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FORT MCPHERSON ANNUAL WATER LICENSE REPORT

2009

1.0 Introduction

In 2009, the community infrastructure systems providing water, sewage and solid waste management to the residents of the Hamlet of Fort McPherson were successfully operated and maintained by the community. Figure 1 shows an overview of the general operation of the water and sewer systems, and Figure 2 illustrates the location of the infrastructure relative to the Hamlet.

2.0 Water Use and Wastewater Discharge

In 2009, the community used a total of 40,447,778 litres of potable water.

Month	Water Use (Litres)
January	3,156,619
February	2,795,096
March	3,161,961
April	3,269,730
May	3,676,092
June	3,660,011
July	3,849,149
August	3,550,525
September	3,354,433
October	3,349,770
November	3,188,611
December	3,435,781
Total	40,447,778

The monthly and annual quantities of all wastewater discharged are not metered, but are estimated to equal the quantity of potable water. Approximately 85% of the wastewater (34,380,611 litres based upon average operating conditions) was trucked to the sewage lagoon and the remainder flowed into Sewage Lake through the piped system (5,664,583 litres).

3.0 System Modifications, Maintenance and License Amendments

The raw water pump house is located by Deep Water Lake, as shown on Figure 3, and the Water Treatment Plant is located within the Hamlet as shown on Figure 4. The water system did not have system modifications, maintenance or license amendments for 2009. The sewer system had the following modifications: culvert replacement at the decant discharge area as shown on Figure 8.

4.0 Surveillance Network Program Monitoring

Figure 5 shows the approximate locations of the Surveillance Network Program (SNP) stations.

Water samples were collected for the SNP station numbers:

1696-2 Sewage Lagoon Decant Valve

1696-3 Outflow of Sewage Lake

1696-4 Discontinued

1696-5 Runoff from solid waste disposal facilities

1696-6 –Final effluent discharge before entering Peel River

All the necessary tests were completed and copies are enclosed as reference.

The SNP station 1696-6 has not been completed due to low flow. Unable to sample and have reported to Robert Alexie at the Gwich'in Land and Water Board.

Water sample data is collected periodically; the sampling results are presented in Table 1. Appendix A contains the 2009 water sample data sheets.

In 2009, the community infrastructure systems were operating within the criteria of the water license.

5.0 System Abandonment and Restoration Work

The water and sewer systems did not have any system abandonment or restoration work completed in 2009.

6.0 System Studies and Inspections

A planning study entitled "Fort McPherson Solid Waste Planning Study" was completed in April 2006. The report advanced the Preliminary Study on the expansion of the new Solid Waste Site.

7.0 Training and Communication Exercises

Norman Firth attended the Water Treatment Plant Operators Class II course in Norman Wells February 16-20, 2009. James Nerysoo and Norman Firth, have began job shadowing along with Department of Public Works in working on their required hours to become certified Operators.

8.0 System Discharges

The community infrastructure system has two licensed discharges. One discharge is continuous into Sewage Lake for the portion of the community on the piped system as illustrated in Figure 6, and the other discharge is for the sewage lagoon serving the portion of the community on trucked services. The trucked sewage lagoon is shown in Figure 7. Both discharges operated successfully, and the annual discharge from the sewage lagoon took place

9.0 System Excavations

September 2008, excavation of trench at the decant discharge area. Culvert replacement of the discharge culvert was carried out and completed in mid September 2008.

10.0 Lagoon Sludge

In 2009 there was no removal of solid waste or sludge for the sewage lagoon.

