



Conservation

Environmental Stewardship Division
Environmental Assessment and Licensing Branch
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FAXED

CLIENT FILE NO.: 53.10

June 19, 2009

Mr. Barry MacBride
Director
Water and Waste Department
City of Winnipeg
101 – 1155 Pacific Avenue
Winnipeg, Manitoba R3E 3P1

Dear Mr. MacBride:

Enclosed is revised Environment Act Licence No. **2669 E RR** dated June 16, 2009 issued in accordance with The Environment Act to the **City of Winnipeg**. This Licence has been revised with new ammonia limits which incorporate new information from the City of Winnipeg and Manitoba Water Stewardship. This Licence supersedes Licence No. 2669 E R for the alteration and operation of the Development commonly referred to as the West End Water Pollution Control Centre, in the City of Winnipeg.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with.

For further information on the administration and application of the Licence, please feel free to contact Siobhan Burland Ross, P. Eng. at (204) 945-7015.

Yours truly,

Tracey Braun, M. Sc.
Director
Environment Act

Enc.

c: Don Labossiere, Director, Environmental Operations
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 2669 E RR (*by the Licencee only*) is required by the Director of Environmental Assessment and Licensing. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by July 2, 2009.

On behalf of the City of Winnipeg

Date

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

LICENCE

Licence No. / Licence n° 2669 E RR

Issue Date / Date de délivrance September 3, 2004

Revised: April 12, 2005
Revised: August 17, 2005
Revised: June 19, 2009

**IN ACCORDANCE WITH THE ENVIRONMENT ACT (C.C.S.M. c. E125)
THIS LICENCE IS ISSUED PURSUANT TO SECTION 27 AND 14(2) TO:**

CITY OF WINNIPEG; “the Licencee”

for the alteration and operation of the Development being a wastewater collection system, and a wastewater treatment plant commonly referred to as the West End Water Pollution Control Centre, in the City of Winnipeg, with discharge of treated effluent being directed to the Assiniboine River, in accordance with the Proposal filed under The Environment Act on March 2, 1990, in consideration of the Manitoba Clean Environment Commission August 2003 Report on Public Hearings and in accordance with the Notice of Alteration filed under The Environment Act on July 19, 2005 and July 27, 2005 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"accredited laboratory" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

“acute lethality” means a toxic effect resulting in death produced in an organism by a substance or mixture of substances within a short exposure period (usually 96 hours or less);

“affected area” means a geographical area, excluding the property of the Development;

“approved” means approved by the Director in writing;

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"as constructed drawings" means engineering drawings complete with all dimensions which indicate all features of the Development as it has actually been built;

"calibrate" means to determine, check or rectify the graduation of any instrument giving quantitative measurement;

"combined sewer overflow (CSO)" means the sewage overflow to the river that occurs during high flow conditions from a pipe system that collects both municipal sewage and surface runoff from a service area;

"Director" means an employee so designated pursuant to The Environment Act;

"effluent" means treated or untreated wastewater flowing or pumped out of the wastewater treatment plant or any component of the plant;

"Environmental Management System (EMS)" means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy;

"Environment Officer" means an employee so appointed pursuant to The Environment Act;

"Escherichia coli (E. coli)" means the species of bacteria in the fecal coliform group found in large numbers in the gastrointestinal tract and feces of warm-blooded animals and man, whose presence is considered indicative of fresh fecal contamination, and is used as an indicator organism for the presence of less easily detected pathogenic bacteria;

"fecal coliform" means aerobic and facultative, Gram-negative, nonspore-forming, rod-shaped bacteria capable of growth at 44.5°C, and associated with fecal matter of warm-blooded animals;

"five-day biochemical oxygen demand (BOD₅)" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within five days at a temperature of 20°C;

"five-day carbonaceous biochemical oxygen demand (CBOD₅)" means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within 5 days at a temperature of 20°C, excluding the oxygen demand usually associated with the biochemical oxidation of nitrogenous organic matter;

