Doreen Gavin, PE, LEED AP
Principal, Civil Engineer

Doreen Gavin is a principal of AHBL and responsible for planning, designing and management of civil engineering projects. In her 26 years of experience, she has completed a variety of project types, from private development to public works. She has successfully performed many roles, from project engineer to principal-in-charge, on significant projects throughout Western Washington and is able to apply this experience to a variety of project types. Doreen's experience includes educational facilities, commercial developments, and health care projects, as well as many public facilities. Her recent LID experience includes the design of Sehmel Homestead Park.

Selected Project Experience:

- Sehmel Homestead Park, Peninsula Metropolitan Park District, Gig Harbor, WA; principal-in-charge
- Chambers Bay Golf Course & Clubhouse Civil Engineering Design, Pierce County Department of Public Works, University Place, WA; principal-in-charge
- Northgate Library, Community Center & Urban Park (LEED Registered), City of Seattle/Seattle Public Libraries, Seattle, WA; principal-in-charge

Laura Grignon, PE
Project Manager, Civil Engineer

Laura Grignon is a civil project engineer and project manager in AHBL's Seattle office with eight years experience. She has expertise in the design of stormwater flow control, water quality and conveyance systems using the KCRTS and KCBW models. Laura has

considerable experience working with various jurisdictional agencies including King County and the Cities of Kenmore, Bothell, Federal Way, Sammamish, Bellevue, Kent, Renton, Mill Creek and Issaquah. Her expertise has been instrumental on the storm drainage design for Seattle School District's Brighton Elementary and Beacon Hill Elementary, as well as North Kitsap School District's Kingston High School, Eastside Catholic High School, and the Christian Faith Center.

Selected Project Experience:

- Puget Sound Action Team - Low-Impact Development Assistance, Puget Sound Action Team, Cities of Bellingham, Marysville, Redmond, Issaquah, and Poulsbo, and Thurston, Kitsap, Jefferson, Whatcom, Clallam, and Snohomish counties; project engineer
- City of Kenmore Plan Review, Kenmore, Washington, project engineer

Pacific Groundwater Group

Charles T. Ellingson, RPG, CGWP
Principal Hydrogeologist

PgG

Charles Ellingson is a co-founder and principal hydrogeologist of Pacific Groundwater Group, bringing to the firm 22 years of consulting experience in groundwater impact predictions, aquifer protection, contaminant hydrogeology, basin hydrology, and water supply. His educational background in groundwater hydraulics complements his experience exploring, testing, and modeling a wide variety of groundwater regimes: single- and multi-aquifer systems, unsaturated soils, fractured aquifers, two-phase flow systems, and shallow groundwater influences on stormwater and wetlands. Mr. Ellingson's areas of expertise include groundwater management, contaminant assessment, design of remedial measures, and modeling the hydrologic effects of land use changes.

Selected Project Experience:

- SeaTac Third Runway Groundwater Impacts, Port of Seattle, WA; project manager
- Salmon Creek Basin Hydrological and Groundwater Study, Thurston County, WA; project manager

Linton Wildrick, RHG
Associate Hydrogeologist

Mr. Wildrick brings 30 years of well-rounded experience, both as a private consultant and as senior hydrogeologist and technical supervisor for Ecology's Water Resources Program, to his projects. Much of this experience is water rights-related and interdisciplinary hydrologic systems analysis, incorporating his knowledge of hydrogeologic processes, watersheds, and stream habitats. At Ecology, he advised managers and permit-writers on hydrologic aspects of water-rights policy and served as the lead scientist on the Technical Committee for Capture of Surface Water by Wells. He testified before legislative committees on proposed changes to water law and administrative rules, and he is current on court decisions and policy changes affecting water management in Washington. Mr. Wildrick also served as the lead research liaison with the U.S. Geological Survey (USGS) and published over 40 groundwater-related technical reports.

Selected Project Experience:

Staff Assigned

- Groundwater Protection Strategy for the Puyallup Tribal Jurisdiction; Puyallup Tribe of Indians., Puyallup, WA
- Salmon Creek Watershed Assessment, Clark Public Utilities, Clark County, WA; hydrogeologist
- Study Design and Initial Watershed Assessments; Washington Dept. of Ecology, State-wide; hydrogeologist
- Watershed Assessment Methodology Development and Assessment of Snohomish River Basin; Washington Dept. of Ecology, King and Snohomish Counties, WA; hydrogeologist