

SUMMARY:

The Sanitary Sewer/Storm Drain Regulation bylaw requires that all properties located within a sanitary sewer specified area must be connected to sewer. The bylaw sets out the connection standards and requirements for both sanitary sewer and storm drain systems and outlines the types of waste that may be discharged into the system.

This bylaw is a 'consolidated' version and includes amendments up to the date listed in the bylaw heading. It is placed on the Internet for convenience only, is not the official or legal version, and should not be used in place of certified copies which can be obtained through the Office of the City Clerk at City Hall. Plans, pictures, other graphics or text in the legal version may be missing or altered in this electronic version.

Bylaw No. 10549 deleted the Table of Contents.

CITY OF KELOWNA
BYLAW NO. 6618-90
REVISED: December 12, 2011

**CONSOLIDATED FOR CONVENIENCE TO INCLUDE
BYLAW NO. 7378, 7841 & 10549**

SANITARY SEWER/STORM DRAIN REGULATION BYLAW

WHEREAS it is expedient that all real property that has shared in sewer extension costs and is capable of being served by a sanitary sewer, should be so served and connected;

AND WHEREAS there are possible components of sewage in various concentrations which are detrimental or costly to the operation and maintenance of the sewage or drain systems and must be prohibited;

AND WHEREAS it is deemed necessary and expedient to regulate the operation and use of the sanitary sewer and storm drain systems of the City;

BL10549 replaced the following:

AND WHEREAS pursuant to Section 8(2) and 8(3) of the Community Charter the Municipal Council may by bylaw regulate, prohibit and impose requirements in relation to municipal services;

NOW THEREFORE, the Municipal Council of the City of Kelowna, in Open Meeting Assembled, enacts as follows:

SECTION 1 - ADMINISTRATION AND GENERAL REQUIREMENTS

1.1 SCOPE

- 1.1.1 This bylaw provides for the regulation and use of sanitary sewers and storm drains.
- 1.1.2 This bylaw may be cited as "Sanitary Sewer/Storm Drain Regulation Bylaw, No. 6618-90".
- 1.1.3 The provisions of this bylaw shall apply to all direct or indirect discharges to any part of the public sewerage or drain system.
- 1.1.4 This bylaw, among other things, regulates the quantity and quality of discharged wastes and the degree of pre-treatment required; and provides for the approval of plans for waste treatment.
- 1.1.5 Nothing in this bylaw relieves any person or organization from complying with any provision of any Federal or Provincial legislation, or any other bylaw of the City of Kelowna.

1.2 DEFINITIONS

1.2.1 In this bylaw, unless the context otherwise requires, the following words and terms shall have the meanings hereinafter assigned to them:

B.O.D. or "biochemical oxygen demand" means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory conditions in five (5) days at 20°C, expressed in milligrams per litre as determined by the appropriate procedure in "Standard Methods".

Building Sewer means a pipe that is connected to a building drain one (1) metre outside a wall of a building and that leads to a public sewer or drain or a private sewage disposal system.

Catch Basin means an inlet structure to the City's storm drain system.

City means the City of Kelowna, in the Province of British Columbia.

BL10549 deleted definition of City Engineer.

BL10549 amended definition:

City Inspector means the Manager Building & Permitting Branch or duly authorized representative.

C.O.D. or "chemical oxygen demand" means the measure of the oxygen consuming capacity of inorganic and organic matter present in domestic or industrial wastewater as determined by the appropriate procedure described in "Standard Methods".

BL7841 adds the following definition:

Cooling Water means untreated water originating from heat exchangers or similar type units.

BL7841 added the definition for Director of Works & Utilities and BL10549 deleted the definition.

Domestic means resulting from natural processes and not produced by commercial or industrial activities.

Domestic Wastewater means the water carried wastes produced from non-commercial or non-industrial activities and which result from normal human living processes.

Effluent means the liquid outflow of any facility designed to treat or convey wastewater.

Flammable liquid means any liquid having a flash point below 38°C and having a vapour pressure not exceeding 280 kPa at 38°C.

Garbage means solid wastes from domestic and commercial preparation, cooking, and dispensing of food, and from the handling, storage and sale of produce.

Grab Sample means an aliquot of a sampled stream or discharge collected at one particular time and place.

Grease means an organic substance recoverable by procedures set forth in "Standard Methods" and includes but is not limited to hydrocarbons, esters, fats, oils, waxes and high molecular carboxylic acids.

Industrial wastewater means all water carried wastes and waste-water excluding domestic wastewater and uncontaminated water, and includes all wastewater from any processing, institutional, commercial, or other operation where the wastewater discharged includes wastes of non-human origin.

BL10549 added definition for Manager:

Manager means the City's Manager of Utility Services, along with other City staff, who oversee the day-to-day-operation of the Sanitary Sewer and Storm Drainage systems, and administers this bylaw.

Municipal/Municipality means the City of Kelowna.

Municipal Council means the duly elected Officials of the City of Kelowna.

Offal means waste portions of food, animals, fowl or fish.

BL7841 amended definition:

One-operating-day Composite Sample (one day sample) means a composite sample discharge consisting of flow proportioned samples collected at consecutive one-hour intervals over the duration of one operating day as outlined in Schedule "E", attached to and forming part of this bylaw.

Person includes any person, a corporation, partnership or party, and the personal or other legal representative of a person to whom the context can apply according to law.

Pesticide means an organism or material that is represented, sold, used or intended to be used to prevent, destroy, repel or mitigate a pest and includes:

- (a) a plant growth regulator, plant defoliator or plant desiccant; and
- (b) a control product, other than a device that is a control product under the Pest Control Products Act (Canada).

pH means logarithm, to the base 10, of the reciprocal of the concentration of Hydrogen ions in moles per litre of solution.

Plumbing Code means any regulation made by the Lieutenant Governor of the Province of British Columbia, in accordance with Section 740 of the Municipal Act.

Plumbing fixture means a receptacle, appliance, apparatus or other device that discharges sewage or clear-water waste, and includes a floor drain.

Regional District means the Regional District of Central Okanagan.

Sanitary Sewer Specified Area means an area of land within the City, defined by bylaw adopted by the Municipal Council, which is designated to receive works or service from the municipality.

Sanitary Sewer System means all sewerage works and all appurtenances thereto, including sewer mains, service connections, pumping stations, treatment plants, lagoons and sewer outfalls laid within any highways, municipal right-of-way or easement and owned and operated by the Municipality and installed for the purpose of conveying, treating and disposing of domestic municipal wastes and industrial wastes.

Septic Tank means any device or structure designed for the temporary storage of wastewater.

Service Connection means a pipe at property line connecting a sanitary sewer or storm drain to a building sewer, storm building sewer or to land on which building or structures are situated.

BL7841 deletes the definition for Sewage Control Manager in its entirety.

Sewage treatment plant means any arrangement of devices and structures used for treating wastewater.

Sewer means a pipe, including manholes and other appurtenances other than a service connection, in the sewer system.