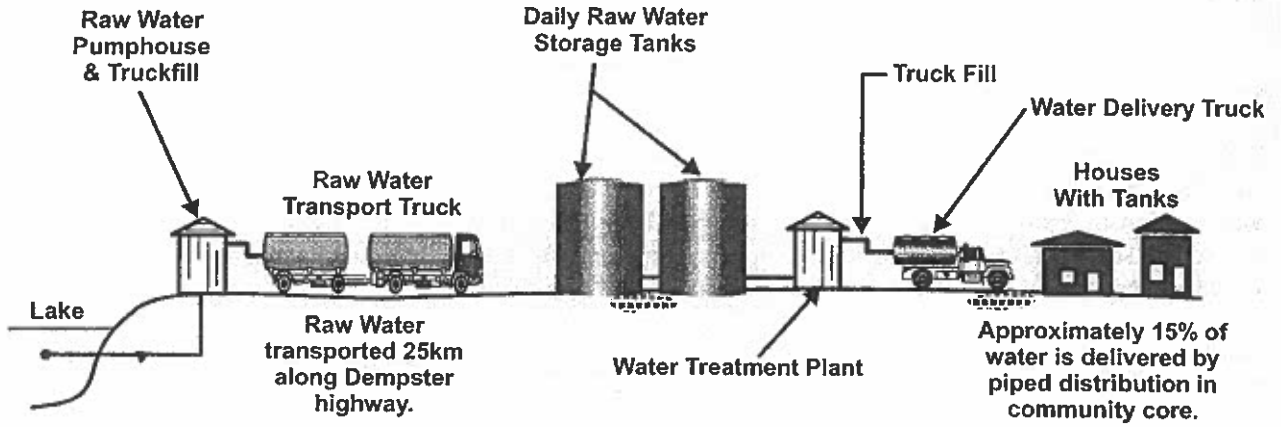
11.0 Operation and Maintenance Plans

Operation and maintenance (O&M) documentation is available for the Deep Water Lake water supply system, and water treatment and truckfill station.

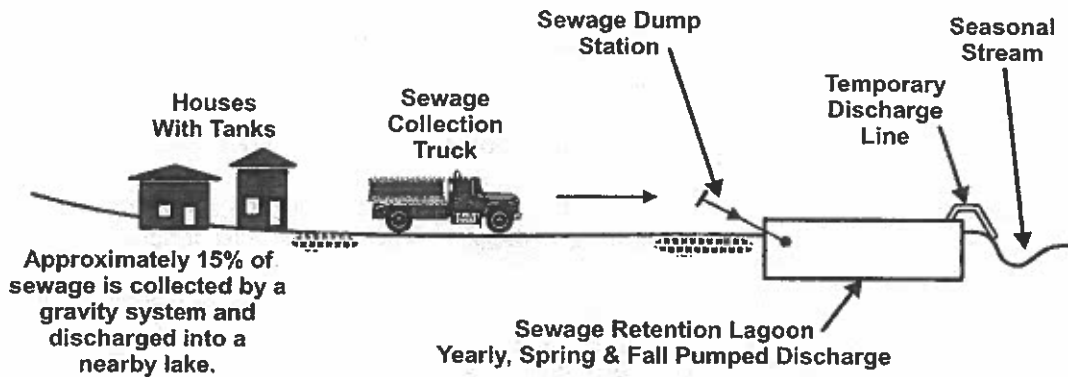
The O&M plans for the trucked sewage and solid waste facilities were completed in September 1997, and submitted by the Board in November 1999.

