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SEWAGE DISPOSAL REGULATION 411/85 [REPEALED]

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SEWAGE DISPOSAL REGULATION 411/85 [REPEALED]

B.C. Reg. 411/85 [REPEALED May 31, 2005 by B.C. Reg. 326/2004]

[includes B.C. Reg. 109/2002 amendments (effective May 23, 2002)]

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[Provisions of the *Health Act*, RSBC 1996, c. 179, relevant to the enactment of this regulation:
section 8]

— Sections 1 – 4 —

Interpretation and application

1. (1) In this regulation:

"**Act**" means the *Health Act*;

"**approved**" means approved in writing by a medical health officer or public health inspector;

"**building**" includes any structure or premises constructed or located on a parcel;

"**building sewer**" means a pipe that is connected to a building drain 1 m outside of a wall of a building and leads to a septic tank or other form of treatment facility;

"**Code of Good Practice**" means the code set out in Schedule 6;

"**controlled lake**" means any body of nontidal water whose water level is, or can be, adjusted by man made barriers installed to regulate water flow;

"**domestic sewage**" means human excretion or the water-carried wastes from drinking, culinary purposes, ablutions, laundering, food processing or ice producing;

"**effluent**" means the discharge from a sewage disposal system;

"**environmental control zone**" means the geographic area labelled "ECA" on maps, which are hereby incorporated by reference into this regulation, that are

- (a) titled "Environmental Control Areas for Sewage Disposal",
- (b) dated February 12, 1991, and
- (c) available for public inspection through the Ministry of Health;

"**health hazard**" means a condition or circumstance that has or may have an adverse effect on the health of a person;

"**high water mark**" means a point on the shoreline which corresponds

- (a) for a controlled lake, to the highest water level within the normal operating range for that lake, and
- (b) for any other body of nontidal water, to the average highest water level calculated from measurements taken over a sufficient number of years to enable a fair and reasonable estimate;

"**impervious layer**" means any soil having a percolation rate slower than 30 minutes per 2.5 cm when determined in accordance with section 1 of Schedule 1;

"**malfunctioning sewage disposal system**" means a sewage disposal system which creates a health hazard;

"**package treatment plant**" means a prefabricated mechanical device designed and constructed to treat sewage;

"**package treatment plant system**" means a sewage disposal system in which a package treatment plant is utilized;

"**parcel**" means any lot, block or other area in which real property is held or into which real property is subdivided;

"**permit**" means a permit issued by a medical health officer or public health inspector;

"**privy**" means a small building having a bench with a hole or holes through which human excretion may be evacuated into a waterproof vault or into an excavated pit;

"**sewage disposal system**" means any device which processes, contains or disposes of sewage and includes

- (a) a system consisting of building sewers, settling or septic tanks or package treatment plants, discharging into a ground absorption system or other system of effluent disposal, or
- (b) a privy,

but does not include a dry or chemical toilet;

"treatment capacity" means the quantity of domestic sewage in litres that can be satisfactorily processed in 24 hours on a sustained basis with due consideration given to the interval during which the sewage is generated.

(1.1) *Repealed.* [B.C. Reg. 11/92]

- (2) This regulation applies to every sewage disposal system except a system to which the *Waste Management Act* or its regulation applies.
[am. B.C. Regs. 199/86; 11/92; 382/95.]

Sewage from buildings

- 2. (1) The owner and occupier of every parcel on which a building is constructed or located after the date of this regulation shall ensure that all domestic sewage originating from it is discharged into
 - (a) a public sewer, or
 - (b) where a public sewer is not within reasonable distance from the boundary of the building lot, or if within reasonable distance, the authority having responsibility does not permit connection to it, a sewage disposal system constructed or installed in accordance with the Act and this regulation.
- (2) Except as relieved by an authorization issued under section 4 (1) or by the terms of a permit issued under B.C. Reg. 577/75, it is the duty of the owner or occupier of every building to ensure that domestic sewage emanating from the building does not reach the surface of land or discharge into a surface body of fresh water.
- (2.1) A medical health officer or public health inspector may order an owner or occupier who violates the duty set out in subsection (2) to
 - (a) connect the building to a public sewer,
 - (b) construct or install a sewage disposal system which complies with this regulation, or
 - (c) take such other remedial action as is set out in the order.
- (3) The person making an order under subsection (2.1) shall cause it to be served on the owner or occupier.
- (4) An owner or occupier who does not comply with the order under subsection (2.1) within the time stated in it shall ensure that no domestic sewage emanates from the building.

