# Regional Water Resources Study of the Notre Dame Bay Area and Central Newfoundland Region

## Inventory of Water Supply Systems

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF ENVIRONMENT AND LANDS
WATER RESOURCES DIVISION

# REGIONAL WATER RESOURCES STUDY

# OF THE

# NOTRE DAME BAY AREA AND

# CENTRAL NEWFOUNDLAND REGION

## INVENTORY OF WATER SUPPLY SYSTEMS

Prepared for

**Government of Newfoundland and Labrador**
**Department of Environment and Lands**
**Water Resources Division**

Prepared by

**Nolan, Davis & Associates (1986) Limited**
St. John's, Newfoundland

March 1991

# APPENDIX A

# INVENTORY OF WATER SUPPLY SYSTEMS

## A1.0 INTRODUCTION

This appendix contains the community water supply descriptions for the Central/Notre Dame Bay study region. These have been compiled on the basis of a field visit to each community and available information from the Department of Municipal & Provincial Affairs.

A list of incorporated communities in the study area is given on Table A-1. Their locations and water supply drainage areas are shown on Figure A-1.

## A2.0 APPROACH AND DISCUSSION

For consistency a standard format was adopted. The entries are briefly described below.

Status — From Department of Municipal & Provincial Affairs (DMPA), 1986 Municipal Directory, and Local Service Directory; modified on the basis of information from town official(s).

Population — Current, from town official(s). Most towns informally update 1986 census results; some do not.

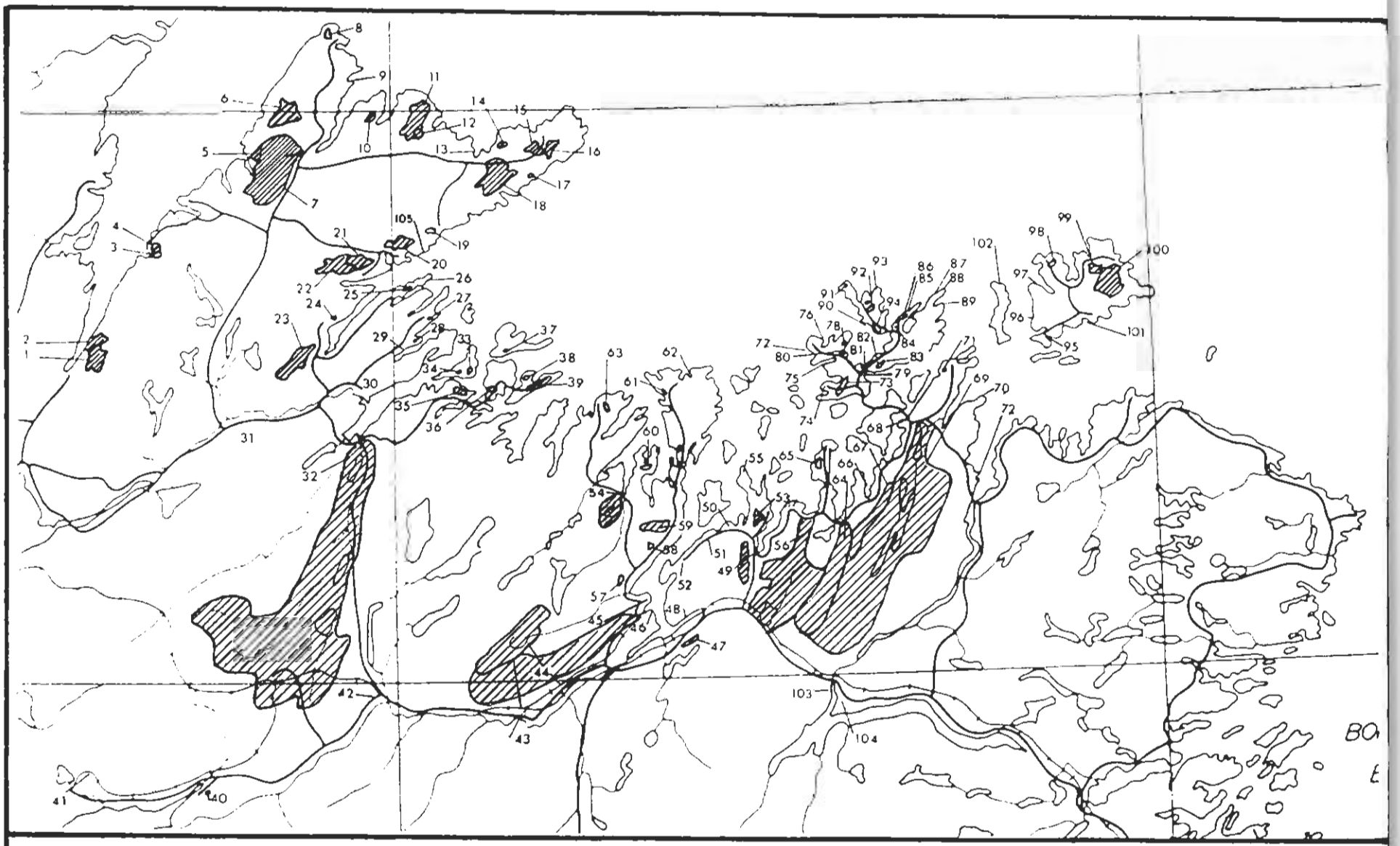
Number of Homes — From town official(s); serviced or not.

Homes Serviced — Homes hooked up to municipal water supply system.

Information Source(s) — Name(s) and title(s) of town official(s); other sources.

Table A-1
Numbers of communities shown on Figure A-1

| | | | |
|---|---|---|---|
| Rooms | 1 | Point Leamington | 54 |
| The Beaches | 2 | Little Burnt Bay | 55 |
| Purbeck's Cove | 3 | Campbellton | 56 |
| Westport | 4 | Northern Arm | 57 |
| Seal Cove (Western Bay) | 5 | Phillip's Head | 58 |
| Wild Cove | 6 | Point of Bay | 59 |
| Baie Verte | 7 | Pleasantview | 60 |
| Fleur De Lys | 8 | Cottrell's Cove / Moore's Cove | 61 |
| Coachman's Cove | 9 | Fortune Harbour | 62 |
| Ming's Bight / South Brook | 10 | Leading Tickles | 63 |
| Pacquet | 11 | Loon Bay | 64 |
| Woodstock | 12 | Comfort Cove / Newstead | 65 |
| Harbour Round | 13 | Baytona | 66 |
| Brent's Cove | 14 | Birchy Bay | 67 |
| La Scie | 15 | Boyd's Cove | 68 |
| Shoe Cove | 16 | Stoneville | 69 |
| Tilt Cove | 17 | Horwood | 70 |
| Snooks Arm | 18 | Port Albert | 71 |
| Nippers Harbour | 19 | Gander Bay North | 72 |
| Burlington East | 20 | Summerford | 73 |
| Burlington West | 21 | Cottlesville | 74 |
| Middle Arm | 22 | Bridgeport | 75 |
| King's Point | 23 | Moreton's Harbour | 76 |
| Rattling Brook | 24 | Valley Pond | 77 |
| Jackson's Cove | 25 | Tizzard's Harbour | 78 |
| Harry's Harbour | 26 | Carter's Cove / Virgin Arm | 79 |
| Beachside | 27 | Chanceport | 80 |
| Little Bay | 28 | Fairbank | 81 |
| St. Patrick's | 29 | Hillgrade | 82 |
| Springdale | 30 | Newville | 83 |
| Sheppardville | 31 | Indian Cove | 84 |
| South Brook | 32 | Herring Neck | 85 |
| Miles Cove | 33 | Merritt's Harbour | 86 |
| Port Anson | 34 | Toogood Arm | 87 |
| Robert's Arm | 35 | Pike's Arm / Greens Cove | 88 |
| Pilley's Island | 36 | Cobb's Arm | 89 |
| Lushes Bight / Beaumont | 37 | Bayview | 90 |
| Brighton | 38 | Crow Head | 91 |
| Triton | 39 | Twillingate | 92 |
| Millertown | 40 | Durrell | 93 |
| Buchans | 41 | Purcell's Harbour | 94 |
| Badger | 42 | Stag Harbour | 95 |
| Grand Falls / Windsor | 43 | Island Harbour | 96 |
| Bishop's Falls | 44 | Deep Bay | 97 |
| Botwood | 45 | Fogo | 98 |
| Peterview | 46 | Joe Batt's Arm | 99 |
| Norris Arm | 47 | Tilting | 100 |
| Norris Arm North | 48 | Seldom | 101 |
| Lewisporte | 49 | Change Islands | 102 |
| Stanhope | 50 | Glenwood | 103 |
| Brown's Arm | 51 | Appleton | 104 |
| Laurenceton | 52 | King's Island / Smith's Harbour | 105 |
| Embree | 53 | | |



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WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA
CENTRAL NEWFOUNDLAND REGION

DRAINAGE BASINS SERVICING COMMUNITIES IN STUDY AREA

FIG. A-1

Existing Water Supply Information on the technical characteristics of the municipal water supply compiled on the basis of a field visit, drawings, and DMPA information. Live storage is the difference between the intake and spillway elevations, and does not include upstream storage (if any).

Firm yield is estimated from the hydrologic analysis (Table 8-8).

The pond and drainage areas were taken from 1:50000 topo maps.

Existing structures are described. A photo of each was taken and these have been placed on file.

The delivery system is described. Water supply problems attributable to the delivery system are discussed in this section.

The watershed protection status is that officially registered under S.26(1) of the Dept. of Environment and Lands Act (1989). Proposed protected watersheds (if any) are not included.

Reported adequacy of supply is that reported by the town official(s); not that estimated by the consultant.

Potential for increased supply is the estimation of the consultant, on the basis of local topography and geography.

Any other observations/reported problems by either the town official(s), consultant, or other party, are noted.

Reported Demand This information was gathered from the town official(s) during the site visit.

The domestic demand usually corresponds with the number of homes serviced, as given above.

Any industrial/institutional/commercial users of the municipal system are noted. Except for fish plants, commercial and industrial users are usually undifferentiated. Please note that detailed information on fish plants is given in Section 7.1.

The water charges, O&M costs, other financial information, and metering status, which was provided by the town official(s), are given in the metering/cost section.

Known demand due to losses and wastage is reported, on the basis of information from the town official(s) and the consultant's observations.

Water Quality The treatment method provides information on any treatment afforded to the water, on the basis of the consultant's observations.

The reported quality information has been provided by the town official(s).

Wastewater Disposal Information has been provided by the town official(s).

Other Comments Any other information is given.

Map For each community a map is provided, using a 1:50000 topo map for a base, which shows the supply watershed (if possible), intake location, and other appropriate information.

Fish Plant If there is a fish plant in the town, available information on the plant was taken on a separate sheet. The information on these sheets was compiled and presented in Section 7.1.

NOTE

The information provided in Appendix A is based upon field visits and readily-available DMPA information. While we attempted to verify as much as possible during our field visits, the reliability of all information provided by town officials was not checked. Most town officials are not technical experts and some information provided by them may be erroneous. In general the information is intended for screening and study purposes only. It is not suitable for design. Items of interest should be confirmed.

## A3.0 COMMUNITY DESCRIPTIONS

Appleton -----> Woodstock

**APPLETON**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 517 |
| Number of Homes | : | 275 |
| Homes Serviced | : | 262 |
| Information Source(s) | : | Town Clerk - Mavis Simms |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface (plus 10 private drilled wells) |
| Supply Reservoir | : | Gander Lake |
| Pond Area(Ha) | : | n/a |
| Drainage Area(Ha) | : | 416 000 |
| Live Storage (m) | : | 2.4 |
| Firm Yield($m^3$/day) | : | 8 630 205 |
| Intake Location | : | East side of Gander River |

**EXISTING STRUCTURES**

A pumphouse and sewage treatment plant exist in the community.

**Delivery System**

Three pumps (2 x 30 Hp and 1 x 20 HP) deliver water to the distribution mains.

**Status of Watershed Protection**

The area of the watershed is protected and the community has water rights.

**Reported adequacy of Supply**

The supply is adequate.

**Potential for Increased Supply**

The system is capable of providing for the projected growth of the town.

**Other Observations/Reported Problems**

None

**REPORTED DEMAND**

**Domestic**

275 homes

**Industrial/Institutional/Commercial**

4 commercial properties

**Metering/Cost**

Costs of operating and maintaining the water supply system at the latest report, $29,852/year. The domestic water and sewer rate is $180/year.

**Losses/Wastage**

None reported.

**WATER QUALITY**

**Treatment Method**

Gas chlorine

**Reported Quality**

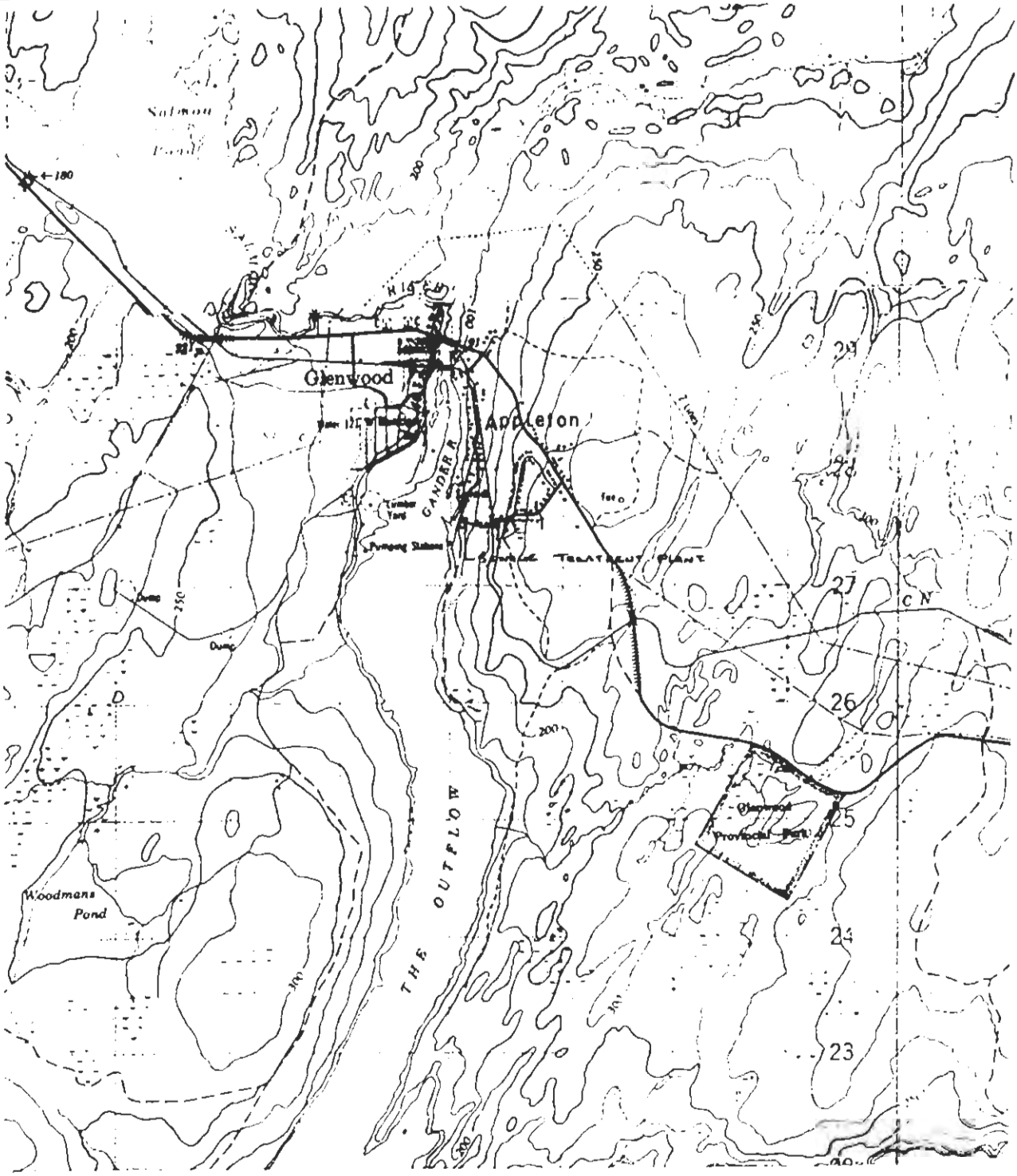
Good

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Yes |
| Discharge | : | Gander River |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $6,376 |
| Sewer Rates($/yr) | : | $ 180 for water and sewer combined |

**OTHER COMMENTS**

The town has applied for Government funding to service the 12 private residences presently without municipal services.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

APPLETON

**BADGER**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,151 |
| Number of Homes | : | 325 |
| Homes Serviced | : | 325 |
| Information Source(s) | : | Town Clerk - P. Hurley<br>Maint. Man - Max Stacey |

**EXISTING WATER SUPPLY**

Type : Groundwater well field

**Reported adequacy of Supply**

Adequate

**REPORTED DEMAND**

**Domestic**

325 homes

**Industrial/Institutional/Commercial**

4 churches, 2 schools, 15 commercial facilities, 1 fire hall.

**Metering Cost**

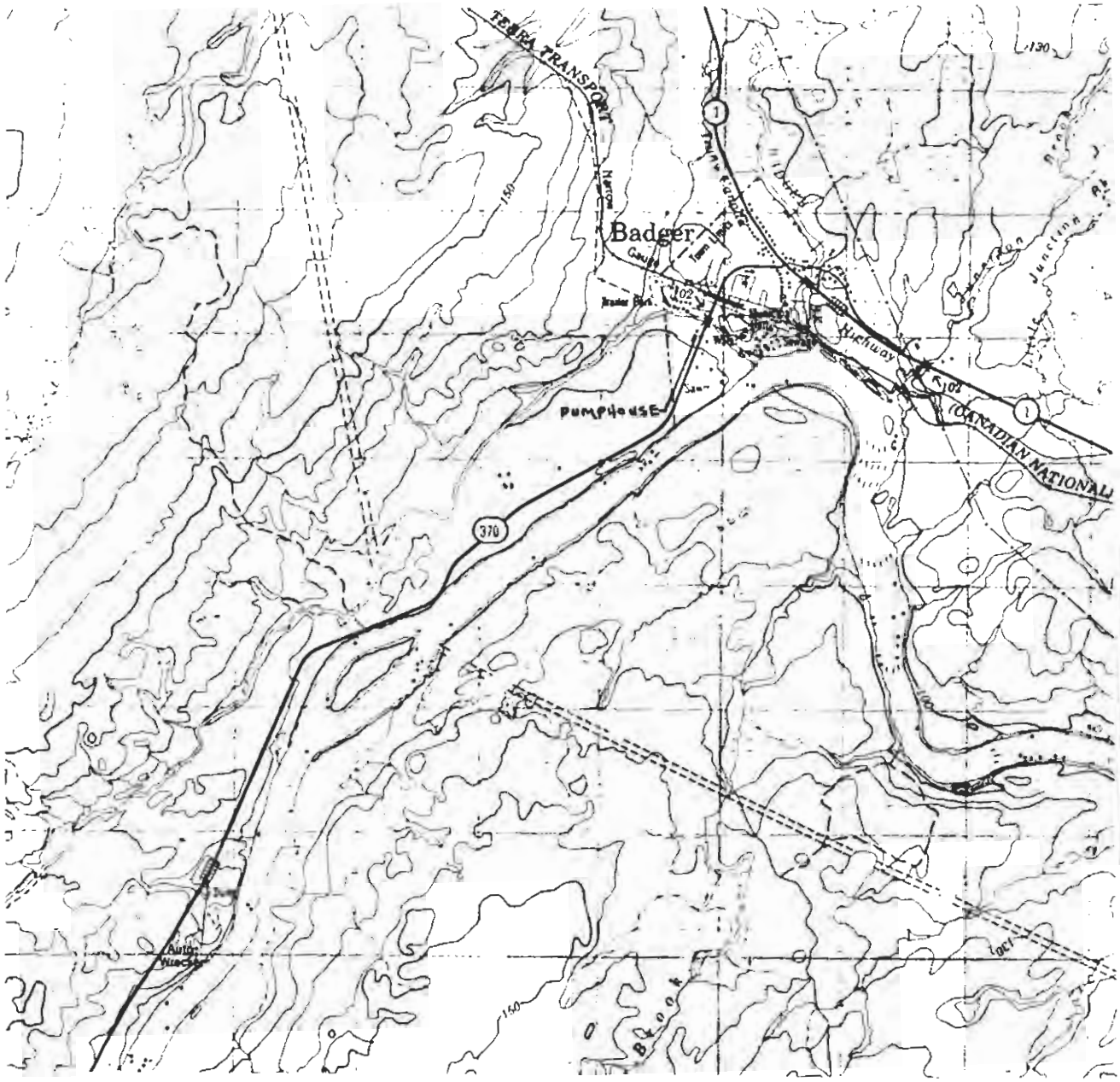
The water and sewer operating and maintenance cost is in the order of $95,000/year. The water and sewer rate is $168/year.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Yes, sewage treatment plant (Note chlorination equipment on effluent discharge not operational) |
| Discharge | : | Badger River |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | See under Metering Cost |
| Sewer Rates($/yr) | : | See under Metering Cost |

**OTHER COMMENTS**

See groundwater section for complete description of Badger well field.

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WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BADGER

**BAIE VERTE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 2,049 |
| Number of Homes | : | 550 |
| Homes Serviced | : | Almost 100% serviced; only 10 homes are not tied into the sewer system. |
| Information Source(s) | : | Town Clerk - Ruth Burton<br>Maint. Man - Fred Noble |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface - dammed river |
| Supply Reservoir | : | Dam on Baie Verte River |
| Pond Area(Ha) | : | 0.6 |
| Drainage Area(Ha) | : | 8 500 (some diverted) |
| Live Storage (m) | : | 3.0 ± |
| Firm Yield($m^3$/day) | : | 11 611 |
| Intake Location | : | At an elevation of 19.6 m at dam (Geod.) |

**EXISTING STRUCTURES**

Creosote dimensioned timber crib dam in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 4.5 |
| Dam Crest Elevation (m) | : | 23.0 ± Geodetic |
| Dam Length(m) | : | 39.0 |
| Spillway Elevation(m) | : | 22.25 |
| Spillway X section(m) | : | 0.75 x 11.75 |

**Delivery System**

Two intake lines (250 mm and 300 mm diam) feed a 5.2 x 2.7 x 2.7 m screened wet-well below the pumphouse floor. The pumphouse is equipped with two 20 HP pumps with a combined capacity of 910 L/min. These pumps feed a 1 136 500 L storage tank for domestic flow with a 187 HP 1200 GPM fire pump for emergencies.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply is adequate but the pumping capacity to the distribution system is not sufficient. Presently the pumps are working 23 hours/day in summer, continuous pumping in winter.

**Potential for Increased Supply**

The large drainage area allows for adequate water supply to the existing dam and intake structure to meet the town's future demand requirements.

**REPORTED DEMAND**

**Domestic**

550 homes

**BAIE VERTE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 2,049 |
| Number of Homes | : | 550 |
| Homes Serviced | : | Almost 100% serviced; only 10 homes are not tied into the sewer system. |
| Information Source(s) | : | Town Clerk - Ruth Burton<br>Maint. Man - Fred Noble |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface - dammed river |
| Supply Reservoir | : | Dam on Baie Verte River |
| Pond Area(Ha) | : | 0.6 |
| Drainage Area(Ha) | : | 8 500 (some diverted) |
| Live Storage (m) | : | 3.0 ± |
| Firm Yield($m^3$/day) | : | 11 611 |
| Intake Location | : | At an elevation of 19.6 m at dam (Geod.) |

**EXISTING STRUCTURES**

Creosote dimensioned timber crib dam in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 4.5 |
| Dam Crest Elevation (m) | : | 23.0 ± Geodetic |
| Dam Length(m) | : | 39.0 |
| Spillway Elevation(m) | : | 22.25 |
| Spillway X section(m) | : | 0.75 x 11.75 |

**Delivery System**

Two intake lines (250 mm and 300 mm diam) feed a 5.2 x 2.7 x 2.7 m screened wet-well below the pumphouse floor. The pumphouse is equipped with two 20 HP pumps with a combined capacity of 910 L/min. These pumps feed a 1 136 500 L storage tank for domestic flow with a 187 HP 1200 GPM fire pump for emergencies.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply is adequate but the pumping capacity to the distribution system is not sufficient. Presently the pumps are working 23 hours/day in summer, continuous pumping in winter.

**Potential for Increased Supply**

The large drainage area allows for adequate water supply to the existing dam and intake structure to meet the town's future demand requirements.

**REPORTED DEMAND**

**Domestic**

550 homes

**Industrial/Institutional/Commercial**

6 churches, 2 high schools, 2 elementary schools, 1 community college, 40 commercial properties, 1 firehall, and 1 fish plant are serviced with water.

**Metering/Cost**

The annual expenditure on water services is $27,535. Domestic water rates are set at $162/year. Water and sewer rate is $175/yr. Town receives $360,000/yr from Baie Verte Mine; Community College - $2450/yr; fish plant - $236/yr; businesses - $236/yr; with additional cost for each additional washroom.

**Losses/Wastage**

Not reported.

**WATER QUALITY**

**Treatment Method**

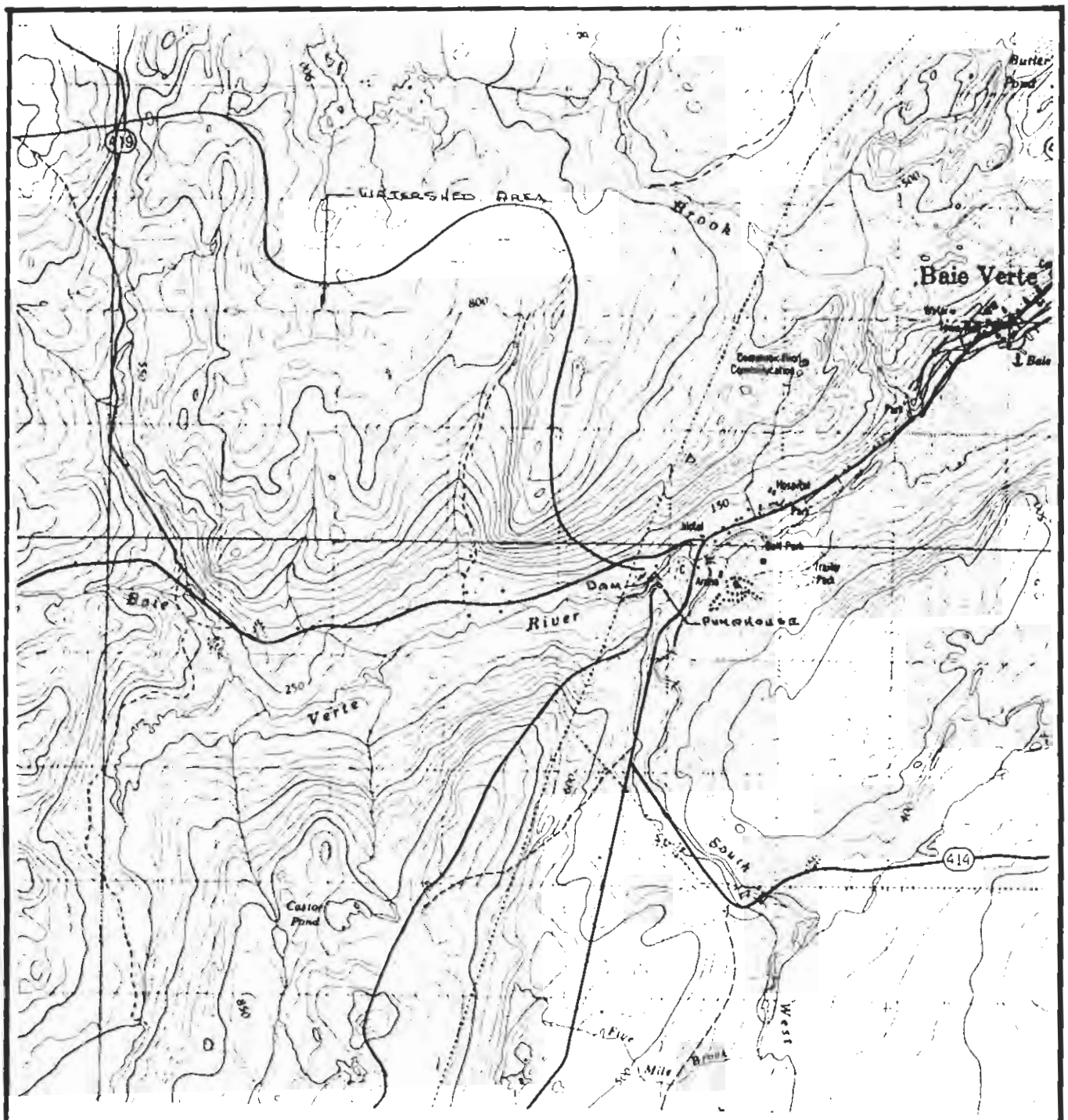
Gas chlorination directly into the wet-well (constant feed).

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None reported.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Only 1/3 of sewage discharge is treated; the remaining is discharged into the harbour untreated. |
| Discharge | : | Baie Verte Harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Sewer cost $9,175 |
| Sewer Rates($/yr) | : | Water and sewer $175 |

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WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BAIE VERTE

**BAYTONA**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 410 |
| Number of Homes | : | 120± |
| Homes Serviced | : | No municipal water or sewer system |
| Information Source(s) | : | L. Budden |

**EXISTING WATER SUPPLY**

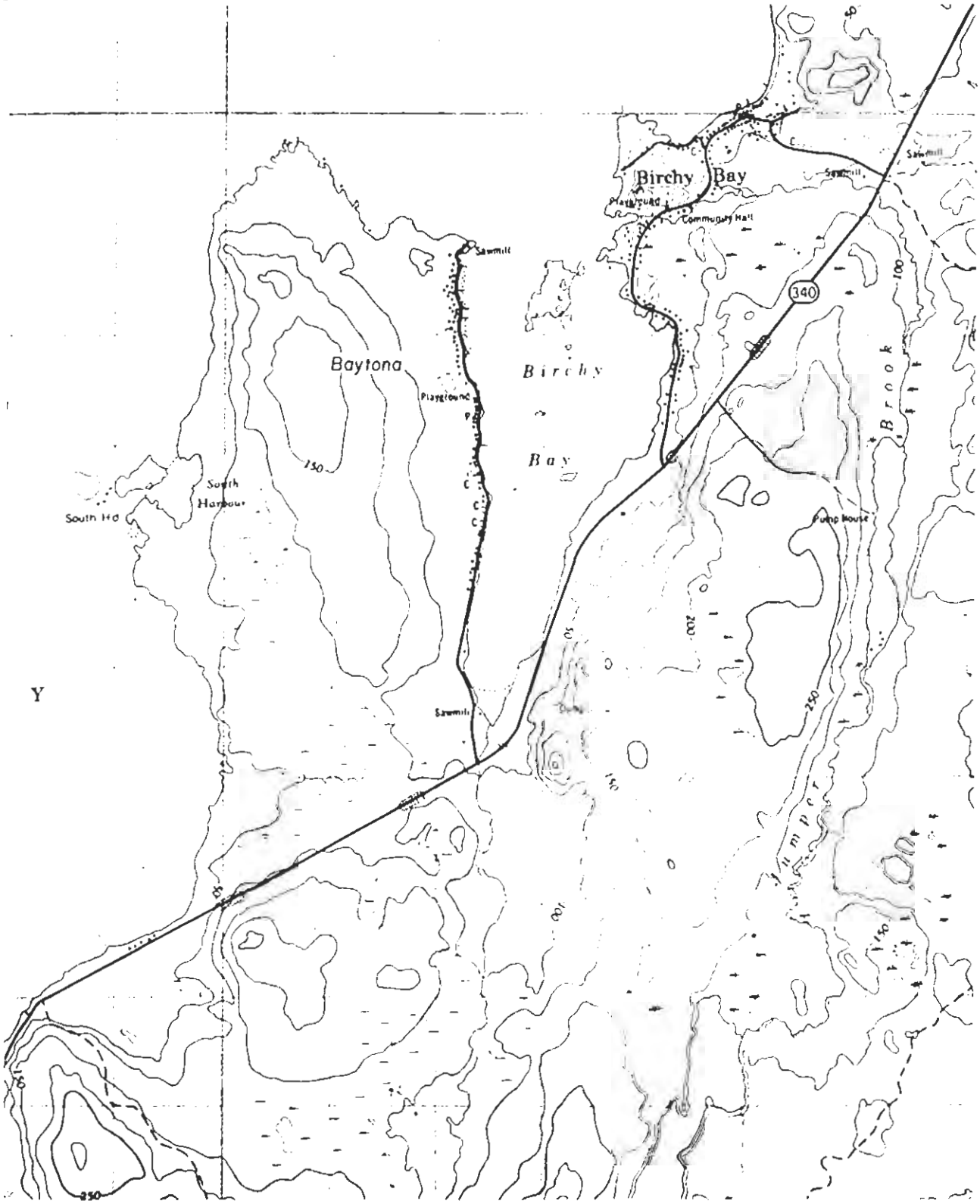
Type : Private shallow dug and deep drilled wells

**WASTEWATER DISPOSAL**

Treated : Private septic tanks and effluent to ocean

**OTHER COMMENTS**

Community has a $50 poll tax for each person over 18 years with income above basic exemption.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BAYTONA

**BAYVIEW**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 600 |
| Number of Homes | : | 205 |
| Homes Serviced | : | 110 water & sewer; 95 water |
| Information Source(s) | : | Town Clerk - B. Gosse<br>Maint. Man - Eric Burden |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Moses Pond |
| Pond Area(Ha) | : | 21.0 |
| Drainage Area(Ha) | : | 65.0 |
| Live Storage (m) | : | 1.0 |
| Firm Yield($m^3$/day) | : | 1852 |
| Intake Location | : | Northwest end of Moses Pond |

**EXISTING STRUCTURES**

Pumphouse and wet-well at Moses Pond.

**Delivery System**

Two 7.5 HP pumps deliver water to the distribution system at 50-70 psi. One additional 15 HP pump will be installed in the near future. 100 mm line distributes the water supply. Most service lines have curb stops. New 15 HP pump will alleviate problems presently being experienced during peak demand.

**Status of Watershed Protection**

The watershed is protected and the community has water rights.

**Reported adequacy of Supply**

Adequate

**Potential for Increased Supply**

The system is capable of supplying any foreseen increase in demand.

**REPORTED DEMAND**

**Domestic**

205

**Metering/Cost**

The water operating and maintenance costs were $9,900/year. The domestic water rate is set at $120/year.

**WATER QUALITY**

**Treatment Method**

Simple chlorination through use of hypochlorite solution

**Reported Quality**

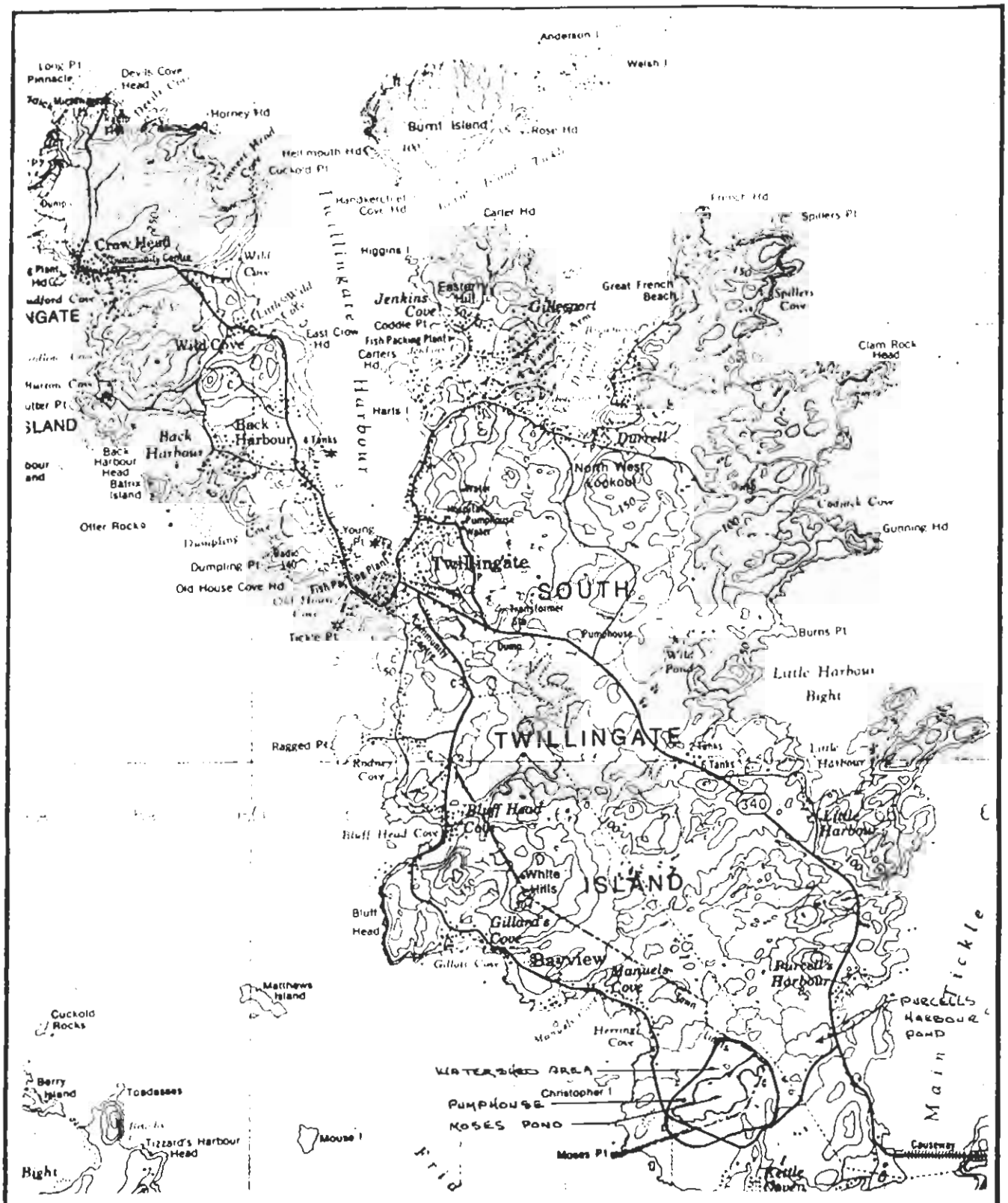
Adequate

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 4 sewage outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not given |
| Sewer Rates($/yr) | : | $48 |

**OTHER COMMENTS**

The town had $365,000 Capital Monies in 1990 to carry out water and sewer work and needed improvements to the pumphouse, including the installation of a new pump and other mechanical modifications.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BAYVIEW

**BEACHSIDE**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 320 |
| Number of Homes | : | 85 |
| Homes Serviced | : | 55 with water; 30 with water & sewer |
| Information Source(s) | : | Mayor - Vincent Bennett |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Anchor Brook Pond |
| Pond Area(Ha) | : | 0.3 |
| Drainage Area(Ha) | : | 25.0 |
| Live Storage (m) | : | 2.0 |
| Firm Yield($m^3$/day) | : | 84 |
| Intake Location | : | Northeast end of pond |

**EXISTING STRUCTURES**

A concrete dam completed in 1989, with a chlorination building, is in satisfactory condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.650 |
| Dam Crest Elevation (m) | : | 92.0 Geodetic |
| Dam Length(m) | : | 33.0 |
| Spillway Elevation(m) | : | 91.5 |
| Spillway X section(m) | : | 0.5 x 3.95 |

**Delivery System**

The gravity system feeds a 200 mm supply main to the town.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The supply meets the needs of the community at present.

**Potential for Increased Supply**

The recently-constructed dam and intake works on Anchor Brook Pond have been recognized by the Department of Municipal & Provincial Affairs as marginally adequate for present 1991 demand. Provision, therefore, has been made to supplement the supply by pumping from Long Pond which has a drainage area of 55 Ha and a surface storage area of 2.5 Ha. The additional low flow supply, assuming 1.5 m of live storage, when added to Anchor Brook Pond facility, will result in an acceptable low flow supply/demand ratio of 1.8.

**REPORTED DEMAND**

**Domestic**

85 homes serviced

**Industrial/Institutional/Commercial**

1 church, 1 school, 2 commercial properties, and 1 fire hall

**Metering/Cost**

Total operating costs quoted by the community are $800/year. Water rate is $96/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

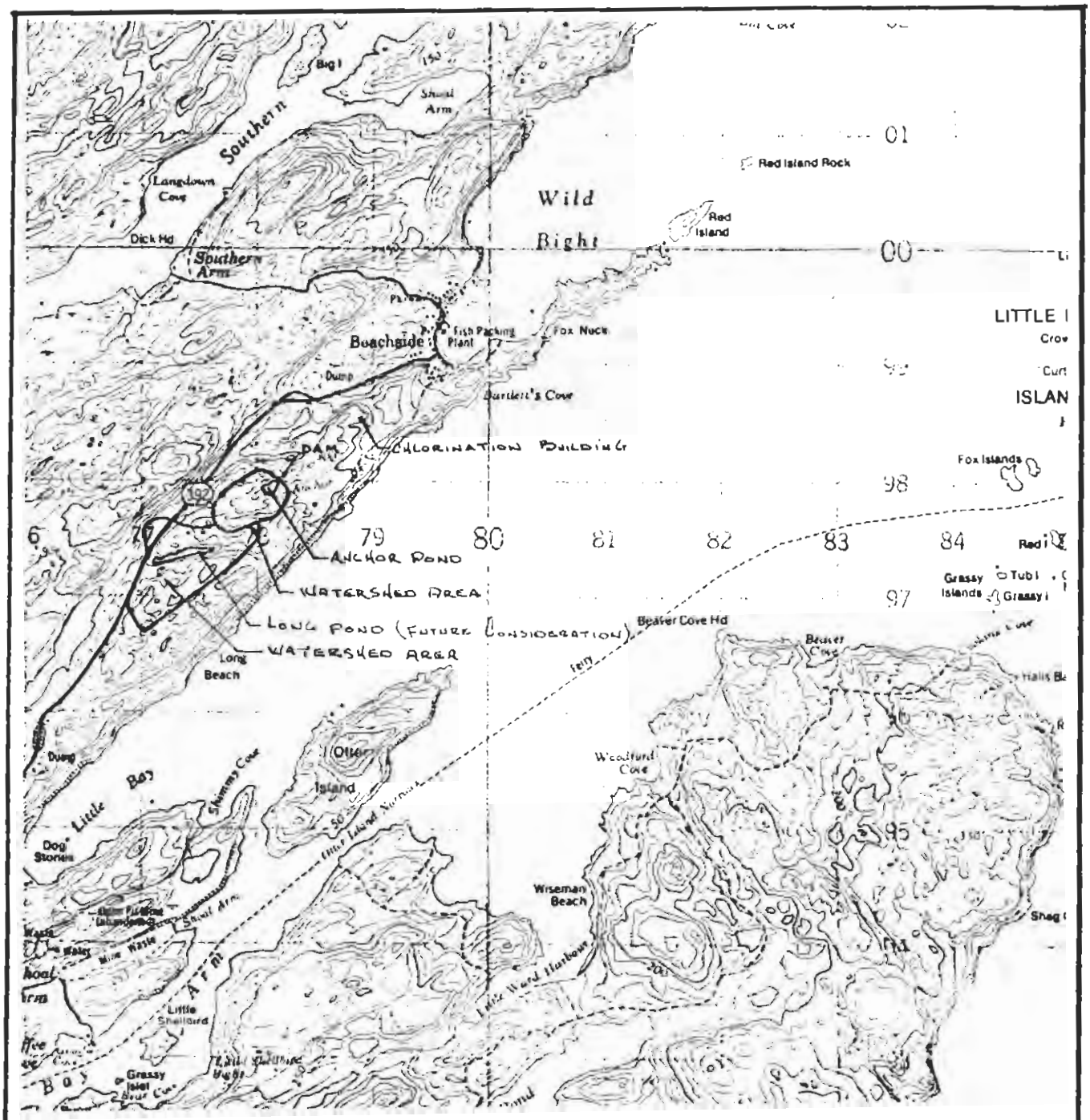
The chlorination building is awaiting installation of electricity before becoming operational in 1991.

**Reported Quality**

Not chlorinated at time of field study; otherwise satisfactory.

**WASTEWATER ADISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 1 lift station and 2 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs ($/yr) | : | Lift station - $300 |
| Sewer Rates ($/yr) | : | $48 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BEACHSIDE

**BIRCHY BAY**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 750 |
| Number of Homes | : | 185 |
| Homes Serviced | : | (68 homes have water/sewer, 19 are to be serviced with water, and 98 to be serviced with water and sewer) |
| Information Source(s) | : | Mayor - Henry Mews<br>Town Clerk - Ruby Pollard |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Jumpers Pond |
| Pond Area(Ha) | : | 44 |
| Drainage Area(Ha) | : | 3620 |
| Live Storage (m) | : | 2.5 |
| Firm Yield($m^3$/day) | : | 14124 |
| Intake Location | : | North end of Jumpers Pond |

**EXISTING STRUCTURES**

An earth filled dam and spillway built in 1985 are still in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.9 |
| Dam Crest Elevation (m) | : | 35.5 Geodetic |
| Dam Length(m) | : | approximately 305 |
| Spillway Elevation(m) | : | 34.3 |
| Spillway X section(m) | : | 2.0 x 1.5 |

**Delivery System**

Delivery is by gravity from a 300 mm intake pipe in a wet-well at the north end of Jumpers Pond, at an elevation of 31.8 m. The distribution main is 300 mm to town reducing to 200 mm in town.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The current supply is adequate.

**Potential for Increased Supply**

Not necessary.

**Other Observations/Reported Problems**

The wet-well screens are cleaned four times a year.

**REPORTED DEMAND**

**Domestic**

185 homes

**Industrial/Institutional/Commercial**

2 out of 3 churches, 2 commercial properties, and 1 fire hall are serviced.

**Metering/Cost**

The water supply system costs about $5,616/year to operate and maintain. Residential rates are $72/year for water only.

**WATER QUALITY**

**Treatment Method**

Simple chlorination through use of hypochlorite solution.

**Reported Quality**

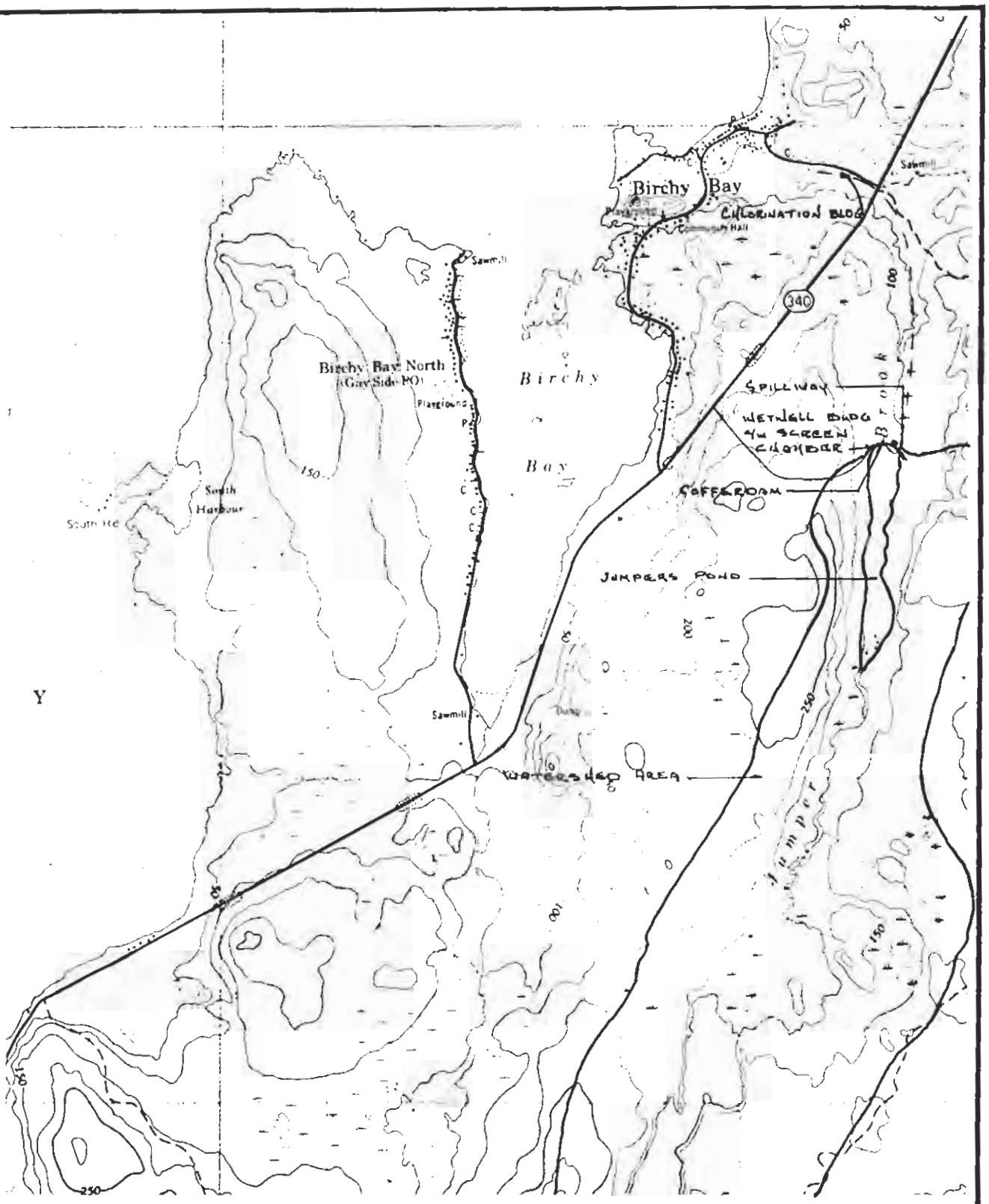
Water quality is good.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None stated.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not given |
| Sewer Rates($/yr) | : | $48 for residential sewer services |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BIRCHY BAY

**BISHOP'S FALLS**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 4,213 |
| Number of Homes | : | 1,300 |
| Homes Serviced | : | 1,193 |
| Information Source(s) | : | Town Manager - Mr. R. Hancock |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface - Exploits Regional Water Supply System |
| Supply Point | : | ) |
| Pond Area(Ha) | : | ) |
| Drainage Area(Ha) | : | ) see data under Grand Falls/Windsor |
| Live Storage (m) | : | ) |
| Firm Yield($m^3$) | : | ) |
| Intake Location | : | ) |

**EXISTING STRUCTURES**

| | | |
|---|---|---|
| Dam Height (m) | : | ) |
| Dam Crest Elevation (m) | : | ) |
| Dam Length(m) | : | ) see data under Grand Falls/ Windsor |
| Spillway Elevation(m) | : | ) |
| Spillway X section(m) | : | ) |

**Delivery System** )

**Status of Watershed Protection** )

**Reported Adequacy of Supply** ) see data under Grand Falls/ Windsor

**Potential for Increased Supply** )

**Other Observations/Reported Problems**)

**REPORTED DEMAND**

**Domestic**

1,200 residences

**Industrial/Institutional/Commercial**

Four industrial operations, 4 schools, 7 churches, 1 fire station, and approximately 56 business establishments.

**Metering Cost**

Water is not metered, therefore a flat rate of $144/year is charged both residences and businesses.

**Losses/Wastage**

None other than that associated with undetected service line leakage.

**WATER QUALITY**

**Treatment Method**

See Grand Falls/Windsor

**Reported Quality**

Satisfactory with the exception of some discolouration due to suspended matter during the spring and again in the fall.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

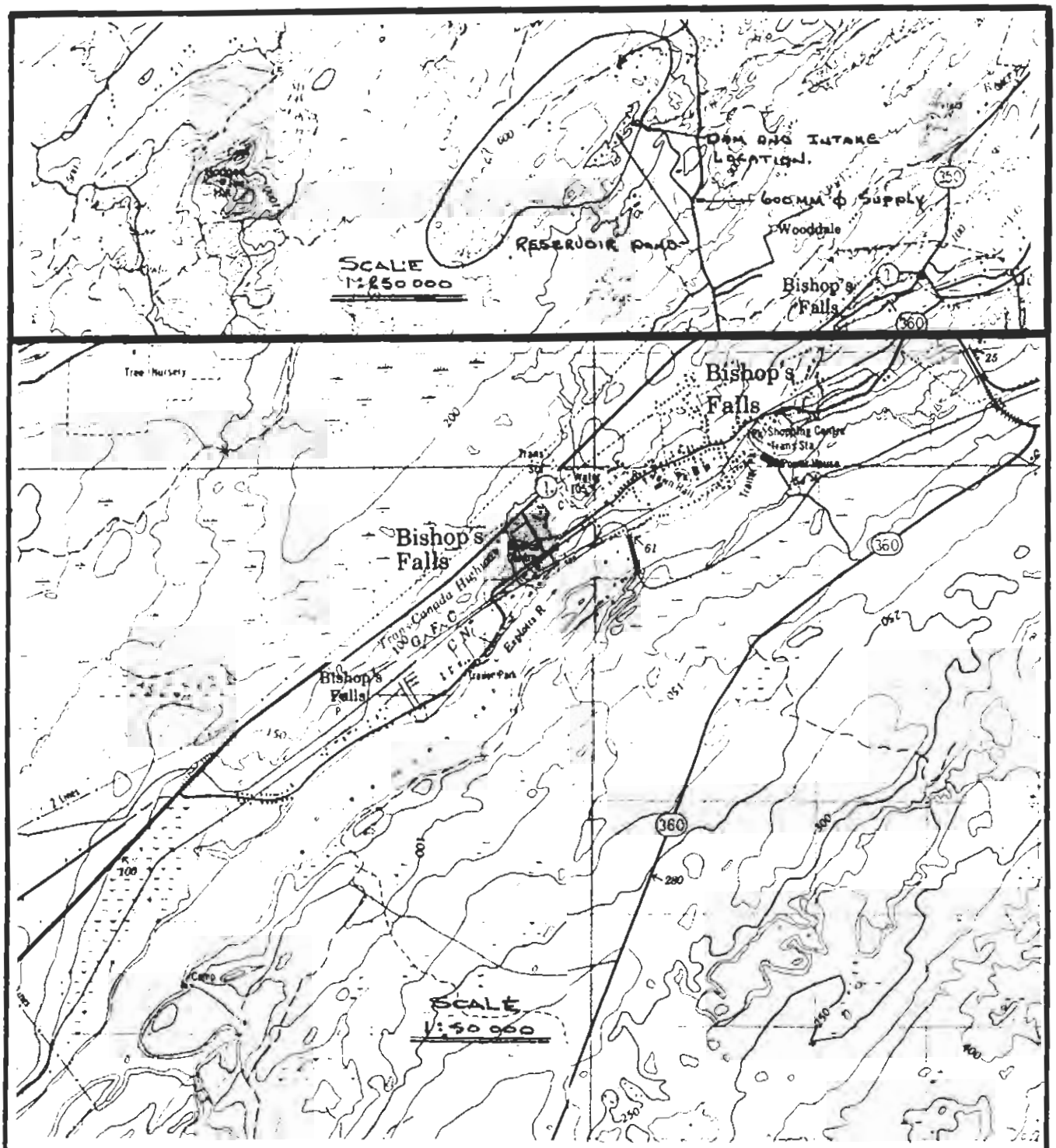
Routine development of residential building lots and construction of a small industrial park at the west end of Bishop's Falls.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Directly into Exploits River through 7 outfalls. |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $80,000 |
| Sewer Rates($/yr) | : | Not separated from combined water and sewer rate. |

**OTHER COMMENTS**

Projected O & M costs associated with supply of water from the Exploits Regional Water Supply System for 1991 are in the order of $37,000. Additional to this, O & M costs for distribution within the town is expected to total $70,000.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BISHOP'S FALLS

**BOTWOOD**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 3,900 (Botwood); 1,130 (Peterview) |
| Number of Homes | : | 1,100 (Botwood); 275 (Peterview) |
| Homes Serviced | : | The Town of Botwood is 100% serviced with water and 90% serviced with sewer. (Town supplies water to Peterview [see Peterview].) |
| Information Source(s) | : | Accounts Receivable Clerk - Janice Boone |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Peter's River |
| Drainage Area(Ha) | : | 17 700 |
| Live Storage (m) | : | 1.0 |
| Firm Yield($m^3$/day) | : | 10 275 |
| Intake Location | : | In Peter's River |

**EXISTING STRUCTURES**

The water supply is from a wet-well adjacent to Peter's River. The facility was constructed in 1940. Usable storage of the wet-well is 29 000 L. The wet-well and pumps are within a concrete block pumphouse.

**Delivery System**

3 x 40 HP pumps operating at a pressure of 50 psi pump into a 2 210 000 L storage reservoir. The old cast-iron distribution mains are being replaced as a part of general maintenance with ductile iron and PVC piping.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The quantity of water available to the Town is adequate to meet the combined future needs of Botwood and Peterview.

**Potential for Increased Supply**

The pumping capacity of the system is inadequate for present demand.

**Other Observations/Reported Problems**

Algae frequently block the wet-well screens in the summer. During winter rafting ice blocks the intake pipe in the river. The pumping capacity of the system is insufficient.

**REPORTED DEMAND**

**Domestic**

1,100 private residences, in addition to the community of Peterview.

**Industrial/Institutional/Commercial**

2 churches (out of 6), 5 schools, 84 commercial facilities, a chronic care facility, the Town pool and Abitibi Price Pulp & Paper shipping wharf are supplied by the present water supply system.

**Metering/Cost**

The average demand is 2.9 x $10^6$ L/day, demand as high as 4.63 x $10^6$ L/day has been recorded. The water supply system costs approximately $25,853/year to run. The residential rate for water is $108/year.

**WATER QUALITY**

**Treatment Method**

Gas chlorination

**Reported Observations/Problems**

The water is occasionally coloured.

**WASTEWATER DISPOSAL**

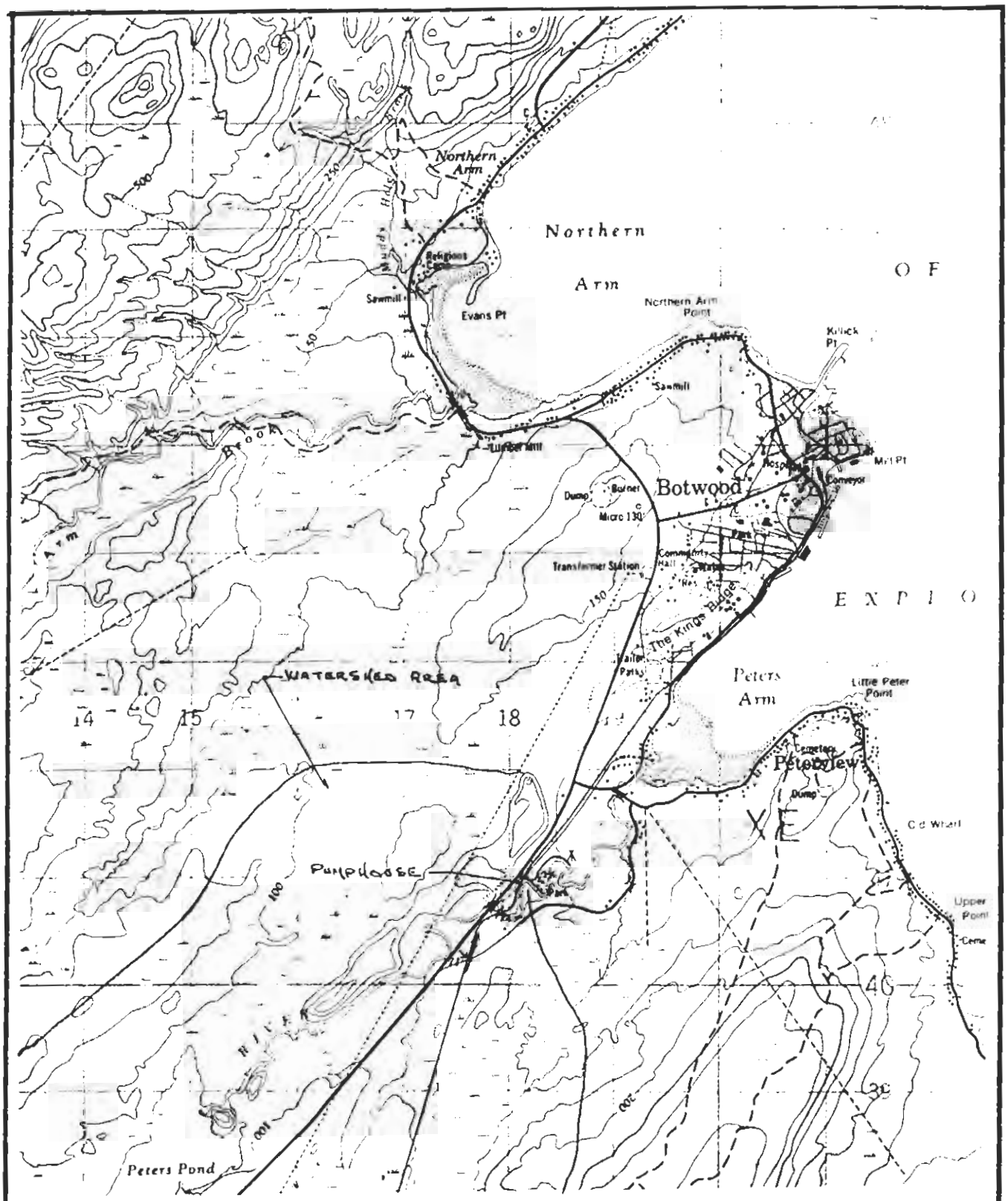
| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | 10 outfalls discharge into Botwood Harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $14,605 |
| Sewer Rates($/yr) | : | Residential water and sewer $168 |

**OTHER COMMENTS**

The rates charged for some of the commercial properties for water and sewer are:

| | Water Only | Water and Sewer |
|---|---|---|
| Commercial properties | $168/year | $ 264/year |
| Chronic Care facility | | $ 1,800/year |
| Schools | | $ 264/year to $ 948/year, based on enrolment |
| Abitibi Price | | $85,000/year |

#8Ax:Botwood




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BOTWOOD

**BOYD'S COVE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 386 |
| Number of Homes | : | 100 |
| Homes Serviced | : | none |
| Information Source(s) | : | Levi Burry and Wm Martin |

**EXISTING WATER SUPPLY**

Type : Private wells

**REPORTED DEMAND**

**Domestic**

100 residences

**Industrial/Institutional/Commercial**

2 churches, 3 commercial properties, 1 fire hall

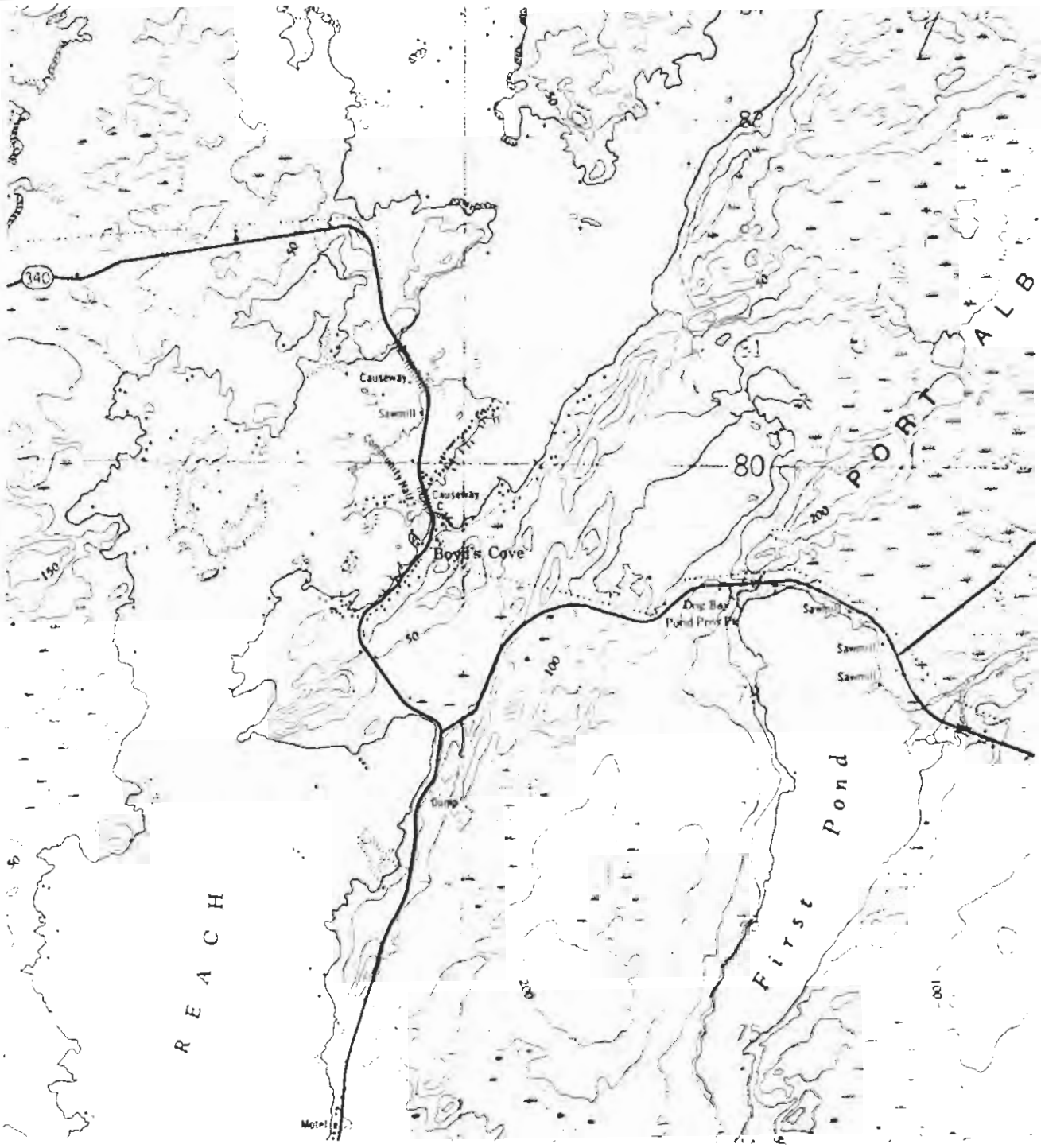
**WASTEWATER DISPOSAL**

Private septic systems

**OTHER COMMENTS**

No town water supply or distribution system.

#8Ax:BoydsCv




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BOYD'S COVE

**BRENT'S COVE**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 400 |
| Number of Homes | : | 83 |
| Homes Serviced | : | 83 |
| Information Source(s) | : | Mayor - Charlie Martin |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Paddy's Pond |
| Pond Area(Ha) | : | 3.5 |
| Drainage Area(Ha) | : | 95.0 |
| Live Storage (m) | : | 1.4 |
| Firm Yield(m3/day) | : | 540 |
| Intake Location | : | West end of Paddy's Pond |

**EXISTING STRUCTURES**

A membrane-covered wooden crib dam, built in 1982, and still in good condition, stands at the west end of Paddy's Pond. A chlorination building was completed in 1990.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.8 |
| Dam Crest Elevation (m) | : | 120.0 Geodetic |
| Dam Length(m) | : | 17.0 |
| Spillway Elevation(m) | : | 119.35 |
| Spillway X section(m) | : | 1.2 x 0.65 |

**Delivery System**

The water supply system is gravity fed to the community from the west end of Paddy's Pond. The 75 mm intake pipe is above ground or shallow bury for approximately 500 m to the chlorination building; from there to the community line size is 150 mm.

