



Invitation to Tender No. 19-065

Qualified Well Drilling Services

For

Whiskey Creek Well(s)

Closing Date:

Tenders must be received on or before 3:00 PM Pacific Time on September 26th, 2019

Closing location:

**Regional District of Nanaimo
Main Reception Desk
Second Floor
6300 Hammond Bay Road
Nanaimo, BC V9T 6N2**

Contact person:

**Gerald St. Pierre, P.Eng., PMP
Project Engineer, Water Services
Phone 250-390-6751
GStPierre@rdn.bc.ca**

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1 Background

The RDN took ownership of the Whiskey Creek Water Service Area (WCWSA) in 2011 at the request of the service area residents. The source water for the service area is collected via an intake gallery off Crocker Creek. This surface water supply has proved to be a challenge for the RDN, and during times of high turbidity and colour in the creek, the source cannot currently be filtered to drinking water standards. Instead, water is trucked into the reservoir to maintain supply for the service area.

After significant effort over two years to find a suitable groundwater source, the RDN has now gained an SRW over a portion of private property and is ready to investigate the site for a groundwater source. The RDN will start by drilling one well (Proposed Well #1) and only proceed with drilling a second well (Proposed Well #2) if it is required to do so.

As such, the RDN is now inviting Tenders for the drilling and pump testing of the well(s).

2 Instructions to Bidders

2.1 Introduction

The Regional District of Nanaimo (RDN) invites Tenders from qualified Contractors for the Whiskey Creek Well(s), as detailed herein and in accordance with the documents included and referenced within this Invitation to Tender (ITT).

The requested scope includes:

- Drilling and completion of a new well or wells;
- Step testing and pump testing of the new well.

The work must be completed by November 30th, 2019.

Specifications, prepared by GW Solutions, are attached as Appendix A.

The Work for this project will be completed using an RDN Contractor Services Agreement, attached as Appendix B. This ITT, any Addenda, and the Tenderer's completed Tender Forms will become part of the Contract Documents between the RDN and the Successful Tenderer.

2.2 Non-Mandatory Site Meeting

A non-mandatory site meeting will be held on Wednesday, September 18th, 2019 at 10:00am at the project site located at the corner of Carson Road and Ryan Road, Qualicum Beach, B.C.

2.3 Submission of Tenders

This section describes the expectations for Tender submission and the basis for evaluation. Tender layout and content should be in general alignment with these expectations to facilitate comparative evaluation.

Before submitting Tenders, Tenderers must satisfy themselves about the nature and location of the work, local conditions, the professional services, equipment, technology and facilities needed for the execution of the work, and all other factors that might have a bearing on their Tender. Tenderers are fully responsible for obtaining all information required for the preparation of Tenders and the execution of the work.

Tenderers are solely responsible for their own expenses in preparing and submitting Tenders, and for any meeting, negotiations, or discussions with the RDN or its representatives and consultants, relating to or arising from this ITT. Tenderers agree that by participating in the ITT process, and/or submitting a Tender, they have no claim for compensation.

One (1) complete hard copy of each Tender must be received on or before 3:00 PM, Pacific Time, on September 26th, 2019 at the address on the front cover of this ITT.

Tenders received after the Closing Date will be returned unopened.

Tenders sent by facsimile (fax) or e-mail will not be accepted.

Tenders should be submitted on the attached Tender Forms and be authorized by a signing officer of the Tenderer's company.

Tenders are to be submitted in sealed envelopes clearly marked with:

1. Name and address of the Tenderer
2. Whiskey Creek Well(s)
3. Closing 3:00 PM, Pacific Time, September 26th, 2019

2.4 Contact and Requests for Information

The contact person for the RDN is:

Gerald St. Pierre, P.Eng., PMP
Project Engineer, Water Services
Office Phone: 250-390-6751
Email: GStPierre@rdn.bc.ca

Any requests for information (RFI) related to this ITT are to be directed, in writing at least five (5) calendar days prior to the Closing Date, to Gerald St. Pierre via e-mail at GStPierre@rdn.bc.ca. RFI's and answers will be recorded and, where the information requested is not already clearly indicated, distributed via addendum posted to BC Bid at (www.bcbid.gov.bc.ca). It is the responsibility of the Tenderer to download and obtain any addenda posted prior to submitting their tender. Information obtained from any other source is not official and should not be relied upon.

