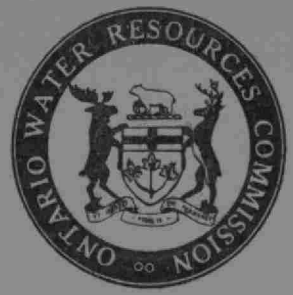


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THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
of the
TOWN OF ROCKLAND
COUNTY OF RUSSELL

TOWN OF ROCKLAND - 1966
COUNTY OF RUSSELL

1966

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Report on a water pollution
survey of the town of Rockland
in the county of Russell.

80359

THE
ONTARIO WATER RESOURCES
COMMISSION

Report on

a

WATER POLLUTION SURVEY

of the

TOWN OF ROCKLAND

in the

COUNTY OF RUSSELL

Division of Sanitary Engineering

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WATER POLLUTION SURVEY

of the

TOWN OF ROCKLAND

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WATER POLLUTION SURVEY

of the

TOWN OF ROCKLAND

INTRODUCTION

On November 1, 1965, a water pollution survey was performed in the town of Rockland. Surveys of this type are carried out by the Ontario Water Resources Commission for the purposes of locating and recording sources of existing and potential water pollution. Where pollution sources are noted, recommendations concerning the abatement of these sources are made to the parties concerned.

The appendices to this report include a tabulation of the results of the samples collected, and a map of the town showing the sample point locations.

Assistance and information obtained from the following officials is gratefully acknowledged.

Mr. A. Campeau, Municipal Clerk, Rockland;
Mr. A. Bassinett, Works Superintendent, Rockland;
Dr. R. G. Grenon, Medical Officer of Health & Director, Prescott
and Russell Health Unit;
Mr. R. Leblanc, Public Health Inspector, Prescott & Russell
Health Unit.

PREVIOUS SURVEY AND RECOMMENDATIONS

A pollution survey conducted in February, 1962, revealed that inadequately treated sewage flows were being discharged from two storm sewers to local watercourses. At that time, Rockland did not have sewage treatment works, but such were under consideration. It was recommended that in conjunction with the provision of sanitary

sewers and sewage treatment works, it should be ensured that all objectionable flows discharging to watercourses be eliminated by diverting contaminated storm sewer discharges to the sanitary sewer system.

TOWN OF ROCKLAND

General

The Town of Rockland is located on Highway 17 approximately 20 miles east of the City of Ottawa. According to the 1965 Municipal Directory, Rockland's assessed population is 3,549.

Water Supply

The Ottawa River serves as a water supply source. Treatment consists of chlorination and filtration. For storage, a stand-pipe is utilized providing a capacity of 200,000 gallons.

Surface Water Drainage

A large swamp area just north of the town lies between the built-up area of Rockland and the Highway 17 by-pass. Storm sewers and ditches conduct surface run-off flows from Rockland to this area. The direction of flow in the swamp area is rather vague, however, there are two main tributaries draining the swamp which flow in a north-westerly direction across Highway 17 to the Ottawa River. These tributaries were sampled where they cross the highway; the sampling points are designated as R 3-D and R 8-D on the appended map.

It is evident that sanitary wastes are gaining access to the surface water flows either by direct connection to the storm sewers or by malfunctioning septic tank and tile bed systems overflowing to the ditches.

Sewage Works

Approximately one week prior to this survey the municipal sewage works system commenced operation. This was a joint sewage works project between the OWRC and the municipality which was effected by the construction of sanitary sewers to serve a certain portion of the town and a sewage lagoon.

The following is a brief description of the sewage works system: Raw sewage flows by gravity from the western portion of Rockland to the pumping station located on Laviolette Street. From this point it is pumped through a forcemain to a point just west of Giroux Street and flows from here to the pumping station located on the extension of Paul Street. The total raw sewage flow is collected at this station and pumped to a twenty-acre waste stabilization pond located immediately north of Highway 17. The lagoon overflow discharges to Clarence Creek which in turn discharges to the Ottawa River.

On November 1, the waste stabilization pond was receiving the initial sewage flows, and consequently there was no overflow to the watercourse.

Industry

The only known source of industrial waste in the community is the discharge from the Laviolette Dairy. This dairy which is located in the east end of the town discharges industrial wastes consisting principally of wash waters and milk spillages to the storm sewer which outfalls to a ditch just west of Lalonde Street. It is estimated that the wastewater volume varies from five to ten thousand gallons per day. It has been proposed that the dairy will be connected to the municipal sanitary sewer when it is extended to the area. An OWRC report of an inspection of these waste disposal facilities carried out during 1965, recommended that if the municipal sewage facilities are not extended to receive industrial wastes from the dairy within the near future, then serious consideration should be given to a revised method of waste disposal which will eliminate untreated discharges to the storm sewer.

Refuse Disposal

The original refuse disposal site for the community of Rockland has now been abandoned. It is located on the shore of the Ottawa River just downstream from the municipal water works. It is evident that refuse had been piled and burned along the river bank until it had reached the water's edge. This is its present state. The present disposal site is located in the swamp area between the town and Highway 17 at the north end of Pouliotte Street. The landfill method of garbage disposal is employed. Although the results

of samples collected in the small tributary downstream from this site did not indicate excessive counts, this area is considered unsatisfactory for the disposal of garbage since it is a definite potential water pollution source.

