

***Roles and Responsibilities  
Water Sustainability Act  
Groundwater Protection Regulation  
Water Sustainability Regulation***

**October 14, 2016**



# Roles and responsibilities well drillers and well pump installers

- Registration
- GWPR Division 2 qualifications for activities
- Wells regulated, well exempt from most requirements or not by the WSA and GWPR
- Water for drilling permitted in Part 4 of WSR; Use Approvals Sec 10 WSA
- Well siting and setback requirements
- Minimum standards for well construction, decommissioning
- Minimum standards for well pump installation; restricted activity or not
- Requirements for hand pumps
- **Requirements for flowing artesian wells**
- **Reports**

# Requirements for Flowing Artesian Wells

## Artesian flow must be stopped or brought under control (WSA s. 52, 53)

### Responsible parties:

- Driller at time of construction
- Well owner or land owner for existing well

### “Under control” means:

- Clear of sediment
- Entirely conveyed through casing (if applicable)
- Can be turned off indefinitely
- Does not pose a threat to property, public safety or the environment



# **“Qualifications” for controlling artesian flow are based on experience**

To stop/control a flowing artesian well, a well driller must:

- Be qualified to work on the class of well
- Have competency based on their “training, experience, knowledge, or skills”

A driller who is not “qualified” can work under supervision

# Additional requirements for artesian wells

- Equip wellhead prevent backflow
- Measure & report shut-in pressure
- Submit well construction & decommission reports

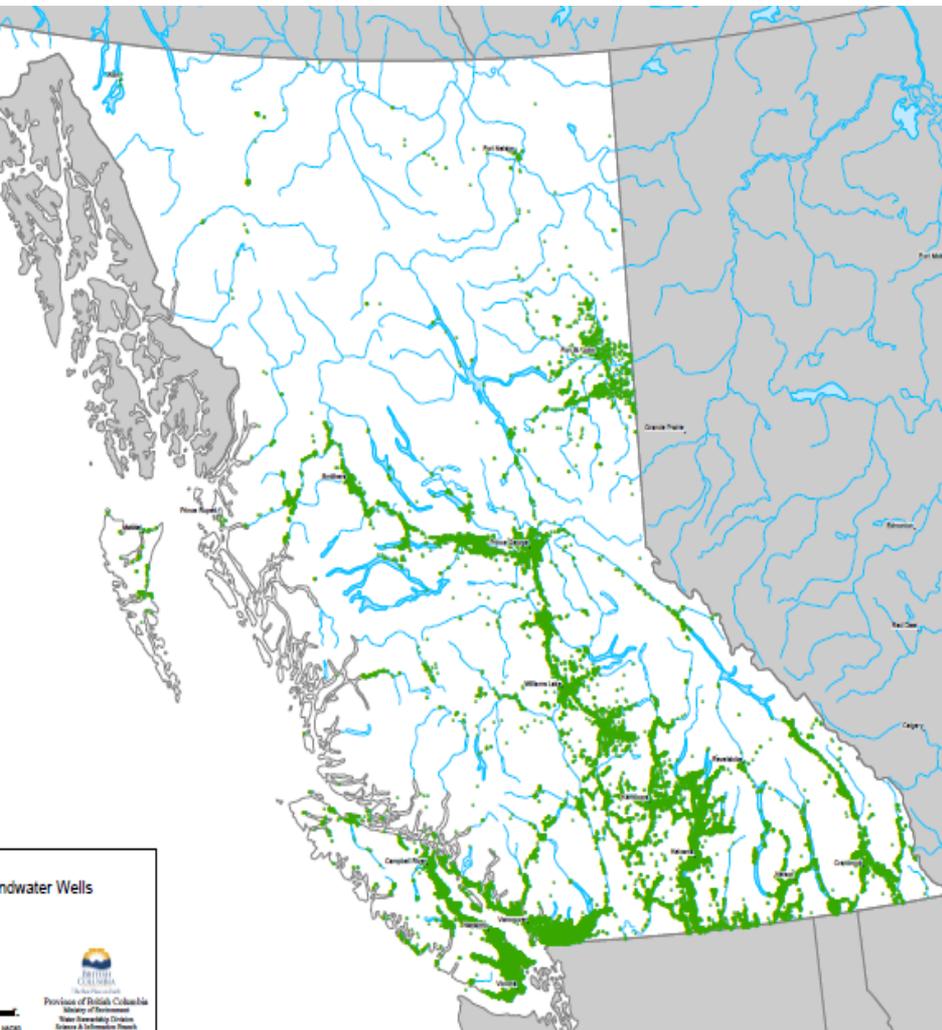


# Non regulatory requirements for Flowing Artesian Wells

Province does not provide guidance on contracts, agreements of payment or insurance.