**Status of Watershed Protection**

The community does not have water rights, nor is the watershed protected.

**Reported adequacy of Supply**

The supply is adequate for the domestic needs of the community.

**Potential for Increased Supply**

When the water level is low in Paddy's Pond, water is pumped from Walsh's Pond, which has 4.5 Ha storage capacity.

**REPORTED DEMAND**

**Domestic**

83 residences

**Industrial/Institutional/Commercial**

1 church, 2 schools, 2 commercial facilities, 1 fire hall, and a fishing stage which is to be serviced in the near future.

**Metering/Cost**

No operating and maintenance costs were available at the time of the study. The domestic water rate is set at $72/year. At present 50% of the community is being serviced water from the "old system" which has 25 mm and 50 mm diam. line sizes. New Capital Works presently ongoing is upgrading the distribution lines to 150 mm diam.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Satisfactory

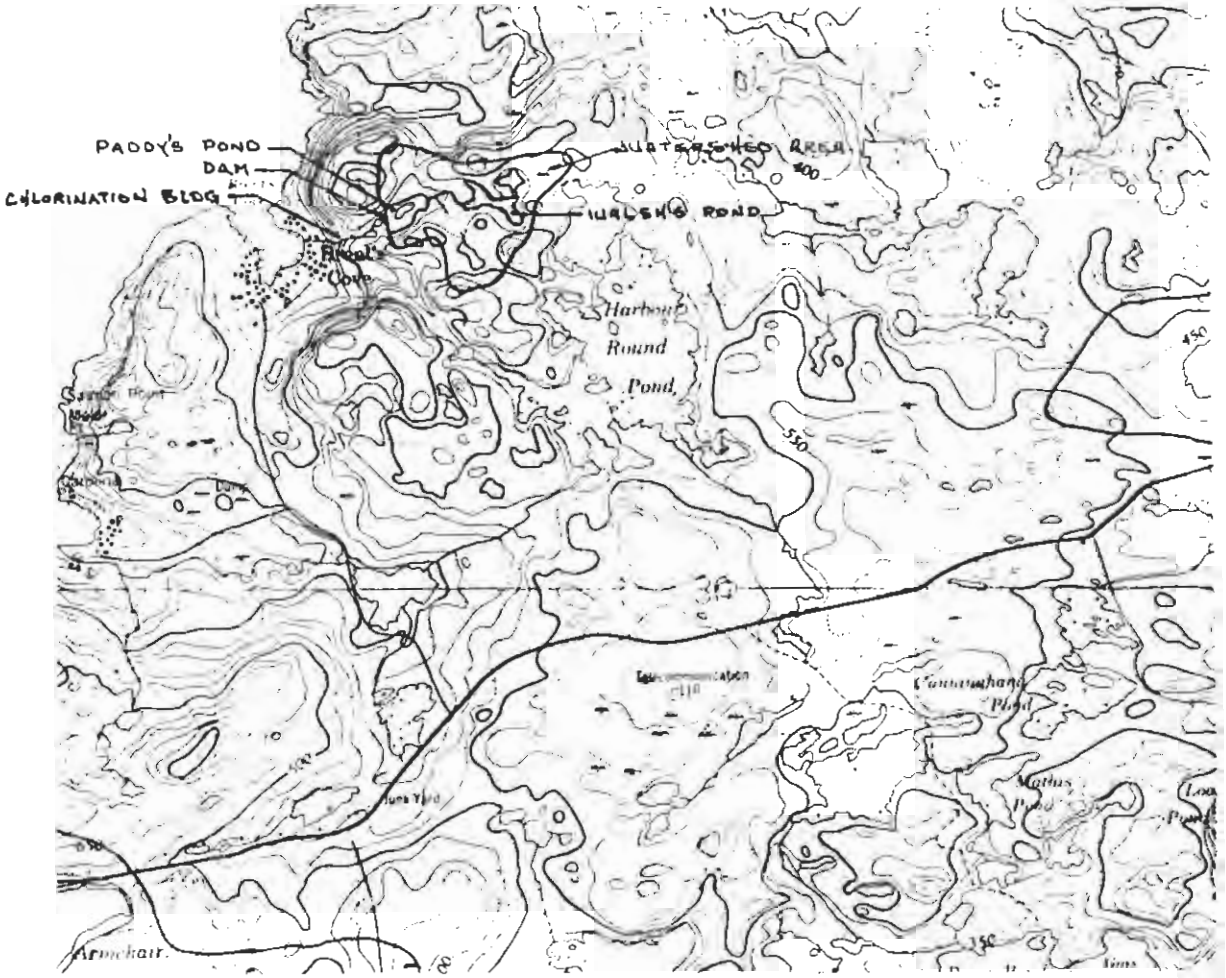
**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

New Capital Works of replacing water main, and construction of a new chlorination building in 1990.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour through 1 lift station and 2 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not available |
| Sewer Rates($/yr) | : | $72/year |

#8Ax:BrentsCv




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BRENT'S COVE

**BRIDGEPORT**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300 |
| Number of Homes | : | 70± |
| Homes Serviced | : | None |
| Information Source(s) | : | Chairman - Ray Blake |

**EXISTING WATER SUPPLY**

Type : Private wells

**REPORTED DEMAND**

**Domestic**

70 residences

**Industrial/Institutional/Commercial**

One fish plant which installs its own above-ground gravity feed main from Round Pond for summer supply and removes it again at plant close-down in the fall.

**WASTEWATER DISPOSAL**

Treated : Private septic tanks with effluent lines to ocean

**OTHER COMMENTS**

Fifteen private wells (100 mm diameter) have been drilled in the community. During the summer, residents hook into a supply line from Round Pond and receive gravity fed water. The cost of installing a water supply system for the community was estimated to be $1-2 million in 1984.


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BRIDGEPORT

**BRIGHTON**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 350 |
| Number of Homes | : | 102 |
| Homes Serviced | : | 75%± |
| Information Source(s) | : | Town Clerk - Donna Ince<br>Maint. Man - Donald Fudge |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Hynes Cove Pond |
| Pond Area(Ha) | : | 4.0 |
| Drainage Area(Ha) | : | 58.0 |
| Live Storage (m) | : | 2.7 |
| Firm Yield($m^3$/day) | : | 986 |
| Intake Location | : | northeast corner of Hynes Cove Pond |

**EXISTING STRUCTURES**

An earthfill dam with membrane and concrete spillway constructed in 1985 is in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.2 |
| Dam Crest Elevation (m) | : | 3.2 Geodetic |
| Dam Length(m) | : | 150.0 |
| Spillway Elevation(m) | : | 2.7 |
| Spillway X section(m) | : | 4.2 x 0.5 |

**Delivery System**

From a screened wet-well at the northeast corner of Hynes Cove Pond water is pumped by a 4.5 HP Flight submersible pump through 250 mm reducing to 200 mm distribution main in the town. To date Phase 4 of a proposed 6-phase construction project has been completed.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The supply is adequate to meet present and projected domestic demand.

**Potential for Increased Supply**

Live storage could be increased by raising the existing dam structure an additional 1.0 m.

**Other Observations/Reported Problems**

20 homes in the as-yet-unserviced area are supplied by a water truck. Hydrants and curb stops are installed in the town to end of Phase 4 construction.

**REPORTED DEMAND**

**Domestic**

The present demand comprised 69 serviced homes and 20 residences being supplied trucked water from system hydrants.

**Industrial/Institutional/Commercial**

2 churches (not serviced), 1 fire hall (not serviced)

**Metering Cost**

The cost of operating the municipal system, including cost of operating the water truck, is $19,000/year. The domestic water rate is $156/year.

**Losses/Wastage**

None noted

**WATER QUALITY**

**Treatment Method**

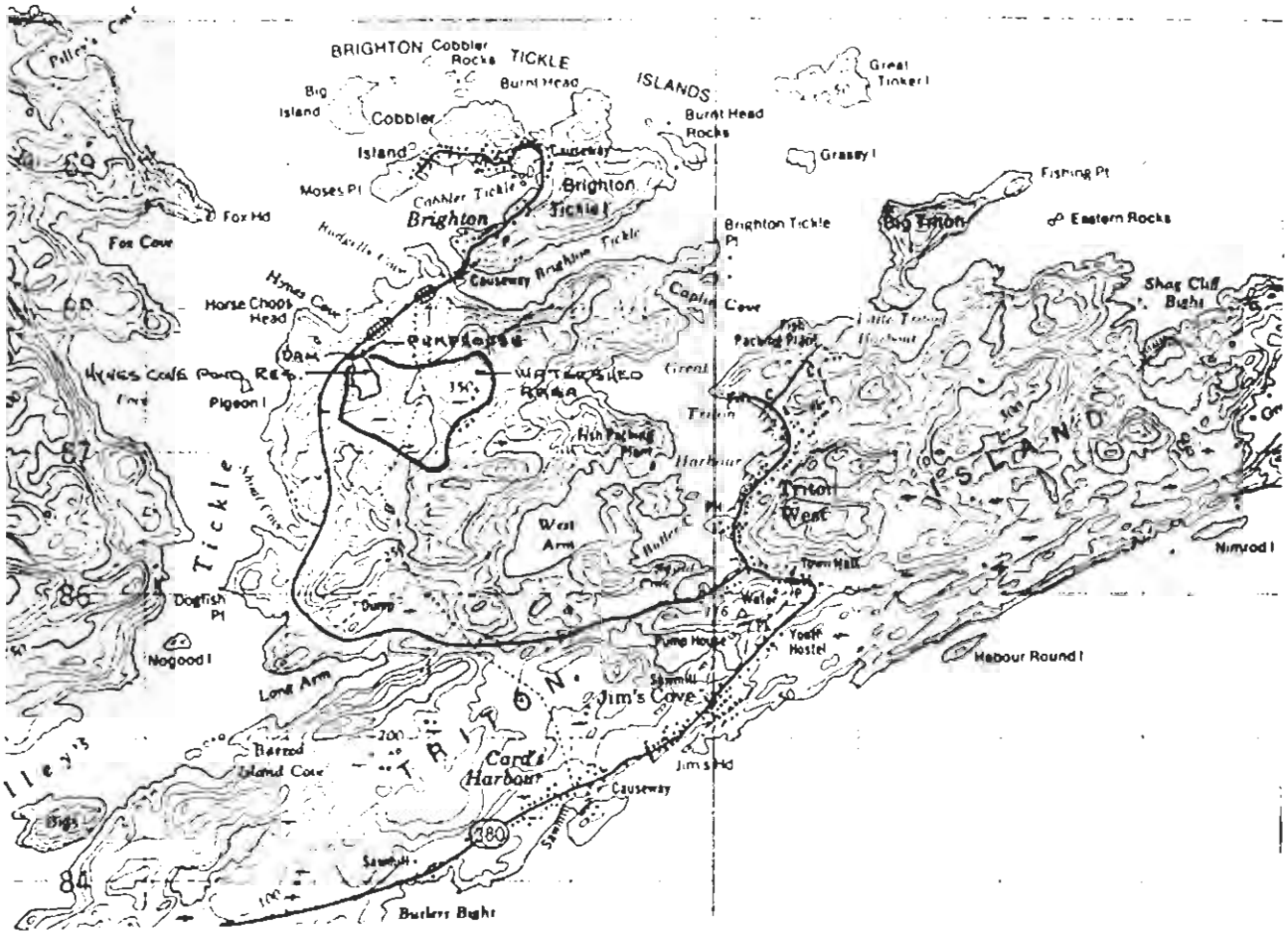
Liquid chlorine

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour using 2 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | See Metering Costs |
| Sewer Rates($/yr) | : | $72 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BRIGHTON

**BROWN'S ARM**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 400 |
| Number of Homes | : | 125 |
| Homes Serviced | : | None |
| Information Source(s) | : | Chairman - Corbett Randell |

**EXISTING WATER SUPPLY**

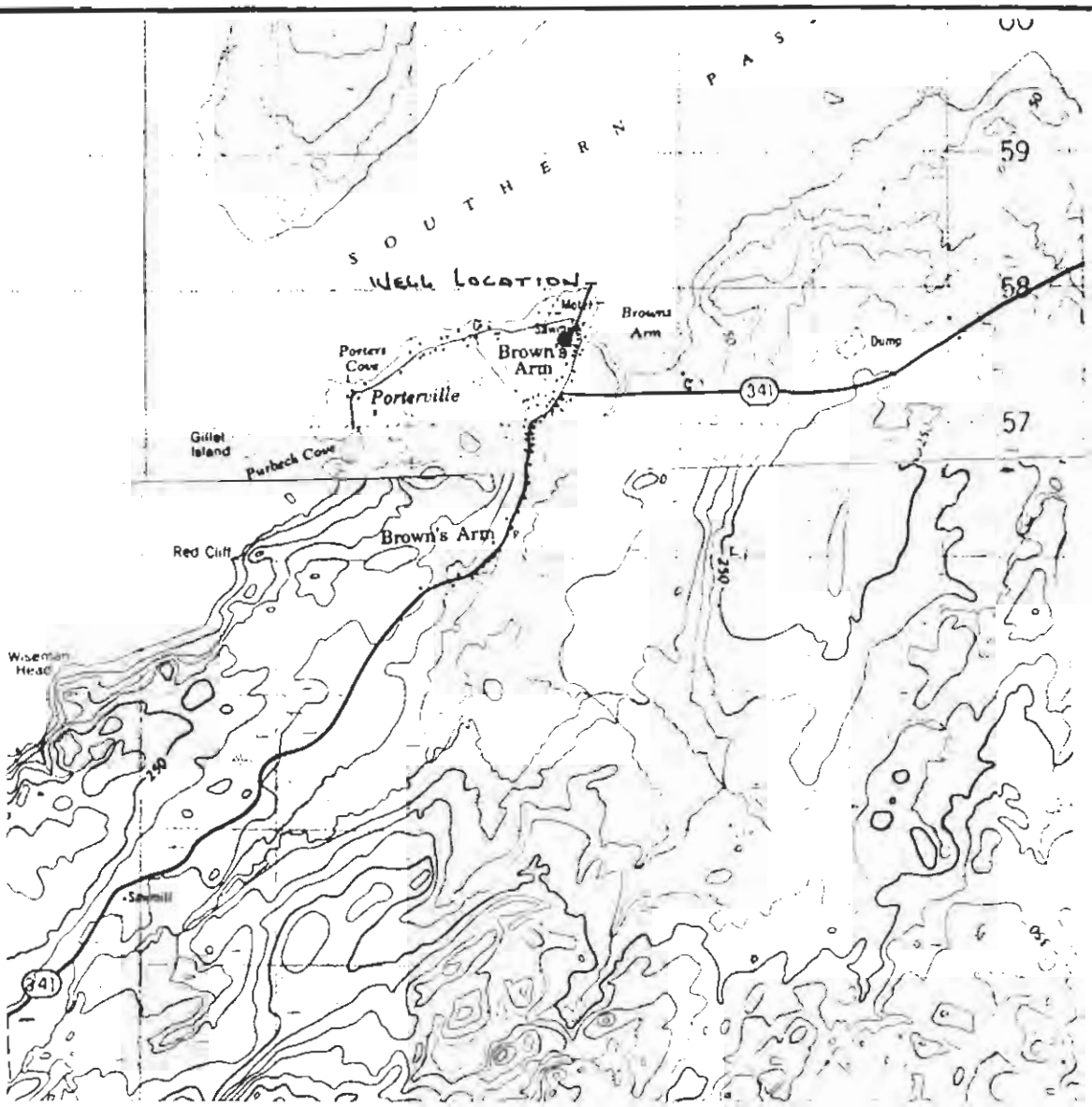
Type : Groundwater (shallow and 1 community well)

**Comments**

The LSD of Brown's Arm has 1 community drilled well equipped with a hand pump. The well is used extensively in the summer. Most residents have dug wells which run dry during this period. The LSD is interested in getting water and sewer for the community.

**WASTEWATER DISPOSAL**

Septic tanks




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BROWN'S ARM

**BUCHANS**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,100 |
| Number of Homes | : | 525 |
| Homes Serviced | : | 525 |
| Information Source(s) | : | Town Clerk - M. Hamilton |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Buchans Brook Forebay |
| Drainage Area(Ha) | : | 50 800 |
| Live Storage (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 33 691 |
| Intake Location | : | Upstream of Abitibi-Price hydro dam |

**EXISTING STRUCTURES**

Two hydro dams on Buchans Brook owned by Abitibi-Price and the pumphouse which Asarco built in 1952.

**Status of Watershed Protection**

Water rights are held by Abitibi and they allow the Town of Buchans 9000 L/min. The immediate area around the pumphouse and intake is fenced.

**Reported adequacy of Supply**

More than adequate to meet present and future demand.

**Potential for Increased Supply**

Not necessary

**REPORTED DEMAND**

**Domestic**

525 residences

**Industrial/Institutional/Commercial**

6 churches, 2 schools, 25 commercial facilities, 1 medical facility, and 1 fire hall.

**Metering Cost**

Operating and maintenance cost $70,493/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Satisfactory

**Delivery**

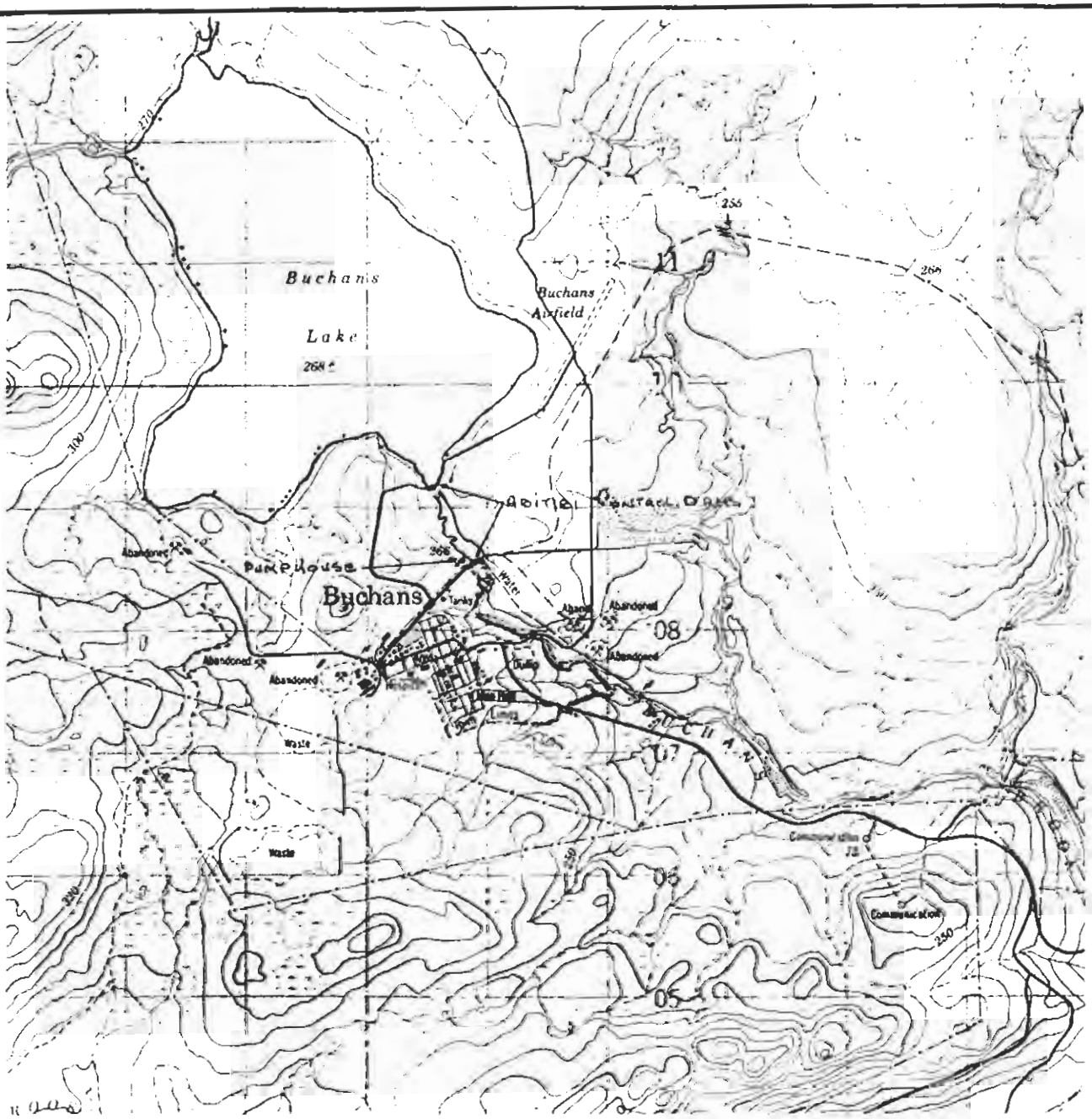
The pumphouse is equipped with two 75 HP pumps which work alternately and pump to a 450 000 L storage tank. There are three 250 mm waterlines from the pumphouse to the town. Two may be used for domestic and the third is for fire protection.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Sewer is discharged into Buchans Brook |

**OTHER COMMENTS**

The water rights are owned by Abitibi-Price and they allow the Town of Buchans to take 9000 L/min from Buchans Brook above their hydro intake to supply the needs of the town.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BUCHANS

**BURLINGTON EAST SIDE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 215 |
| Number of Homes | : | 57 |
| Homes Serviced | : | 35 water & sewer; 22 water only |
| Information Source(s) | : | Town Clerk - F. Saunders<br>Maint. Man - R. Dawe |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Dam located on Eastern Island Pond River |
| Reservoir Area(Ha) | : | 0.016 |
| Drainage Area(Ha) | : | 1 225 |
| Live Storage(m) | : | 0.9 |
| Firm Yield($m^3$/day) | : | 16 484 |
| Intake Location | : | 100 mm diam. screened intake on Eastern Island Pond River - 180 m from main road |

**EXISTING STRUCTURES**

A 20-year-old concrete dam which is in good condition erected on Eastern Island Pond River, and a chlorination building.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.3 |
| Dam Length (m) | : | 6.3 |
| Spillway x Section (m) | : | 0.85 x 0.3 |

**Delivery System**

Gravity feed from the dam to a 100 mm distribution main. The distribution main eventually reduces to 50 mm diam. without curb stops in the service lines.

**Status of Watershed Protection**

An application has been submitted to Environment and Lands for watershed protection.

**Reported Adequacy of Supply**

The existing supply is more than adequate to supply present and future demand.

**Potential for Increased Supply**

Not necessary

**REPORTED DEMAND**

**Domestic**

57 homes

**Industrial/Institutional/Commercial**

4 commercial facilities, 1 clinic, 1 fire hall

**Metering Cost**

The latest operating and maintenance cost reported was $2,000/year. The domestic water rate is $120/year.

**WATER QUALITY**

**Treatment Method**

Chlorine injected into the supply main at a chlorination building 40 m downstream of the dam.

**Reported Quality**

Satisfactory, however a yellowish colour is reported during periods of high run-off.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Private septic tanks to tile fields or directly to the ocean. |
| Permitted | : | Yes |

**OTHER COMMENTS**

The distribution system comprising the 50 mm diam. mains is inadequate to accommodate peak demand flows for the 22 homes supplied water only.


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BURLINGTON EAST

**BURLINGTON WEST SIDE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 200 |
| Number of Homes | : | 70 |
| Homes Serviced | : | 70 |
| Information Source(s) | : | Town Clerk - F. Saunders |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Dam structure on Goudie's Brook |
| Reservoir Area(Ha) | : | 0.017 |
| Drainage Area(Ha) | : | 940 |
| Live Storage (m) | : | 1.2 |
| Firm Yield($m^3$/day) | : | 1269 |
| Intake Location | : | 75 mm diam. PVC pipe with screened intake on Goudie's Brook |

**EXISTING STRUCTURES**

An 18-year-old concrete dam on Goudie's Brook is still in good structural condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.4 |
| Dam Length (m) | : | 6.8 |
| Spillway x Section (m) | : | 1.5 X 0.2 |

**Delivery System**

The reservoir gravity feeds a 1600 m section of 100 mm diam. supply main to a chlorination building at the south end of the community.

**Status of Watershed Protection**

Application for protection of the watershed and water rights are both being processed by the Dept. of Environment & Lands.

**Reported adequacy of Supply**

More than adequate.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

70 homes

**Industrial/Institutional/Commercial**

2 churches, 2 schools

**Metering Cost**

The latest operating and maintenance costs are $650/year. The domestic water rate is set at $120/year.

**WATER QUALITY**

**Treatment Method**

Chlorine; solution pump inoperative at the time of the field study.

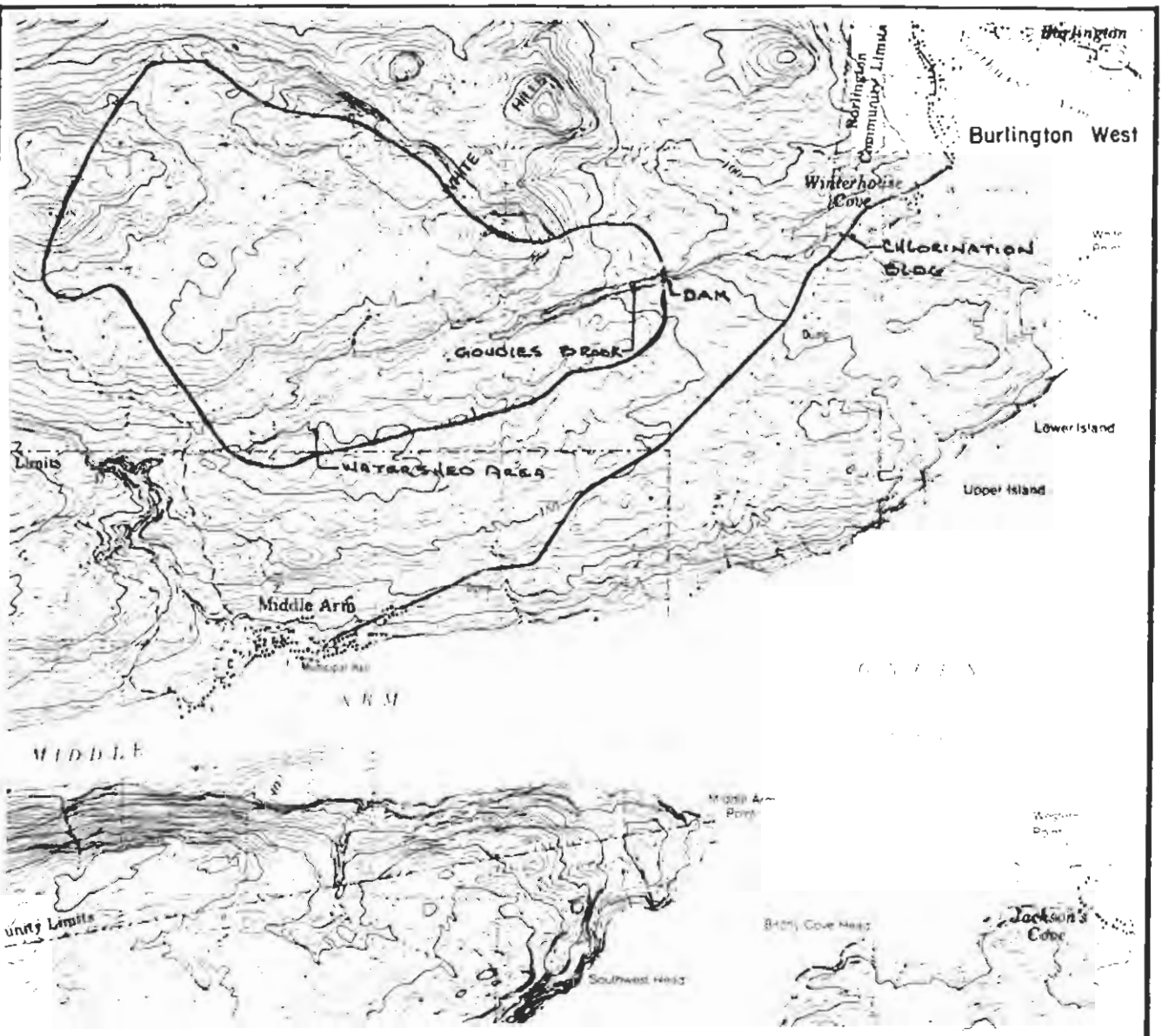
**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Gravity system to the harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $360 |
| Sewer Rates($/yr) | : | $ 60 |

#10Ax:BringtnW




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

BURLINGTON WEST

**CAMPBELLTON**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 686 |
| Number of Homes | : | 195 |
| Homes Serviced | : | 75 with water & sewer; 15 water only |
| Information Source(s) | : | Mayor - R.S. Clarke<br>Town Clerk - Elaine Hart |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Point | : | Campbellton River (Indian Arm Brook) |
| Drainage Area(ha) | : | 28 300 |
| Live Storage (m) | : | 1.2 |
| Firm Yield($m^3$/day) | : | 38 156 |
| Intake Location | : | Indian Arm Brook adjacent Highway 340 |

**EXISTING STRUCTURES**

New pumphouse with screened intake below stream bed and wet-well under construction. New pumphouse to house two 15 HP and one 50 HP pumps.

**Delivery System**

Water is pumped through 200 and 150 mm diam. distribution mains.

**Status of Watershed Protection**

Watershed is protected.

**Reported adequacy of Supply**

More than adequate.

**Potential for Increased Supply**

Not necessary

**Other Observations/Reported Problems**

A new and an old pumphouse exist. The old pumphouse was in use at the time of the field work for this report. All comments refer to the potential of the new system.

**REPORTED DEMAND**

**Domestic**

195 homes, 90 serviced

**Industrial/Institutional/Commercial**

3 churches, 5 commercial facilities, 1 fire hall, 1 fish plant

**Metering Cost**

$8,500/year for operating and maintaining water supply. The domestic water rate is $114/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Hypochlorination unit

**Reported Quality**

Satisfactory; slight discolouration in spring

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Indian Arm Bay from 5 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $500 |
| Sewer Rates($/yr) | : | $ 66 |

**GROUNDWATER**

One community well serves 15 homes with good quality water.

**OTHER COMMENTS**

Residences as yet unserviced have shallow wells and septic tanks which discharge either into tile fields or directly into the harbour.

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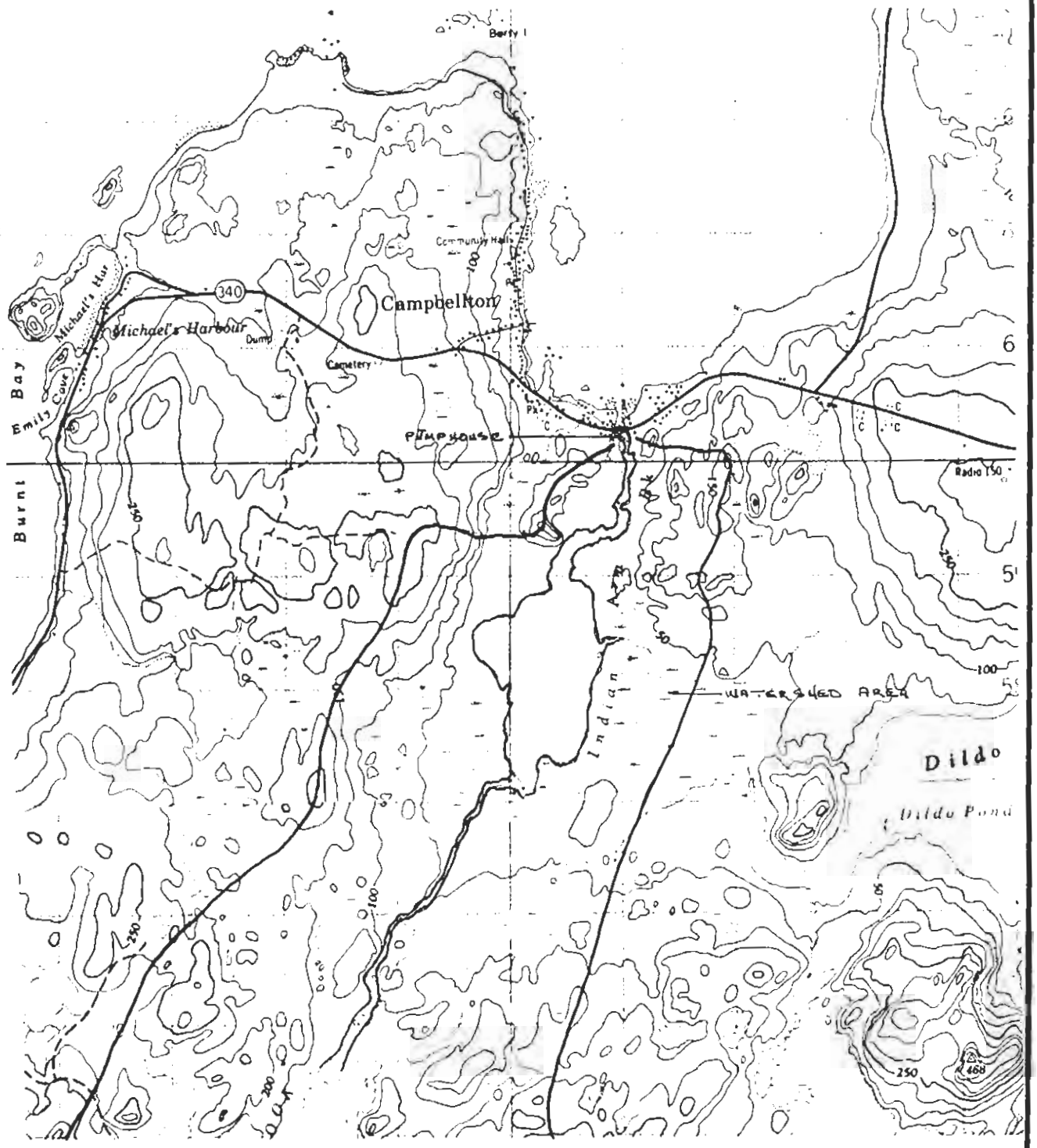



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

CAMPBELLTON

**CARTER'S COVE - VIRGIN ARM**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 950 |
| Number of Homes | : | 235 |
| Homes Serviced | : | None |
| Information Source(s) | : | B. Burt (Carter's Cove)<br>S. Burt (Virgin Arm) |

**EXISTING WATER SUPPLY**

Type : Private wells

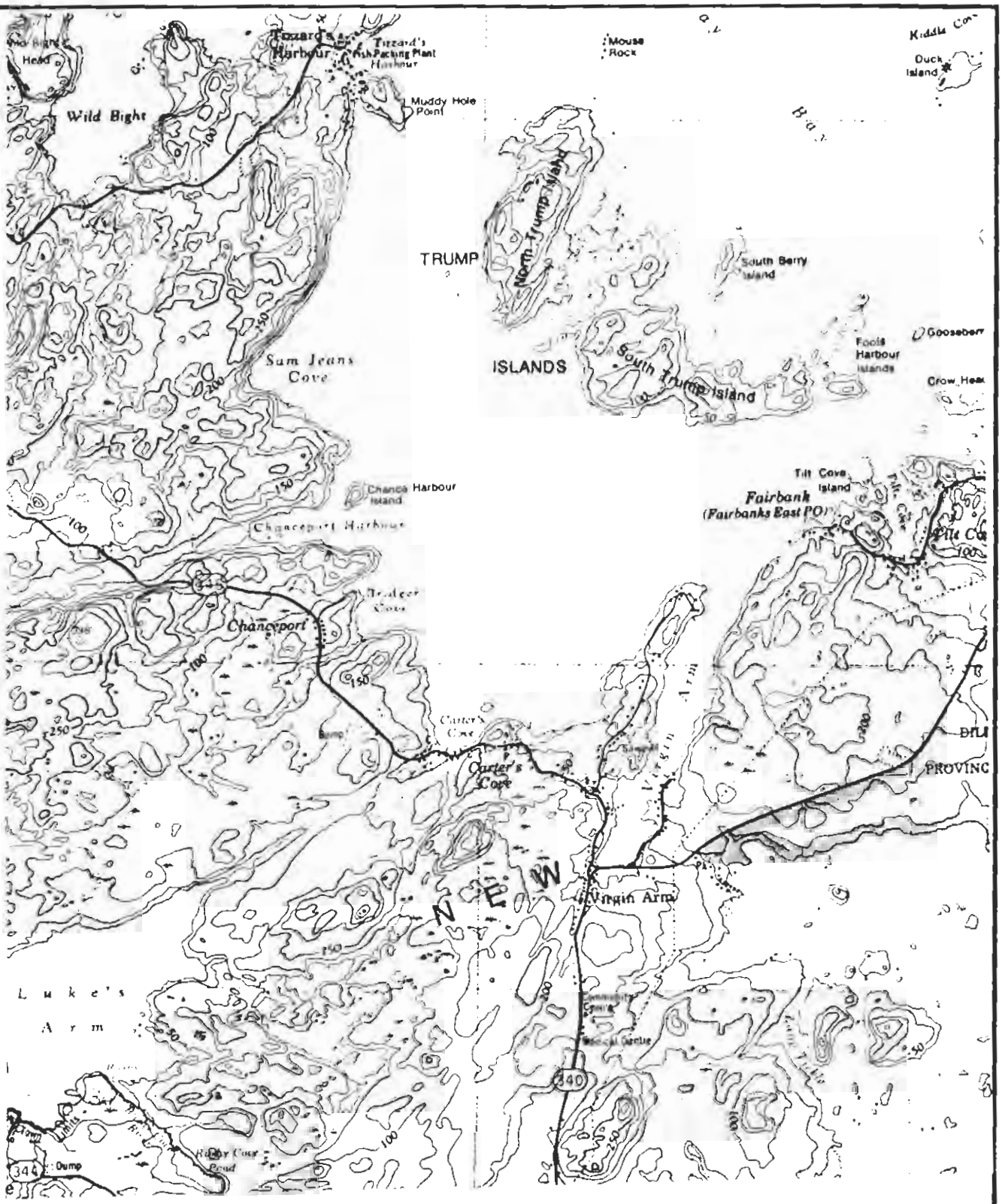
**REPORTED DEMAND**

**Domestic**

235

**GROUNDWATER**

Dug wells and a number of private artesian drilled wells supply water to these communities. The water supply is inadequate during the winter and summer and many residents get water from Summerford in containers.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

CARTER'S COVE- VIRGIN ARM

**CHANCEPORT**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 80± |
| Number of Homes | : | 20 |
| Homes Serviced | : | 18 |
| Information Source(s) | : | Chairperson - Yvonne Young |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Bridger's Cove Pond (Elev. 96 m Geod.) |
| Pond Area(Ha) | : | 1.25 |
| Drainage Area(Ha) | : | 62 |
| FSL/LSL(m) | : | 1.2 |
| Firm Yield($m^3$/day) | : | 210 |
| Intake Location | : | A 50 mm diam. polyethylene intake line at the Southeast end of Bridger's Cove Pond |

**EXISTING STRUCTURES**

A pumphouse located at Bridger's Cove Pond is equipped with a 5 HP centrifugal pump.

**Delivery System**

A 50 mm polyethylene pipe distribution main throughout the settlement.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The water supply is considered adequate to meet present and future demand requirements.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

18 homes

**Metering/Cost**

The water supply is unmetered. The latest annual cost of operating and maintaining the water supply system is $1,500. The residential water rate is $96/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

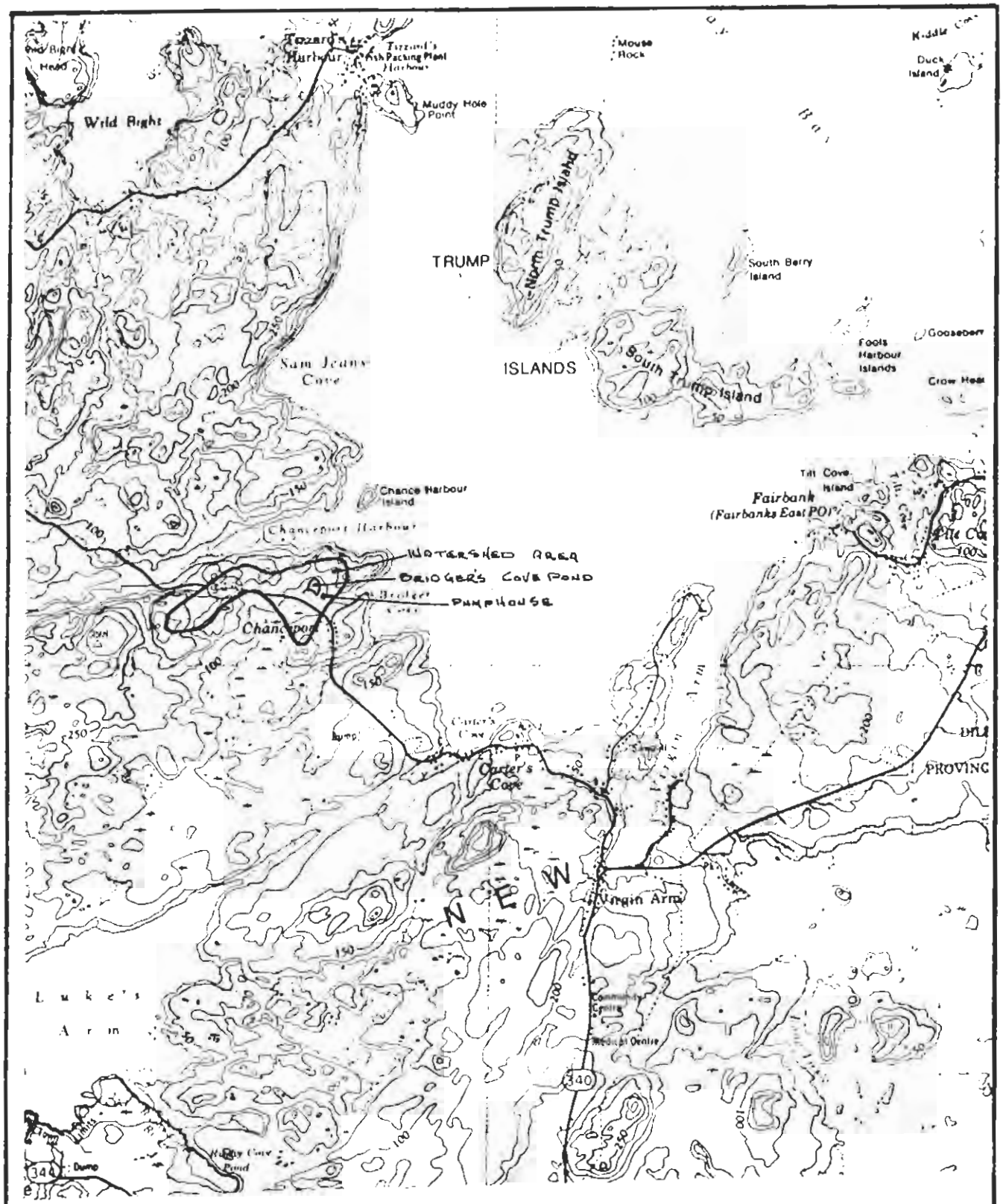
During spring run-off water quality is unsatisfactory because of taste and odour.

**Reported Quality**

During spring run-off water quality is unsatisfactory because of taste and odour.

**WASTEWATER DISPOSAL**

Treated : Private septic tanks




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

CHANCEPORT

**CHANGE ISLANDS**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 562 |
| Number of Homes | : | 200 |
| Homes Serviced | : | None |
| Information Source(s) | : | Town Clerk - Doris Hoffe |

**EXISTING WATER SUPPLY**

Type : Groundwater (shallow dug and deep drilled wells)

**REPORTED DEMAND**

**Domestic**

200 homes

**WASTEWATER DISPOSAL**

Residents use septic tanks.

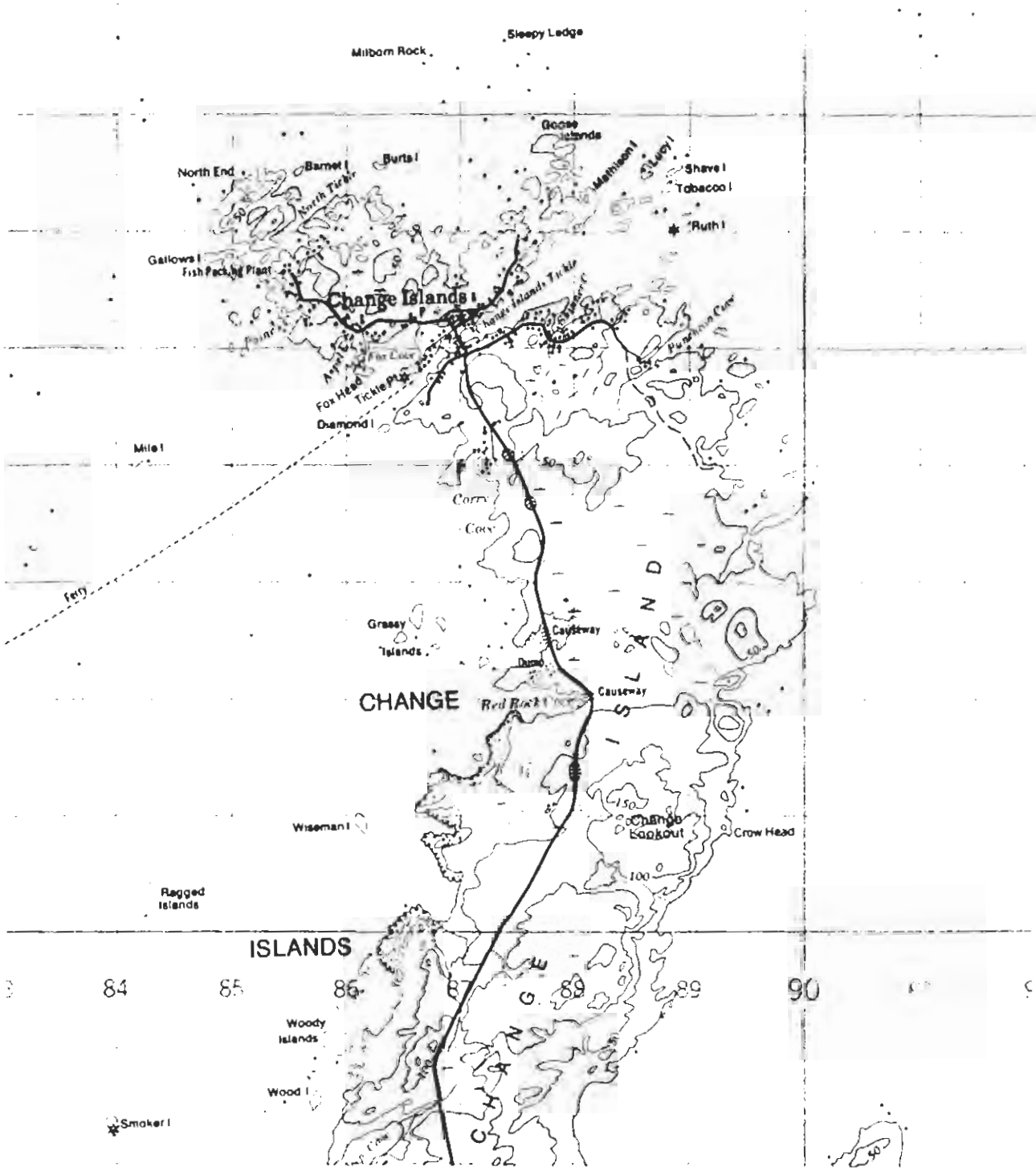
**GROUNDWATER**

There are 5 or 6 government wells all equipped with hand pumps. Most homes have artesian wells.

**OTHER COMMENTS**

The community believes that their present water supply 'system' is adequate.

At present residents are satisfied with their own well systems and hence the Town is not seeking funding for a municipal water and sewer system.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

CHANGE ISLANDS

**COACHMAN'S COVE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 340 |
| Number of Homes | : | 54 |
| Homes Serviced | : | None |
| Information Source(s) | : | B. Barker |

**EXISTING WATER SUPPLY**

Type : Private wells

**REPORTED DEMAND**

**Domestic**

54 homes

**Industrial/Institutional/Commercial**

1 church, 1 fish plant

**OTHER COMMENTS**

The Town is requesting Provincial Government funding for a water and sewer system.

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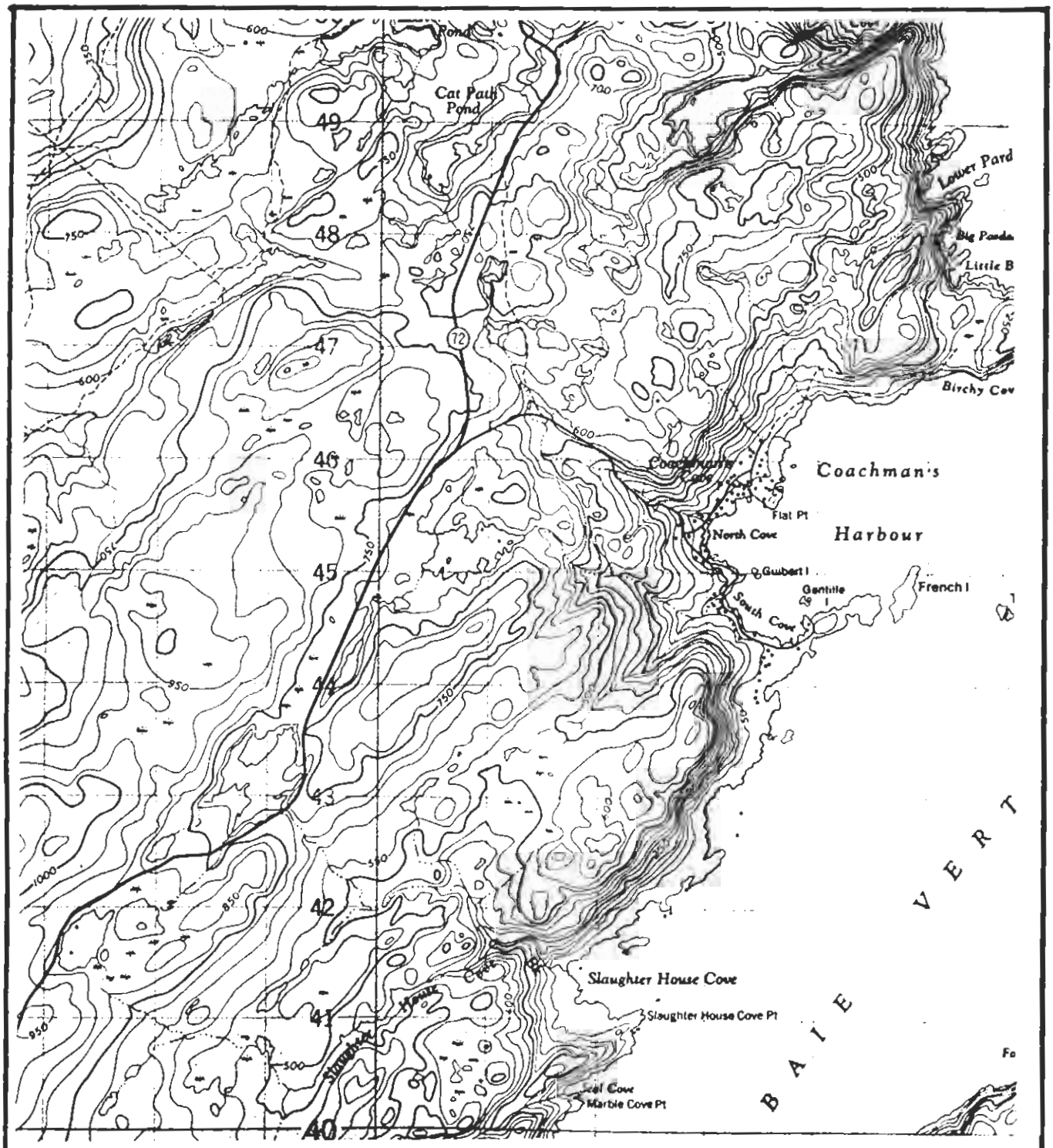



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

COACHMAN'S COVE

**COBB'S ARM**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 188 |
| Number of Homes | : | 57 |
| Homes Serviced | : | None |
| Information Source(s) | : | M. Burt |

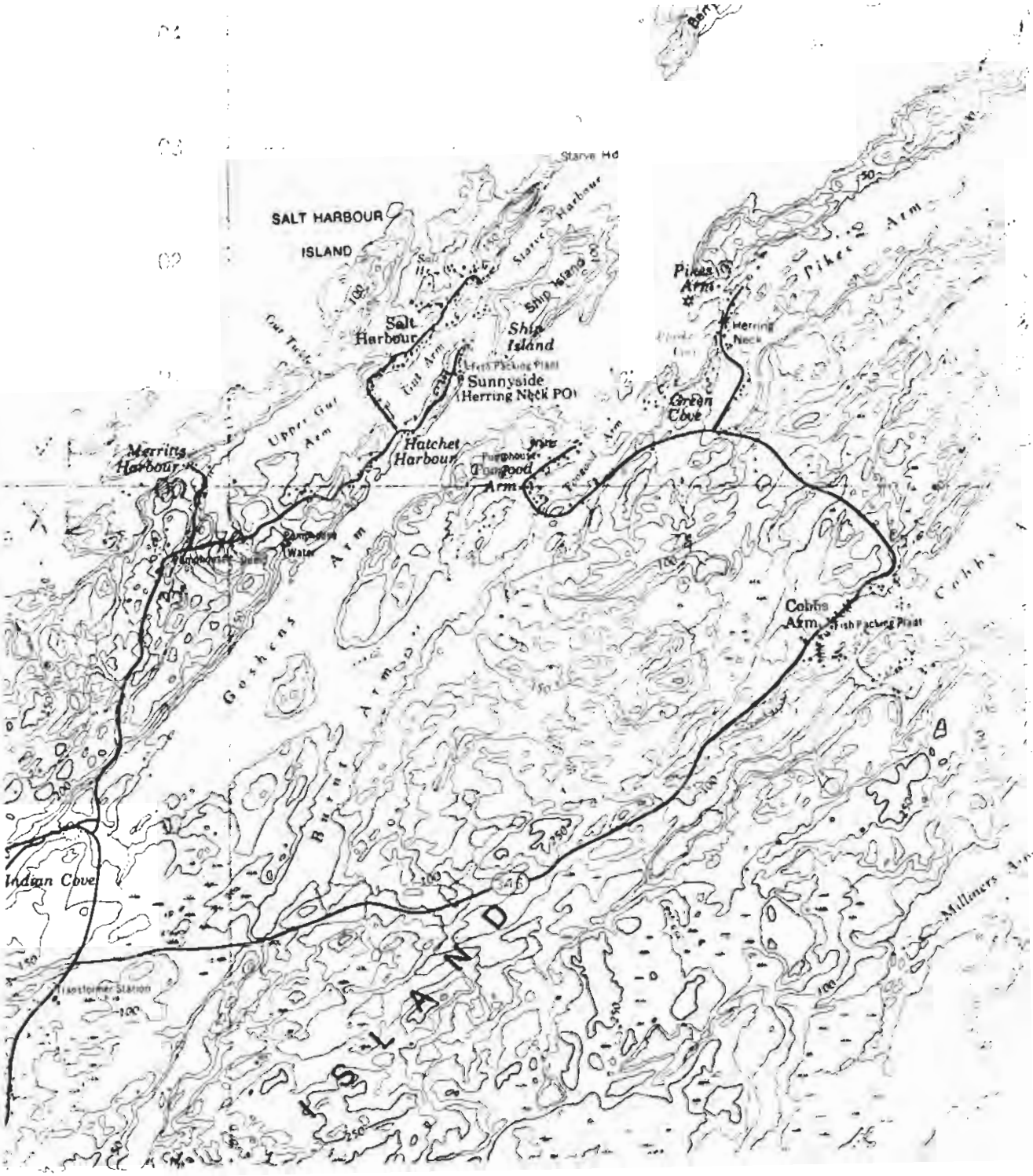
**EXISTING WATER SUPPLY**

Type : Private wells

**GROUNDWATER**

Three community wells were drilled with subsequent development limited to construction of a pumphouse over each.

Typically limited development of this nature requires that individuals go to the closest well facility and fill their own water containers. In all three instances at Cobb's Arm the pumps have broken down and not been repaired because of insufficient funds.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

COBB'S ARM

**COMFORT COVE - NEWSTEAD**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 800 |
| Number of Homes | : | 200 |
| Homes Serviced | : | Approximately 120 homes are serviced with water and sewer. |
| Information Source(s) | : | Town Clerk - Gerald Mead<br>Fish Plant Operator - Rex Eveleigh |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Steady Cove Pond |
| Pond Area(Ha) | : | 14 |
| Drainage Area(Ha) | : | 220 |
| Live Storage (m) | : | 2.4 |
| Firm Yield($m^3$/day) | : | 3120 |
| Intake Location | : | Corrugated metal pipe 600 mm diam. on western side of Steady Cove Pond. |

**EXISTING STRUCTURES**

Earth filled dam and spillway in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.8 |
| Dam Crest Elevation (m) | : | 15.8 Geodetic |
| Dam Length(m) | : | 93.0 |
| Spillway Elevation(m) | : | 15.2 |
| Spillway X section(m) | : | 2.6 x 3.2 m |

**Delivery System**

A 3-pump constant pressure system supplies water to the fish plant and the Town through a distribution system comprising 250 mm, 150 mm, and 100 mm diam. mains. Because of the excessive peak demands during fish plant operation, residences at higher levels receive low supply pressure.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply is adequate to meet projected domestic and industrial demand to the year 2015.

**Potential for Increased Supply**

Not necessary

**Other Observations/Reported Problems**

The Town has requested funding to proceed with construction of a centrally-located storage reservoir to alleviate unacceptable pressure drops at the higher levels during combined domestic/industrial peak demand.

**REPORTED DEMAND**

**Domestic**

60% of the town is serviced (approximately 120 homes).

**Industrial/Institutional/Commercial**

3 churches, 1 school of 80 students, 3 commercial properties, 1 fire hall, and 1 fish plant.

**Metering/Cost**

Residents are charged $8/month for water services. The town pays $250.44/month to Dept. of Municipal & Provincial Affairs for use of the water supply.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Chlorine gas is added to treat water at 7 kg/24 hours. When the fish plant is in operation, water is treated using approximately 14 kg/24 hours.

**Reported Observations/Problems**

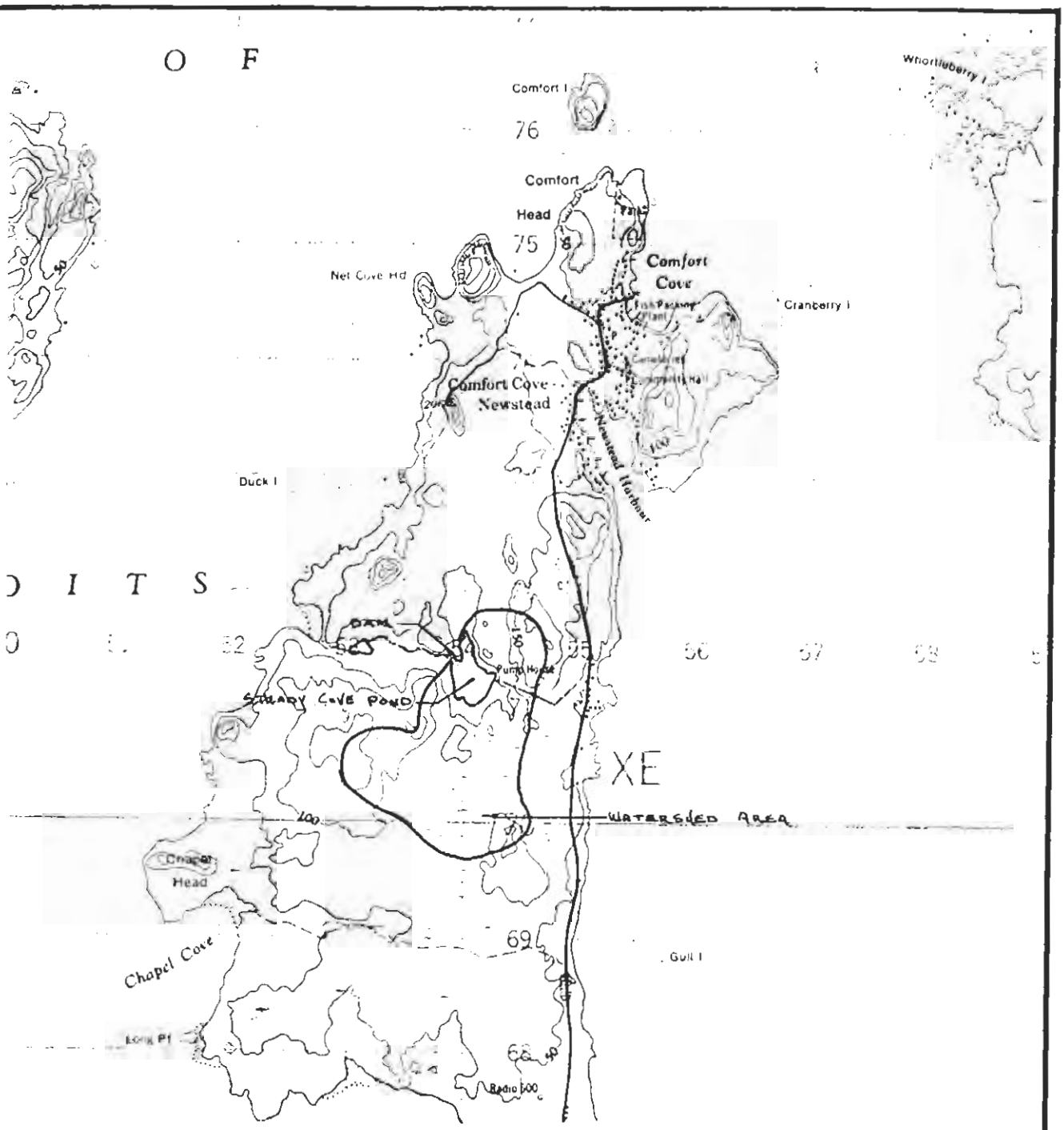
The present discharge of untreated sewage into the harbour will eventually have to be corrected through construction of a treatment plant to ensure a continued supply of acceptable quality salt water to the fish plant.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour using 2 lift stations and 2 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $2,600 |
| Sewer Rates($/yr) | : | $ 48; $150 for fish plant and school |

**OTHER COMMENTS**

The water supply system was originally installed with Federal funding to provide water to the Notre Dame Seafoods Inc. Fish Plant. The operation and maintenance of the system is presently paid by the Dept. of Municipal & Provincial Affairs. The town and fish plant pay a user fee to the Dept.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

COMFORT COVE— NEWSTEAD

**COTTLESVILLE** (see also Summerford)

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 415 |
| Number of Homes | : | 115 |
| Homes Serviced | : | 25 with water, 40 with water and sewer |
| Information Source(s) | : | Mayor - Edwin Rideout |

**EXISTING WATER SUPPLY**

Cottlesville supply is from the Summerford water supply system. See Summerford.

**Reported adequacy of Supply**

See Summerford

**Potential for Increased Supply**

See Summerford

**REPORTED DEMAND**

**Domestic**

115 homes

**Industrial/Institutional/Commercial**

One of 2 churches is serviced, 1 fish plant is serviced with metered water from the Summerford system via Cottlesville's distribution system.

**Metering/Cost**

Cottlesville pays 40% of the $27,180/year (at the latest estimate) required to operate the Summerford water supply system. The domestic water rate is $120/year.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour using a diffused outfall |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $2,950 |
| Sewer Rates($/yr) | : | $ 60 |

**OTHER COMMENTS**

The next phase of municipal work will resolve unsatisfactory on-site sewage disposal systems along Circular Drive.

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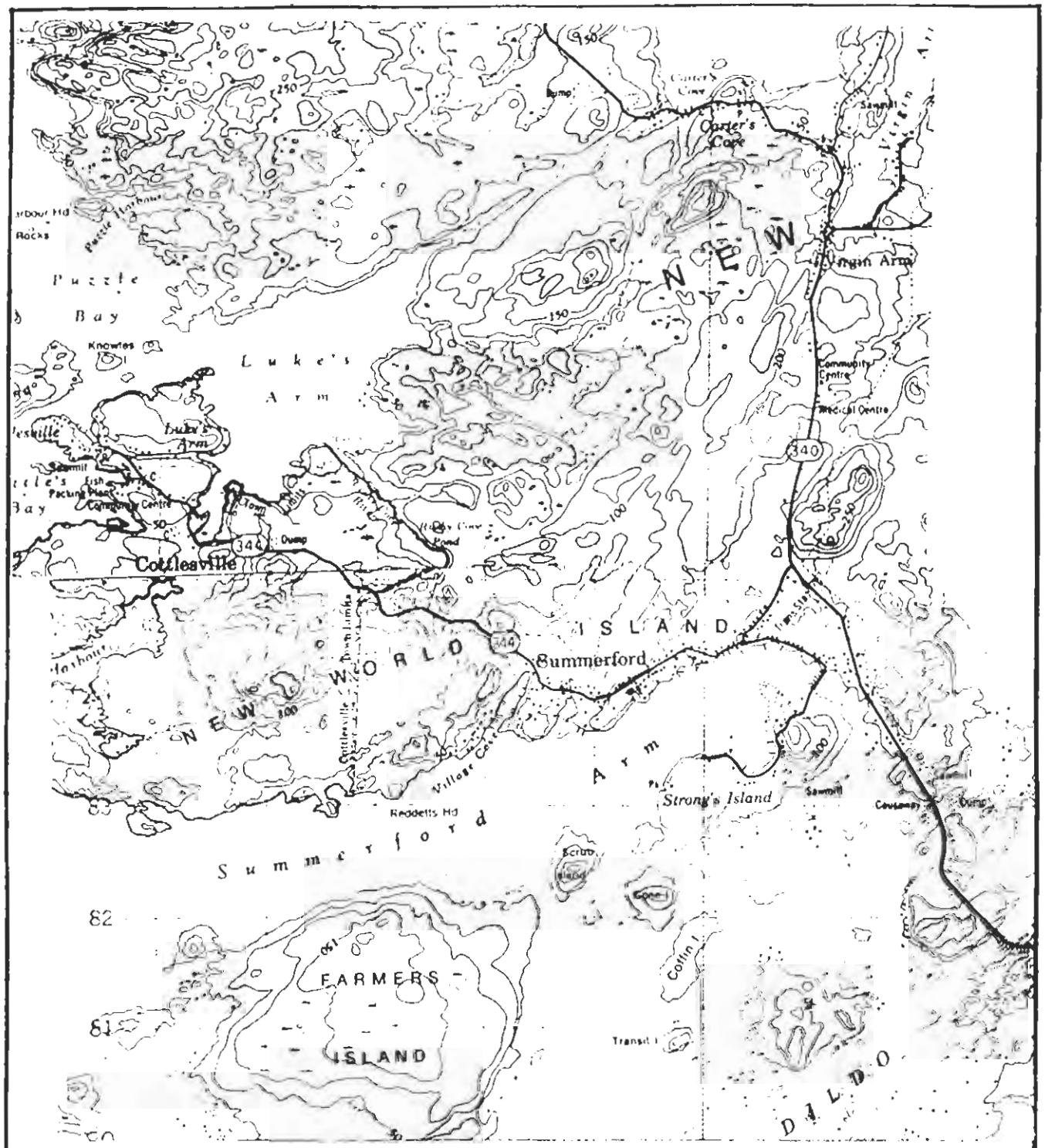



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

COTTLESVILLE

**COTTREL'S COVE - MOORE'S COVE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 500 |
| Number of Homes | : | 110 |
| Homes Serviced | : | 55 |
| Information Source(s) | : | T. Boone |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Manuel's Pond |
| Pond Area(Ha) | : | 5.0 |
| Drainage Area(Ha) | : | 72.0 |
| Live Storage (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 853 |
| Intake Location | : | Southeast corner of Manuel's Pond |

**EXISTING STRUCTURES**

A 20-year-old earth filled dam still stands. There is also a chlorination building.