BL7841 added definition:

Special Waste means a substance that is defined as "Special Waste" as interpreted by the Waste Management Act.

BL10549 amended definition:

Standard Methods means the Standard Methods for the Examination of Water and Wastewater (21stth Edition, 2005, or current edition at the time of testing, as published by the American Public Health Association (APHA), the American Water Works Association (AWWA), and the Water Environment Federation (WEF).

BL7378 amended definition:

Storm Drain System means a storm sewer system and all works and appurtenances thereto including mains, ditches, catch basins, pumping stations, drywells and outfalls laid within any highway, municipal right-of-way, or easement owned and operated by the Municipality for the purpose of conveying and disposing of rainwater, and/or ground water and/or uncontaminated wastewater.

Storm Water means water originating from rainwater, snow melt, and/or ground water including roof drain water and foundation drain water.

Suspended Solids means the solid matter according to particle size, expressed in milligrams per litre, in a liquid as determined according to "Standard Methods".

Two-Hour Composite Sample means a composite sample consisting of equal portions of 8 Grab Samples collected at consecutive 15-minute intervals.

Uncontaminated Wastewater means water such as spent cooling water, dechlorinated water discharged from a swimming pool, water used in street cleaning.

Wastewater means the water-borne wastes of the municipality derived from human or industrial sources including domestic wastewater and industrial wastewater, but does not include rain water, ground water, or drainage of uncontaminated water.

Watercourse means:

(i) the bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh or other natural body of water; or

(ii) a channel, ditch, reservoir or other man-made surface feature;

whether they contain or convey water continuously or intermittently.

1.3 CONNECTION REQUIREMENT

1.3.1 The owner of every parcel of real property within a Sanitary Sewer Specified Area, for which a service connection to the sanitary sewer system can be, or has been made, and upon which a building or structure containing a plumbing fixture is situate, shall connect such building or structure to the service connection.

BL10549 amended the following:

1.3.2 In the event of any owner failing to make the required connection within sixty (60) days of being notified in writing by the City to do so, the Manager may order the required connection be made by City workmen or others at the Owner's expense and the expenses incurred shall become a lien on the land or real property on or for which the charge is imposed, done or provided and the City may recover the expenses in a similar manner to municipal taxes and the expenses shall be subject to the same penalty and interest additions as municipal taxes.

BL10549 amended the following:

1.3.3 The Manager may allow any owner of real property outside of an existing Sanitary Sewer Specified Area to connect into the existing sanitary sewer system on the basis of the following:

(a) the owner paying all costs of extending the City's sanitary sewer system including sewer development charges;

(b) the owner paying a share of an existing or future proposed specified area cost including administration and bylaw amendment costs.

In either case, approval must be granted by Municipal Council.

1.4 APPLICATION FOR SANITARY SEWER OR STORM DRAIN CONNECTION

BL10549 amended the following:

1.4.1 (a) A Property owner must make application to the City to install a Service Connection to the City Sanitary sewer or Storm Drain System in the form prescribed for that purpose by the City.

(b) At the time of making the application referred to in section 1.4.1 (a), the Property owner shall pay an installation fee equivalent to the estimated cost of installing the Service connection, as determined by the Manager.

- (c) After completion of the installation of the Service connection, the actual cost of the installation shall be determined by the Manager and any variation of more than 10% or \$500.00 whichever is greater from the fee paid under section 1.4.1 (b), shall be refunded by or be payable to the City, as applicable.
- (d) The applicant or an agent on his behalf must also obtain a plumbing permit and pay a sewer or drainage development charge unless such charge has been collected under the Development Cost Charge Bylaw requirements.”;

1.5 SERVICE CONNECTIONS STANDARDS

BL10549 amended the following:

- 1.5.1 Every service connection shall be installed in accordance with the standards contained in the Subdivision, Development & Servicing Bylaw No. 7900 as amended or revised and shall be installed prior to the installation of every building sewer or storm building sewer. The City shall not be responsible to meet the elevation or connect to an existing building or storm building sewer installed by the owner prior to installation of the sewer connection. Building owners shall be required to meet the sewer or drain connection elevation.

1.6 BUILDING AND STORM BUILDING SEWER AND INSPECTION

BL10549 amended the following:

- 1.6.1 Every building sewer or storm building sewer shall be constructed at the cost of the owner in accordance with the standards contained in the Subdivision, Development & Servicing Bylaw No. 7900, as amended or revised, and to the requirements of the British Columbia Plumbing Code and the Kelowna Plumbing Regulation Bylaw No. 5968-87. The Manager may require conformity with Bylaw No. 7900 in the case of larger or special situations.
- 1.6.2 The owner shall notify the City Inspector as soon as the work for which a connection permit has been issued is ready for inspection and no building sewer or storm building sewer work shall be covered until it has been inspected and approved.
- 1.6.3 If upon inspection it is determined that any building sewer or storm building sewer work is defective, or that such work was not ready for inspection after notification as required by Article 1.6.2, the owner shall file a further Notice of Inspection, together with the required fee to cover the cost of such extra inspection.
- 1.6.4 The building sewer or storm building sewer shall be repaired and maintained by the property owner or occupant at their expense. The service connection will be repaired and/or replaced by the City as deemed appropriate, but the maintenance such as unplugging or clearing a blockage will be the responsibility of the property owner or occupant.

BL10549 amended the following:

- 1.6.5 Where any building sewer or storm building sewer is abandoned, the owner or occupant shall notify the City Inspector, and, upon receiving proper authorization, the owner or occupant shall block and/or seal the service connection. The service connection shall be blocked at the property line, or at the sewer main, as specified by the Manager, and the costs of such work shall be borne by the property owner or occupant.

1.7 INTERFERENCE WITH SEWER AND DRAIN SYSTEM

BL10549 amended the following:

1.7.1 No person shall do any work upon, or interfere in any way with the sanitary sewer or storm drain system without the written permission of the Manager.

BL10549 amended the following:

1.7.2 No person shall enter or work upon the sewer system without meeting the applicable confined space entry, street regulations or other safety requirements, required by the Workers' Compensation Act, being Chapter 492 of the R.S. B.C 1996 and amendments thereto.

1.8 SEWER AND DRAIN RATES

1.8.1 All sanitary sewer and storm drain rates and charges are levied and administered by a separate bylaw.

1.9 SEPTIC TANKS

BL10549 amended the following:

1.9.1 No septic tank shall be connected to the storm drain system. No septic tank shall be connected to the sanitary sewer without the express written approval of the Manager.

1.9.2 No person shall permit any sludge or deposit contained in any septic tank to enter into the sanitary sewer or storm drain system. All sludge or septic tank deposits shall be disposed of at the Regional District's disposal facility.

1.10 RIGHT OF ENTRY

BL10549 amended the following:

1.10.1 The Manager and anyone authorized by him is hereby authorized to enter upon any property or premises at any reasonable time in order to ascertain whether or not the regulations contained in this bylaw have been complied with.

