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WHATCOM COUNTY
COUNCIL

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Drayton Harbor Shellfish Protection District Committee

APPLICATION FOR APPOINTMENT TO WHATCOM COUNTY BOARDS AND COMMISSIONS
PLEASE PRINT LEGIBLY and COMPLETE ALL ITEMS

Name: Julie Hirsch Date: 1/23/2019
Street Address: 2523 Island View Lane Lumm Island
City: Frederick Zip Code: 98262
Mailing Address (if different from street address): _____
Day Telephone: 360-510-5343 Evening Telephone: same Cell Phone: same
E-mail address: garden.salishsea@gmail.com

- Name of board or committee-please see reverse: Drayton Harbor SPDAC
- You must specify which position you are applying for.
Please refer to vacancy list. DHSPDAC, citizen
- Do you meet the residency, employment, and/or affiliation requirements of the position for which you're applying?
(If applicable, please refer to vacancy list.) yes () no
- Which Council district do you live in? () One () Two () Three () Four Five
- Are you a US citizen? yes () no
- Are you registered to vote in Whatcom County? yes () no
- Have you ever been a member of this Board/Commission?
If yes, dates: _____ () yes no
- Do you or your spouse have a financial interest in or are you an employee or officer of any business or agency that does business with Whatcom County? yes () no
If yes, please explain: in the past I have contracted to W.C. (1999-2001)
- Have you declared candidacy (as defined by RCW 42.17A.055, see instructions) for a paid elected office in any jurisdiction within the county? () yes no

You may attach a résumé or detailed summary of experience, qualifications, & interest in response to the following questions.

10. Please describe your occupation (or former occupation if retired), qualifications, professional and/or community activities, and education.
1997-present: Water quality consultant, educator. Past water quality supervisor for City of Bellingham (1990-1996). Resume provided upon request. website: gardensalishsea.org

11. Please describe why you're interested in serving on this board or commission: Conduct Garden of the Salish Sea Curriculum program for Blaine Schools since 2012. Conduct water quality projects in Dtl watershed since 1999

References (please include daytime telephone number): Bobbi Hudson, Pacific Shellfish Institute Executive director 360 754-2741, Ravyn Whitewolf, Blaine PW Director 360-332-8820

Signature of applicant: Julie Hirsch

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LLC

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Julie Hirsch Bio

M.S. Applied Microbiology, Northern Arizona University, Flagstaff Arizona

B.A. Biology, Western Washington University, Bellingham Washington

Julie Hirsch is an environmental scientist who brings a Master's degree in Microbiology and more than 25 years experience in the water quality and water resources fields focused in northwest Washington. She is principal and founding owner of Hirsch Consulting Services that specializes in preparation of quality assurance project plans, data management, and bacteria TMDL evaluations for local and State agencies, Tribes, and non-profit organizations. Hirsch Consulting Services specializes in all phases of marine and fresh water quality monitoring. Julie is experienced in developing quality assurance project plans, data collection and assessment, report writing and report presentation. Ms. Hirsch has extensive experience designing, implementing, and managing a wide range of water quality programs during 6 years as Bellingham's Technical Supervisor for Water Quality. Programs included: drinking water, Lake Whatcom, wastewater, surface water and storm water quality monitoring and water quality education. Since 1999, Julie has concentrated her efforts on shellfish growing area recovery, from contracting to Whatcom County as co-coordinator for Portage Bay and Drayton Harbor Shellfish Protection Districts to authoring ground breaking microbial source tracking studies at Drayton Harbor in partnership with multiple agencies. She has worked with agencies in a technical workgroup setting to utilize water quality data in facilitating decision making and implementation of corrective actions that improve water quality.

In 2012 Hirsch founded Garden of the Salish Sea Curriculum (GSSC), a K-12 education program that fulfills Washington State Shellfish Initiative goals. GSSC is under fiscal sponsorship of Olympia Based Pacific Shellfish Institute. Community. Based upon a Near Term Action proposal that GSSC submitted to the Puget Sound Partnership, Community Based K-12 Shellfish Education, is a shellfish recovery strategy now included in the 2018-2022 Puget Sound Action Agenda.

Hirsch Consulting Services (HCS, LLC) was founded in 1995 providing customized environmental service to clients in the Pacific Northwest focusing on freshwater and marine water quality and water resources. H.C.S. is certified by the Washington State Office of Minority and Women's Business Enterprises.