**Delivery System**

The system is gravity fed via a 75 mm polyethylene pipe from Manuel's Pond and then a 50 mm distribution line. Line size is too small for the number of homes on the system, which results in low pressure during peak demand.

**REPORTED DEMAND**

**Domestic**

110 homes

**Industrial/Institutional/Commercial**

4 churches (1 serviced), 1 school, 1 commercial, 1 fire hall

**WATER QUALITY**

**Treatment Method**

Simple chlorination using hypochlorite solution.

**Reported Quality**

Satisfactory, although the water is periodically reported to be muddy.

**WASTEWATER DISPOSAL**

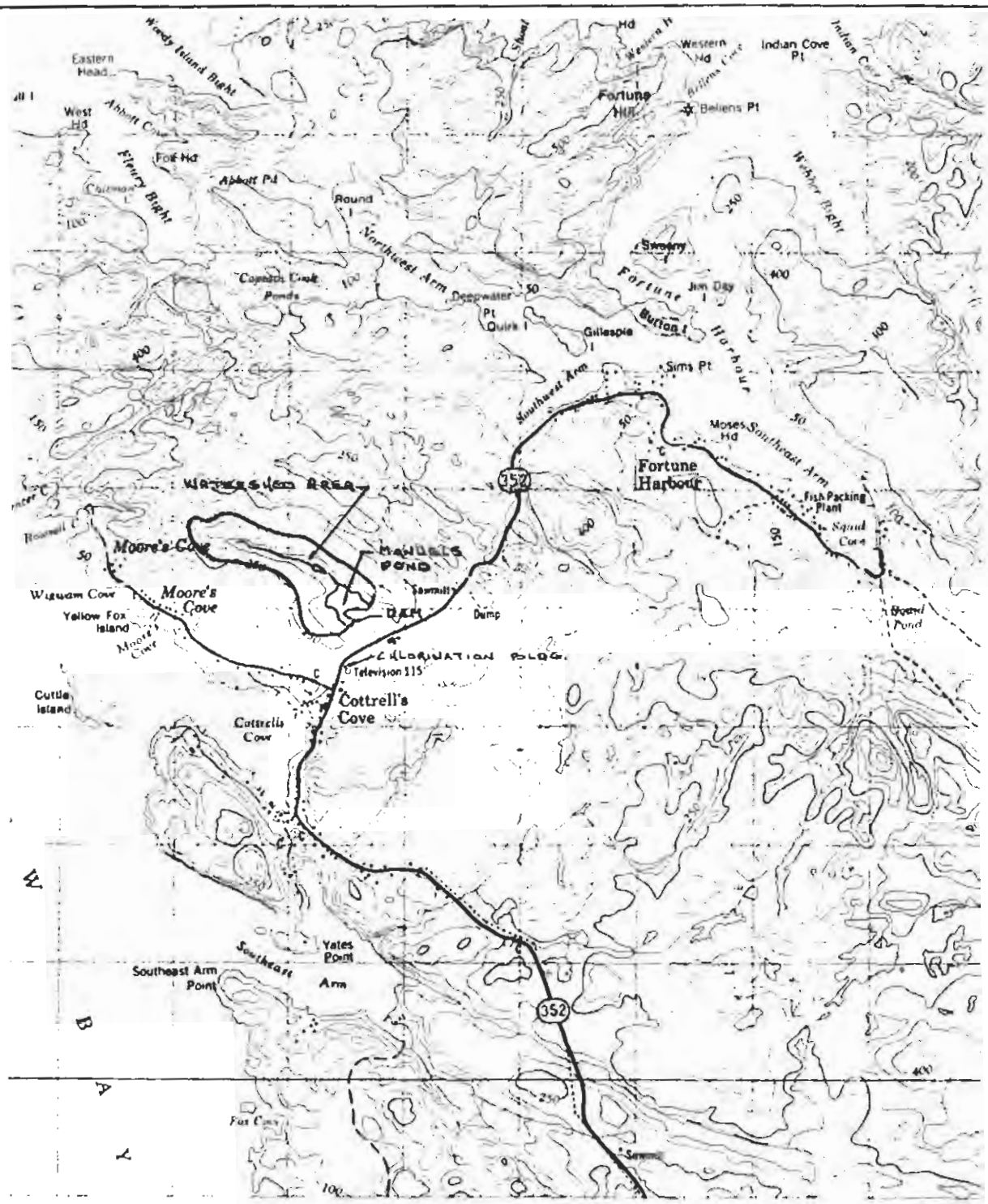
| | | |
|---|---|---|
| Treated | : | Septic tanks and cesspools discharging into the harbour |
| Discharge | : | |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | n/a |
| Sewer Rates($/yr) | : | n/a |

**Metering/Cost**

The operating and maintenance costs for the water supply is $1200/year. The domestic water rate is $48/year.

**Losses/Wastage**

If increased storage is necessary, the earthfilled dam could be increased 600 mm in height.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

COTTRELL'S COVE

**CROW HEAD**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 300 |
| Number of Homes | : | 100 |
| Homes Serviced | : | 87 |
| Information Source(s) | : | Mayor - J. Hamlyn |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Oars Pond |
| Pond Area(Ha) | : | 6.0 |
| Drainage Area(Ha) | : | 62.0 |
| Live Storagae (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 840 |
| Intake Location | : | South end of Oars Pond |

**EXISTING STRUCTURES**

A reinforced concrete screening chamber at Oars Pond and chlorination building at the north end of the community.

**Delivery System**

The 200 mm distribution main is gravity fed.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate

**Potential for Increased Supply**

The water supply system can supply the projected demand of the community. If demand increases beyond that projected, a 600 mm high dam could be constructed.

**REPORTED DEMAND**

**Domestic**

100 homes

**Industrial/Institutional/Commercial**

1 commercial facility, 1 fish plant which is not serviced

**Metering Cost**

The domestic water and sewer rate is $180/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

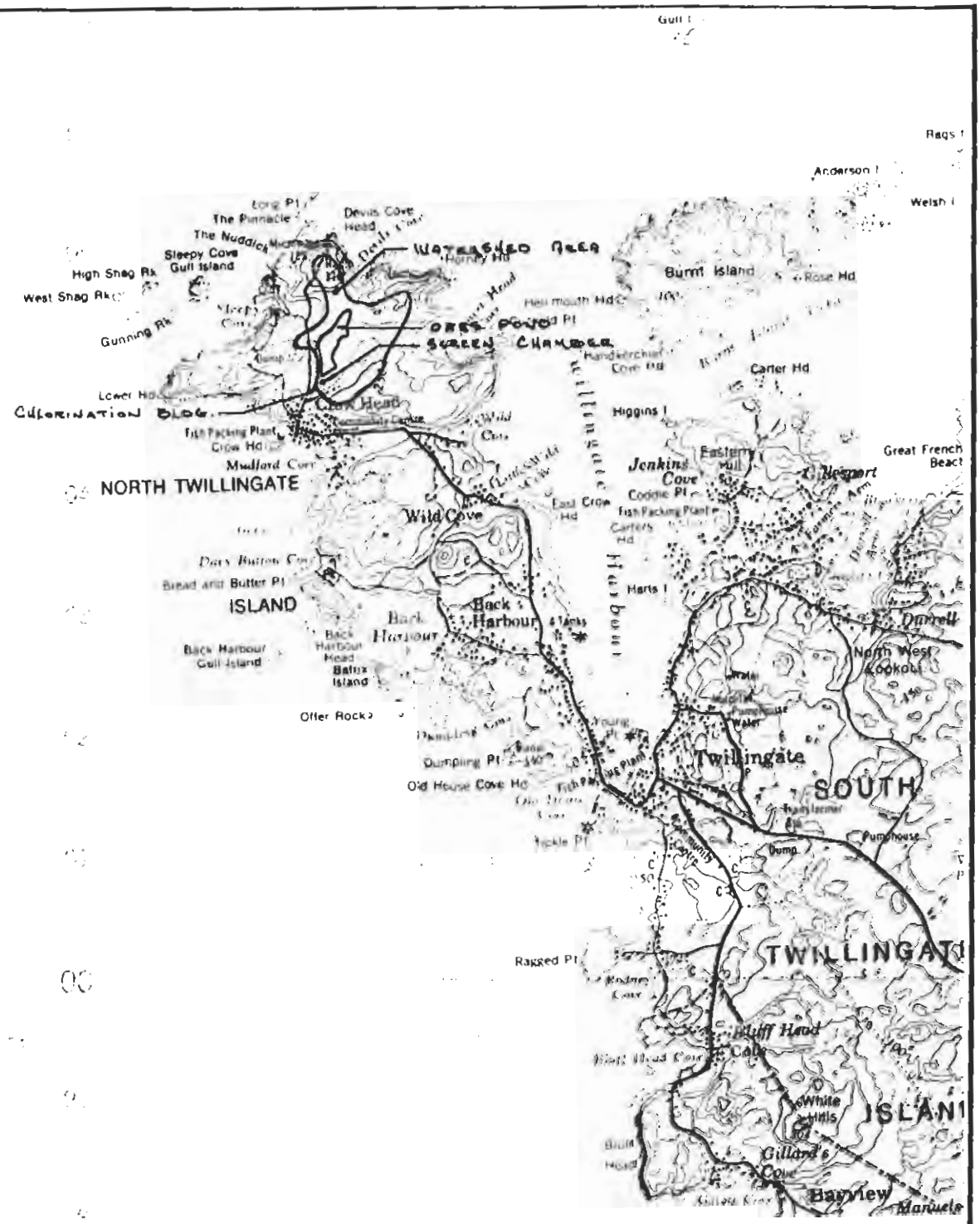
Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 1 outfall |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | See water costs |
| Sewer Rates($/yr) | : | See metering costs |

**OTHER COMMENTS**

In 1990 the town carried out improvements to their water system by putting in place a new intake and screening chamber. Other work included a $35,000 improvement to the sewage outfall. Total cost of improvements to the water and sewer system was $95,000.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

CROW HEAD

**DEEP BAY**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 200 |
| Number of Homes | : | 50 |
| Homes Serviced | : | None |
| Information Source(s) | : | Committee Member - C. Hart |

**EXISTING WATER SUPPLY**

Type : Private wells

**OTHER COMMENTS**

Approximately 90% of residences have private drilled wells. There was an engineering study carried out for a surface supply from Fox Cove Pond. The LSD have garbage collection and lighting at a cost of $125/year/householder.

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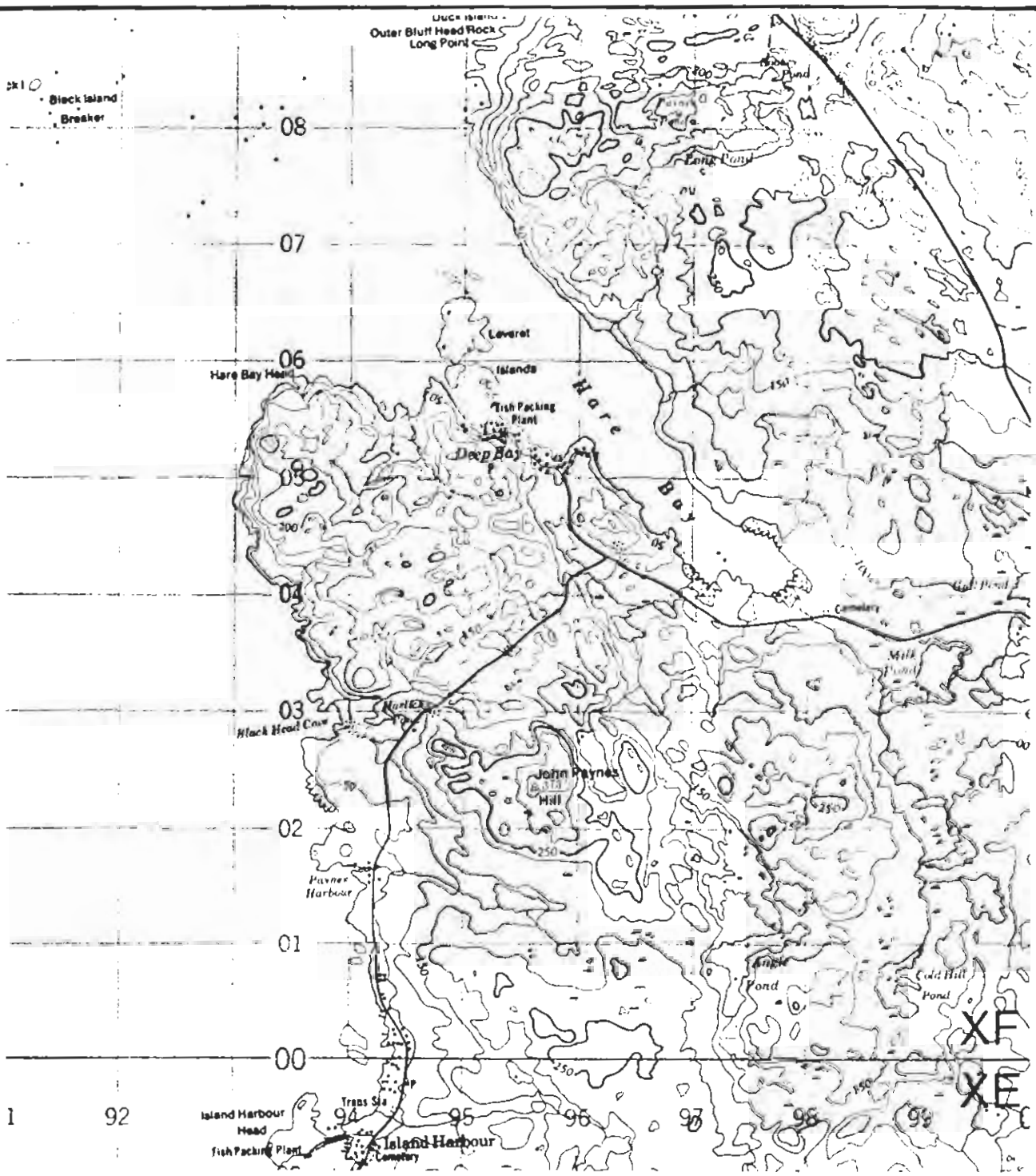



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

DEEP BAY

**DURRELL**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,060 |
| Number of Homes | : | 360 |
| Homes Serviced | : | 150 |
| Information Source(s) | : | Town Manager - D. Burton |

**Reported adequacy of Supply**

Adequate - the town purchases its water from the town of Twillingate.

**REPORTED DEMAND**

**Domestic**

360 homes (150 have water and sewer)

**Industrial/Institutional/Commercial**

1 church, 1 school, 1 commercial facility, 2 community fishing stages. All are serviced.

**Metering Cost**

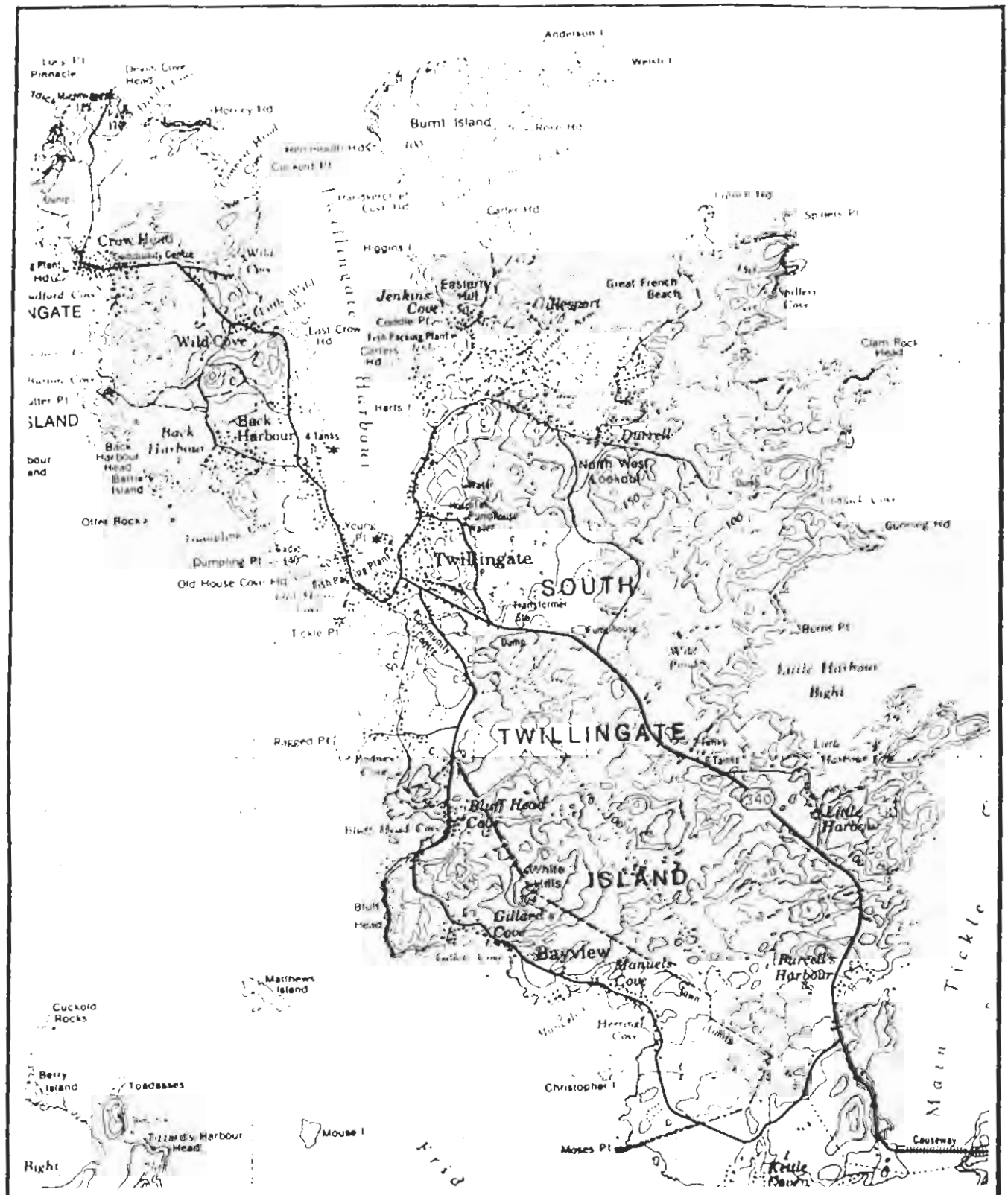
The town pays $0.40/1000 gal from Twillingate. Annual cost is approximately $4600. The domestic water rate is $120/year. The town spent a further $600 on freeze-ups in 1990.

**Losses/Wastage**

None reported

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Discharged into the ocean from 3 lift stations through 1 sewage outfall |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $2,500 |
| Sewer Rates($/yr) | : | $ 72 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

DURRELL

**EMBREE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 836 |
| Number of Homes | : | 250 - 300 |
| Homes Serviced | : | 50% water and sewer |
| Information Source(s) | : | Town Clerk - Maxine Lane<br>Maint. Man - Roy Atkinson |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Trokes Cove Pond |
| Pond Area(Ha) | : | 40 |
| Drainage Area(Ha) | : | 445 |
| Live Storage (m) | : | 2.3 |
| Firm Yield($m^3$/day) | : | 8263 |
| Intake Location | : | 600 mm diam. CMP intake pipe is directed to a 1.5 x 1.2 m screen chamber and into a 900 mm diam. CMP wet-well located in the pumphouse on the eastern side of Trokes Pond. |

**EXISTING STRUCTURES**

The pond is not dammed, but a pumphouse has been erected adjacent to the pond.

**Delivery System**

Two 3 HP centrifugal pumps deliver 220 L/min to 250 mm, 200 mm, amd 150 mm diam. distribution lines, but are inadequate to meet domestic demand during peak periods. Increased pumping capacity would undoubtedly solve the supply problem.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply reservoir is sufficiently adequate to meet projected domestic demand. Although the pumphouse is equipped with a water meter, consumption records are not kept.

**Potential for Increased Supply**

Small stream on eastern side of reservoir pond could be dammed 450 mm to increase storage capacity during spring run-off. However, projected demand does not warrant consideration of additional storage.

**REPORTED DEMAND**

**Domestic**

250-300 homes

**Industrial/Institutional/Commercial**

2 churches (serviced), 2 commercial properties, and 1 fire hall.

**Metering/Cost**

Operation and maintenance $17,946/year for water and sewer. Domestic water rate $96/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No (system has a comminutor station on one of the outfalls; however, it is not in operating condition) |
| Discharge | : | To ocean via two outfalls and 3 lift stations |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | See metering costs |
| Sewer Rates($/yr) | : | $48 |

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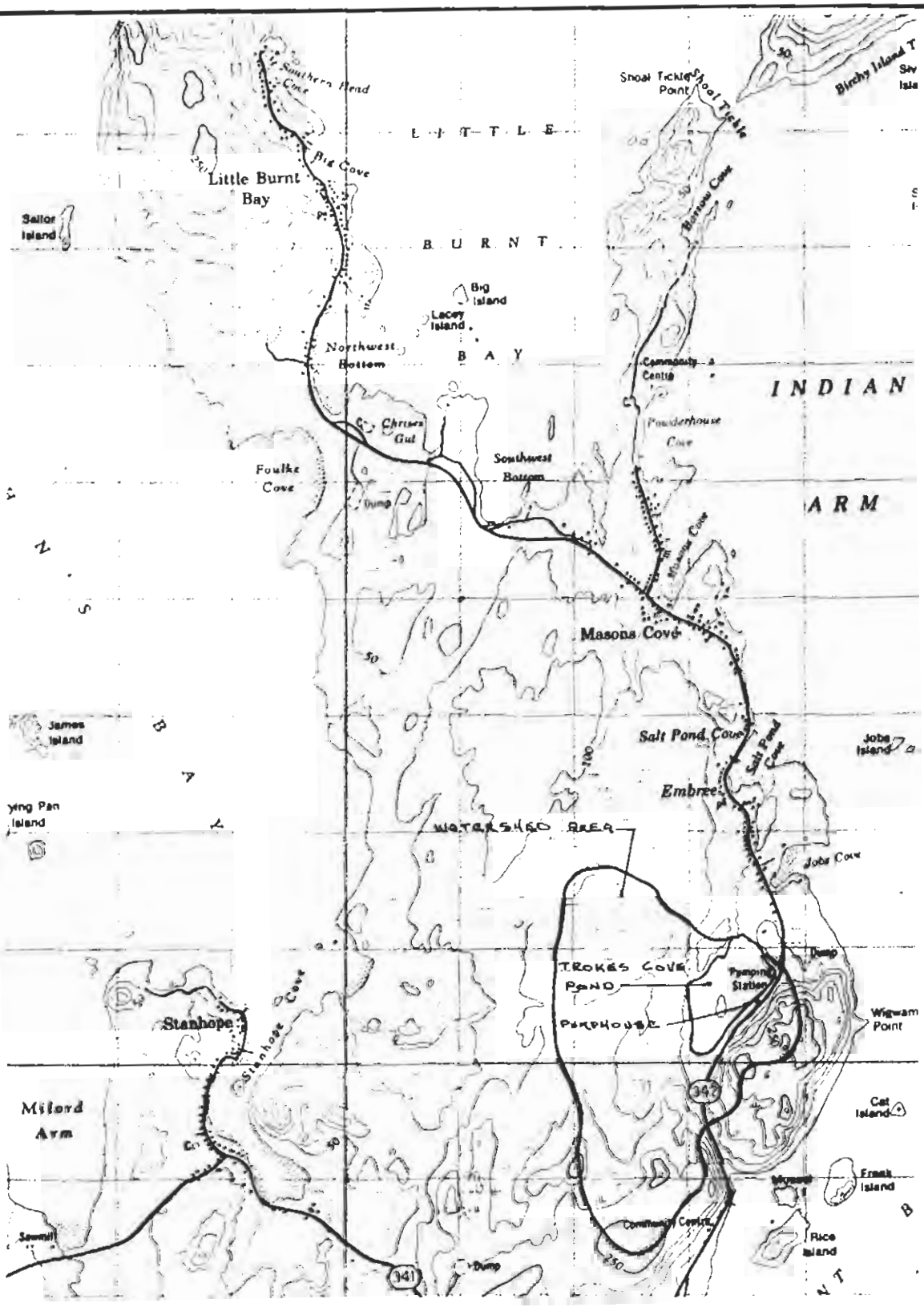



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

EMBREE

**FAIRBANK**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300± |
| Number of Homes | : | 75 |
| Homes Serviced | : | 63 |
| Information Source(s) | : | Treasurer - E. Rogers<br>Chairman - Ernest Gidge |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and 1 community well equipped with hand pump |
| Supply Point | : | Trout Pond |
| Pond Area(Ha) | : | 1.25 |
| Drainage Area(Ha) | : | 52.00 |
| Live Storage (m) | : | 1.2 |
| Firm Yield($m^3$/day) | : | 196 |
| Intake Location | : | Northeast end of pond |

**EXISTING STRUCTURES**

Pumphouse at south end of settlement approximately 1000 m northeast of Trout Pond.

**Delivery System**

A 75 mm diam. plastic intake line transfers water by gravity from Trout Pond to the pumphouse. Water pressure is boosted at the pumphouse through use of a 5 HP centrifugal pump and a bank of five pneumatic tanks. Community supplied through 50 mm diam. plastic main (insulated shallow burial).

**Status of Watershed Protection**

Watershed is protected.

**Reported adequacy of Supply**

Adequate with respect to quantity (see Water Quality).

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

75 homes (63 are serviced)

**Industrial/Institutional/Commercial**

1 church (serviced)

**Metering Cost**

The latest operating and maintenance cost was $4,943/year. The domestic water rate is $60/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine. The chlorination is carried out at the pumphouse which is located in the community and there is little contact time.

**Reported Quality**

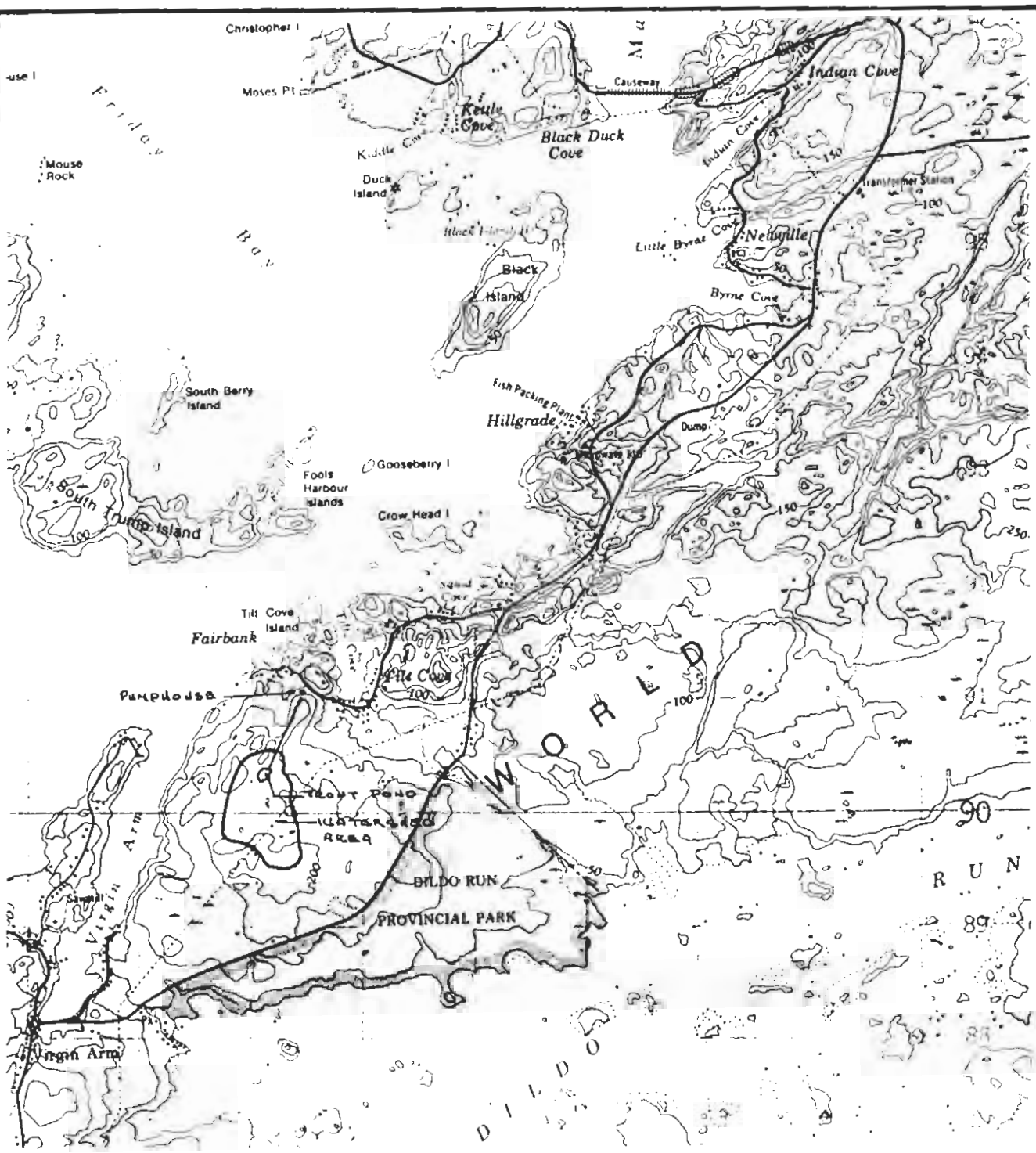
Unsatisfactory: odour renders water unfit for drinking or washing clothes. High coliform count in the summer. Residents have to bring in drinking water from nearby community.

**WASTEWATER DISPOSAL**

Treated : Septic tanks/tile fields

**OTHER COMMENTS**

Because of the unacceptable water quality, the LSD is requesting funding to develop a system from Hillgrade Pond.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

FAIRBANK

**FLEUR-DE-LYS**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 526 |
| Number of Homes | : | 147 |
| Homes Serviced | : | 140 |
| Information Source(s) | : | Town Clerk - Judy Traverse<br>Maint. Man - Ron Dempsey |

**EXISTING WATER SUPPLY**

| | | | | |
|---|---|---|---|---|
| Type | : | Surface | | |
| Supply Reservoir | : | First Pond | Second Pond | Third Pond |
| Pond Area(Ha) | : | 2.0 | 4.2 | 2.5 |
| Drainage Area(Ha) | : | 16.7 | 29.3 | 69.8 |
| Live Storage (m) | : | 1.7 | 2.0 | 1.5 |
| Firm Yield($m^3$/day) | : | 308 | 745 | 408 |
| Intake Location | : | North end | Southeast end | Not fixed |

**EXISTING STRUCTURES**

System structures comprise a reinforced concrete wet-well at First Pond and a pump control building and floating intake facility at Second Pond. These structures are in fair condition. A third structure located downstream of First Pond houses the hypochlorination equipment.

**Delivery System**

A 300 mm diam. intake in First Pond supplies a concrete wet-well at the shoreline. Supply from the wet-well to the town is by gravity flow through a 200 mm diam. D.I.C.L. watermain. The First Pond supply is supplemented by pumping water from Second Pond through an above-ground 150 mm diam. high-density polyethylene line. A wood-frame control building located on Second Pond supplies electrical power to two submersible pumps suspended from a floating dock out into the pond. This system is operated manually as dictated by water levels in First Pond. Low water level conditions at both First and Second Ponds require set-up of emergency pumping equipment at Third Pond to supplement Second Pond.

**Status of Watershed Protection**

The watershed is not a protected area.

**Reported adequacy of Supply**

The combined capability of all three watersheds is adequate to meet projected demand.

**Potential for Increased Supply**

While additional storage can be provided through construction of dams and dikes of between 1.0 to 1.5 m height at both First and Second Ponds, it is felt that provision of all-weather, fully-automatic pumping facilities at Second and Third Pond is probably the more feasible alternative.

**Other Observations/Reported Problems**

The above ground supply line from Second Pond freezes. The fish plants are unmetered and use water indiscriminately.

**REPORTED DEMAND**

**Domestic**

140 out of 147 homes are serviced.

**Industrial/Institutional/Commercial**

1 church, 1 school, 6 commercial properties, 1 fire hall, and 2 fish plants are serviced.

**Metering/Cost**

Approximately $5,800/year is needed to maintain the water supply system. Domestic water rates are $44/year.

**Losses/Wastage**

None reported.

**WATER QUALITY**

**Treatment Method**

Liquid Chlorine. Problem with discolouration, undoubtedly due to tannin staining.

**Reported Observations/Problems**

The water is coloured and not satisfactory for the cutting lines at the fish plant operation (according to plant foreman).

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Approximately $5,800 |
| Sewer Rates($/yr) | : | $72 |

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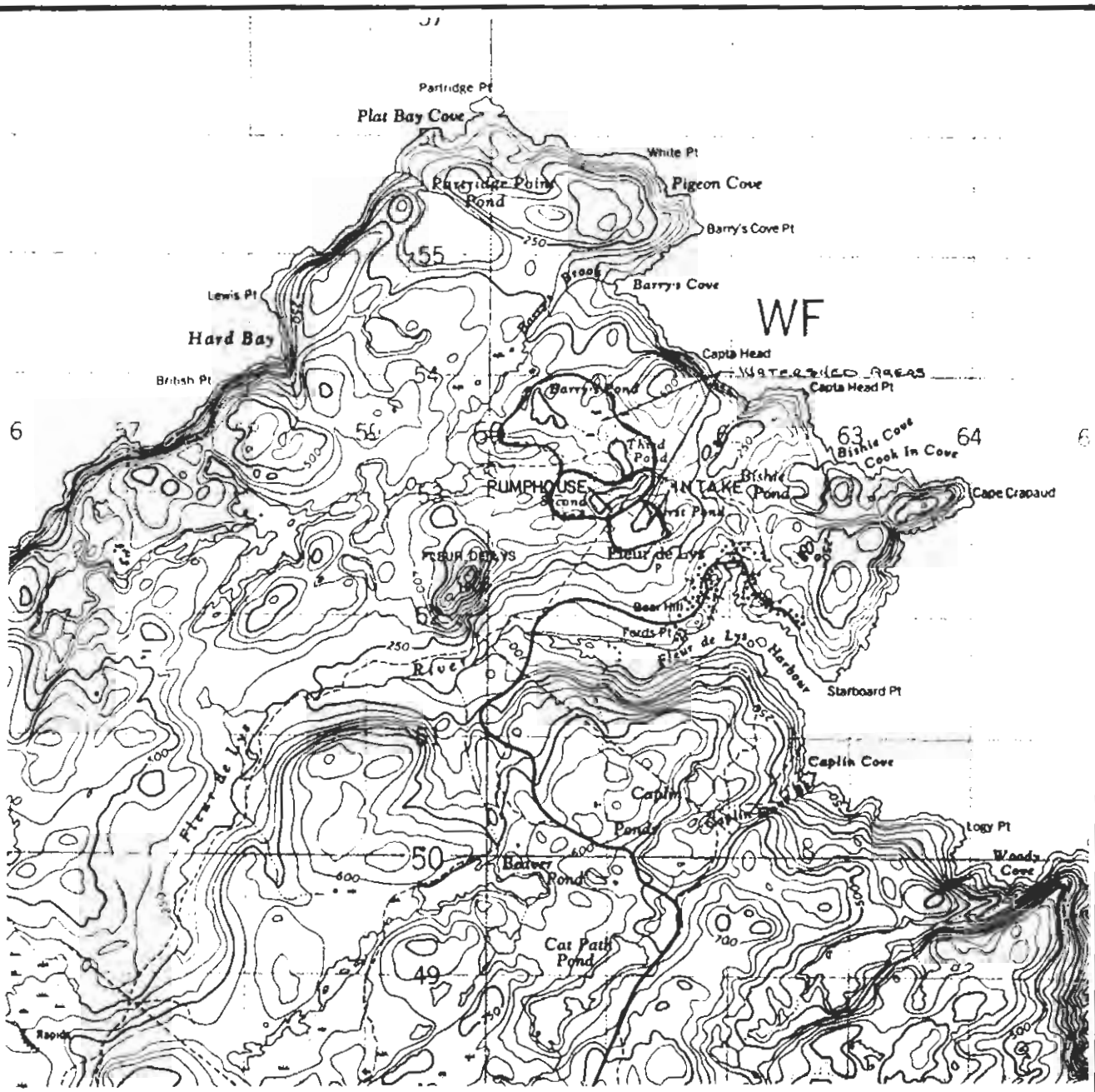



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

FLEUR DE LYS

**FOGO**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,150 |
| Number of Homes | : | 375 |
| Homes Serviced | : | 50 |
| Information Source(s) | : | Town Manager - B. Pomeroy |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Reservoir | : | Freemans Pond (Geodetic Elev. 43.53 m) |
| Pond Area(Ha) | : | 15.5 |
| Drainage Area(Ha) | : | 165.5 |
| Live Storage (m) | : | 2.2 |
| Firm Yield($m^3$/day) | : | 2904 |
| Intake Location | : | North end of Freemans Pond - 600 mm diam. HDPE intake pipe to wet-well structure |

**EXISTING STRUCTURES**

A wet-well and chlorination equipment is housed adjacent to Freemans Pond.

**Delivery System**

The water supply distribution system is gravity fed from a 3.4 m deep wet-well at Freemans Pond.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Supply is adequate.

**Potential for Increased Supply**

The present system can meet projected demands.

**Other Observations/Reported Problems**

Six community wells have been drilled, of which only two fitted with hand pumps are in use. Approximately 100 private wells have been drilled throughout the Town.

**REPORTED DEMAND**

**Domestic**

50 out of 375 residences are serviced.

**Industrial/Institutional/Commercial**

4 churches, 20 commercial properties, 1 fire hall, and 1 fish plant.

**Metering/Cost**

The latest cost of operating and maintaining the present system is $1,700/year. The domestic water rate is $84/year.

**Losses/Wastage**

None reported.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

A system is presently being installed in phases with some residents already on stream. The domestic sewer rate will be $84/year. The Town has one lift station and one sewer outfall. The lift station has been in operation one month with an electrical cost of $30.

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Into harbour (long-range plan is to have final phase of construction provide for discharge into Seal Cove) |
| Permitted | : | Yes |
| O & M Costs | : | Unknnown |
| Sewer Rates | : | $84/year per household |


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

FOGO

**FORTUNE HARBOUR**

| | | |
|---|---|---|
| Status | : | Unincorporated |
| Population | : | 150 |
| Number of Homes | : | 40 |
| Homes Serviced | : | None |
| Information Source(s) | : | A. Carroll |

**EXISTING WATER SUPPLY**

Type : Private wells; there is one shallow well shared by 10 families which is supplemented during the summer months by periodic pumping from an adjacent pond.

**REPORTED DEMAND**

**Domestic**

40 homes

**Industrial/Institutional/Commercial**

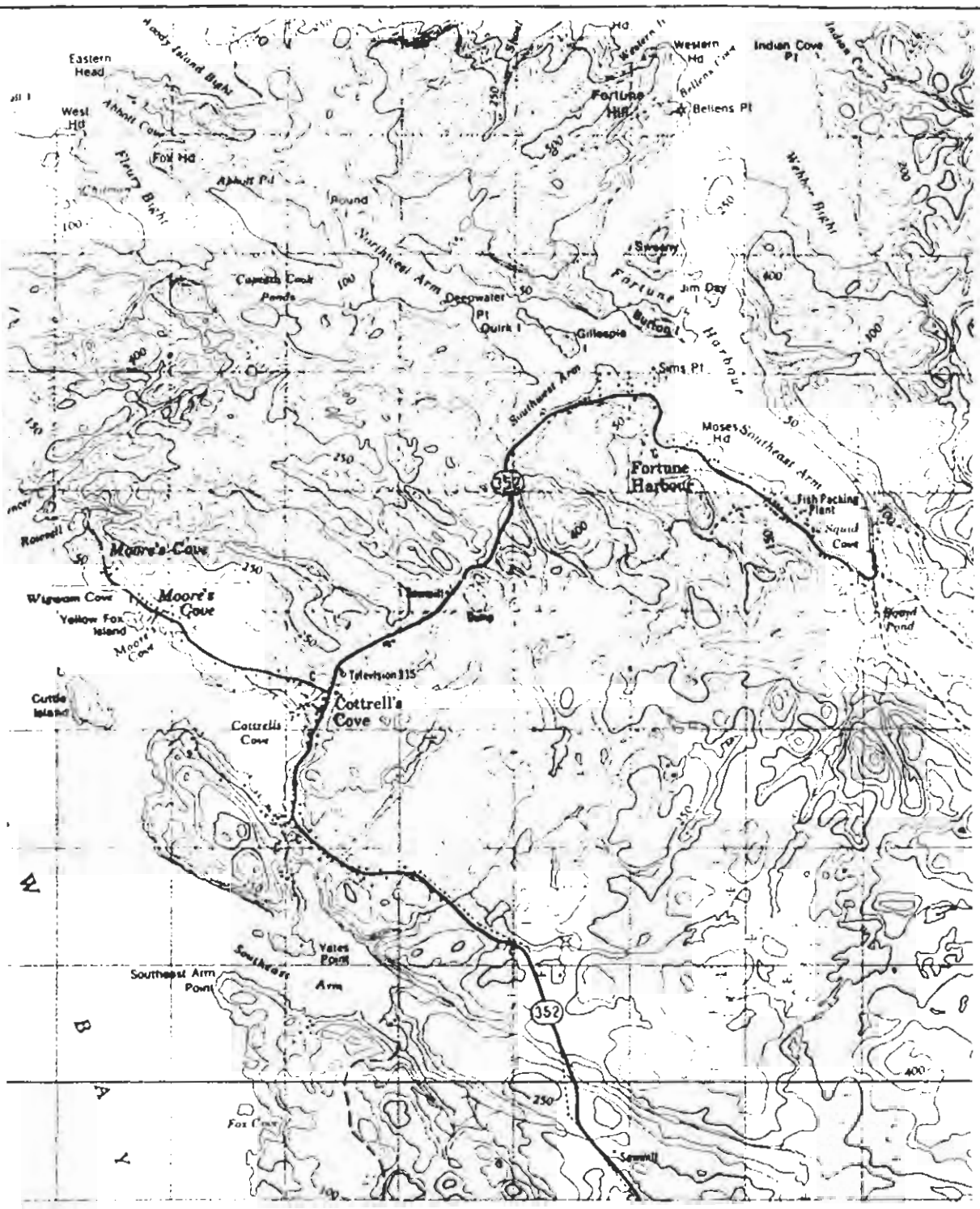
1 church, 1 commercial facility

**WASTEWATER DISPOSAL**

Treated : Septic tanks

**OTHER COMMENTS**

A water supply system was installed 10 years ago, operated for one week, and then the supply pump burned out. It has never been replaced. In the interim, the 50 mm diam. polyethylene distribution line has been damaged and removed at a number of locations.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

FORTUNE HARBOUR

**GANDER BAY NORTH** (covers Clarke's Head, Wings Point, Victoria Cove, and Roger's Cove)

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 1,400± |
| Number of Homes | : | 300 |
| Homes Serviced | : | none |
| Information Source(s) | : | Treasurer - Hubert Leyte |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Groundwater |
| Supply Reservoir | : | Most homes and businesses have dug or artesian wells. |

**REPORTED DEMAND**

**Domestic**

300 homes not serviced

**Industrial/Institutional/Commercial**

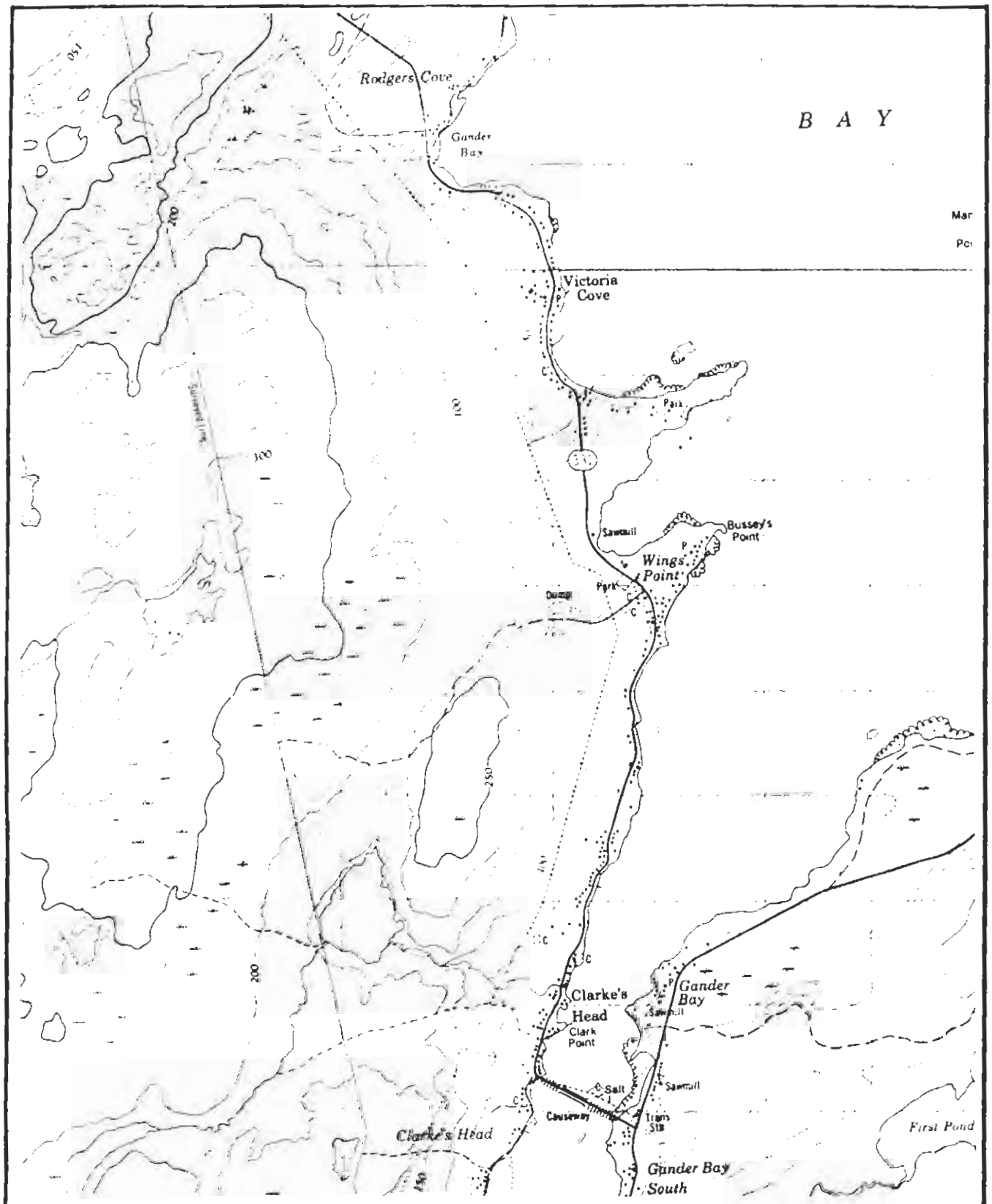
5 churches, 1 school, 1 medical facility, 1 fire hall, and 13 commercial facilities not serviced.

**Metering/Cost**

Residents are charged $48/year and businesses $84/year for garbage disposal and fire services.

**OTHER COMMENTS**

Dept. of Municipal & Provincial Affairs are aware of the special needs for this area but the low population density and ribbon development result in projected high per-capita construction costs.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

GANDER BAY NORTH

**GLENWOOD**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,038 |
| Number of Homes | : | 306 |
| Homes Serviced | : | 306 (water and sewer) |
| Information Source(s) | : | Town Manager - Ruth Brown |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Gander Lake |
| Drainage Area(ha) | : | 416 000 |
| Live Storagae (m) | : | 2.0 |
| Firm Yield($m^3$/day) | : | 7 283 070 |

**EXISTING STRUCTURES**

Pumphouse 11.0 x 4.9 m complete with 1.2 x 1.2 m screened wet-well. Building houses chlorination room and 600-volt emergency generator.

**Delivery System**

Three 20 HP, 1114 L/min (each) pumps supply a storage reservoir in town. Storage reservoir presently not in use due to damages associated with a major freeze-up in 1990. The distribution system comprises 20 mm and 150 mm diam. cast iron pipe, as well as 150 mm and 100 mm diam. asbestos pipe.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

More than adequate for projected needs

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

306 homes

**Industrial/Institutional/Commercial**

3 churches (serviced), 1 school, 6 commercial properties, 1 medical centre, and 1 fire hall.

**Metering/Cost**

Latest total operating and maintenance cost for water and sewer is $64,249/year. The domestic water and sewer rate is $180/year. Water and sewer rates for institutions/commercial vary from $240-$1,800/year.

**WATER QUALITY**

**Treatment Method**

Gas chlorine

**Reported Quality**

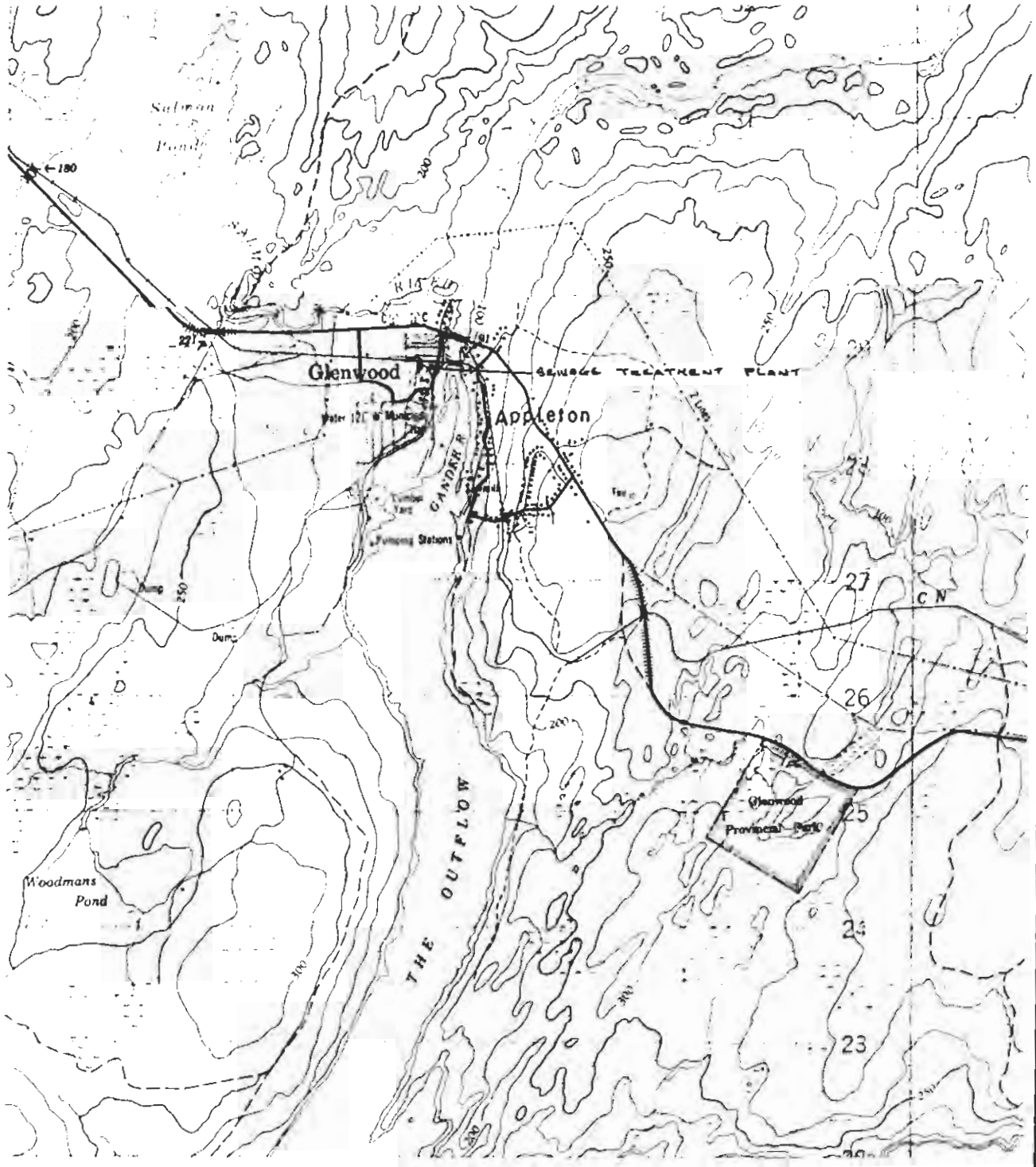
Good

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Yes. Sewage treatment plant with gas chlorination of plant effluent prior to discharge. |
| Discharge | : | Gander River |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $23,800 |
| Sewer Rates($/yr) | : | See water rates |

**Problem**

Town experiences difficulty in spring with sanitary sewer overflowing from manholes because residential perimeter drain systems are hooked into the sanitary system.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

GLENWOOD

**GRAND FALLS/WINDSOR**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 14,666 |
| Number of Homes | : | 4,253 |
| Homes Serviced | : | 4,253 |
| Information Source(s) | : | Town Manager - Mr. M. Pinsent, P.Eng.<br>Mr. R. Thompson |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface supply (Exploits Regional Water Supply System) |
| Supply Point | : | Northern Arm Pond |
| Pond Area(Ha) | : | 170 |
| Drainage Area(Ha) | : | 6 025 |
| Live Storage (m) | : | 3.1 |
| Firm Yield($m^3$/d) | : | 52 406 |
| Intake Location | : | Northeast end of Northern Arm Pond adjacent dam and spillway structure |

**EXISTING STRUCTURES**

The primary structures comprising the regional supply system are the intake and dam on Northern Arm Pond and the treatment building 13 km downstream on the transmission main. These structures are in excellent condition. Additional to the regional structures, Grand Falls/Windsor has a 4 500 000 L capacity standpipe storage tank. Similarly, Bishop's Falls has an 850 000 L capacity standpipe.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.6 |
| Dam Crest Elevation (m) | : | 159.7 Geodetic |
| Dam Length(m) | : | 76.2 combined earth fill and reinforced concrete spillway |
| Spillway Elevation(m) | : | 159.1 |
| Spillway X section(m) | : | 0.6 x 16.5 |

**Delivery System**

The supply to Grand Falls/Windsor and Bishop's Falls is by gravity through a 600 mm diam. press-con transmission main to a chemical treatment building located 13 km downstream. From the treatment building water is supplied through a 5 km section of 300 mm diam. main to Bishop's Falls and an 8 km section of 600 mm diam. line to a 4 500 000 L capacity standpipe at Grenfell Heights in the east end of Grand Falls. Beyond this point a 500 mm diam. transmission main supplies water directly to Windsor. Service mains within Grand Falls/Windsor and Bishop's Falls vary in size from 150 - 300 mm in diam. Supply mains to both Grand Falls/Windsor and Bishop's Falls are run through pressure reducing chambers to bring service pressures down to approximately 650 kPa.

**Status of Watershed Protection**

The watershed area is protected.

**Reported Adequacy of Supply**

The existing supply is adequate to meet present and projected domestic/industrial demand.

**Potential for Increased Supply**

While not required for present or projected domestic/industrial demand, the Northern Arm Pond watershed is capable of increased supply through construction of control facilities within the watershed on both Charles Lake and Gull Pond.

**Other Observations/Reported Problems**

The only problem of consequence with the existing supply relates to quality and, in particular, colour caused by suspended solids. To a lesser degree taste and odour have also been identified by consumers as unacceptable. Seven engineering reports dealing with these water quality parameters have been prepared by five different consultants during the period 1969 to 1986.

**REPORTED DEMAND**

**Domestic**

4253 residences

**Industrial/Institutional/Commercial**

One 217-bed regional hospital, one 80-bed chronic care facility, 13 schools, 11 churches, 3 fire stations, one soft-drink bottling plant, and approximately 395 business establishments.

**Metering Cost**

Water is generally not metered at either residences or commercial/industrial facilities. A flat rate of $144/year is charged for water and sewer service to residents and, where water is metered to industry, the rate is set at $0.135/m$^3$.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Primary screening at the intake in Northern Arm Pond and gas chlorination at the treatment building are the only forms of treatment afforded the supply.

**Reported Quality**

Taste, odour, and colour are the three parameters most commonly cited by consumers serviced by the regional water supply as being unsatisfactory.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

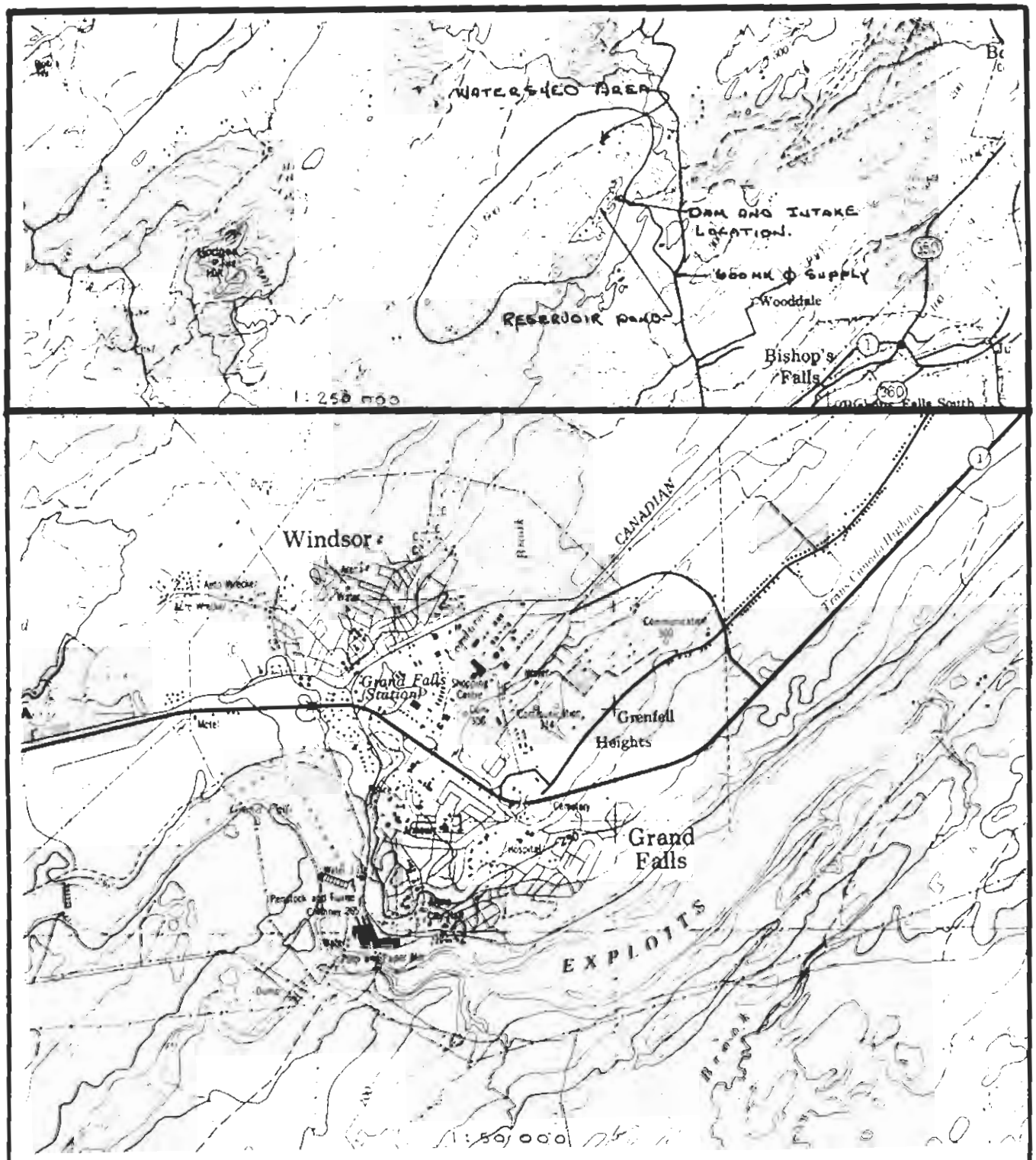
Other than routine development of building lots, either as a part of new subdivision construction or expansion of existing subdivisions, there are no other foreseeable developments in Grand Falls/Windsor or Bishop's Falls that would significantly impact supply/demand.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | via 5 outfalls into the Exploits River |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $178,000 |
| Sewer Rates($/yr) | : | $72 |

**OTHER COMMENTS**

Operating costs for the Exploits Regional Water Supply System are paid for by the towns of Grand Falls/Windsor and Bishop's Falls in proportion to population serviced. For the year 1990, operating costs associated with delivery of water to each town's limits totalled $154,000. The respective contribution from the towns of Grand Falls/Windsor and Bishop's Falls was $120,000 and $34,000. Projected operating and maintenance costs for the water and sewer (sanitary and storm) within Grand Falls/Windsor for 1991 are $444,000 (water) and $178,000 (sewer).




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

GRAND FALLS/WINDSOR

**HARBOUR ROUND**

| | | |
|---|---|---|
| Status | : | Unincorporated |
| Population | : | 400± |
| Number of Homes | : | 90 |
| Homes Serviced | : | none |
| Information Source(s) | : | Treasurer - J. Skinner (Waste Disposal Committee) |

**EXISTING WATER SUPPLY**

Type : Private wells

**REPORTED DEMAND**

**Domestic**

90 homes

**Industrial/Institutional/Commercial**

1 church, 1 lounge, 1 store

**Reported Quality**

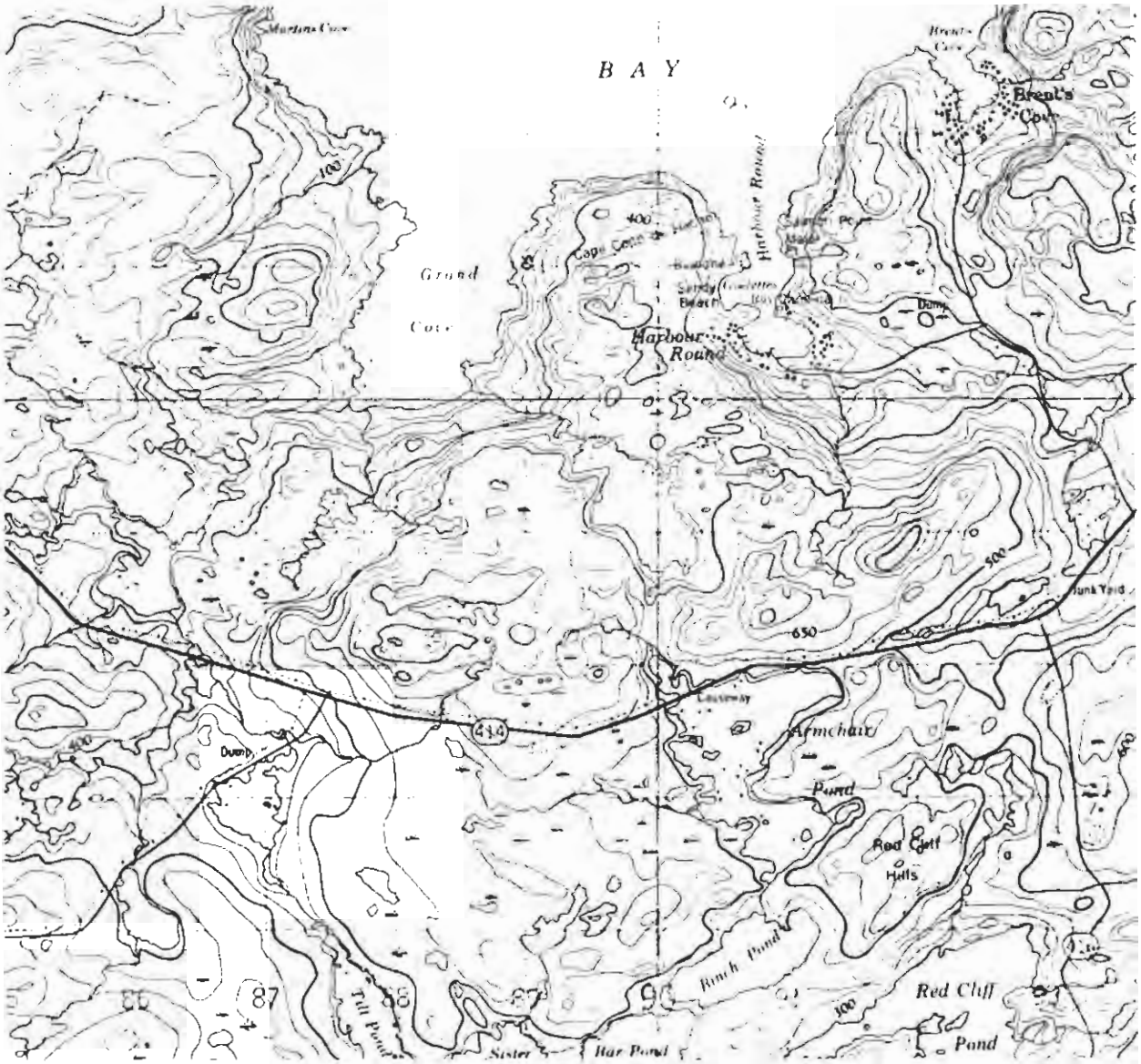
2/3 of the wells produce water with a very high iron concentration precluding its use for everything except toilet flushing. Residents affected by this problem have to truck drinking and wash water.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Septic tanks/cesspools |
| Discharge | : | To harbour |

**OTHER COMMENTS**

Dept. of Municipal & Provincial Affairs investigated the water problem 10 years ago; however, there has been no action in the interim.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

HARBOUR ROUND

**HARRY'S HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300 |
| Number of Homes | : | 70 |
| Homes Serviced | : | 70 |
| Information Source(s) | : | Town Clerk - Margaret England<br>Chairman - Vincent Verge |

**EXISTING WATER SUPPLY**

Type : Groundwater

**Reported adequacy of Supply**

Adequate as long as supply system not leaking.

**REPORTED DEMAND**

**Domestic**

70 homes

**Industrial/Institutional/Commercial**

2 churches, 1 school, 1 fire hall, 1 fish plant

**Metering Cost**

Operating and maintenance costs for the water supply system were $11,481 for the last complete year. The domestic water rate is $72/year.