BL10549 amended the following:

1.10.2 Any person interfering with or obstructing the entry of the Manager or his duly authorized representative into any premises, after that person has identified himself, shall be guilty of an offense under this bylaw and shall be liable to the penalties provided herein.

BL10549 amended the following:

1.10.3 No person shall hinder or prevent the Manager or his duly authorized representative from entering and making reasonable inspection of any building or premises whenever necessary to secure compliance with, or prevent a violation of any provisions of this bylaw.

SECTION 2 - WASTE DISCHARGE

2.1 PROHIBITED WASTES

BL10549 amended the following:

- 2.1.1 No person shall discharge or permit to be discharged into any pipe, main, conduit, manhole, street inlet, gutter or aperture draining into the sanitary sewer system or storm drain system:
- (a) Any gasoline, benzene, naphtha, alcohol, fuel, oil, solvents, acetone or flammable or explosive liquid, solid or gas.
 - (b) Any pesticides, insecticides, herbicides or fungicides save and except chemicals contained in storm water emanating from trees or vegetation treated in accordance with the INTEGRATED PEST MANAGEMENT ACT, SBC 2003, and amendments thereto.
 - (c) Any corrosive, noxious or malodorous gas, liquid, or substance which either singly or by interaction with other wastes, is capable of:
 - (i) creating a public nuisance or hazard to life;
 - (ii) preventing human entry into a sewer or pump station; or
 - (iii) causing damage to the sewerage system.
 - (d) Radioactive material - except within such limits as are permitted by license issued by the Atomic Energy Control Board of Canada.
 - (e) Any material from a cesspool.
 - (f) Any solid or viscous substance capable of obstructing wastewater flow or interfering with the operation of the sewerage system or treatment facilities. These substances include but are not limited to ashes, cinders, grit sand, mud, straw, grass clippings, insoluble shavings, metal, glass, rags, feathers, tar, asphalt, creosote, plastics, wood, animal paunch contents, offal, blood, bones, meat trimmings and waste, fish or fowl head, shrimp, crab or clam shells, fish scales, entrails, lard, mushrooms, tallow, baking dough, chemical residues, cannery or wine waste, bulk solids, hair and fleshings, spent grain and hops, whole or ground food or beverage containers, garbage, paint residues, cat box litter, slurries of concrete, cement, lime or mortar.
 - (g) Any storm water or uncontaminated wastewater into the sanitary sewer system.
 - (h) Any domestic wastewater or industrial wastewater into the storm drain system.
 - (i) Any waste, liquid or material classified as a 'Hazardous Waste' pursuant to the provisions of the ENVIRONMENTAL MANAGEMENT ACT, S.B.C., 2003, and amendments thereto.

2.2 STANDARDS FOR RESTRICTED WASTES

2.2.1 Sanitary Sewer System

No person shall discharge or permit to be discharged into any pipe, main, conduit, manhole, street inlet, gutter, or aperture draining into the sanitary sewer system:

- (a) any non-domestic waste having a B.O.D. in excess of 500 milligrams per litre as analyzed in a one-operating day Composite Sample, 1000 milligrams per litre as analyzed in a 2-hour Composite Sample, and 2000 milligrams per litre as analyzed in a Grab Sample;
- (b) any non-domestic waste having a C.O.D. in excess of 750 milligrams per litre as analyzed in a one-operating-day Composite sample, 1500 milligrams per litre as analyzed in a 2-hour Composite sample, and 3000 milligrams per litre as analyzed in a Grab sample.
- (c) any non-domestic waste which contains suspended solids in a concentration that is in excess of 600 milligrams per litre as analyzed in a one-operating-day Composite Sample, 1200 milligrams per litre as analyzed in a 2-hour Composite Sample, and 2400 milligrams per litre as analyzed in a Grab Sample;
- (d) any garbage that has been ground, comminuted or shredded by a garbage disposal unit;
- (e) any non-domestic liquid or vapour having a temperature higher than 65° Celsius;
- (f) any non-domestic waste which contains oil and grease in a concentration that is in excess of 150 milligrams per litre as analyzed in a one-operating day Composite Sample, 300 milligrams per litre as analyzed in a 2-hour Composite Sample, and 600 milligrams per litre as analyzed in a Grab Sample, and any non-domestic waste which contains oil and grease derived from a petroleum source in a concentration that is in excess of 15 milligrams per litre as analyzed in a one-operating-day Composite Sample, 30 milligrams per litre as analyzed in a 2-hour Composite Sample, and 60 milligrams per litre as analyzed in a Grab Sample;
- (g) any substance which may solidify or become viscous at temperatures above 0° Celsius;
- (h) any non-domestic waste which has a pH lower than 5.0 or higher than 11.0 as determined by a Grab Sample of the discharge, or less than 5.5 or higher than 10.5 as determined by a two-hour Composite Sample.
- (i) any water or waste that will by itself or with other water or wastes in the sewerage system, release noxious gases, or create any other condition deleterious to the pipe, gaskets, structures or treatment processes;

- (j) any water or waste containing dyes or colouring materials which pass through a sewage works and discolour the sewage works effluent, with the exception of dyes used by the City for testing purposes;
- (k) any water or waste containing a hazardous or a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewer, sewage treatment equipment and sewage treatment process, to constitute a hazard to humans or animals, or to create any hazard in the receiving waters or the effluent of the sewage treatment plant.
- (l) any material which exerts or causes:
 - (i) unusual concentrations of inert suspended solids, such as, but not limited to, fuller's earth;
 - (ii) unusual concentrations of dissolved solids such as but not limited to sodium chloride, calcium chloride or sodium sulphate;
- (m) any water or waste added for the purpose of diluting wastes which would otherwise exceed applicable maximum concentrations;
- (n) any non-domestic waste which, at the point of discharge into a sewer, contains any substance, in a combined or uncombined form, with a concentration in excess of the levels set out below. All concentrations are expressed as total concentrations, which include both the dissolved and undissolved substances.

| Substance | Expressed as | Concentration in milligrams per litre | | |
|------------|-----------------|---------------------------------------|---------------------------|-------------|
| | | One Day Composite Sample | Two Hour Composite Sample | Grab Sample |
| Aluminum | A1 | 50.0 | 100.0 | 200.0 |
| Arsenic | As | 1.0 | 2.0 | 4.0 |
| Boron | B | 50.0 | 100.0 | 200.0 |
| Cadmium | Cd | 0.2 | 0.4 | 0.8 |
| Chromium | Cr | 4.0 | 8.0 | 16.0 |
| Cobalt | Co | 5.0 | 10.0 | 20.0 |
| Copper | Cu | 2.0 | 4.0 | 8.0 |
| Cyanide | Cn | 1.0 | 2.0 | 4.0 |
| Iron | Fe | 10.0 | 20.0 | 40.0 |
| Lead | Pb | 1.0 | 2.0 | 4.0 |
| Manganese | Mn | 5.0 | 10.0 | 20.0 |
| Mercury | Hg | 0.05 | 0.1 | 0.2 |
| Molybdenum | Mo | 1.0 | 2.0 | 4.0 |
| Nickel | Ni | 2.0 | 4.0 | 8.0 |
| Phenols | - | 1.0 | 2.0 | 4.0 |
| Phosphorus | P | 12.5 | 25.0 | 50.0 |
| Silver | Ag | 1.0 | 2.0 | 4.0 |
| Sulphate | SO ⁴ | 1500.0 | 3000.0 | 6000.0 |
| Sulphide | S | 1.0 | 2.0 | 4.0 |
| Tin | Sn | 5.0 | 10.0 | 20.0 |
| Zinc | Zn | 3.0 | 6.0 | 12.0 |

BL10549 amended the following:

Note: More restrictive guidelines may be required by the Manager if he considers there is some detrimental effect on the City's treatment plant, infrastructure or workmen.