**Hamlet of Fort McPherson, NT
2008 Annual Water License Report
Water and Sewer Systems**

Figure 1



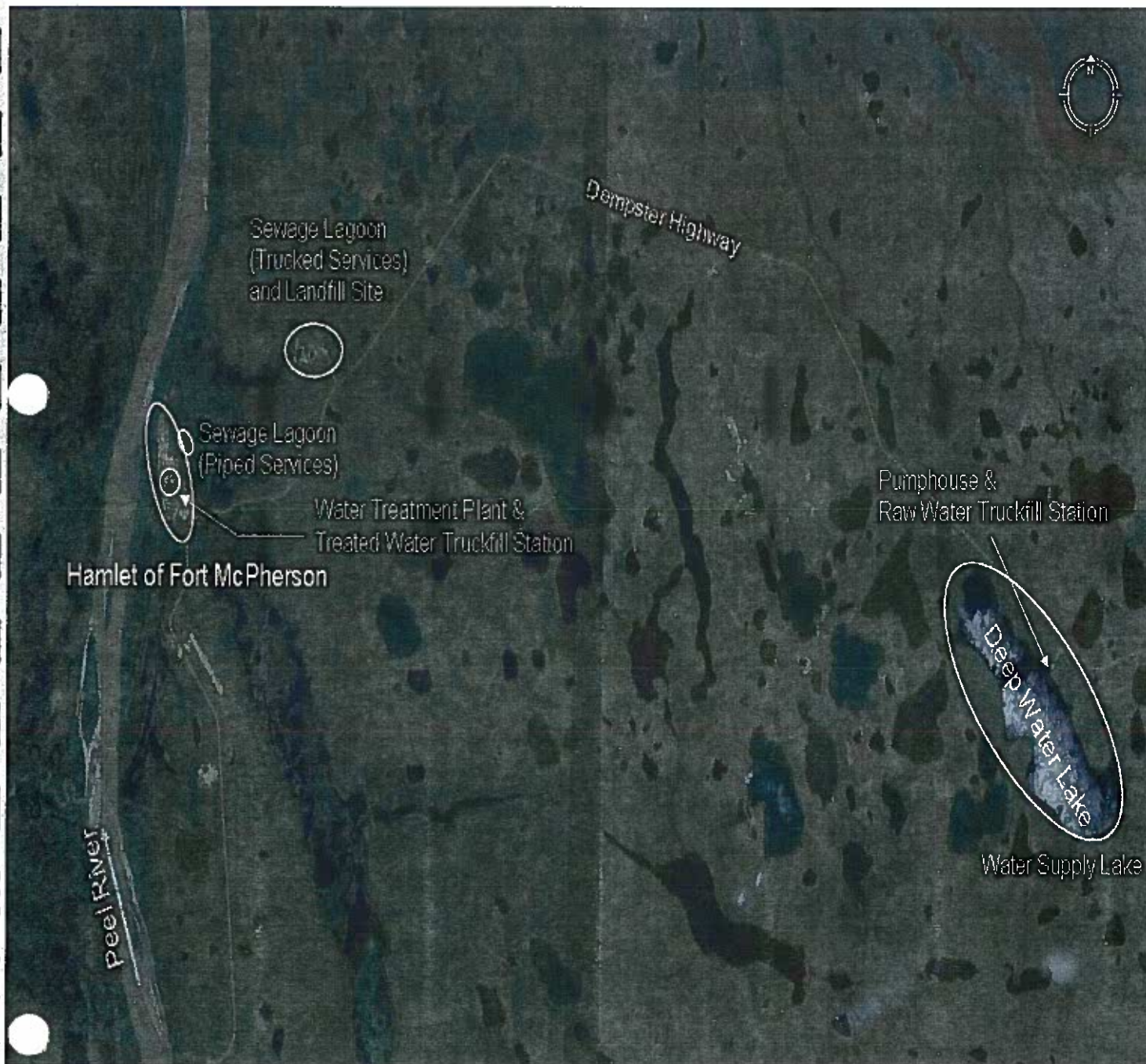
WATER



SEWAGE

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Water and Sewer Systems**

Figure 2