# Resources for pre-drilling assessments



- Flowing artesian advisory
- BCWRA & iMap
- EcoCat



- Well Construction Report
- Well Closure Report
- Well Alteration Report

Stamp company name/address/  
phone/fax/email here, if desired.

Ministry Well ID Plate Number: \_\_\_\_\_  
 Ministry Well Tag Number: 55800  
 Existing Well Tag Number: \_\_\_\_\_  
 Confirmation/alternative specs. attached  
 Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner Name: C/O DARRIN MCCORMACK (MANAGER) COBBLE HILL IMPROVEMENT DISTRICT  
 Mailing address: \_\_\_\_\_ Town COWICHAN BAY Prov BC Postal Code V0R 1N1  
 Well location: Street 1135 HUTCHINSON RD Town COBBLE HILL  
 Legal description: Lot Plan 1957/SW D.L. Block Sec. 12 Twp. Rg. 7 Land District SHAWNIGAN  
 PID: 18177042 and Description of well location (attach sketch, if nec.): \_\_\_\_\_  
 NAD 83 Zone: 10 and UTM Northing: 5392816 m Latitude (see note 3): 0° 00' 00.00"  
 (see note 2) UTM Easting: 457248 m or Longitude: 0° 00' 00.00"  
 Method of drilling:  air rotary  cable tool  mud rotary  auger  driving  jetting  excavating  other (specify): \_\_\_\_\_  
 Orientation of well:  vertical  horizontal Ground elevation: \_\_\_\_\_ ft (asl) Method (see note 4): \_\_\_\_\_  
 Class of well (see note 5): \_\_\_\_\_ Sub-class of well: \_\_\_\_\_  
 Water supply wells, indicate intended water use:  private domestic  water supply system  irrigation  commercial or industrial  other (specify): \_\_\_\_\_

Lithologic description (see notes 7-14) or closure description (see notes 15 and 16)

From ft (bgl)	To ft (bgl)	Relative Hardness	Colour	Description	Material Description (use recommended terms on reverse. List in order of decreasing amount, if applicable)	Water-bearing Estimated Flow (USgpm)	Observations (e.g. fractured, weathered, well sorted, silty wash), closure details
0	14				Coarse brown gravel and sand		
14	25				Brown silty sand		
25	29				grey fill		
29	88				Very silty grey gravel and sand		
88	134				Brown gravel and sand		
134	143				Brown gravel and sand		
143	146				Silty brown sand		
146	152				Coarse brown sand		

Casing details

From ft (bgl)	To ft (bgl)	Da In	Casing Material/Open Hole	Wall Thickness In	Drive Shoe
0	153	6	Other	0.25	

Screen details

From ft (bgl)	To ft (bgl)	Da In	Type (see note 16)	Slot Size
153	158			18

Surface seal: Type: \_\_\_\_\_ Depth: \_\_\_\_\_ ft  
 Method of installation:  Poured  Pumped Thickness: \_\_\_\_\_ in  
 Backfill: Type: \_\_\_\_\_ Depth: \_\_\_\_\_ ft  
 Liner:  PVC  Other (specify): \_\_\_\_\_  
 Diameter: \_\_\_\_\_ in Thickness: \_\_\_\_\_ in  
 From: \_\_\_\_\_ ft bgl To: \_\_\_\_\_ ft bgl Perforated: From: \_\_\_\_\_ ft bgl To: \_\_\_\_\_ ft bgl

Intake:  Screen  Open bottom  Uncased hole  
 Screen type:  Telescope  Pipe size  
 Screen material:  Stainless steel  Plastic  Other (specify): \_\_\_\_\_  
 Screen opening:  Continuous slot  Slotted  Perforated Pipe  
 Screen bottom:  Ball  Plug  Plate  Other (specify): \_\_\_\_\_  
 Filter pack From: \_\_\_\_\_ ft To: \_\_\_\_\_ ft Thickness: \_\_\_\_\_ in  
 Type and size of material: \_\_\_\_\_