- (o) any water or waste containing substances in such concentrations that are not amenable to treatment or reduction by the sewage treatment process employed, or are amenable to treatment only to such a degree that the sewage treatment plant effluent cannot, during normal operation, meet the requirement of any other agency having jurisdiction over discharges to the receiving waters.

BL7378 amended Sub-Section (p):

- (p) any material or substance (e.g. enzymes and/or bacteria) that alters the structure of the waste(s) but does not reduce the loading (C.O.D.).

2.2.2 Storm Drain System

- (a) No person shall discharge or allow or cause to be discharged into a storm drain, any substance except storm water and water resulting from the provision of municipal services such as street flushing and sweeping and fire extinguishing activities.

BL7378 and BL10549 amended Sub-Section 2.2.2(b):

- (b) No person shall discharge or permit to be discharged into any pipe, main, conduit, manhole, street inlet, gutter or aperture draining into the storm drain system, any water or substance which:
 - (i) has a temperature differential of +/- 5 degrees of background;
 - (ii) may interfere with the proper operation of a storm drain;
 - (iii) may obstruct a storm drain, or the flow therein;
 - (iv) may result in a hazard to a person, animal, property or vegetation;
 - (v) may impair the quality of the water in any well, lake, river, pond, spring, stream, reservoir or other water or watercourse.
 - (vi) would exceed those parameters as listed in "BRITISH COLUMBIA APPROVED WATER QUALITY GUIDELINES, 2006 Edition" and amendments thereto, as published by the Ministry of Environment and Lands, Environmental Management Branch.
 - (vii) notwithstanding subsection 2.2.2 (b) (vi), induced suspended sediment concentrations should not exceed background levels by more than 25 mg/L at any time when background levels are between 25 and 250 mg/L. When background exceeds 250mg/L, suspended sediments should not be increased by more than 10% of the measured background level at any one time.

2.3 ACCIDENTAL DISCHARGES

BL10549 amended the following:

- 2.3.1 Every person responsible for, or aware of, the accidental discharge of prohibited substances into the sanitary sewer system or the storm drain system shall report the same forthwith to the Manager in order that the necessary precautions can be taken to minimize the deleterious effects of the discharge.

SECTION 3 - ADDITIONAL REQUIREMENTS FOR CONNECTION TO THE SEWERAGE SYSTEM

3.1 WASTEWATER TREATMENT FACILITIES

- 3.1.1 Any industrial wastewaters likely to damage or increase maintenance costs on the sewerage system or which may detrimentally affect the sewage treatment plant; or contaminate surface or sub-surface waters, shall be pre-treated to render them innocuous prior to discharge into a public sewer.

BL7378 and BL10549 amended Section 3.1.2:

- 3.1.2 Discharges of liquid wastes exceeding the strength, nature, quantity or quality permitted by this bylaw, shall be pre-treated in a facility designed, constructed and operated by the discharger so as to fulfill all of the requirements of this bylaw. The Manager may waive this requirement in lieu of surcharge billings for waste discharge with issuance of Waste Discharge Permits and the payment of the fees as outlined in Schedule "B", attached to and forming part of this bylaw.

BL10549 amended the following:

- 3.1.3 All details pertaining to the treatment process or processes, capacity, location, materials, equipment, methods of construction and all operational procedures and methods of process control of treatment facilities shall be approved by the Manager before any portion of such facilities is installed. The approval of such plans and devices shall not imply that the treatment process or processes will comply with the regulations and/or restrictions contained in this bylaw.
- 3.1.4 All wastewater treatment facilities must be kept clear of obstructions so as to provide immediate access for inspection and servicing.

3.2 DESIGN REQUIREMENTS FOR NON-RESIDENTIAL USES CONNECTING TO THE SEWERAGE SYSTEM

- 3.2.1 Where an owner or occupier of premises upon which an industrial or commercial activity is proposed or is carried on wishes to connect these premises to the sewerage system he shall comply with Article 3.2.3 herein.
- 3.2.2 Where an owner or occupier intends to expand an industrial or commercial activity so that the quantity, biochemical oxygen demand, chemical oxygen demand, suspended solids concentration or grease concentration of the sewage will be increased, he shall comply with Article 3.2.3 herein.

BL10549 amended the following:

- 3.2.3 Except as provided in Article 3.2.4, the owner shall supply to the Manager plans and reports certified by a professional engineer registered in the Province of British Columbia indicating:
- (a) the proposed or existing development or addition, including flow schematic drawing,
 - (b) the daily volumes and peak discharges,
 - (c) the type of waste to be processed or discharged,
 - (d) the anticipated biochemical oxygen demand and the amount of suspended solids or grease,
 - (e) the pH factor and temperature of the wastewater,
 - (f) toxic chemicals contained in the wastewater,
 - (g) the proposed pre-treatment, including dimensions of the proposed facility,
 - (h) flow equalizing or mixing facilities,
 - (i) the location of sampling manhole,
 - (j) the monitoring equipment,
 - (k) any other information deemed necessary by the Manager.

BL10549 amended the following:

- 3.2.4 The Manager may deal with the application and make a decision thereon without the above information if in his opinion the nature of the application is such that a decision can be properly made without such information.

BL10549 amended the following:

- 3.2.5 Grease, oil and sand interceptors, or other Canadian Standards Association (CSA) certified devices approved by the Manager shall be installed as close to the source of the material as practical and provided upstream of the service connection on private property for all food preparation facilities including restaurants, canning operations, killing and processing facilities. They shall be so located as to be readily and easily accessible for cleaning and inspection and shall be maintained by the owner in continuously efficient operation such that all provisions of this bylaw are complied with at all times.

BL10549 amended the following:

- 3.2.6 Grease, oil and sand interceptors or other (CSA) certified devices approved by the Manager, shall be installed as close to the source of the material as practical and located upstream of the service connection on private property for all vehicle repair and maintenance facilities, and petroleum product storage or dispensing facilities. Interceptors, settling

tanks or sumps, filter systems, or other types of wastewater treatment works will be required for other types of industries or commercial establishments for the proper handling of liquid waste containing any flammable wastes, sand, grit or other harmful substances.

