

**Assessment Study of
Water and Wastewater Systems and
Associated Water Management Practices
at the Nooaitch First Nation Community**

**for the
Indian and Northern Affairs Canada
BC Region**



July, 2002

Appendix C

Water Quality Test Results

Transwater Services

3308 - 3A Street South, Cranbrook, B.C. V1C 5W8
Tel: (250) 489-2379 - Fax: (250) 489-5332

COPY

VAN B-4300-1699 ONE

May 4, 2000

James Fountain
Band Manager
Nootaitch Indian Band
Bag 6000
Merritt, BC V0K 1B8

Attention: James Fountain


RE: 1999/2000 Circuit Rider Program Report

Enclosed find one copy of the Circuit Rider Program report for training and work completed in the 1999/2000 program year. The report addresses the areas we covered during my visit to the Nootaitch Indian Band.

I recommend that all maintenance personnel and trainees attend the BC Water and Waste Association meetings at least once a year; which are held three or four times a year and are very informative meetings for water and sewer systems repairs and maintenance updates.

Please contact me for any water and/or sewer related information and advice. I look forward to the opportunity to work with the Nootaitch Indian Band for next year's Circuit Rider Program.

Sincerely,


Anthony Deo
Transwater Services

cc: Attention: Mr. Sid Smith
Asset Management Officer
PWGSC-RPS for Indian and Northern Affairs Canada
450- 1550 Alberni Street
Vancouver, BC V6G 3C5

**Nootaitch Indian Band
1999/2000 Circuit Rider Program Report**

Transwater Services

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1. GENERAL CONDITIONS ENCOUNTERED

1.1. Water System Deficiencies

1. Water main and services are not all accessible.

1.2. Sanitary Sewage System Deficiencies

1. Sewer on septic system is properly maintained.

2. NAMES OF PERSONNEL TRAINED AND TYPE OF TRAINING PROVIDED

2.1. Personnel Trained

1. Roger Shackelly

2.2. The 3 Day Training Period Included:

1. Orientation of the site accompanied by the band's maintenance personnel and trainees to identify any immediate problem areas and to highlight training priorities.
2. Service fire hydrants; breakdown, rebuild and flush. See attached fire hydrant service procedure in Appendix A.
3. Assist the band in obtaining parts and materials.
4. Assist in the repairs of noted problem areas.
 1. Worked on ^{ACRS} ARCS report.

2.3. The Following Items Were Reviewed Over The 3 Day Training Period:

1. Available engineering drawings, studies, asset reports and maintenance plans.
2. The operation of the water and sewer system components including: well pump, chlorinator and reservoir controls; operator safety including proper safety of pump controls, preventive maintenance; core maintenance skills; system repairs; record keeping; and testing procedures for quality control and monitoring of water quality.
3. WCB regulation and guidelines: standard practice for confined space entry for manholes and reservoirs; the safe handling and storage of hazardous chemicals the use of safety equipment and protective clothing; electrical safety; and work in and around excavations.
4. Identify confined space hazards.
5. The maintenance procedures of the water and sewer system components including: well pump, chlorinator and reservoir controls; flushing of the water and sewer mains; inspection and cleaning of water storage reservoirs and sewage lift stations; and the inspection and maintenance of water wells, intakes, treatment plants, and sewage lagoons when applicable to each Band.

3. RECOMMENDATIONS FOR THE IMPROVEMENT OF THE BAND'S MAINTENANCE PROCEDURES

1. Flush all sanitary sewer mains. Based on the conditions encountered during flushing, a schedule should be compiled indicating sewer mains which require flushing annually and which sewer mains can be flushed less often.
2. Develop a program for annual disinfection and cleaning of the reservoir, wells and water mains.
3. Develop a program for the annual flushing of water mains.
4. Develop a program for the annual service of fire hydrants.
5. Develop a program to check the water intake monthly and to clean as required.
6. Develop a program to check sanitary sewer manholes monthly for blockages.
7. Develop a program to check sewage lift station weekly. Clean and flush as required.
8. Develop a program to clean septic tanks every one to three years.
9. Develop a program to annually cut grass and clean around the lagoons.
10. Maintain dates and records of:
 1. Fire hydrant servicing;
 2. Disinfection and flushing of water mains, wells and reservoir;
 3. Sanitary sewer main flushing;
 4. Any repairs or maintenance of water and sewer systems; include the location of the repair or maintenance.
 5. Water consumption from flow meter readings;
 6. Hours pump operation from hour meters.

4. SUGGESTED GENERAL REPAIRS OR MAINTENANCE

1. Locate buried mainline water valves and curb stops; raise to grade as required.
2. Increase size of line with proper pump house and controls for distribution for Shackelly's residence and Washington residence.
3. Install valve rod extensions and rock guards on main line valves for adequate operation.

5. SUGGESTED LIST OF MATERIALS AND TOOLS TO BE PURCHASED BY THE BAND

5.1. Materials

1. Hydrant main seats, O-rings, gaskets and spindle bearings for Terminal City TC71 and Canada valve hydrants.
2. Robar couplings for C900 PVC pipe - 150mm and 200mm diameter.
3. 150mm x 19mm and 200mm x 19mm diameter stainless steel double strap service saddles for water services.
4. 19mm corporation curb stop and service boxes.

5.2. Tools

1. Hydrant servicing tools for hydrants and for Terminal City hydrants.
2. Power auger for cleaning sanitary sewer services.
3. Steel sewer snake for locating sewer blockages.
4. Metal detector.

The Band has its own suppliers with competitive pricing.