Developed by:  
 Air lifting  Surging  Jetting  Pumping  Bailing  
 Other (specify): \_\_\_\_\_ Total duration: \_\_\_\_\_ hrs  
 Notes: DEVELOPED BY BAILING

Final well completion data:  
 Total depth drilled: \_\_\_\_\_ ft Finished well depth: 158 ft bgl  
 Final stick up: \_\_\_\_\_ in Depth to bedrock: \_\_\_\_\_ ft bgl  
 SWL: 90 ft (bloc) Estimated well yield: 25.00 USgpm  
 Artesian flow: \_\_\_\_\_ USgpm, or artesian pressure: \_\_\_\_\_ ft  
 Type of well cap: \_\_\_\_\_ Well disinfected:  yes  no  
 Where well ID plate is attached: \_\_\_\_\_

Well yield estimated by:  
 Pumping  Air lifting  Bailing  Other (specify): \_\_\_\_\_  
 Rate: \_\_\_\_\_ USgpm Duration: \_\_\_\_\_ hrs  
 SWL before test: \_\_\_\_\_ ft (bloc) Pumping water level: \_\_\_\_\_ ft (bloc)

Well closure information:  
 Reason for closure: \_\_\_\_\_  
 Method of closure: \_\_\_\_\_  
 Sealant material: \_\_\_\_\_ Backfill material: \_\_\_\_\_  
 Details of closure: \_\_\_\_\_

Obvious water quality characteristics:  
 Fresh  Salty  Clear  Cloudy  Sediment  Gas  
 Colour/odour: \_\_\_\_\_ Water sample collected:

Date of work (YYYYMMDD):  
 Started: 1988/03/05 Completed: \_\_\_\_\_  
 Comment: \_\_\_\_\_

Well driller (print clearly):  
 Name (first, last) (see note 19): GARTH DOEGE  
 Registration no. (see note 20): \_\_\_\_\_  
 Consultant (if applicable name and company): \_\_\_\_\_

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Order Responsible

# Well Reports

## Responsibility:

- QWD, QP, QWPI
- Submit to well owner
- Submit water supply, permanent dewatering, 1/geoexchange system, & all artesian flow

## Important for:

- Pre-drilling assessments
- Pump installation
- Delineation & classification of aquifers
- Water Licensing
- Domestic user rights
- Water shortages
- Water budgets
- Water Sustainability Plans

# Roles and responsibilities of professionals/consultants

- Alternative specifications for siting and decommissioning only
- Must be prepared by a professional and accepted by engineer (government)
- Engineer may apply terms and conditions
- Well owner must operate the well in accordance with the design and operating instructions of the professional and any terms and conditions set by the engineer.





# Alternative means of controlling artesian flow

- Exceptional circumstances; “not practicable”
- Report on alternative management
  - Prepared by professional
  - Assess conditions, evaluate options, propose management strategy
  - Report requirements listed in Schedule 1, GWPR
  - Submit to comptroller or water manager
- SDM must be satisfied of no threat to property, public safety, or the environment



**Pumping tests must be carried out by a professional if required**



**Must not construct well pit for new/altered water supply wells**



# Well owners must maintain wells in good condition and promptly carry out repairs

Store contaminants >3m away and prevent from traveling within 3m of wellhead

Maintain 0.3m stick up and protect from damage

Keep ground sloped so water does not pond and is conveyed away from wellhead



Maintain access to wellhead for inspections

Keep area clear of obstructions and vegetation

Replace ID plate if lost or damaged

Maintain surface seal and fill any visible annular space with sealant

# Apply at [www.frontcounterbc.ca](http://www.frontcounterbc.ca)

## B.C. Home

### Forests, Lands and Natural Resource Operations

FrontCounter BC

#### FrontCounter BC Links

- [INFO about Natural Resource Applications](#)
- [START a Natural Resource Application](#)
- [MANAGE your Natural Resource Applications](#)
- [WHAT is FrontCounter BC](#)
- [WHERE FrontCounter BC Locations](#)
- [HOW to contact FrontCounter BC](#)
- [NEWS FrontCounter BC](#)