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JULIE HIRSCH - Owner/Principal

EDUCATION

M.S. Applied Microbiology, Northern Arizona University, Flagstaff Arizona

B.A. Biology, Western Washington University, Bellingham Washington

PROFESSIONAL EXPERIENCE

1996-2018

Water Quality Consultant, founding owner of Hirsch Consulting Services, LLC a firm providing environmental consulting services to local and state governments, non-profit organizations, Indian Tribes and water purveyors.

Consulting Projects

- **Drayton Harbor/Semiahmoo Bay Water Quality Enhancement Project**, managing comprehensive Centennial Grant project with water quality monitoring, restoration and corrective action planning and public awareness and education components. Public awareness and outreach is coordinated and partnered with Garden of the Salish Sea Curriculum schools program, Blaine Washington (**Blaine Public Works Department, 2014 -2017**).
- **Garden of the Salish Sea Curriculum (GSSC) (gardensalishsea.org)** is an environmental science program, created in 2012 that uses shellfish and water quality as a vehicle to teach pollution prevention centered upon hands-on learning through field experience and an action-oriented *Salish Sea Challenge*. The program was piloted by the Puget Sound Restoration Fund for public schools in Whatcom County Washington in partnership with their Drayton Harbor Community Oyster Farm. GSSC transitioned to fiscal sponsorship from the Pacific Shellfish Institute in 2016. (2012-present).
- **Drayton Harbor TMDL support and microbial source tracking (MST) phase 3**, Drayton Harbor and Semiahmoo Bay, including preparation of QAPP, coordination of partners, sampling, reporting, presentation and technical work group facilitation for freshwater and marine water quality, microbial source tracking (MST) and circulation studies. (**Nooksack Indian Tribe, 2009-2010**).
- **Drayton Harbor MST pilot study Phase 1 & 2** used ribotyping and polymerase chain reaction methods, Drayton Harbor, Whatcom County, Washington. Preparation of monitoring plan, coordination/training of partners, sampling, reporting and presentation. (**Puget Sound Restoration Fund, Whatcom County, 2006-2009**).
- **Drayton Harbor bacteria TMDL assessment**, Whatcom County Washington including; water quality sampling and data review as part of Ecology/Whatcom County TMDL team. (**Whatcom County Public Works, Natural Resources, 2008**).
- **California Creek tributary monitoring**, Drayton Harbor watershed, Whatcom County Washington including; preparation of quality assurance project plan, performance of water quality sampling, data assessment, and reporting. (**Whatcom County Public Works, Stormwater, 2006-2007**)
- **Whatcom County MRC Volunteer Monitoring Program** in Drayton Harbor, Birch Bay, and Chuckanut drainages of Whatcom County Washington. Included QAPP development, volunteer training, data assessment, and reporting. (**Whatcom County Public Works, Stormwater, 2006-2007**)