“flow proportional composite sample” means a combination of not less than ten individual samples of equal volumes of wastewater taken at equal increments of wastewater flow over a specified period of time;

"grab sample" means a quantity of undiluted effluent collected at any given time;

"influent" means water, wastewater or other liquid flowing into the wastewater treatment facility or any component of the facility;

"leachate" means liquid that has percolated through solid waste, and that contains dissolved and suspended materials from the solid waste;

“mixing zone” means an area adjacent to a discharge where a receiving water may not meet all water quality objectives included in the most recent version of the “Manitoba Water Quality Standards, Objectives, and Guidelines”;

"MPN index" means the most probable number of coliform organisms in a given volume of wastewater which, in accordance with statistical theory, would yield the observed test result with the greatest frequency;

"noise nuisance" means a continuous or repeated noise in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant, or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to the members of the public;

if the noise:

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director, and within a 90 day period, from 5 different persons falling within clauses a), b), or c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses a), b) or c), and the Director is of the opinion that if the noise had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"odour nuisance" means a continuous or repeated odour, smell or aroma in an affected area which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or

- c) present at a location in an affected area which is normally open to members of the public;
- if the odour, smell or aroma:
- d) is the subject of at least 5 written complaints received by the Director in a form satisfactory to the Director and within a 90 day period, and from 5 different persons falling within clauses a), b) or c) who do not live in the same household; or
 - e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses a), b) or c) and the Director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90 day period from 5 different persons who do not live in the same household;

“secondary wastewater treatment process” means the process utilizing biological oxidation by activated sludge followed by clarification;

“Standard Methods for the Examination of Water and Wastewater” means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

“thirty-day rolling average” means the arithmetic average of any daily reported data plus the preceding 29 consecutive days of reported data;

“truck dumping station” means a facility used to receive, store and meter wastewater, including septage, which has been hauled to the wastewater treatment plant with a truck;

“wastewater” means the spent or used water of a community or industry that contains dissolved and suspended matter;

“wastewater treatment lagoon” means the component of the development which consists of an impoundment into which wastewater is discharged for storage and treatment by natural oxidation; and

“wastewater treatment plant” means the component of this development that consists of the wastewater pumping station located at 6821 Wilkes Avenue, and a central treatment facility including the wastewater treatment lagoon, located at 7740 Wilkes Avenue.

GENERAL REQUIREMENTS

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such

a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

1. With the exception of the combined sewer overflow (CSO) wastewater, the Licencee shall direct all wastewater from the wastewater collection system area to the West End Water Pollution Control Centre or other facility approved by the Director.
2. In addition to any of the following specifications, limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
 - a) sample, monitor, analyze or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants, ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, and for such duration and at such frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant from the Development; or
 - c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.
3. The Licencee shall, unless otherwise specified in this Licence:
 - (a) carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in the most current edition of "Standard Methods for the Examination of Water and Wastewater", or in accordance with an equivalent analytical methodology approved by the Director;
 - (b) ensure that all analytical determinations are undertaken by an accredited laboratory or a laboratory approved by the Director; and
 - (c) report the results of all monitoring and testing to the Director, in writing and in an electronic format acceptable to the Director, within 60 days of the samples being taken.
4. The Licencee shall submit all information required to be provided to the Director under this Licence, in writing, and in electronic format, in such form (including number of copies), and such content as may be required by the Director.
5. The Licencee shall, in an event where a physical or mechanical breakdown of the wastewater collection system or the wastewater treatment plant results in or may result in the discharge of raw or partly treated wastewater or in non-compliance with any specification, limit, term or condition of this Licence:

- a) notify the Director by facsimile or any other notification procedure approved by the Director, stating the nature of the event, the time and estimated duration of the event and the reason for the event as follows:
 - i) as soon as possible but no later than within 12 hours of the event; or
 - ii) before noon of the first business day following an event on a weekend or statutory holiday;
 - b) identify the repairs required to the wastewater collection system or the wastewater treatment plant; and
 - c) complete the repairs in accordance with any written instructions of the Director.
6. The Licencee shall carry out, as deemed necessary by the Director, any remedial measures or modifications in respect to matters authorized under this Licence.
7. The Licencee shall actively participate in any future watershed based management study, plan or environmental research or monitoring programs approved by the Director, for the Red River, the Assiniboine River, Lake Winnipeg and associated waterways and watersheds.
8. The Licencee shall:
- a) develop an Emergency Response Plan (ERP) for the Development, in accordance with the "Manitoba Industrial Accidents Council (MIAC) Industrial Emergency Response Planning Guide";
 - b) submit the ERP for approval of the Director, in written and electronic format, on or before April 1st, 2005; and
 - c) implement the ERP in accordance with the approval of the Director, on or before April 1st, 2008.
9. The Licencee shall:
- a) develop an Environmental Management System (EMS) for the Development;
 - b) submit the EMS plan for approval of the Director, in written and electronic format, on or before April 1st 2005; and
 - c) implement the EMS plan in accordance with the approval of the Director, on or before April 1st, 2008.
10. The Licencee shall not accept any leachate for treatment at the Development.
11. The Licencee shall operate and maintain the wastewater treatment lagoon in such a manner that:
- a) the organic loading, as indicated by the five-day biochemical oxygen demand, is not in excess of 56 kilograms per hectare per day;
 - b) the depth of liquid in the cells does not exceed 1.5 metres; and
 - c) a 1.0 metre freeboard is maintained in the cells.

12. The Licencee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the wastewater treatment plant and shall take such steps as the Director may require to eliminate or mitigate an odour nuisance.
13. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the wastewater treatment plant and shall take such steps as the Director may require to eliminate or mitigate a noise nuisance.

DESIGN AND CONSTRUCTION REQUIREMENTS

14. The Licencee shall:
 - a) submit an engineering report detailing the engineering plans for the upgrading of the wastewater treatment plant to meet effluent limits of this Licence, including nutrient removal (both nitrogen and phosphorous) and microbiological parameters as outlined in Clause 27, of this Licence, on or before December 31, 2004;
 - b) indicate to the Director, on or before December 31, 2004:
 - i) the maximum design hydraulic loading capacity of the upgraded wastewater treatment plant and components thereof, in cubic meters over any 24 hour period; and
 - ii) the maximum design organic loading capacity of the upgraded wastewater treatment plant and components thereof, in kilograms over any 24 hour period;
 - c) obtain approval by the Director for the engineering plans submitted pursuant to Clause 14(a) of this Licence; and
 - d) complete the construction and commissioning of the upgraded wastewater treatment plant on or before December 31st, 2006.
15. The Licencee shall notify the assigned Environment Officer prior to beginning construction of the alteration to the wastewater treatment plant. The notification shall include the intended starting date of construction and the name of the Licencee's contact person at the construction site.
16. The Licencee shall ensure that fuel storage and equipment servicing areas established for the construction of the alteration to the wastewater treatment plant are located a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of Manitoba Regulation 188/2001 respecting Storage and Handling of Gasoline and Associated Products.
17. The Licencee shall construct instream works in accordance with the requirements of the May, 1996 publication "Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat".