[am. B.C.Reg. 199/86.]

Permits to construct systems

- 3. (1) No person shall construct, install, alter or repair a sewage disposal system or cause it to be constructed, installed, altered or repaired unless he holds a permit issued under this section or section 3.01.
- (2) Application for a permit under this section must be made in a manner and form satisfactory to the Ministry of Health with all relevant details completed by the applicant.
- (3) No permit shall be issued under this section

- (a) in the case of construction or installation, until site investigation tests set out in or required by Schedule 1 have been carried out to the satisfaction of the medical health officer or public health inspector, and either of them is satisfied that, having regard to the provisions of that schedule, the construction, installation and ultimate use of the system will not contravene the Act or this regulation, and
- (b) where one sewage disposal system serves more than one parcel, or serves more than one building in a strata plan under the *Condominium Act*, until acceptance of responsibility for operation and maintenance of it has been accepted in writing
 - (i) in either case, by a municipality or regional district, or
 - (ii) in the case of a strata plan, by the strata corporation in which the common property of that plan is vested.
- (4) It is a condition of every permit issued under this section that
 - (a) all material facts disclosed in the application for it are true and not designed to mislead,
 - (b) it is not transferable,
 - (c) it is valid for not more than one year,
 - (d) no variation shall be made to the plans and specifications which formed the basis of the application for the permit unless approved, and
 - (e) the construction, installation, alteration or repair complies with the standards for the appropriate sewage disposal system set out in this regulation.
- (4.1) A permit issued on or after August 1, 1994 and prior to the date this subsection comes into force is valid for a period of not more than one year.
- (5) The grantor of a permit issued under this section may impose conditions additional to those set out in subsection (4).
- (6) A violation of a condition of a permit issued under this section operates to confer a right upon the grantor of it to cancel the permit.

[am. B.C.Reg. 415/94; 382/95.]

Code of Good Practice

- 3.01** (1) A person may apply for a permit under this section if the person
- (a) wishes to construct or install and to operate a sewage disposal system on a parcel of land that
 - (i) measures 10 acres or more,
 - (ii) will serve no more than one principal residence and one secondary residence, and any other non-residential facility requiring on-site sewage treatment, and
 - (iii) is not within an environmental control zone, and
 - (b) elects to construct or install a sewage disposal system that will meet the standards in the Code of Good Practice.
- (2) An application for a permit under this section must
- (a) be made in a manner and form satisfactory to the Ministry of Health with all relevant details completed by the applicant, and
 - (b) include all of the following:
 - (i) proof that the parcel of land measures 10 acres or more;
 - (ii) an indication that the applicant elects to construct or install a sewage disposal system that will meet the standards in the Code of Good

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- Practice;
- (iii) a design plan of the sewage disposal system;
 - (iv) the results of site investigation tests set out in or required by Schedule 1;
 - (v) a report of a professional engineer certifying that the sewage disposal system will meet the standards in the Code of Good Practice.
- (3) On receipt of an application under subsection (2) and the permit fee, a medical health officer or health inspector may issue to the applicant a permit under this section.
 - (4) It is a condition of every permit issued under this section that
 - (a) all material facts disclosed in the application for it are true and not designed to mislead,
 - (b) it is not transferable,
 - (c) it is valid for not more than one year, and
 - (d) on construction or installation of the sewage disposal system and throughout the period of its operation, the system will meet the standards in the Code of Good Practice.
 - (5) The grantor of a permit issued under this section may impose conditions additional to those set out in subsection (4).
 - (6) Section 3 (6) applies to a permit issued under this section.
[en. B.C.Reg. 382/95; am. B.C.Reg. 181/97.]

Inspection fees

- 3.1** (1) On application under section 3 for a permit to install a sewage disposal system, the applicant shall pay a fee of \$250.
- (2) On application under section 3 for a permit for the alteration or repair of a sewage disposal system, the applicant shall pay a fee of \$100.
- (3) Where in the opinion of a medical health officer or public health inspector an installation, alteration or repair referred to in subsection (1) or (2) requires more than one inspection of the sewage disposal system to determine if the installed, altered or repaired system conforms to the Act and regulation and an authorization under section 4 shall be given, the applicant shall pay a further fee of \$100 for each of these additional inspections.
- (4) Notwithstanding subsections (1) to (3), no fee is payable under this section where the sewage disposal system is a privy or holding tank.
[en. B.C.Reg. 105/88; am. B.C.Reg. 128/91.]