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- **Optical brightener MST study**, California Creek. Assisted in planning, conducted sampling. (Herrera Environmental Consultants, Seattle, WA under contract to Whatcom County Public Works, Stormwater, 2006-2007.)
- **Feasibility study for microbial source tracking projects** in the Drayton Harbor watershed, Whatcom County WA, 2005 (Puget Sound Restoration Fund, 2005).
- **Groundwater monitoring and reporting** for a State Model Toxics Control Act designated site, 1997- 2007 (Port of Bellingham, WA).
- **Water quality monitoring in Blaine Harbor, Drayton Harbor, and Semiahmoo Bay** including; performance of water quality sampling, data assessment, reporting, and report presentation (Port of Bellingham 2001-2009).
- **Public drinking water system monitoring** in Whatcom and San Juan Counties, 1997-2007.
- **Stormwater treatment pilot project monitoring and evaluation, Blaine Harbor** including; preparation of quality assurance project plan, performance of water quality sampling, data assessment, and reporting. (Port of Bellingham, 2004).
- **Stormwater monitoring, Blaine Harbor** including; preparation of quality assurance project plan, water quality sampling, data assessment, reporting and presentation. (Whatcom County Water Resources Division, 2003-2004).
- **Water quality monitoring in the Drayton Harbor watershed** for a Clean Water Act Centennial grant including; preparation of quality assurance project plan and performance of water quality sampling, stormwater sampling, and reporting Whatcom County, 2002-2004. (ReSources for Sustainable Communities and Port of Bellingham).
- **Preparation of citizen's water quality training manual and quality assurance project plan**, and presentation of training session in Whatcom County Washington, 2002 (**ReSources for Sustainable Communities**).
- **Whatcom County Shellfish Protection Implementation** – data management, and design of district water quality database, coordinating stakeholder agencies in water quality monitoring programs, 1999-2001. (**Whatcom County Health and Human Services, Water Resources Division, and Whatcom Conservation District**)
- **Preparation of stormwater pollution prevention plans for industrial activities**, 1998- 2000 (Port of Bellingham WA).
- **Industrial stormwater inspections** under Washington State's Stormwater General Baseline Permit, 1997-ongoing. (Port of Bellingham WA).
- **Lake Whatcom and Whatcom Creek water quality and sediment sampling** including; preparation of quality assurance project plans, stormwater sampling and reporting.[Washington State Department of Ecology (DOE) 1997-1998, Bellingham, WA].
- **Surface water sampling, fresh and marine waters**, 1998 (Lummi Indian Business Council, Bellingham, WA)
- **Water resource inventory and assessment** including wetlands identification, fish habitat inventory, water quality monitoring, and review of existing records for rural property, and housing developments with evaluation of drinking water and wastewater systems, 1997 (Nooksack Indian Tribe, Deming WA)..
- **Development of moderate risk waste facility concept design** at Squalicum Harbor Marina, 1997 (Port of Bellingham, Bellingham)
- **Design and presentation of water quality workshops** for schools and community steward groups, 1990-1996 (Bellingham, WA).

1990-1996

Technical Supervisor of Water Quality, City of Bellingham Washington, Public Works Department. More than five years experience managing water quality programs, laboratories and staff for municipal drinking water and waste water utilities serving a population of 65,000. Implementation of Safe Drinking Water Act and Clean Drinking Water

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Act programs. Programs also included monitoring of lakes and streams for water quality and nonpoint source contamination and conducting public education programs.

Wetlands Inventory Coordinator, City of Bellingham Washington, Planning Department. Project manager for municipal wetlands inventory. Hired, coordinated and supervised team of 15. Performed desktop and field wetlands identifications.

Watershed Workshop Educator for community watershed stewardship groups and schools in Whatcom County Washington. Developed and presented water quality and bioassessment workshops for audiences of all ages.

US-Asia Environmental Fellow for US-AID program in Kathmandu Nepal. Designed and executed bench scale waste water treatment experiments for Nepal Environmental and Scientific Services Ltd. Trained staff in preparation for a pilot plant study.

Microbiology QA/QC Consultant for Department of Health (DOH) laboratory certification for the microbiological analysis of drinking water in Washington State. Services performed for the City of Everett Washington.

1987-1990

Field and Laboratory Water Quality Technician for consultant Dr. H.K. Speidel, Northern Arizona University, Flagstaff, Arizona. Performed sampling, and water quality testing in rural and urban settings. Instructed biology courses.

1980-1985

Forestry Technician (seasonal) for the U.S Forest Service. Performed water quality sampling as part of western U.S. wilderness lakes survey, performed wildlife surveys, trail maintenance and crew supervision.

PROFESSIONAL MEMBERSHIPS

Certified Women's Business Enterprise, State of Washington certified Women's Business Enterprise.

Water Treatment Plant Operator certified Group II, Washington State Department of Health, certificate #6347, expired.

Waste Water Treatment Plant Operator certified Group I, Washington State Department of Ecology, certificate,#5965, expired.

PUBLICATIONS, REPORTS AND PRESENTATIONS

Hirsch Consulting Services , Llyn Doremus and Geoff Menzies, 2010. *Addendum to Drayton Harbor Watershed Fecal Coliform TMDL and Phase 3 Microbial Source Tracking; Semiahmoo Bay*. July 2010. Prepared for the Nooksack Indian Tribe, Deming Washington.

Hirsch Consulting Services, 2009. *Drayton Harbor Watershed Microbial Source Tracking Pilot Study Phase 2: California Creek, Dakota Creek and Cain Creek Sub-watersheds*. September, 2009. Prepared for the Whatcom County Public Works Department - Stormwater, Bellingham Washington.