**WATER QUALITY**

**Treatment Method**

Chlorination

**Reported Quality**

Good

**WASTEWATER DISPOSAL**

Treated : Septic tanks

**GROUNDWATER**

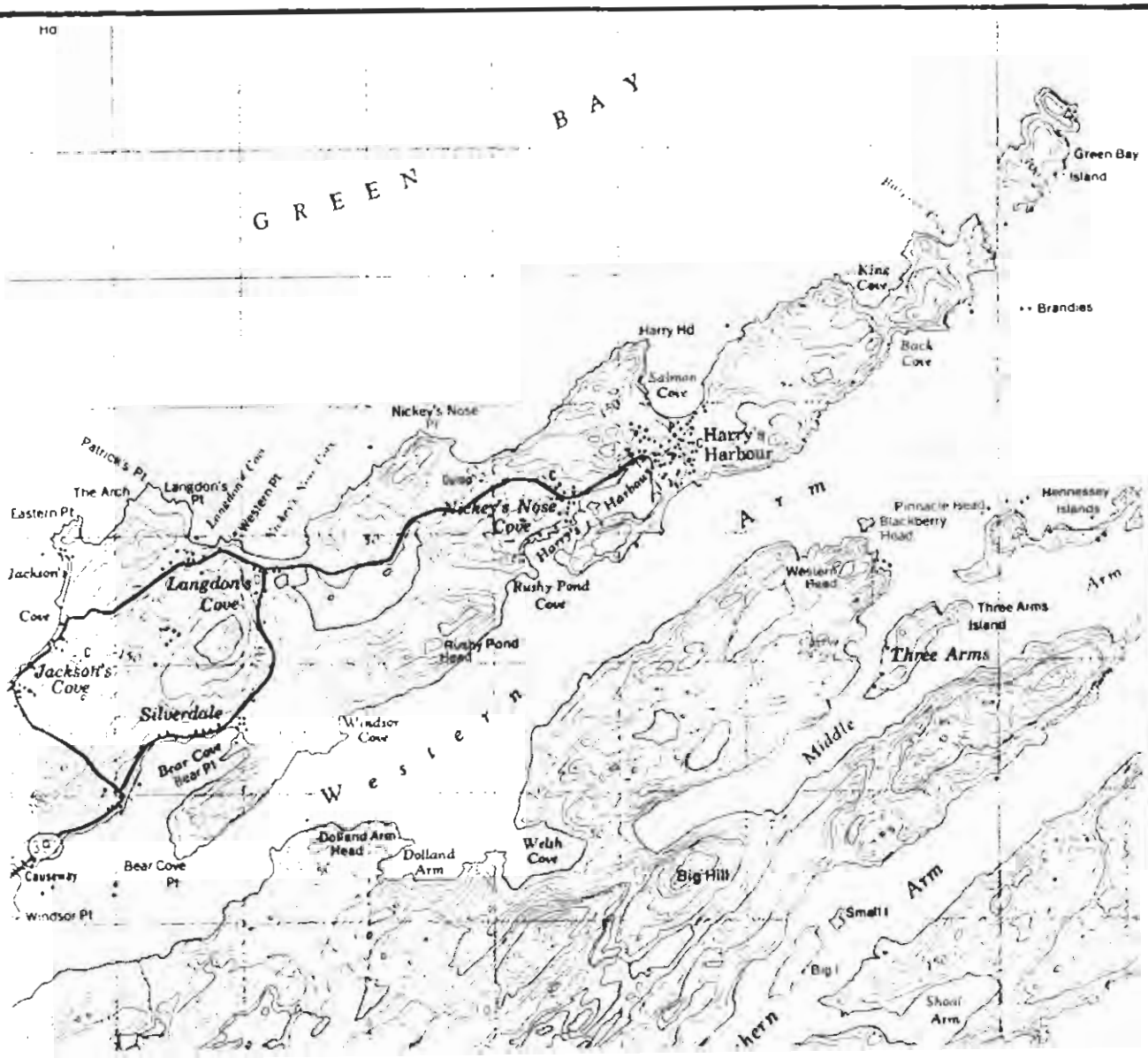
Groundwater is supplied from three community wells.

Pumphouse #1 is in excellent condition and services 16 residences. The system comprises 3/4 HP deep-well pump which transfers water to a 2500 L plastic storage tank.

A 2 HP centrifugal pump and two 450 L capacity pneumatic tanks provide system pressure to water extracted from the storage tank. Pressurized water from the pumphouse is supplied to residences through a 50 mm diam. distribution main complete with curb stops on each house service.

Pumphouse #2 services 13 residences and is in fair condition. A deep-well pump transfers water directly through three 450 L pneumatic tanks to a 50 mm diam. distribution main.

Pumphouse #3 provides water for 41 residences. The building is in need of repair. The well pump transfers water from the deep well to a 5000 L storage tank. A 1 HP centrifugal pump and three 450 L pneumatic tanks provide system pressure to water extracted from the storage tank. Water from the pumphouse is supplied to residences through a 50 mm diam. distribution main.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

HARRY'S HARBOUR

**HERRING NECK**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 250 |
| Number of Homes | : | 79 |
| Homes Serviced | : | 72 |
| Information Source(s) | : | Treasurer - B. Richmond |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface, 7 homes with private artesian wells |
| Supply Point | : | Gut Pond |
| Pond Area(Ha) | : | 4.5 |
| Drainage Area(Ha) | : | 19.0 |
| Live Storage (m) | : | 2.0 |
| Firm Yield($m^3$/day) | : | 782 |
| Intake Location | : | East end of Gut Pond |

**EXISTING STRUCTURES**

A new pumphouse, wet-well and 200 mm diam. intake are being constructed at Gut Pond. The new pumphouse will house two 7.5 HP pumps and chlorination equipment. The present system pumps water from Gut Pond to a remote 23 000 L storage reservoir and thence by gravity to Herring Neck and Salt Harbour. An existing booster station at Herring Neck increases service pressure to 420 kPa.

**Delivery System**

The pumphouse at Gut Pond will supply water through 100 and 75 mm diam. distribution mains.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

72 homes serviced

**Industrial/Institutional/Commercial**

1 fish plant

**Metering Cost**

Latest operating and maintenance costs were $23,678/year. The domestic water rate is $108/year. The fish plant pays $100/month for water.

**WATER QUALITY**
**Treatment Method**
Liquid chlorine

**Reported Quality**
Satisfactory

**WASTEWATER DISPOSAL**
Treated : Septic tanks/fields

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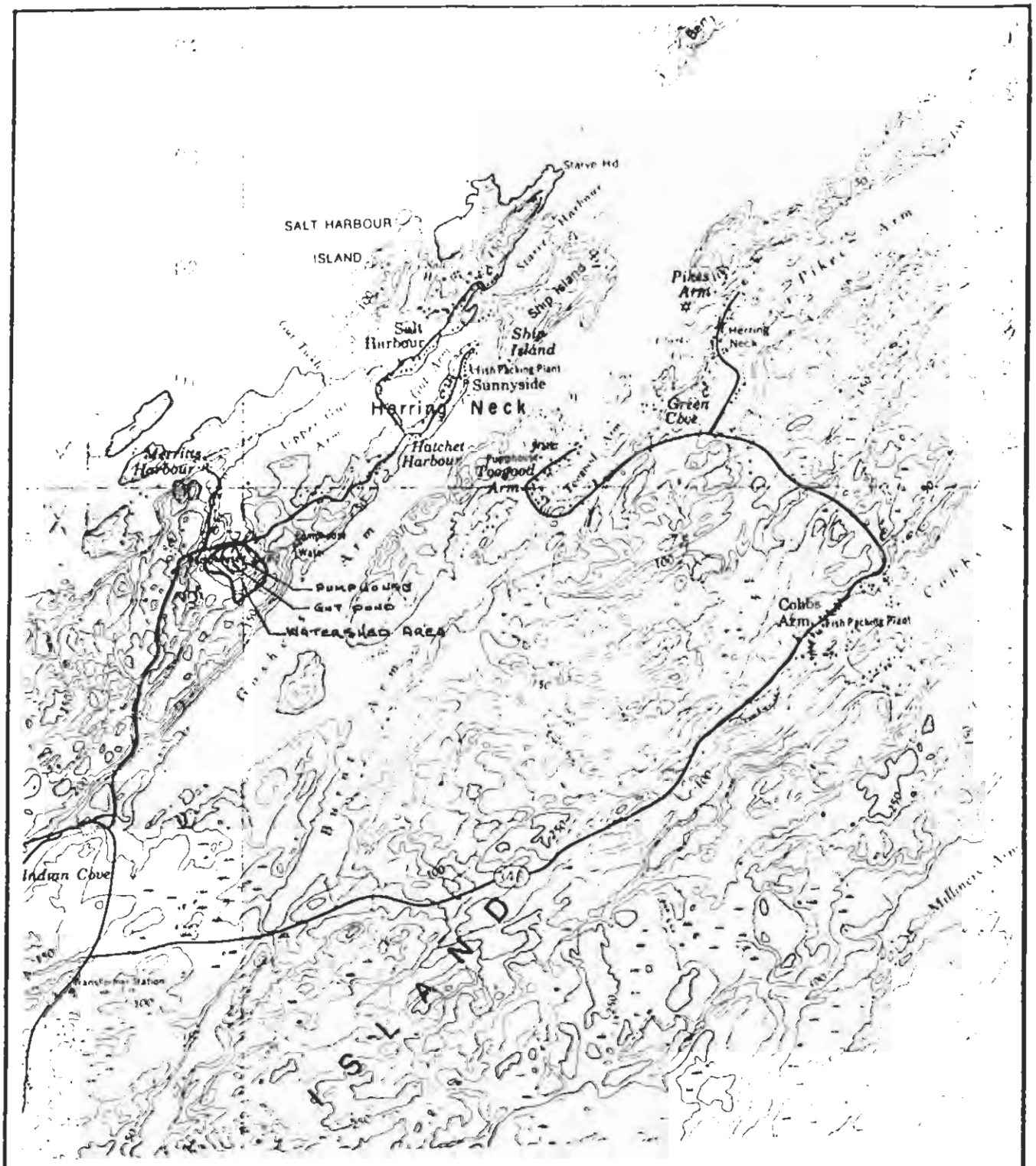



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

HERRING NECK

**HILLGRADE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 200 |
| Number of Homes | : | 40 |
| Homes Serviced | : | 36 |
| Information Source(s) | : | Committee Member - C. Sansome |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Saltons Pond |
| Pond Area(Ha) | : | 20.0 |
| Drainage Area(Ha) | : | 120.0 |
| Live Storage (m) | : | 2.0 |
| Firm Yield($m^3$/day) | : | 3523 |
| Intake Location | : | Northwest end of pond |

**EXISTING STRUCTURES**

A pumphouse located adjacent Saltons Pond and supplied by a 75 mm diam. PVC intake line.

**Delivery System**

A 3 HP centrifugal pump in conjunction with three 450 L pneumatic tanks provide system pressure to a 50 mm diam. distribution main. Simple chlorination through use of a chemical feed pump at the pumphouse is the only form of water treatment required.

**Reported adequacy of Supply**

Supply adequate to meet projected domestic/industrial demand.

**Other Observations/Reported Problems**

Eight residences located on the opposite side of the harbour experienced loss of water due to freeze-up of the section of submarine supply line buried in the tidal zone.

**REPORTED DEMAND**

**Domestic**

40 homes (36 serviced)

**Industrial/Institutional/Commercial**

2 churches (1 serviced), 3 fish plants

**Metering Cost**

Latest operating and maintenance cost was $3,000/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Good

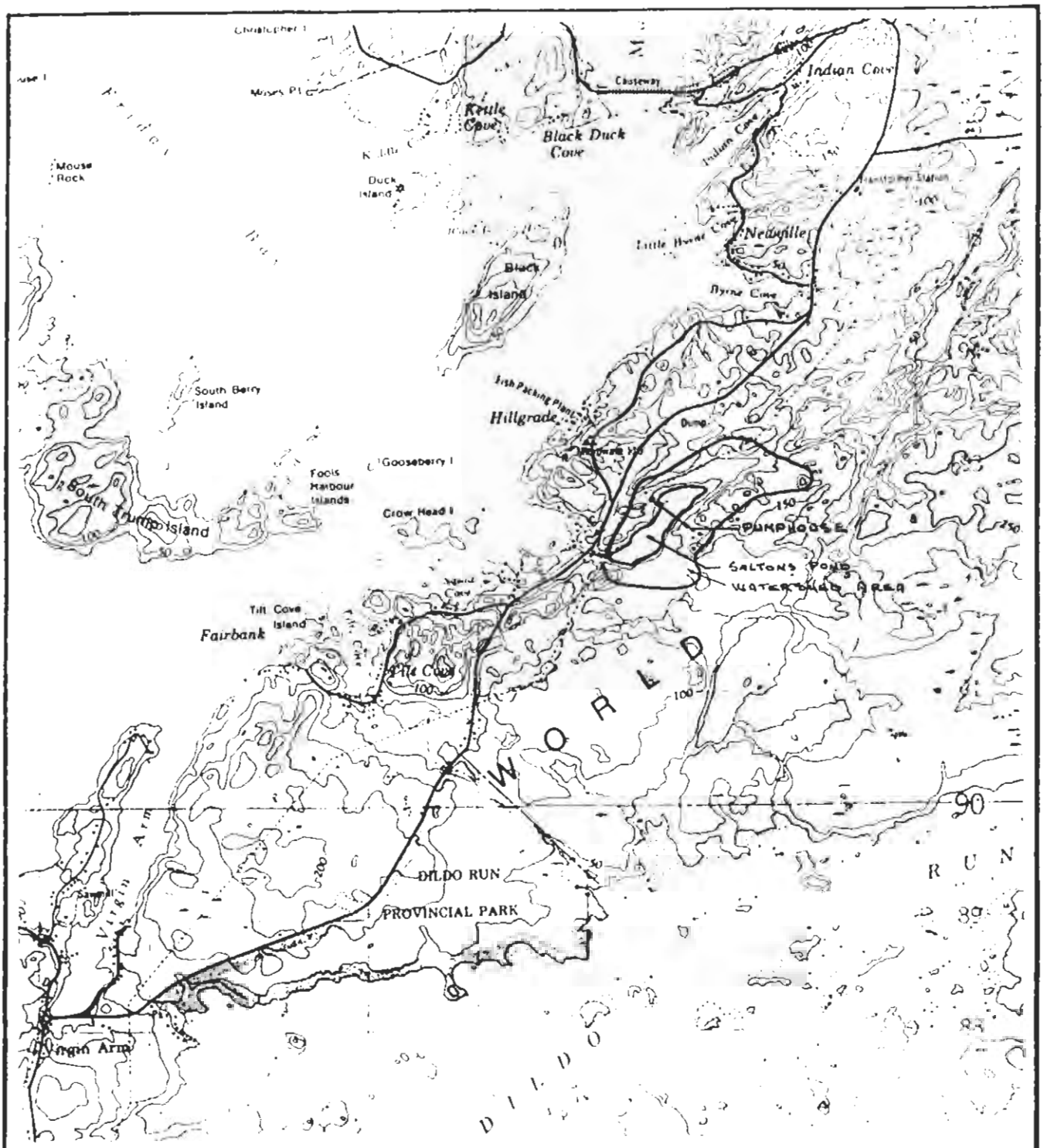
**WASTEWATER DISPOSAL**

Treated : Septic tanks

**OTHER COMMENTS**

The distribution system is inadequately sized to provide the combined domestic/industrial demand. Distribution mains should be upgraded to minimum 100 mm diam. and preferably 150 mm diam.

The main supply pump at Saltons Pond routinely requires replacement annually. It is felt that this problem could be alleviated through continuous operation versus start/stop in response to a pressure switch. The situation could be further improved by installing a second pump to allow manual alternate operation.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

HILLGRADE

**HORWOOD**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 525± |
| Number of Homes | : | 135 homes |
| Homes Serviced | : | None |
| Information Source(s) | : | Committee Member - Violet Barnes<br>Chairman - Lloyd Cull |

**EXISTING WATER SUPPLY**

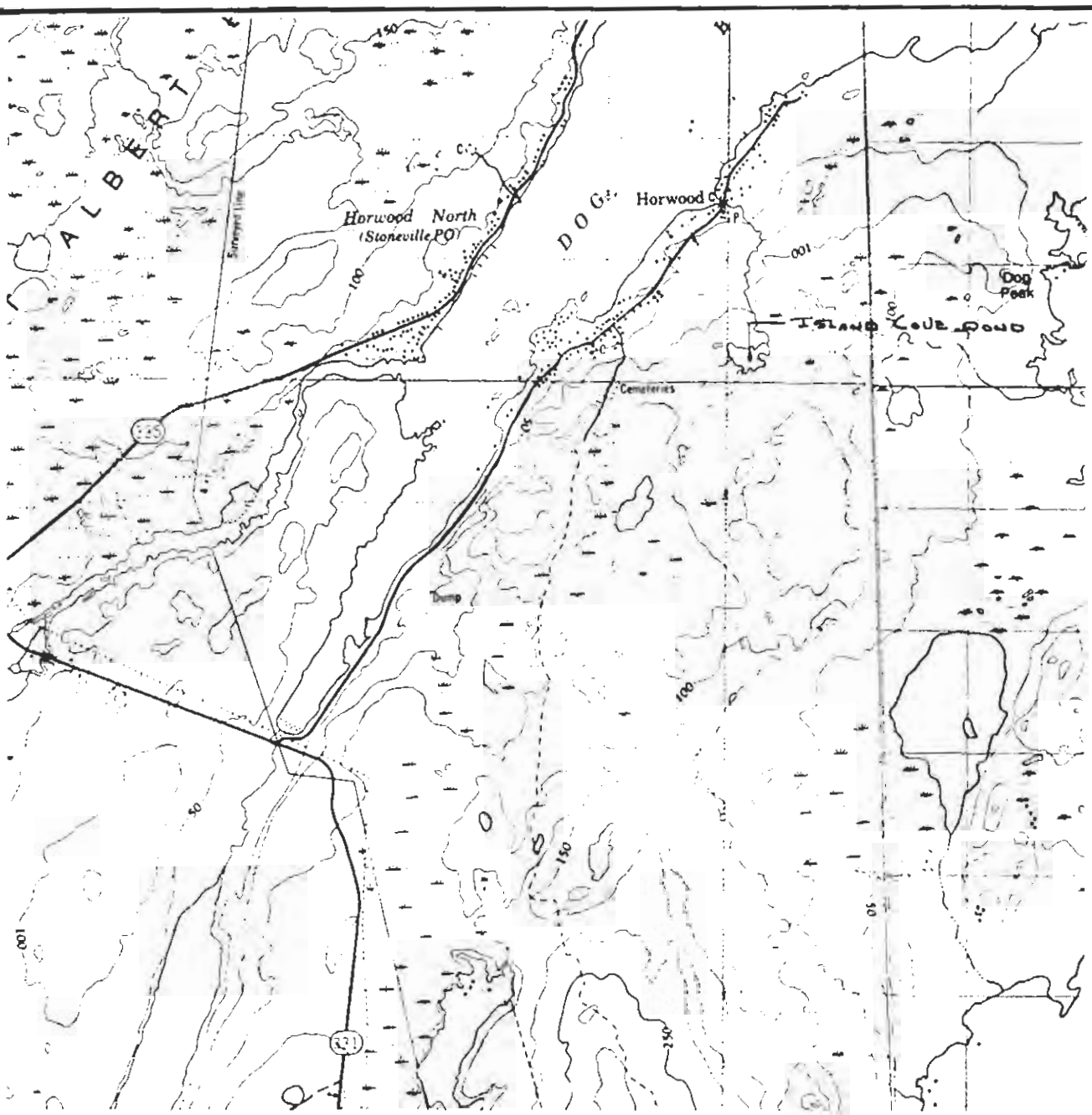
Type : Groundwater, primarily shallow wells with about 6 drilled wells

**WASTEWATER DISPOSAL**

Septic tank, some have effluent lines to the ocean.

**OTHER COMMENTS**

The community had been allocated funds by the Dept. of Municipal & Provincial Affairs in 1990 to develop two drilled well supplies. A subsequent well-drilling program failed to provide sufficient well yields to warrant development. A significant portion of the remaining unspent funds were consequently directed into carrying out a complete water and sewer feasibility study to be completed early 1991.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

HORWOOD

**INDIAN COVE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 80 |
| Number of Homes | : | 21 |
| Homes Serviced | : | None |
| Information Source(s) | : | Secretary - S. Greenham |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Presently groundwater (shallow dug wells). Proposed surface supply. |
| Supply Point | : | Lobster Harbour Pond |
| Pond Area (Ha) | : | 2.0 |
| Drainage Area (Ha) | : | 12.0 |
| Live Storage (m) | : | 2.0 |
| Firm Yield ($m^3$/day) | : | 268 |
| Intake Location | : | Southeast end of Lobster Harbour Pond (proposed) |

**Other Observations/Reported Problems**

In 1984 $100,000 was spent to place a 100 mm diam. PVC supply main from Lobster Harbour Pond to the community. Since 1984 no funding has been available to complete the project.

**REPORTED DEMAND**

**Domestic**

21 homes

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Inadequate drain fields and proximity of homes to each other means effluent is accumulating in roadside ditches. According to community spokesperson, Health officials are aware of this problem. |

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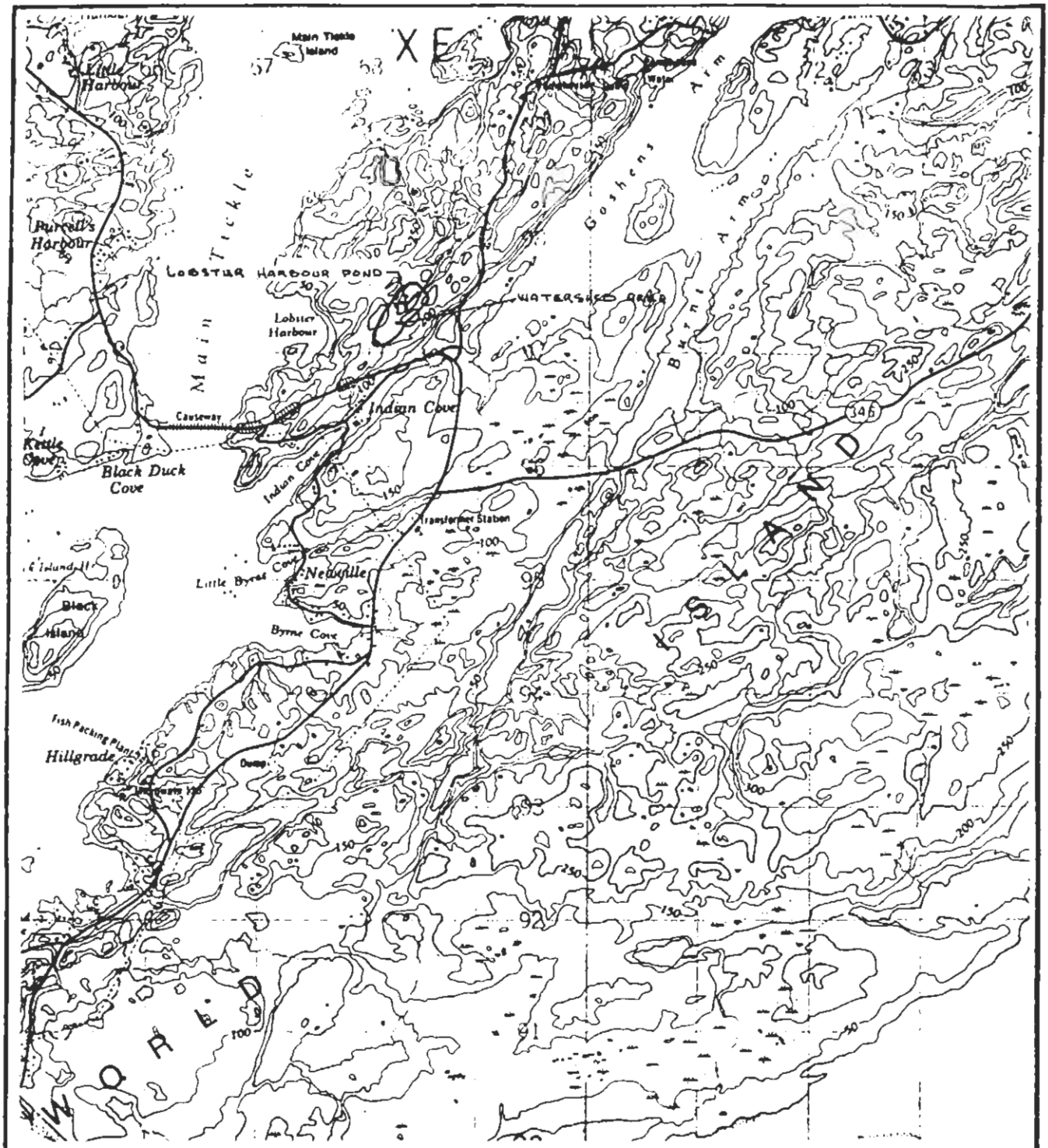


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

INDIAN COVE

**ISLAND HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 250 |
| Number of Homes | : | 72 |
| Homes Serviced | : | None |
| Information Source(s) | : | P. Lynch |

**EXISTING WATER SUPPLY**

Type : Groundwater (private wells)

**GROUNDWATER**

Government had two or three wells drilled but were dry. There are approximately 10 private drilled wells in the community. The remainder of the residents have shallow dug wells which freeze in winter and go dry in summer. The LSD have garbage collection and street lighting at $96/year/householder.

**WASTEWATER DISPOSAL**

Treated : Septic tanks with some lines to the ocean

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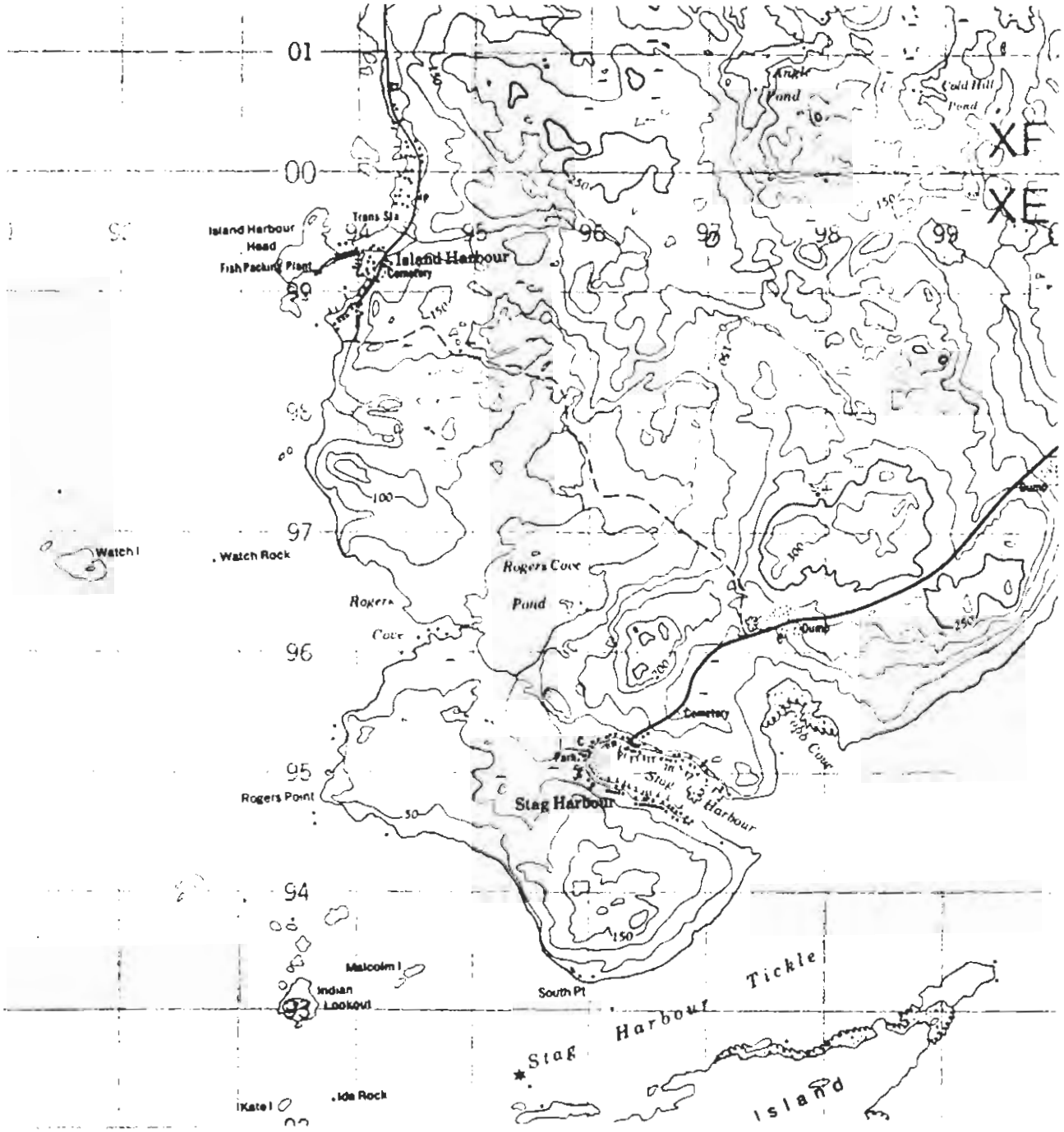


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

ISLAND HARBOUR

**JACKSON'S COVE** (see following sheets for details of Jackson's Cove, Langdon's Cove, Silverdale-Nickey's Nose)

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300 |
| Number of Homes | : | 100 |
| Homes Serviced | : | 95% |
| Information Source(s) | : | Secretary - P. Knight<br>Maint. Man - Harold Batstone |

**EXISTING WATER SUPPLY**

Type : Surface and groundwater

**Metering Cost**

The water operating and maintenance cost was $9,812 for 1989. The domestic water rate is set at $20/year.

**WASTEWATER DISPOSAL**

Treated : Septic tanks, some homes have effluent lines to the ocean

**JACKSON'S COVE (Jackson's Cove)**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | |
| Number of Homes | : | 30 |
| Homes Serviced | : | 30 |
| Information Source(s) | : | Secretary - P. Knight<br>Maint. Man - Harold Batstone |

**EXISTING WATER SUPPLY**

Type : Groundwater (2 drilled wells)
Pumphouse #1 - 60 m deep
Pumphouse #2 - 60 m deep

**EXISTING STRUCTURES**

Two pumphouses, one over each of two drilled wells.

**WATER QUALITY**

**Treatment Method**

Chlorination at pumphouse #1 only.

**Reported Quality**

Good

**GROUNDWATER**

Pumphouse #1 is in good structural condition and is constructed over a deep well yielding 6 gal/min and serving 17 homes with good quality water. A deep well pump supplies water to a 3400 L plastic storage tank. The pressure system consists of a 1 HP pump and 3 hydrocells supplying a 50 mm diam. distribution main at 40 psi. This is currently being upgraded to a 60 psi system through use of a 2 HP distribution pump.

Pumphouse #2 is in fair condition. A 4 gal/min deep well supplies water to a 3400 L storage tank. The pressure system consists of a 1 HP electric pump and two 450 L pressure tanks supplying water via a 50 mm diam. distribution main to 13 residences.

**JACKSON'S COVE (Langdon's Cove)**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | |
| Number of Homes | : | 22 |
| Homes Serviced | : | 22 |
| Information Source(s) | : | Secretary - P. Knight<br>Maint. Man - Harold Batstone |

**EXISTING WATER SUPPLY**

Type : Groundwater (drilled well 64 m deep)

**EXISTING STRUCTURES**

Pumphouse building in good condition and equipped with a 3/4 HP submersible pump, two 450 L pneumatic tanks, and a hypochlorinator.

**Delivery System**

The well pumping system supplies pressurized water to 22 residences through 50 mm diam. distribution mains. Residential service lines are equipped with curb stops.

**WATER QUALITY**

**Treatment Method**

Hypochlorination unit

**Reported Quality**

Satisfactory

**JACKSON'S COVE (Silverdale-Nickey's Nose)**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 150 |
| **Number of Homes** | : | 48 |
| Homes Serviced | : | 48 |
| Information Source(s) | : | Secretary - P. Knight<br>Maint. Man - Harold Batstone |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Taylor's Pond |
| Pond Area(Ha) | : | 35 |
| Drainage Area(Ha) | : | 210 |
| Live Storage (m) | : | 2 |
| Firm Yield($Mm^3$) | : | 6165 |
| Intake Location | : | West side of Taylor's Pond |

**Delivery System**

A 3 HP constant-pressure pumping system draws water through a 75 mm diam. intake line from Taylor's Pond. Discharge from the pumphouse is via a 75 mm diam. supply main through Silverdale with 38 mm and 50 mm diam. branch lines supplying Nickey's Nose.

**WATER QUALITY**

**Treatment Method**

Hypochlorination unit at the pumphouse on Taylor's Pond.

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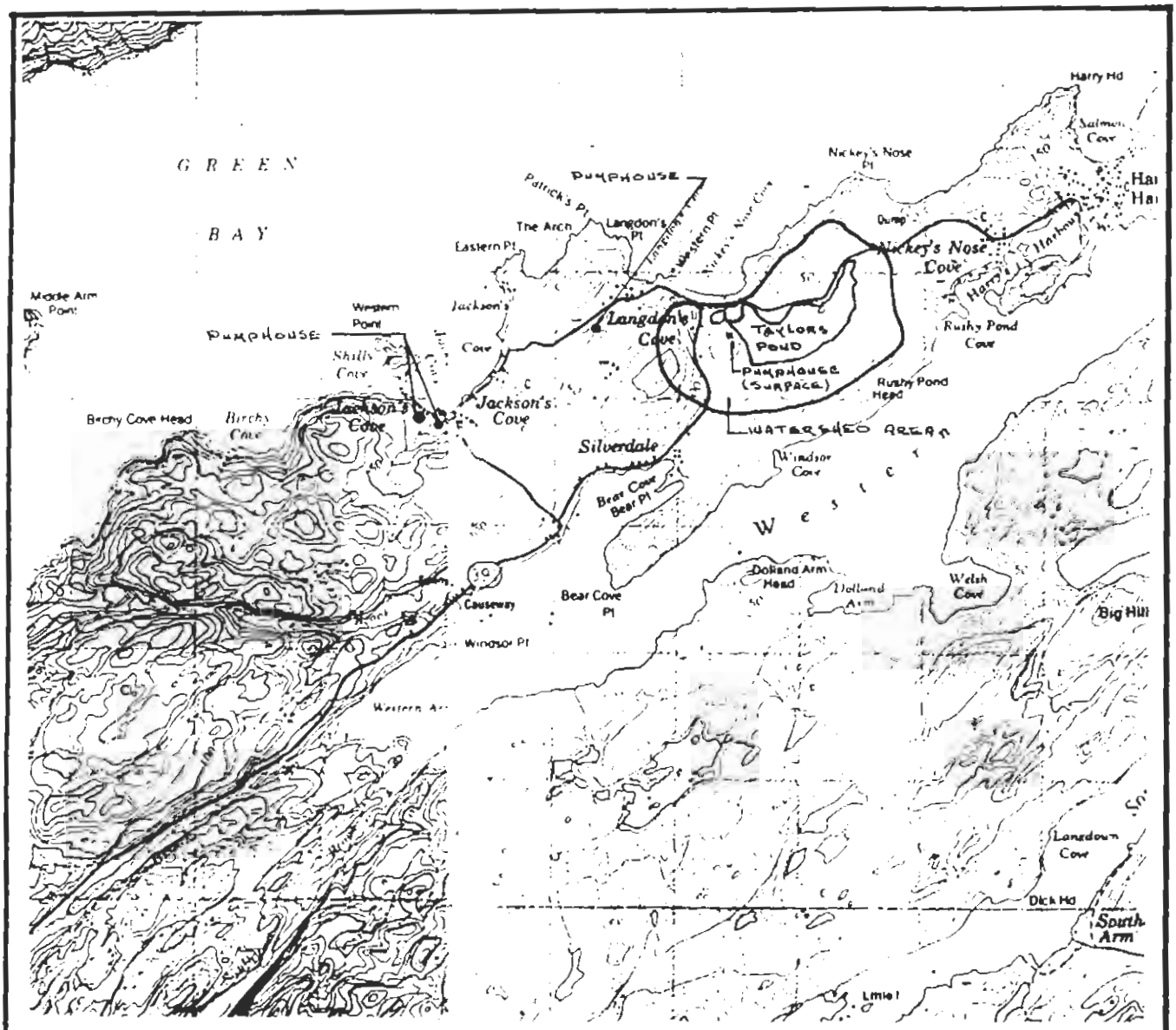


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

JACKSON'S COVE

**JOE BATT'S ARM**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,250 |
| Number of Homes | : | 400 |
| Homes Serviced | : | 26 |
| Information Source(s) | : | Town Clerk - S. Kelly<br>Deputy Mayor - Harry Decker |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Point | : | Long Pond (Geodetic Elev. 29.5 m) |
| Pond Area(Ha) | : | 6.5 |
| Drainage Area(Ha) | : | 604.0 |
| Live Storage (m) | : | 1.75 |
| Firm Yield($m^3$/day) | : | 1770 |
| Intake Location | : | 300 mm diam. intake pipe on north end of Long Pond |

**EXISTING STRUCTURES**

A chlorination building completed in 1990.

**Delivery System**

The water supply gravity feeds from Long Pond through a 300 mm diam. distribution main fitted with curb stops and fire hydrants.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate

**REPORTED DEMAND**

**Domestic**

400 homes (26 serviced; 18 with water only)

**Industrial/Institutional/Commercial**

5 churches, 12 commercial facilities

**Metering Cost**

No costs were available. The domestic water rate is set at $120/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 1 lift station and 1 sewer outfall |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not available |
| Sewer Rates($/yr) | : | Water and sewer $192 |

**GROUNDWATER**

Presently the Town operates 4 drilled wells which are equipped with hand pumps and used by residents as required for drinking and wash water. Water quality and yield are reported as good.

**OTHER COMMENTS**

The town has completed two phases of an estimated 6-phase Municipal Service Plan.

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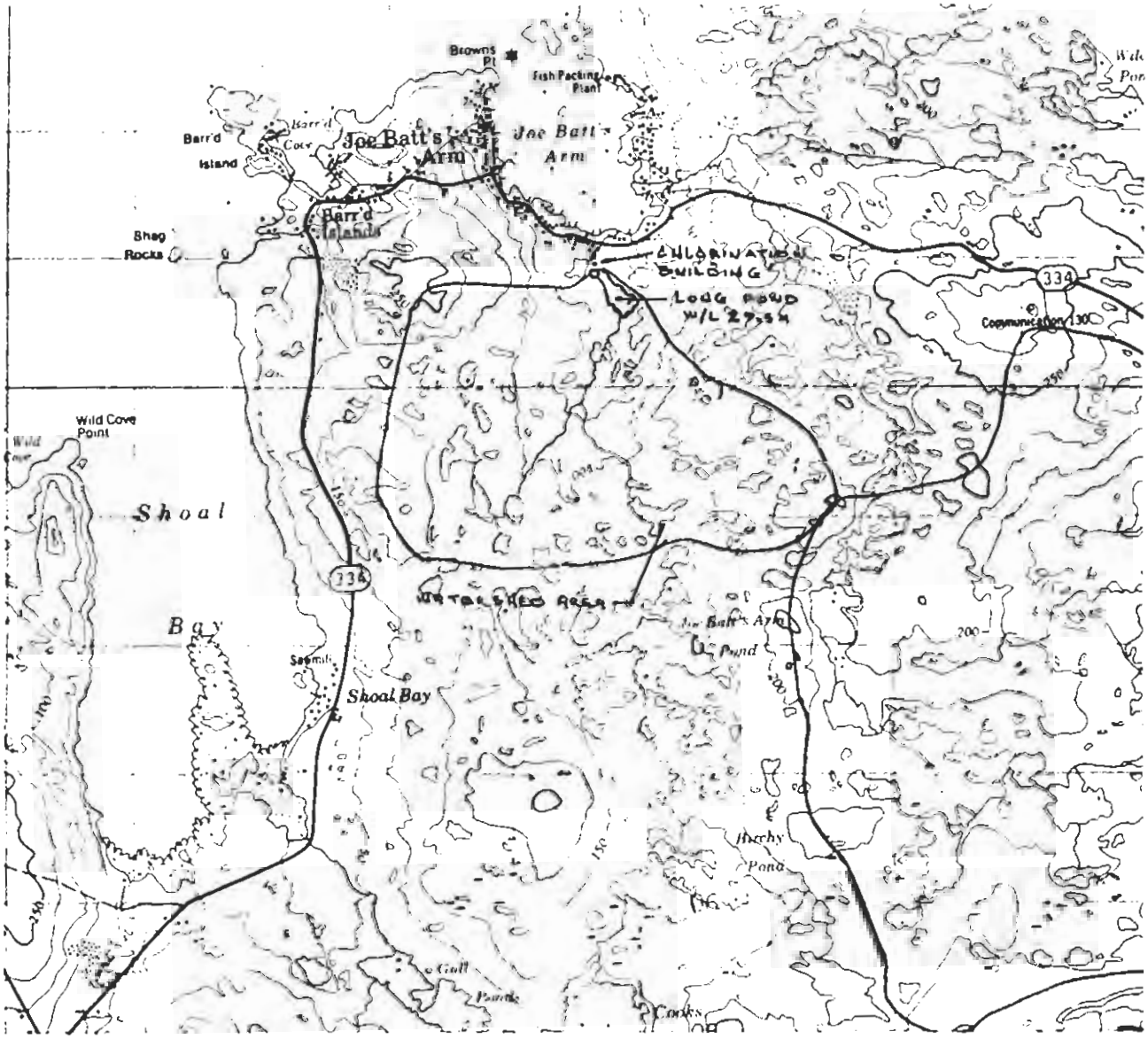


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

JOE BATT'S ARM

**KING'S ISLAND - SMITH'S HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 250 |
| Number of Homes | : | 65 |
| Homes Serviced | : | None |
| Information Source(s) | : | |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Wet-well in Flashey Brook |
| Pond Area(Ha) | : | 0.018 |
| Drainage Area(Ha) | : | 950.0 |
| Live Storage (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 1284 |
| Intake Location | : | 200 mm diam. PVC pipe located in Flashey Brook leads to a wet-well |

**Delivery System**

Under construction. Water will be pumped from a wet-well to a concrete reservoir which will then gravity feed to the community. The distribution main will be 75 mm diam.

**Status of Watershed Protection**

Watershed protection application has not yet been processed.

**Reported adequacy of Supply**

Adequate to meet projected domestic demand.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

65 residences

**Industrial/Institutional/Commercial**

2 churches, 1 commercial property

**WATER QUALITY**

**Treatment Method**

Liquid chlorine (to be included in new system).

**Reported Quality**

Good

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Septic tanks |

**OTHER COMMENTS**

When the water supply system is in place, there will be a $100 hook-up fee and $8/month for water service.

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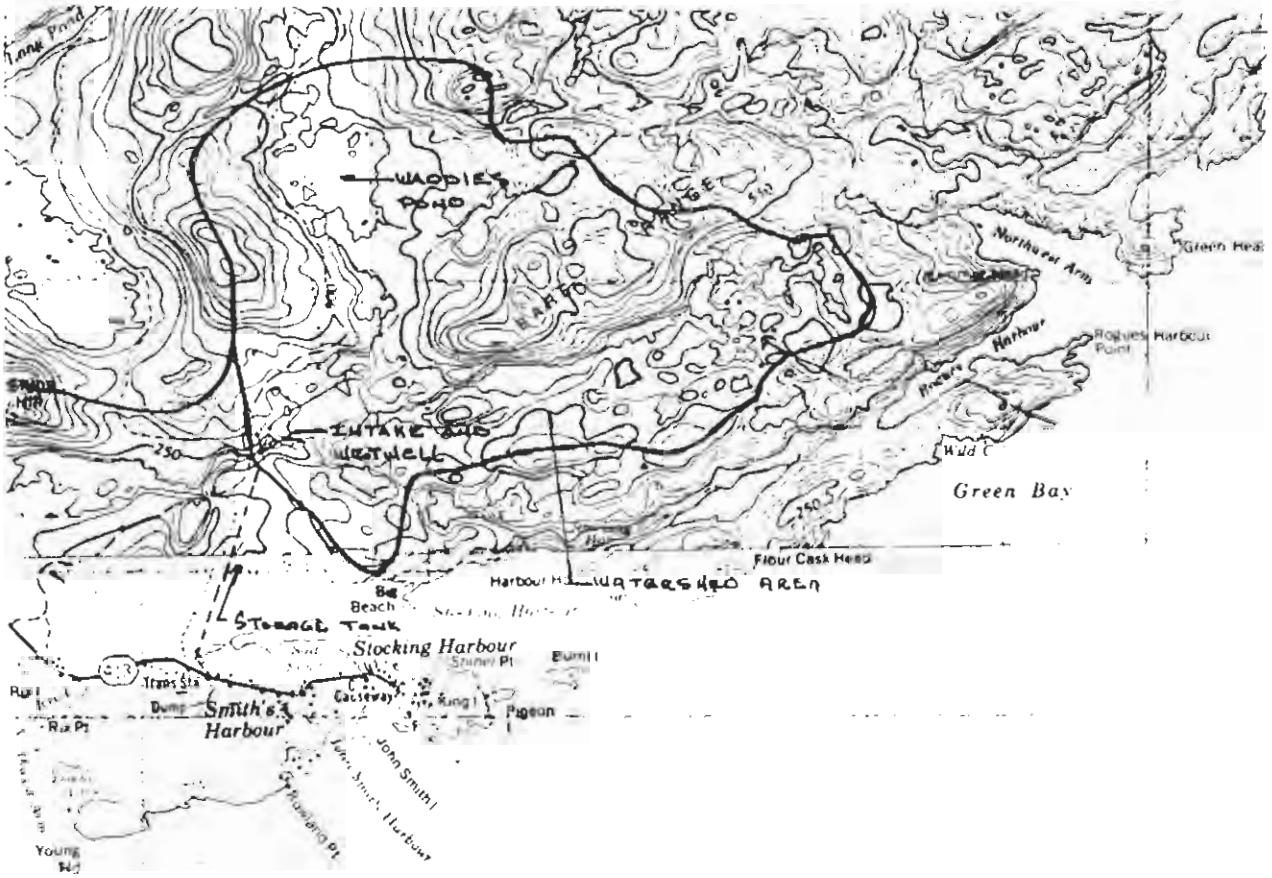



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

KING'S ISLAND— SMITH'S HARBOUR

**KING'S POINT**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 923 |
| Number of Homes | : | 220 |
| Homes Serviced | : | 220 |
| Information Source(s) | : | Town Clerk - Nellie Richards<br>Maint. Man - Andrew Gillingham |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Bulleys Pond |
| Pond Area(Ha) | : | 3.0 |
| Drainage Area(Ha) | : | 1860.0 |
| Live Storage (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 2886 |
| Intake Location | : | South end of Bulleys Pond |

**EXISTING STRUCTURES**

An earth fill dam with concrete spillway is in good condition. A pumphouse, chlorination building, storage tank, and settling pond have also been constructed.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.6 |
| Dam Length(m) | : | 102.0 |
| Spillway X section(m) | : | 5.9 x 1.5 |

**Delivery System**

A settling pond has been installed between the wet-well and the reservoir in an attempt to reduce the organic discolouration and silt content of the water. The wet-well is 2.7 x 2.7 m. Two 15 HP Jacuzzi pumps feed water to a 178 240 L storage tank 300 m away.

A 150 mm distribution line feeds to the local community where it reduces to 100 mm, 75 mm, and 50 mm lines.

**Status of Watershed Protection**

The community has water rights and the watershed area is protected.

**Reported adequacy of Supply**

The water supply system is reported as not meeting the present demands of the community. Undersized distribution lines are not adequate to provide fire services.

**Potential for Increased Supply**

Despite the above problems, the water supply reservoir <u>is</u> capable of meeting an increased demand.

**Other Observations/Reported Problems**

Problems with the distribution main freezing (1990) have been encountered.

**REPORTED DEMAND**

**Domestic**

220 homes, all serviced

**Industrial/Institutional/Commercial**

3 churches, 1 school, 1 commercial property, and 1 fire hall

**Metering/Cost**

Costs to the community of providing water and sewer services is $27,281/year. Approximately $16,000 of this cost is directed towards maintenance and operating of the water supply system. The domestic water rate is $84/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Gas chlorination; broken at time of field survey.

**Reported Quality**

Poor. Water is discoloured; a boil order is in effect. Water is also silty.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None noted.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $11,281 |
| Sewer Rates($/yr) | : | $ 96 |


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

KING'S POINT

**LA SCIE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,450 |
| Number of Homes | : | 443 |
| Homes Serviced | : | 25 homes water only, 418 homes water and sewer |
| Information Source(s) | : | Town Clerk - Vida Short<br>Maint. Man - Lloyd Burton |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Stakes Pond |
| Pond Area(Ha) | : | 98 (Stakes Pond) |
| Drainage Area(Ha) | : | 690 |
| Live Storage (m) | : | 4 |
| Firm Yield($m^3$/day) | : | 33 869 |
| Intake Location | : | At north end of Stakes Pond at an elevation of 80 m Geodetic. |

**EXISTING STRUCTURES**

A concrete dam, built in 1955 on the outlet stream, is still in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.5 |
| Dam Crest Elevation (m) | : | 84.0 |
| Dam Length(m) | : | 22.0 |
| Spillway Elevation(m) | : | n/a (no spillway) |
| Spillway X section(m) | : | n/a (no spillway |

**Delivery System**

A 60 m long intake pipe terminates in a 4.5 m deep concrete wet-well screening chamber. The wet-well building is in poor condition as is a structure housing pressure relief equipment, located downstream on the 400 mm diam. gravity supply main. The system supply pressure is 120 psi at the fish plant. The distribution main reduces from 400 mm diam. at the fish plant to 150 mm diam. servicing residential areas beyond the plant. All branch lines off the 400 mm main are 150 mm diam.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The Stakes Pond supply is adequate to meet projected domestic/ industrial demand.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

There are 443 private residences.

**Industrial/Institutional/Commercial**

There are 4 churches, 2 schools of approximately 350 students, 20 commercial properties, 1 medical facility, 1 fire hall, and 1 fish plant. All are serviced.

**Metering/Cost**

The annual cost of maintaining the water supply and sewer system is $8,000. The domestic water rate is $93/year.

**Losses/Wastage**

None reported.

**WATER QUALITY**

**Treatment Method**

The water supply is untreated.

**Reported Observations/Problems**

The water quality is good.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None noted.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Yes, sewage treatment plant |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | See metering cost |
| Sewer Rates($/yr) | : | $69 for sewer only |

**OTHER COMMENTS**

The water supply system was originally installed to supply the fish plant but has since been passed over to the town.

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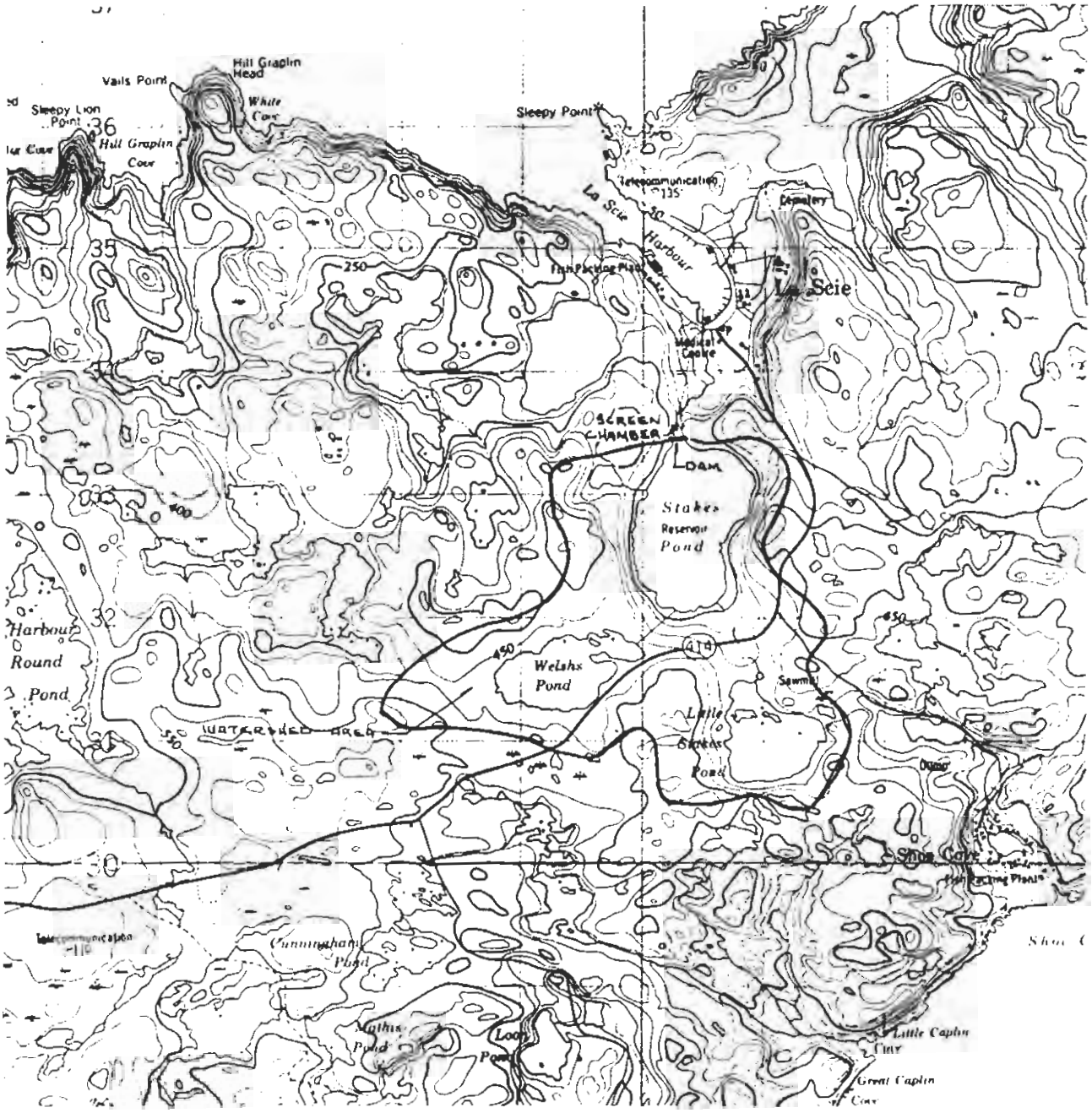



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LA SCIE

**LAURENCETON**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 350 |
| Number of Homes | : | 100 |
| Homes Serviced | : | None |
| Information Source(s) | : | Spokesperson - Roland Butler |

**EXISTING WATER SUPPLY**

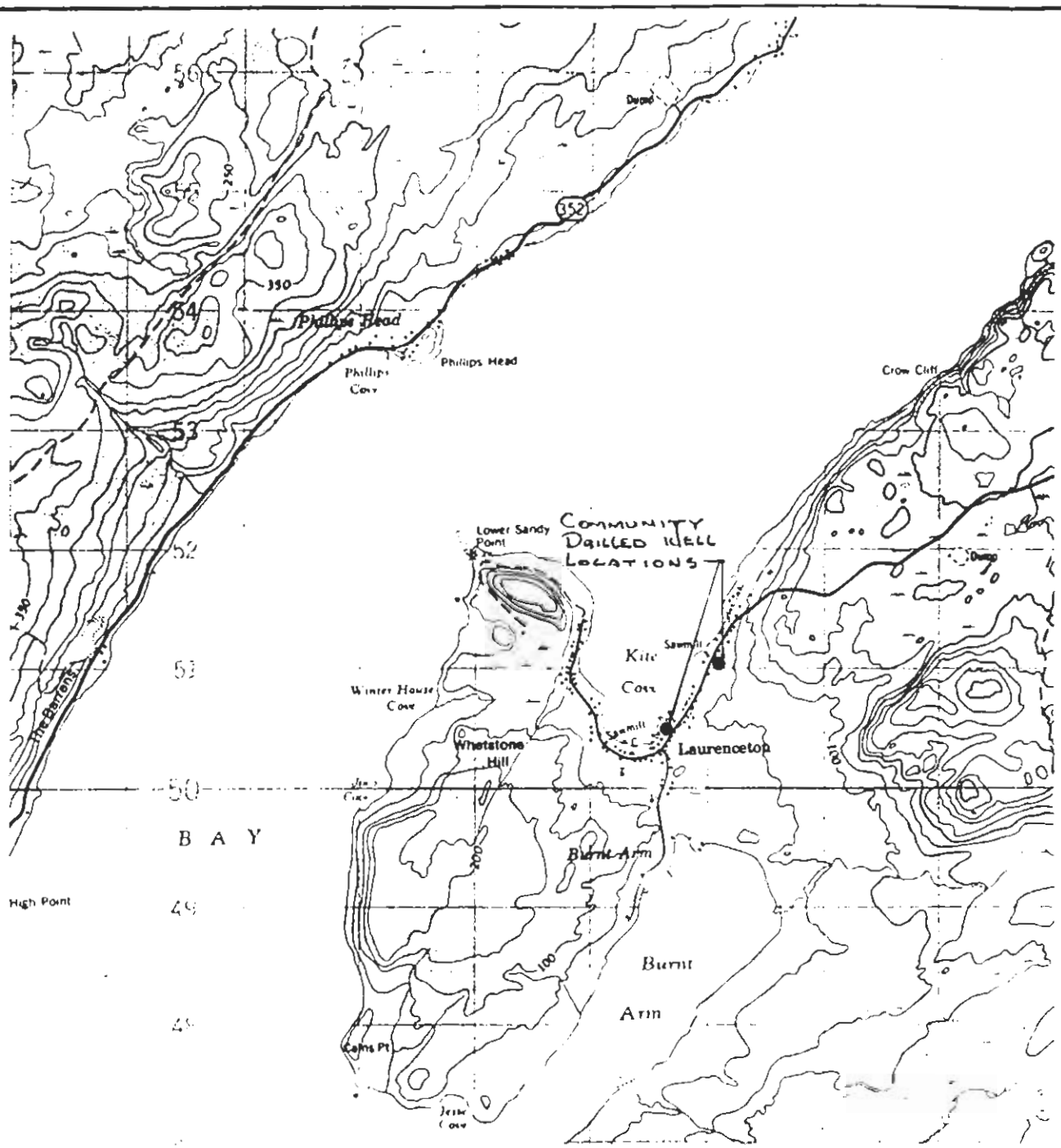
Type : Groundwater (shallow wells and 1 community drilled well)

**Comments**

The community has two community drilled wells. One well supplies water to a single residence; the other well is said to be polluted and hence not in use. The remaining residents have shallow dug wells.

**WASTEWATER DISPOSAL**

Septic tanks




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LAURENCETON

**LEADING TICKLES**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 605 |
| Number of Homes | : | 120 |
| Homes Serviced | : | 65 have water and 25 have water and sewer |
| Information Source(s) | : | Mayor - Don Hannam<br>Town Clerk - Kim Newman<br>NF & Lab. Consulting Engineers - John Whalen |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Reservoir | : | Cook's First Pond |
| Pond Area(Ha) | : | 3.25 |
| Drainage Area(Ha) | : | 118.00 |
| Live Storagae (m) | : | 2.0 |
| Firm Yield($m^3$/day) | : | 705 |
| Intake Location | : | North end of Cook's First Pond |

**EXISTING STRUCTURES**

A concrete dam was completed in 1990.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.5 |
| Dam Crest Elevation (m) | : | 58.5 Geodetic |
| Dam Length(m) | : | 30.0 |
| Spillway Elevation(m) | : | 58.0 |
| Spillway X section(m) | : | 5.0 x 0.5 |

**Delivery System**

Cook's First Pond intake supplies a 200 mm diam. gravity main to a downstream chlorination building. Beyond the chlorination building the gravity distribution main is 150 mm diam. This system, which is still in the construction stage, is intended to service Cull's Island only - 70 residents associated with a population of 350. The existing deep well system on Well #1 will continue to service the 50 residences on the mainland area of Leading Tickles.

**Status of Watershed Protection**

Not known

**Reported adequacy of Supply**

Watershed capable of supplying projected demand of Cull's Island.

**Potential for Increased Supply**

Not required

**Groundwater Source**

| Community Wells : | Well # | Yield | Serves | Quality |
|---|---|---|---|---|
| Leading Tickles | 1 | 36 L/min | 50 homes | good |
| Cull's Island | 2 | not in use | | salty |

Private Wells : None noted.

**ADDITIONAL REMARKS**

Well #1 pumps into a 148 000 L concrete reservoir. Two 2 HP constant pressure pumps operate alternately at a pressure of 70 psi. Cost of operation of the groundwater system servicing the mainland area of Leading Tickles is $8,500/year.

**REPORTED DEMAND**

**Domestic**

50 homes on the groundwater supply
70 homes on the surface supply

**Industrial/Institutional/Commercial**

2 churches and 4 commercial properties are serviced. The local school is not serviced, nor is the fish plant.

**Metering/Cost**

No metering of water supply was reported. The groundwater supply system cost $8,500/year to operate and maintain. No figures are available for the surface supply. Residents are charged $144/year for water services alone.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Chlorination

**Reported Observations/Problems**

None

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not given |
| Sewer Rates($/yr) | : | For combined water and sewer, residents are charged $192. |

**OTHER COMMENTS**

The community of Leading Tickles will continue to maintain its groundwater supply as the drainage area for the surface water supply is relatively small.

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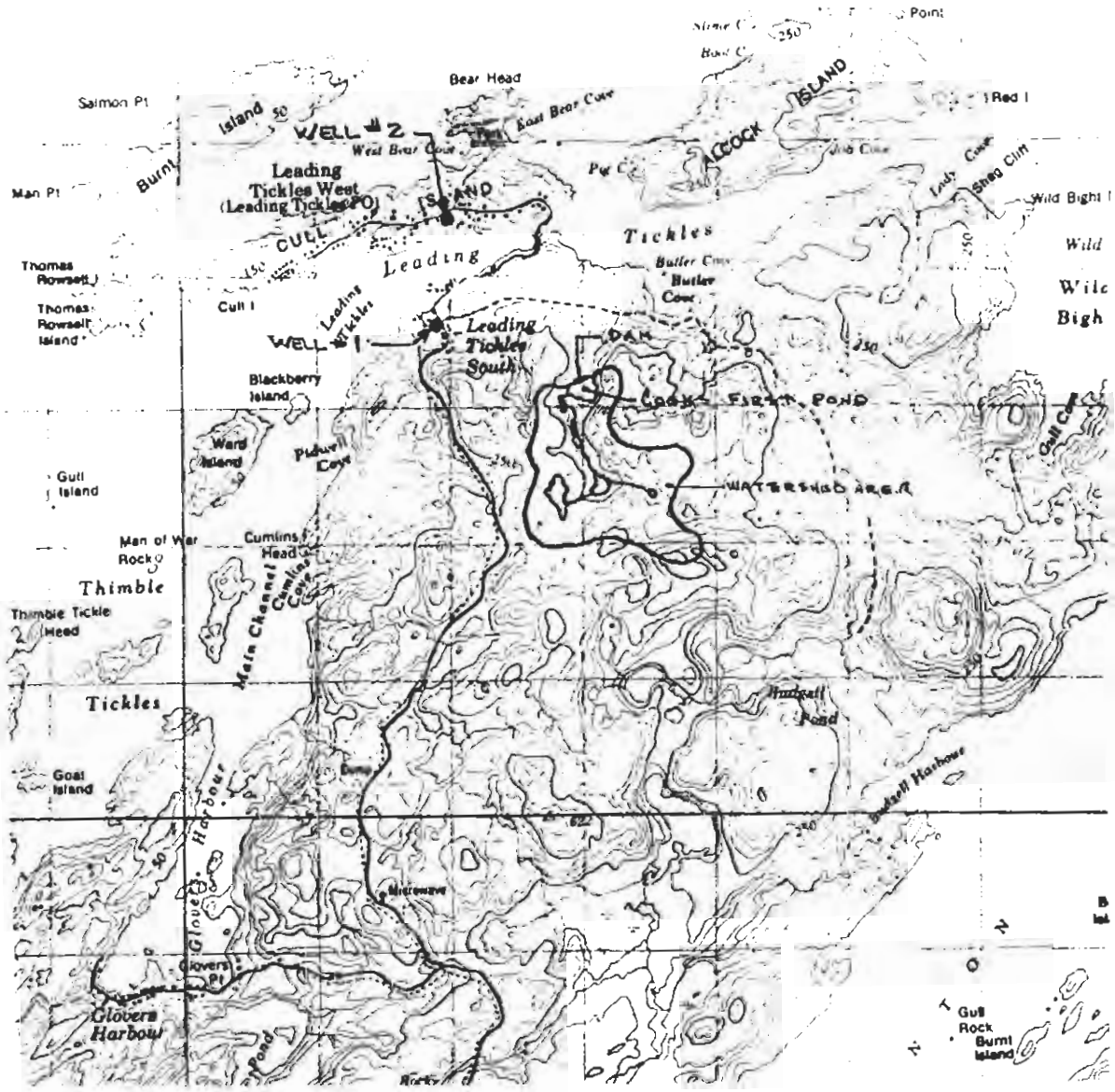



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LEADING TICKLES

**LEWISPORTE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 3,978 |
| Number of Homes | : | 1,200 |
| Homes Serviced | : | 1,200 |
| Information Source(s) | : | Town Manager - Roy Moyles<br>Maint. Man - Harold Pardy |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Stanhope Pond |
| Pond Area(Ha) | : | 75 |
| Drainage Area(Ha) | : | 2 640 |
| Live Storage (m) | : | 2.1 |
| Firm Yield($m^3$/d) | : | 16 794 |
| Intake Location | : | On northeast shore at Stanhope Pond approximately 650 m south of the pond outlet stream. |

**EXISTING STRUCTURES**

A wood-frame pumphouse and earth fill dam both on Stanahope Pond, as well as a steel storage reservoir and higher elevation booster pumping station, comprise the main water system structures. The dam was constructed more than 20 years ago and comprises an earth fill berm of gravel through boulder-size material across the outlet stream at Stanhope Pond. Its primary purpose is to impede stream flow during flood periods and, to a lesser degree, increase live storage.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.0 |
| Dam Crest Elevation (m) | : | 7.4 Geodetic |
| Dam Length(m) | : | 30.0 ± |

**Delivery System**

The Town of Lewisporte is supplied by gravity from an 800 000 litre capacity stand pipe constructed in the early 1970s and located about 1000 m east of the pumphouse on Stanhope Pond at a ground surface elevation of 38.5 m. The 27.5 m high reservoir is supplied water by two 37 kilowatt centrifugal pumps through a 250 mm diam. A.C. transmission main. Distribution from the reservoir to residences, institution and commercial outlets, is through a variety of main sizes comprising cast iron, ductile iron, PVC, and polyethylene pipes. System piping varies in age from 40 years for the cast iron to new PVC for the most recent development works.

The pumping and distribution systems (mechanical) are in good operating condition. The existing wood-frame pumphouse structure and electrical are below standard and in need of replacement.

**Status of Watershed Protection**

The Town of Lewisporte does not have water rights; however, the watershed is protected with controlled vehicular access to Stanhope Pond.

**Reported adequacy of Supply**

Stanhope Pond watershed is considered more than adequate to supply the projected combined domestic and commercial needs of the Town over the next 25 years.

**Potential for Increased Supply**

Additional storage can be created at Stanhope Pond if required through construction of dikes at the outlet end of the pond raising the water level several metres. Any increase in pond water level, however, will require raising the existing pumphouse floor. A less costly alternative could be installation of a control structure on Upper Scissors Pond located 4.5 km upstream in the same watershed.

**Other Observations/Reported Problems**

The Stanhope water supply is generally of good quality requiring only simple chlorination and primary screening at the pumphouse wet-well. Water quality deteriorates somewhat with respect to colour during the summer months, necessitating weekly cleaning of the wet-well screens. The increased turbidity is caused primarily by high winds combined with the shallowness of Stanhope Pond.

The Town has limited auxiliary pumping capability during extended power outages. This is provided through use of a gasoline-driven centrifugal pump. At best this unit can only maintain quarter reservoir capacity during a no-fire-flow condition. Ultimately this situation should be corrected through installation of a diesel generator plant capable of operating the existing electric pumps.

There are no reported water supply or operating problems.

**REPORTED DEMAND**

**Domestic**

The municipal water system for the Town of Lewisporte does not have a flow meter and hence accurate data relative to combined domestic and commercial demand is not available.

Based on a combined domestic/commercial consumption rate of 0.54 $m^3$/day per capita, it is not considered unrealistic that the Town's present demand is in the order of 2 000 000 litres per day. This figure is in keeping with existing pumping capacity and probably represents about 17 hours continuous pumping (one pump) per day. At present electrical service rates, this would equate to a $1,300 power cost per month. When combined with heat and light for the pumphouse, this agrees with the Town's reported electrical cost of $1,500 to $1,700 per month.