18. The Licencee shall, from the date of issuance of this Licence, pressure test the integrity of the connections of any underground piping, which is intended to transport wastewater under pressure, before such pipe connections are backfilled with earth and make repairs as required, in accordance with Clause 5 of this Licence.
19. The Licencee shall:
 - a) install or utilize existing security fencing, acceptable to the Director, to enclose the wastewater treatment plant or components thereof, that are not enclosed in a building with a security system acceptable to the Director; and
 - b) maintain the security system in a manner acceptable to the Director.
20. The Licencee shall:
 - a) submit a proposal for a leak detection program, on or before September 1, 2005, for existing pipes which transport wastewater via river crossings, to the Director, including leak detection technologies and monitoring practices to be implemented;
 - b) implement the leak detection program, as approved by the Director;
 - c) continuously measure and record the data gathered by the leak detection program; and
 - d) repair and replace all portions of the existing piping where leaks are detected in accordance with Clause 5 of this Licence.
21. The Licencee shall, from the date of issuance of this Licence, construct and maintain new pipes which transport wastewater via river crossings by taking the following actions:
 - a) submit a proposal for a leak detection program, for the approval of the Director, including leak detection technologies and monitoring practices to be applied;
 - b) construct and maintain a sleeve encasement around the piping;
 - c) implement the leak detection program, as approved by the Director;
 - d) continuously measure and record the data gathered by the leak detection program; and
 - e) repair and replace all portions of the piping where leaks are detected in accordance with Clause 5 of this Licence.
22. The Licencee shall:
 - a) prepare "as constructed drawings" for the wastewater treatment plant and label the drawings "As Constructed"; and
 - b) provide to the Director, on or before December 31, 2007, two copies of the "as constructed drawings" of the wastewater treatment plant including effluent discharge pipeline.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

23. The Licencee shall, from the date of issuance of this Licence until and including December 31st, 2006:
- a) limit the influent wastewater loading on the secondary wastewater treatment process of the wastewater treatment plant, excluding the wastewater treatment lagoon, as follows:
 - i) the hydraulic loading not to exceed 54,000 cubic meters over any 24 hour period; and
 - ii) the organic loading not to exceed 10,560 kilograms of five-day biochemical oxygen demand (BOD₅) for any 24-hour period;
 - b) limit the influent wastewater loading to the wastewater treatment plant, such that the maximum hydraulic loading does not exceed 112,000 cubic meters over any 24 hour period.
24. The Licencee shall:
- a) construct and make available for use by an Environment Officer, a secured and heated influent monitoring station with direct access to the influent wastewater pipelines;
 - b) construct and make available for use by an Environment Officer, a secured and heated influent monitoring station with direct access to the secondary wastewater treatment process;
 - c) ensure that the monitoring stations are accessible to an Environment Officer at all times;
 - d) install and maintain a flow measuring device at each monitoring station or at a location acceptable to the Director which is capable of measuring the volume of influent with an accuracy of ± 2 percent;
 - e) have the flow measuring devices re-calibrated every two years or on the request of an Environment Officer;
 - f) submit to the Director a certificate of calibration, signed by a person qualified to calibrate the flow measuring device, for each flow measuring device within two weeks of the completion of each calibration, identifying the plus or minus percent error associated with each calibrated flow measuring device; and
 - g) ensure that the monitoring stations are each equipped with a flow-proportional sampling device equipped to function with the flow measuring device and have the sampling device available on request for use by an Environment Officer.
25. The Licencee shall:
- a) construct and make available for use by an Environment Officer, a secured and heated effluent monitoring station, with direct access to the effluent discharge pipeline at a location acceptable to the Director;