Notification requirements

- 3.2** A person who is issued a permit under section 3 or 3.01 to construct, install, alter or repair a sewage disposal system
 - (a) must post a notice in accordance with section 3.3, and
 - (b) if the estimated daily sewage flow from that system is more than 4 546 L [1 000 imperial gal.] but less than 22 730 L [5 000 imperial gal.], must also publish a notice in accordance with section 3.4.
[en. B.C.Reg. 317/94; am. B.C.Reg. 382/95.]

Posted notice

- 3.3** (1) The notice required under section 3.2 (a) must be in the form specified in Schedule 5 and must include
- (a) a site map showing the location of the sewage disposal system that is to be constructed, installed, altered or repaired, and
 - (b) the conditions that apply to the permit.
- (2) The notice required under section 3.2 (a) must
- (a) be posted in a conspicuous place on the parcel for which the permit is issued,
 - (b) be posted not more than 3 days from the date the permit is issued, and
 - (c) remain posted for 30 days after the date the permit is issued.

[en. B.C.Reg. 317/94.]

Published notice

- 3.4** (1) The notice required under section 3.2 (b) must
- (a) contain a site map showing the location of the sewage disposal system that is to be constructed, installed, altered or repaired,
 - (b) include the conditions that apply to the permit,
 - (c) refer to section 8 (4) of the *Health Act*,
 - (d) describe how an appeal of the decision to issue the permit is to be commenced, and
 - (e) refer to the 30 day time period for commencing an appeal.
- (2) The notice required under section 3.2 (b) must
- (a) appear in at least 2 issues of a newspaper that
 - (i) circulates in the area in which the sewage disposal system is located, and
 - (ii) is published not less than weekly, and
 - (b) be published as soon as possible, but not more than 10 days after the permit is issued.

[en. B.C.Reg. 317/94.]

Authorization to operate systems

- 4.** (1) No person shall use, operate or cover a sewage disposal system for which a permit has been issued under section 3 until authorized in writing by a medical health officer or public health inspector.
- (2) An authorization under subsection (1) may contain conditions under which the system shall be operated, used or covered.
- (3) Unless otherwise stated in an authorization issued under subsection (1), it is a condition of it that no domestic sewage will reach the surface of land or discharge into a surface body of fresh water.
- (4) It is a condition of every authorization issued under subsection (1) with respect to a package treatment plant system that
- (a) *Repealed.* [B.C. Reg. 199/86]
 - (b) a copy of it is posted in a conspicuous place on or near the package treatment plant system,

- (c) the owner has the system serviced and maintained in good condition, and
- (d) operation of the system will continue uninterrupted.

[am. B.C.Reg. 199/86.]

— Sections 5 – 9 —

Permit or authorization

5. The grant of a permit under section 3 or 3.01 or an authorization under section 4 does not operate as a relief on a person from the obligation to construct, install, alter, repair or use a sewage disposal system in accordance with the Act and the standards set out in this regulation.
[am. B.C.Reg. 382/95.]

Standards for systems

6. Subject to section 7, no sewage disposal system constructed after the date of this regulation which involves the use of a septic tank or a package treatment plant is permitted unless the system conforms with the standards of construction, capacity, design, installation, location, absorption, operation and use set out
- (a) for conventional septic tank systems, in Schedule 2,
 - (b) for conventional package treatment plant systems, in Schedule 3, and
 - (c) for sewage disposal systems for which a permit under section 3.01 has been issued, in Schedule 6.
- [am. B.C.Reg. 382/95.]

Sewage disposal systems in environmental control zones

- 6.1 (1) Without restricting the application of another provision of this regulation or of another Schedule, Schedule 4 applies to sewage disposal systems that are located in an environmental control zone if the sewage disposal system
- (a) is constructed or installed on a lot created after the date Schedule 4 comes into force and is required to have a permit under section 3,
 - (b) requires repair, or
 - (c) must be expanded to meet the standards set out in Schedules 2 or 3.
- (2) Notwithstanding subsection (1) with respect to a sewage disposal system referred to in subsection (1), where there is a conflict between the provisions of Schedule 4 and a provision in another Schedule or in another part of the regulation, Schedule 4 applies.
[en. B.C.Reg. 11/92.]