#### Helpful Links

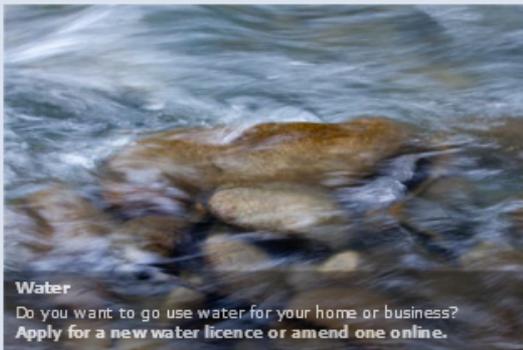
- [BCeID](#)
- [BC Land Title & Survey](#)
- [BC Online](#)
- [Discovery Tool](#)
- [Minerals Title Online \(MTO\)](#)
- [Integrated Land and Resource Registry](#)
- [IMapBC](#)
- [Help](#)



#### Help protect B.C.'s natural resources

Report Natural Resource Violations, including damage or illegal use of Crown Land, forest or water:

- Fill out a [Report of Natural Resource Violation Form](#)
- or call 1-844-NRO-TIPS (1-844-676-8477)
- To report poaching or pollution violations, contact the Conservation Officer Service at 1-877-952-7277 or visit their [website](#).



#### Water

Do you want to go use water for your home or business?  
Apply for a new water licence or amend one online.

12/24/2015

#### Groundwater Licensing coming in early 2016

The provincial government intends to bring the [Water Sustainability Act \(WSA\)](#) into effect in early 2016. The Act will bring in new licensing requirements for non-domestic groundwater users as well as [new fees and costs](#). Groundwater licence applications will not be accepted until the WSA comes in effect.

Visit the [WSA website](#) for more information on the upcoming changes. Detailed information on how to apply for a groundwater licence will be available at [FrontCounter BC](#) in early 2016.

## INFO

about Natural Resource Applications

## START

a Natural Resource Application

## MANAGE

Your Natural Resource Applications (with BCeID)

## WHAT

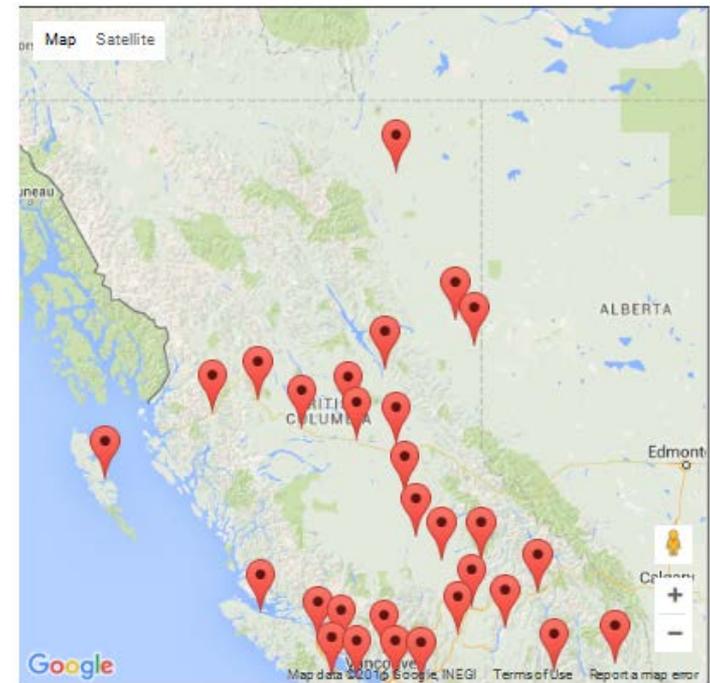
is FrontCounter BC

## WHERE

FrontCounter BC Locations

## HOW

to contact FrontCounter BC



## 29 Office Locations

# South Area Groundwater Team

## Penticton

Skye Thomson – Section Head (hydrogeologist)

Nicole Pyett – Regional Hydrogeologist

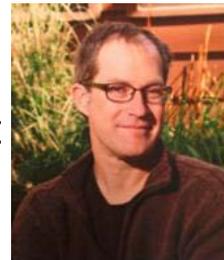
Hiring – Groundwater Protection Officer

Twyla Legault – Groundwater Technician



## Vernon

Dave Thomson – Regional Hydrogeologist



## Kamloops

Melissa Wade – Regional Hydrogeologist

Laurie Lyons – Groundwater Protection Officer



# Questions?



