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

for the
Indian and Northern Affairs Canada
BC Region

CH2MHILL

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

VANE4350-9-96

May 4, 2000

Cyril Spence
Maintenance Sperintendent
Nicomen Band
Lyton, BC V0K 1Z0

Attention: Cyril Spence

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 Nicomen 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 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 Nicomen 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

Nicomen Band
1999/2000 Circuit Rider Program Report

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1. General Conditions Encountered

1.1. Water System Deficiencies

1. Not all main line valves and services are accessible.
2. Reservoir needs cleaning, small amounts of silt is present.
3. Hydraulic controls are not operational as controls are plugged.

2. Names of Personnel Trained and Type of Training Provided

2.1. Personnel Trained

1. Greg Jamayl

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 ~~ARCS~~ ACRS report.
    2. Work on repairs to hydraulic controls.
    3. Flush out water mains.
    4. Service fire hydrants.
    5. Worked on chlorinator and metering hypochlorinator solution.

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. Clean reservoir

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.

Appendix D
Wastewater Quality Test Results

No wastewater information was seen