

# GROUNDWATER & WATER WELLS

Current groundwater water issues in the State of Washington  
Effective & economic well design and operation  
(Conference/workshop - 8:00am to 4:30pm)



Monday, Oct 23, 2017—Red Lion Hotel Seattle Airport  
18220 International Boulevard, Seattle, WA 98188

An American Ground Water Trust education program



## Continuing Education

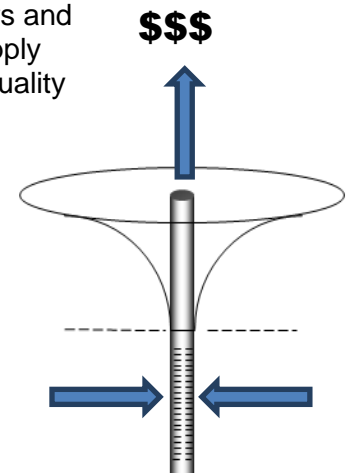
AGWT will issue Certificates of Attendance (Engineers & other professions)

Water Well Drillers – Approved by WA State Dept of Ecology - 0.7 CEUs per Class Session



## Who should be there?

Groundwater managers, utility supply professionals, well contractors, pump installers, water well equipment suppliers, water well owners, end-users and operators of high-yield water wells, groundwater specialists, water supply engineering & design consultants, water supply permitting and water quality regulatory officials



**WATER RIGHTS TRANSFER**  
**LEWIS MCCHORD PRIVATIZATION**  
**GROUNDWATER SOURCE RESILIENCE**  
**INJECTION WELLS FOR STORM WATER**  
**“HIRST DECISION” - BUILDING PERMITS**  
**COLUMBIA BASIN AQUIFER STORAGE RECOVERY**  
**WASHINGTON WELL CONSTRUCTION REGULATIONS**  
**DEEP WELL DRILLING AND INSTALLATION CHALLENGES**  
**WELL HYDRAULICS: PUMP SELECTION TO MAXIMIZE YIELD**  
**MAINTAINING AND OPERATING 700 WELLS IN BERLIN, GERMANY**  
**HOW TO SELECT INTELLIGENT PUMP VARIABLE FREQUENCY DRIVES**

## Morning Plenary Session Seattle/Tacoma Program

7:30am – 8:00am REGISTRATION (coffee & pastries)

8:00am - 8:15am  
OPENING REMARKS – PROGRAM OBJECTIVES  
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

8:15am – 8:55  
WELL CONSTRUCTION PROGRESS IN WASHINGTON  
Scott Malone, State Well Construction and Licensing Coordinator, Dept of Ecology, Olympia, WA

8:55am - 9:35am  
UNDERGROUND INJECTION WELLS FOR STORM WATER MANAGEMENT  
Christopher Martin, Water Quality Program, WA Department of Ecology, Olympia, WA

9:35am - 10:15am  
THE “HIRST DECISION” ON BUILDING PERMITS  
Carl Einberger, Senior Hydrogeologist, Aspect Consulting, Seattle, WA

10:15am – 10:35am BREAK

10:35am – 11:15am  
WHATCOM COUNTY V. HIRST, FUTUREWISE, et al. (WA Supreme No. 91475–3)  
Jill Dvorkin, Attorney, Municipal Research and Services Center (MRSC), Seattle, WA

11:15am - 12:00pm

MONITORING, MANAGING AND MAINTAINING 700 WELLS: SOLE SOURCE OF SUPPLY FOR THE CITY OF BERLIN, GERMANY

Andreas Wicklein, Manager, Certified Hydrologist, pigadi GmbH, Berlin,

12:00pm – 1:10pm

LUNCH (Included)

### Afternoon Session – Seattle/Tacoma Program Option 1

1:10pm - 1:50pm

PREPARING JOINT BASE LEWIS MCCHORD WATER SYSTEM FOR PRIVATIZATION

Leah Anderson, Military Construction Project Manager, USACE Seattle District, Seattle, WA