Hirsch Consulting Services, 2009. *Drayton Harbor Watershed Microbial Source Tracking Pilot Study Phase 2: California Creek, Dakota Creek and Cain Creek Sub-watersheds*. September, 2009. Prepared for the Whatcom County Public Works Department - Stormwater, Bellingham Washington.

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Hirsch Consulting Services, 2008. *California Creek and Drayton Harbor Microbial Source Tracking Pilot Study*. December, 2008. Prepared for the Whatcom County Public Works Department Natural Resources Division, Bellingham Washington.

Hirsch Consulting Services, 2007. *California Creek Tributary Monitoring*. September, 2007. Prepared for Whatcom County Public Works Stormwater, Bellingham, Washington.

Hirsch Consulting Services, 2007. *California Creek Tributary Monitoring*. September, 2007. Prepared for Whatcom County Public Works Stormwater, Bellingham, Washington.

Hirsch Consulting Services, 2006. *Whatcom County Volunteer Monitoring Program for Drayton Harbor, Birch Bay, and Chuckanut Bay Watersheds*. July, 2007. Prepared for Whatcom County Public Works Stormwater, Bellingham, Washington.

Hirsch Consulting Services, 2006. *Whatcom County Volunteer Monitoring Program for Drayton Harbor, Birch Bay, and Chuckanut Bay Watersheds Quality Assurance Project Plan*. December, 2006. Prepared for Whatcom County Public Works Stormwater, Bellingham, Washington.

Hirsch Consulting Services, 2006. *California Creek and Drayton Harbor Microbial Source Tracking Pilot Study Monitoring Plan*. December 2006. Prepared for the Puget Sound Restoration Fund, Bainbridge Island, Washington.

Hirsch Consulting Services, 2006. *California Creek tributary Monitoring Quality Assurance Project Plan*. April 2006. Prepared Whatcom County Public Works Stormwater Division, Bellingham, Washington.

Hirsch Consulting Services and TEC Inc., 2006. *2005 Blaine Harbor Water Quality Monitoring Summary and Recommendations*. April 2006. Prepared for the Port of Bellingham, Bellingham, Washington.

Hirsch Consulting Services, 2005. *Technical Memorandum, RE: Microbial Source Tracking Techniques Review for Fecal Source Identification in the Drayton Harbor Watershed*. Prepared for the Puget Sound Restoration Fund, Bainbridge Island, Washington.

Hirsch Consulting Services and TEC Inc., 2005. *Drayton Harbor Water Quality Monitoring Summary for 2004 and Recommendations*. April 2005. Prepared for the Port of Bellingham, Bellingham, Washington.

Hirsch Consulting Services, 2004. *Blaine Harbor Stormwater Treatment Pilot Monitoring*. August 2004. Prepared for the Port of Bellingham, Bellingham, Washington

Hirsch Consulting Services, 2004. *Stormwater Fecal Coliform Bacteria Sampling at Blaine Harbor*. June 2004. Prepared for the Puget Sound Restoration Fund and Whatcom County Water Resources Division, Bellingham, Washington.

The Environmental Company Inc., and Hirsch Consulting Services, 2004. *Technical Memorandum, RE: 2003 Drayton Harbor Water Quality Monitoring Summary and Recommendations*. April 2004. Prepared for the Port of Bellingham, Bellingham, Washington.

Hirsch Consulting Services and Puget Sound Restoration Fund, 2004. *Non Point Pollution Solutions Water Quality Monitoring*. May 2004. Prepared for ReSources for Sustainable Communities for Department of Ecology Grant #G0200269, Bellingham Washington.

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The Environmental Company Inc., and Hirsch Consulting Services, 2004. *Technical Memorandum, RE: Drayton Harbor Water Quality Monitoring Summary for 2002 and Recommendations for Monitoring in 2003.* February 2003. Prepared for the Port of Bellingham, Bellingham, Washington.

The Environmental Company Inc., and Hirsch Consulting Services, 2003. *Technical Memorandum, RE: Drayton Harbor Water Quality Monitoring Summary for 2002 and Recommendations for Monitoring in 2003.* February 2003. Prepared for the Port of Bellingham, Bellingham, Washington.

Hirsch Consulting Services, 2002. *Puget Sound BayKeeper Environmental Monitoring Program Training Manual.* September 2002. Prepared for ReSources for Sustainable Communities, Bellingham, Washington.