2.5 Withdrawal

Tenders may be withdrawn prior to the closing date and time upon emailed notice to Gerald St. Pierre. Withdrawn Tenders may be replaced by alternative Tenders providing the replacement Tender is received at the closing location prior to the closing date and time.

Tenders must remain valid for 60 calendar days following the ITT closing date and time noted. Tenders are irrevocable after the closing date and time.

2.6 Acceptance of Tenders

This ITT is not an agreement to purchase goods or services. The RDN is not bound to enter into a Contract with any Tenderer. Tenders will be assessed in light of the Tender review criteria. The RDN will be under no obligation to receive further information, whether written or oral, from any Tenderer. The offer of services will prevail whether accurate or not.

The acceptance of any Tender may be subject to available budget and approval by RDN Senior Management.

2.7 Definition and Form of Contract

The receipt of an offer of services with a Tender will not constitute a contract. A contract will not be entered into until the RDN accepts a Tender and the RDN and the Tenderer enter into a full written Contract as a result of this ITT. Only after a contract is mutually agreed to and signed by both parties, will a Tenderer acquire any legal or equitable rights or privileges.

Any Contract with the selected Tenderer will be substantially similar to the terms and conditions of the RDN Contractor Services Agreement attached herein.

2.8 Liability Insurance and Worksafe BC

The successful Tenderer is required to submit to the RDN a Certificate of Insurance, naming the RDN as additional insured, a Worksafe BC Notice of Project, and Worksafe BC Clearance Letter, prior to the RDN issuing a Notice to Proceed.

Insurance requirements will be as per Section 7 of the attached RDN Contractor Services Agreement.

The successful Tenderer will be assigned, and assume the responsibilities of, the Prime Contractor for the project.

2.9 Modification of Terms

The RDN reserves the right to modify the terms of this ITT, in its sole discretion, at any time up to two (2) working days prior to the noted closing date. The RDN reserves the right to cancel this ITT at any time without entering into a Contract.

2.10 Ownership of Responses

All documents, including Responses, submitted to the RDN become the property of the RDN. The RDN is bound by the provisions of the Freedom of Information and Protection of Privacy Act. All Tenderers submitting Tenders pursuant to this ITT are advised that such Tenders will be treated as public documents and the contents of the same disclosed upon written request if required to do so pursuant to the Act.

2.11 Confidentiality of Information

Information pertaining to the RDN obtained by the Tenderer as a result of participation in this ITT is confidential and must not be disclosed without written authorization from the RDN.

2.12 Tender Evaluation

The RDN reserves the right to reject any or all Tenders or to accept the Tender deemed most favorable in the interest of the District. The lowest priced or any Tender may not necessarily be accepted.

Tenders will be evaluated based on the information provided by the Tenderer in Schedules A through D that represents the best overall value to the RDN.

The decision as to what constitutes best overall value will be at the sole discretion of the RDN.

3 Schedules

Schedule A – Tender Form

Schedule B – List of Previous Contracts

Schedule C – List of Subcontractors

Schedule D – Proposed Work Schedule

Schedule A – Tender Form

(To be submitted with the Tender)

Item #	Description	Units	Estimated Quantity	Unit Price	Total
1	Mobilization and De-Mobilization	Lump Sum	-	-	
2*	Drilling and Casing of well with 16" diameter Carbon Steel casing	Feet	82		
3	Completion of Surface Seal	Lump Sum	-	-	
4	Supply and Installation of Stainless Steel Screen for 16" diameter well	Feet	6		
5	Supply of Test Pump/Motor and Drop Pipe and Installation in well	Lump Sum	-	-	
6	Well Development	Hours	20		
7	Supply and Installation of Secure Well Cap and Well Tag	Lump Sum	-	-	
8	Supply and Installation of Flow Meter and Sounding Tube	Lump Sum	-	-	
9	Step Test	Hours	2		
10	Pump Test and Recovery	Hours	28		
11	Supply of discharge pipe/hose	Lump Sum	-	-	
12	Prepare and supply required measurements and documentation	Lump Sum	-	-	
Total (not including GST)					

ITT for Whiskey Creek Well(s)
Regional District of Nanaimo

***Options for Item #2 Above**

If one of the optional items provide below is chosen, it will replace Item #2 in the above form.

The Contractor shall include the increased costs for all the above Items (#1 through #13), related to the increased well size, in the price for the optional items below.