Operation of sewage disposal systems constructed or installed under Code of Good Practice

- 6.2 (1) The owner or an occupier of a parcel on which a sewage disposal system is constructed or installed in accordance with a permit issued under section 3.01 may use or operate the system without obtaining an authorization under section 4, but the owner or occupier must ensure that
- (a) samples of the effluent are collected by a certified laboratory
 - (i) not later than 3, 6 then 12 months after the system commences operation,
 - (ii) after that at intervals of not more than 12 months,
 - (b) each sample is analyzed by the certified laboratory to determine if the effluent exceeds the criteria in item 2 of Schedule 6,

- (c) no effluent reaches the surface of the land, and
 - (d) the sewage disposal system continues to meet the other standards in the Code of Good Practice.
- (2) The owner or an occupier must submit the laboratory report on the effluent samples to a medical health officer or public health inspector as soon as practicable after the analysis.
 - (3) A medical health officer or public health inspector may take, or cause to be taken, samples of effluent and may inspect the sewage disposal system.
 - (4) If the owner or an occupier does not comply with subsection (1) or (2) or if a sample taken or audit undertaken under this section establishes that the effluent exceeds the criteria in item 2 of Schedule 6, a medical health officer or public health inspector may order the owner or occupier to do any of the following:
 - (a) connect to a public sewer the dwelling for which the sewage disposal system was constructed or installed;
 - (b) construct or install a sewage disposal system that complies with the standards required for a permit under section 3 or 3.01;
 - (c) take any other remedial action set out in the order.
 - (5) Section 2 (3) and (4) applies to an order under this section.
 - (6) In this section, "**certified laboratory**" means a laboratory that has complied with EDQA quality assurance program of the Ministry of Water, Land and Air Protection.

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[en. B.C.Reg. 382/95; am. B.C.Reg. 109/2002.]

Alternate methods

- 7. (1) Where a medical health officer or public health inspector is satisfied that it is impossible for a person to comply with
 - (a) in the case of a conventional septic tank system, sections 1, 16 or 22 of Schedule 2, or
 - (b) in the case of a conventional package treatment plant system, sections 11, 12 or 18 of Schedule 3,but that the person can comply with all other provisions of the appropriate schedule, he may issue a permit to construct under section 3, containing conditions that he considers appropriate to meet the omitted standards having regard to safeguarding public health.
- (2) Where a sewage disposal system, constructed or installed prior to December 20, 1985 is in need of repair or alteration and the appropriate work cannot reasonably be effected in accordance with this regulation, the medical health officer or public health inspector may issue a permit to repair or alter under section 3 if the sewage disposal system, when repaired or altered in accordance with the conditions contained in the permit, will not constitute a health hazard.
- (3) This section does not apply to a sewage disposal system within an environmental control zone.

[am. B.C.Reg. 199/86; 11/92.]

Jurisdiction of local board

- 8. A local board has jurisdiction to control discharges of effluent to tidal water, and may, with the approval of the Provincial health officer, by order
 - (a) fix or set minimum distances which must exist between high water mark and any part of a sewage disposal system, and

- (b) prohibit discharges to tidal water in circumstances where discharge may constitute a health hazard.

[am. B.C.Reg. 199/86.]

Offence

9. A person who,

- (a) constructs, installs, alters, repairs or uses a sewage disposal system contrary to a provision of a standard contained in this regulation, or without a permit or authorization as required by this regulation,
- (b) violates a condition of a permit under section 3 or 3.01 or an authorization under section 4, or
- (c) fails to comply with an order under section 2, 6.2 or 8

commits an offence.

[am. B.C.Reg. 382/95.]

PLEASE NOTE: in the following schedule Imperial measurements are added editorially for convenience and are not exact measurements.