Domestic: 1,200 residences

**Industrial/Institutional/Commercial**

Water and sewer services are provided to the following non-domestic consumers: 8 institutions, 12 municipal/government facilities, 153 business establishments.

**Metering Cost**

Combined water and sewer rates for institutions, government buildings, and commercial establishments are based on water usage either metered or unmetered. Typically the unmetered rates vary from $120/year for churches to $571.50/year for motels and hotels, $1,828/year for schools, to a high of $2,742/year for Town's Senior Citizens Home.

Metered water rates are based on a sliding scale from a high of $0.79/m$^3$ for shipping (all volumes) to a flat rate of $165/year for schools, commercial establishments and fish plants using less than 272 m$^3$. This flat fee is added to a volume rate of $0.154/m$^3$ for consumption in excess of 272 m$^3$ but less than 9100 m$^3$. Consumption in excess of 9100 m$^3$ is charged at a rate of $0.095/m$^3$.

**Losses/Wastage**

None reported other than routine associated with watermain breaks.

**WATER QUALITY**

With the exception of periodic turbidity problems during spring freshet and periods of high winds, water quality is otherwise acceptable.

**Treatment Method**

Primary screening at the pumphouse wet-well and gas chlorination are the only forms of treatment required.

**Reported Quality**

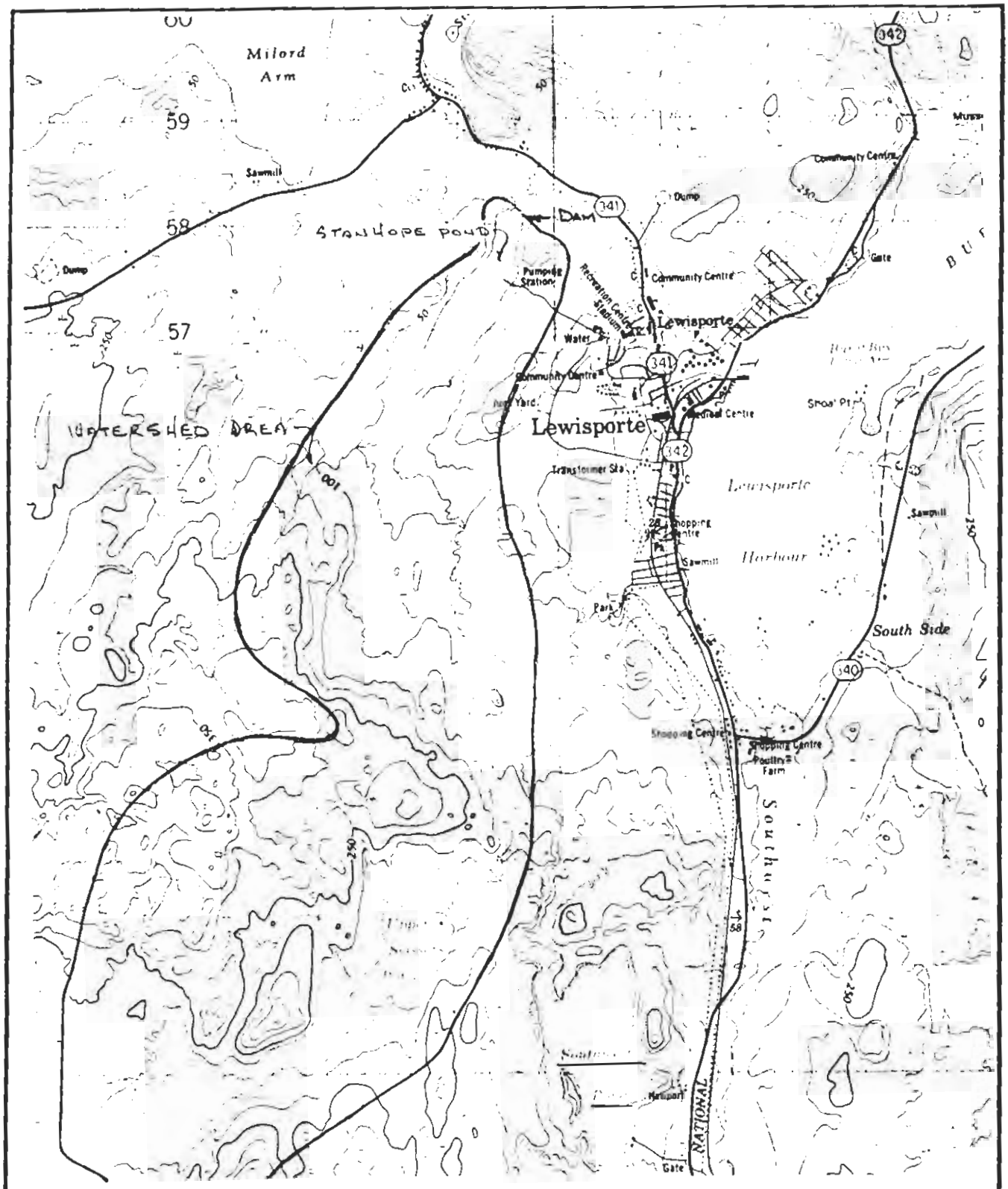
The bacterial quality of the supply as confirmed by regular analyses routinely yields acceptable results. While chemical water quality is reported acceptable, confirming analyses data were not available.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

Projected domestic and industrial/commercial demands are considered well within the supply capability of Stanhope Pond watershed. The existing distribution system by virtue of the excessive distance from the storage reservoir to the commercial area at the extreme south end of the Town, however, presents a significant restraint in the supply of combined domestic and fire flows. In this regard consideration is being given the idea of ultimately developing the Southwest Pond watershed at the south end of the Town, thereby reducing head losses with a resultant significant increase in system flow capacity.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Directly into Lewisporte Harbour (Burnt Bay) via 17 outfalls. |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Combined water and sewer: $117,000 |
| Sewer Rates($/yr) | : | Combined water and sewer (domestic): $120 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LEWISPORTE

**LITTLE BAY**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 250 |
| Number of Homes | : | 62 |
| Homes Serviced | : | 45 |
| Information Source(s) | : | Mayor - B. Dobbin |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Point | : | Mine Pond (services 10 homes) |
| Pond Area(Ha) | : | 0.4 |
| Drainage Area(Ha) | : | 10.0 |
| Live Storage (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 64 |
| Intake Location | : | East side of Mine Pond |

**Delivery System**

Was not in use at the time of this field survey.

**Status of Watershed Protection**

Mine Pond is not protected.

**GROUNDWATER**

The main source of water to the community is through artesian well located adjacent Little Bay River. A 1.8 m corrugated pipe at the top of the well acts as a wet-well. A perforated pipe from the river to the wet-well supplements the artesian flow. A 5 HP centrifutal pump supplies three 450 L pneumatic tanks which feed a 200 mm diam. distribution line.

**Water Quality**

Reported satisfactory for both the surface and groundwater supplies.

**Treatment Method**

Liquid Chlorine at both installations.

**Reported Quality**

Good

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

Existing supplies are not adequate. The town is to get a new gravity surface supply system in Phase 5 of their Municipal Plan.

**Metering/Cost**

The overhead and maintenance costs of running the system were not available but the domestic water rate is $72/year.

**Reported Demand**

62 homes

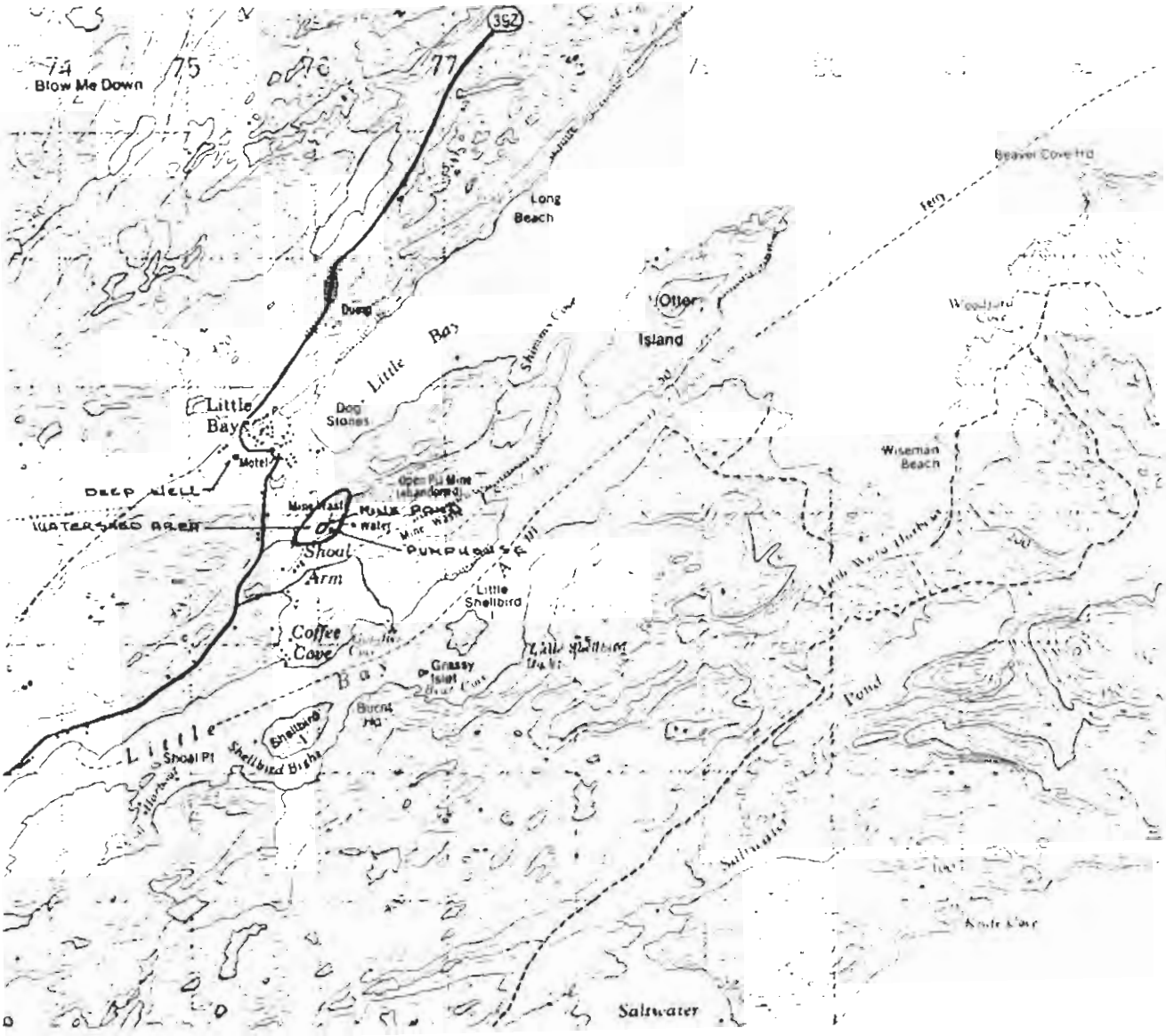
**Industrial/Institutional/Commercial**

1 church, 1 school, and 1 fire hall

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean, system has 1 lift station and 1 sewer outfall |
| Permitted | : | Yes |
| Sewer Rates ($/yr) | : | $72 |

#8Ax:LttleBay




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LITTLE BAY

**LITTLE BURNT BAY**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 432 |
| Number of Homes | : | 150 |
| Homes Serviced | : | None |
| Information Source(s) | : | Town Clerk - Maisie Wells<br>Mayor - Manuel Hynes |

**EXISTING WATER SUPPLY**

Type : Groundwater

**REPORTED DEMAND**

**Domestic**

150 homes

**Industrial/Institutional/Commercial**

1 commercial property, 1 fire hall

**WASTEWATER DISPOSAL**

Treated : Septic tanks

**GROUNDWATER**

Well #1 is capable of producing 35 L/min. Although a pumping system has been developed, it is not hooked up to a distribution system. Residents truck water from the pumphouse as required for drinking and washing needs, primarily during dry summer periods.

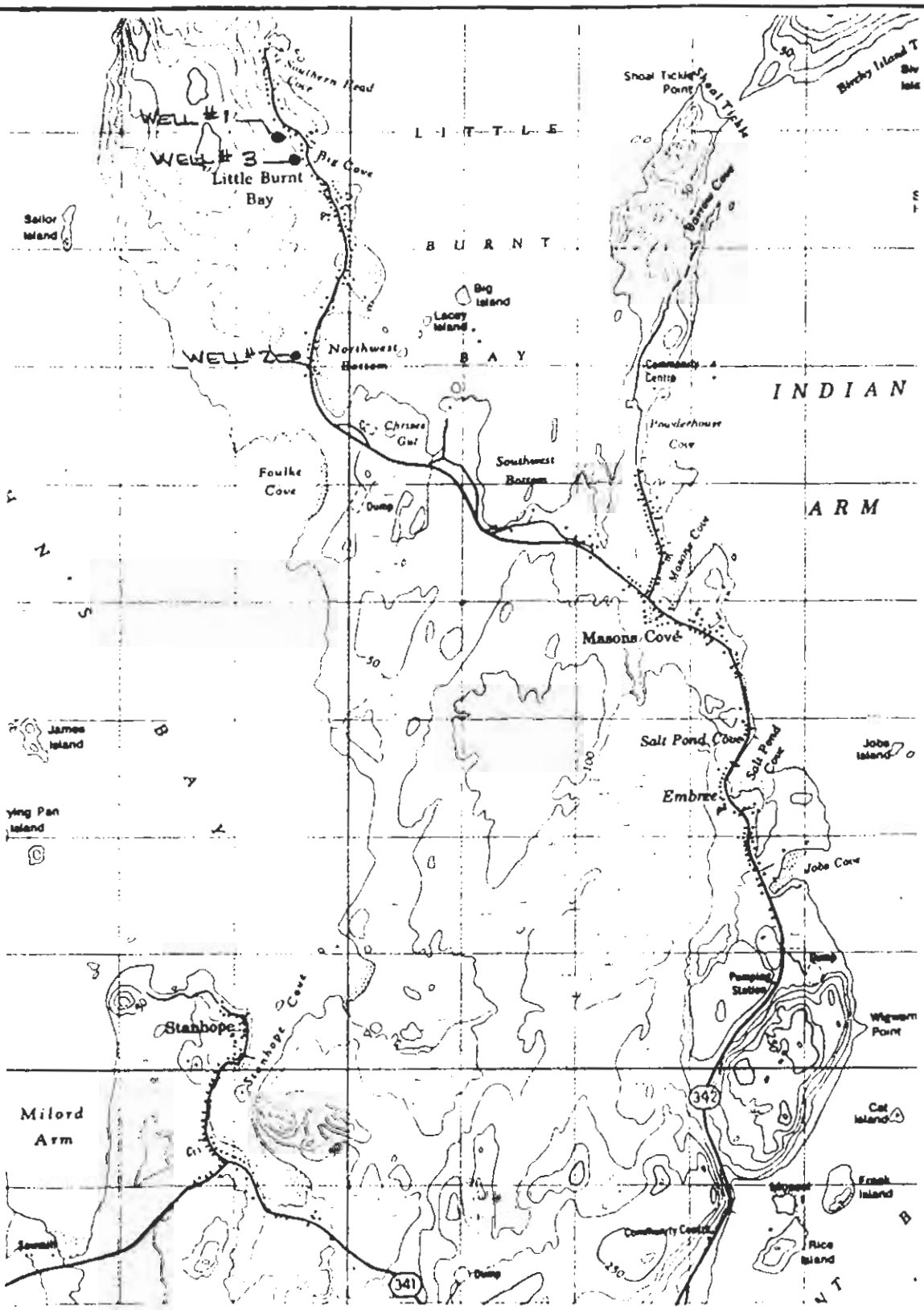
Well #2 - no information.

Well #3 was drilled in 1990.

**OTHER COMMENTS**

A water and sewer system was being installed at the time of the study.

The Capital funding for Phase 1 of the town's municipal water and sewer plan 1990 was $500,000. Phase 5 would provide for construction of pumping and storage facilities to be developed on Well #3. A gravity sewer system will discharge untreated effluent directly into the harbour.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LITTLE BURNT BAY

**LOON BAY**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 200 ± |
| Number of Homes | : | 64 homes, 58 cabins |
| Homes Serviced | : | All |
| Information Source(s) | : | Chairman - Harold Goodyear |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface (intake in stream) |
| Supply Reservoir | : | Section of river on Long Pond watershed diverted to an earth fill intake reservoir. |
| Drainage Area(Ha) | : | 7400 |
| Firm Yield($m^3$/day) | : | 9977 |

**EXISTING STRUCTURES**

No dam, one pumphouse adjaceant the river in fair structural condition.

**Delivery System**

Two 5 HP centrifugal pumps alternate to deliver water to 50 and 75 mm diam. polyethylene distribution pipes. The adequacy of the delivery system is marginal, hence increased pumping capacity would give limited increase in supply to residences.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Presently adequate. The main river has a large drainage area feeding into it; however, the diverted pool is in need of some remedial work to ensure adequate cover over the intake pipe during low flow.

**Potential for Increased Supply**

Remedial work on the diverted pool would ensure more than adequate supply to meet projected domestic demand.

**REPORTED DEMAND**

**Domestic**

64 homes, 58 cabins

**Industrial/Institutional/Commercial**

1 church, 1 school, 1 commercial property, 1 fire hall under construction.

**Metering/Cost**

The latest annual operating and maintenance cost is $5,356.82. The domestic water rate is $60/year.

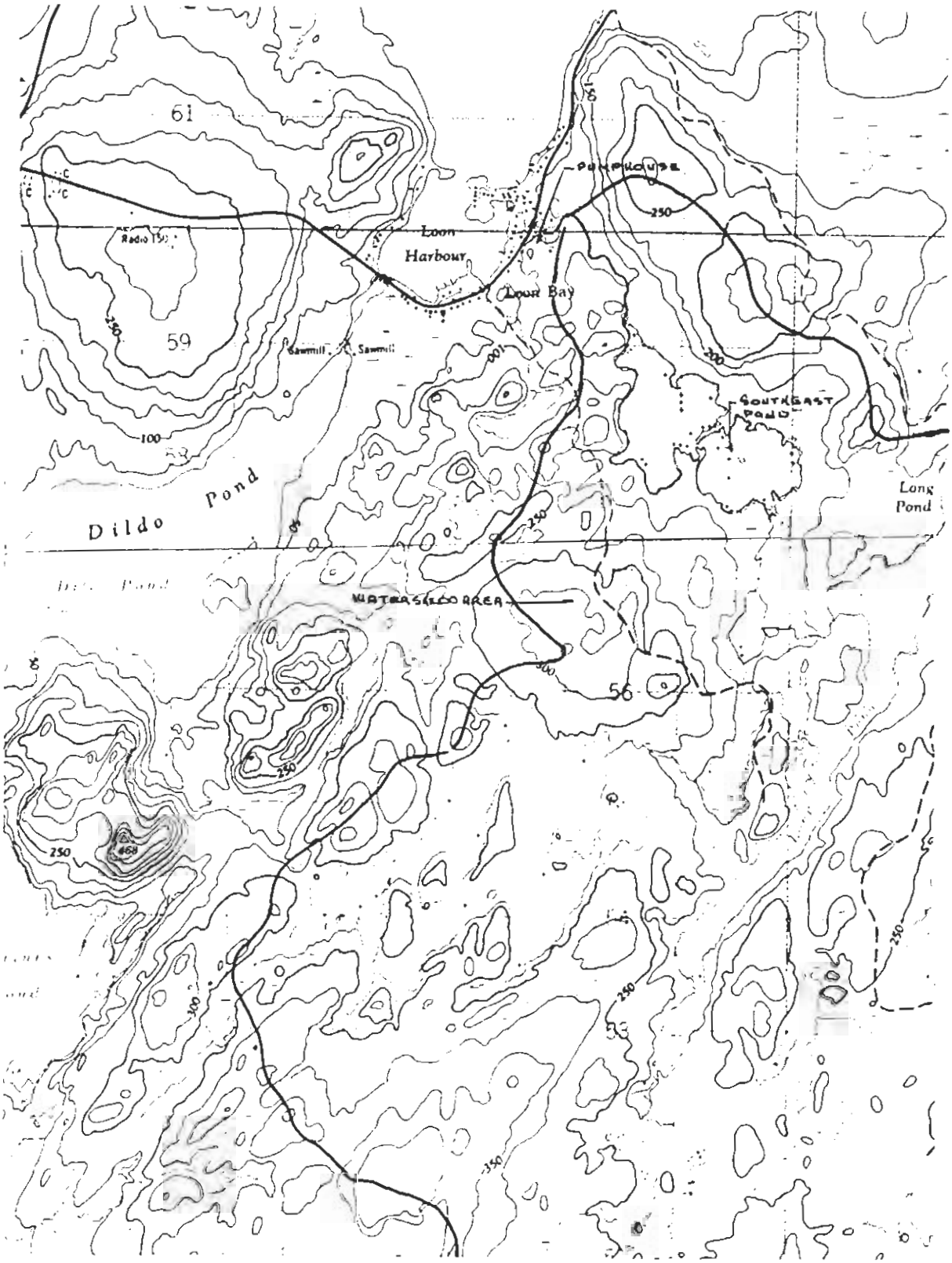
**Losses/Wastage**
None reported

**WATER QUALITY**
**Treatment Method**
Hypochlorination system

**Reported Quality**
Satisfactory

**WASTEWATER DISPOSAL**
Private septic systems

#8Ax:LoonBay




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

LOON BAY

**LUSHES BIGHT - BEAUMONT - BEAUMONT NORTH**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 450 |
| Number of Homes | : | 142 |
| Homes Serviced | : | 50% water, 10 homes have combined water and sewer in Lushes Bight |
| Information Source(s) | : | Mayor - Tony Croucher |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Gull Pond |
| Pond Area(Ha) | : | 4 |
| Drainage Area(Ha) | : | 55 - Includes drainage area for Milkboy Cove Pond which has been diverted into Gull Pond watershed through construction of a small earth fill dam across its outlet stream at the south end of the pond. |
| Live Storage (m) | : | 2 |
| Firm Yield($m^3$/day) | : | 746 |
| Intake Location | : | 200 mm diam. intake pipe and screen chamber located on the north side of Gull Pond |

**EXISTING STRUCTURES**

There is an earthfill dam with a concrete spillway in good condition and a chlorination building.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.0 |
| Dam Crest Elevation (m) | : | 174.6 |
| Dam Length(m) | : | 150.0 |
| Spillway Elevation(m) | : | 173.7 |
| Spillway X section(m) | : | 1.9 x 0.9 |

**Delivery System**

The water supply system is gravity fed through a 200 mm diam. distribution main. Phase 6 of a proposed 9-phase Municipal Service project has been completed.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate

**Potential for Increased Supply**

The existing dam on Gull Pond could be raised an additional 1 m.

**REPORTED DEMAND**

**Domestic**

142 homes, 70 serviced

**Industrial/Institutional/Commercial**

3 churches (1 serviced), 1 school, 1 medical facility, 1 fire hall, 1 fish plant (which uses salt water).

**Metering Cost**

A flow meter is installed in the chlorination building. No operating and maintenance costs are available. The domestic water rate is $144/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

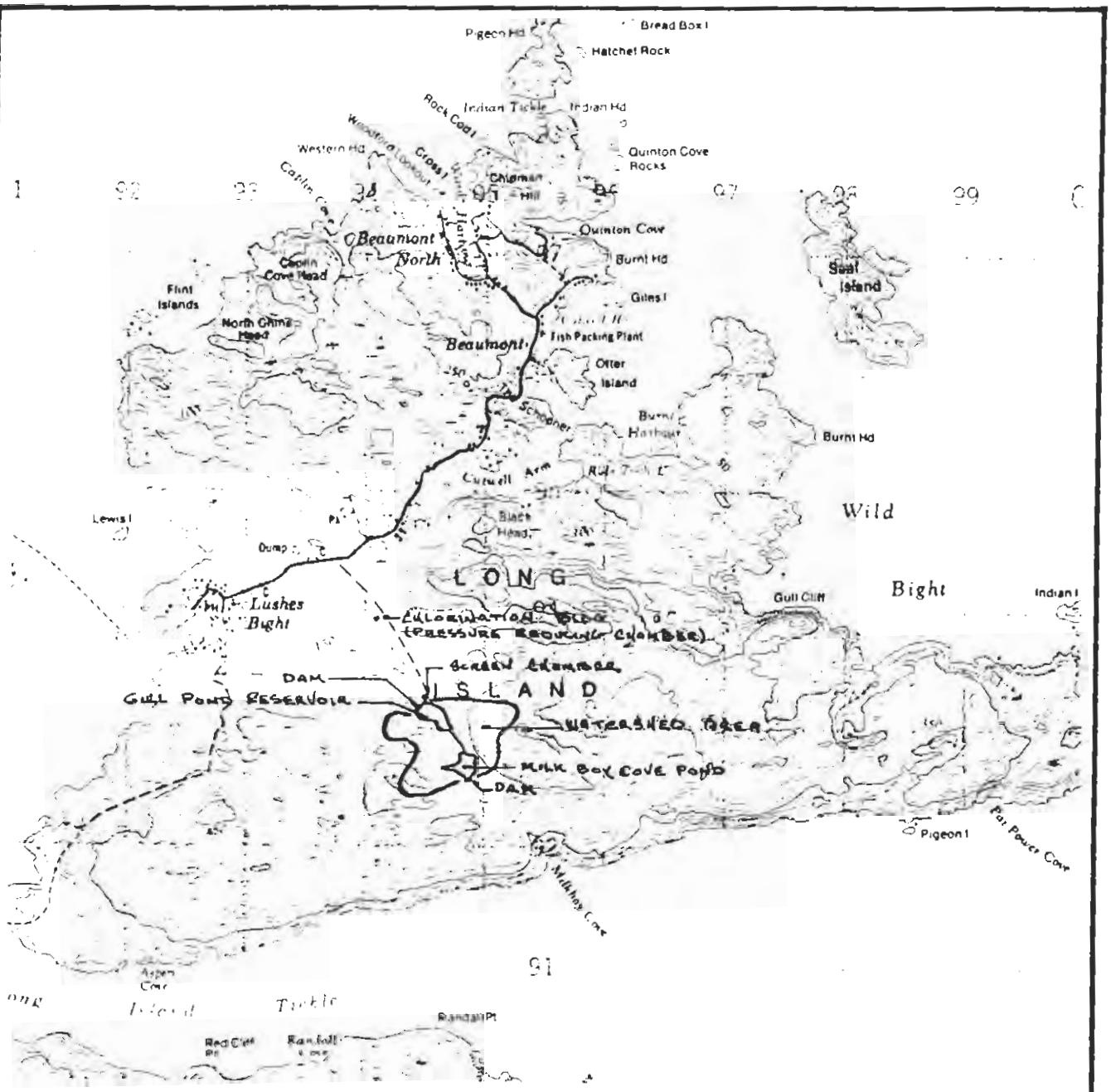
Satisfactory

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None identified

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To Lushes Bight Harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not available |
| Sewer Rates($/yr) | : | $72 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA — CENTRAL NEWFOUNDLAND REGION.

LUSHES BIGHT - BEAUMONT - BEAUMONT NORTH

**MERRITTS HARBOUR**

| | | |
|---|---|---|
| Status | : | Unincorporated |
| Population | : | 100 ± |
| Number of Homes | : | 24 |
| Homes Serviced | : | 24 |
| Information Source(s) | : | Water Supply Committee Chairman - Frank Powell |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Jimmy's Pond |
| Pond Area(Ha) | : | 3.6 |
| Drainage Area(Ha) | : | 30.0 |
| Live Storage (m) | : | 2.4 |
| Firm Yield($m^3$/day) | : | 766 |
| Intake Location | : | North end of Pond |

**EXISTING STRUCTURES**

An earth filled dam was built in 1971-72 and is in fair condition. There is no spillway. A pumphouse located on the shoreline of Jimmy's Pond is equipped with a small centrifugal pressure pump, hypochlorinator, and 3240 L capacity pneumatic tank. The pumphouse structure is in fair condition.

**Delivery System**

A 1 HP pump feeds a 50 mm distribution line.

**Status of Watershed Protection**

The watershed area is not protected.

**Reported adequacy of Supply**

The supply is adequate to meet projected domestic demand.

**REPORTED DEMAND**

**Domestic**

24 homes

**Industrial/Institutional/Commercial**

1 church

**Metering/Cost**

The cost of operating and maintaining the system is $1,000/year. All labour is voluntary. The domestic water rate is $84/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

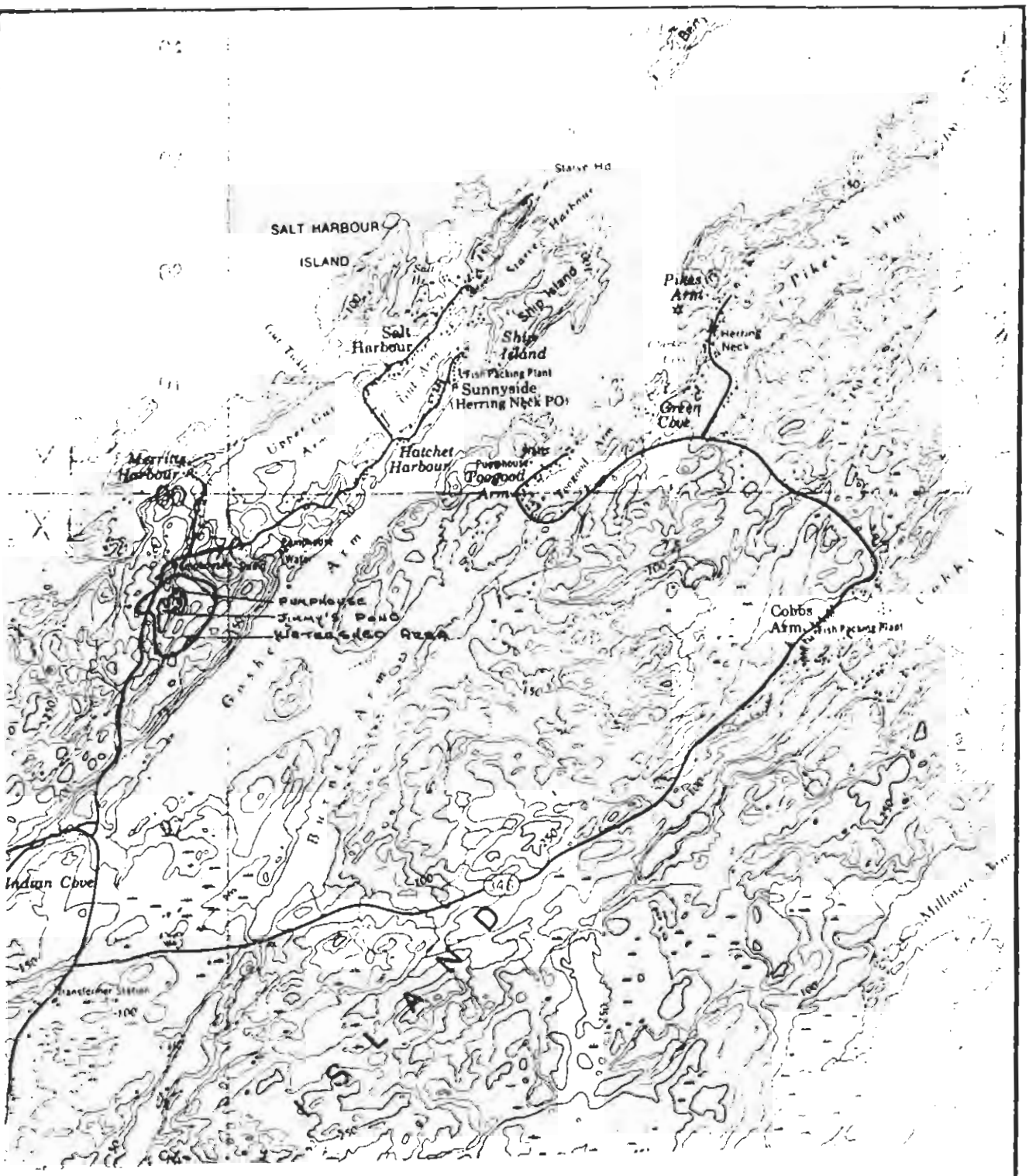
**Treatment Method**

Liquid chlorine

**Reported Quality**
Satisfactory

**WASTEWATER DISPOSAL**
Residential septic tanks

#8Ax:MrrtsHbr




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MERRITTS HARBOUR

**MIDDLE ARM**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 720 |
| Number of Homes | : | 165 |
| Homes Serviced | : | 75% of homes have water and sewer; 25% have only water |
| Information Source(s) | : | Mayor - Charlie Bursey<br>Clerk - Anita Mitchell |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Dam Pond |
| Storage Area(Ha) | : | 0.072 |
| Drainage Area(Ha) | : | 1585.0 |
| Live Storagae (m) | : | 2.7 |
| Firm Yield($m^3$/day) | : | 2153 |
| Intake Location | : | Immediately upstream of dam structure on Dam Pond Brook |

**EXISTING STRUCTURES**

Concrete dam built in 1985 is in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 6 |
| Dam Crest Elevation (m) | : | 50 Geodetic |
| Dam Length(m) | : | 19 |
| Spillway Elevation(m) | : | 49 |
| Spillway X section(m) | : | 2.6 x 1.0 |

A chlorination building is located downstream on the supply main prior to residential servicing.

**Delivery System**

With the exception of homes on higher ground, the system is gravity fed. An in-line booster pumping station supplies homes at elevations above the dam structure.

**Status of Watershed Protection**

The watershed is not protected and the community does not have water rights.

**Reported adequacy of Supply**

The quantity of water supplied by the present system is adequate to meet the needs of the community. However, the fish plant has experienced some problems with inadequate supply.

**Potential for Increased Supply**

Placing a dam control structure on Dam Pond would enable the town to regulate flow during peak periods when the fish plant is in operation.

**REPORTED DEMAND**

**Domestic**

165 residences

**Industrial/Institutional/Commercial**

2 out of 3 churches are serviced, 2 schools of 400 students, 4 commercial properties, 1 medical facility, 1 fish plant, 1 fire hall are serviced.

**Metering/Cost**

The expenditure on water supply by the community was $12,100 in 1989. The domestic water rate is set at $72/year. Water and sewer is $120/year.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Observations/Problems**

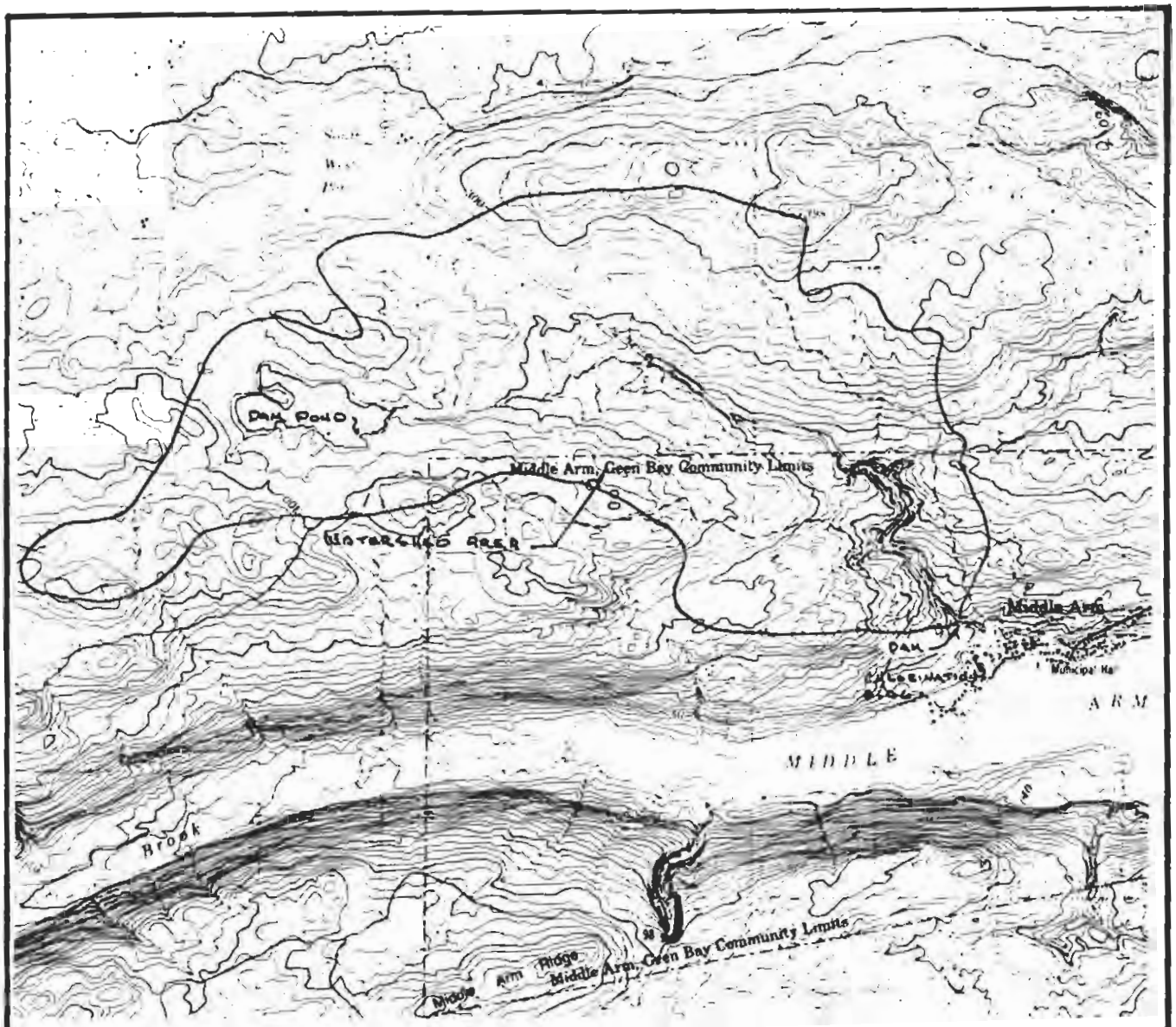
Water quality is generally good, though occasionally the water is coloured. The town should meter the fish plant to obtain a more accurate indication of industrial demand.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Latest cost $2,700 |
| Sewer Rates($/yr) | : | Water and sewer $120 |

**OTHER COMMENTS**

The community is requesting financial assistance from the Dept. of Municipal & Provincial Affairs to extend the existing sewer system to unserviced areas.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MIDDLE ARM

**MILES COVE**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 240 |
| Number of Homes | : | 60 |
| Homes Serviced | : | 60 |
| Information Source(s) | : | Town Clerk - Nellie Reid<br>Council Member - Arthur Hewlett |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Dam on Paddock's Pond River |
| Pond Area(Ha) | : | 0.08 (intake reservoir) |
| Drainage Area(Ha) | : | 90 |
| Live Storage (m) | : | 3 |
| Firm Yield($m^3$/day) | : | 142 |
| Intake Location | : | At dam |

**EXISTING STRUCTURES**

There is a wooden crib dam on the river, in poor condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 4.3 |
| Dam Crest Elevation (m) | : | 60.0 Geodetic |
| Dam Length(m) | : | 18.6 |
| Spillway Elevation(m) | : | 59.6 |
| Spillway X section(m) | : | 3.6 x 0.355 |

**Delivery System**

100 mm diam. intake pipe gravity feeds 75 mm and 50 mm diam. distribution mains throughout the community. The intake pipe is not screened and residences note a significant amount of suspended matter in the supply.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

There is an adequate supply of water to meet the community's projected demand.

**REPORTED DEMAND**

**Domestic**

60 homes

**Industrial/Institutional/Commercial**

1 church, 2 commercial facilities (1 serviced)

**Metering Cost**

The water supply system costs $1200/year to operate and maintain. The domestic water rate is $96/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

The chlorination building is located in the community and consequently chlorine contact time is inadequate.

**Reported Quality**

Water stains clothing when used for washing.

**WASTEWATER DISPOSAL**

Treated : Septic tanks and disposal fields

#10Ax:MilesCv


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MILES COVE

**MILLERTOWN**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 214 |
| Number of Homes | : | 70 |
| Homes Serviced | : | 70 water and sewer |
| Information Source(s) | : | Mayor - Dick Fitzpatrick |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Reservoir pond (not named) |
| Pond Area(Ha) | : | 6 |
| Drainage Area(Ha) | : | 88 |
| Live Storage (m( | : | 2 |
| Firm Yield($m^3$/day) | : | 1127 |
| Intake Location | : | Southwest corner of reservoir pond |

**EXISTING STRUCTURES**

An earthfill dam and concrete screening chamber were under construction at the time of the study. A chlorination building has already been constructed. The new screening chamber has a 300 mm diam. intake pipe and 200 mm diam. discharge line.

**Delivery System**

The system gravity feeds a 100 mm distribution main.

**Metering Cost**

Not available

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

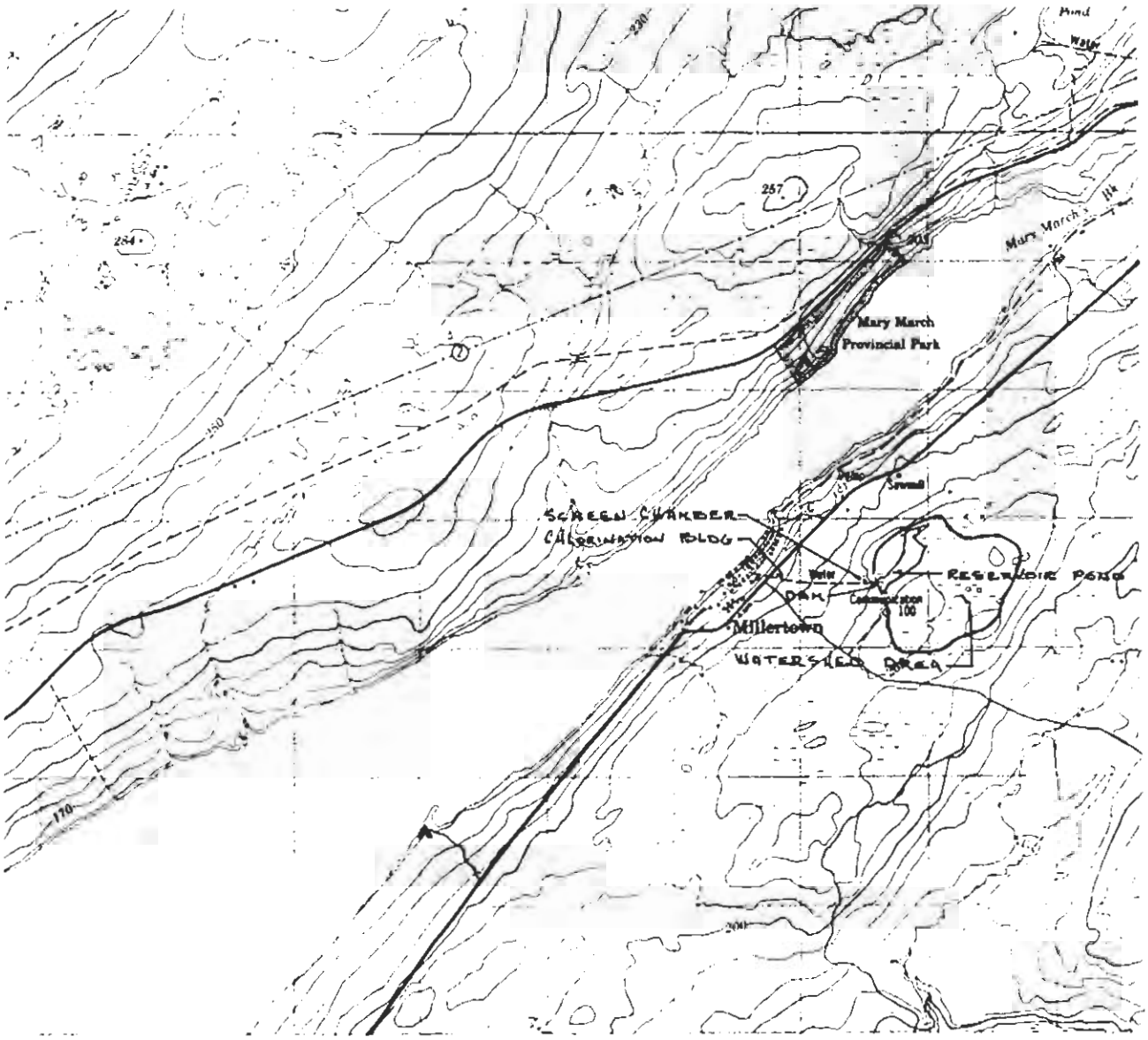
Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Yes, sewage treatment plant |
| Discharge | : | Red Indian Lake |
| Permitted | : | Yes |

**OTHER COMMENTS**

Much of the relevant information was unavailable at the time of the study.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MILLERTOWN

**MING'S BIGHT - SOUTH BROOK**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 445 |
| Number of Homes | : | 119 |
| Homes Serviced | : | 119 |
| Information Source(s) | : | Town Clerk - G. Regular<br>Maint. Man - Sam Decker |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Middle Brook Pond |
| Pond Area(Ha) | : | 6.0 |
| Drainage Area(Ha) | : | 225.0 |
| Live Storage (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 1211 |
| Intake Location | : | East side of Middle Brook Pond |

**EXISTING STRUCTURES**

A 16-year-old wooden dam is in poor condition (rotten) and has never been repaired. A chlorination building was constructed 1000 m downstream but not in use.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.2 |
| Dam Crest Elevation (m) | : | 121.9 |
| Dam Length(m) | : | 25.0 |
| Spillway Elevation(m) | : | 121.3 |
| Spillway X section(m) | : | 1.0 x 0.6 |

**Delivery System**

The system is gravity fed from a 200 mm diam. intake through 100 mm main to the chlorination building, thence through a section of 200 mm supply line and into a 150 mm diam. distribution main.

**Status of Watershed Protection**

An application has been submitted for watershed protection.

**Reported adequacy of Supply**

More than adequate to meet projected demand.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

119 homes

**Metering Cost**

No operating and maintenance costs were provided. The domestic water rate is $96/year.

**Losses/Wastage**

None reported.

**WATER QUALITY**

**Treatment Method**

Simple chlorination (not yet on stream)

**Reported Quality**

Water tastes 'boggy' when the pond level is high. Electrical for the chlorination building is $18/month. Chlorine is not hooked into system.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | 40% of the wastewater is treated at a sewage treatment plant. The remaining 60% is handled by septic tanks. |
| Discharge | : | To harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $612 |
| Sewer Rates($/yr) | : | $156 water and sewer |


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MING'S BIGHT

**MORETON'S HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 260 |
| Number of Homes | : | 100 |
| Homes Serviced | : | None |
| Information Source(s) | : | Chairpersosn - M. Knight |

**EXISTING WATER SUPPLY**

Type : Private wells

**REPORTED DEMAND**

**Domestic**

100 homes

**Industrial/Institutional/Commercial**

1 commercial facility, 1 community fishing stage

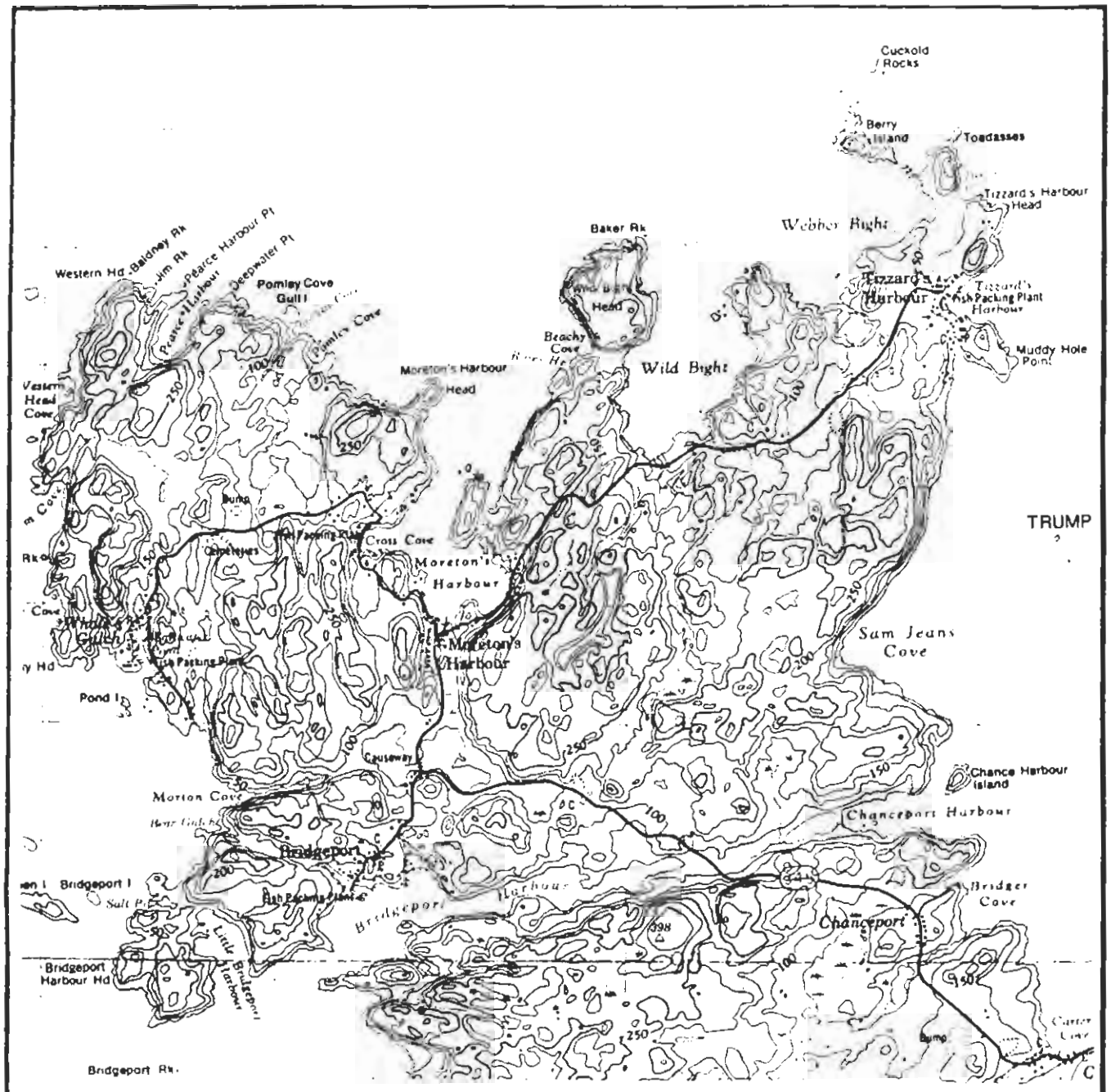
**WASTEWATER DISPOSAL**

Treated : Septic tanks, some have effluent waste to the ocean

**GROUNDWATER**

Three community wells have been drilled but never used as water supplies. Six or seven private wells have been drilled in the community. About 65% of the residents get their water in buckets.

Davis Engineering report, 1990, recommended the expenditure of funds to do three drilled test wells and construct wellhouses and storage tanks for a community supply. The Committee is actively seeking financial assistance from the Provincial Government to carry out this work.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

MORETON'S HARBOUR

**NEWVILLE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 200 |
| Number of Homes | : | 55 |
| Homes Serviced | : | None |
| Information Source(s) | : | Chairperson - I. Reid |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface (proposed) |
| Supply Point | : | Beaver Pond |
| Pond Area(Ha) | : | 10 |
| Drainage Area(Ha) | : | 56 |
| Live Storage (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 225 |
| Intake Location | : | |

**Other Observations/Reported Problems**

In 1984 the community received a $100,000 Grant to place a 100 mm waterline from Beaver Pond to the settlement; and also received $30,000 funding from the Provincial Government to build a pumphouse. The line was put in place and the pumphouse built. However, no provision was made to tie the pumphouse into the source at Beaver Pond. The community has not received additional funding to complete the project. As a result, many residents have to go to a local spring with buckets to get water during dry periods.

**REPORTED DEMAND**

**Domestic**

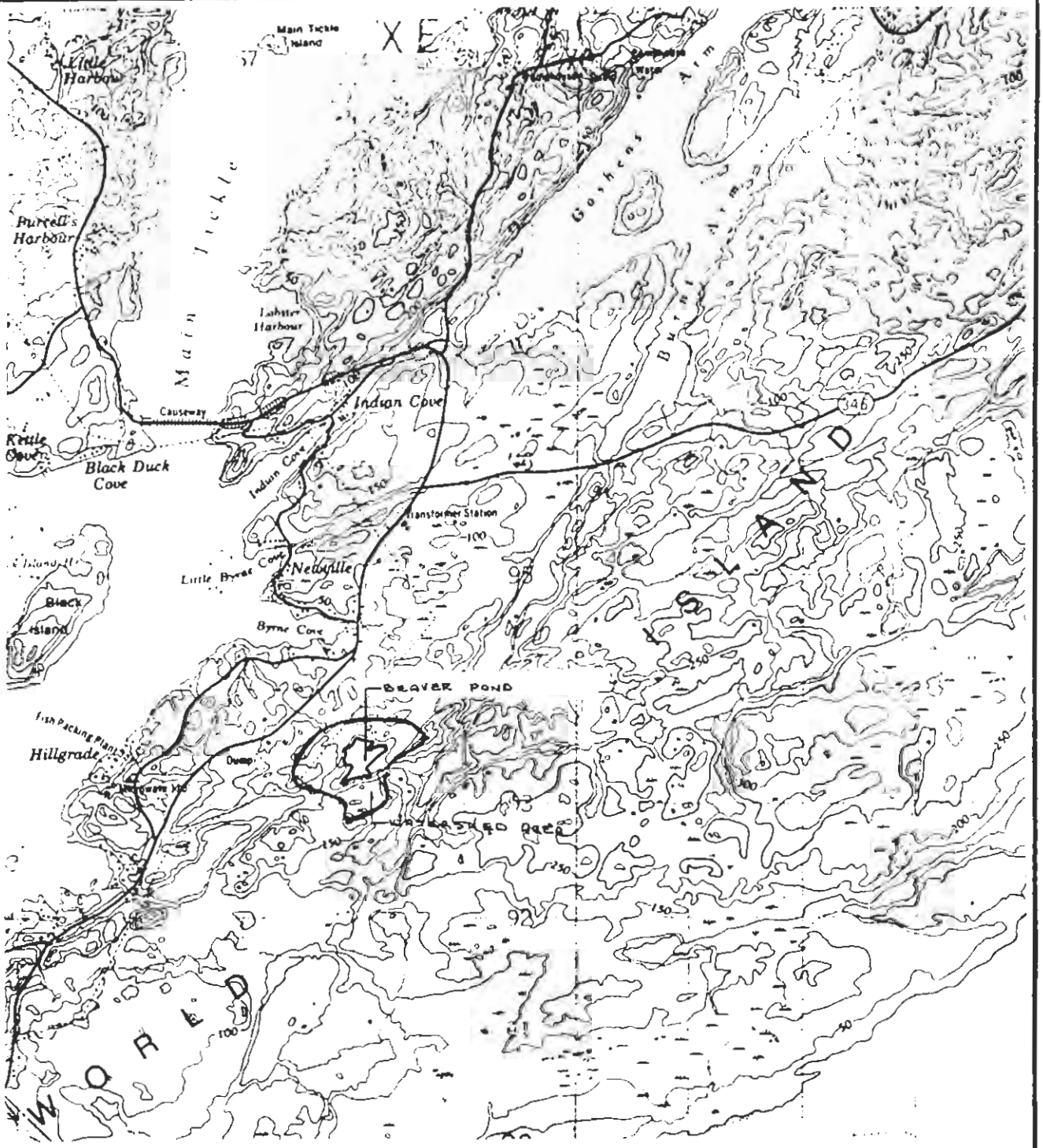
55 homes

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Septic tanks/fields |

**OTHER COMMENTS**

Assuming additional funds are made available to complete intake works at Beaver Pond, the watershed is capable of supplying the community's projected domestic demand. In anticipation of remaining works being completed, an application should be submitted for watershed protection.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

NEWVILLE

**NIPPERS HARBOUR**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 275 |
| Number of Homes | : | 85 |
| Homes Serviced | : | 85 (water and sewer) |
| Information Source(s) | : | Deputy Mayor - Boyce Noble<br>Town Clerk - Elizabeth Prole |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface; Blackhead Pond Watershed |
| Supply Point | : | Dam structure on Blackhead Pond Brook |
| Reservoir Area (Ha) | : | 0.24 |
| Drainage Area(Ha) | : | 240 |
| Live Storage (m) | : | 2.5 |
| Firm Yield($m^3$/day) | : | 324 |
| Intake Location | : | 150 mm diam. intake at proposed new dam structure on Blackhead Pond Brook |

**EXISTING STRUCTURES**

Concrete dam built in 1971 is to be demolished. A larger dam will be built upstream of the existing one. All work is on hold until spring 1991. New chlorination system will be a part of the improvements put in place for 1991.

**Proposed Dam**

| | | |
|---|---|---|
| Dam Height (m) | : | 3.0 |
| Dam Crest Elevation (m) | : | 96.2 Geodetic |
| Dam Length (m) | : | 16.0 |
| Spillway Elevation (m) | : | 95.7 |
| Spillway x Section (m) | : | 0.5 x 2.1 |

**Status of Watershed Protection**

The watershed is not protected, nor does the community have water rights.

**Reported adequacy of Supply**

The stream discharge in conjunction with an existing very small reservoir capacity, is inadequate during summer dry periods and occasionally during winter months to meet existing domestic demand.

**Potential for Increased Supply**

The proposed new dam will satisfy the projected domestic demand but only marginally. Relative to the existing population it is doubtful that the new facility will provide an adequate yield to meet demand.

**Other Observations/Reported Problems**

As noted, the current supply system is inadequate.

**REPORTED DEMAND**

**Domestic**

85 homes are serviced

**Industrial/Institutional/Commercial**

1 out of 3 churches, a school of 40 people, 2 commercial properties, 1 medical facility, and 1 fire hall are serviced with water. The fish plant has its own water supply.

**Metering/Cost**

The water supply is not metered. A cost of $4,500 was incurred last year to operate and maintain the water supply system. This high cost was incurred due to labour and pumping from Long Pond to Blackhead Pond. The residential water rate is $96/year.

**Losses/Wastage**

None reported

**Reported Observations/Problems**

The Department of Health has advised that the Community chlorinate the water during low water levels. The Community reports that water quality is satisfactory.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

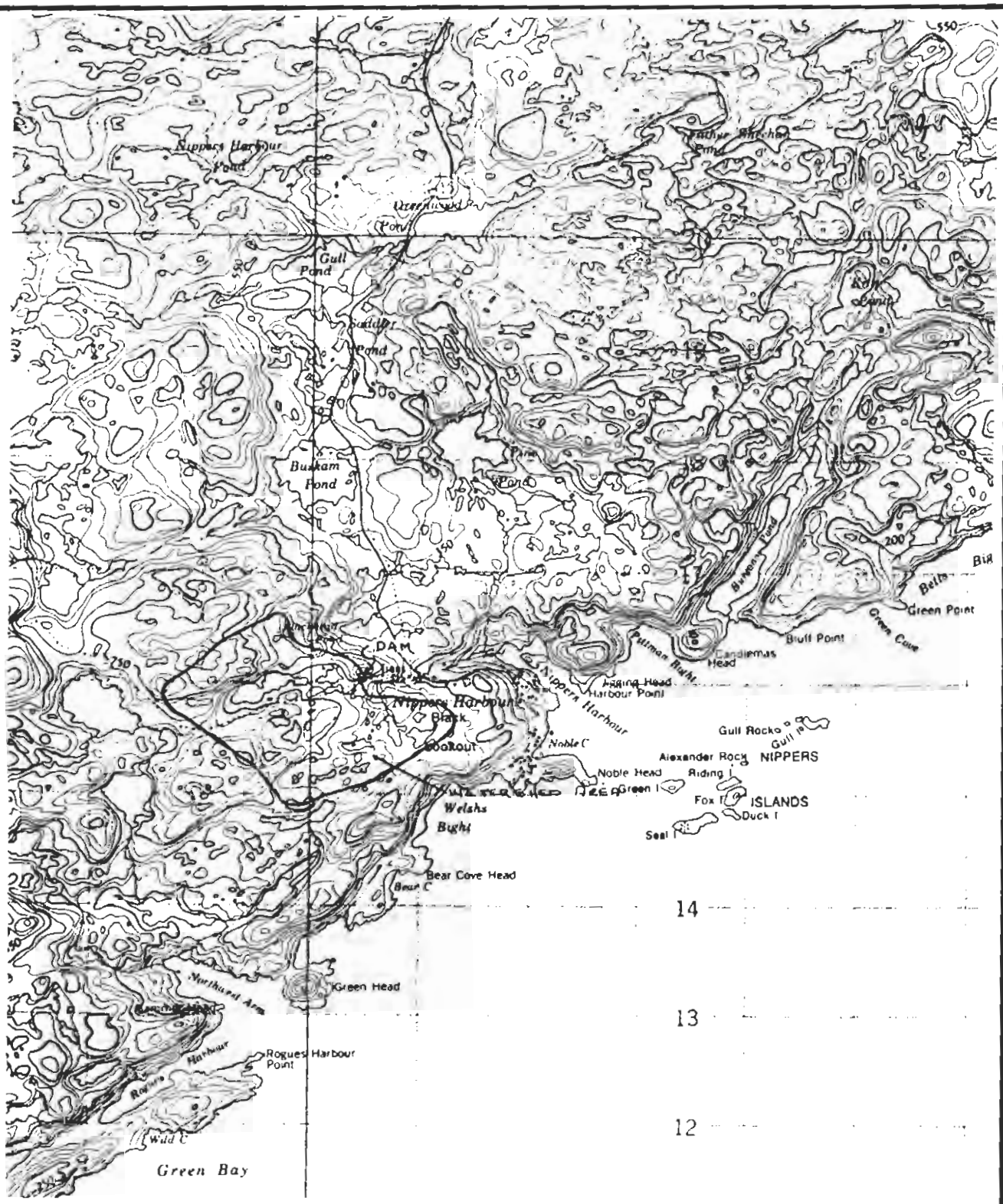
New Capital Works should alleviate any shortcomings present in the existing municipal water services.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | 2 sewage outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $4,320 |
| Sewer Rates($/yr) | : | $ 48 |

**OTHER COMMENTS**

The town has 6 lift stations and a comminutor station on its sewer system.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

NIPPERS HARBOUR

**NORRIS ARM**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,127 |
| Number of Homes | : | 387 |
| Homes Serviced | : | 387 (water and sewer) |
| Information Source(s) | : | Mayor - J. Colbourne<br>Town Manager - Betty Saunders |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Mill Lake |
| Pond Area(Ha) | : | 55 |
| Drainage Area(Ha) | : | 315 |
| Live Storage (m) | : | 3 |
| Firm Yield($m^3$/day) | : | 14289 |
| Intake Location | : | Northeast end of Mill Lake |

**EXISTING STRUCTURES**

Delivery system has a screening chamber 30 m downstream from the Lake and a chlorination building located midway between Mill Lake and the Trans-Canada Highway.

**Delivery System**

The system is gravity fed through a 200 mm diam. supply line, reducing to 150 and 100 mm diam. distribution mains in town.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate

**Potential for Increased Supply**

The supply can adequately take care of projected domestic requirements in the town.

**REPORTED DEMAND**

**Domestic**

387 serviced homes

**Industrial/Institutional/Commercial**

5 churches, 2 schools, 8 commercial facilities, 1 medical facility, and 1 fire hall. All are serviced.

**Metering Cost**

The latest operating and maintenance cost for the water supply system is $18,438/year. The domestic water and sewer rate is $216/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

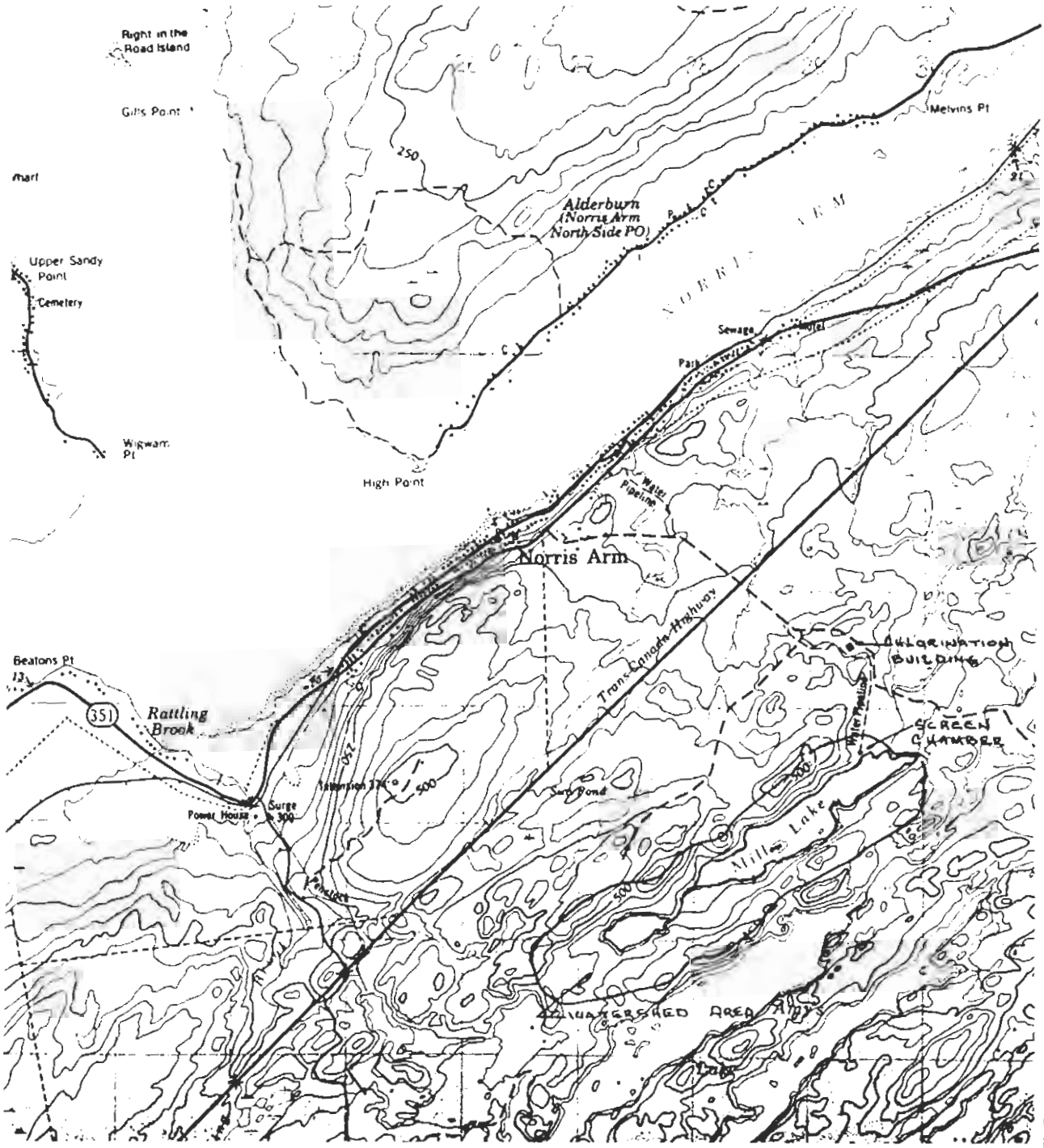
The chlorination building constructed in 1974 had a new gas chlorination system put in place in 1988.