Optional Item #	Description	Units	Estimated Quantity	Unit Price	Total
2A	Drilling and Casing of well with 20" diameter carbon steel casing	Feet	82		
2B	Drilling and Casing of well with 36" diameter carbon steel casing	Feet	82		

Drilling Method to be Used: _____

Development Pressure: _____ Discharge Rate: _____

Flowmeter to be Used: _____

Substantial Performance:

The Tenderer agrees to attain Substantial Performance of the Work by November 30th, 2019.

Addenda:

We acknowledge receipt of the following Addenda to the Tender documents:

Addendum No. ____ dated: _____ of: _____ pages

Addendum No. ____ dated: _____ of: _____ pages

Addendum No. ____ dated: _____ of: _____ pages

The undersigned Tenderer, having carefully read and examined the Instructions to Tenderers, Tender Forms and Attachments, has complied with the Instructions to Tenderers and hereby offers to perform all the work, and provide all the labour, material and equipment under the provisions therein set forth for the Whiskey Creek Well(s) Tender.

Signed and Authorized:

Company Name: _____ Contact Name and Title (please print)

Address: _____

ITT for Whiskey Creek Well(s)
Regional District of Nanaimo

Phone: _____

Authorized Signature:

Fax: _____

Email: _____

Date: _____

Schedule B – List of Previous Contracts

(To be submitted with Tender)

The Tenderer has recently undertaken and completed the contracts described below and authorizes the RDN to inquire as to the Tenderer’s performance on these contracts.

Project	Description of Work	Owner/Contact	Date Completed	Value (\$)
		Owner / Contact _____ Phone _____ Email _____		
		Owner / Contact _____ Phone _____ Email _____		
		Owner / Contact _____ Phone _____ Email _____		
		Owner / Contact _____ Phone _____ Email _____		
		Owner / Contact _____ Phone _____ Email _____		
		Owner / Contact _____ Phone _____ Email _____		

Signed: _____

Schedule C – List of Subcontractors

(To be submitted with Tender)

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER

Signed: _____

Schedule D – Proposed Work Schedule

(To be submitted with Tender)

Indicate schedule below with major activities and their durations.

ACTIVITY	SCHEDULE (work days)																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

Signed: _____

4 Attachments

Appendix A – Specifications for Drilling and Completion of one or two Production Well(s) and Performing Pumping Tests, GW Solutions Inc., August 30, 2019

Appendix B – RDN Contractor Services Agreement



Specifications for Drilling and Completion of one or two Production Well(s) and Performing Pumping Tests

1. Specifications Regarding Drilling

The construction of the production well intended to be used as a water supply well must respect the rules of the Water Sustainability Act and Groundwater Protection Regulation (GWPR).

Information	
Location:	Carson Road, Qualicum Beach (See attached map for approximate location, access road to be completed soon)
Expected Completion date:	End of November 2019
Type of Well:	Drinking water supply
Expected Formation Material:	Overburden (sand/gravel). See attached well log of test well TH-1 located about 100 m away.
Expected Static Water Level:	Approx. 15 m deep (50 ft)
Water for drilling and development purposes:	Drillers to bring their own water.

Drilling specifications	
Type of Drilling Method:	Open to suggestions – Provide cost per unit rate (\$/ft)
Completion Depth:	Approx. 25 m (82 ft).
Production Casing:	<p>Diameter: please provide cost for:</p> <ul style="list-style-type: none"> - 2 wells of 16” diameter - 2 wells of 20” diameter - 1 well of 36” diameter <p>Material: carbon steel</p>
Surface Seal:	<p>Thickness: min 1-inch (2.54 cm); Length: min 5 m (17 ft)</p> <p>Material: bentonite or concrete or mixture of them.</p>
Screen:	<p>Type and Material: telescopic stainless steel.</p> <p>Expected slot size and length: will be custom made based on grain size analysis (laboratory). But likely slot size 20 and length assembly of 2 m (6 ft).</p>
Development Method:	<p>Several cycles of bailing, airlifting, water jetting (with very short pumping tests completed after each cycle to assess progress on development). Duration of short pumping test max 30 min.</p> <p>Please provide an hourly rate for development and describe equipment to be used (pressure and discharge rate).</p>

Drilling specifications	
	Development time: <ul style="list-style-type: none"> - 16 h for each of the 16" diameter - 20 h for each of the 20 " diameter - 32 h for the 36" diameter.
Wellhead Completion:	Casing above ground (at least 2 foot) with secure well cap.