**Hamlet of Fort McPherson, NT
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Facility Location**

Figure 3



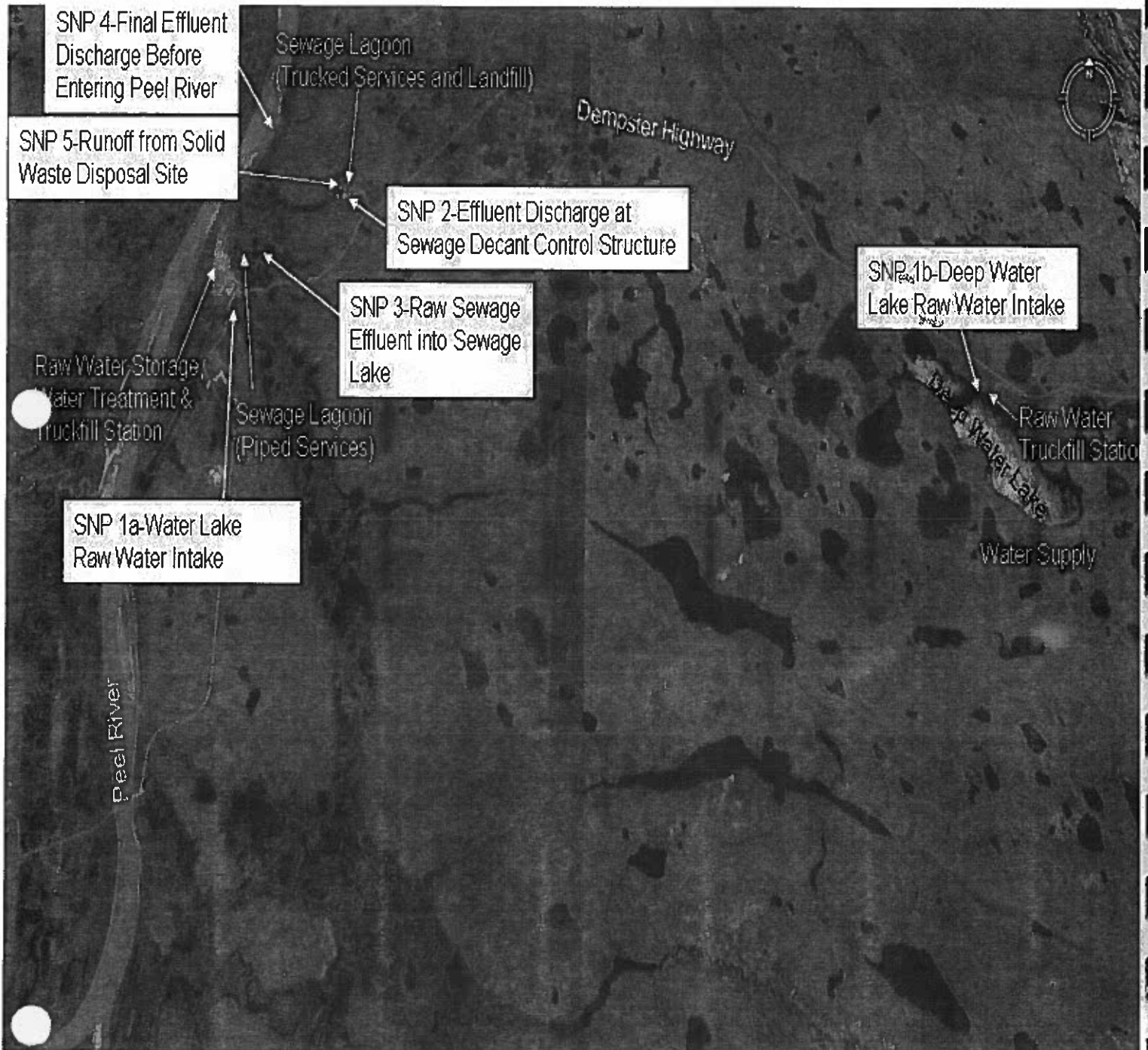
**Hamlet of Fort McPherson, NT
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Raw Water Supply**