**Reported Quality**

Good

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Treatment system presently undergoing repairs. |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $34,000 |
| Sewer Rates($/yr) | : | Water and sewer $216 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

NORRIS ARM

**NORRIS ARM NORTH**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300 |
| Number of Homes | : | 100± |
| Homes Serviced | : | None |
| Information Source(s) | : | Chairman - Robert Menchenton |

**EXISTING WATER SUPPLY**

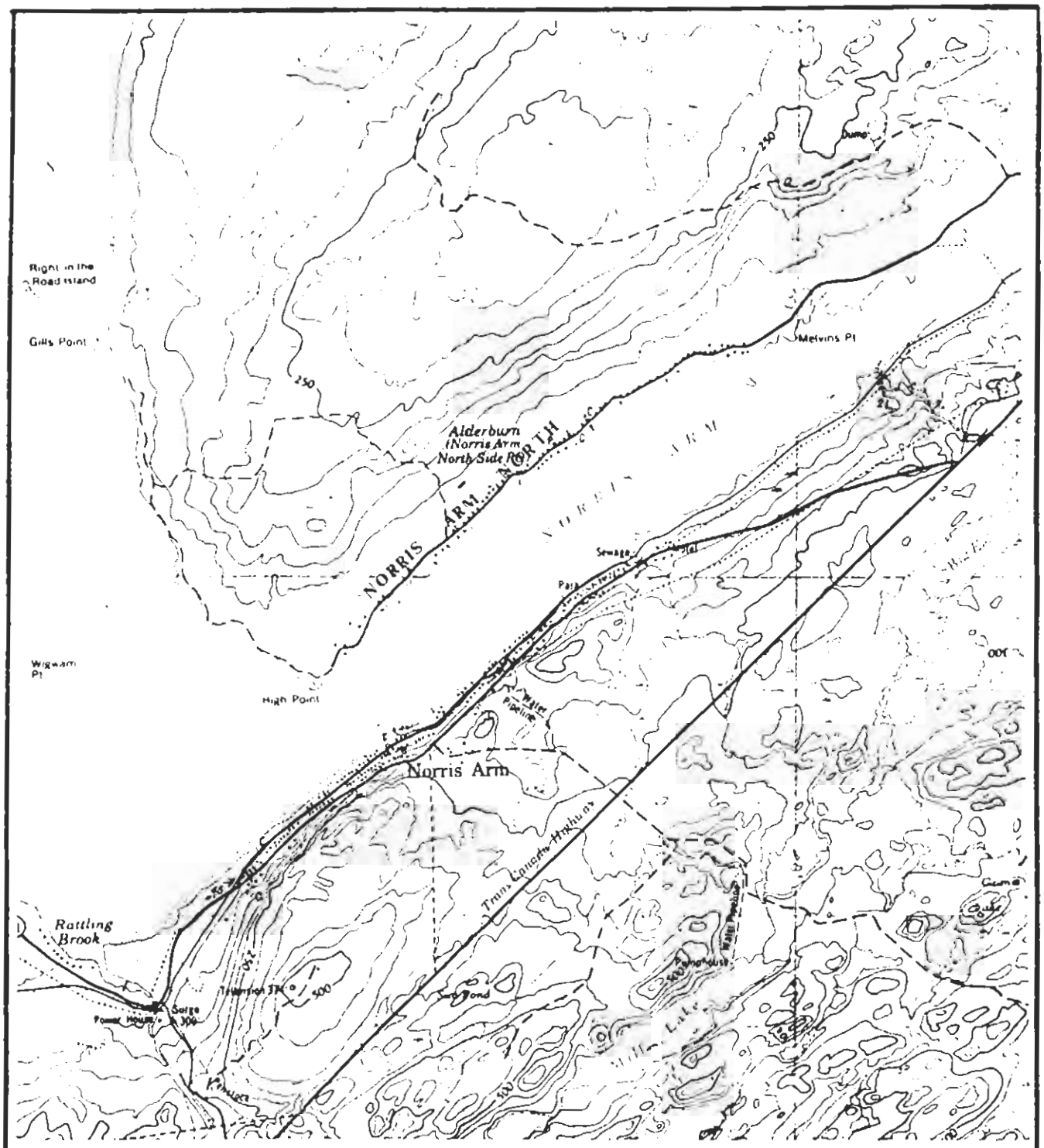
Type : Groundwater (shallow and private drilled wells)

**Comments**

There were a few community wells drilled in the 1960s that were used by residents but all are abandoned. The Local Service District is lobbying Government to have new wells drilled for a water supply system to help alleviate the shortages that occur each year.

**WASTEWATER DISPOSAL**

Septic tanks




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

NORRIS ARM N.

**NORTHERN ARM**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 500 ± |
| Number of Homes | : | 125 |
| Homes Serviced | : | 95% |
| Information Source(s) | : | Town Clerk - E. Humphries<br>H.T. Kendall & Assoc Ltd - T. Kendall |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point (Reservoir Dam) | : | 0.05 |
| Source Pond Area(Ha) | : | 28.00 (Muddy Hole Pond) |
| Drainage Area(Ha) | : | 185.00 |
| Live Storagae (m) | : | 2.1 (reservoir); 1.0 (control structure on Muddy Hole Pond) |
| Firm Yield($m^3$/day) | : | 2611 |
| Intake Location | : | 100 mm intake line gravity feeds into screening chamber and 100 mm diam. supply main |

**EXISTING STRUCTURES**

Muddy Hole Pond has a 135 m long earth fill dam with a 6 m x 1 m combination spillway/water level control structure. The storage reservoir, built in 1989, is concrete and is in good condition. There is 1.5 m of water at the earth fill dam on Muddy Hole Pond.

**Reservoir Dam**

| | | |
|---|---|---|
| Dam Height (m) | : | 2.8 |
| Dam Crest Elevation (m) | : | 66.5 Geodetic |
| Dam Length(m) | : | 37.3 |
| Spillway Elevation(m) | : | 66.1 |
| Spillway X section(m) | : | 3.0 x 0.4 |

**Delivery System**

The delivery system has 100 mm diam. supply main which, although adequate for domestic service, is inadequate for fire protection.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The source supply is adequate for the present and projected growth.

**Potential for Increased Supply**

There is limited potential for increasing the amount of water because of the limited drainage area.

Modification of the existing dam on Muddy Hole Pond providing for installation of stop-logs would ensure year-round minimal flows at the downstream reservoir dam.

**Other Observations/Reported Problems**

Chlorination building should be winterized.

**REPORTED DEMAND**

**Domestic**

125 homes serviced

**Industrial/Institutional/Commercial**

1 unserviced church, 3 commercial facilities, 1 fire hall.

**Metering Cost**

Operating and maintenance cost is $2,000/year. The domestic water rate is set at $144/year.

**WATER QUALITY**

**Treatment Method**

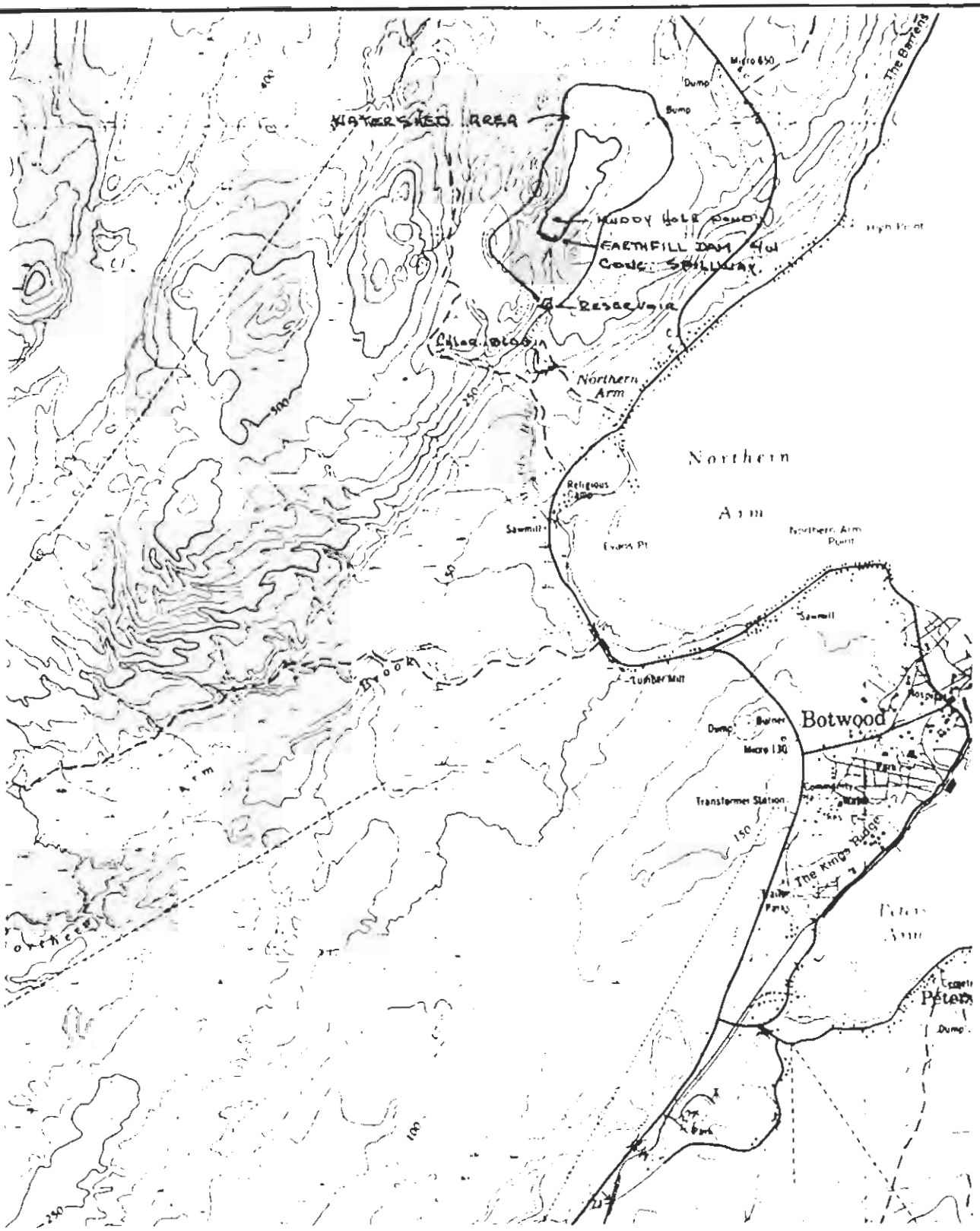
Liquid chlorine is injected into the 100 mm diam. PVC supply main at a chlorination building approximately 300 m downstream of Reservoir Dam.

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

Treated : Septic tanks and tile fields




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

NORTHERN ARM

**PACQUET**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 350 |
| Number of Homes | : | 109 |
| Homes Serviced | : | 74 water and sewer, 35 to be serviced |
| Information Source(s) | : | J. Sacrey |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Big Brook Dam |
| Reservoir Area(Ha) | : | 0.036 |
| Drainage Area(Ha) | : | 1920 |
| Live Storage (m) | : | 0.45 |
| Firm Yield($m^3$/day) | : | 2589 |
| Intake Location | : | Big Brook Pond |

**EXISTING STRUCTURES**

A concrete dam, still in good condition, was built 8 years ago. There is also a chlorination building which is in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.0 |
| Dam Crest Elevation (m) | : | 54.9 Geodetic |
| Dam Length(m) | : | 6.0 |

**Delivery System**

A 200 mm distribution main, reducing to 100 mm is gravity fed from Big Brook Dam.

**Status of Watershed Protection**

An application has been submitted for watershed protection.

**Reported adequacy of Supply**

The live storage at the dam could be increased if required by raising the dam crest elevation by 3 m.

**Potential for Increased Supply**

There is potential for increasing supply from the present water supply system. Dam could be raised 3 m.

**REPORTED DEMAND**

**Domestic**

109 residences

**Industrial/Institutional/Commercial**

2 churches, 1 school, 1 commercial facility, 1 fire hall, 1 fish plant

**Metering Cost**

No annual costs were available at the time of the survey. The domestic water and sewer rate is $84/year. Operating and maintenance costs are $360/year for water.

**WATER QUALITY**

**Treatment Method**

Chlorine

**Reported Quality**

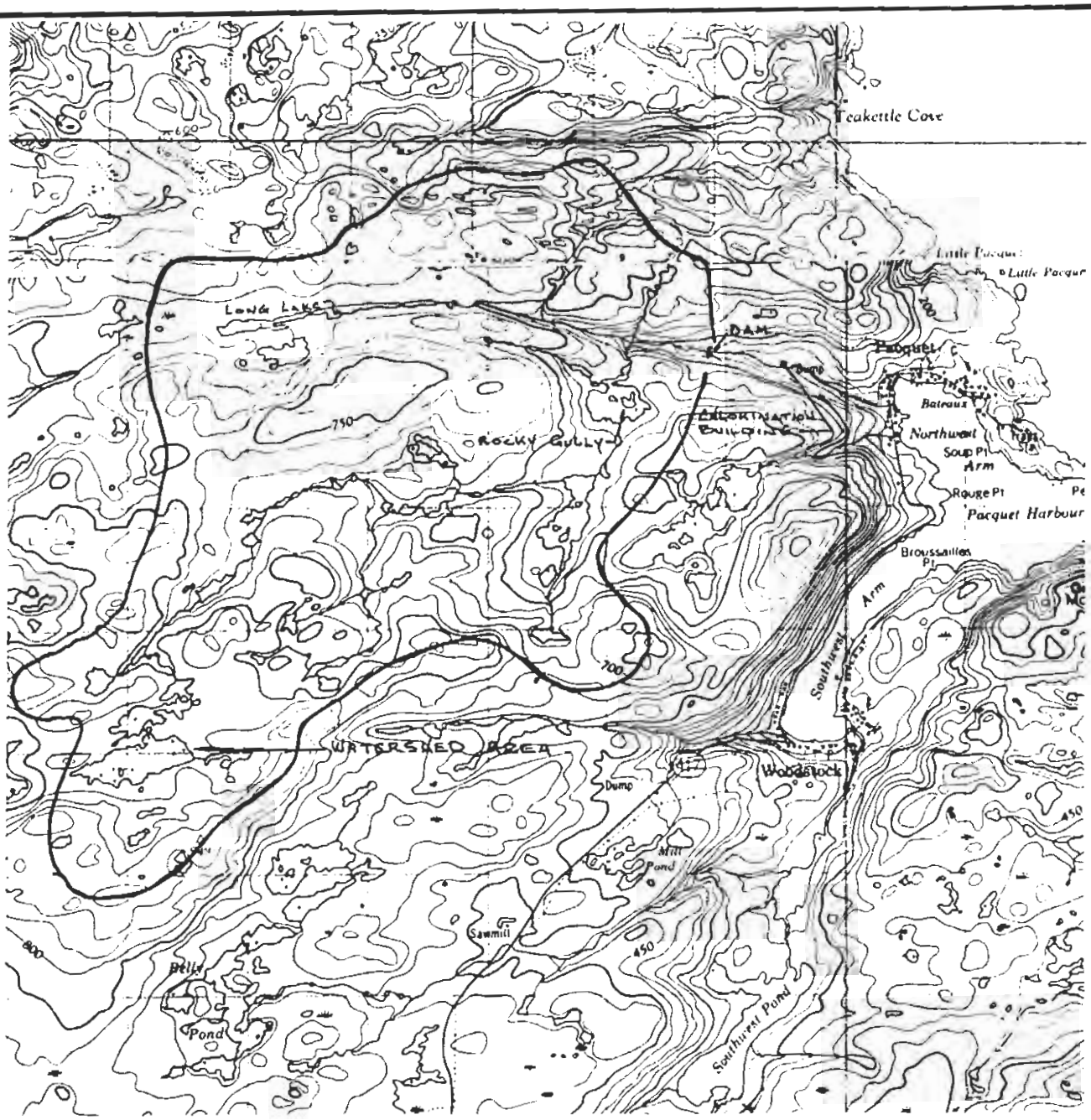
Adequate

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour through 2 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $12,000 |
| Sewer Rates($/yr) | : | $ 36 water and sewer |

**OTHER COMMENTS**

One manhole located at Big Brook mouth is level with high-water mark, resulting in sewer discharge through the manhole cover at high tide.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PACQUET

**PETERVIEW**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,130 |
| Number of Homes | : | 275 |
| Homes Serviced | : | 30% water only, 70% water and sewer |
| Information Source(s) | : | Manager - Venus Samson<br>Maint. Man - Woodrow Hibbs |

**EXISTING WATER SUPPLY**

Type : Purchased from Botwood

**Delivery System**

From Botwood through a 150 mm diam. A.C. watermain.

**Reported adequacy of Supply**

Adequate (see Botwood)

**REPORTED DEMAND**

**Domestic**

275 residences

**Industrial/Institutional/Commercial**

2 churches, 1 school, 6 commercial facilities, 1 fire hall

**Metering Cost**

$22,000/year paid to Botwood plus $9,450 for operating and maintenance; water rate is $132/year per residence; schools, $2.50/person/year.

**WATER QUALITY**

**Treatment Method**

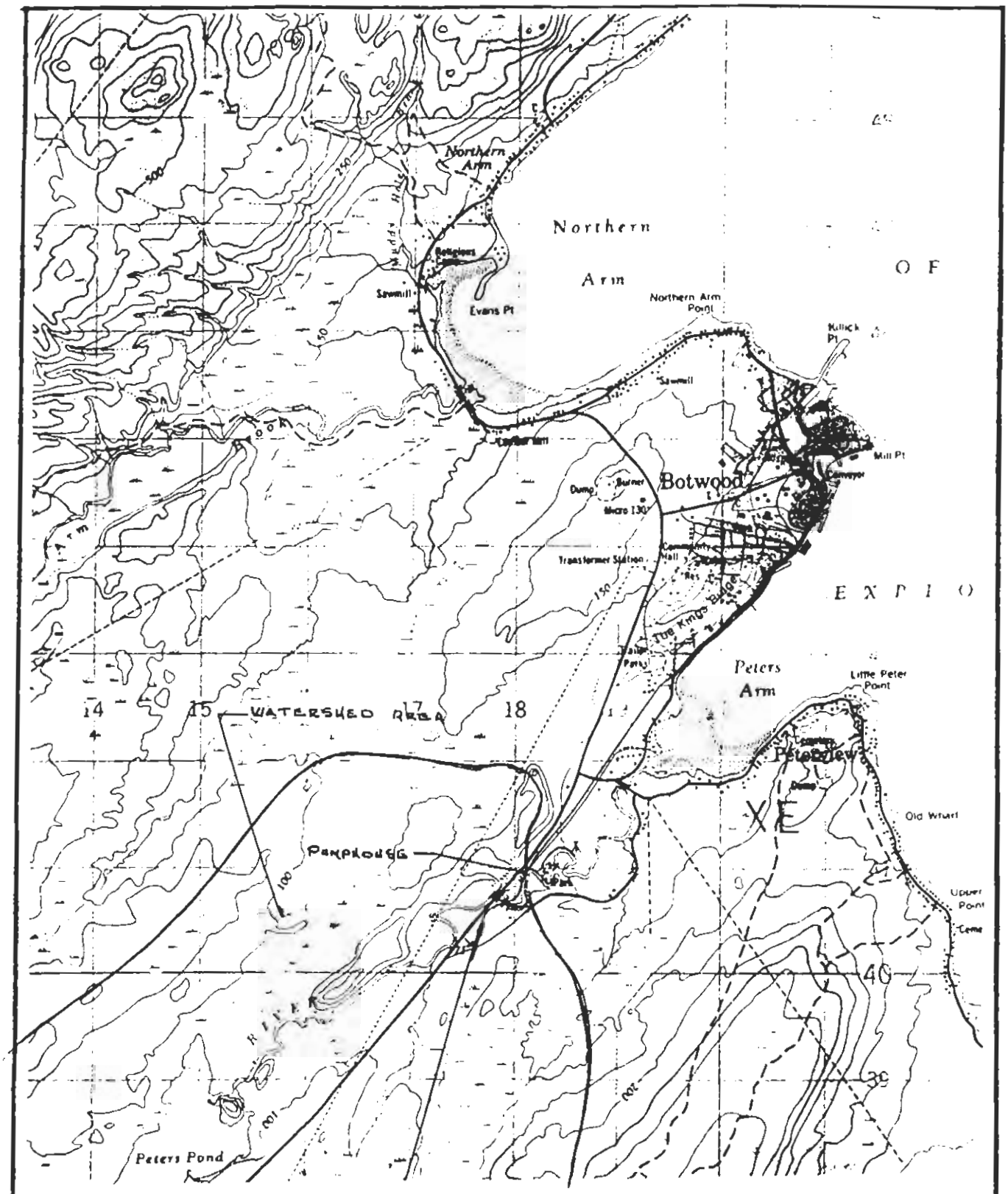
Gas chlorine at Botwood

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean (35 separate outfalls) |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $17,550 |
| Sewer Rates($/yr) | : | $ 48 |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PETERVIEW

**PHILLIP'S HEAD**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 275 |
| Number of Homes | : | 50 |
| Homes Serviced | : | 42 |
| Information Source(s) | : | R. Stride |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface - Rocky Pond watershed |
| Supply Point | : | Dam on Dogberry Brook |
| Reservoir Area (Ha) | : | 0.03 |
| Pond Area(Ha) | : | 2.5 (Rocky Pond); 33.7 (drainage area) |
| Drainage Area(Ha) | : | 157.0 |
| Live Storage (m) | : | 1.0 (reservoir on Dogberry Brook) |
| Firm Yield($m^3$/day) | : | 300 |
| Intake Location | : | At dam structure on Dogberry Brook |

**EXISTING STRUCTURES**

A wooden crib dam was built on Dogberry Brook in 1975 and is in need of repair to prevent leakage. A chlorination house is located 1000 m downstream.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.8 |
| Dam Crest Elevation (m) | : | 49.0 Geodetic |
| Dam Length(m) | : | 15.0 |
| Spillway Elevation(m) | : | 48.4 |
| Spillway X section(m) | : | 1.2 x 0.6 |

**Delivery System**

The water supply is gravity fed from Dogberry Brook Dam through a 75 mm diam. distribution main. Not all homes have curb stops.

**Reported adequacy of Supply**

Water pressure is low during the summer, presumably the result of system head losses through small-diameter mains due to higher demand associated with lawn watering, vs. inadequate stream flow.

**Potential for Increased Supply**

A small dam complete with a control structure designed to provide a minimum live storage of 1 m can be constructed across the outlet stream at Rocky Pond. The additional live storage would be adequate to ensure minimal stream discharge to the Dogberry Brook Reservoir to meet projected domestic demand.

**REPORTED DEMAND**

**Domestic**

42 homes

**Industrial/Institutional/Commercial**

1 church

**Metering Cost**

The water operating and maintenance cost for the water supply system is $720/year. The dam is maintained by volunteers. The domestic water and garbage rate is $192/year.

**Losses/Wastage**

The dam structure is not watertight, further agravating low summer stream flows.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

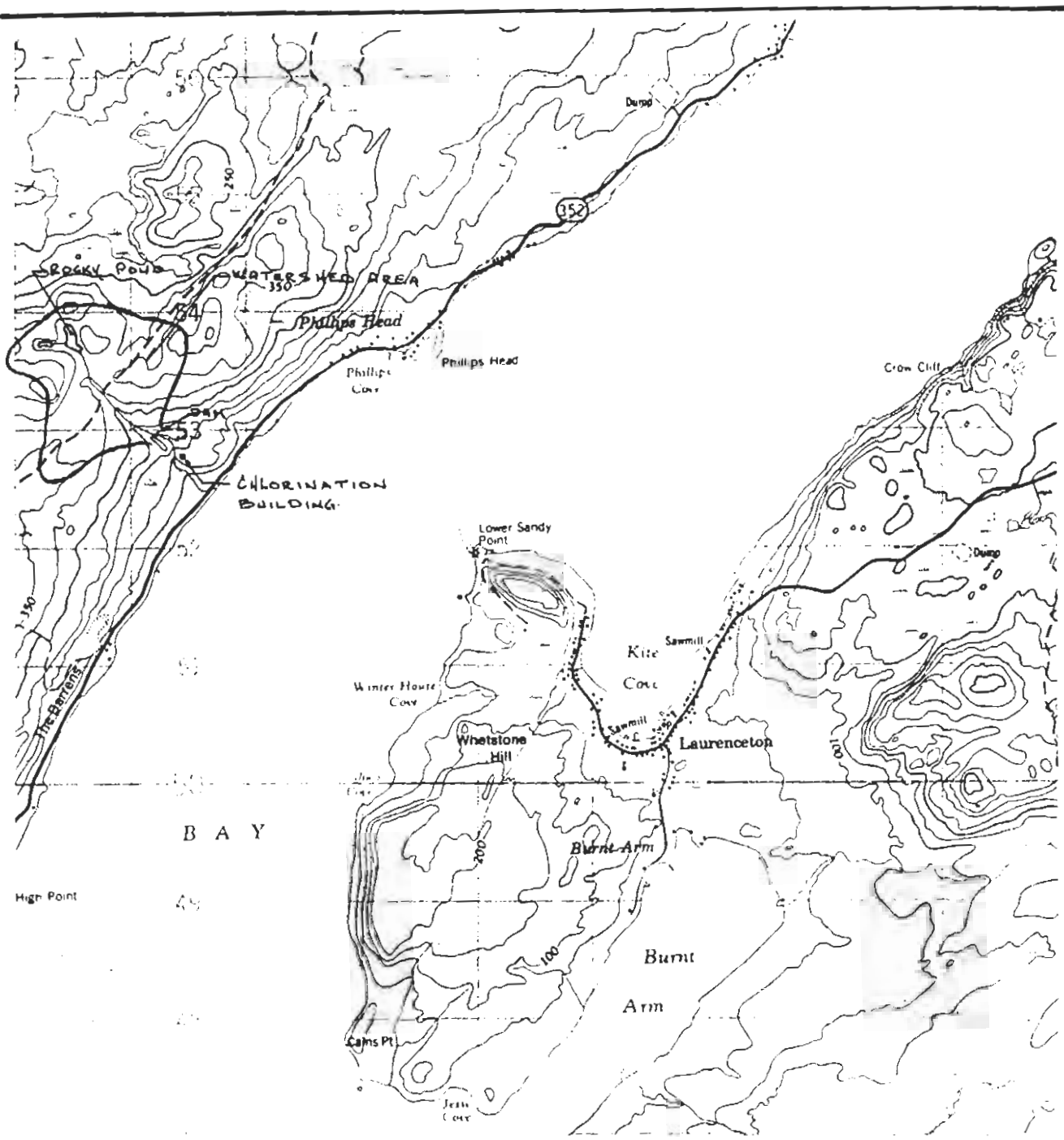
Generally good, rare oily taste

**WASTEWATER DISPOSAL**

Treated : Private septic systems

**OTHER COMMENTS**

One private well is in use. A community well fitted with a hand pump has never been used.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PHILLIPS HEAD

**PIKE'S ARM - GREEN COVE**

Status : Unincorporated

**EXISTING WATER SUPPLY**

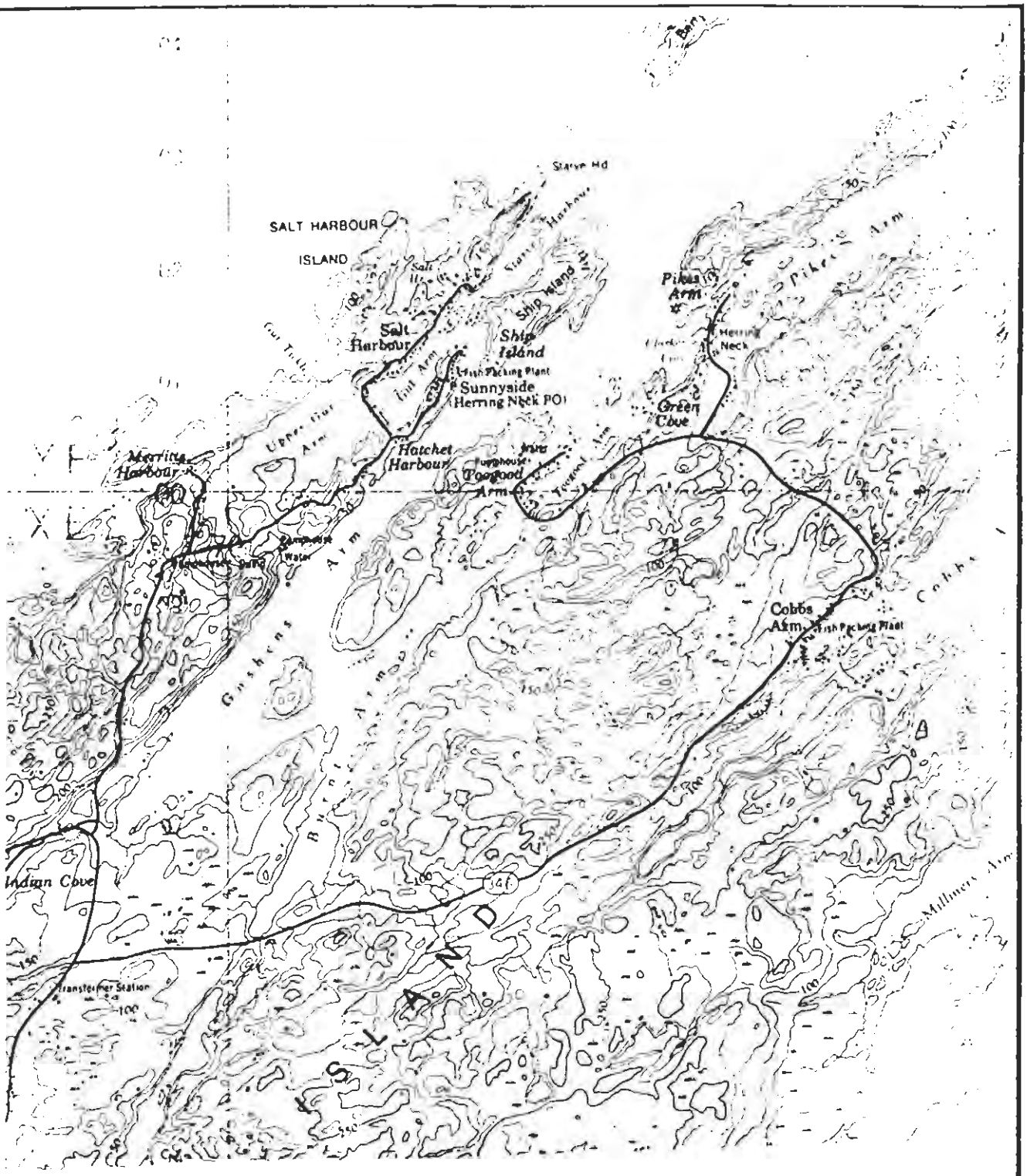
Type : Drilled and dug wells

**WASTEWATER DISPOSAL**

Some residents have septic tanks/drainage fields. Most have raw sewage discharging to the ocean.

**OTHER COMMENTS**

Of five government wells, only one equipped with a hand pump is in use. Fifty percent of the homes have private drilled wells; the remainder have shallow dug wells.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PIKES ARM-GREEN COVE

**PILLEY'S ISLAND**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 528 |
| Number of Homes | : | 168 |
| Homes Serviced | : | 108 water & sewer, 60 water only |
| Information Source(s) | : | Mayor - G. Payne |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Loadabats Pond |
| Pond Area(Ha) | : | 12.0 |
| Drainage Area(Ha) | : | 112.0 |
| Live Storage (m) | : | 1.85 |
| Firm Yield($m^3$/day) | : | 2016 |
| Intake Location | : | 250 mm diam. intake pipe located on north side of Loadabats Pond |

**EXISTING STRUCTURES**

Pumphouse complete with wet-well, and two 10 HP centrifugal pumps working alternately to supply a remotely-located 320 000 L storage reservoir. Pump operation is governed by reservoir water levels which are converted to telemetered signals from a control building located adjacent the reservoir.

**Delivery System**

The supply main from the pumphouse to the reservoir and distribution mains through the community are 150 mm diam. D.I.C.L. Services are equipped with curb stops and hydrants are located at regular intervals.

**Status of Watershed Protection**

The community has watershed protection.

**Reported adequacy of Supply**

The supply can meet projected domestic demand.

**Potential for Increased Supply**

A small 600 mm high dam on Loadabats Pond could provide increased storage capacity if required.

**REPORTED DEMAND**

**Domestic**

168 serviced

**Industrial/Institutional/Commercial**

4 churches (3 serviced), 1 school, 4 commercial facilities, 1 fire hall.

**Metering Cost**

The water supply system costs $8,750/year to operate and maintain. The domestic water rate is $120/year.

**Losses/Wastage**
Not reported

**WATER QUALITY**
**Treatment Method**
Gas chlorine

**Reported Quality**
Good

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**
None

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour through 2 lift stations, 1 comminutor chamber,and 4 sewage outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $2,270 |
| Sewer Rates($/yr) | : | $ 72 |

**OTHER COMMENTS**
Community is looking for additional monies to extend the sewer service around a salt water lagoon which is being polluted from septic tank effluent.


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PILLEY'S ISLAND

**PLEASANTVIEW**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 85 |
| Number of Homes | : | 25 residences, 7 summer residences |
| Homes Serviced | : | 100% |
| Information Source(s) | : | Chairman - John Warford<br>Secretary - Irene Warford<br>Maint. Man - Calvin Warford |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Little Arm Pond |
| Pond Area(Ha) | : | 7 |
| Drainage Area(Ha) | : | 83 |
| Live Storage (m) | : | 2.1 |
| Firm Yield($m^3$/day) | : | 1347 |
| Intake Location | : | Southwest end of Little Arm Pond |

**EXISTING STRUCTURES**

A wood-frame pumphouse at Little Arm Pond equipped with system pressure pump and hypochlorinator is supplied water through a 30 m long 75 mm diam. intake line.

**Delivery System**

The delivery system is supplied water by a single 5 HP centrifugal pump with start/stop operation controlled by a pressure switch. During off cycles water is supplied directly from four 450 L pneumatic tanks in the pumphouse. From the pumphouse water is delivered through a 75 mm diam. HDPE supply main with curb stops on each house service.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The water supply is considered adequate to meet projected domestic demand.

**Potential for Increased Supply**

Not required

**Other Observations/Reported Problems**

The screws in the distribution system service saddles have corroded and need to be replaced.

**REPORTED DEMAND**

**Domestic**

All the 32 residences are serviced with water.

**Institutional/Commercial**

1 hall is serviced; the church is not.

**Metering/Cost**

The water supply is not metered. Costs for operation and maintenance of the system are $4,000/year.

**Losses/Wastage**

The community is presently experiencing water losses as a result of service line leakage associated with corrosion of fastening screws in the service saddles.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Observations/Problems**

Organics are reported as a problem. Most residents have installed filters to combat problems with plugging of household appliances.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

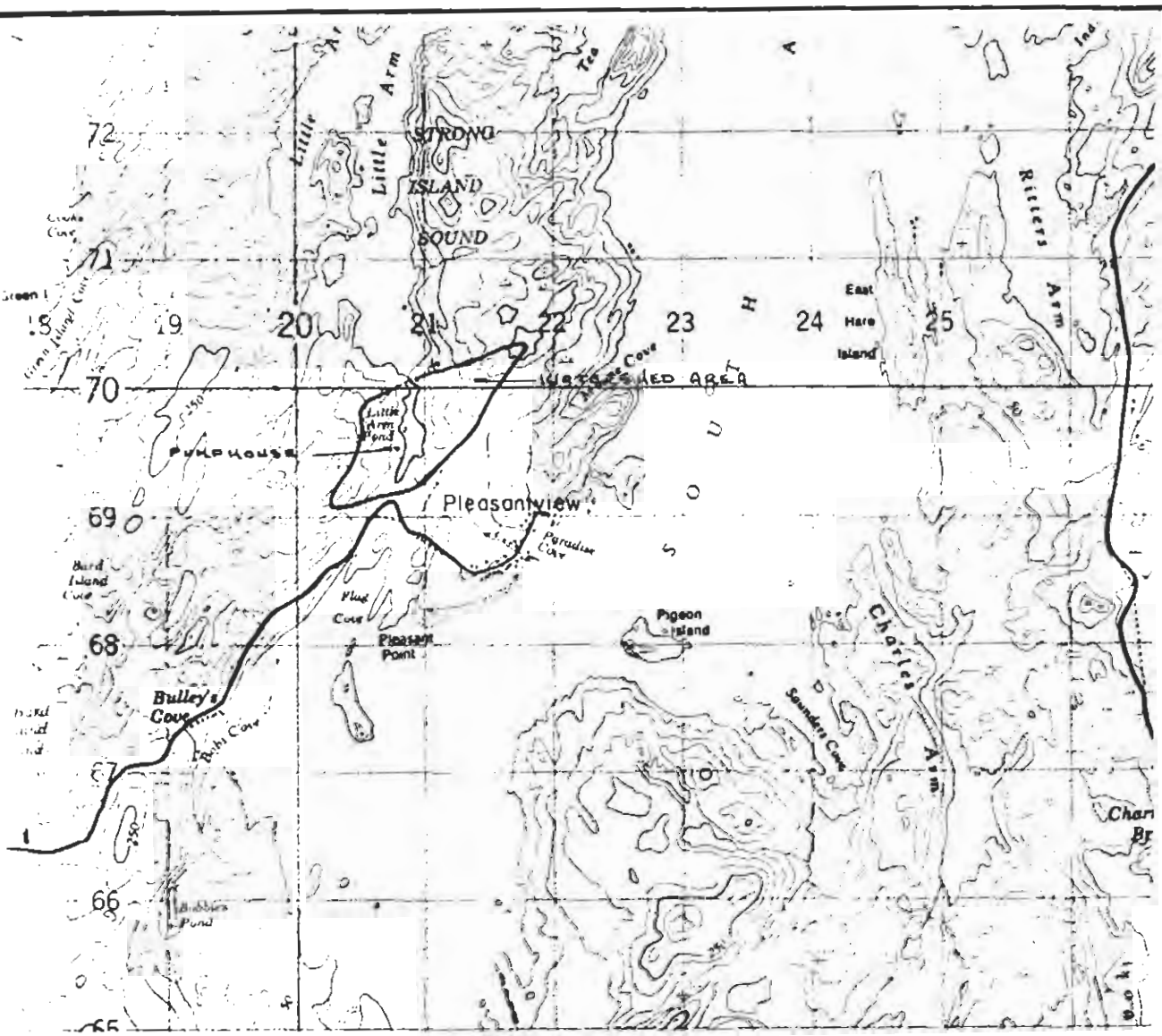
None reported

**WASTEWATER DISPOSAL**

Residents use septic fields for sewage disposal.

**OTHER COMMENTS**

The combination of water with high organic content and chlorination, in some cases, can lead to carcinogenic organic compounds being formed. This possibility should be investigated. Additionally, a screening chamber with fine mesh screens should be installed ahead of the pressure pump.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PLEASANTVIEW

**POINT LEAMINGTON**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 850 |
| Number of Homes | : | 300 |
| Homes Serviced | : | 280 water and sewer; 10 water only |
| Information Source(s) | : | Town Clerk - Pat Earle<br>Maint. Man - Bruce Loder |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface (source is Big Lake watershed) |
| Supply Reservoir | : | Little Pond |
| Pond Area(Ha) | : | 14 |
| Drainage Area(Ha) | : | 4020 |
| Live Storagae (m) | : | 2 |
| Firm Yield($m^3$/day) | : | 7773 |
| Intake Location | : | East side of Little Pond with the intake at an elevation of 11 m± Geodetic. |

**EXISTING STRUCTURES**

Pumphouse equipped with pressure pumps and chlorination equipment.

**Delivery System**

A 300 mm diam. intake pipe feeds water to two wet-well screening chambers at the pumphouse. Two 20 HP pumps supply a town reservoir of approximately 325 000 L capacity. The delivery system comprising 750 mm diam. supply mains has a supply capacity of 1140 L/min. Upgrading work was carried out on the delivery system in 1989 at a cost of $150,000.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply can adequately meet projected domestic and industrial demand. Water is metered and average consumption is 225 000 to 275 000 L per day.

**Potential for Increased Supply**

Not required

**Other Observations/Reported Problems**

The town is having the chlorine injection point moved from the wet-well to the discharge side of the pumps because of deterioration to pump mechanical parts.

**REPORTED DEMAND**

**Domestic**

280 homes are serviced with water and sewer; 10 homes have water only. The remaining 10 homes have private well systems.

**Industrial/Institutional/Commercial**

2 schools of approximately 750 students, 28 commercial properties, 1 clinic, 1 fire hall, and glove factory.

**Metering/Cost**

The water supply system is being metered. Operational costs are approximately $21,000/year. Residents are charged $180/year for water and sewer, or $120/year for just water services.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Gas chlorine system

**Reported Quality**

Good

**REPORTED OBSERVATIONS/PROBLEMS**

The water is occasionally discoloured. The town is in need of additional fire hydrants along Main Street.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

Hydrants may be installed along the high street and council wants to service residences in Point Leamington North. A local glove factory hopes to expand into a tannery.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour |
| O&M Costs($/yr) | : | $14,000 |

**OTHER COMMENTS**

The town is investigating the possibility of installing a sewage treatment plant.

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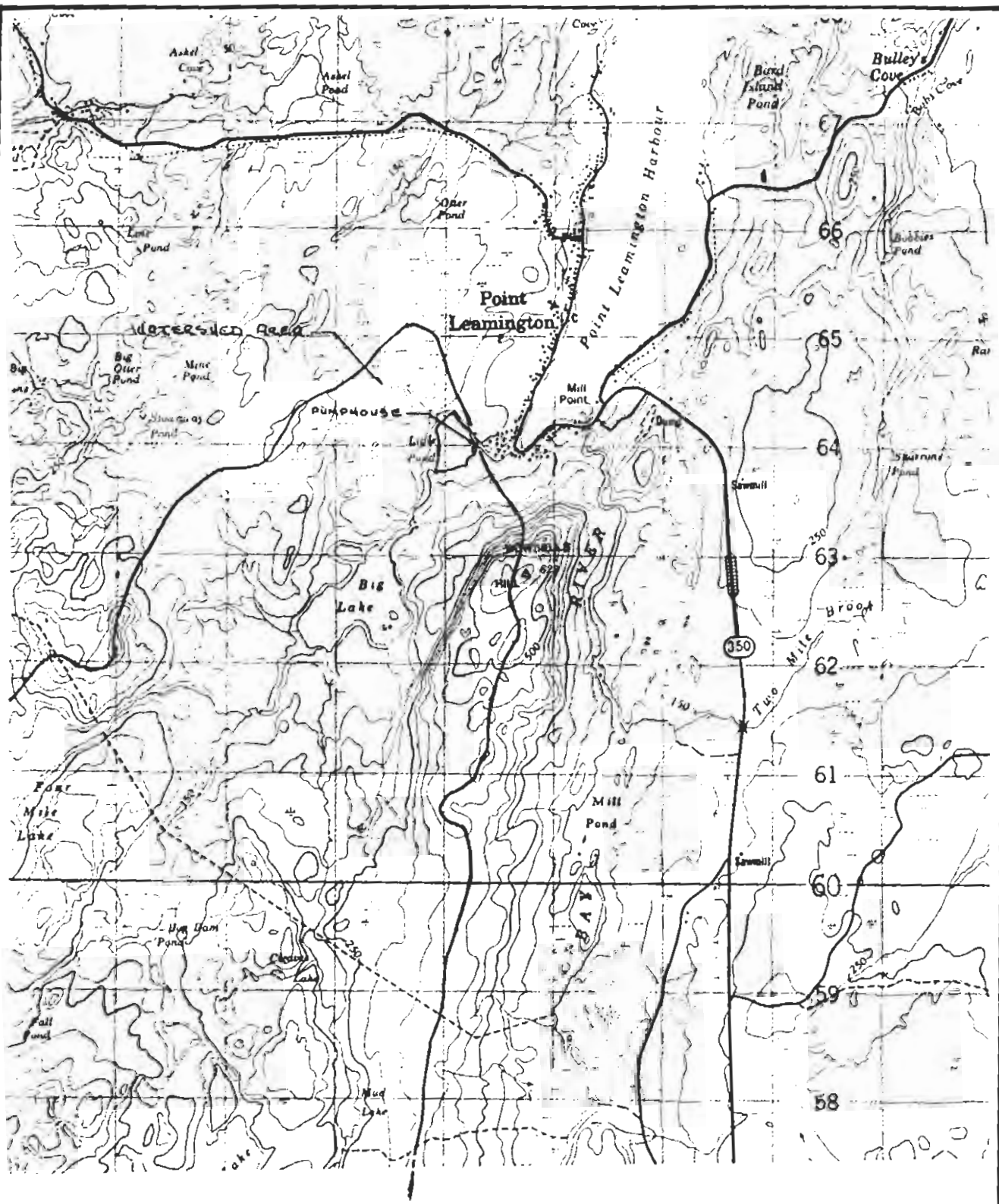



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

POINT LEAMINGTON

**POINT OF BAY**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 250 |
| Number of Homes | : | 60 |
| Homes Serviced | : | 60 |
| Information Source(s) | : | Chairman - Nelson Stride |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Existing - groundwater (new - surface supply, 1991) |
| Supply Point | : | Indian Head Pond |
| Pond Area(Ha) | : | 160 |
| Drainage Area(Ha) | : | 5 200 |
| Live Storagae (m) | : | 2 |
| Firm Yield($m^3$/day) | : | 33 900 |
| Intake Location | : | Screened intake on the northeast side of Indian Head Pond gravity feeds a wet-well located under the pumphouse. |

**EXISTING STRUCTURES**

New pumphouse/wet-well and screened intake facility.

**Delivery System**

Two 10 HP pumps (alternating) pumping through a 100 mm diam. main and increasing to 150 mm diam. at a proposed storage tank location. Supply from the storage tank through the community will eventually all be through 150 mm diam. mains. Presently the community is supplied by three drilled wells through polyethylene, PVC, and D.I.C.L. supply mains which vary in size from 32 mm to 100 mm diam. The drilled wells are being abandoned because of inadequate yield but more so because of unacceptable water chemistry: high iron, Na, Cl, and H2S.

**Status of Watershed Protection**

Town has applied to have the watershed area protected.

**Reported adequacy of Supply**

The new supply will more than adequately serve the projected needs of the community.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

60 residences

**Industrial/Institutional/Commercial**

The town has 1 school.

**WATER QUALITY**

**Treatment Method**

The water supply is treated at the pumphouse with liquid chlorine.

**Reported Quality**

Good

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None identified

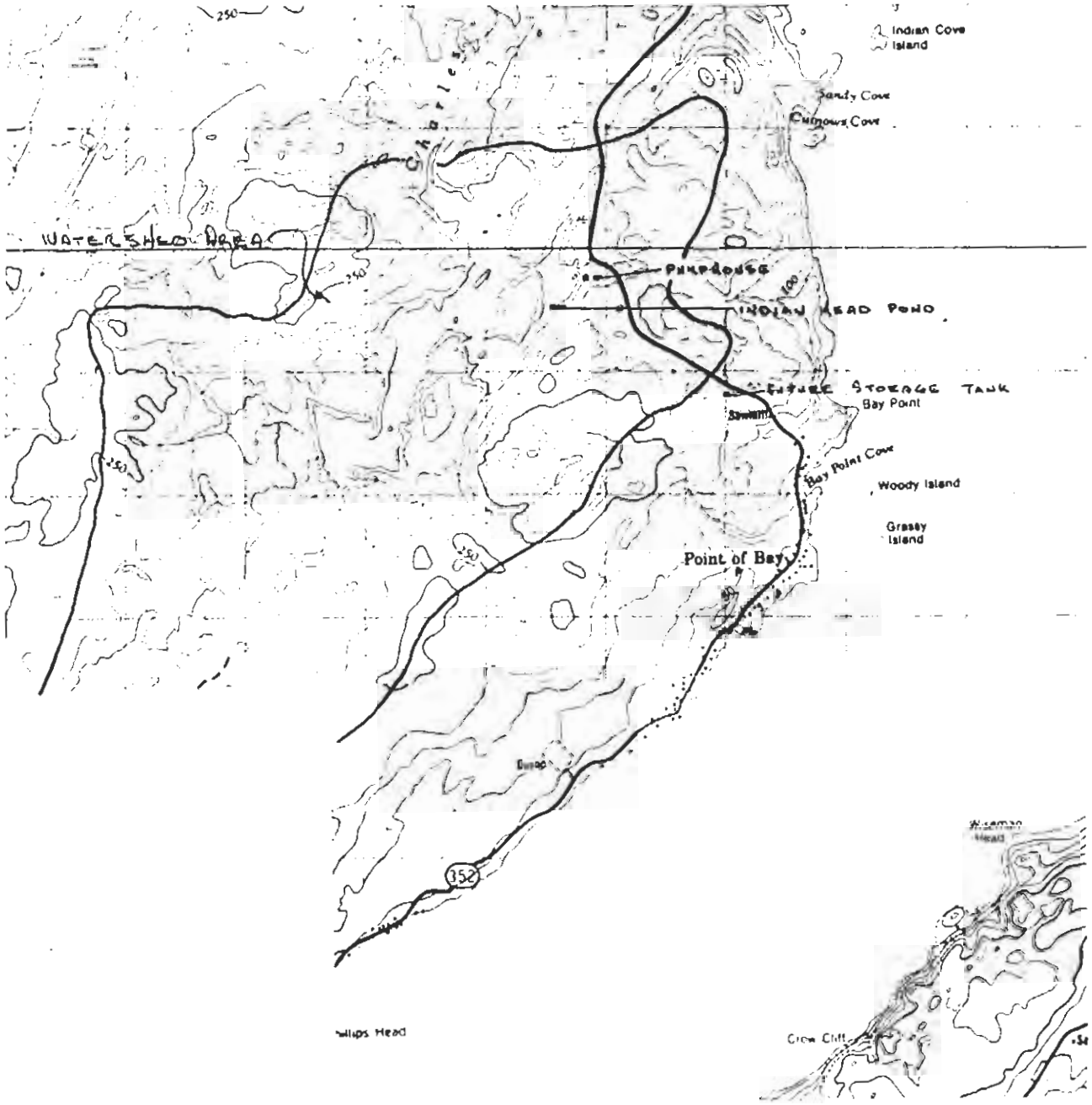
**WASTEWATER DISPOSAL**

Treated : Residents have septic tanks and some have effluent lines to the ocean.

**OTHER COMMENTS**

Phase I of a three-phase program for Municipal upgrading was completed in 1991.

Phase II of Municipal Plan provides for the construction of a 300 000 L storage tank to be supplied from the new pumphouse at Indian Head Pond. Supply from the reservoir to the community will be gravity. Additional phases will comprise replacement of small-diameter distribution lines with 150 mm diam. mains and fire hydrants.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

POINT OF BAY

**PORT ALBERT**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 150 |
| Number of Homes | : | 40 |
| Homes Serviced | : | 40 |
| Information Source(s) | : | Town Clerk - Mildred Bennett<br>Committee Member - Francis Peckford |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Beaverton Pond |
| Pond Area(Ha) | : | 7 |
| Drainage Area(Ha) | : | 58 |
| Elevation(m) | : | approximately 15 m Geodetic |
| Firm Yield($m^3$/day) | : | 960 |
| Intake Location | : | Northeast end of Beaverton Pond |

**EXISTING STRUCTURES**

Wooden dam at outlet of pond is approximately 20 years old. The pumphouse was re-built in 1988 and is of concrete block construction.

**Delivery System**

A 100 mm intake line from the pond gravity feeds to a 23 000 L buried storage tank located beneath the pumphouse in the centre of the community. The distribution main is a 50 mm polyethylene pipe reducing to 38 mm throughout the town. Residences do not have curb stops. Water is pumped from the pumphouse by a 3 HP pump at a working pressure of 40 psi.

**Status of Watershed Protection**

The watershed is protected.

**Reported Adequacy of Supply**

The supply is reported to be adequate for domestic needs and, as well, is capable of providing projected demand.

**Potential for Increased Supply**

Not required

**Other Observations/Reported Problems**

Deteriorating metal joiners in the distribution main need to be replaced. The community would like any work on the main to be performed prior to the roads being paved. The distribution main size is a limiting factor in providing adequate supply during peak demand.

**REPORTED DEMAND**

**Domestic**

40 homes are serviced

**Industrial/Institutional/Commercial**

1 school of 12 students is serviced; a church and fishing stage remain unserviced.

**Metering/Cost**

The supply is reported as being unmetered. Residents are charged $9/month for water services. The water supply system costs approximately $2,400/year to maintain and operate.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Hypochlorination system

**Reported Observations/Problems**

The quality of the water is satisfactory.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

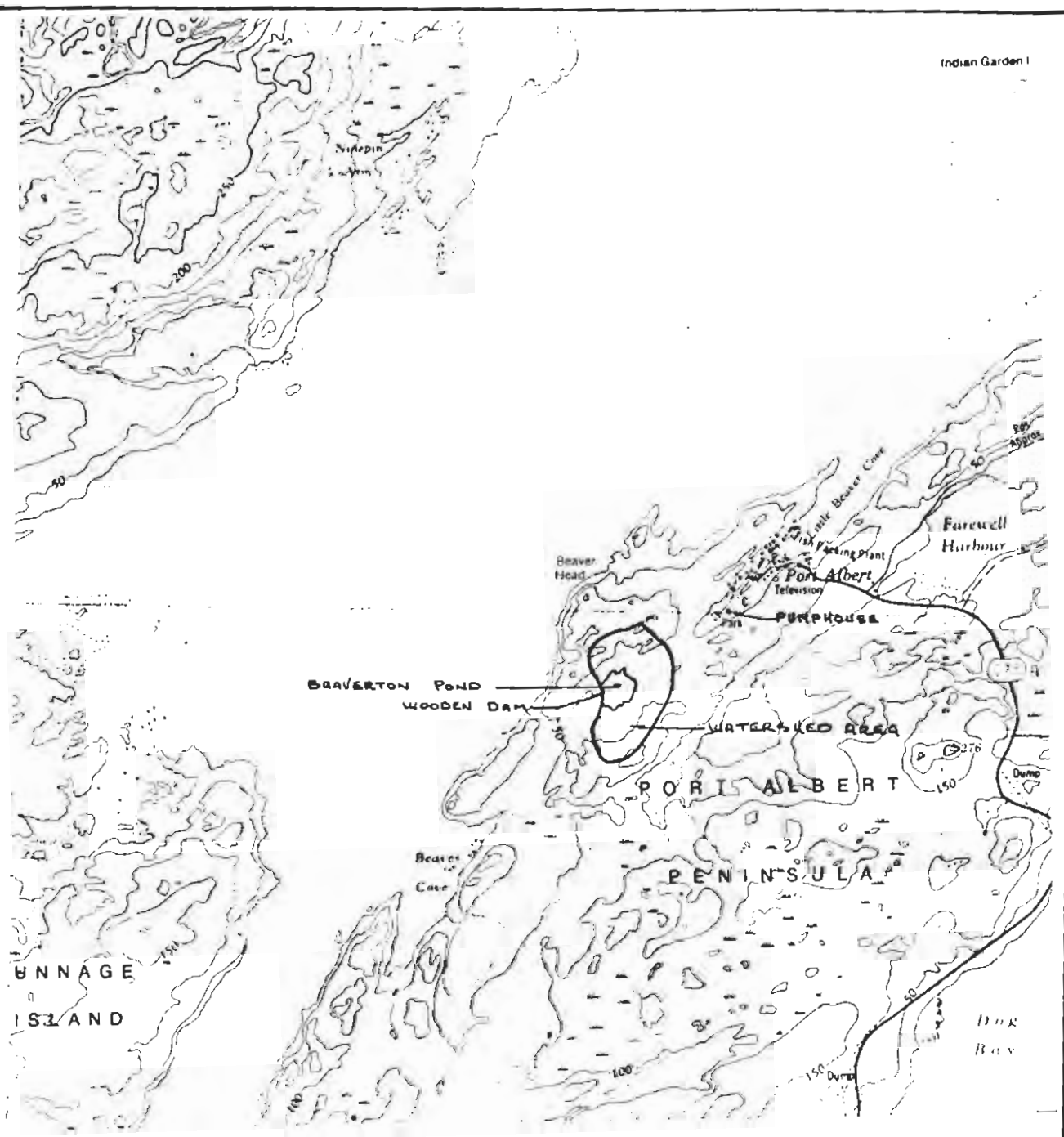
See comment under reported problems.

**WASTEWATER DISPOSAL**

Residents either use septic tanks or discharge effluent directly into the ocean.

**OTHER COMMENTS**

The LSD of Port Albert have asked the provincial government to replace and increase the line sizing of the distribution main because of the problems outlined above.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PORT ALBERT

**PORT ANSON**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 200 |
| Number of Homes | : | 60 |
| Homes Serviced | : | 100% |
| Information Source(s) | : | Town Clerk - Daphne Hewlett |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Groundwater in process of changing to surface water supply |
| Supply Point | : | Long Pond (Anchor Pond) |
| Pond Area(Ha) | : | 3 |
| Drainage Area(Ha) | : | 25 |
| Live Storage (m) | : | 1.5 |
| Firm Yield($m^3$/day) | : | 412 |
| Intake Location | : | 150 mm diam. intake pipe at south end of Long Pond |

**EXISTING STRUCTURES**

A concrete dam was completed in 1990. The chlorination building as yet is not in service.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.5 |
| Dam Crest Elevation (m) | : | 109.2 Geodetic |
| Dam Length(m) | : | 17.5 |
| Spillway Elevation(m) | : | 108.6 |
| Spillway X section(m) | : | 4.0 x 0.6 |

**Delivery System**

The water supply system gravity feeds to a 75 mm distribution main from a 150 mm intake.

**Status of Watershed Protection**

Not protected

**Reported Adequacy**

The new surface supply system from Long Pond is adequate to meet the projected domestic demand.

**REPORTED DEMAND**

**Domestic**

60 homes

**Industrial/Institutional/Commercial**

1 church, 1 school, 1 fire hall

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Septic tanks |

**Metering/Cost**

There were no costs available at the time of the field survey; however, for the well supply system the domestic water rate is set at $96/year.

**OTHER COMMENTS**

The community switched from a groundwater supply (two-well system) to a surface supply because the wells were providing inadequate yield.

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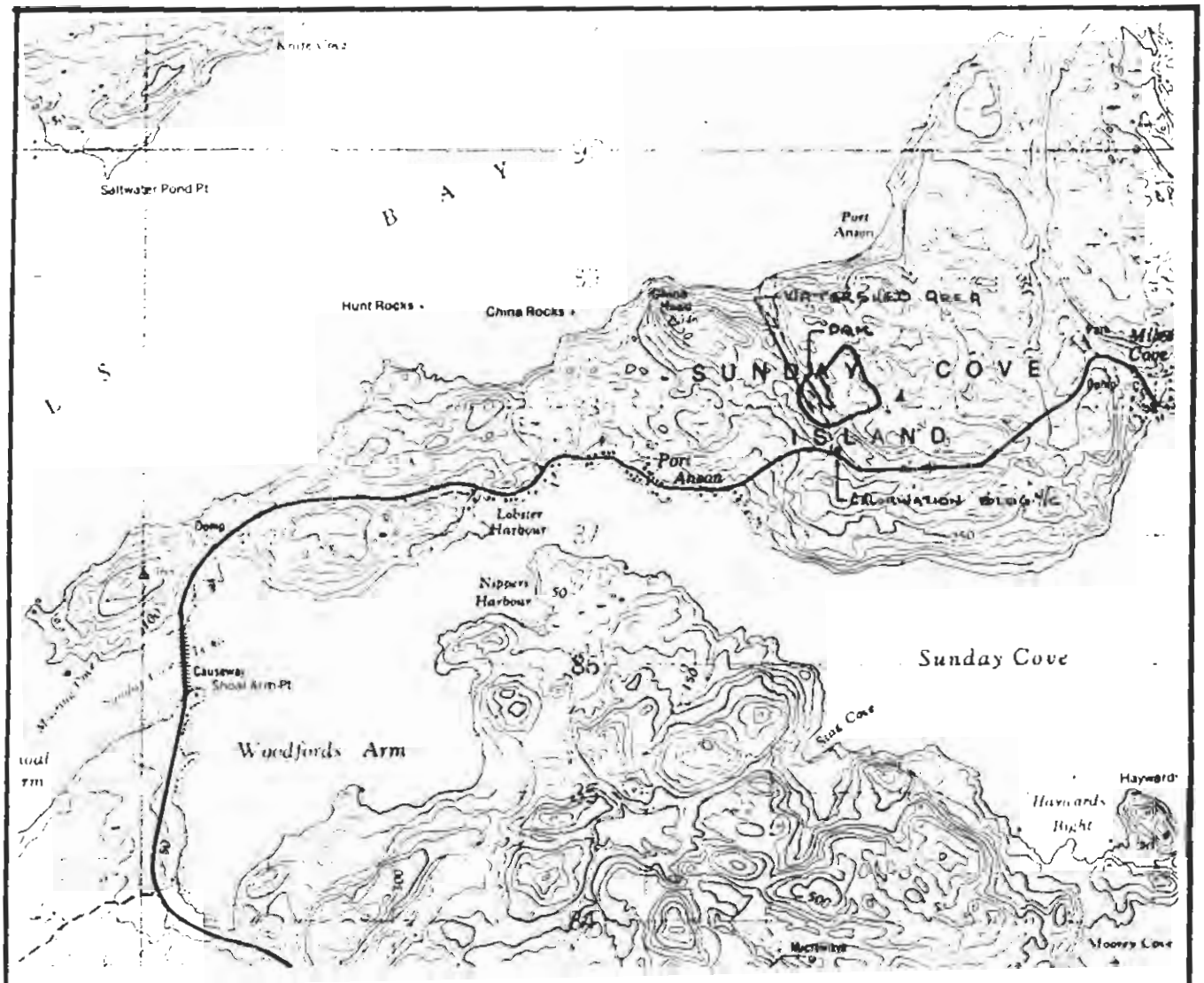



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PORT ANSON

**PURBECK'S COVE**

| | | |
|---|---|---|
| Status | : | Not incorporated |
| Population | : | 50 |
| Number of Homes | : | 13 |
| Homes Serviced | : | 50% |
| Information Source(s) | : | L. Pittman |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Gibbs Pond Stream |
| Pond Area(Ha) | : | n/a |
| Drainage Area(Ha) | : | 205 |
| Live Storage (m) | : | 0.3 |
| Firm Yield($m^3$/day) | : | 276 |

**EXISTING STRUCTURES**

Sand bags across Gibbs Pond Stream

**Delivery System**

50 mm pipe reducing to 30 mm pipe

**Status of Watershed Protection**

The watershed is not protected.

**Reported adequacy of Supply**

Inadequate

**Potential for Increased Supply**

Yes - through construction of a dam and proper intake works at acceptable location on Gibbs Pond Stream.

**REPORTED DEMAND**

**Domestic**

13 residences

**Industrial/Institutional/Commercial**

1 school (14 students)

**Metering/Cost**

The costs are shared by the residents.

**WATER QUALITY**

**Treatment Method**

Not treated

**Reported Quality**

Satisfactory

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None

**WASTEWATER DISPOSAL**

Septic tanks

**OTHER COMMENTS**

The water supply system is inadequate and freezes in winter. Volunteer workers maintain the system.

#8Ax:PrbcksCv


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PURBECK'S COVE

**PURCELL'S HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 80 |
| Number of Homes | : | 21 |
| Homes Serviced | : | 20 |
| Information Source(s) | : | Treasurer - W. Anstey |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Purcell's Harbour Pond |
| Pond Area(Ha) | : | 9.5 |
| Drainage Area(Ha) | : | 300.0 |
| Live Storage (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 1841 |
| Intake Location | : | East end of pond |

**EXISTING STRUCTURES**

A new pumphouse and intake facility were under construction at the time of the study.

**Delivery System**

The delivery system under construction will provide water through a 50 mm diam. intake line to a 3 HP pump. Pump discharge will be supplied through a 50 mm diam. distribution line to the community. Start/stop operation of the pump will be in response to a pressure switch signal. During an off cycle water will be supplied to the distribution main directly from three 450 L pneumatic tanks. Chlorination will take place at the pumphouse.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

Adequate for projected domestic demand.

**Potential for Increased Supply**

Not required

**REPORTED DEMAND**

**Domestic**

21 homes, 1 not serviced

**Industrial/Institutional/Commercial**

1 fish plant

**Metering Cost**

Operating and maintenance costs are estimated to be $3,000/year. The domestic water rate is $120/year.

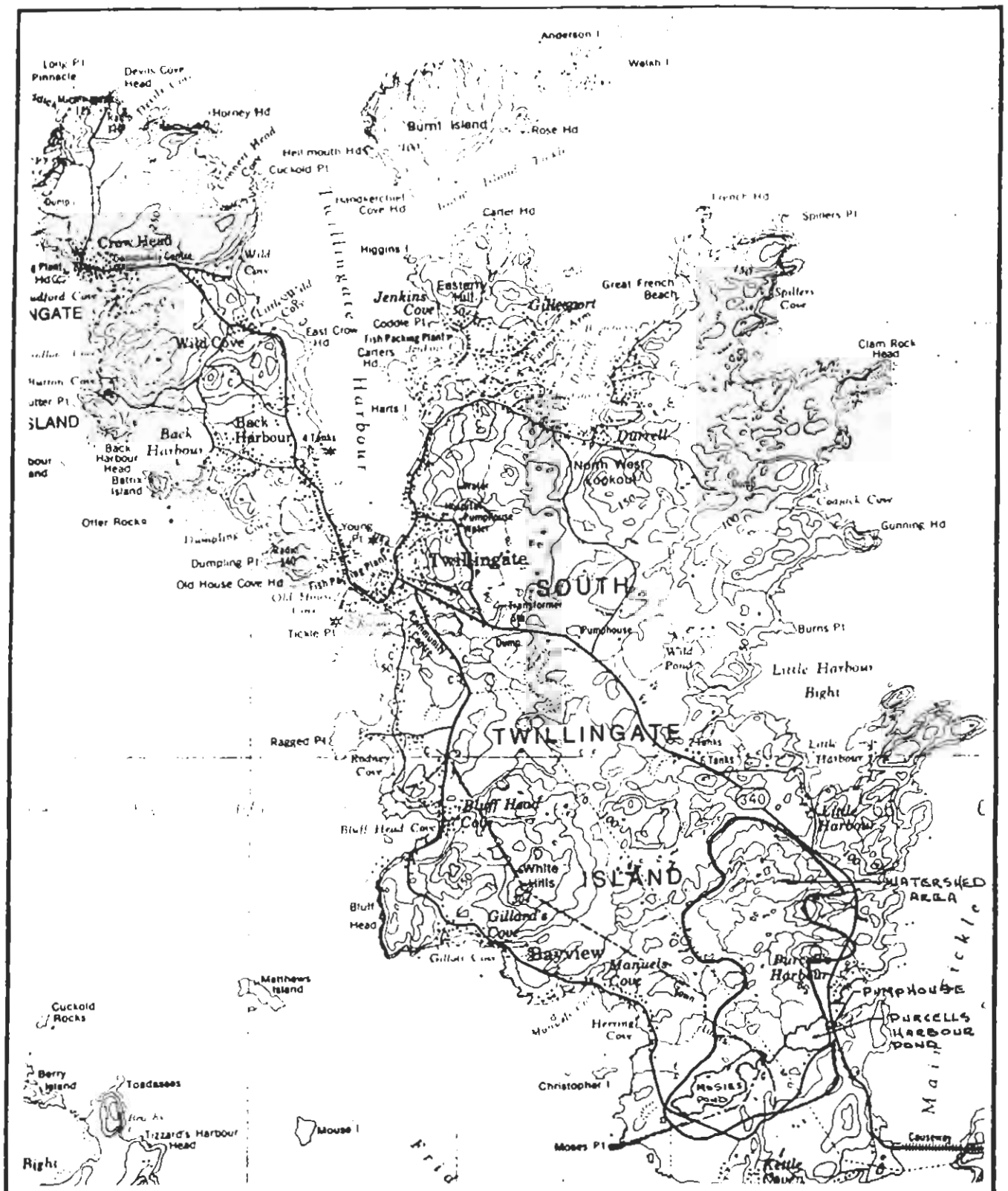
**Losses/Wastage**

None reported

**Reported Quality**
Good

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Septic tanks and disposal fields |




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

PURCELL'S HARBOUR

**RATTLING BROOK**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 150 |
| Number of Homes | : | 45 |
| Homes Serviced | : | 45 |
| Information Source(s) | : | Clerk - J. Rowsell<br>Committee Member - H. Adams |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Dam on Rattling Brook (reservoir dam) |
| Holding Capacity | : | 178 240 Litres |
| Drainage Area(Ha) | : | 260 |
| Live Storage (m) | : | 2 |
| Firm Yield($m^3$/day) | : | 352 |
| Intake Location | : | Rattling Brook |

**EXISTING STRUCTURES**

A concrete dam built on Rattling Brook in 1990.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.95 |
| Dam Crest Elevation (m) | : | 62.3 Geodetic |
| Dam Length(m) | : | 17.0 |
| Spillway Elevation(m) | : | 61.85 |
| Spillway X section(m) | : | 3.0 x 0.45 |

**Delivery System**

Gravity fed through a 100 mm diam. supply line reducing to 75 mm and 50 mm diam. through the community.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The supply source adequately meets present needs and is capable of providing projected domestic demand.