2. Specifications Regarding Step Test and 24-Hour Pumping Test

Information and General Specifications	
Location:	Carson Road, Qualicum Beach (See attached map)
Expected Completion date:	End of November 2019
Type of Well:	Drinking water supply
Expected Formation Material:	Overburden (sand/gravel)
Expected Static Water Level:	Approx. 15 m (50 ft)
Expected Available Water Column:	7 m (23 ft)

Information and General Specifications	
Equipment:	Propose type of pump to be used
Power source:	NOT available on site. Bring power source.
Sounder pipe:	Install sounder pipe (PVC diameter adequate to install ¾ inch logger and measuring tape, min 1¼ in)
Discharge Location:	Via piping approx. 100 m downstream from well. Coordinate installation with the RDN (they have an erosion control system)
Flow Rate Measurements:	Describe type of flowmeter to be used. Flow rate must be confirmed by manual measurements.

Step test	
Number of Steps and flow rates:	4 steps (to be determined but likely between 5 and 40 USgpm).
Duration of Each Step:	30 min
Water Level Measurements:	Manual, using water level meter.
Water level Measurements Frequency:	See table below
Recovery Readings:	Do not include

Manual readings in production well will be scheduled as follows for each step:

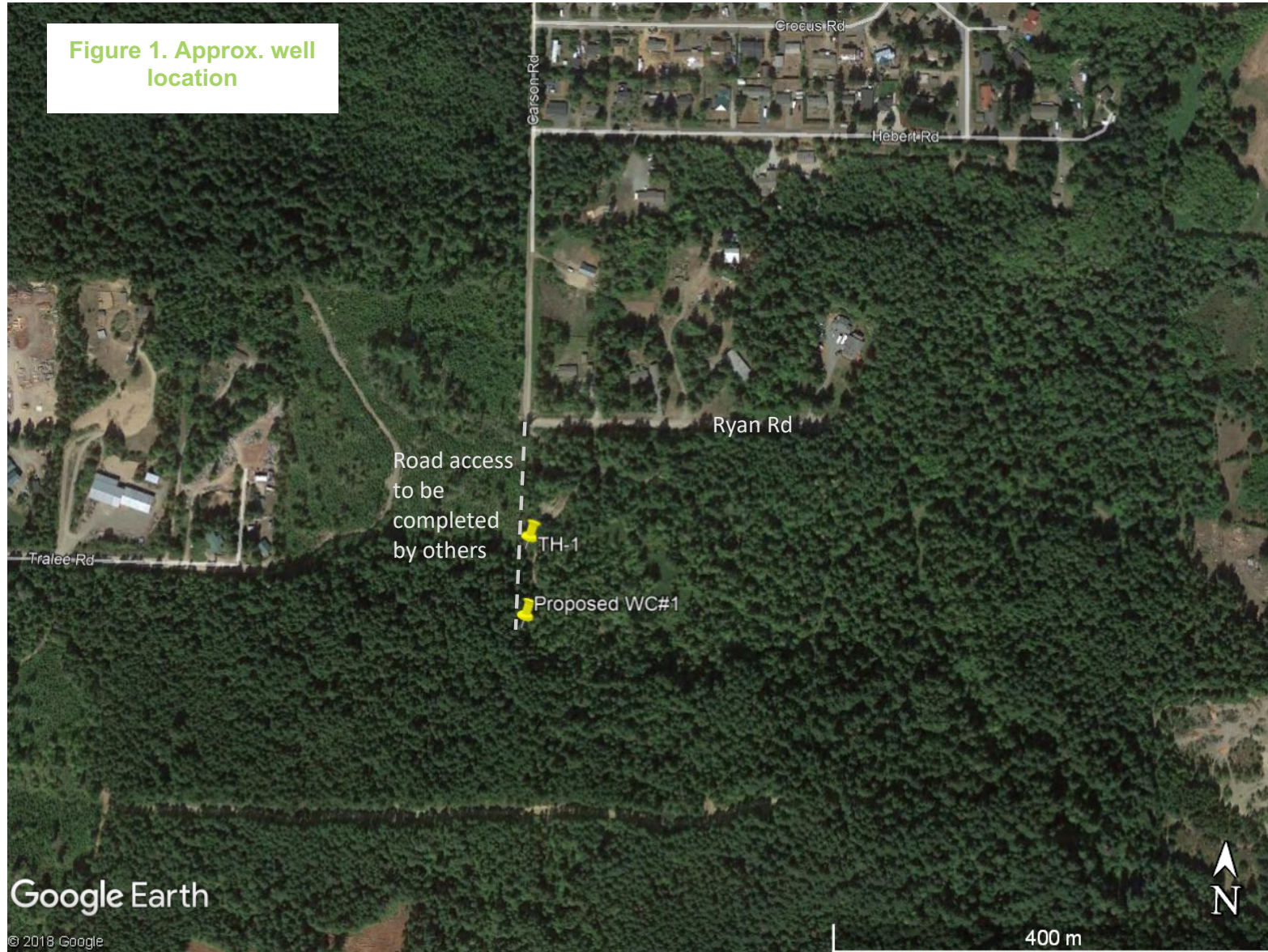
Proposed Time (Min) Since Starting of Test or Following a Change in Pumping Rate										
0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	6
7	8	9	10	12	14	16	20	25	30	