- b) ensure that the monitoring station is accessible to an Environment Officer at all times;
 - c) install and maintain a continuous flow measuring device, equipped with an interface compatible with departmentally owned ISCO sampler, at the monitoring station or at a location acceptable to the Director which is capable of measuring the volume of effluent with an accuracy of ± 2 percent;
 - d) have the flow measuring device re-calibrated every two years or on the request of an Environment Officer;
 - e) submit to the Director a certificate of calibration, signed by a person qualified to calibrate the flow measuring device, for each flow measuring device within two weeks of the completion of each calibration, identifying the plus or minus percent error associated with each calibrated flow measuring device; and
 - f) ensure that the monitoring station is equipped with a flow-proportional sampling device equipped to function with the flow measuring device and have the sampling device available on request for use by an Environment Officer.
26. The Licencee shall, from the date of issuance of this Licence until and including December 31st, 2006, not discharge effluent from the wastewater treatment plant, as sampled in the effluent monitoring station located before the effluent discharge pipeline leading to the Assiniboine River where:
- a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅), is in excess of 25 milligrams per litre; and
 - b) the total suspended solids content of the effluent is in excess of 45 milligrams per litre.
27. The Licencee shall, on and after January 1st, 2007, not discharge effluent from the wastewater treatment plant, as sampled in the effluent monitoring station located before the effluent discharge pipeline leading to the Assiniboine River where:
- a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅), is in excess of 25 milligrams per litre;
 - b) the total suspended solids content of the effluent is in excess of 30 milligrams per litre;
 - c) the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample, as determined by the monthly geometric mean of 1 grab sample collected at equal time intervals on each of a minimum of 3 consecutive days per week;
 - d) the E. coli content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample, as determined by the monthly geometric mean of 1 grab sample collected at equal time intervals on each of a minimum of 3 consecutive days per week;

- e) the concentration of total phosphorus of the effluent is in excess of 1 milligram per litre as determined by the thirty-day rolling average;
- f) the concentration of total nitrogen of the effluent is in excess of 15 milligrams per litre as determined by the thirty-day rolling average; and
- g) the ammonia nitrogen content (as N) of the effluent is in excess of the following limits:

<u>Period</u>	Ammonia Nitrogen (as N) (kilograms/any 24 hour period)
January	2212
February	2628
March	2744
April	2897
May	1673
June	881
July	518
August	308
September	453
October	603
November	1021
December	1636

28. The Licencee shall not release a quality of effluent from the wastewater treatment plant which:
- a) on any day, causes, or contributes to, the mixing zone for the effluent in the Assiniboine River being acutely lethal to aquatic life passing through the mixing zone; or
 - b) on or after December 31st, 2006, can be demonstrated to be acutely lethal to fish within the mixing zone for the effluent in the Assiniboine River by using a 96-hour static acute lethality test which results in mortality to more than 50 percent of the test fish exposed to 100 percent concentration of effluent, with the test carried out in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition – December 2000" or any future amendment thereof.

MONITORING REQUIREMENTS

29. The Licencee shall:
- a) continuously measure and record the volume of the wastewater discharged from the wastewater treatment plant every day;

- b) take one flow proportional composite sample of effluent over a 24 hour period from the wastewater treatment plant every day;
- c) have the samples analyzed for CBOD₅, total suspended solids, total nitrogen, total phosphorus, ortho phosphorus and ammonia nitrogen content;
- d) calculate the daily ammonia nitrogen load (kilograms per day), and the thirty-day rolling average values for total nitrogen and total phosphorus for the day during which samples were collected;
- e) prepare a monthly report on:
 - i) the daily, average, peak, minimum and total monthly volume of wastewater discharged from the wastewater treatment plant; and
 - ii) the CBOD₅, total suspended solids, ortho phosphorus, thirty-day rolling average total nitrogen, thirty-day rolling average total phosphorus and ammonia nitrogen loads; and
- f) file a copy of the report with the Director within 30 days of the end of each month during which the concentrations and loads were determined.

30. The Licencee shall:

- a) once each day, when flows exceed the 75th percentile of the thirty-day rolling average maximum daily flow, collect a grab sample of effluent from the effluent monitoring station;
- b) have the grab sample analyzed for pH and temperature, fecal coliform content, and E. coli content;
- c) determine and record the monthly geometric mean for each of the fecal coliform and E. coli counts based on all the data collected during each month, from a minimum of 12 grab samples; and
- d) report the results to the Director within 30 days of the end of the month during which the samples were taken.

31. The Licencee shall:

- a) once every 3 months, collect a grab sample of the influent, at each influent monitoring station, and a grab sample of the effluent, at the effluent monitoring station at the wastewater treatment plant;
- b) have both the influent and effluent samples analyzed for the concentration of the parameters identified in Schedule A of this Licence; and
- c) report the results to the Director in an annual report within 60 days of the end of the 12 month sampling period.