**Potential for Increased Supply**

An increase in supply will necessitate construction of a dam with water level control on a small pond upstream of the existing intake.

**REPORTED DEMAND**

**Domestic**

45 homes

**Industrial/Institutional/Commercial**

1 church

**Metering/Cost**

Estimates of operating and maintenance costs were unavailable. Domestic water rates are $48/year.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

Good

**WASTEWATER DISPOSAL**

Septic fields

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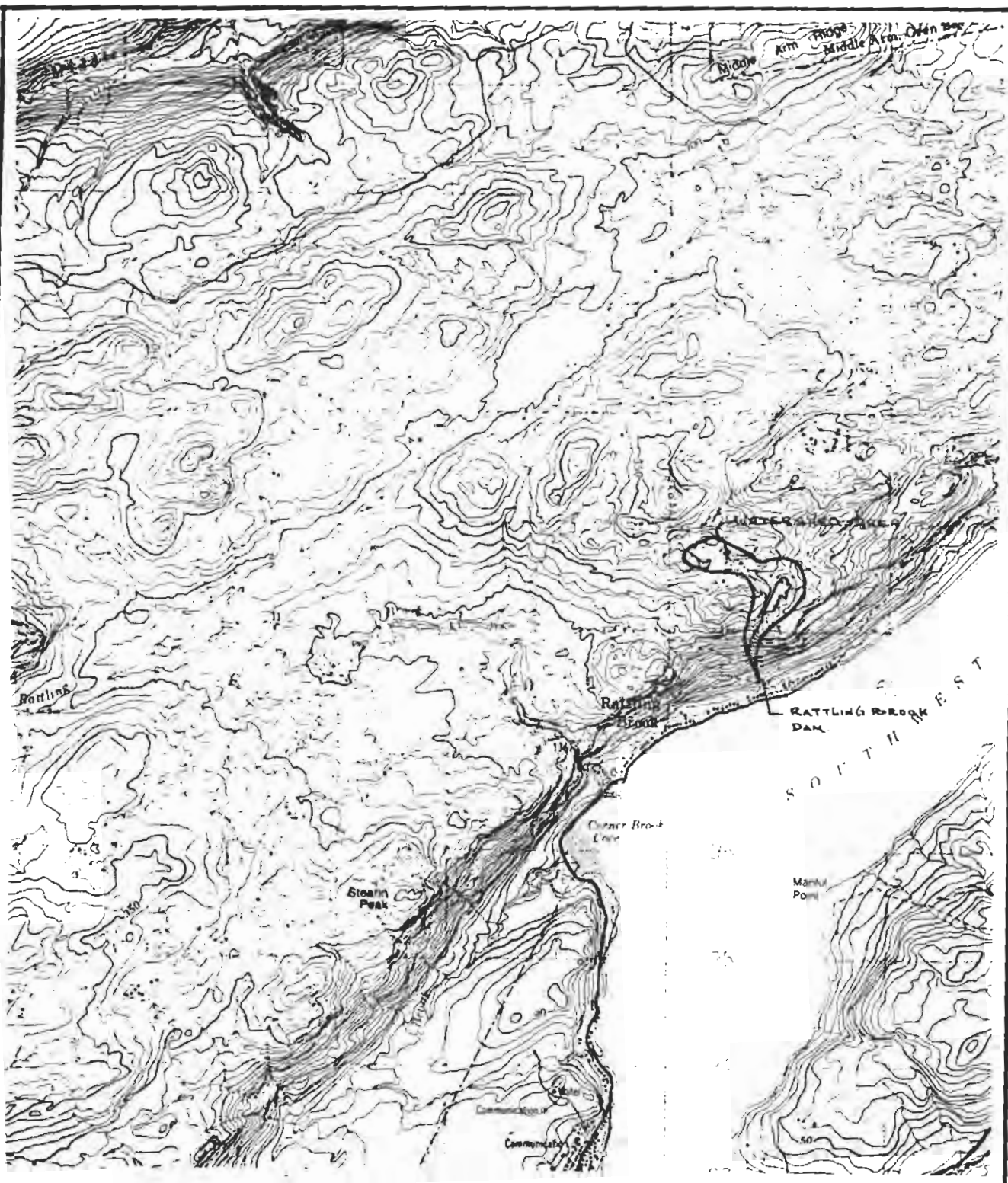



DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

RATTLING BROOK

**ROBERT'S ARM**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,200 |
| Number of Homes | : | 320 |
| Homes Serviced | : | 100% water, 95% sewer |
| Information Source(s) | : | Mayor - L. Colbourne |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Water Pond Reservoir (0.44 Ha) |
| Pond Area(Ha) | : | 2.5 (Young's Pond); 4.0 (Big Bear Cove Pond) |
| Drainage Area(Ha) | : | 120 (Young's Pond, Big Bear Cove Pond, and Little Deer Cove Pond) |
| Live Storage (m) | : | 3.0 Young's Pond 1.0; Big Bear Cove Pond 1.0 |
| Firm Yield($m^3$/day) | : | 819 |
| Intake Location | : | At Water Pond Reservoir |

**EXISTING STRUCTURES**

A sheathed dimensioned timber crib dam with a concrete cap, a screen chamber, and a chlorination building located 600 m downstream comprise the supply structures. All the system components are in good condition. Dams, including discharge control structures, are located on Young's Pond and Big Bear Cove Pond which ensure a continuous supply to Water Pond Reservoir.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.0 |
| Dam Crest Elevation (m) | : | 61.0 Geodetic |
| Dam Length(m) | : | 41.6 |
| Spillway Elevation(m) | : | 60.15 |
| Spillway X section(m) | : | 1.3 x 0.85 |

**Delivery System**

The water supply is gravity feed to and through the town via 150 mm diam. distribution mains.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Satisfactory

**Potential for Increased Supply**

Dam structures on Young's Pond and Big Bear Cove Pond could be raised an additional 1 m.

**REPORTED DEMAND**

**Domestic**

320 homes, serviced

**Industrial/Institutional/Commercial**

3 churches, 3 schools, 19 commercial facilities, 2 medical facilities, 1 fire hall, 1 fibreglass boat-building facility.

**Metering Cost**

Yearly operating and maintenance costs are $31,951. Domestic water rate is $108/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Chlorination

**Reported Quality**

Good, although there are periodic problems with unpleasant taste.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

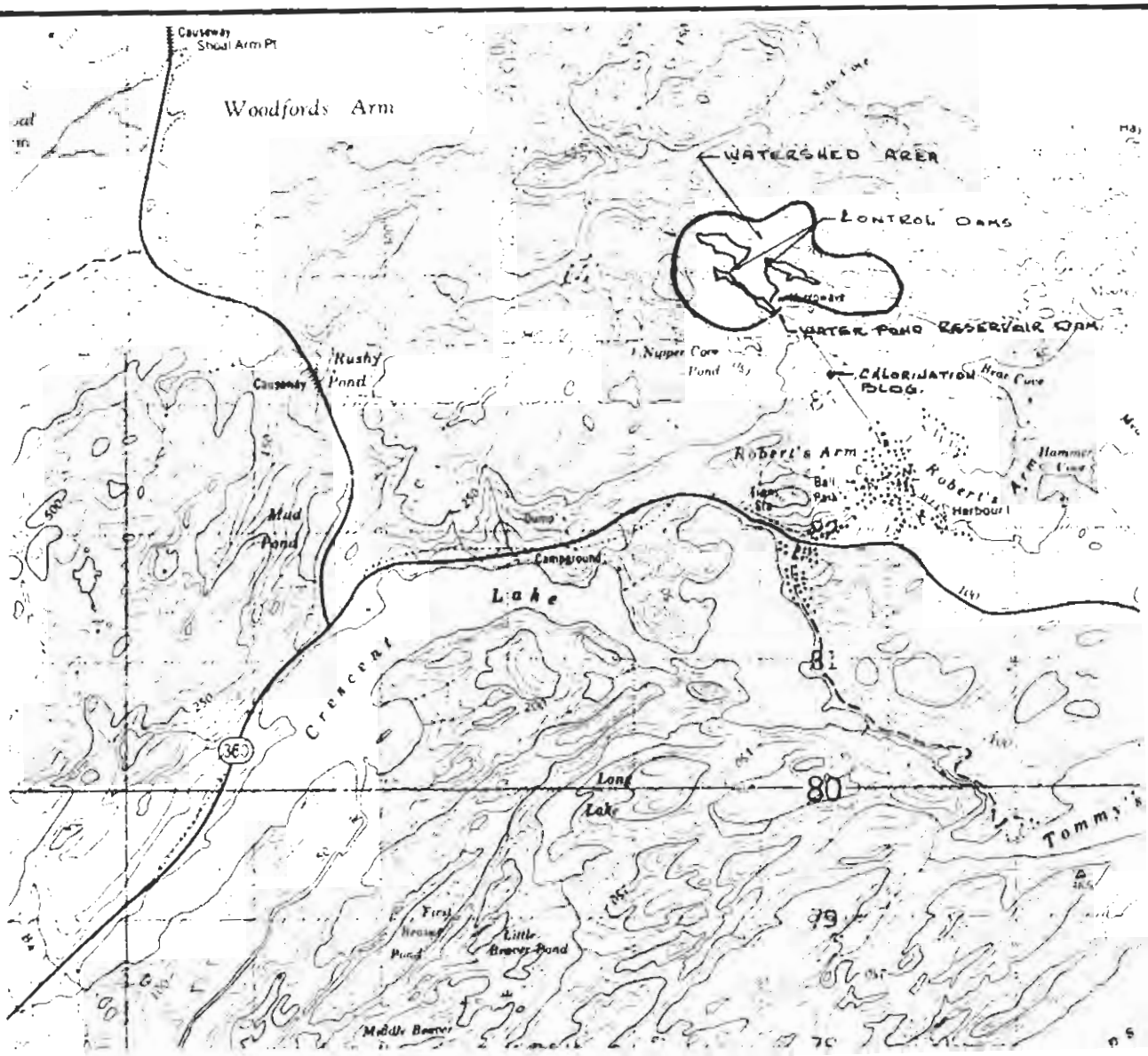
None noted

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Treatment plant and effluent chlorination prior to discharge |
| Discharge | : | Robert's Arm Harbour |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $26,048 |
| Sewer Rates($/yr) | : | $ 72 |

**OTHER COMMENTS**

The town is looking at an alternate sewage disposal method whereby they could terminate operation of the existing treatment facility which is very costly by dispersing the effluent into the ocean outside the harbour area.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

ROBERT'S ARM

**ROOMS**

| | | |
|---|---|---|
| Status | : | Not incorporated |
| Population | : | 75 |
| Number of Homes | : | 19 |
| Homes Serviced | : | All homes are serviced with water |
| Information Source(s) | : | C. Gale |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Georges Cove Brook dam |
| Reservoir Area(Ha) | : | 0.007 |
| Drainage Area(Ha) | : | 990.0 |
| Live Storage (m) | : | 1.2 |
| Firm Yield($m^3$/day) | : | 1335 |
| Intake Location | : | Georges Cove Brook |

**EXISTING STRUCTURES**

A wooden dam, 30 years old, which has been repaired three times, and a concrete storage reservoir.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.0 |
| Dam Crest Elevation (m) | : | 82.3 Geodetic |
| Dam Length(m) | : | 1.2 |
| Spillway Elevation(m) | : | 81.9 |
| Spillway X section(m) | : | 0.9 x 0.4 |

**Delivery System**

Gravity feed is from Georges Cove Brook dam to a 30 000 L concrete storage reservoir.

**Status of Watershed Protection**

The watershed is not protected.

**Reported Adequacy of Supply**

Satisfactory

**Potential for Increased Supply**

The existing supply will adequately satisfy the projected domestic demand.

**REPORTED DEMAND**

**Domestic**

19 homes

**Other Observations/Reported Problems**

The dam is presently in need of some remedial work. Long-term solution would be to replace the existing dam with a concrete structure.

**Metering/Cost**

The costs are shared by the residents.

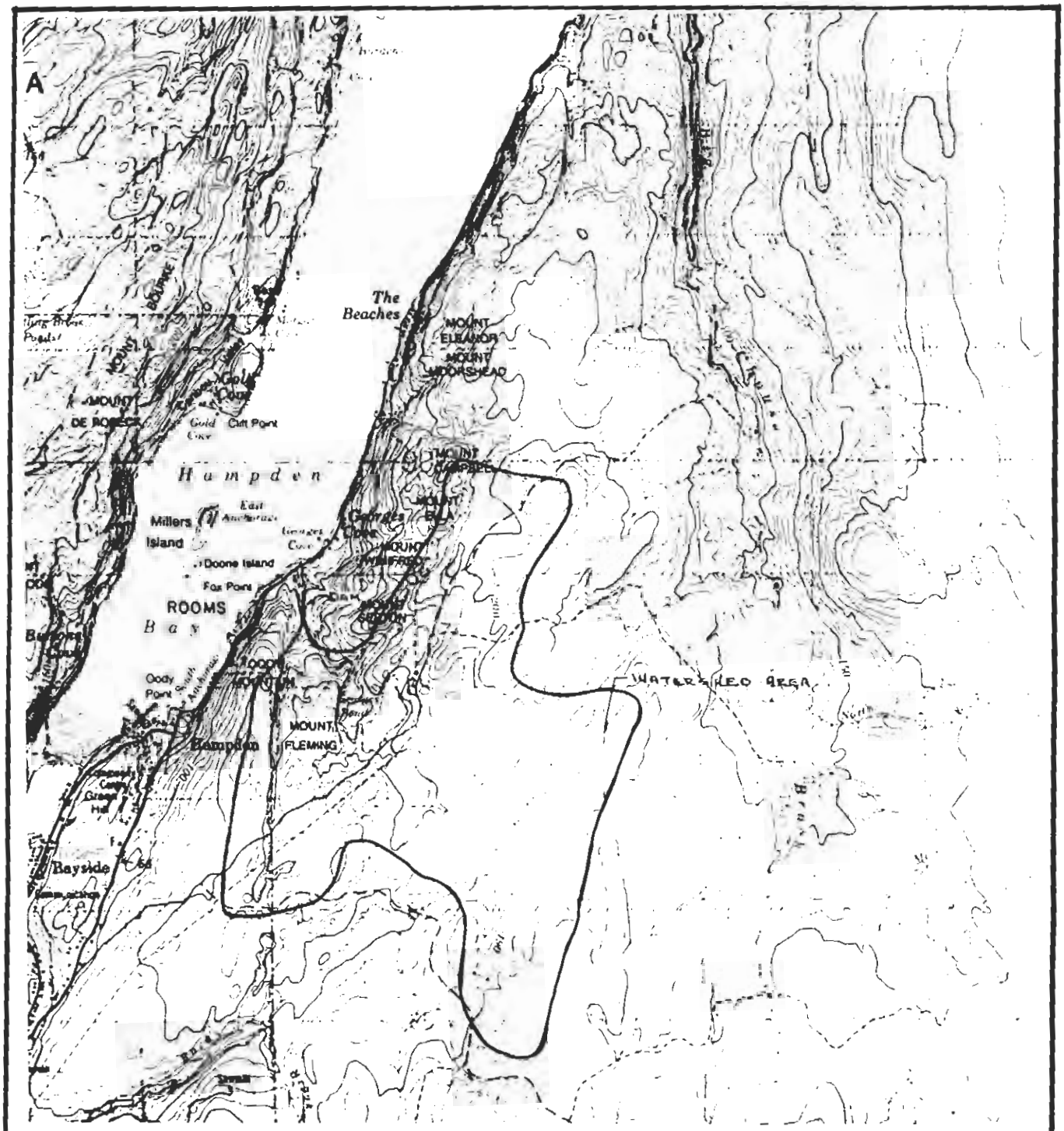
**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

Eventual replacement of existing 25 mm diam. supply main with a larger main adequately sized to allow additional services.

**WASTEWATER DISPOSAL**

Septic tanks to ocean

#8Ax:Rooms




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

ROOMS

**SEAL COVE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 750 |
| Number of Homes | : | 227 |
| Homes Serviced | : | 227 - water and sewer |
| Information Source(s) | : | Clerk - L. Miller<br>Mayor - Albert Sparkes |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Long Pond and Cross Pond |
| Pond Area(Ha) | : | 12.0 |
| Drainage Area(Ha) | : | 450.0 |
| Live Storage (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 2422 |
| Intake Location | : | 1.8 m below top of dam |

**EXISTING STRUCTURES**

A 20-year-old concrete dam is in fair condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.8 |
| Dam Length(m) | : | 12.3 |
| Spillway X section(m) | : | 0.3 x 2.3 |

**Delivery System**

The water system is gravity fed through a 200 mm diam. distribution main.

**Status of Watershed Protection**

An application has been submitted for watershed protection.

**Reported Adequacy of Supply**

There is a supply shortage winter and summer.

**Potential for Increased Supply**

Increased supply will require further dam construction and water level control. Leak repairs to the distribution system would lessen the severity of periodic summer and winter shortages.

**REPORTED DEMAND**

**Domestic**

227 homes

**Industrial/Institutional/Commercial**

3 churches, 1 school, 4 commercial facilities, 1 fire hall, 1 fish plant

**Metering Cost**

Operating and maintenance costs for water and sewer were not available. The domestic water rate is set at $96/year.

**Losses/Wastage**

Loss through leaking cleanout line at dam structure.

**WATER QUALITY**

**Treatment Method**

Liquid Chlorine

**Reported Quality**

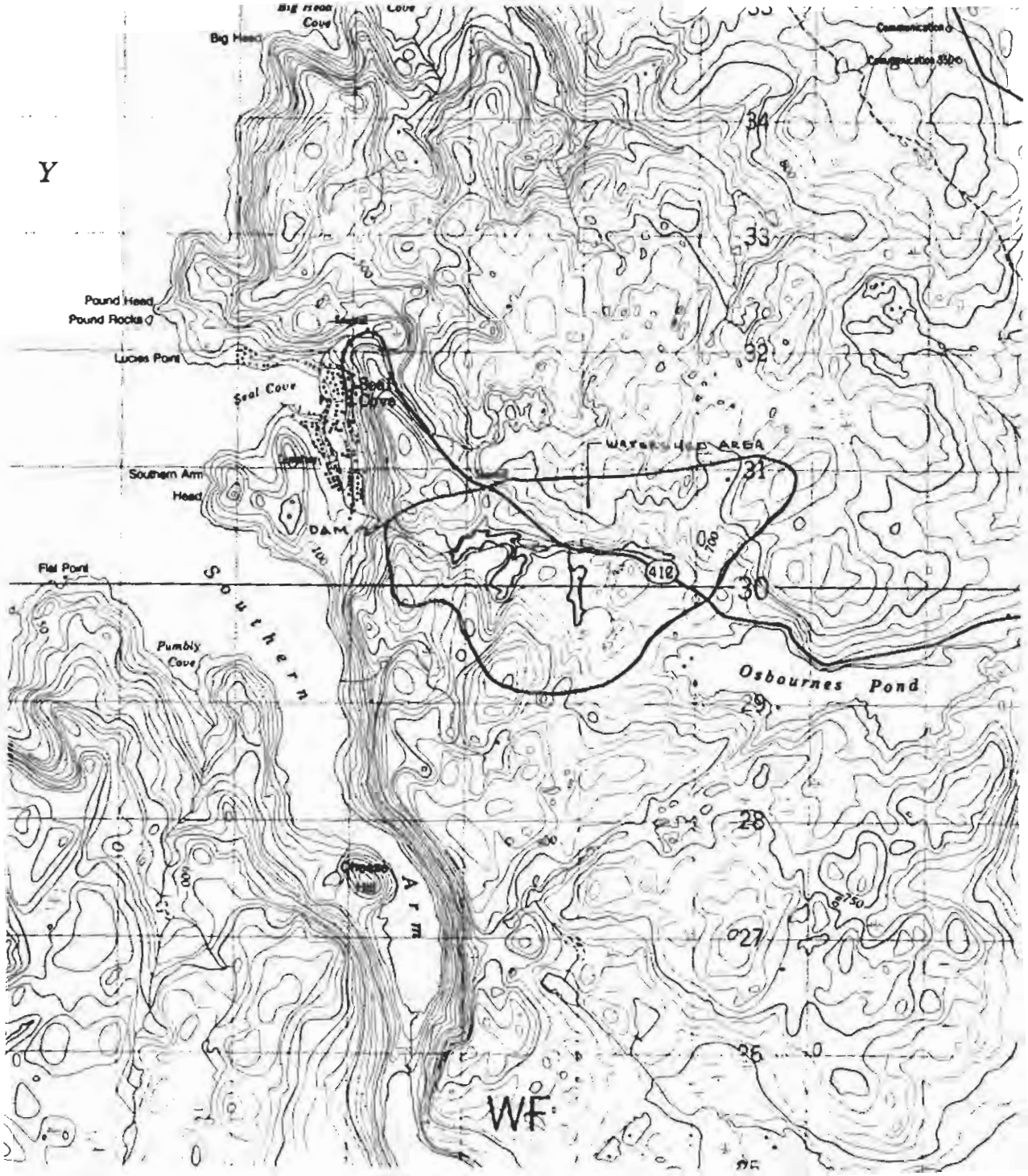
Water is coloured

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour through 4 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Not available |
| Sewer Rates($/yr) | : | $168 water and sewer<br>$ 96 water only |

**OTHER COMMENTS**

The town was allocated a $125,000 Government Guaranteed Loan in 1990 to extend two sewer outfalls each by 300 m.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SEAL COVE

**SELDOM**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 633 |
| Number of Homes | : | 146 |
| Homes Serviced | : | None |
| Information Source(s) | : | Town Clerk - Shirley Penney |

**EXISTING WATER SUPPLY**

Type : Groundwater

**REPORTED DEMAND**

**Domestic**

146 homes

**Industrial/Institutional/Commercial**

3 churches, 4 commercial facilities

**WASTEWATER DISPOSAL**

Treated : Septic tanks with effluent to the ocean

**GROUNDWATER**

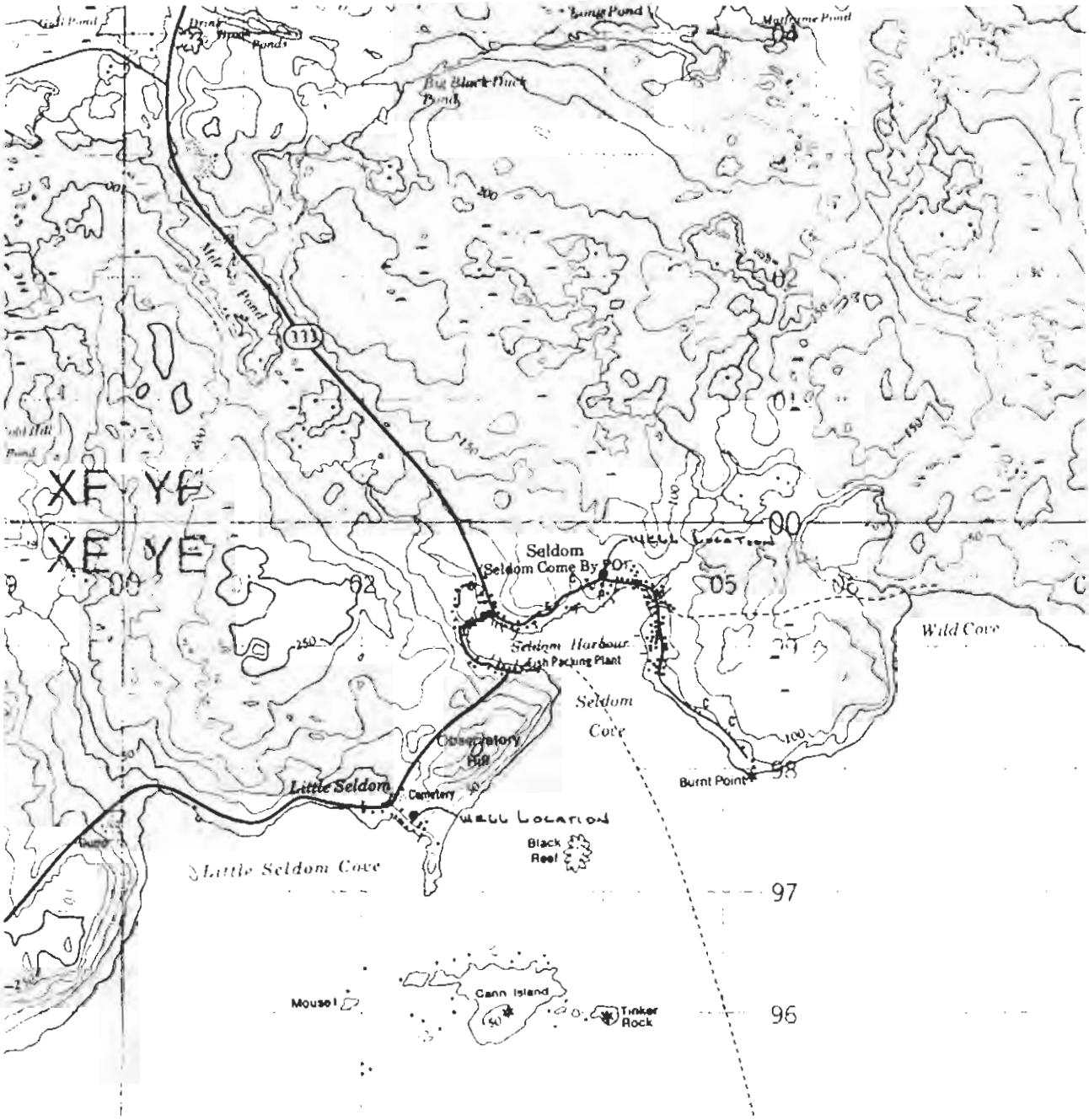
Two drilled community wells and 125 private wells supply water to the community. The community wells are used extensively for potable water. Both wells are equipped with pumps and residents get their drinking water in buckets.

**OTHER COMMENTS**

An engineering study completed in 1990 by Harris & Associates Ltd. proposed development of a surface water supply from Bullocks Cove Pond with development of one of the community wells in Little Seldom to provide service to that area. The estimated total expenditure for this work is approximately $4 million.

**Metering/Cost**

The cost of servicing the two community wells with hydro are: Seldom, $486/year; and Little Seldom, $368/year. The town has property tax at $3.50/$1000.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SELDOM

**SHEPPARDVILLE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 130 |
| Number of Homes | : | 26 |
| Homes Serviced | : | 26 |
| Information Source(s) | : | Chairman - M. Sheppard |

**EXISTING WATER SUPPLY**

Type : Groundwater

**Reported Adequacy of Supply**

Adequate

**REPORTED DEMAND**

**Domestic**

**26 homes**

**Industrial/Institutional/Commercial**

1 church

**Metering Cost**

The water operating and maintenance cost for the community is about $2,000/year. The domestic water rate is set at $96/year.

**WATER QUALITY**

**Treatment Method**

Chlorination

**Reported Quality**

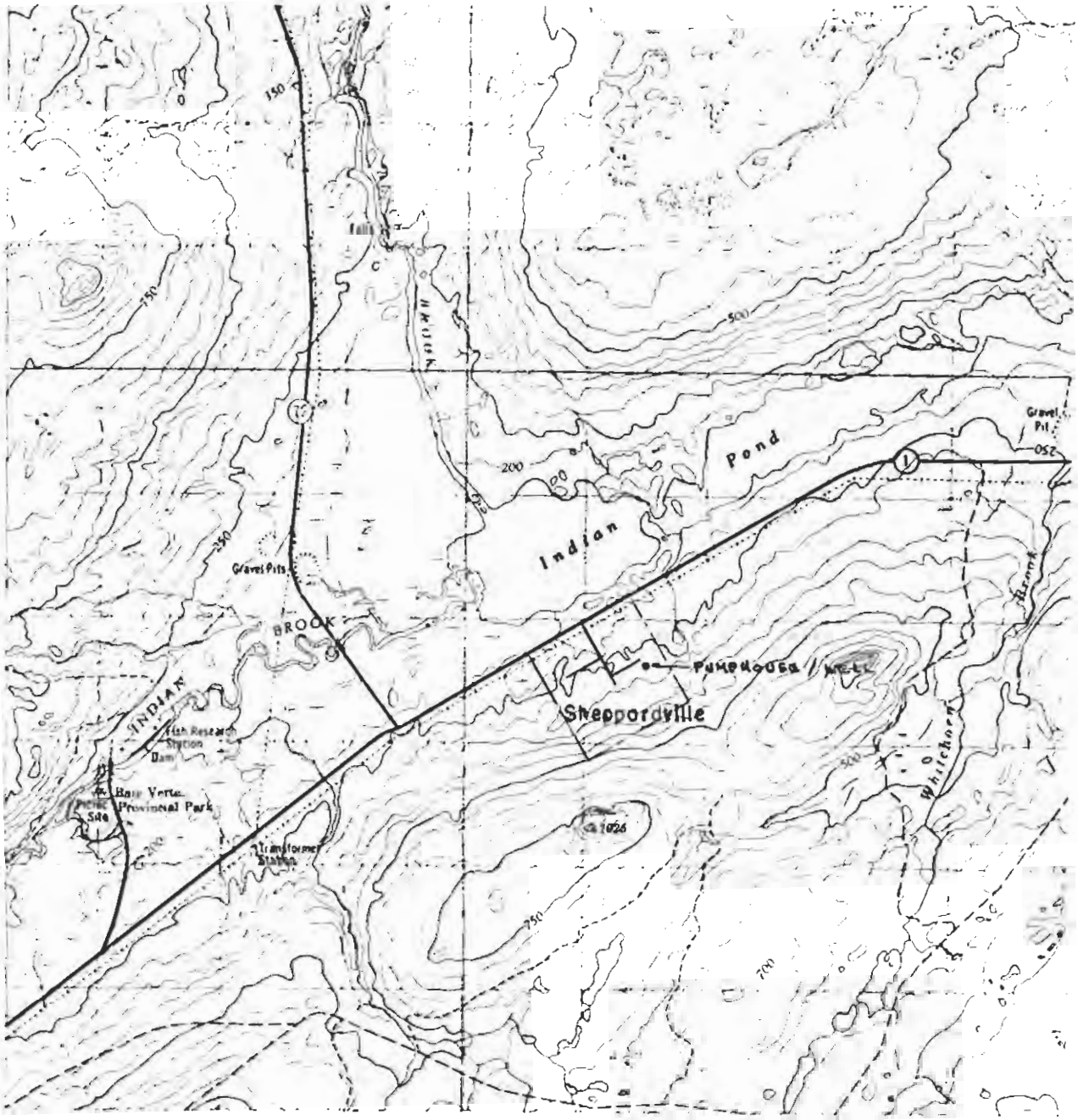
Good

**WASTEWATER DISPOSAL**

Treated : Septic tanks

**GROUNDWATER**

A 100 m deep drilled well with a long-term yield of 115 L/min supplies the community. A wood-frame pumphouse constructed over the well is equipped with a 1.5 HP booster pump, three 450 L pneumatic tanks, a hypochlorinator system, and a 5000 L atmospheric storage tank. Water is transferred from the well by a deep well submersible to the storage tank which in turn supplies water to the booster pump. Discharge from the booster pump to the community is through a 100 mm diam. distribution system complete with curb stops on each service.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SHEPPARDVILLE

**SHOE COVE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 300± |
| Number of Homes | : | 73 |
| Homes Serviced | : | 73 |
| Information Source(s) | : | Secretary of Committee - Roy Welshman |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Second Pond |
| Pond Area(Ha) | : | 8.0 |
| Drainage Area(Ha) | : | 470.0 |
| Live Storagae (m) | : | 1.8 |
| Firm Yield($m^3$/day) | : | 1844 |
| Intake Location | : | 150 mm diam. HDPE intake pipe located on eastern side of Second Pond 15 m offshore, El. 77 m ± |

**EXISTING STRUCTURES**

Native timber crib construction and earth fill dam (poor condition).

| | | |
|---|---|---|
| Dam Height (m) | : | 1.50 |
| Dam Crest Elevation (m) | : | 80.0 |
| Dam Length(m) | : | 21.6 - crib (overall length 31 m) |
| Spillway Elevation(m) | : | 79.5 |
| Spillway X section(m) | : | 4.9 x 0.5 |

**Delivery System**

150 mm diam. HDPE gravity supply pipe from the pond to chlorination building 300 m downstream and then to the community. Distribution through the community is decreased to 75 mm and 50 mm diam. mains with a 50 mm line to the fish plant; community pressure is 80 psi.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Capable of handling present demand.

**Potential for Increased Supply**

A new dam structure could be increased 110 mm if required.

**Other Observations/Reported Problems**

The existing wooden dam is in a dilapidated state and should be replaced with a concrete structure. It is reported that some of the distribution lines freeze up because of inadequate earth cover.

**REPORTED DEMAND**

**Domestic**

73 homes

**Industrial/Institutional/Commercial**

2 churches (not serviced), 1 commercial facility, 1 fish plant.

**Metering Cost**

The water supply is not metered nor valved properly. In this regard it is noted that the community spent $2,000 this past summer fixing leaks and locating valves. General maintenance on the water system is $1000/year. The water rate to residences is $72/year.

**WATER QUALITY**

**Treatment Method**

Chlorination house - The hypochlorination system has reportedly not been used for some years.

**Reported Quality**

A lot of sediment in water.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

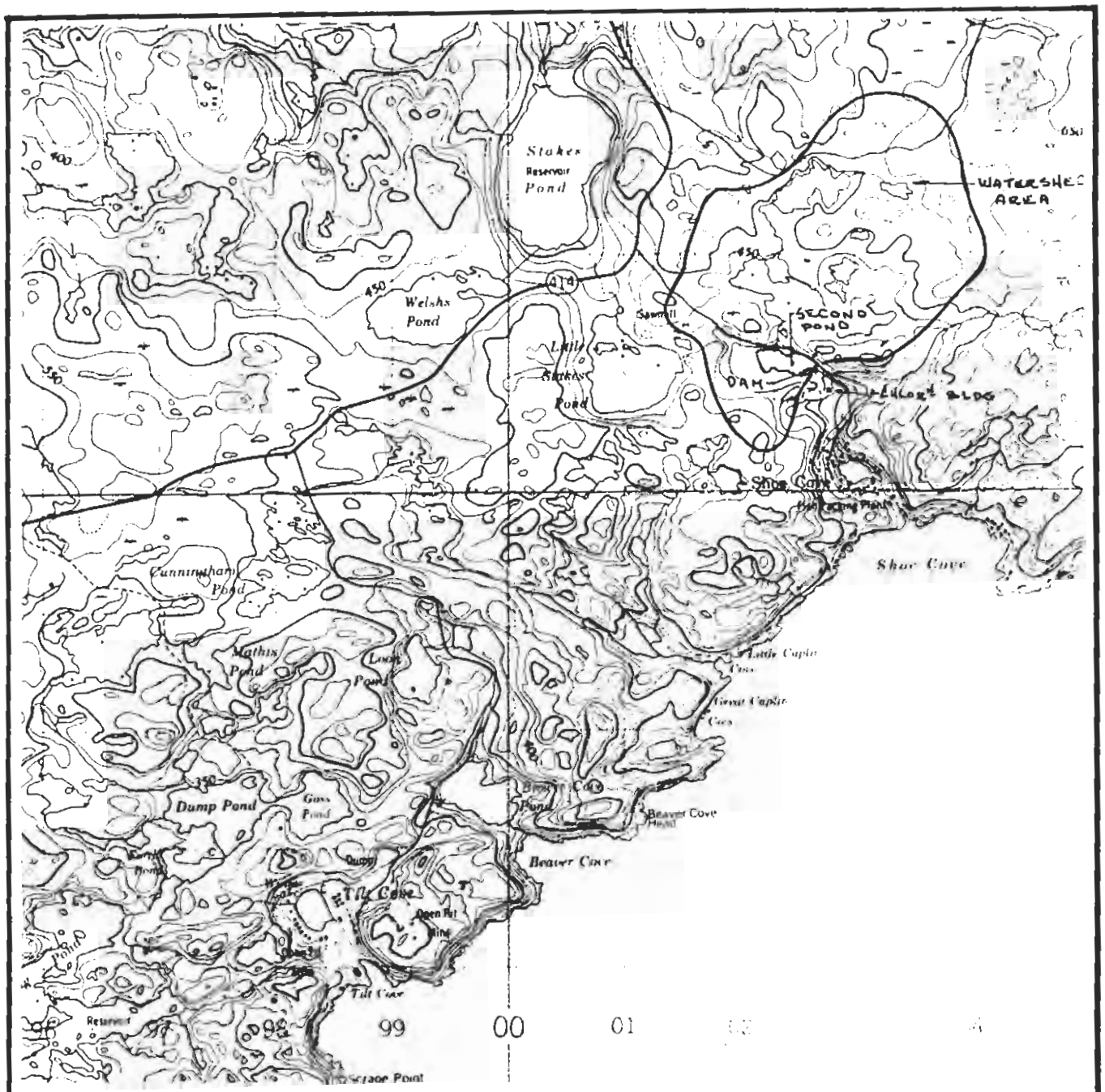
Town is looking for a sewer system, upgrading existing water system to fire protection.

**WASTEWATER DISPOSAL**

Treated : Septic tanks - no sewage system

**OTHER COMMENTS**

Effluent from tile fields draining to roadside ditches and polluting the small pond located in the centre of the community.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SHOE COVE

**SNOOKS ARM**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 50 |
| Number of Homes | : | 17 |
| Homes Serviced | : | 7 homes serviced |
| Information Source(s) | : | Committee Members - Audrey May and Raymond Wimbleton |

**EXISTING WATER SUPPLY**

Type : Surface supply. (Note: there is no defined water course on 1:50000 topographic mapping and hence a watershed area could not be determined.)

**EXISTING STRUCTURES**

A small wooden dam has been constructed in a narrow ravine across a small intermittent stream creating a storage capacity of approximately 30 000 L. The dam was constructed in 1985 and can be described as being in fair condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.8 |
| Live Storage (Ha) | : | 0.002 |
| Dam Crest Elevation (m) | : | 76.0 Geodetic |
| Dam Length (m) | : | 5.0 |
| Spillway Elevation (m) | : | 75.8 |
| Spillway X section(m) | : | 0.9 x 0.2 |

**Delivery System**

A 100 mm diam. PVC distribution main is gravity fed from the dam structure. Seven homes are supplied from this reservoir system which has to be supplemented during the summer by an above-ground waterline from a nearby hydro development penstock.

**Status of Watershed Protection**

The watershed is unprotected.

**Reported Adequacy of Supply**

The supply is inadequate and has to be supplemented as noted above.

**REPORTED DEMAND**

**Domestic**

Seven residences are serviced by the reservoir.

**Metering/Cost**

Capital cost, 1985, $10,000. The domestic water rate for the serviced homes is $48/year.

**Losses/Wastage**

Leakage at the dam of 90-135 L/min.

**WATER QUALITY**

**Treatment Method**

The water supply is untreated.

**Reported Observations/Problems**

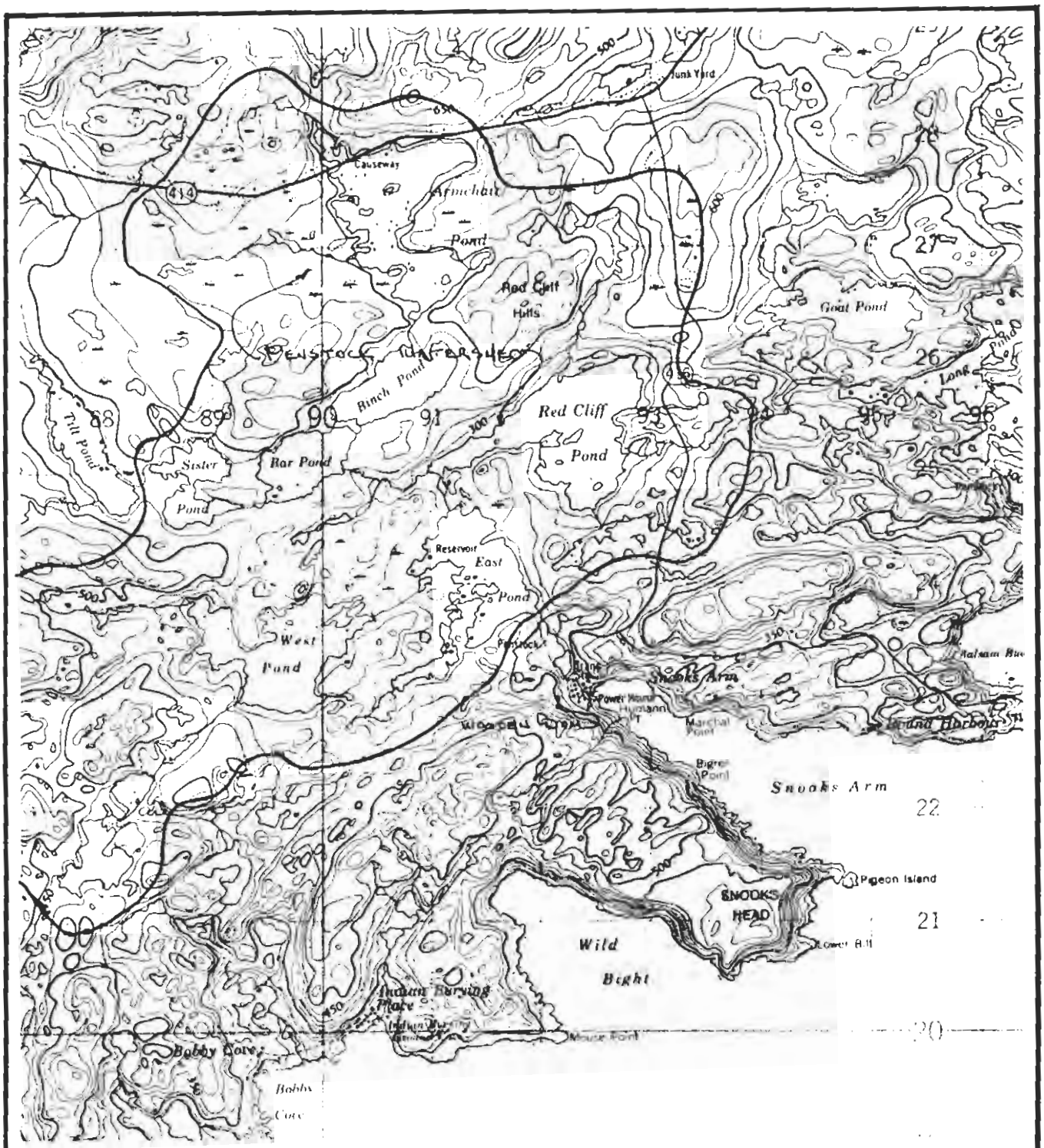
Water quality from the reservoir is satisfactory.

**WASTEWATER DISPOSAL**

Residents use septic tanks for wastewater disposal.

**OTHER COMMENTS**

As noted, there are only 7 residences with conventional municipal services. At best this is only a makeshift system in that the dam has an inadequate and unreliable source of supply. Remaining homes either have shallow wells or have private above-ground waterlines tied into the hydro penstock.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SNOOKS ARM

**SOUTH BROOK**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 750 |
| Number of Homes | : | 245 |
| Homes Serviced | : | 245 |
| Information Source(s) | : | Clerk - Vera Parsons |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | South Brook River |
| Pond Area(Ha) | : | 930 |
| Drainage Area(Ha) | : | 58 000 |
| Live Storage (m) | : | 0.3 |
| Firm Yield($m^3$/day) | : | 101 643 |
| Intake Location | : | Pumphouse and wet-well South Brook River |

**EXISTING STRUCTURES**

Pumphouse installed at South Brook River. Concrete underground 56 000 L storage tank located at approximately 80 m elevation.

**Delivery System**

Two 15 HP pumps feed a 150 mm distribution main.

**Reported adequacy of Supply**

Source is adequate.

**Potential for Increased Supply**

The town has adequate water supply capable of meeting projected demand.

**REPORTED DEMAND**

**Domestic**

245 homes

**Industrial/Institutional/Commercial**

3 churches, 2 schools, 3 commercial facilities, 1 fire hall, and 1 industrial.

**Metering Cost**

The latest operating and maintenance cost of the water and sewer system was $18,000/year. The domestic water and sewer rate is $216/year.

**Losses/Wastage**

The mechanical system was not working properly at the time of field visit.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

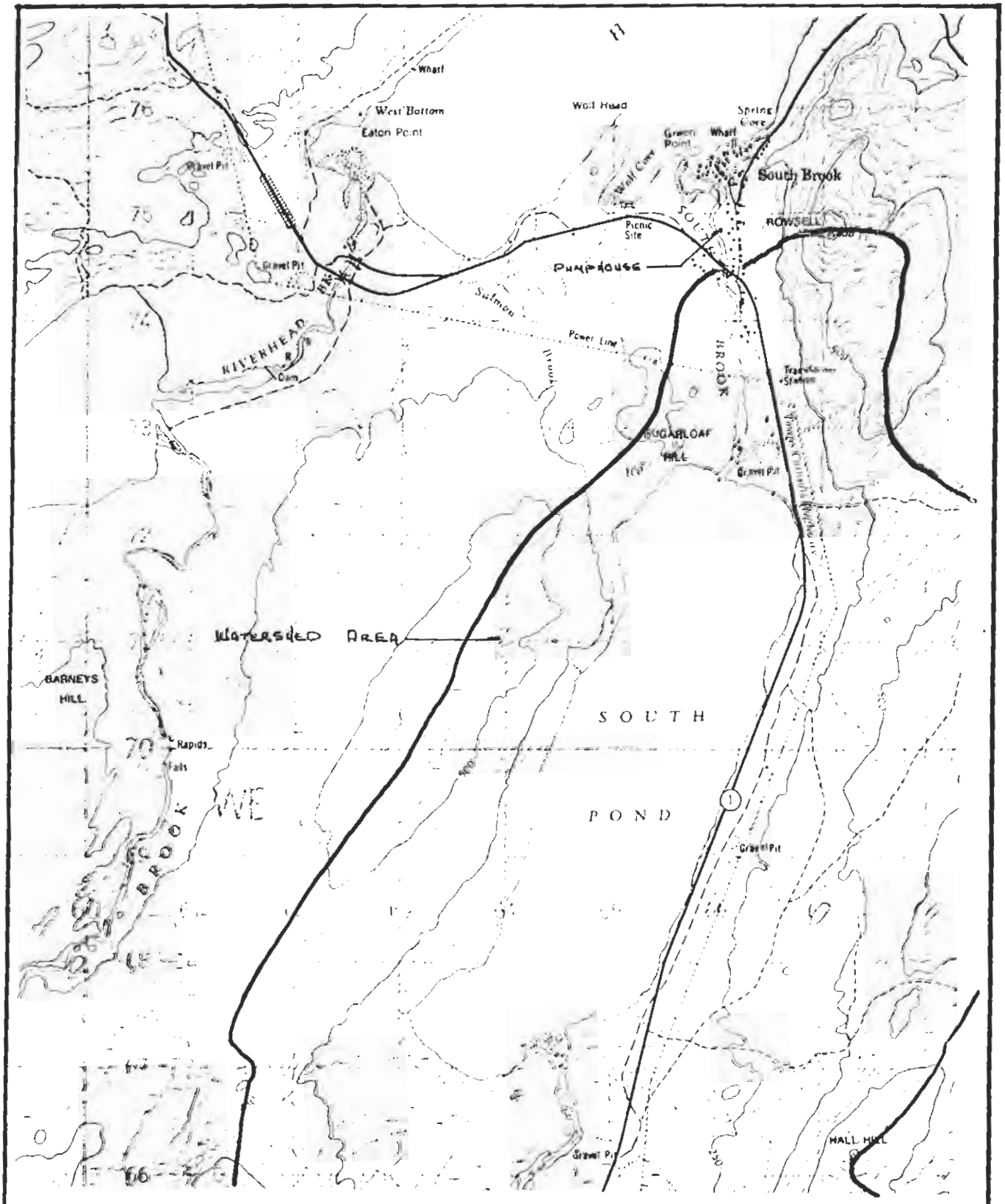
**Reported Quality**
Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Into Halls Bay |
| Permitted | : | Yes |
| O&M Costs ($/yr) | : | See Metering Cost |
| Sewer Rates ($/yr) | : | See Metering Cost |

**OTHER COMMENTS**

Town is presently experiencing difficulty with either mechanical problems or leaks in the system.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SOUTH BROOK

**SPRINGDALE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 3,555 |
| Number of Homes | : | 1,063 |
| Homes Serviced | : | 1,051 (866 water and sewer; 185 water only) |
| Information Source(s) | : | Town Manager - Mr. E. Taylor<br>Maint. Foreman - Mr. P. King |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface (Sullivan's Pond Watershed) |
| Supply Point | : | Sullivan's Pond |
| Pond Area(Ha) | : | 23 |
| Drainage Area(Ha) | : | 386 |
| Live Storage (m) | : | 5.5 |
| Firm Yield($m^3$/d) | : | 11,150 |
| Intake Location | : | On south shore of Sullivan's Pond $\simeq$ 950 m from dam structure on outlet stream |

**EXISTING STRUCTURES**

A reinforced concrete dam and spillway constructed in 1985 at the east end of the pond and a chlorination building located approximately 650 m downstream of the intake are the only two structures on the Town's water supply system. The dam constructed across the outlet stream from Sullivan's Pond has no level control mechanism. The intake facility comprises approximately 60 m of 200 mm diam. AC pipe installed nearly 40 years ago. The only form of screening is provided by a large cylinder with 6 mm diam. openings installed in 1985 on the inlet end of the pipe. Both the dam and chlorination buildings are in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 7.0 |
| Dam Crest Elevation (m) | : | 82.0 $\pm$ Geodetic |
| Dam Length(m) | : | 30.5 |
| Spillway Elevation(m) | : | 81.0 $\pm$ |
| Spillway X section(m) | : | 1.0 x 5.0 |

**Delivery System**

The Town of Springdale is serviced by gravity flow from Sullivan's Pond through a 200 mm diam. transmission main. Although the flow is by gravity, there is an initial section of line from the pond that is higher in elevation and operates as a siphon. Over the last 17 years or more there has been no loss of siphoning action. Distribution lines throughout the Town are primarily AC pipe varying in size from 100 to 200 mm diam. More recent system expansion has involved the use of 150 and 200 mm diam. PVC and D.I.C.L. pipe. While there are no existing location plans, town officials are aware of sections of active small-diameter (40-50 mm) polyethylene mains installed in the early 1960s in the older residential areas.

**Status of Watershed Protection**

The watershed is protected.

**Reported Adequacy of Supply**

Adequate to meet existing and projected demand. Prior to construction of the new dam on Sullivan's Pond, the Town had periodic shortages and subsequently constructed intake works on Huxter's Pond watershed as a backup source of supply. A 250 mm diam. AC transmission main from Huxter's Pond used to deliver water by gravity to the Town's distribution system in response to a pressure-activated valve on the main supply system. Through construction of the new dam, the Huxter's Pond backup system is no longer required to supplement the Sullivan's Pond water supply.

**Potential for Increased Supply**

Not required since construction of new dam, but already in place by virtue of the backup system from Huxter's Pond.

**Other Observations/Reported Problems**

None reported

**REPORTED DEMAND**

**Domestic**

1,051 homes

**Industrial/Institutional/Commercial**

One community college, 3 schools, 1 hospital, 1 senior citizens home, 7 churches, and approximately 100 commercial businesses.

**Metering Cost**

None of the consumers (either domestic or commercial) on the Town's distribution system are metered. The Town charges $78/year for water service to residences and $126/year to schools and businesses. The hospital, senior citizens home, and community college are charged fixed amounts as dictated by the number of fixtures at each facility. Operating costs for the water supply and distribution systems are $54,000/year.

**Losses/Wastage**

No reported losses or wastage since the new dam was constructed on Sullivan's Pond.

**WATER QUALITY**

**Treatment Method**

The only form of treatment required is primary screening and simple chlorination through injection of sodium hypochlorite at the chlorination building.

**Reported Quality**

Good

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

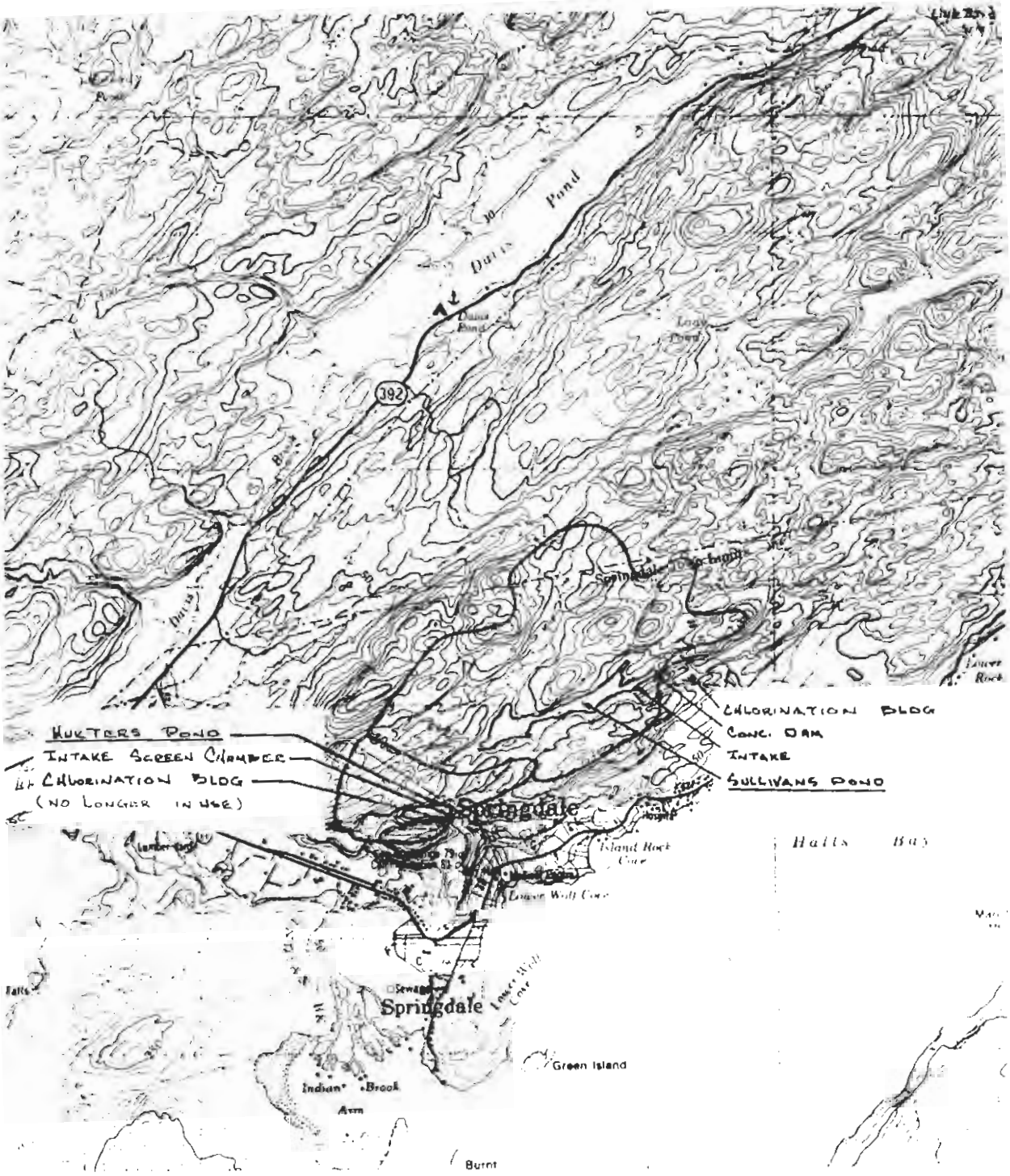
Through discussion with the Town Manager, it is understood that there are no plans either domestic or commercial that will adversely impact the present supply.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | Central gravity system with 5 outfalls into Halls Bay |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $36,000 |
| Sewer Rates($/yr) | : | $66 |

**OTHER COMMENTS**

Approximately 12 unserviced residences have their own drilled or shallow wells and on-site septic tanks and disposal fields. A small industrial park at the south end or entrance to Springdale has its own groundwater source of supply with individual lots serviced by separate septic tank and tile field.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SPRINGDALE

**STAG HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 350 |
| Number of Homes | : | 80 |
| Homes Serviced | : | None |
| Information Source(s) | : | Committee Member - K. Hynes |

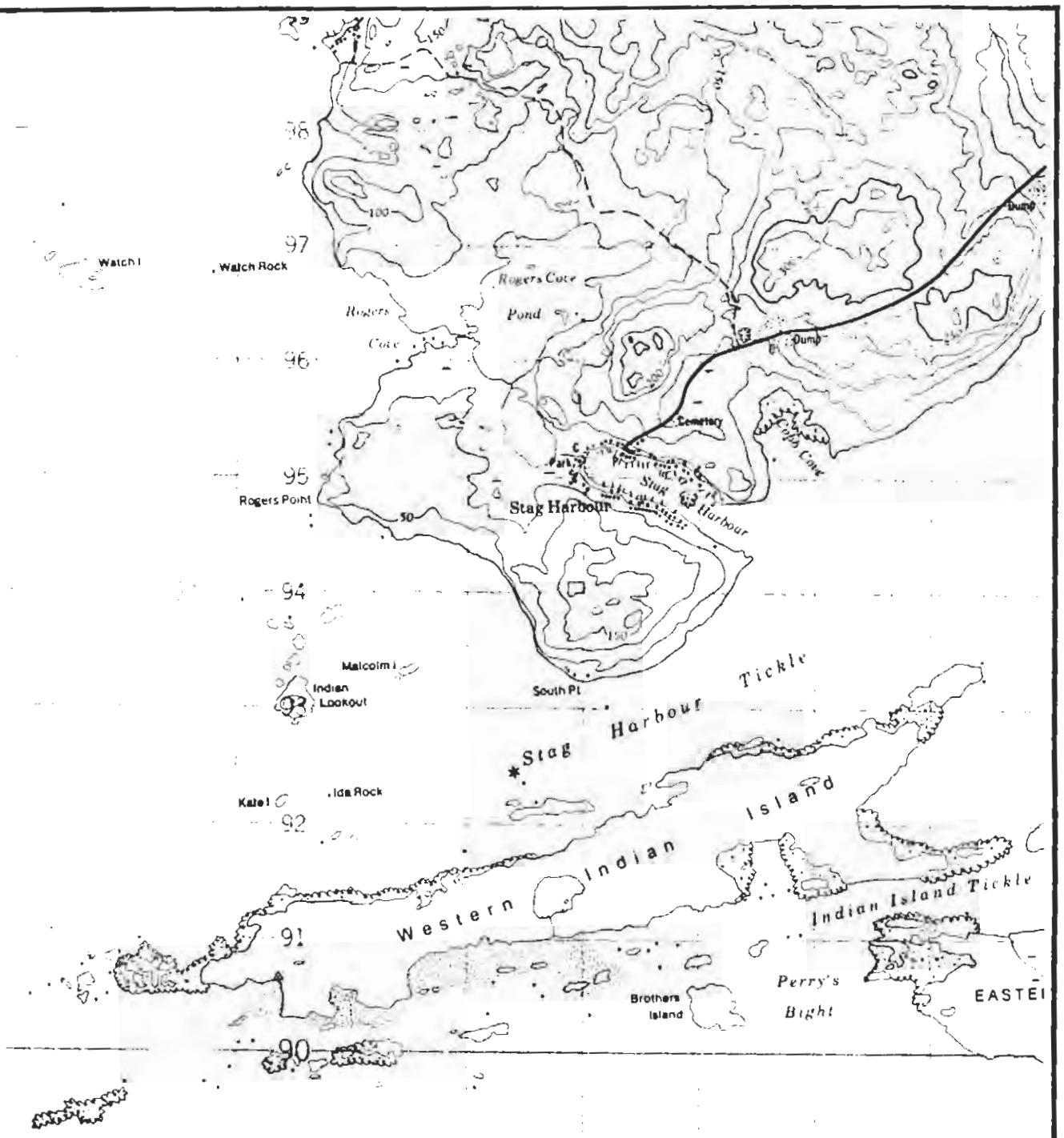
**EXISTING WATER SUPPLY**

Type : Private wells

**GROUNDWATER**

Two government wells have been drilled, one is still in use and available to those who wish to collect water in containers. Approximately 75% of the residences have private drilled wells. The community is protecting Stag Harbour Pond for future water supply.

The town presently has garbage collection and street lighting. Householders pay $100/year.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

STAG HARBOUR

**STANHOPE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 500 |
| Number of Homes | : | 105 |
| Homes Serviced | : | 3-4 home |
| Information Source(s) | : | Chairperson - L. Edwards |

**EXISTING WATER SUPPLY**

Type : Residents have dug wells with a few private drilled wells.

**REPORTED DEMAND**

**Domestic**

105 homes

**Industrial/Institutional/Commercial**

1 church, 3 commercial facilities

**WASTEWATER DISPOSAL**

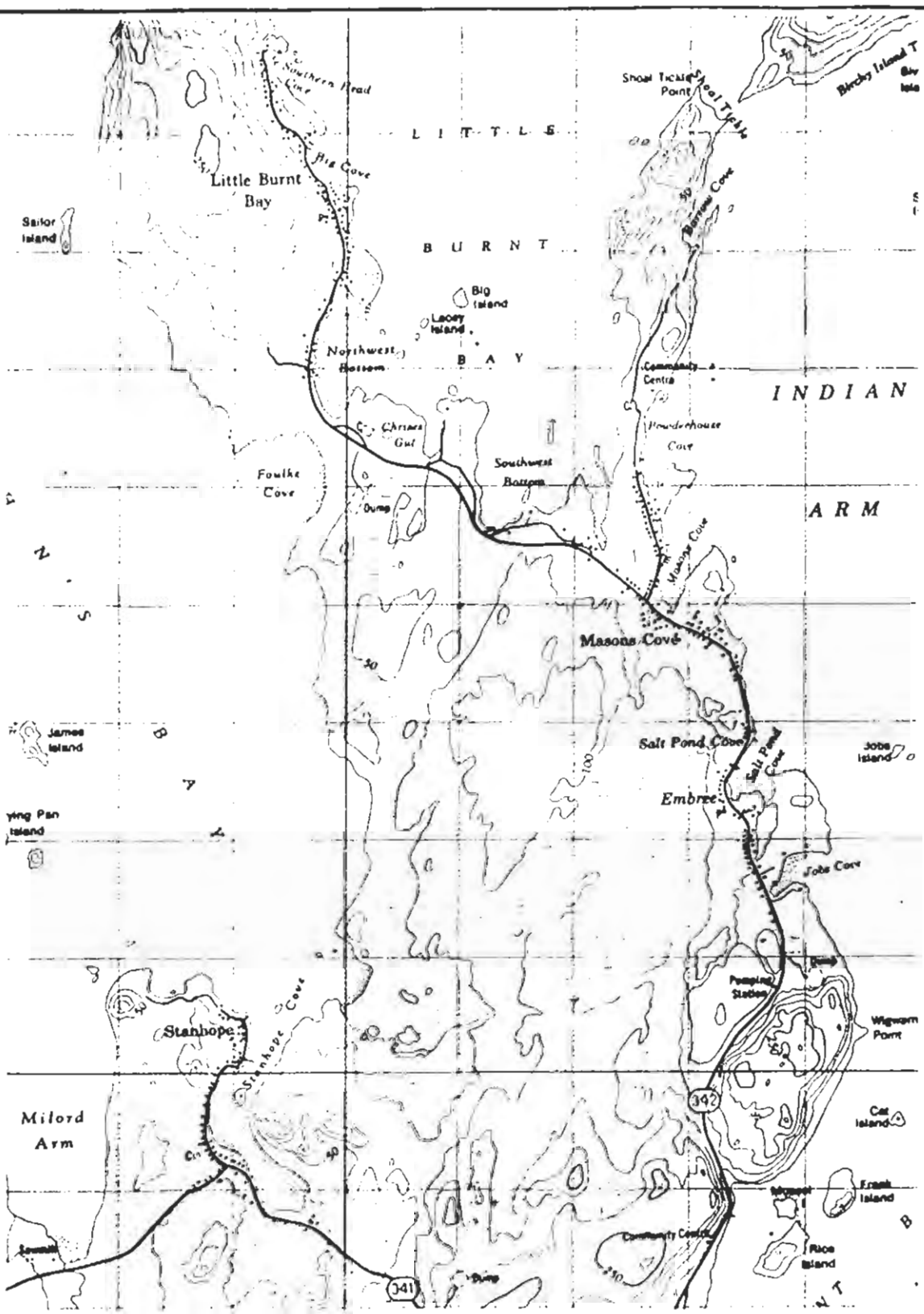
Treated : Septic tanks

**GROUNDWATER**

1 community well serves 3 to 4 homes

**OTHER COMMENTS**

A survey was carried out two years ago to cost estimate a water supply for the community. The proposal put forward was in excess of $5 million and the community was not agreeable to this money expenditure.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

STANHOPE

**STONEVILLE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 500 (approximately) |
| Number of Homes | : | 110 |
| Homes Serviced | : | 107 |
| Information Source(s) | : | Chairman - Wesley Mercer<br>Maint. Man - Fred Hodder |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface - First Pond River |
| Supply Reservoir | : | First Pond |
| Pond Area(Ha) | : | n/a |
| Drainage Area(Ha) | : | 38 000 |
| Live Storage (m) | : | 0.3 |
| Firm Yield($m^3$/day) | : | 51 234 |
| Intake Location | : | First Pond River |

**EXISTING STRUCTURES**

Pumphouse and wet-well facilities adjacent First Pond River. The intake facility constructed adjacent First Pond River comprises two corrugated galvanized pipe sections connected by a short section of 300 mm diam. drain pipe. The smaller-diameter section (1.2 m) is perforated and functions as own infiltration well. The larger-diameter section (2.7 m) serves as a wet-well supply to a nearby pumphouse. Water is supplied two centrifugal pumps (5 HP) through two suction lines (50 and 75 mm diam.).