Constant rate pumping test	
Duration of Pumping Test:	24 hours
Rate of Pumping Test:	To be defined depending on step test results
Water Level Measurements:	Manual using water level meter. In production well and observation well TH-1
Water level Measurements Frequency:	See table below
Recovery Readings:	The recovery of water level will be measured in the pumping well at the same interval as given in the table below for the start of the test. Estimated recovery time: 4 hours

Manual readings in the pumped well will be scheduled as follows:

Proposed Time (Min) Since Starting of Test									
0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
6	7	8	9	10	12	14	16	20	25
30	35	40	45	50	60	90	120	150	180
210	240	270	300	360	<i>And hourly intervals till end of the test</i>				

Well should be disinfected (chlorinated) after drilling according to the GWPR. Volume of chlorine will be estimated according to the diameter, depth of well and static water level.



Well ID: **Test Hole TH-1**

Completion date: 19-Jul-17
 Method: Air rotary
 Standpipe stick-up (m): 0.6
 Collar elevation (m-asl): 144.6

Contractor: Kalicum Drilling Ltd.
 Hole Diameter: 150 mm
 Approx. ground elevation: 144 m-asl
 Depth to water: 9.8 m-btoc
 Screen range: 25.9 to 29.0 m-bg

Depth (m)	Elevation (m)	Description of lithology encountered	Well Construction Materials	Well Diagram
0.0	144.0	Ground Surface		<p>The well diagram shows a vertical cross-section of the test hole. At the top, the ground surface is at 144.0 m asl. A 254mm diameter steel surface casing is shown from 0.0 to 5.2m depth, with a bentonite seal installed and casing removed. A static water level is indicated at 138.8 m asl (5.8m-btc) on July 19, 2017. A 150mm diameter steel casing is shown from 5.2m to 11.3m depth. A K-packer is located at 11.3m depth. A stainless steel well screen (1.52m of 15 slot) is shown from 11.3m to 12.8m depth. Below the screen, random backfill material is shown. The end of the hole is at 15.2m depth (EI = 128.8 m-asl). A table on the right side of the diagram lists hydraulic conductivity (HC) values: 0.0008 m/s at 11.6m depth and 0.0004 at 12.8m depth.</p>
22.6		Medium to coarse tan coloured SAND (dry)	254mm diam. steel surface casing, drilled to 5.2m, bentonite seal installed and casing removed	
5.0	139.0		Static Water Level 5.8m-btc July. 19, 2017 (Start of pump test)	
6.0		Medium to coarse brown SAND (moist to wet)	Water Level at end of pump test	
7.9	136.1		150mm diam. Steel Casing	
8.5		Fine to medium GRAVEL (wet)	K- packer at 11.3m depth	
10.0	134.0	Medium to coarse SAND with some fine gravel	Stainless steel well screen (1.52m of 15 slot)	
12.8	131.2	Fine to medium SAND with some silt interbeds	Random backfill material	
14.3		CLAY		
14.6		Shale BEDROCK		
15.0	129.0	End of hole at 15.2m depth EI = 128.8 m-asl		

Notes:
 1) See location of TH1 on Figs 1 and 2,
 2) HC = Hydraulic conductivity value estimated from grain size analysis (see Fig. 4)