BL10549 amended the following:

3.2.7 Separate sand traps and oil and grease interceptors or other (CSA) certified devices approved by the Manager, shall be provided upstream of the service connection on private property for all establishments which provide car, vehicle, or equipment washing facilities. Sand traps shall be located upstream from the oil and grease interceptors, and shall have a minimum liquid depth of 1 metre, minimum length to width ratio of 5:1, and a maximum overflow rate under peak flow conditions of 8 L/min/m².

BL10549 added the following:

3.2.8 All such wastewater treatment works required by sections 3.2.6 and 3.2.7 shall be so located as to be readily and easily accessible for cleaning and inspection, and shall be maintained by the owner at their expense in a continuously efficient operation such that wastewater discharges remain compliant with this bylaw, at all times. Sand, silt and other contaminants shall be removed from traps and sumps before these materials occupy 25 percent of the liquid depth. Accumulated oil and grease or other contaminants shall be removed often enough to prevent these materials from escaping to the sewer.

BL10549 added the following:

3.2.9 For indoor facilities or facilities that are covered and do not collect storm water, these types of wastewater treatment works required by section 3.2.6 and 3.2.7, shall be connected to the sanitary sewer (where available). For facilities exposed to the weather and which may collect storm water, these types of wastewater treatment works required by section 3.2.6 and 3.2.7, shall be connected to an on-site storm drainage system. Direct service connections to the City storm systems are not permitted.

3.3 VOLUME CONTROL

BL10549 amended the following:

3.3.1 Where wastewater is discharged into the sewerage system in volumes which are highly variable or unusual, the owner or occupier shall ensure that discharges do not exceed the limits established by the Manager. The owner or occupier of the premises shall take such measures, as required by the Manager, to equalize the discharge volumes and strengths.

BL10549 amended the following:

3.3.2 Equipment necessary to comply with clause 3.3.1 shall be provided, maintained and operated by the owner or occupier of such premises in a manner satisfactory to the Manager.

SECTION 4 - CONTROL OF INDUSTRIAL WASTES

4.1 SPECIAL CONTROL MANHOLES

BL10549 amended the following:

4.1.1 Any property owner or occupier discharging or likely to discharge wastewater to the public sewer which may exceed the STANDARDS FOR RESTRICTED WASTES, as deemed by the Manager, shall have installed a control manhole at an accessible location and suitable for the inspection and sampling of the discharged waters.

BL10549 amended the following:

4.1.2 The design and location of the control manhole shall be approved by the Manager. Construction shall comply with the approved design.

4.1.3 The control manhole shall be installed and maintained at the sole expense of the owner of the premises and shall be accessible at all times to the Inspector.

4.1.4 All industrial wastewater discharged to public sewers shall first pass through the control manholes.

BL10549 amended the following:

4.1.5 The control manhole shall conform with the City's standard sewer manhole STD-200 except that the barrel diameter shall be 1200 mm instead of 1050 mm. The standard cast iron frame and cover will be acceptable.

The control manhole shall be located on a straight run of service extending from 3 metres upstream of the manhole to 2 metres downstream. The section of service on which the manhole is located shall have a gradient not exceeding 2 percent. A permanent style Palmer Bowlus flume flow meter shall be installed as an integral part of the control manhole, and shall be sized to suit the peak design flows.

4.1.6 Where installation of a control manhole is not possible, an alternative device or facility may be substituted if approved by the Manager.

4.2 MONITORING OF WASTEWATER

BL10549 amended the following:

4.2.1 Should any testing of wastewater show that it is not in compliance with this bylaw, the Manager, in addition to any other provision of this bylaw may direct the owner to so comply with the bylaw and may, in addition, direct the owner at his expense to install such monitoring and recording equipment as the Manager deems necessary and supply the results of such monitoring to the Manager, as required.

BL7378 and BL10549 amended Section 4.2.2:

4.2.2 All tests, measurements, analyses and examinations of wastewater, its characteristics or contents shall be carried out in accordance with "Standard Methods." Initial testing shall be arranged and paid for by the discharger. Additional testing or re-testing of wastewater, made necessary by non-compliance with this bylaw, or at the request of the Manager, shall be carried out at the cost of the discharger.

BL7841 and BL10549 amended Section 4.2.3:

4.2.3 Sampling shall be carried out by methods acceptable to the Manager. Normally the analyses will be performed on samples composited by volume as per Schedule "E" attached to and forming part of this bylaw. Values for pH will be determined from samples composited over a short period of time.

4.3 CONTROL OF WASTE DISPOSAL

BL10549 amended the following:

4.3.1 The Manager may at any time require a person who intends to dispose of wastes of liquid, semi-liquid or solid nature to show proof that these wastes are being stored and subsequently disposed of in a place and manner which is acceptable to the Manager the information must also include method of packaging, storing and transporting of the waste.

BL10549 amended the following:

4.3.2 The Manager may require a person to provide an analysis, prepared by a qualified chemist, of the waste referred to in Article 4.3.1.

SECTION 5 - PROTECTION OF PUBLIC SEWERAGE OR DRAIN SYSTEM

5.1 DISCONNECTION OF SEWER OR STORM DRAIN

BL10549 amended the following:

5.1.1 Where any wastewater which:

- (a) creates an immediate danger to any person, or
- (b) endangers or interferes with the operation of the sewerage system or drainage system is discharged to the sewerage or drainage system.

The Manager may, in addition to any action provided for in this bylaw, disconnect, plug, or seal off the sewer or drain line discharging the unacceptable wastewater into the sewerage or drainage systems or take such other action as is necessary to prevent such wastewater from entering the sewerage or drainage system.

In addition or as an alternate action, the Manager may order the shut-off of water service to the subject property.

BL10549 amended the following:

5.1.2 The unacceptable wastewater described in article 5.1.1 may be physically prevented from being discharged into the sewerage or drainage system until evidence satisfactory to the Manager has been produced to ensure that no further discharge of hazardous wastewater will be made to the sewerage or drainage system.

5.1.3 The owner or occupier of the land from which the wastewater, described in Article 5.1.2 herein, is being discharged shall pay the costs incurred by the City in taking all necessary action relative to the sewer disconnection and/or re-connection.

- 5.1.4 The costs incurred in Article 5.1.3 shall be in addition to and not in substitution for any fine or other penalty to which the owner or occupier of the premises in question may be subject pursuant to the provisions of this bylaw.
- 5.1.5 The sewer or drain shall not be reconnected until the costs in Article 5.1.3 are paid.
- 5.2 **RECOVERY OF COSTS FOR DAMAGE TO THE PUBLIC SEWERAGE OR DRAIN SYSTEM**
- 5.2.1 Where any person contravenes any provision of this bylaw and thereby causes damage to the sewerage or drainage system, such person shall be liable to the City for all costs incurred in making repairs or taking remedial action.
- 5.2.2 If such costs are not paid forthwith after demand, the City may recover the same by action in any court of competent jurisdiction.