Figure 4



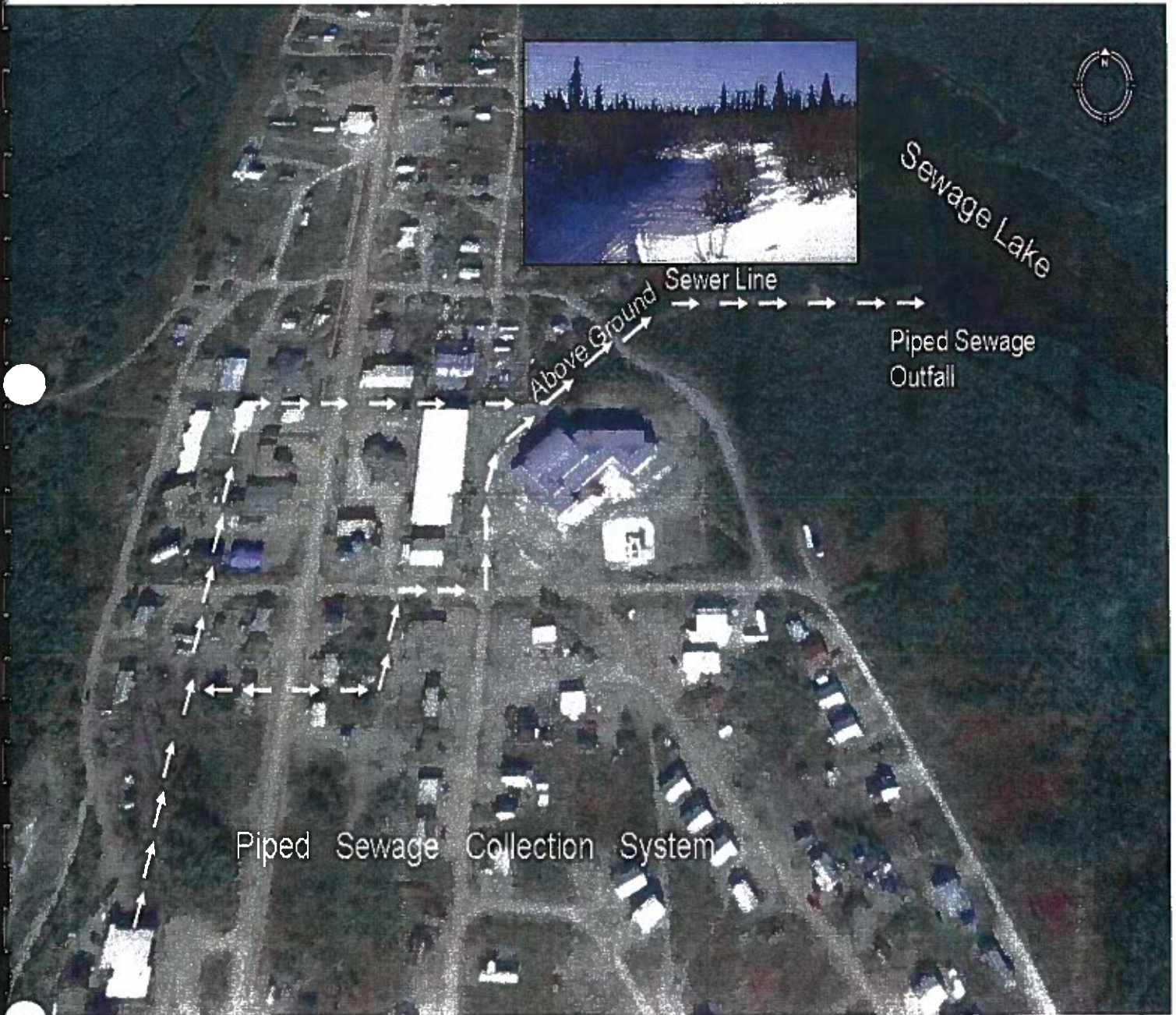
**Hamlet of Fort McPherson, NT
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Water Treatment Plant and Area Serviced by Piped Water Distribution**

Figure 5



Hamlet of Fort McPherson, NT
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Approximate Locations of the SNP Stations

Figure 6



**Hamlet of Fort McPherson, NT
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Piped Sewage Collection System and Outfall**

Figure 7