REGIONAL DISTRICT OF NANAIMO

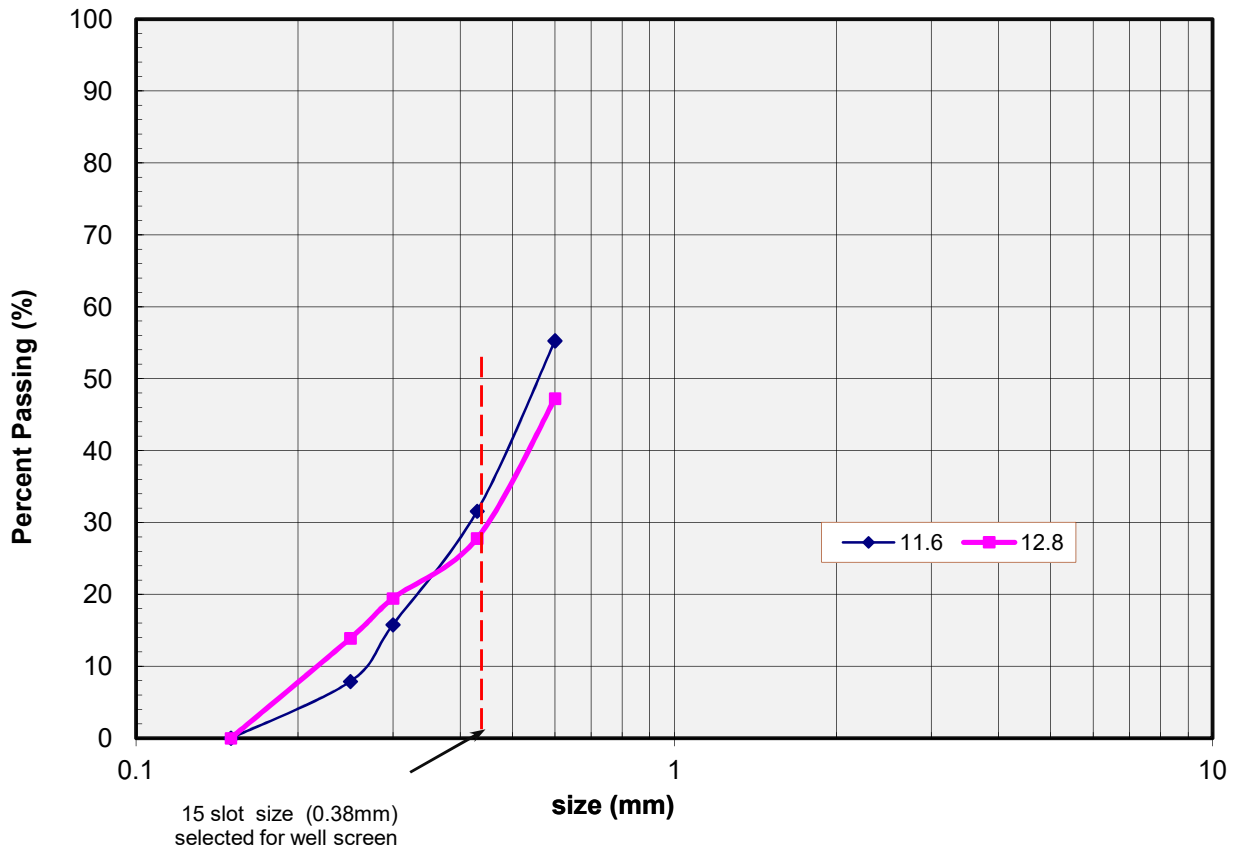
ELANCO ENTERPRISES LTD.
 Victoria, B.C. (250 744-1357)

WHISKEY CREEK WATER SERVICE AREA-
 GROUNDWATER FEASIBILITY STUDY, HILLIERS, B.C.

TH-1

By: RAD	Date: Aug. 17
APPROVED:	Fig. A-1

TH-1 Grain Size Analysis



Sample	d ₁₀ mm	K m/s
11.6m depth	0.28	7.8E-04
12.8m depth	0.22	4.8E-04

NOTES

- 1) See sample locations on well log in Appendix A.
- 2) d₁₀ = ten percent passing particle size.
- 3) K = Approximate hydraulic conductivity calculated using the Hazen formula.