SECTION 6 - PENALTIES

6.1 PENALTIES

- 6.1.1 Every person who violates any of the provisions of this bylaw or who suffers or permits any act or thing to be done in contravention of or in violation of any of the provisions of this bylaw or who neglects to do or refrains from doing anything required to be done pursuant to any of the provisions of this bylaw, or who does any act which violates any of the provisions of this bylaw shall be guilty of an offence and each day during which such violation occurs or is allowed to continue shall constitute a separate offence.
- 6.1.2 Every person guilty of an offence against this bylaw shall be liable under summary conviction to a penalty of up to \$2,000.00 for each offence.

SECTION 7 - MASCULINE/SINGULAR

- 7.1 Wherever the masculine is used throughout this bylaw, it shall also mean the feminine; and wherever the singular is used throughout this bylaw, it shall also mean the plural.

SECTION 8 - FORCE AND EFFECT

- 8.1 This bylaw shall come into force and take effect on the date of its adoption by the Municipal Council of the City of Kelowna.

Read a first time by the Municipal Council this 18th day of December, 1990.

Read a second time by the Municipal Council this 18th day of December, 1990.

Read a third time by the Municipal Council this 18th day of December, 1990.

Reconsidered, finally passed and adopted by the Municipal Council of the City of Kelowna this 15th day of January, 1991.

"James H. Stuart"

Mayor

"R.A. Beauchamp"

City Clerk

BL10549 deleted "Service Application" in its entirety.

BL7378, BL7841 and BL10549 amended Schedule "B" and Schedule "C":

SCHEDULE "B"

SANITARY SEWER/STORM DRAIN REGULATION BY-LAW NO. 6618-90

1. The Waste Discharge Permit fees required under this by-law shall be paid to the City of Kelowna.
2. The holder of a validated "Temporary Waste Discharge Permit" (Schedule "C" attached to and forming part of this bylaw) or "Waste Discharge Permit" (Schedule "D" attached to and forming part of this bylaw) is required to notify the issuing authority when the discharge period has terminated. If the discharge needs to continue, then an application for a new "Temporary Waste Discharge Permit" or "Waste Discharge Permit" must be submitted together with the application fee.
3. Waste Discharge Permit Fees:
 - 3.1 A Waste Discharge Application Fee of \$100.00, plus applicable taxes shall be paid upon application for a "Temporary Waste Discharge Permit" or "Waste Discharge Permit".
 - 3.2 For authorized discharges to the sanitary sewer there will be a surcharge to cover the costs of treatment, plus applicable taxes. The surcharge is based upon flow and load.
 - 3.3 The surcharge for authorized discharge to the sanitary sewer shall be based on the City of Kelowna "Sewerage System User Bylaw, 1972 No. 3480" and amendments thereto.

BL10549 added Schedule C-1 Temporary Waste Discharge Permit and Schedule C-2 Temporary Storm Discharge Permit.



Wastewater Treatment
 951 Raymer Avenue
 Kelowna, BC V1Y 4Z7
 250 469-8891
 kelowna.ca

Temporary Waste Discharge Permit

SCHEDULE C-1

CONTACT INFORMATION

| | |
|-----------------|------|
| Applicant Name: | |
| | |
| Address: | |
| | |
| Phone: | Fax: |
| | |
| Email: | |
| | |

PERMIT NUMBER:
 Sanitary Sewer/Storm Drain Regulation By-Law No. 6618-90

| | |
|----------|--------|
| Contact: | |
| | |
| Title: | |
| | |
| Phone: | Email: |
| | |

DISCHARGE INFORMATION

| | |
|----------------------------------------------------------------------------------|--|
| Nature or type of wastewater (brief description) | |
| Discharge Location - Storm Drain or Sanitary Sewer: | |
| Estimate the total discharge and units of measure: (if applicable) | |
| How was discharge measured | |
| Permit Fee \$100.00 + \$12.00 (HST) Surcharge Fee Calculation (if applicable) | |
| Expiration date of permit or period of discharge: | |

| Specify the parameters of concern expected to be present in the discharge (to be completed by City Staff) | | | | |
|-----------------------------------------------------------------------------------------------------------|-------------|-----------|---------------------------------|-------|
| | Parameter | Parameter | Maximum Allowable Concentration | Units |
| i | Phosphorous | P | 60 | mg/L |
| ii | Copper | Cu | 8 | mg/L |
| iii | Zinc | Zn | 12.5 | mg/L |
| iv | pH | pH | 6-9 | |
| v | | | | |
| vi | | | | |
| vii | | | | |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Attach analytical results (as determined by certified laboratory) for all contaminants and corresponding volumes of substances noted above. | Does discharge contain constituents in concentration that meet or exceed Special Waste criteria as defined under the Special Waste Regulation of the Waste Management Act of British Columbia <input type="checkbox"/> Yes <input type="checkbox"/> No |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

I, _____ declare that the information given on this form is correct and accurate to the best of my knowledge.

Dated: _____ Signature: _____

Approved by Source Control Technician: _____



Civic Operations
 951 Raymer Avenue
 Kelowna, BC V1Y 4Z7
 250 469-8896
 kelowna.ca

Temporary Storm Discharge Permit

SCHEDULE C-2

CONTACT INFORMATION

| | |
|-----------------|------|
| Applicant Name: | |
| | |
| Address: | |
| | |
| Phone: | Fax: |
| | |
| Email: | |
| | |

PERMIT NUMBER:
 Sanitary Sewer/Storm Drain Regulation By-Law No. 6618-90

| | |
|----------|--------|
| Contact: | |
| | |
| Title: | |
| | |
| Phone: | Email: |
| | |

DISCHARGE INFORMATION

| | |
|-------------------------------------------------------------------|-----------------|
| Brief description of water to be discharged | |
| Discharge Location | |
| Estimate the total discharge and units of measure (if applicable) | |
| How was discharge measured | |
| Permit Fee \$100.00 + \$12.00 (HST) | Total: \$112.00 |
| Expiration date of permit or period of discharge: | |

| Specify the parameters of concern expected to be present in the discharge (to be completed by City Staff) | | | | |
|-----------------------------------------------------------------------------------------------------------|-----------|--------|------------|-----------------------------------|
| | Parameter | Result | Background | Maximum Acceptable Concentrations |
| i | | | | |
| ii | | | | |
| iii | | | | |
| iv | | | | |
| v | | | | |

Analysis must be completed by City Staff or a Certified Laboratory, if a certified lab is used results must be attached.

I, _____ declare that the information given on this form is correct and accurate to the best of my knowledge.