- 1. The obligations on an owner before applying for a permit to construct or install under section 3 (2) or section 3.01, are as follows:
 - (a) determination of the subsurface ground conditions in the area of the absorption field by digging or boring a representative number of holes to a minimum depth of 1.2 m [4 ft.], report the conditions found, leave the excavated material for inspection and cover the test holes;
 - (b) determination of the suitability of the soil to absorb effluent by conducting percolation tests as follows:
 - (i) percolation test holes must be made at points and elevations selected as typical in the area of the proposed absorption field;
 - (ii) test holes must be dug at each end of the area of the absorption field. Further holes may be required, depending upon the nature of the soil, the results of the first tests and the size of the proposed absorption field;
 - (iii) test holes must be 30 cm [12 in.] square and excavated to the proposed depth of the absorption field;
 - (iv) to make the percolation test more accurate, any smeared soil should be removed from the walls of the test holes;
 - (v) if the soil contains considerable amounts of silt or clay, the test holes must be presoaked before proceeding with the test. Presoaking is accomplished by keeping the hole filled with water for 4 hours or more. The test must be carried out immediately after presoaking;
 - (vi) to undertake the test, fill the test hole with water. When the water level is 13 cm [5 in.] or less from the bottom of the hole, refill the hole to the top. No recording of time need be done for these 2 fillings;
 - (vii) when the water level, after the second filling (procedure (vi)) is 13 cm [5 in.] or less from the bottom of the hole, add enough water to bring the depth of water to 15 cm [6 in.] or more;
 - (viii) observe the water level until it drops to the 15 cm [6 in.] depth, at precisely 15 cm [6 in.], commence timing, when the water level reaches the 12.5 cm [5 in.] depth, stop timing, record the time in

minutes;

- (ix) repeat procedures (vii) and (viii) until the last 2 rates of fall do not vary more than 2 minutes per 2.5 cm [per inch];
- (x) *Repealed.* [B.C. Reg. 11/92]
- (xi) determine the percolation rate for the proposed sewage disposal system by averaging the slowest rate determined for each of the test holes;
- (xii) backfill the holes with the excavated soil and flag their locations.

[am. B.C.Reg. 11/92; 382/95.]

2. The ground water table shall be determined as follows:

- (a) Where, in the opinion of the medical health officer or public health inspector, a ground water table may be affected by infiltration from a body of surface water at the time the elevation of the body of surface water is at its high water mark, the elevation of the ground water table shall be deemed to be the same as the elevation of the high water mark of the body of surface water from which the infiltration is expected to occur.
- (b) Where the ground water table is not affected by infiltration from a body of surface water as described in paragraph (a), the ground water table shall be the average of the 2 maximum recorded seasonal ground water tables in the 24 month period immediately prior to the date of application. The records considered for this calculation shall be those acceptable to the medical health officer or public health inspector.
- (c) In situations where
 - (i) no records are available, or
 - (ii) there is a probability of flooding or a high water tablethe medical health officer or public health inspector may determine the ground water table.

[am. B.C.Reg. 199/86.]

- 3.** (1) The applicant for a permit shall report the results of all determinations made under this schedule in a manner and form satisfactory to the Ministry of Health.
- (2) If the results reported under subsection (1) are unable to satisfy the medical health officer or public health inspector that the quality of the surface water and ground water will not be impaired, the medical health officer or public health inspector may require that alternative or additional tests be carried out by or on behalf of the applicant for a permit, so as to ensure that proper surface and ground water quality will be maintained.

PLEASE NOTE: in the following schedule Imperial measurements are added editorially for convenience and are not exact measurements.

- 1.** Septic tank systems are limited to lots where an impervious layer of soil or bedrock, or the ground water table, is greater than 1.2 m [4 ft.] below the ground before it has been artificially disturbed by placement of fill, excavation or otherwise.
- 2.** A reference in this schedule to
 - (a)

a capacity in relation to a system means the liquid capacity below the invert of its outlet, and does not include the liquid capacity of a siphon or pump chamber, and

(b) an interceptor drain means a drain or ditch located so as to intercept the surface or ground water flowing towards a sewage disposal system site and direct such water away from that site.