SAMPLING PROCEDURE

Samples were collected from the various tributaries within the area and any evident discharges thereto, and submitted to the OWRC laboratory for bacteriological examination and sanitary chemical analysis. Seasonal weather conditions prevailed.

INTERPRETATION AND SIGNIFICANCE OF LABORATORY RESULTS

Biochemical Oxygen Demand (BOD)

The BOD of sewage, industrial wastes, or polluted waters is the oxygen required during stabilization of the decomposable organic material by aerobic biochemical action. The 5-day BOD determination with incubation at 20° C is reported. A high BOD is indicative of organic or chemical pollution. The Commission objective for surface water quality is an upper limit of 4 parts per million (ppm).

Solids

The value for total solids, expressed in parts per million, (ppm), is the sum of the values for the suspended and dissolved matter in the water. Concentration of suspended solids which indicates the measure of undissolved solids of organic or inorganic nature is generally the most significant of the solids analyses in

regard to surface water quality. The effects of suspended solids in water are reflected in difficulties associated with water purification, deposition in streams, and injury of the habitat of fish.

Bacteriological Examination

The Membrane Filter technique is employed to obtain a direct enumeration of coliform organisms and is reported per 100 millilitres (ml) of the sample. The presence of coliforms indicates pollution from human or animal excrement, or from some non-faecal forms. The maximum limit of 2,400 coliform organisms per 100 millilitres is the OWRC objective for bacteriological quality of surface water in Ontario.

INDICATED POLLUTION SOURCES

Municipal Drains

Counts in excess of Commission objectives for discharge to a watercourse indicate the following municipal drain discharges to be sources of pollution.

Sample point No. R 2-D is a ditch draining to the swamp area carrying drainage from Rockland East.

Sample point No. R 4-W is the discharge to the swamp area just east of the Municipal Building.

Sample point No. R 7-W is the storm sewer outfall to the ditch at Laurier and Lalonde Street at the west end of the town.

Industrial

The discharge of industrial waste from the Laviolette Dairy contributes to the pollution of the tributary at Lalonde and Laurier Street.

Municipal Refuse Disposal

Although the abandoned garbage dump site may not pose a serious pollution problem to the Ottawa River, the waters near the shore could become adversely affected. It is also a very unsightly condition, and any measures which may be available to correct the situation should be taken.

The present garbage disposal site is a potential water pollution source to the tributary draining from the swamp area to the Ottawa River. It is generally recommended where an area of this nature is being filled, that refuse material only be deposited, excluding any organic type of waste. Initially, a dyke or berm of relatively impervious material should be constructed around the perimeter of the dumping area. The marsh land enclosed by the dyke is then drained and select material is deposited initially to attain a sufficient elevation above the high water level. Subsequent to this the waste material may be deposited.

SUMMARY

A water pollution survey was performed in the Town of Rockland on November 1, 1965. The various existing and potential pollution sources included a number of municipal drains, the

Laviolette Dairy industrial discharges, and the refuse disposal sites.

At the time of the survey, the new municipal sewage works system had just commenced operation.

RECOMMENDATIONS

1. The programme of extending the municipal sanitary sewers should be continued. Particular areas such as Laurier Street west of Lalonde Street should receive priority.

The present method of municipal garbage disposal should be revised. An alternative site should be selected for the disposal of garbage. This existing site could be limited to clean fill and refuse.

2. If the present municipal sewage facilities are not extended to receive the industrial wastes from the Laviolette Dairy, alternative acceptable methods of disposing of these wastes should be considered.

All of which is respectfully submitted,

Acting District Engineer:



L. G. South

Approved by: _____

J. R. Barr, Director,
Division of Sanitary Engineering.

Prepared by: M.M. Holy
/mh

WATER POLLUTION SURVEY

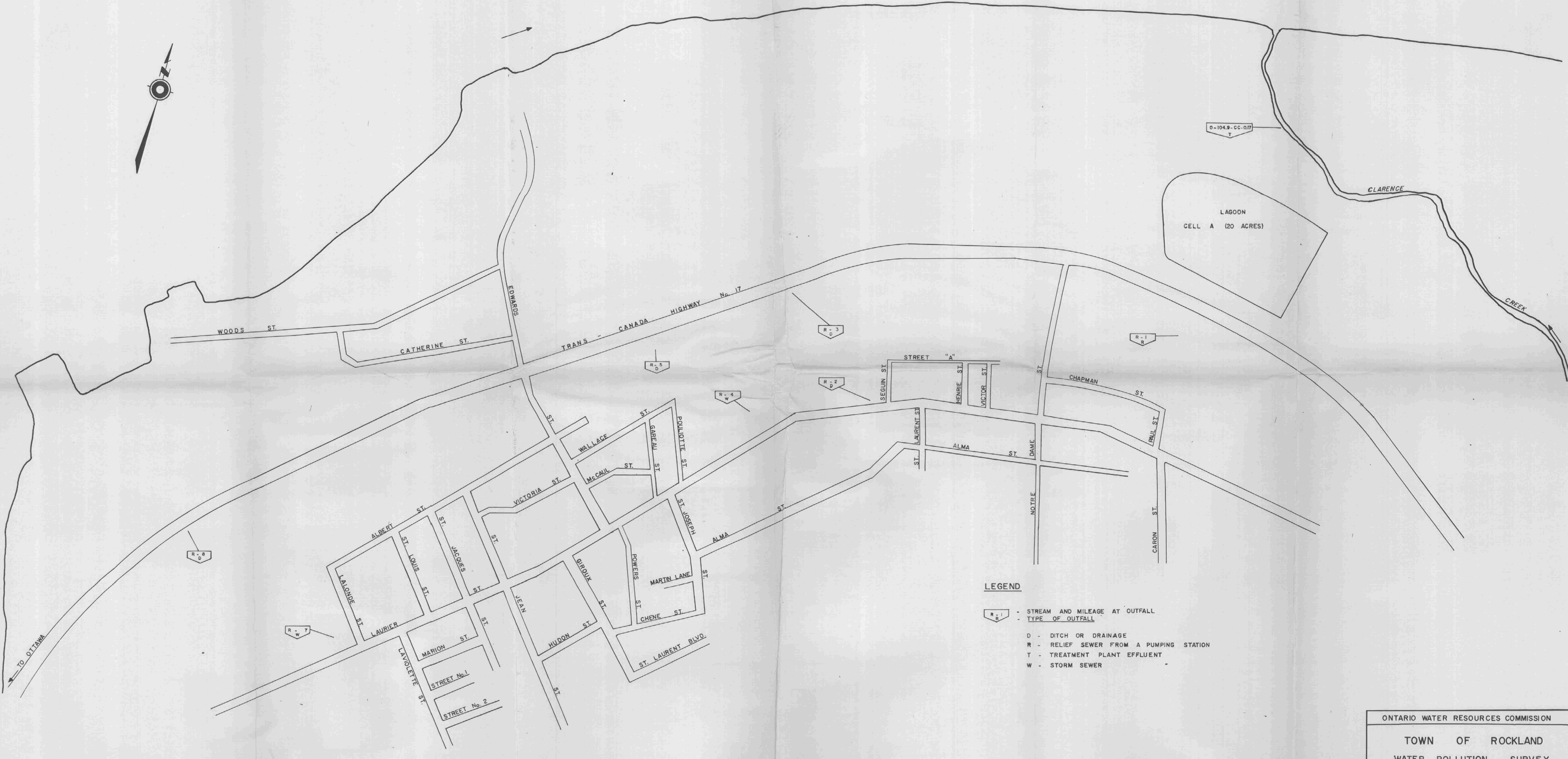
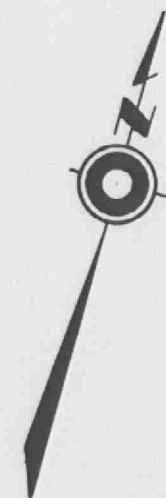
TOWN OF ROCKLAND - SAMPLE RESULTS

Date Sampled: November 1, 1965

<u>Sample Point No.</u>	<u>Description of Sampling Point</u>	<u>Coliforms per 100 ml.</u>	<u>5-Day BOD</u>	<u>SOLIDS (ppm)</u>		
				<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>
R 1-R	Overflow to swamp area from main pumping station		NO FLOW			
R 2-D	Ditch draining to swamp area from south side of Laurier St. - Rockland East	2,200,000	8.8	428	10	418
R 3-D	Tributary draining from swamp area to Ottawa River at Hwy. 17 east end	24	0.4	298	2	296
R 4-W	Storm sewer outfall draining to swamp area just east of Municipal Building	4,500,000	37.0	454	59	395
R 5-D	Tributary draining swamp area just downstream from new garbage disposal site	460	3.4	348	1	347
R 6-R	Overflow from Laviolette Street pumping station		NO FLOW			
R 7-W	Storm sewer outfall to ditch at Laurier and Lalonde St. - west end of Rockland	30,000,000	1100	1172	336	836
R 8-D	Tributary draining from swamp area to Ottawa River at Hwy. 17 - west end	2,000	0.6	354	15	339
O.104.9- C.C.0.17-T	Municipal Sewage Lagoon outfall		NO FLOW			

O T T A W A

R I V E R



LAGOON
CELL A (20 ACRES)

D-104.9-CC-017
T

LEGEND

- STREAM AND MILEAGE AT OUTFALL
- TYPE OF OUTFALL
- D - DITCH OR DRAINAGE
- R - RELIEF SEWER FROM A PUMPING STATION
- T - TREATMENT PLANT EFFLUENT
- W - STORM SEWER

ONTARIO WATER RESOURCES COMMISSION

TOWN OF ROCKLAND
WATER POLLUTION SURVEY
1966

SCALE: 400 0 400 800 FEET

DRAWN BY: M. I. H. DATE: JULY 1966

CHECKED BY: R.W. DRAWING NO: 66-46