**Delivery System**

A constant pressure pumping system supplies 75 and 50 mm diam. distribution mains throughout the community. The residences do not have curb stops. The water distribution system was installed in 1977.

**Status of Watershed Protection**

The watershed is protected.

**Reported Adequacy of Supply**

Although minimal flows in First Pond River are in excess of those required to meet existing and projected demand, adequate provision has not been made to ensure a continuous supply to the intake/wet-well structures.

**Potential for Increased Supply**

In order to eliminate recurring intake shortages, a new infiltration gallery will have to be designed and constructed at First Pond River.

**Other Observations/Reported Problems**

Line sizing throughout the community is inadequate to provide minimal pressure at peak demand. Despite having a protected watershed, 20 to 25 cabins are located on the shores of First Pond.

**REPORTED DEMAND**

**Domestic**

100 residences are serviced

**Industrial/Institutional/Commercial**

1 school, 3 commercial properties, 1 hall, and 1 church are serviced.

**Metering/Cost**

No operational and maintenance costs are available. The residential water fee is $7/month.

**WATER QUALITY**

**Treatment Method**

Chlorination (hypochlorinator at the pumphouse)

**Reported Observations/Problems**

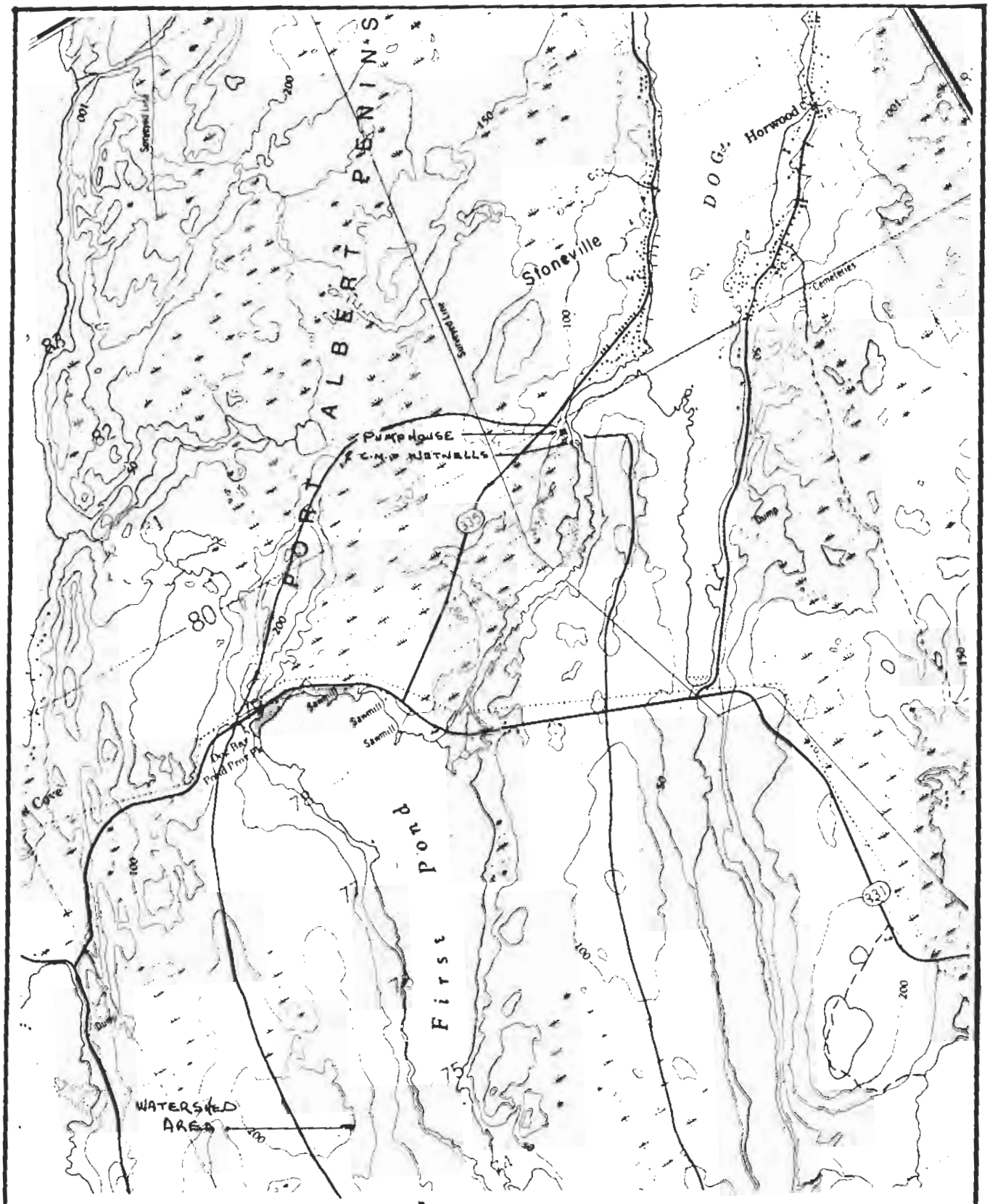
Boil orders have been made on several occasions by the Department of Health.

**WASTEWATER DISPOSAL**

Residents use septic fields for sewage disposal.

**OTHER COMMENTS**

Galvanized nipples, steel clamps, and metal screws in bronze saddles used in the distribution system are corroding, creating leaks. Households do not have curb stops to isolate problems on service lines.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

STONEVILLE

**ST. PATRICK'S**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 55 |
| Number of Homes | : | 22 |
| Homes Serviced | : | 19 |
| Information Source(s) | : | Committee Member - J. Walter<br>Town Clerk - Anne Carroll |

**EXISTING WATER SUPPLY**

Type : Community and private wells

**Reported adequacy of Supply**

Although the source appears adequate, residents at higher elevations experience periodic low service pressures which are due to distribution system inadequacies.

**Potential for Increased Supply**

Development of additional deep well supplies.

**REPORTED DEMAND**

**Domestic**

22 homes

**Industrial/Institutional/Commercial**

1 church

**Metering Cost**

The water operating and maintenance costs were $1,400/year. The domestic water rate is set at $72/year.

**GROUNDWATER**

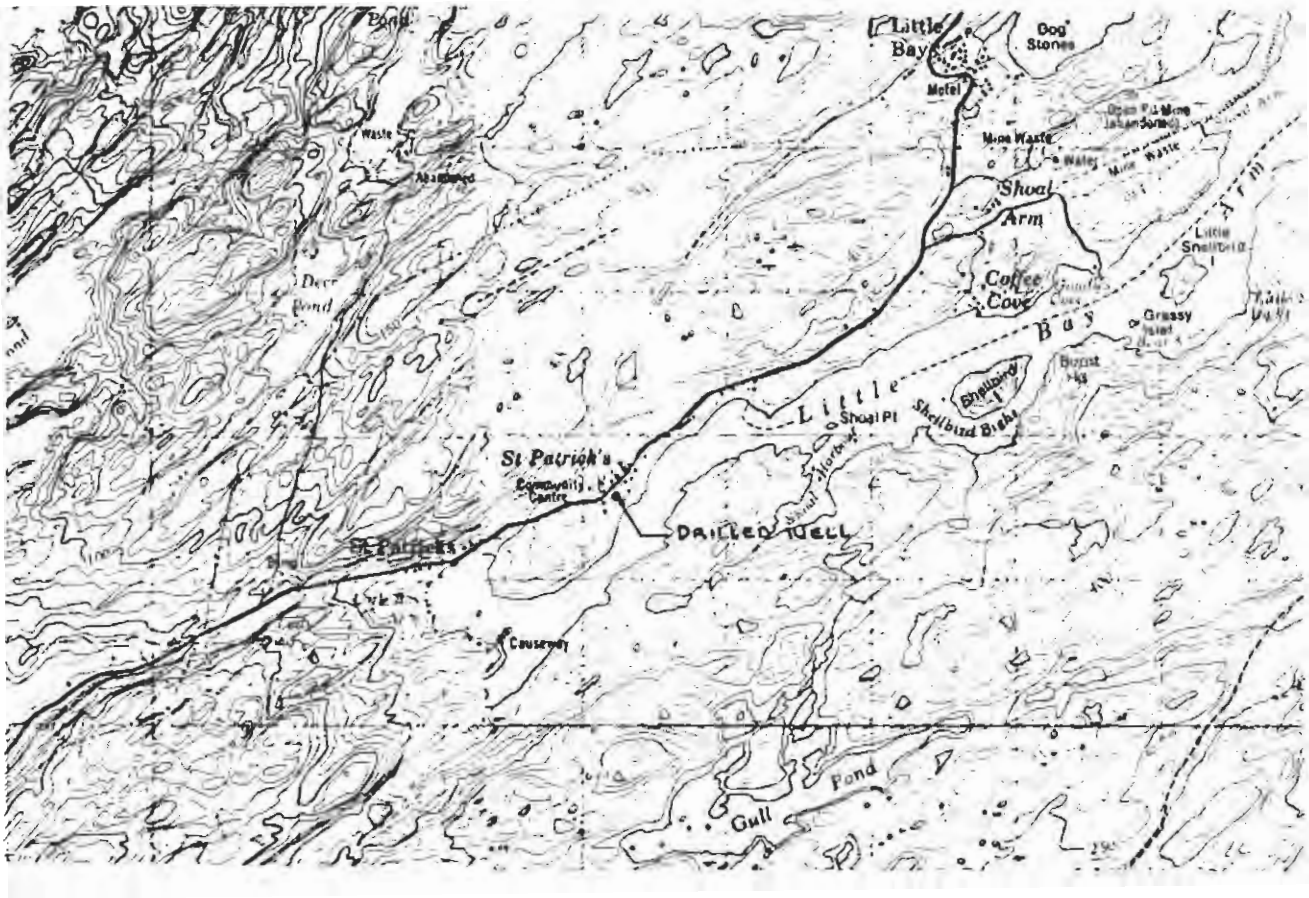
One community well supplies 19 homes. The pumphouse for the well is in fair condition. A deep well pump charges two 450 L in-line pressure tanks and then via a 50 mm supply line to the residences. There are leaks in the system where galvanized parts have corroded.

The remaining homes are serviced by private wells.

**WASTEWATER DISPOSAL**

Treated : Septic tanks

#8Ax:StPtrcks




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

ST. PATRICK'S

**SUMMERFORD**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,584 (including Cottlesville) |
| Number of Homes | : | 311 (Summerford only) |
| Homes Serviced | : | 120 |
| Information Source(s) | : | Vicky Anstey |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Rushy Cove Pond |
| Pond Area(Ha) | : | 9.0 |
| Drainage Area(Ha) | : | 215.0 |
| Live Storagae (m) | : | 2.6 |
| Firm Yield($m^3$/day) | : | 2256 |
| Intake Location | : | Southern end of Rushy Cove Pond |

**EXISTING STRUCTURES**

A pumphouse operates at Rushy Cove Pond.

**Delivery System**

From 600 mm intake at the southern end of Rushy Cove Pond water is pumped by two 20 HP and one 50 HP pumps through a 250 mm diam. supply line and thence into 150 mm branch lines.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

The water supply is adequate.

**Potential for Increased Supply**

The water supply is adequate to meet the projected needs for the town. Virgin Arm Local Service District, and Carter's Cove Local Service District reportedly wish to hook into Summerford's water supply. The town is looking for a storage reservoir in future work.

**REPORTED DEMAND**

**Domestic**

120 homes are serviced.

**Industrial/Institutional/Commercial**

3 churches, 2 schools, 4 businesses, and 1 fire hall are serviced with water.

**Metering/Cost**

Cottlesville pays 40% of the annual operating and maintenance costs for the Summerford water supply. The water cost for operating and maintaining the water supply system is in the order of $27,000/year. Included in this cost is $1,000 for metering the water supply to Cottlesville. The domestic water and sewer rate is $168/year.

**Losses/Wastage**

Not reported.

**WATER QUALITY**

**Treatment Method**

Gas chlorine

**Reported Quality**

Good

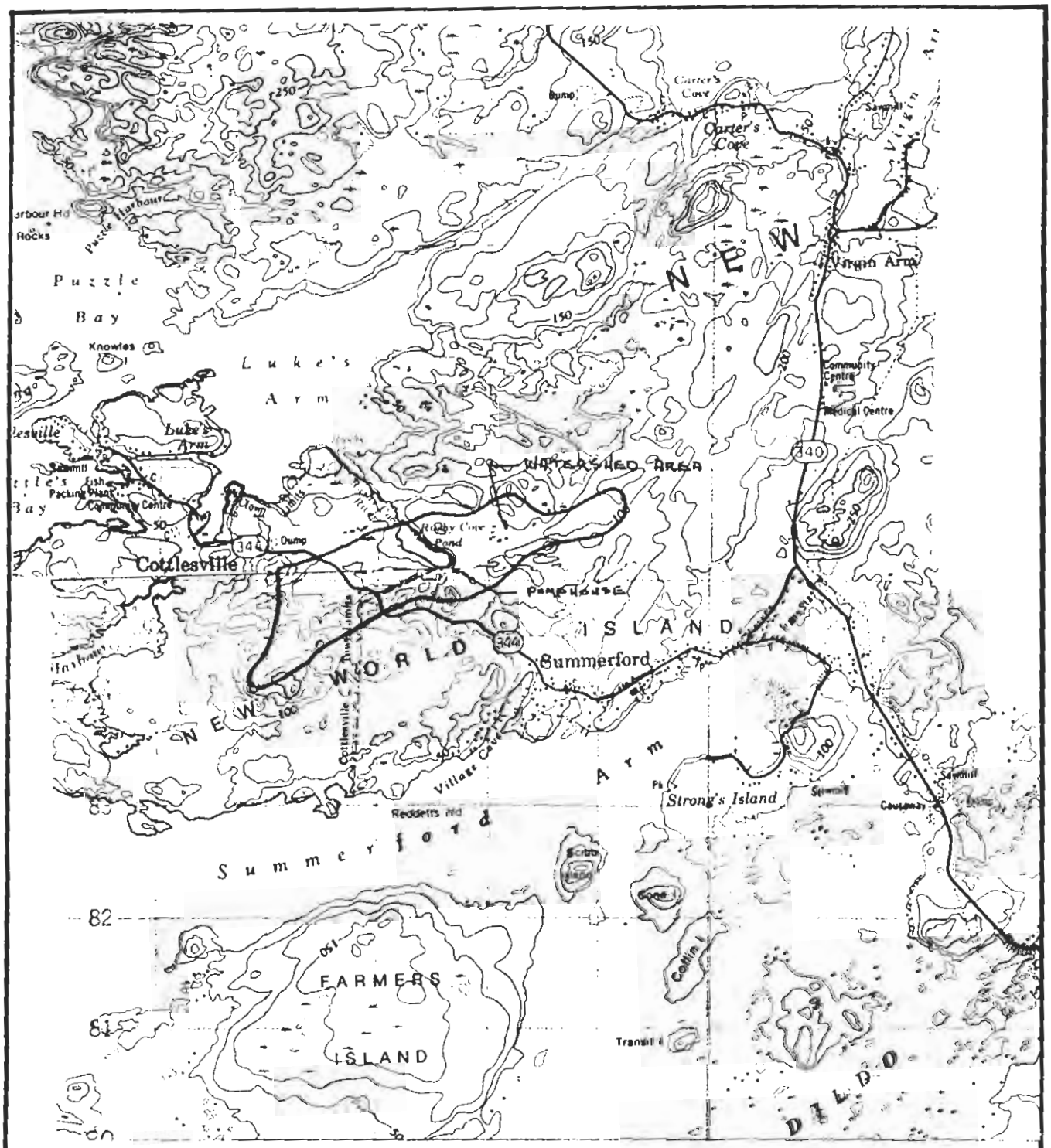
**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 2 lift stations and 3 sewer outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $720 for hydro only |
| Sewer Rates($/yr) | : | $168 for water and sewer |

**OTHER COMMENTS**

Town completed Phase 7 (1990) of its 14-phase municipal service plan.

#8Ax:Smmrford




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

SUMMERFORD

**THE BEACHES**

| | | |
|---|---|---|
| Status | : | Not incorporated |
| Population | : | 87 |
| Number of Homes | : | 25 |
| Homes Serviced | : | 24 |
| Information Source(s) | : | A. Osmond, E. May |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Dam across Grassy Pond Brook |
| Area(Ha) | : | 0.0022 |
| Drainage Area(Ha) | : | 196 |
| Live Storage (m) | : | 0.6 |
| Firm Yield($m^3$/day) | : | 265 |
| Intake Location | : | Grassy Pond Brook dam |

**EXISTING STRUCTURES**

A 10-year-old concrete dam which is in good condition and a chlorination building have been built.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.2 |
| Dam Crest Elevation (m) | : | 37.0 Geodetic |
| Dam Length(m) | : | 6.4 |
| Spillway Elevation(m) | : | 36.4 (intake elevation 35.8 m) |
| Spillway X section(m) | : | 1.5 x 0.6 |

**Delivery System**

Gravity feed from the dam and then to a 50 mm distribution main. There are no curb stops on the distribution system.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply is adequate though there have been problems of low pressure experienced. Approximately 100 L/min coming into the reservoir at the time of the field survey.

**Potential for Increased Supply**

The storage capacity of the reservoir could be doubled by raising the level of the dam an additional 1 m; however, this would not resolve instream low flows. To ensure continuous stream flows adequate in volume to meet projected demand will require construction of a control dam upstream on Grassy Pond.

**Other Observations/Reported Problems**

Annual problem of removing sand and gravel associated with embankment erosion from the reservoir.

**REPORTED DEMAND**

**Domestic**

25 homes (24 serviced)

**Metering/Cost**

The chlorination facility costs $18-$20/month to operate during the summer, and $80-$120/month in the winter. The domestic water rate is $10/month; however, this amount also includes garbage disposal.

**Losses/Wastage**

9 L/min leaking out of drain pipe at dam.

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

**Reported Quality**

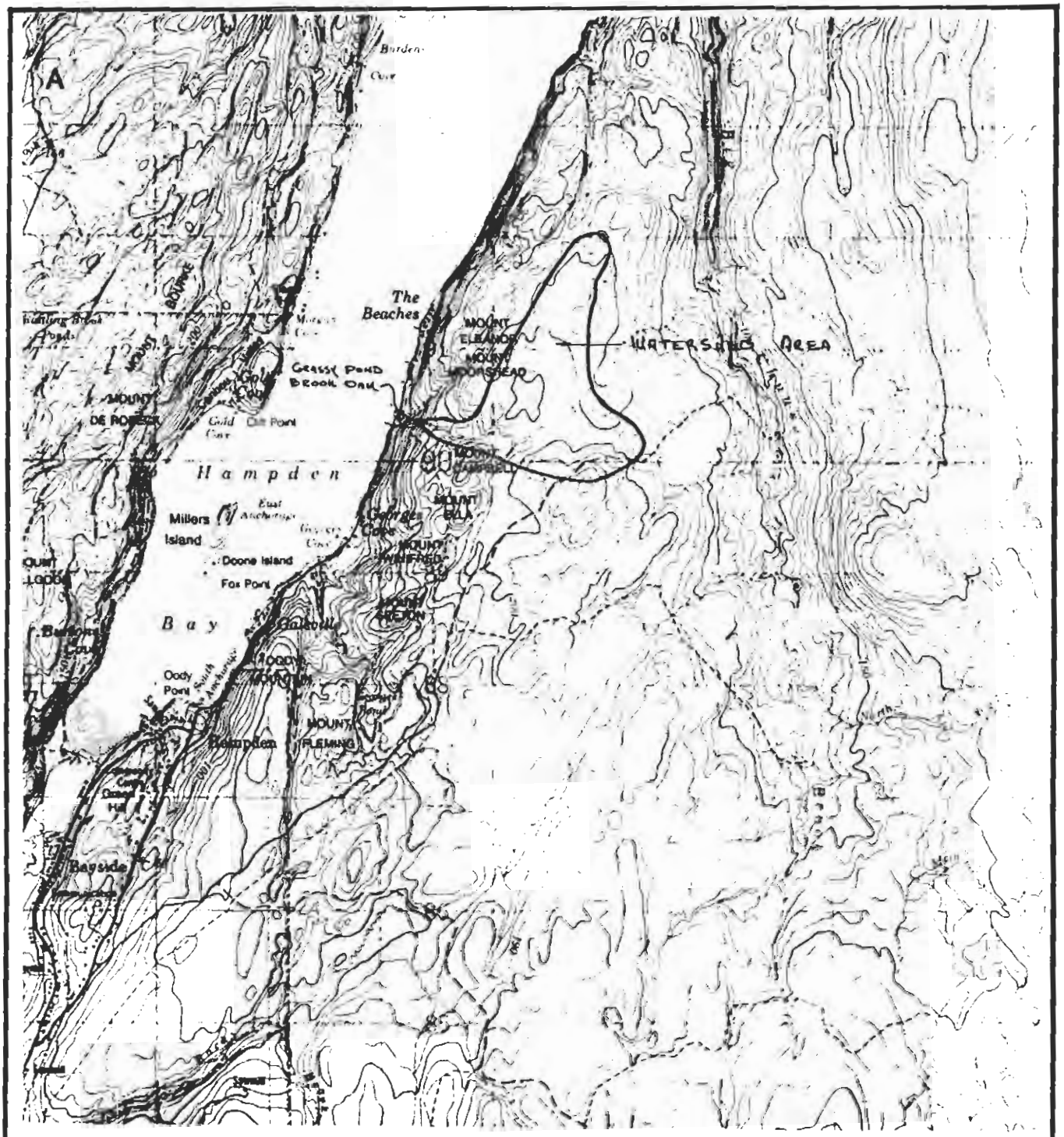
The water has an unacceptable taste during the summer months.

**FUTURE PLANS AFFECTING SUPPLY/DEMAND**

None

**WASTEWATER DISPOSAL**

Septic tanks to ocean




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

THE BEACHES

**TILT COVE**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 24 |
| Number of Homes | : | 13 |
| Homes Serviced | : | 13 |
| Information Source(s) | : | Mayor - Donald Collins<br>Town Clerk - Margaret Collins |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Castle Rock Pond |
| Pond Area(Ha) | : | 8.0 |
| Drainage Area(Ha) | : | 30.0 |
| Live Storage (m) | : | 1.3 |
| Firm Yield($m^3$/day) | : | 914 |
| Intake Location | : | North end of Castle Rock Pond |

**EXISTING STRUCTURES**

Concrete dam, built in 1975, is in fair condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.3 |
| Dam Crest Elevation (m) | : | 67.8 Geodetic |
| Dam Length(m) | : | 16.0 |
| Spillway Elevation(m) | : | n/a |
| Spillway X section(m) | : | No spillway |

**Delivery System**

From intake the reservoir distribution main is 100 mm. The water system is gravity supplied with system pressure between 80-90 psi.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply to the community is adequate for existing and projected demand.

**REPORTED DEMAND**

**Domestic**

13 homes are serviced

**Metering/Cost**

The domestic water rate is $100/year per household with overhead and maintenance costs of $500/year for the system.

**WATER QUALITY**

**Treatment Method**

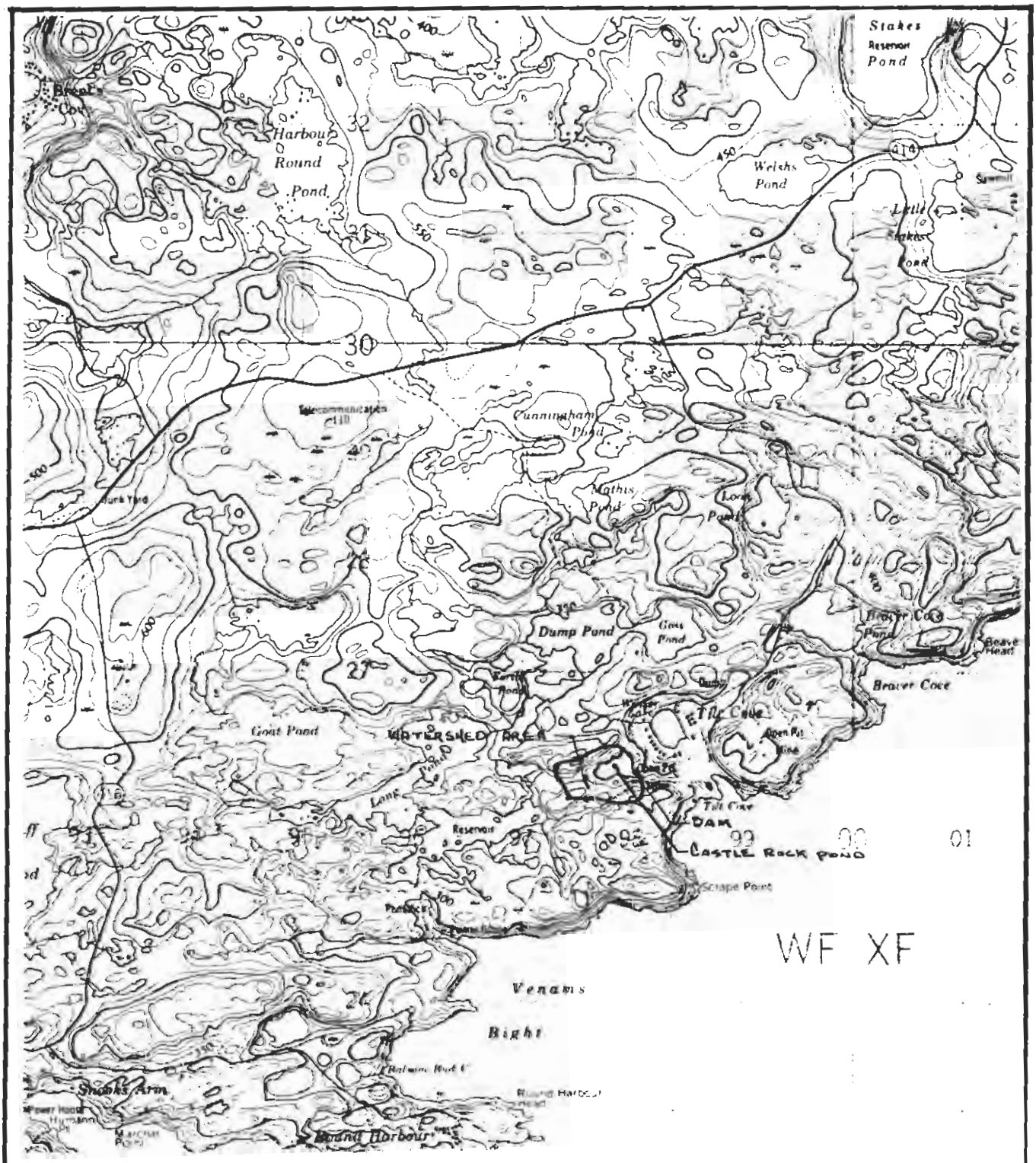
Untreated

**Reported Observations/Problems**

Water quality is reported to be good. The community is seeking monies for the installation of fire hydrants.

**WASTEWATER DISPOSAL**

The community uses septic tanks for wastewater disposal.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TILT COVE

**TILTING**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 414 |
| Number of Homes | : | 110 |
| Homes Serviced | : | 44 water and sewer, 9 water only |
| Information Source(s) | : | Town Clerk - Mary O'Keefe<br>Maint. Man - Andrew McGrath |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface and groundwater |
| Supply Reservoir | : | Sandy Cove Pond |
| Pond Area(Ha) | : | 56.0 |
| Drainage Area(Ha) | : | 1952.0 |
| Live Storage (m) | : | 2.4 |
| Firm Yield($m^3$/day) | : | 13925 |
| Intake Location | : | Northeast end of Sandy Cove Pond |

**EXISTING STRUCTURES**

New pumphouse and intake works at Sandy Cove Pond.

**Delivery System**

Two 5 HP centrifugal pumps are supplied water by a 300 mm diam. intake to a wet-well beneath the pumphouse. Water drawn from the wet-well is chlorinated and pumped through a number of pneumatic tanks to a 400 mm diam. supply maian to the community. Within the community, distribution mains are reduced to 250 mm and 150 mm diam. Additional construction phases are required to complete servicing to the remaining 47 homes.

**Status of Watershed Protection**

The watershed area is not protected at present; however, the community has made a request to Provincial Dept. of Environment to have the area appropriately designated.

**Reported adequacy of Supply**

The water supply is capable of meeting present and projected demand requirements.

**Other Observations/Reported Problems**

An existing drilled well equipped with a pneumatic tank and submersible pump is being kept operative to supply about 10 residences not as yet serviced by the new system.

**REPORTED DEMAND**

**Domestic**

110 residences of which 44 have water and sewer and 9 have only water services.

**Industrial/Institutional/Commercial**

One church, 2 commercial properties, 1 fire hall, and 1 fish plant.

**Metering/Cost**

Operating and maintenance costs are presently approximately $3,350/year. The domestic water rate is $96/year.

**Losses/Wastage**

None reported

**WATER QUALITY**

**Treatment Method**

Liquid chlorine

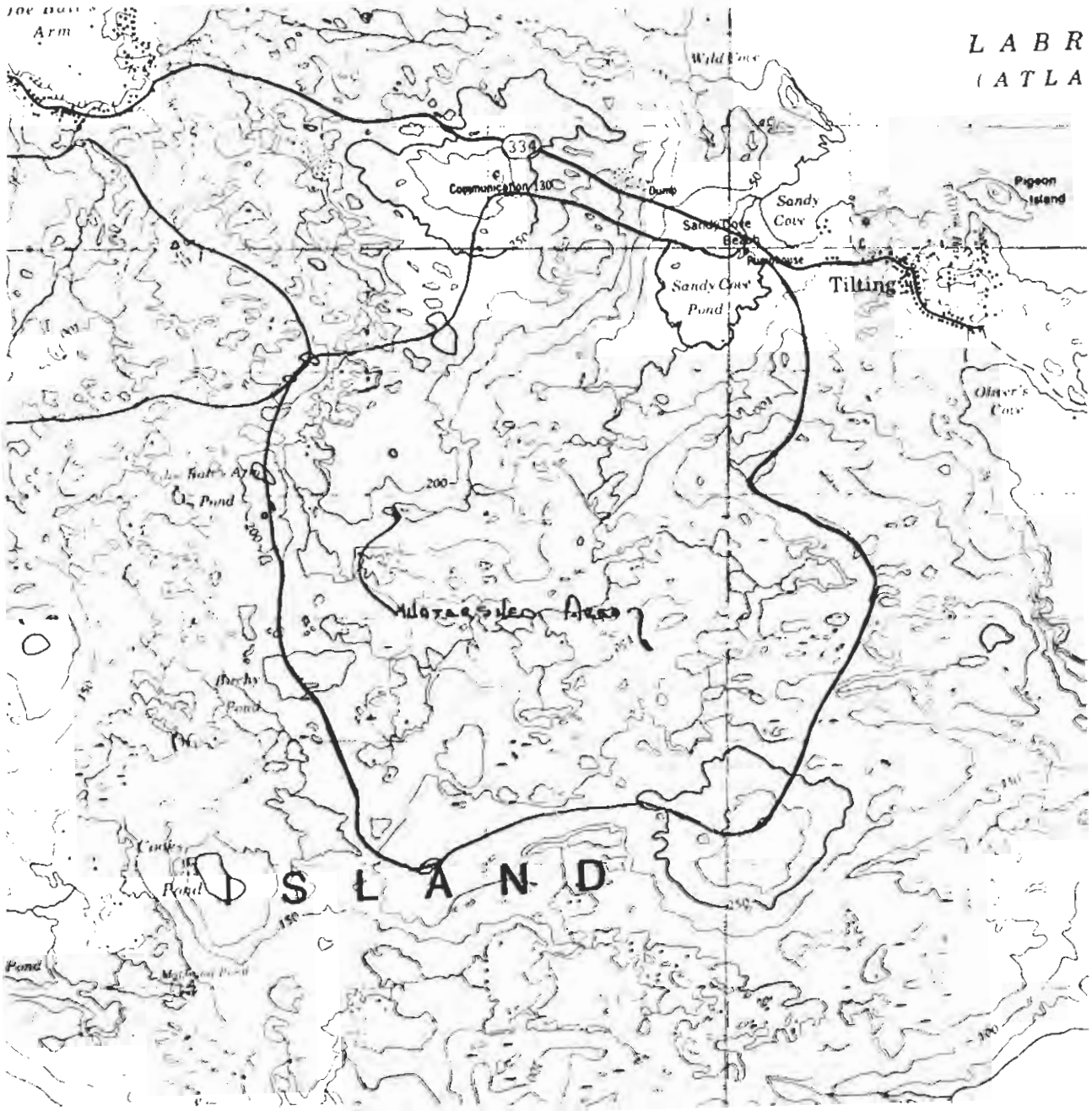
**Reported Quality**

Water quality is satisfactory.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through one sewer outfall |
| Permitted | : | Yes |
| O & M Costs | : | None (sewer maintenance carried out by Fire Department at no cost) |
| Sewer Rates | : | $72/year |

#8Ax:Tilting




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TILTING

**TIZZARD'S HARBOUR**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 150 |
| Number of Homes | : | 40 |
| Homes Serviced | : | 40 |
| Information Source(s) | : | Chairperson - Eric Boyd |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Rocky Pond |
| Pond Area(Ha) | : | 4.5 |
| Drainage Area(Ha) | : | 136.0 |
| Live Storage (m) | : | 3.0 |
| Firm Yield($m^3$/day) | : | 1318 |
| Intake Location | : | North end of Rocky Pond |

**EXISTING STRUCTURES**

A native timber crib dam built in 1979 is in fair condition. A 100 mm diam. intake extends through the dam and gravity feeds a 75 mm diam. supply main to the community.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.2 |
| Dam Crest Elevation (m) | : | 76.2 Geodetic |
| Dam Length(m) | : | 15.0 |

**Delivery System**

The community is serviced by gravity from Rocky Pond through a 75 mm diam. supply main. Within the settlement distribution mains are 75 and 50 mm diam. Chlorination is effected through use of a hypochlorinator at a chlorination building about 900 m upstream of the community.

**Status of Watershed Protection**

The watershed is protected.

**Reported Adequacy of Supply**

The Rocky Pond supply is adequate to meet projected demand.

**REPORTED DEMAND**

**Domestic**

40 homes are serviced

**Industrial/Institutional/Commercial**

1 fish plant is serviced using 20 mm polyethylene pipe

**WASTEWATER DISPOSAL**

The residents use septic fields for waste disposal.

**OTHER COMMENTS**

The requirements for domestic water supply needs are met by the present distribution system. However, the system is inadequately sized to provide fire flows.

#8Ax:TzrdsHbr


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TIZZARD'S HARBOUR

**TOOGOOD ARM**

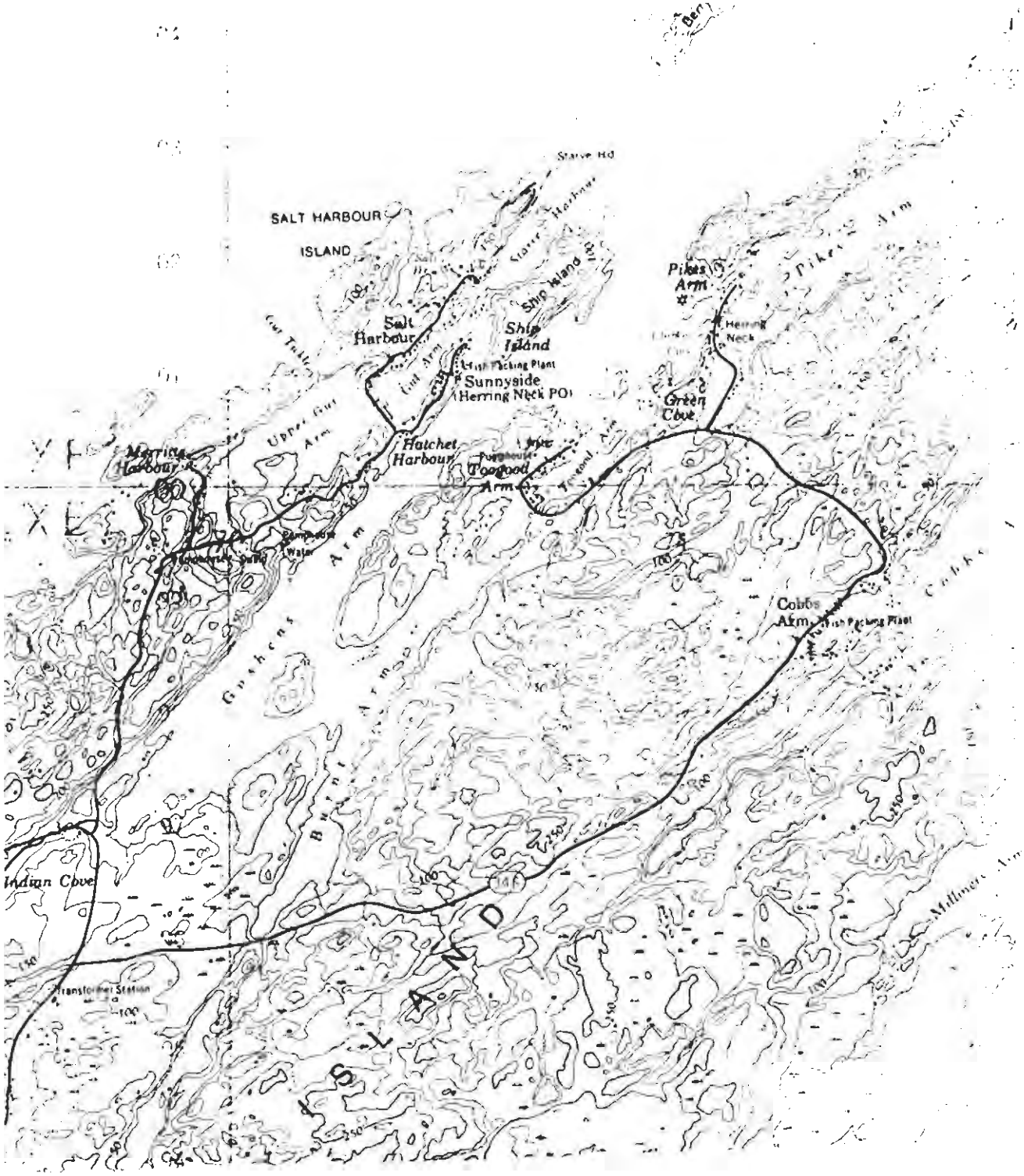
| | | |
|---|---|---|
| Status | : | Unincorporated |
| Population | : | 152 |
| Number of Homes | : | 40 |
| Homes Serviced | : | None |
| Information Source(s) | : | Local resident |

**WASTEWATER DISPOSAL**

Private septic tanks with discharge to the ocean.

**OTHER COMMENTS**

An open pit shallow well from which water was pumped to a 15000 L concrete reservoir and gravity fed to the settlement through a 50 mm diam. supply main serviced the community from 1970 to 1980. The system was not maintained and eventually reached the stage by 1980 where disrepair rendered the system inoperative. Residents have used private wells since 1980.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TOOGOOD ARM

**TRITON**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,250 |
| Number of Homes | : | 350 |
| Homes Serviced | : | 25% with water only; 75% with water and sewer |
| Information Source(s) | : | Town Clerk - Astrid Fudge<br>Maint. Man - Harvey Henstridge |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Triton Pond |
| Pond Area(Ha) | : | 12 |
| Drainage Area(Ha) | : | 430 |
| Live Storage (m) | : | 3 |
| Firm Yield($m^3$/day) | : | 3605 |
| Intake Location | : | East side of Triton Pond |

**EXISTING STRUCTURES**

A concrete dam built in 1980 is constructed across the outlet stream at the west end of Triton Pond. The dam has two spillway sections with different discharge elevations. The combined capacity of both spillways, however, is inadequate to preclude flooding of the pumphouse located at the east end of the pond.

Additional supply system components comprise a remotely-located 225 000 L capacity storage reservoir and associated control structure with telemetering equipment. All the structures and equipment are in good operating condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 1.7 |
| Dam Crest Elevation (m) | : | 8.4 Geodetic |
| Dam Length(m) | : | 9.15 |
| Spillway Elevation(m) | : | 7.8 and 7.65 |
| Spillway X section(m) | : | 1.5 x 0.6 and 1.5 x 0.75<br>(Note: 2 spillways) |

**Delivery System**

A 600 mm diam. corrugated culvert intake directs water into a concrete screening chamber inside the pumphouse. Two 25 HP centrifugal pumps supply water to the remotely-located storage reservoir through a 150 mm diam. supply main. Operation of the pumps is dictated by water levels in the reservoir with start/stop signalled b telemetering equipment at the reservoir site. Distribution mains to the fish plant and through the town are all 150 mm diam. Additional pumping capacity is planned through installation of two 15 HP pumps. These will be used to offset low pressures experienced during fish plant operation.

**Status of Watershed Protection**

The watershed is protected.

**Reported adequacy of Supply**

The supply is adequate to handle projected domestic and industrial demand.

**Potential for Increased Supply**

While additional storage at Triton Pond could be provided by raising the dam and construction of earth fill dikes at low points, this would necessitate major pumphouse modifications to raise the structure above flood levels.

**Other Observations/Reported Problems**

Seagulls habitat the area around the water intake and are posing a potential pollution hazard.

**REPORTED DEMAND**

**Domestic**

350 residences

**Industrial/Institutional/Commercial**

2 churches, 2 schools, 16 commercial facilities, 2 medical facilities, 1 fire hall, 1 fish plant.

**Metering Cost**

Water to fish plant is metered. Domestic water rate is $84/year. Operating and maintenance costs for the water supply system is $29,000/year.

**Losses/Wastage**

Not reported

**WATER QUALITY**

**Treatment Method**

Gas chlorination at the pumphouse.

**Reported Quality**

The water quality is reported as being satisfactory with some discolouration during the spring run-off.
Satisfactory

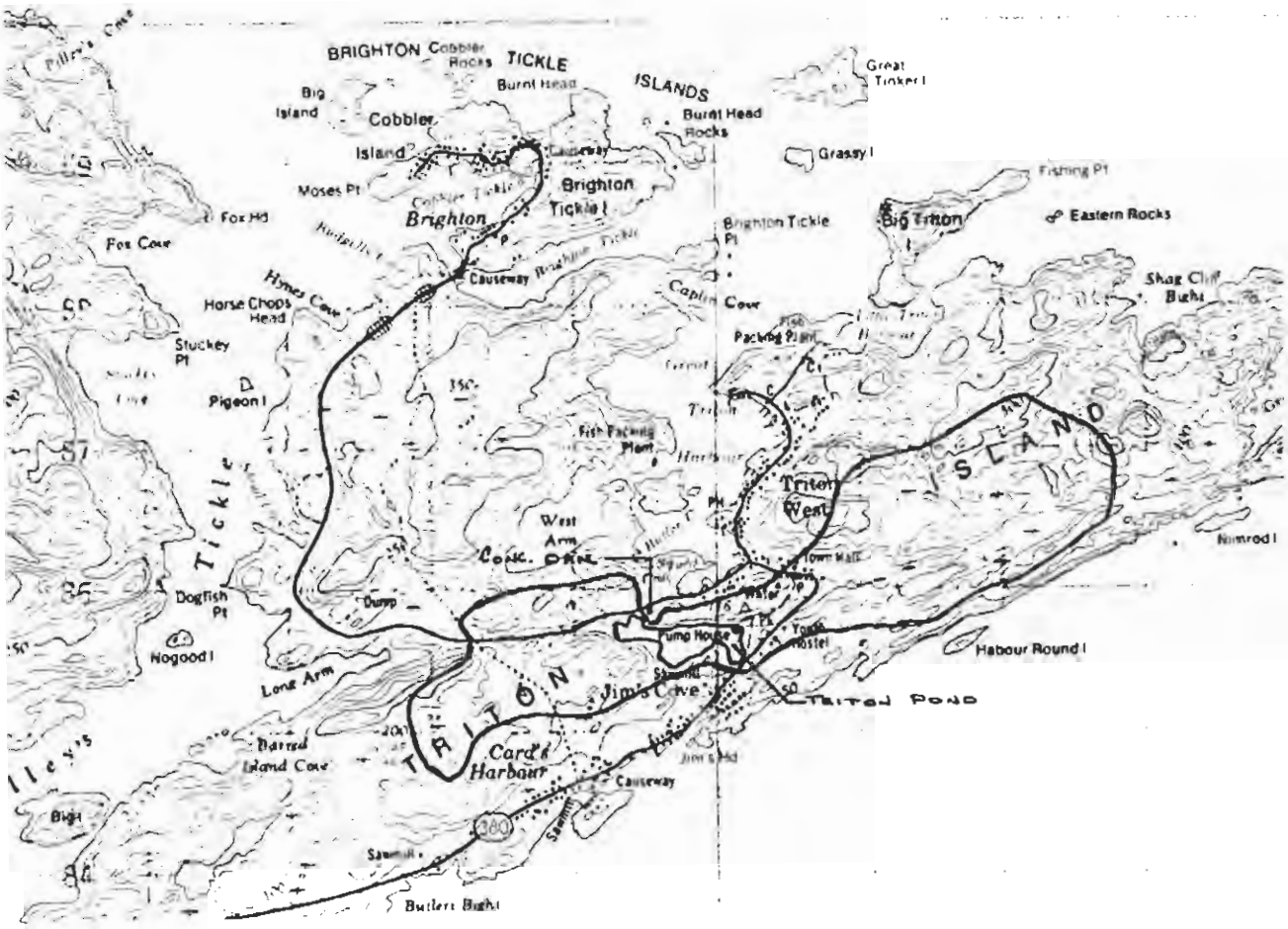
**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To harbour through 6 lift stations, 2 comminutors, and 5 sewage outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $48,000 ± |
| Sewer Rates($/yr) | : | $ 84 |

**OTHER COMMENTS**

The gas chlorine equipment has been malfunctioning and the town is considering replacement.

#10Ax:Triton




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TRITON

**TWILLINGATE**

| | | |
|---|---|---|
| Status | : | Town |
| Population | : | 1,539 |
| Number of Homes | : | 500 |
| Homes Serviced | : | Water and sewer 425; 25 homes sewer only, 50 not serviced |
| Information Source(s) | : | Town Manager - Wilfred Hall |

**EXISTING WATER SUPPLY**

| | | | |
|---|---|---|---|
| Type | : | Surface | |
| Supply Point | : | Stuckeys Pond Reservior | Wild Cove Pond |
| Pond Area(Ha) | : | 25.0 | 20.0 |
| Drainage Area(Ha) | : | 263.0 | 200.0 |
| Live Storage (m) | : | 1.4 | 3.0 |
| Firm Yield($m^3$/day) | : | 3296 | 5311 |

**EXISTING STRUCTURES**

Pumphouse at Stuckeys and Wild Cove Ponds are both in good condition. There are earth filled dams with polyethylene liners and concrete spillways on Stuckeys, Wild Cove, and Rocky Ponds.

**Delivery System**

Two 20 HP centrifugal pumps supply the distribution main from Stuckeys Pond to a 1 125 000 L standpipe. Distribution main sizes are 150 mm to 200 mm diam. The pumphouse on Wild Cove Pond pumps into Stuckeys Pond as required to maintain minimal live storage.

**Status of Watershed Protection**

Both watershed areas are protected.

**Reported adequacy of Supply**

The water supply is adequate to meet existing and projected demand.

**REPORTED DEMAND**

**Domestic**

500 homes (50 not serviced) plus town of Durrell, which purchases its water from Twillingate.

**Industrial/Institutional/Commercial**

4 churches (3 serviced), 2 schools, 30 commercial facilities, 1 medical facility, 1 fire hall, 1 fish plant, and 1 hotel.

**Metering Cost**

Latest annual operating and maintenance cost was $30,000. The domestic water rate is $120/year. The town pays $0.08/$m^3$ for water to the Department of Municipal Affairs.

**WATER QUALITY**

**Treatment Method**

Gas chlorine

**Reported Quality**

High concentrations of copper, lead, and zinc have been recorded.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean through 3 lift stations and 6 sewage outfalls |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | $20,000 |
| Sewer Rates($/yr) | : | $ 72 |

**OTHER COMMENTS**

Town forces have ongoing work program directed at servicing the remaining 50 homes.

The water supply system supplying Twillingate and Durrell is owned by the Provincial Government and maintained at Government expense by the Town of Twillingate.


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

TWILLINGATE

**VALLEY POND**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 200 |
| Number of Homes | : | 58 |
| Homes Serviced | : | 4 |
| Information Source(s) | : | Spokesman - Willis Rideout |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Groundwater (2 drilled wells) |
| Supply Reservoir | : | Grand Pond (proposed) |
| Pond Area(Ha) | : | 7.5 |
| Drainage Area(Ha) | : | 28 |
| Live Storage (m) | : | 1.5 (assumed) |
| Firm Yield(m3/day) | : | |
| Intake Location | : | |

**EXISTING STRUCTURES**

No major structures are in place.

**Delivery System**

The community utilized a $150,000 Canada Works Grant to install a 600 m section of 150 mm diam. supply main from Grand Pond to the south end of the community. Additional funding has not been provided to construct an intake and chlorination system or distribution mains through the settlement.

Two community drilled wells are equipped with submersible pumps and wood-frame shelters. Each well services two residences.

**REPORTED DEMAND**

**Domestic**

58 homes (4 serviced)

**Industrial/Institutional/Commercial**

1 church and 1 fish plant are serviced from an above-ground gravity feed line.

**WASTEWATER DISPOSAL**

Septic tanks

**OTHER COMMENTS**

Of four community wells in Valley Pond, only two have been developed with servicing to only four homes. Some private wells have also been drilled. An above-ground 50 mm gravity flow water line from Grand Pond supplies the fish plant from May to October. The local residents get water from the plant in buckets during this period.

#8Ax:VllyPond


DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

VALLEY POND

**WESTPORT**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 500 |
| Number of Homes | : | 100 |
| Homes Serviced | : | 100 |
| Information Source(s) | : | Town Clerk - P. Randell |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Dam on Western Brook |
| Reservoir Storage(Ha) | : | 0.038 |
| Pond Storage (Ha) | : | 11.5 |
| Drainage Area(Ha) | : | 370.0 |
| Live Storage (m) | : | 1.0 (Reservoir); 1.0 (Pond) |
| Firm Yield($m^3$/day) | : | 1468 |
| Intake Location | : | Dam on Western Brook |

**EXISTING STRUCTURES**

A concrete dam constructed on Western Brook in 1969 is in very poor condition. A wooden dam on Western Brook Pond allows stream discharge control and provides 1.0 m of live storage.

| | | |
|---|---|---|
| Dam Height (m) | : | 2.0 (Western Brook) |
| Dam Crest Elevation (m) | : | 68.0 Geodetic |
| Dam Length(m) | : | 19.0 |
| Spillway Elevation(m) | : | 67.5 |
| Spillway X section(m) | : | 2.5 x 0.5 |

**Delivery System**

Water is gravity fed from Western Brook Dam through a 1000 m section of 150 mm diam. supply main to the community.

**Status of Watershed Protection**

The watershed is unprotected.

**Reported adequacy of Supply**

Western Pond watershed can adequately supply the projected domestic demand.

**Potential for Increased Supply**

By increasing the height of Western Brook Dam by 1 m, the capacity of the reservoir could be doubled.

**Other Observations/Reported Problems**

The distribution main is shallow bury and residents run the water continuously during the winter to prevent it from freezing.

**REPORTED DEMAND**

**Domestic**

100 homes serviced

**Industrial/Institutional/Commercial**

1 church, 1 school, 4 commercial properties, 1 part-time medical facility, and 1 fire hall.

**Metering/Cost**

No operating costs available.

**Losses/Wastage**

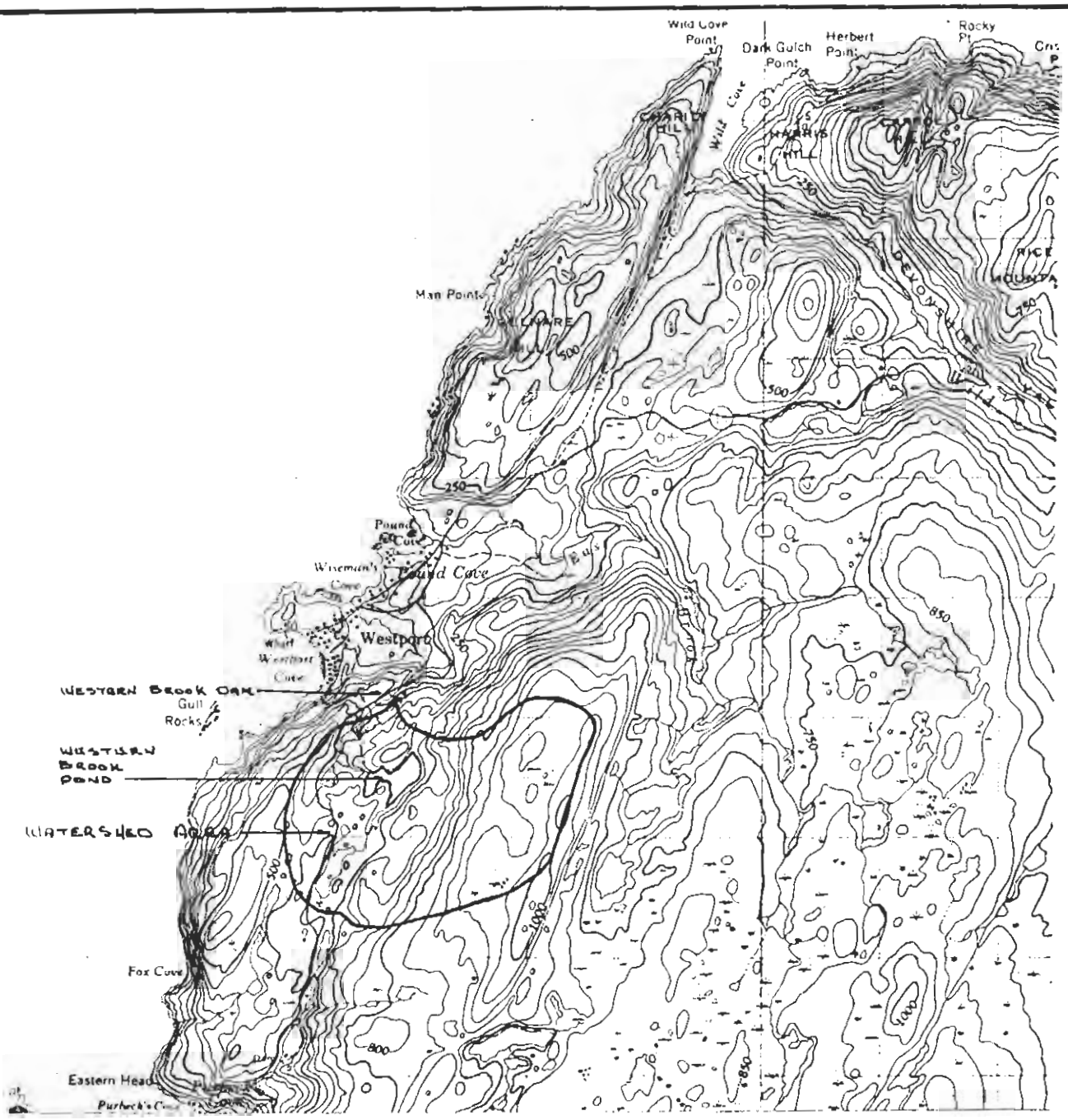
Residents run water to prevent freezing during winter.

**Reported Quality**

Good

**WASTEWATER DISPOSAL**

Private septic tanks or wastewater disposal to the ocean.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

WESTPORT

**WILD COVE**

| | | |
|---|---|---|
| Status | : | Local Service District |
| Population | : | 112 |
| Number of Homes | : | 33 |
| Homes Serviced | : | 33 |
| Information Source(s) | : | Committee Member - D. Pinksen |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Reservoir | : | Wild Cove Brook |
| Pond Area(Ha) | : | 0.038 |
| Drainage Area(Ha) | : | 2550.0 |
| Live Storage (m) | : | 3.8 |
| Firm Yield($m^3$/day) | : | 3450 |
| Intake Location | : | Wild Cove Brook |

**EXISTING STRUCTURES**

A concrete dam and chlorination building were built in 1987 and are in good condition.

| | | |
|---|---|---|
| Dam Height (m) | : | 3.3 |
| Dam Crest Elevation (m) | : | 54.8 Geodetic |
| Dam Length(m) | : | 25.5 |
| Spillway Elevation(m) | : | 54.6 |
| Spillway X section(m) | : | 3.0 x 0.2 |

**Delivery System**

A 25-year-old gravity supply system comprises an initial 190 m section of 150 mm diam. main from the dam. Beyond this point the remaining distribution main is 50 mm diam. throughout the settlement.

**Reported adequacy of Supply**

The supply is adequate for present and projected demand.

**Metering Cost**

Operating and maintenance costs are negligible in particular since the chlorination building is not hooked up. The domestic water rate is set at $84/year (garbage collection is $96/year).

**WATER QUALITY**

**Treatment Method**

Chlorination building. Hypochlorination system, however, while in place, has never been hooked up.

**Reported Quality**

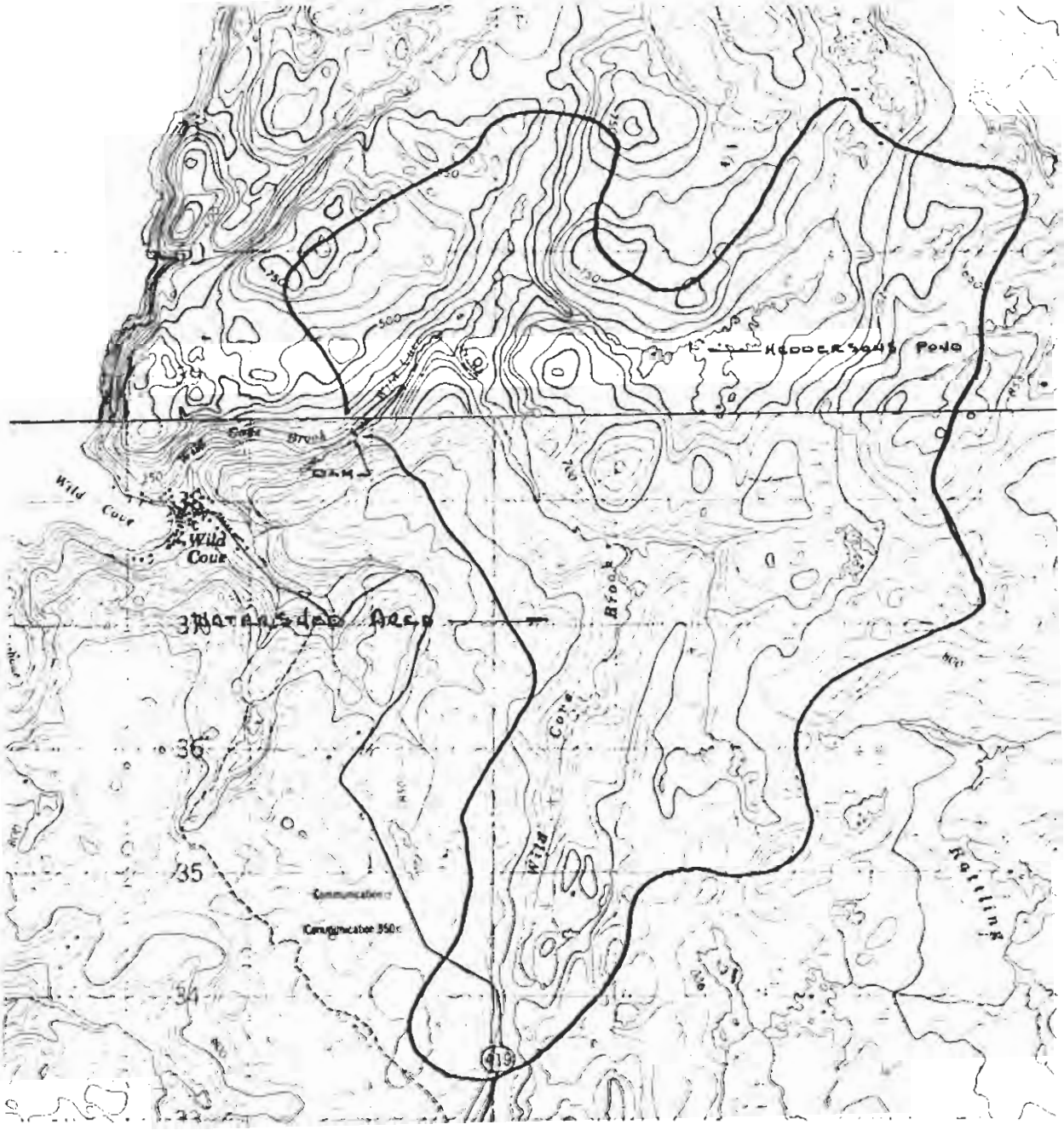
Water is coloured but otherwise of satisfactory quality.

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | Private septic tanks or cesspools. Some discharge to the ocean. |
| Discharge | : | |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | Nil |
| Sewer Rates($/yr) | : | Nil |

**OTHER COMMENTS**

Five residences at higher elevations within the community receive low pressure during peak demand periods. This is a direct result of excessive head losses through small-diameter supply mains.




DEPARTMENT OF ENVIRONMENT AND LANDS

WATER RESOURCES STUDY OF THE NOTRE DAME BAY AREA—CENTRAL NEWFOUNDLAND REGION.

WILD COVE

**WOODSTOCK**

| | | |
|---|---|---|
| Status | : | Community |
| Population | : | 400 |
| Number of Homes | : | 80 |
| Homes Serviced | : | 33 with water and sewer |
| Information Source(s) | : | Town Clerk - Mildred Clarke<br>Deputy Mayor - Sam Decker |

**EXISTING WATER SUPPLY**

| | | |
|---|---|---|
| Type | : | Surface |
| Supply Point | : | Mill Pond |
| Pond Area(Ha) | : | 5.0 |
| Drainage Area(Ha) | : | 235.0 |
| Live Storage (m) | : | 1.7 |
| Firm Yield($m^3$/day) | : | 1031 |
| Intake Location | : | Eastern end of Mill Pond (water surface elevation 145 m Geodetic) |

**EXISTING STRUCTURES**

A 10-year-old membrane-lined wooden dam and a chlorination building.

**Delivery System**

The supply system comprises a 150 mm diam. intake in Mill Pond which gravity feeds an initial 300 m section of 150 mm main. Supply beyond this point to the community is via a 100 mm diam. line. Distribution to the north and south sides of the community is through 50 mm and 75 mm diam. PVC mains.

**Status of Watershed Protection**

The watershed area is protected.

**Reported adequacy of Supply**

Adequate except during winter when pond level is low and the intake lines freeze.

**Potential for Increased Supply**

The water supply is capable of meeting the present and projected demand. If the need arose, a new dam could be constructed raising the water level 1.0 m.

**REPORTED DEMAND**

**Domestic**

80 residences; 33 serviced with water and sewer as part of Phase I construction in 1990.

**Industrial/Institutional/Commercial**

3 churches, 1 school, 2 commercial facilities, 1 clinic, 1 fire hall, 1 fishing stage

**Metering Cost**

Operating and maintenance costs are not available.

**Losses/Wastage**

Some minimal leakage through the dam structure was evidenced at the time of the field survey.

**WATER QUALITY**

**Treatment Method**

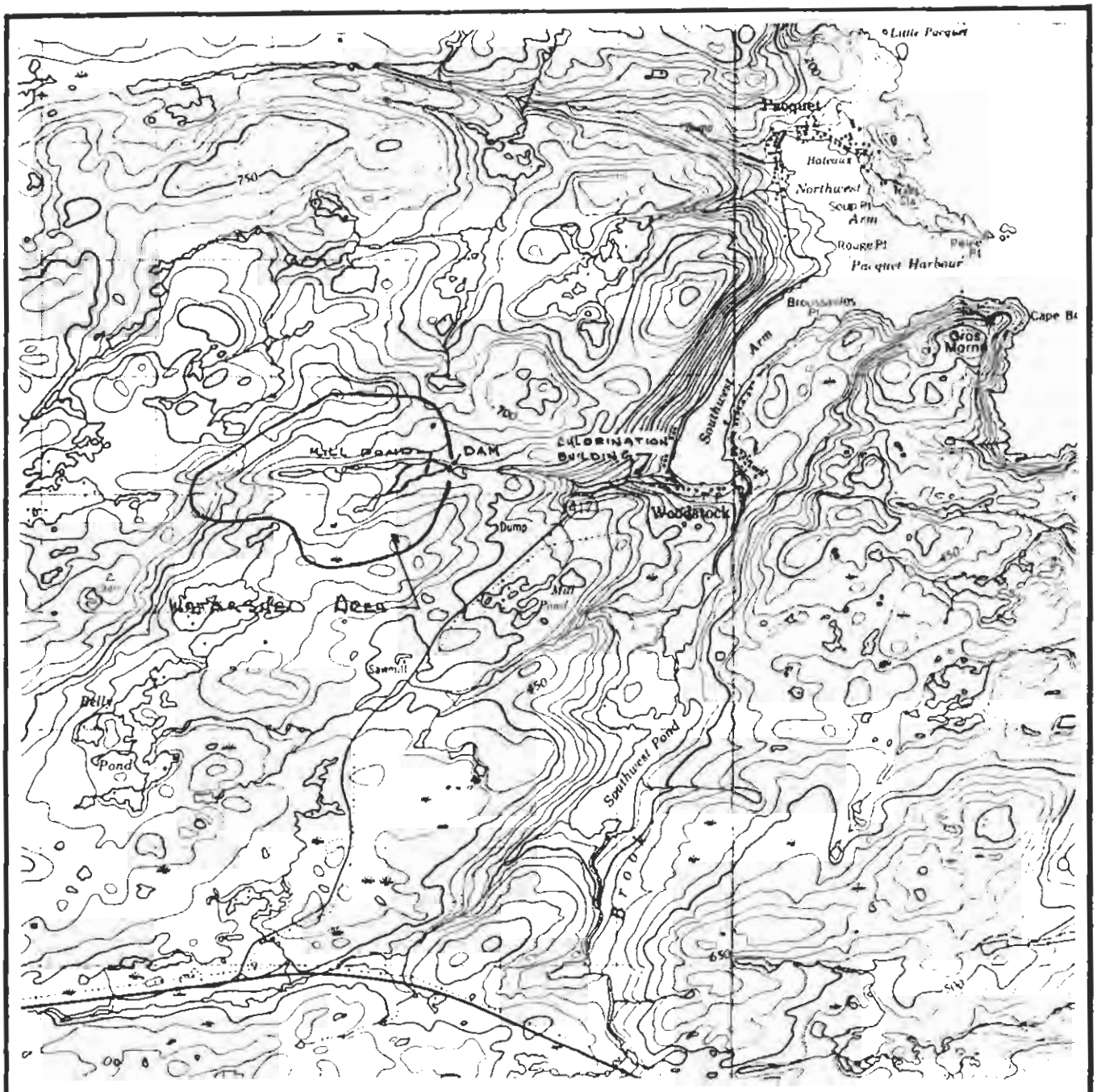
Chlorination plant inoperative for the last 5 years.

**Reported Quality**

Satisfactory

**WASTEWATER DISPOSAL**

| | | |
|---|---|---|
| Treated | : | No |
| Discharge | : | To ocean |
| Permitted | : | Yes |
| O&M Costs($/yr) | : | |
| Sewer Rates($/yr) | : | $168 water and sewer |

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WOODSTOCK