3. A septic tank shall be water tight and constructed of concrete or other corrosive-resistant material. A medical health officer or public health inspector may require a water test.
4. A septic tank shall be designed and constructed to withstand the imposed loading to which it will be subjected and in accordance with good engineering practice.
5. The internal length of a septic tank shall be 2 to 3 times the internal width. The liquid depth shall be not less than 0.9 m [3 ft.] nor more than 2 m [6 ft.]. A 30 cm [12 in.] air space shall be provided between the liquid level and the underside of the septic tank cover.
6. A septic tank may have more than one compartment. The liquid capacity of the first compartment shall be equal to 1/2 to 2/3 of the total liquid capacity of the septic tank. Where the liquid exceeds 8 000 L [1 800 gal.], the medical health officer or public health inspector may require more than one compartment or a series of 2 or more septic tanks.
7. Two or more septic tanks may be installed and used in series provided that the first septic tank is equal to 1/2 to 2/3 of the total liquid capacity of all of the septic tanks.
8. Access shall be provided for each compartment of the septic tank. Access openings shall have a minimum internal dimension of 50 cm [20 in.] and shall be provided with covers. Covers shall be provided with handles. Clean out openings with covers or plugs shall be provided for the septic tank inlet and outlet devices.
9. Inlets and outlets shall be installed to provide the greatest separation distance between them and shall be baffled or otherwise controlled to provide quiescent flow. An inlet tee or a capped tee may be used instead of a baffle. The inlet baffle, tee or capped tee shall extend into the liquid not less than 15 cm [6 in.] and not more than 23 cm [9 in.]. An outlet tee may be used instead of a baffle. The outlet baffle or tee shall extend into the liquid not less than 25% nor more than 40% of the liquid depth. Baffles or tees shall extend above the liquid level. There shall be a space of at least 2.5 cm [1 in.] and not more than 5 cm [2 in.] between the top of the baffle or tee and the underside of the septic tank cover. The invert of the inlet to the septic tank shall be at least 5 cm [2 in.] above the invert of the outlet.
10. Where a siphon or pump is installed, the operating liquid capacity of the siphon or pump chamber shall discharge to fill the entire capacity of the absorption field pipe. The capacity of a siphon or pump chamber shall not be included as part of the septic tank capacity.
11. The septic tank shall be located to provide a minimum fall of 0.4 cm [1/8 in.] per 30 cm [1 ft.] in the building drain and building sewer.
[am. B.C.Reg. 199/86.]
12. A septic tank shall be located not less than
 - (a) 15.24 m [50 ft.] from a source of domestic water,

- (b) 1 m [3 ft.] from a parcel boundary,
- (c) 1 m [3 ft.] from a building, and
- (d) 3 m [10 ft.] from a domestic water pipeline.

13. The minimum liquid capacity of a septic tank for a single family dwelling shall be
- (a) 1–2 bedroom dwelling – 2 273 L [500 imperial gal.],
 - (b) 3 bedroom dwelling – 2 727 L [600 imperial gal.],
 - (c) 4 bedroom dwelling – 3 409 L [750 imperial gal.],
 - (d) 5 bedroom dwelling – 4 091 L [900 imperial gal.], and
 - (e) 6 bedroom dwelling – 5 000 L [1 100 imperial gal.].

14. The liquid capacity of a septic tank or series of septic tanks for other than single family dwellings shall be based on a minimum sewage flow in accordance with Appendix I but shall not be less than 2 273 L [500 imperial gal.].

15. The liquid capacity of a septic tank or a series of septic tanks, other than those described in section 13 shall be a minimum of 2 273 L [500 imperial gal.] and shall comply with the following:
- (a) where the estimated daily sewage flow ranges from 1 136 L [250 imperial gal.] to 4 318 L [950 imperial gal.], Table A shall apply;

TABLE A

Estimated Daily Sewage Flow		Septic Tank Liquid Capacity	
<i>[Litres]</i>	<i>[Imperial Gallons]</i>	<i>[Litres]</i>	<i>[Imperial Gallons]</i>
1 136	250	2 273	500
1 363	300	2 727	600
1 591	350	3 182	700
1 818	400	3 636	800
2 045	450	4 091	900
2 273	500	4 546	1 000
2 500	550	5 000	1 100
2 727	600	5 455	1 200
2 954	650	5 909	1 300
3 182	700	6 250	1 375
3 409	750	6 546	1 440
3 636	800	6 819	1 500
3 864	850	7 046	1 550
4 091	900	7 273	1 600
4 318	950	7 500	1 650

- (b) where the estimated daily sewage flow is in excess of 4 318 L [950 imperial gal.], the liquid capacity of the septic tank or septic tanks shall be

4 318 L [950 imperial gal.] plus 0.75 times the estimated daily sewage flow.