Hirsch Consulting Services, 2002. *Puget Sound BayKeeper Environmental Monitoring Program Quality Assurance Project Plan. August 2002.* Prepared for ReSources for Sustainable Communities, Bellingham, Washington.

Hirsch Consulting Services, 2002. *Quality Assurance Project Plan for Non-Point Pollution Solutions Water Quality Sampling. July 2002.* Prepared for ReSources for Sustainable Communities, Bellingham, Washington.

Hirsch Consulting Services, 2001. *Preliminary Narrative Description and Quality Assurance Project Plan for Whatcom Watersheds Pledge; Drayton Harbor Monitoring Component, Comprehensive Drayton Harbor & Lower Nooksack River Project.* June 2001. Prepared for the Whatcom County Council of Governments.

The Environmental Company Inc., and Hirsch Consulting Services, 2001. *Technical Memorandum, RE: Drayton Harbor Water Quality Monitoring Summary for 2000 and 2001 and Recommendation for Future Monitoring.* March 2001. Prepared for the Port of Bellingham.

Hirsch Consulting Services, 2000. *Drayton Harbor Shellfish Protection District Water Quality Summary.* Prepared for Whatcom County, Health and Human Services, Bellingham Washington, October 2000.

Hirsch Consulting Services, 2000. *Portage Bay Shellfish Protection District Water Quality Summary.* Prepared for Whatcom County, Health and Human Services, Bellingham Washington, October 2000.

Hirsch Consulting Services, 2000. *Coordinated Water Quality Monitoring Framework for Drayton Harbor Shellfish Protection District.* Prepared for Whatcom County, Health and Human Services, Bellingham WA, January 2000.

Hirsch Consulting Services, 2000. *Coordinated Water Quality Monitoring Framework for Portage Bay Shellfish Protection District.* Prepared for Whatcom County, Health and Human Services, Bellingham Washington, January 2000.

Serdar, D., D, Davis, and J. Hirsch, 1999. *Lake Whatcom Cooperative Drinking Water Protection Project.* Publication # 99-337, Washington State Department of Ecology, Olympia WA. Prepared for the Department of Ecology, Bellingham Field Office, September 1999.

Hirsch, J.L. 1998. *Narrative Description and Quality Assurance Plan Lake Whatcom Watershed - Cooperative Drinking Water Protection/Sampling.* Prepared for the Washington State Department of Ecology.

Hirsch, J.L. 1997. (DRAFT) *Resource Inventory and Assessment of Nooksack Indian Tribal Properties: Tenaska, Five Cedars, and Rutsatz.* Prepared for the Nooksack Indian Tribe.

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Hirsch, J.L. 1996. *City of Bellingham Streams Monitoring: Data Summary and Program Review*. An assessment of urban impacts to stream water quality based on five years of data collection addressing program objectives and public involvement. Prepared for the City of Bellingham.

Hirsch, J.L. 1996. *Lakes Comparison Summary: Lake Whatcom, Lake Sammamish, Lake Washington*. An assessment of potential impacts on a municipal drinking water source. Prepared for the City of Bellingham.

Hirsch, J.L. and Ann Sandvig (1996) *Impacts of Corrosion Control Optimization on Distribution System Water Quality*. Presented for the City of Bellingham and Economic and Engineering Services Incorporated at the AWWA Pacific Northwest Section annual meeting, 1996.

Hirsch, J.L. (1995). *Corrosion Control Optimization; The Bellingham Experience*. Presented for the City of Bellingham at the AWWA Pacific Northwest Section annual meeting, 1995.

Hirsch, J.L., H.K. Speidel and G. Bell (1990). *Light Induced Factors Influencing Bacterial Survival in Oxidation Lagoons*. American Society for Microbiology Annual Meeting Proceedings, 1990.

Hirsch, J.L., M. Stevens and L. Villalobos (1989). *Pathogen Die-off in Oxidation Lagoon Water and in Unialgal Culture*. American Society for Microbiology Annual Meeting Proceedings, 1989.

Hirsch, J.L. and H.K. Speidel (1988). *The Significance of Algae in Waste Water Lagoon Systems*. Presented at the American Society for Microbiology, Arizona Branch annual meeting, 1988.

References provided upon request.