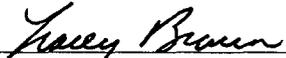
32. The Licencee shall:

- a) once every 3 months in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition – December 2000", or any future amendment thereof, collect a bioassay sample of the effluent from the effluent monitoring station at the wastewater treatment plant, and test the sample at 100 percent concentration

- for acute lethality; and
- b) report the results to the Director in an annual report within 60 days of the end of the 12 month sampling period.
33. The Licencee shall within six months of the date of issuance of this Licence:
- a) maintain a record of all wastewater hauled to the wastewater treatment plant, including the number of loads on a daily and weekly basis, the volume of each load, the name of the hauler, and the source of the contents of each load according to the type of waste and the name and location of each property serviced;
- b) make all records available to an Environment Officer upon request; and
- c) submit an annual report of all the waste hauling information to the Director within 60 days of the end of the 12 month period.
34. The Licencee shall:
- a) submit a plan, on or before December 31, 2006 for a phased sewer upgrade management program to the Director for approval; and
- b) implement the phased sewer upgrade management program in accordance with the approval of the Director, on or before December 31, 2011.

REVIEW OR REVOCATION

- A. This Licence replaces Licence No. 2669 E R which is hereby rescinded.
- B. If, in the opinion of the Director, the Licencee has failed or is failing to comply with any of the specification, limits, terms or conditions set out herein, the Director may, temporarily or permanently, revoke this Licence.
- C. This Licence shall be reviewed, by the Director, within two (2) years of the date of issuance of this Licence and subsequently every three (3) years thereafter.
- D. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.



Tracey Braun, M.Sc.
Director
Environment Act

SCHEDULE 'A'

Parameter	Monitoring Frequency
Arsenic, Total	Quarterly
Cadmium, Total	Quarterly
Chromium, Total	Quarterly
Chromium, Hexavalent	Quarterly
Copper, Total	Quarterly
Lead, Total	Quarterly
Mercury, Total	Quarterly
Molybdenum, Total	Quarterly
Nickel, Total	Quarterly
Selenium, Total	Quarterly
Zinc, Total	Quarterly
Alkyl-lead	Quarterly
Tributyl tin	Quarterly
PCBs (Polychlorinated Biphenyls)	Quarterly
PCDD (Dioxins) and PCDF (Furans)	Quarterly
Hexachlorobenzene	Quarterly
Octachlorostyrene	Quarterly
Benzo(a)pyrene (PAH)	Quarterly
Benzo(a)anthracene (PAH)	Quarterly
Benzo(b)fluoranthene (PAH)	Quarterly
Benzo(g,h,i)perylene (PAH)	Quarterly
Perylene (PAH)	Quarterly
Phenanthrene (PAH)	Quarterly
Dinitropyrene	Quarterly
1, 4-Dichlorobenzene	Quarterly
3, 3'-dichlorobenzidine	Quarterly
4,4"-methylnebis(2-chloraniline)	Quarterly
Xylene	Quarterly
Chloroform	Quarterly
Trichlorethelene (1,3-Trichlorethane)	Quarterly
Tetrachlorethelene(1,1,2,2-Tetrachlorethane)	Quarterly
Hexachlorocyclohexane (Lndane)	Quarterly
Total Phenoxy Acid Herbicides including 2,-4 D, and MCPA	Quarterly
Aldrin/dieldrin	Quarterly
Chlordane	Quarterly
Methoxychlor	Quarterly
Mirex	Quarterly
Toxaphene	Quarterly
DDT	Quarterly
Cresol, phenol	Quarterly
Phenols, Total	Quarterly
Pentachlorophenol (PCP)	Quarterly
Nonylphenol and its Ehtoxylates	Quarterly
Oil and Grease	Quarterly