REGIONAL DISTRICT OF NANAIMO

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)

**WHISKY CREEK WATER SERVICE
AREA- GROUNDWATER FEASIBILITY
STUDY, HILLIERS, B.C.**

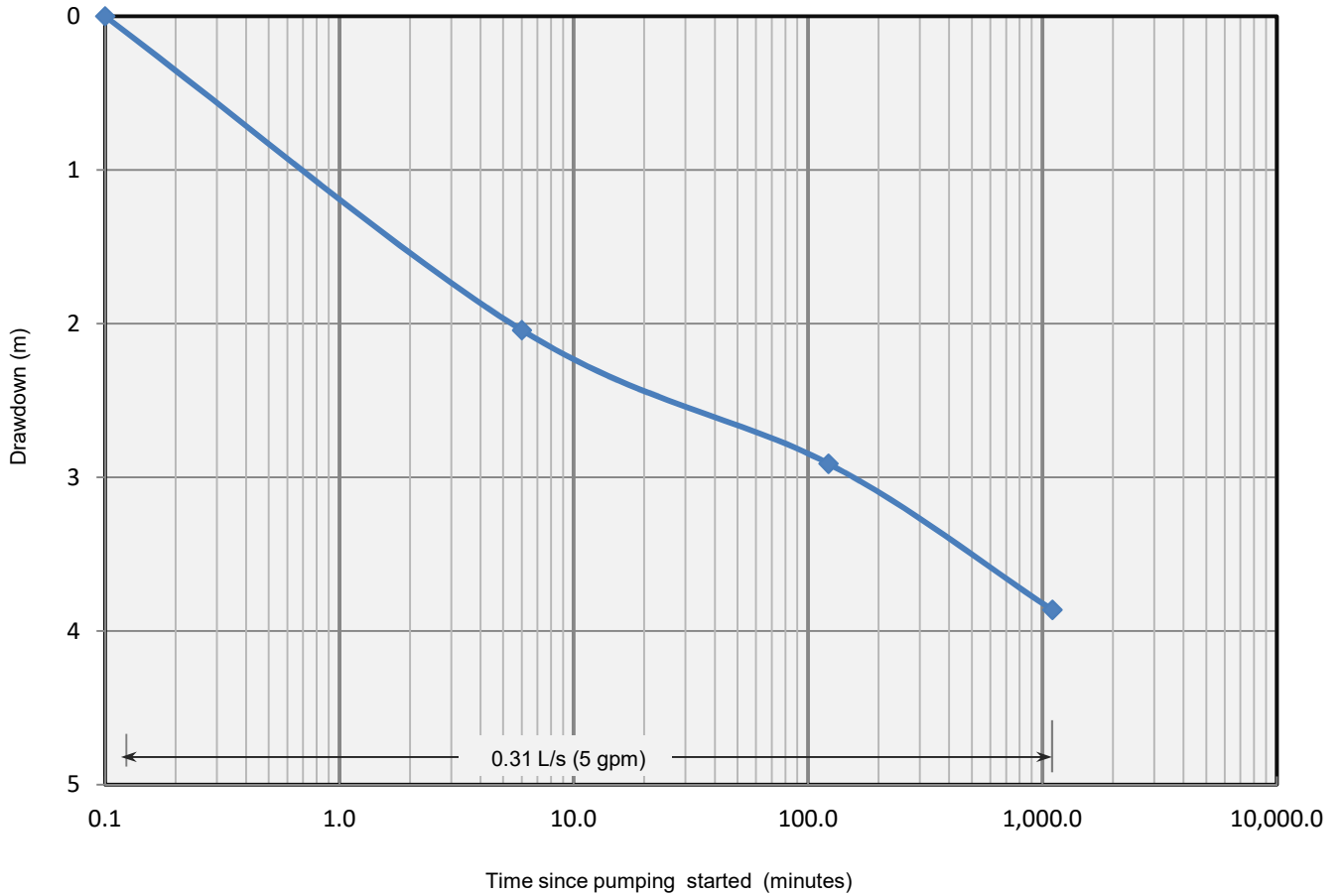
**GRAIN SIZE ANALYSES OF
SEDIMENT SAMPLES FROM TH-1**

Drawn:

Date
May. 2017

Approved:

Fig. **4**



Transmissivity = $1.83 \times 10^{-4} \times Q / \Delta S$

Last Leg	Q (L/s)	ΔS (m)	T (m ² /s)	K (m/s)
Pumping	0.31	1	5.8E-05	3.8E-05
Average	0.31	1.2	4.8E-05	3.2E-05

Thickness of lower part of aquifer (m) = 1.5

NOTES


- 1) Pump test run by Kalicum Drilling Ltd.
- 2) T = aquifer transmissivity ΔS = Drawdown over one log cycle.