Dated: _____ Signature: _____

Approved by Water Quality Technician: _____

BL7841 added and BL10549 replaced Schedule "D":



Department Name -optional
1435 Water Street
Kelowna, BC V1Y 1J4
250 469-8500
kelowna.ca

Waste Discharge Permit

BYLAW NO. 6618-90 SCHEDULE D

Under the provisions of the City of Kelowna's Sanitary Sewer/Storm Drain Regulation Bylaw No. 6618-90

name

hereinafter referred to as the Permittee, is authorized to discharge Non-Domestic Waste to SANITARY OR STORM SEWER located at _____
(address)

This WASTE DISCHARGE PERMIT has been issued under the terms and conditions, including definitions, prescribed in the City of Kelowna's Sanitary Sewer/Storm Drain Regulation Bylaw No. 6618-90 hereinafter referred to as the BYLAW and in the attached Appendices 1, 2, 3, 4 and 5 for discharge sources and works existing or planned on _____
(date)

Issued _____
Waste Discharge Number WDP _____

BL10549 amended the following:

Appendix 1

This Appendix sets out the standard conditions, engineering units, and the requirements for emergency procedures.

A. STANDARD CONDITIONS

1. Except as otherwise provided in this WASTE DISCHARGE PERMIT, hereinafter referred to as the "Permit", all terms and conditions stipulated in the Bylaw shall apply to this Permit.

BL10549 amended the following:

2. The terms and conditions of this Permit may be amended, by the Manager pursuant to the Bylaw.
3. Definitions contained within Bylaw No. 6618-90 apply to this Permit.

B. ENGINEERING UNITS

BL10549 amended the following:

The engineering units specified in this Permit are in accordance with the Metric System of measure. Approximately equivalent values for the British System can be calculated using the following conversion factors:

| | | | |
|------|-------|---|----------|
| IGPD | 220 | = | 1 M3/day |
| IGPM | 0.22 | = | 1 l/min |
| cfs | 35.31 | = | 1 m3/s |
| ppm | 1 | = | 1 mg/L |
| lb | 2.205 | = | 1 kg" |

Where:

| | | | | | |
|----------------|---|--------------|------|---|-----------------------------|
| m ³ | = | cubic metres | IGPD | = | Imperial gallons per day |
| L | = | litres | IGPM | = | imperial gallons per minute |
| mg | = | milligrams | cfs | = | cubic feet per second |
| kg | = | kilograms | ppm | = | parts per million |
| min | = | minutes | lb | = | pounds |
| s | = | seconds | | | |

C. MAINTENANCE AND OPERATION OF WORKS AND PROCEDURES

Pollution control works and procedures associated with maintaining the discharge criteria and/or the monitoring requirements specified in the Permit shall be employed at all times during the discharge of industrial/commercial wastes to sewer. All such works and procedures shall be inspected regularly and maintained in good working condition.

BL10549 amended the following:

D. EMERGENCY PROCEDURES

- a) In the event of an emergency or condition which prevents the continuing operation of any pollution control works or procedures designated by this Permit or results, or may result in a violation of any discharge criteria specified in this Permit, the Permittee shall notify the City of Kelowna at 250 469-8577 (Fire Hall dispatch - 24 hours) at the first available opportunity, and shall undertake appropriate remedial action as soon as possible.

E. BY-PASSES

BL10549 amended the following:

The discharge of wastes which by-pass any pollution control works or are not in accordance with procedures designated by the Permit is prohibited, unless prior approval of the Manager is obtained and confirmed in writing.

F. DISCHARGE MONITORING

BL10549 amended the following:

1. Additional discharge measurement, sampling, analysis and reporting shall be undertaken by the Permittee when required by the Manager.

BL10549 amended the following:

2. All sampling, measurements, tests and analyses of waste discharges shall be carried out in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, or an alternate method approved by the Manager. Samples shall be analyzed by an independent agency at the expense of the discharger, unless other arrangements have been approved by the Manager.

BL10549 amended the following:

G. pH MONITORING

Enforcement of pH levels, as listed in Appendix 3 of the Permit, shall be based on GRAB SAMPLE. The Permittee should be aware that pH levels measured in a Composite Sample will provide an average pH of the waste stream and will not indicate the total range of pH in the effluent. The Permittee is encouraged to do periodic GRAB SAMPLE pH analyses to ensure permit compliance.

BL10549 amended the following:

Appendix 2

This Appendix sets out requirements for the monitoring of the discharge of Non-Domestic Waste from a _____. Any changes in method or location of monitoring must be authorized, in writing, by the Manger.

A. DISCHARGE SAMPLING AND ANALYSES

The Permittee shall carry out the following sampling and analysis program, to commence on _____.

1. Continuous Discharges

- (a) Effective _____, the Permittee shall measure or estimate, using an approved flow monitoring device or method, the daily discharge during each month of operation. The following information shall be recorded:

Total flow for the month (m3)
Number of operating days during the month
Average daily flow for the month (m3/day)
Maximum daily flow for the month (m3/day)

BL10549 amended the following:

- (b) One Composite Sample, in accordance with Schedule E of Bylaw No. 6618-90, shall be collected from Sample Point _____, as described in Appendix 2, Section B, during one normal operating day once per _____. The Composite Sample shall consist of equal portions of discrete samples collected on a minimum frequency of _____ over the period of discharge to SEWER. This sample shall be analyzed for the following parameters:

The sample start and stop times shall be recorded.

- (c) The Discharge flow for the periods that the Composite Sample specified in Section _____ are collected shall be recorded.

BL10549 amended the following:

- (d) During the period that the Composite Sample described in Section _____ is taken, one GRAB SAMPLE shall be collected from Sample Point _____, as described in Appendix 2, Section B. This GRAB SAMPLE shall be analyzed for the following parameters:

The sample date and time shall be recorded.

2. Batch Discharges

- (a) The Permittee shall maintain a log of each batch discharge to SEWER. For each month of operation, the following information shall be reported for each batch discharge:

Type of batch discharge
Volume (m3)
Date on which discharging occurred

The discharge log shall be kept available for inspection for a minimum period of one year.

BL10549 amended the following:

- (b) _____ GRAB SAMPLE(s) shall be collected from one batch discharge from the Sample Point _____, as described in Appendix 2, Section B, once per _____. This sample shall represent the quality of the total batch and shall be analyzed for the following parameters:

The sampling dates and times shall be recorded.

BL10549 amended the following:

- (c) _____ GRAB SAMPLE(s) shall be collected from one batch discharge from the Sample Point _____, as described in Appendix 2, Section B, once per _____. This sample shall represent the quality of the total batch and shall be analyzed for the following parameters:

-
- (d) The Discharger shall record the total volume of each batch discharge from which the samples specified in Sections _____ are collected.

B. LOCATION OF APPROVED SAMPLE POINTS

The approved sample points are as follows, and as shown on the attached schematic of approved sample points and treatment processes. Sample point _____ is considered to be the point of discharge to SEWER.

| SAMPLE POINT NO. | DESCRIPTION |
|------------------|-------------|
| Sample Point 1 | _____ |
| Sample Point 2 | _____ |

PHOTOGRAPH OF APPROVED SAMPLING POINT
SUPPLIED BY PERMITTEE



BL10549 amended the following:

Appendix 3

This Appendix sets out requirements for the quantity and quality of the discharge of Non-Domestic Waste from a _____. Where a compliance program has been specified, existing works or procedures must be maintained in good operating condition and operated in a manner to minimize the discharge of contaminants during the interim period until the net works have been installed.