Appendix A: Transwater Fire Hydrant Service Procedure

1. Hydrants are tested for smooth operation.
2. Pressure tested and checked for:
 - a. Leaks on caps.
 - b. Pumper caps.
 - c. Head gaskets.
 - d. Packings and O-rings.
 - e. Draining
3. Main hydrant valves are accessible and in operating condition.
4. Rubbers and gaskets are checked and replaced on caps and pumper caps where required.
5. Heads are taken apart and checked for wear on packings, O-rings and bearings.
6. Parts are cleaned and replaced where required.
7. Hydrant interiors are pulled out of the barrel and checked for wear and broken parts on couplings, pins, main rubbers and drain mechanism. Interior parts are replaced where necessary and greased.
8. Hydrants are completely flushed out before reassembling.
9. Hydrants are reassembled and re-tested for leaks and operation.
10. Hydrants are painted.
11. Test reports are recorded, filed and submitted to proper authorities.

6508 Swanson St.
Chilliwack, B.C.
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M.L.S. SERVICES

Sewer and Water
Trouble Shooting and Repair

Tel/Fax: (604) 858-1717
Toll Free 1-800-981-8011
Cell: (604) 240-7978

April 12, 2000.

Band Manager,
Nooaitch First Nation,
18 Shackelly Rd.,
Merritt, B. C.
V1K 1N9

Re: Circuit rider visit of March 22 & 23, 2001

Projects:

- Locate property pin
- Check pump houses

Trainee: Roger Shackley

We attempted to locate property pin with the metal detector for a fence line Roger has to install. We did locate a length of bent rebar in the approximate location, but I attempted further confirmation from B. C. Hydro since their power lines were overhead. Their fax was not much clearer so Roger will accept the rebar, which has been used in the past due to the rocky terrain.

We checked the pump houses as follows:

Well 1A	Original	Hr meter 44755	The corral has been relocated
	from the well head		

Pump house 1B New	Hr meter 915.40	The flow meter requires programming.
These two wells supply the main village.		

Pump house 2	Hr Meter 1539.02	Flow Meter 590562 gal.
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Pump house 3	" " 975.56	" " 571936 gal
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Pump house 4	" " 2060.71	" " 837950 gal
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These pump houses are relatively new and with the exception 1B, serve 2 - 5 homes. Spider infestation is a problem, but Roger appears to be maintaining them very well, he is instituting a logbook for each site.

Additional projects being considered are, reservoir cleaning and hydrant servicing.

Respectfully Submitted,


Mike Skalsky,
M.L.S. Services.

VAN-E 4300-9-699

cc **Mr Sid Smith,
Asset Management Officer,
Public Works and Government Services Canada,
450 - 1550 Alberni Street,
Vancouver, BC V6G 3C5.**

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YAN-E 4500-9-699

May 22, 2001.

Mr. James Fountain, Administrator
Nooaitch First Nation,
18 Shackelly Road,
Merritt, B. C.
V1K 1N9

Re: Circuit Rider visit April 30 – May 1, 3 8 & 9th, 2001.

Projects:

Service Terminal City Fire Hydrants
Clean reservoir
Program Main Pump House Flow Meter

Crew:

Roger Shackelly, Maintenance man
Leslie Elliott, Maintenance
Daryl Shackelly, Labour
Johnny Shackelly, Labour

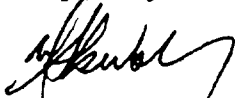
We serviced 5 Terminal City 71 Fire Hydrants; Roger has added valve extensions, which has eliminated previous problems of access to the valves. We attempted to calibrate the flow meter, however, the manual was not found in the Maintenance binder and we had to contact the manufacture, Rosemont, Model 8732C. They were very good at supplying same via Email with the booklet via post. Upon its receipt we attempted to program the meter with little success and I suggest the band keep their eye open for someone more conversant with the instrument.

We drained and cleaned the reservoir using a high pressure cleaner and water tank rented from the Bar X ranch and Nicola Chain Saw and rental; we required a second pressure hose and had to rent the pressure washer to get it. The draining via the retention pond designed in conjunction with the new subdivision worked very well, with the exception of the time taken to drain, probably due to the 4" drain and the designers concerns of a too rapid discharge. We re-filled with a solution of 150 Litres of Sodium Hypochlorite 12% to allow for loss through overflow over night. We retained a 100ppm by morning and held the solution for 12 hours. We encountered a snag while holding the chlorinated water, when the road contractor decided to haul road material and wanted water for compacting. They were supposed to be shut down for this week, and our operation was

not expected to interfere with them. I attempted to deliver water from the main pump house via the exterior blow off and the pump control on "Hand" with no success. I contacted the Control manufacturer, Harrison Industries and was assured that on "hand" the pump should work. Further checking with Dale Karst, P. Eng. of Urban Systems also felt the system should work. Draining the reservoir down below the "high reservoir alarm" did allow the system to function. I have since been advised by Mark at Harrison Ind. that it is indeed wired to shut off at the high level. I can appreciate the designers concerns with "helpers" putting the pump on manuel in the thought they will receive more water, however it is handy to be able to flush the overflow to eliminate film and debris from the water surface upon occasion.

We started draining the solution at 5:00pm and completed at 9:30 through 2 bags of Sodium Thiosulphate for de-chlorinating, the holding pond was ideal for this operation. The system was put back on line at that time to re-fill and begin servicing the residences, Roger was making arrangements for quality samples to be taken Monday am.

Respectfully submitted,



Mike Skulsky,
MLS Services

cc: Mr. Sid Smith,
Asset Management Officer,
Indian And Northern Affairs, Canada
1138 Melville Street, Suite 600,
Vancouver, B. C. V6E 4S3

Ms. Rita Manuel, Environmental Health Officer,
First Nations and Inuit Health,
P.O. Box 188,
Merritt, B. C. V1K 1B8

Page(s) 005490 to\à 005490

Is(are) under consultation

Appendix D
Wastewater Quality Test Results

No wastewater information was seen