Jim Bailey, National Well Services Director, Shannon & Wilson, Seattle, WA

1:50pm - 2:30pm

WATER RIGHTS TRANSFER PROCESS

Stephen Thomas, Hydrogeologist, Shannon & Wilson, Seattle, WA

2:30pm – 3:10pm

STATUS OF COLUMBIA BASIN ASR PILOT STUDY

Joel Purdy, Associate Hydrogeologist, GeoEngineers, Tacoma, WA

3:10pm – 3:25pm BREAK

3:25pm – 4:00pm

GROUNDWATER SOURCE RESILIENCE- PLANNING AND MONITORING FOR FUTURE UNCERTAINTY

Steve Nelson, Senior Hydrogeologist, RH2 Engineers, Bothell, WA

4:00pm - 4:30pm

DEEP WELL DRILLING AND INSTALLATION CHALLENGES

Robert Stadlei, Rotary Division Manager, Holt Drilling Services, Edgewood, WA

### Afternoon Session – Seattle/Tacoma Program Option 2

#### What you will learn:

- ◆ Practical, cost-effective solutions that work to maximize well yields
- ◆ Well design and construction criteria to optimize return on investment
- ◆ Matching pump selection to meet required water delivery expectations
- ◆ Yield /drawdown data that help to diagnose declining well performance
- ◆ Effects of biological growth and chemical deposition on well encrustation
- ◆ How to extend the asset value of wells by proactive maintenance programs
- ◆ Calculations to measure changes in well & pump efficiency and operation costs
- ◆ Latest technologies and equipment for pump controls and well-field operation software
- ◆ Selection of solution options (mechanical and chemical) to rehabilitate wells and restore yield
- ◆ Solutions to water quality in new well construction design and in modifications to existing wells



1:10pm – 2:20pm

THE BASICS OF WELL HYDRAULICS (FROM AQUIFER TO WELL TO PUMP)

SELECTION AND MAINTENANCE OF PUMPS FOR MAXIMIZING WELL YIELD/ COST BENEFITS

David Kill, Training Consultant, Xylem Goulds Water Technology, St. Paul, MN

2:20pm - 3:10pm

INTELLIGENT PUMP VARIABLE FREQUENCY DRIVES MAXIMIZE PRODUCTION AND EFFICIENCY

Dan Peters, Applications Engineer, Yaskawa America, Inc., Cypress, CA

3:10pm – 3:25pm BREAK

3:25pm – 4:25pm

METHODS FOR IMPROVING WELL PERFORMANCE

Jim Bailey, National Well Services Director, Shannon & Wilson, Seattle, WA

4:25pm – 4:30pm

WRAP UP – FINAL QUESTIONS AND CONTINUING EDUCATION SIGN-OUT

**SCROLL DOWN FOR REGISTRATION**

**SEATTLE GROUNDWATER CONFERENCE/WORKSHOP (October 23, 2017)**  
 - or register on-line at [www.agwt.org](http://www.agwt.org)

**EARLY BIRD RATES MUST BE PAID IN FULL BY SEPTEMBER 28, 2017**

EARLY BIRD Registration – Pd by 09/28/2017	\$235	<input type="checkbox"/>
EARLY BIRD – AGWT Corp Member or Gov't – Pd by 09/28/2017	\$200	<input type="checkbox"/>
General Registration – Pd 9/29/2017 or later	\$265	<input type="checkbox"/>
AGWT Corp Member or Gov't – Pd 09/29/2017 or later	\$230	<input type="checkbox"/>
Full-Time Student (ID required at Registration)	\$80	<input type="checkbox"/>
PDF of Presentations (Post Conference) – Attendee Pricing	\$30	<input type="checkbox"/>
Exhibit Table (Personal Registration also Required)	\$250	<input type="checkbox"/>

**PAYMENT**  CHECK [payable: American Ground Water Trust] **Total \$**.....

AMEX  Visa  MasterCard  PO

**HOW TO REGISTER**

➔ **Mail:** American Ground Water Trust,  
 50 Pleasant Street, Concord, NH 03301  
 ➔ **Phone:** (800) 423-7748 (9am-4pm  
 eastern)  
 ➔ **Fax:** (603) 228-6557  
 ➔ **Register on line**  
<http://www.agwt.org/events> or  
[click here \(if using online\)](#)

Cancelation policy – see website

Credit Card or PO No. \_\_\_\_\_ Expiration \_\_\_\_\_

Cardholder Name \_\_\_\_\_

Registration Name \_\_\_\_\_

Title/Position \_\_\_\_\_

Company/ Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

E-Mail \_\_\_\_\_