REGIONAL DISTRICT OF NANAIMO

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)

**WHISKEY CREEK WATER SERVICE
AREA- GROUNDWATER FEASIBILITY
STUDY, HILLIERS, B.C.**

**SEMI-LOG GRAPH OF WATER LEVEL
DRAWDOWN IN WELL DURING
PUMP TEST.**

Drawn: _____ Date: 

Approved: _____ Fig. **5**



REGIONAL DISTRICT OF NANAIMO
CONTRACTOR SERVICES AGREEMENT

THIS AGREEMENT made the _____ day of _____, _____.

BETWEEN:

REGIONAL DISTRICT OF NANAIMO
6300 Hammond Bay Road
Nanaimo, BC
V9T 6N2

(hereinafter called the "Regional District")

AND:

(hereinafter called the "Contractor")

NOW THIS AGREEMENT WITNESSETH:

THAT in consideration of the terms, conditions and covenants hereinafter set forth, the Regional District and the Contractor covenant and agree each with the other as follows:

1. Services

The Regional District retains the Contractor to provide the Services described in Schedule "A" (the "Services") and the Contractor agrees to provide the Services in a diligent manner.

2. Term

The Contractor will provide the Services during the period (hereinafter called the "Term") commencing on _____, _____ and ending on _____, _____, unless sooner terminated as hereinafter provided.

3. Payment

The Regional District will pay to the Contractor as full payment for the Services; the amount set out in Schedule 'A' at the times and in the manner therein set out.

4. Independent Contractor

The Contractor will at all times be an independent contractor and not the servant, employee or agent of the Regional District.



5. Assignment and Sub-contracting

The Contractor will not, without the prior written consent of the Regional District, assign or subcontract this Agreement or any portion thereof.

6. Indemnity

The Contractor will indemnify and save harmless the Regional District from any and all losses, claims, damages, or expenses arising from or due to the negligence of the Contractor in performing the Services or the Contractor's breach of this Agreement.

7. Insurance

Prior to the commencement of the Services the Contractor shall provide a certificate of general commercial liability insurance in the amount of \$2,000,000 which shall provide coverage for property damage and third party personal injury and death. The certificate shall name the Regional District as an additional insured. The certificate of insurance shall contain a clause requiring notification of the Regional District 30 days in advance in the event that the insurance policy is cancelled.

8. WCB Coverage

The Contractor will provide to the Regional District, prior to the commencement of the Term, evidence satisfactory to the Regional District that the Contractor has paid and satisfied any and all assessments payable under the *Workers Compensation Act* or any regulation thereunder with respect to the Services to be provided under this Agreement.

Proprietors and partners in a partnership who operate an independent business without WorkSafe BC outlined above must be registered with WorkSafe BC and have Personal Optional Protection coverage.

9. Prime Contractor

The successful Contractor will be assigned, and assume the responsibilities of, the Prime Contractor for the project, in accordance with the *Workers Compensation Act*.

10. Termination

Notwithstanding any other provision of this Agreement:

- (a) If the Contractor fails to comply with any provision of this Agreement, then, and in addition to any other remedy or remedies available to the Regional District, the Regional District may, at its option, terminate this Agreement by giving written notice of termination to the Contractor.
- (b) Either Party may terminate this Agreement at any time upon giving the other Party thirty (30) days' notice of such termination.

If either such option is exercised by the Regional District, the Regional District will be under no further obligation to the Contractor except to pay the Contractor such amount as the Contractor may be entitled to receive, pursuant to Schedule 'B', for services properly performed and provided to the date notice is given



to the Contractor less any amounts necessary to compensate the Regional District for damages or costs incurred by the Regional District arising from the Contractor's default.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as follows:

For the Regional District of Nanaimo:

Printed Name

Signature

For the Contractor:

Printed Name

Signature



SCHEDULE "A"

SCOPE OF WORK

The Contractor shall provide the Services as outlined below:

SCHEDULE "B"

FEES & EXPENSES

Payment by the Regional District to the Contractor will be upon receipt of monthly written invoices from the Contractor for completed services. (Invoices shall contain a written statement of account showing the calculation of all fees and expenses claimed.)