AUTHORIZED DISCHARGE CHARACTERISTICS

1. AUTHORIZED RATE OF DISCHARGE

The Permittee shall not exceed the following:

2. AUTHORIZED DISCHARGE CRITERIA

a) The Permittee shall not discharge PROHIBITED WASTE as defined in Section 2.1 of the Bylaw.

b) The Permittee shall not discharge RESTRICTED WASTE as defined in Section 2.2 of the Bylaw with the following exceptions:

| <u>Parameter</u> | <u>Authorized Range or Maximum Concentration</u> | <u>Compliance By</u> |
|------------------|--------------------------------------------------|----------------------|
|------------------|--------------------------------------------------|----------------------|

c) The Permittee shall not discharge SPECIAL WASTE as defined in Section 2.1 of the Bylaw.

d) The Permittee shall not discharge STORM WATER or COOLING WATER as defined in Section 2.1 of the Bylaw.

BL10549 amended the following:

Appendix 4

This Appendix sets out the waste sources, works and procedures for the authorized discharges to SEWER. The Manager may require that further works be installed if the existing works, in his opinion, do not provide an acceptable level of treatment. New works or alterations to existing works must be approved, in principle, by the Manager. New waste sources must be authorized, in writing, by the Manager.

AUTHORIZED WORKS AND PROCEDURES

The authorized waste sources, works and procedures to treat and/or control the waste discharge are:

| | <u>SOURCE</u> | <u>COMPLETION DATE</u> | <u>WORKS & PROCEDURES</u> |
|----|---------------|------------------------|-------------------------------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |

BL10549 amended the following:

Appendix 2

REPORTING REQUIREMENTS FOR WASTE DISCHARGE PERMIT

The Permittee is required to submit the following reports to the Manager:

BL10549 amended the following:

a) By not later than _____ and at three month intervals thereafter, the Permittee shall submit a report detailing the results of the discharge sampling and analysis program for the preceding _____ as specified in Appendix 2, Sections _____.

BL10549 amended the following:

b) By not later than _____, the Permittee shall submit a written report outlining the specifications of the flow monitoring device or method used to determine the flow rate as described in Appendix 2, Section A.1 of this Permit.

Additional reporting shall be undertaken by the Permittee when required by the Manager.

BL7841 added a new Schedule "E":

Schedule "E"

City of Kelowna



Evaluation of Wastewater

Flow Proportioned Sampling

Proper sampling techniques are essential for accurate testing in evaluation of wastewater. To be representative of the entire flow, samples should be taken where the wastewater is well mixed.

An instantaneous grab sample represents conditions at the time of sampling only, and cannot be considered to represent a longer time period, since the character of a wastewater is usually not stable.

A composite sample is a mixture of individual grabs proportioned according to the wastewater flow pattern. Compositing is commonly accomplished by collecting individual samples at regular time intervals, for example, every hour on the hour, and by storing them in a refrigerator or ice chest; coincident flow rates are read from an installed flow meter or are determined from some other flow recording device. A representative sample is obtained by mixing together portions of individual samples relative to flow rates at sampling times.

Composite samples representing specified time periods are tested to appraise plant performance and loadings. Weekday specimens collected over a 24-hour period are most common. Average daily BOD, TSS, and Oil & Grease data are used to calculate plant yield treatment efficiencies. Integrated samples during the period of peak flow, usually 8 to 12 hr. depending on influent variation, allow determination of maximum loadings on treatment units.

Example:

Hourly samples were taken of wastewater entering a treatment system. The following equations illustrate the portions to be used from the hourly grabs to provide composite samples for the 24-hr duration and during the period of maximum 8-hr loading, between 9 A.M. and 5 P.M. The composite sample volumes needed for laboratory testing are approximately 2500 ml.

The portion of sample needed per unit of flow = $\frac{\text{total volume of sample desired}}{\text{average flow rate} \times \text{number of portions}}$

$$\text{Portion for the 24 - hr period} = \frac{2500 \text{ ml}}{720 \text{ gpm} \times 24} = 0.15 \text{ ml / gpm}$$

$$\text{Portion for the 8 - hr period} = \frac{2500 \text{ ml}}{100 \text{ gpm} \times 8} = 0.3 \text{ ml / gpm}$$

Calculations for the portions of hourly samples to be used in compositing are tabulated as follows:

| | | Portions of Hourly Samples | | | | |
|--------------------------------|------------|----------------------------|---|------|----------------|---------|
| | | in Millilitres for: | | | | |
| Time | Flow (gpm) | 24-hr Composite | | | 8-hr Composite | |
| Midnight | 490 | 0.15 | x | 490 | = | 74 |
| 1 A.M. | 420 | 0.15 | x | 420 | = | 63 |
| 2 A.M. | 360 | 0.15 | x | 360 | = | 54 |
| 3 A.M. | 310 | 0.15 | x | 310 | = | 47 |
| 4 A.M. | 290 | 0.15 | x | 290 | = | 43 |
| 5 A.M. | 310 | 0.15 | x | 310 | = | 46 |
| 6 A.M. | 390 | 0.15 | x | 390 | = | 58 |
| 7 A.M. | 560 | 0.15 | x | 560 | = | 84 |
| 8 A.M. | 620 | 0.15 | x | 620 | = | 93 |
| 9 A.M. | 900 | 0.15 | x | 900 | = | 135 |
| 10 A.M. | 1040 | 0.15 | x | 1040 | = | 156 |
| 11 A.M. | 1130 | 0.15 | x | 1130 | = | 170 |
| Noon | 1160 | 0.15 | x | 1160 | = | 174 |
| 1 P.M. | 1120 | 0.15 | x | 1120 | = | 168 |
| 2 P.M. | 1060 | 0.15 | x | 1060 | = | 159 |
| 3 P.M. | 1000 | 0.15 | x | 1000 | = | 150 |
| 4 P.M. | 950 | 0.15 | x | 950 | = | 143 |
| 5 P.M. | 910 | 0.15 | x | 910 | = | 136 |
| 6 P.M. | 870 | 0.15 | x | 870 | = | 130 |
| 7 P.M. | 810 | 0.15 | x | 810 | = | 121 |
| 8 P.M. | 760 | 0.15 | x | 760 | = | 114 |
| 9 P.M. | 690 | 0.15 | x | 690 | = | 103 |
| 10 P.M. | 630 | 0.15 | x | 630 | = | 94 |
| 11 P.M. | 540 | 0.15 | x | 540 | = | 81 |
| Total composite sample volumes | | | | | | 2596 ml |
| | | | | | | 2520 ml |