- 16.** A conventional absorption field shall not be allowed where the percolation rate exceeds 30 minutes per 2.5 cm [1 in.] or the slope of the absorption field area is greater than 30%.
- 17.** The length of a drainage pipe in an absorption field shall be determined as set out in Appendix II, in accordance with the percolation rate and the estimated daily sewage flow. The minimum length of a drainage pipe for any installation shall not be less than 45 m [150 ft.], and the pipe shall be designed to ensure that distribution is proportionate to the length of each trench.
[am. B.C.Reg. 199/86.]
- 18.** An absorption field shall be located not less than
- (a) 3 m [10 ft.] from a building,
 - (b) 3 m [10 ft.] from a parcel boundary,
 - (c) 3 m [10 ft.] from an interceptor drain,
 - (d) 30.5 m [100 ft.] from a source of domestic water,
 - (e) 30 m [100 ft.] from the high water mark, and
 - (f) 3 m [10 ft.] from a domestic water pipeline.
- All measurements shall be from the nearest trench wall.
[am. B.C.Reg. 199/86.]
- 19.** An absorption field shall not be located,
- (a) under a roadway,
 - (b) under a paved area, and
 - (c) under an area used or intended for the parking of motor vehicles.
- 20.** A drainage pipe in a gravity fed absorption field shall be at least 7.5 cm [3 in.] in internal diameter and laid to a maximum slope of 10 cm [4 in.] per 30 m [100 ft.]. The lines of a drainage pipe shall not be less than 2 m [6 ft.] apart and the maximum length of any drainage pipeline shall not exceed 30 m [100 ft.]. Dead ends of a drainage pipe shall be suitably plugged or may be vented.
[am. B.C.Reg. 199/86.]
- 21.** When drainage tile is used in an absorption field, it shall be laid with joints 0.6 to 1.2 cm [1/4 to 1/2 in.] wide, and the top half of the joint shall be covered with asphalt treated paper or other suitable material to prevent entrance of soil.
- 22.** The conventional absorption field shall be constructed in the following manner:
- (a) excavate level and flat trenches at least 30 cm [12 in.] wide and 55 cm [22 in.] to 81 cm [32 in.] deep and to the length required by section 17;
 - (b) place coarse drain rock over the trench bottom and across the width of the trench to a depth of at least 23 cm [9 in.]; the drain rock may range in size from 1.2 to 6.3 cm [1/2 to 2 1/2 in.];
 - (c) place drainage pipe on the drain rock at the centre line of the trench to a maximum slope of 10 cm per 30 m [4 in. per 100 ft.];
 - (d) fill the trench with drain rock, ranging in size from 1.2 to 6.3 cm [1/2 to 2 1/2 in.], to a depth of 6 cm [2 in.] over the pipe and across the width of the trench;

- (e) cover the drain rock with untreated building paper;
 - (f) place topsoil over the paper to the full width of the trench and finish to a minimum slope of 2% across the trench or across the entire absorption field.
23. The drainage pipe must be laid across the slope of the land.
 24. A distribution box, or where the system is under pressure, either a header or combination of a distribution box or header, shall be installed to distribute the effluent uniformly throughout the drainage pipe.
 25. When the length of a drainage pipe in an absorption field exceeds 152 m [500 ft.], a siphon or other device approved by the medical health officer or public health inspector shall be installed in accordance with section 10 of this schedule.
 26. A sewage disposal system must be so located, constructed and the ground surface landscaped to protect the system from storm water.

**APPENDIX 1 – Estimated Minimum Daily Sewage Flows
in Litres [Imperial Gallons]**

[am. B.C. Reg. 199/86.]

(Schedule 2, section 14)

Type of facility	Estimated Minimum Daily Sewage
Apartments & condominiums (having one common entrance)	750 for 1 bedroom unit [165] 1 022 for 2 bedroom unit [225] 1 136 for 3 bedroom unit [250]
Houses, duplexes (all other residential units)	1 136 for 1 and 2 bedrooms [250] 1 363 for 3 bedrooms [300] 1 704 for 4 bedrooms [375] 2 045 for 5 bedrooms [450] 2 500 for 6 bedrooms [550]
Mobile home parks	1 136 per space [250]
Hospitals with laundry	1 136 per bed [250]
Hospitals without laundry	681 per bed [150]
Institutions, work camps, rest homes, residential schools	227 per bed [50]
Nursing homes	681 per bed [150]
Motels/hotels	318 per unit [70] 454 per housekeeping unit [100]
Campsites	454 per unit [100] 681 per unit (year round operation) [150]
Theatre/drive-in (food service is limited to single service containers)	22 per car space [5]
Fixed seat assembly (theatres, churches)	9 per seat [2]

Restaurants, dining rooms, dining lounges	97 per m ² of dining area [2 per sq. ft. of dining area]
Banquet and meeting rooms	16 per m ² of floor area [.35 per sq. ft. of floor area]
Beer parlours, cabarets, neighbourhood pubs	145 per m ² of customer seating area [3 per sq. ft. of customer seating]
Swimming pools	22 per person, based on design bathing load as stated (1) [5]
Summer camps	160 per bed [35]
Office buildings	90 per worker [20]
Factories, with showers	90 per worker per shift [20]
Factories, without showers	45 per worker per shift [10]
Schools, primary and elementary	68 per student [15]
Schools, high	90 per student [20]
Service stations	568 per single hose pump [125] 1 136 per double hose pump [250]
Shopping centres (exclude cafes and laundries)	0.7 per m ² of enclosed sales area [0.15 per sq. ft. of enclosed sales area]
Laundry	1 591 per laundry machine [350]

NOTE:

(1) Design bathing load is calculated as

$$\frac{D}{2.5} + \frac{S}{0.93}$$

[27] [10]

where

D = area of pool in square metres where the pool depth is more than 1.5 m [5 ft.] deep, and

S = area of pool in square metres where the water depth is less than 1.5 m [5 ft.] deep.

(2) The estimated daily sewage flows for facilities not mentioned in this table may be determined by the medical health officer or public health inspector.

(3) The above table gives minimum estimated daily sewage flows. The medical health officer or public health inspector may increase these estimated flows if circumstances warrant this in any specific application.

APPENDIX 2 – Septic Tank Absorption Field Lengths

(Schedule 2, section 17)

Percolation Rate in Minutes per 2.5 cm [1 in.]	Number of meters [ft.] of drainage pipe per 4 546 L [1 000 imp. gal.] per day (estimated daily sewage flow)
1	111 [360]
5	198 [640]
10	260 [840]
15	297 [960]
20	334 [1 080]
25	368 [1 190]
30	401 [1 290]

PLEASE NOTE: in the following schedule Imperial measurements are added editorially for convenience and are not exact measurements.

1. This schedule applies to package treatment plant systems for domestic sewage only, and does not include food premises as defined in the Food Premises Regulations.
2. A reference in this schedule to
 - (a) capacity in relation to a system means the liquid capacity that the plant can process satisfactorily on a sustained basis over 24 hours, and
 - (b) an interceptor drain means a drain or ditch located so as to intercept the surface or ground water flowing towards a sewage disposal system site and direct such water away from that site.
3. *Repealed.* [B.C. Reg. 199/86]
4. The treatment capacity of a package treatment plant serving a single family dwelling with 4 bedrooms or less shall have a minimum treatment capacity of 1 363 L [300 imperial gal.] per day.
5. The treatment capacity of a package treatment plant serving a facility other than one described in section 4 shall not be less than the estimated sewage flow set out in Appendix 1 of Schedule 2.
6. The package treatment plant system must be so located and constructed and the ground surface landscaped to protect the system from storm water.
7. The package treatment plant shall be located to provide a minimum fall of 0.4 cm [1/8 in.] per 30 cm [1 ft.] in a building drain and building sewer. The building drain and building sewer must be installed in accordance with good engineering practice. The pipe must be properly bedded, graded and covered. In instances where the pipe must be exposed it shall be adequately supported and protected from physical damage.

8. The medical health officer or public health inspector may require a grease trap which shall not be serviced less frequently than the package treatment plant.
9. The package treatment plant shall be located not less than
 - (a) 15.24 m [50 ft.] from a source of domestic water,
 - (b) 1 m [3 ft.] from a parcel boundary,
 - (c) 1 m [3 ft.] from a building, and
 - (d) 3 m [10 ft.] from a domestic water pipeline.
10. The package treatment plant shall have
 - (a) a safe and convenient access for repair, with a shelter over the access in areas of heavy snow and low temperature,
 - (b) security from vandalism and other tampering,
 - (c) protection from heat loss by burial or insulation, and
 - (d) protection from storm water.
11. A conventional absorption field shall not be located in an area where an impervious layer of soil or bedrock, or the ground water table, are less than 1.2 m [4 ft.] below the ground before it has been artificially disturbed by placement of fill, excavation or otherwise.
12. A conventional absorption field shall not be allowed where the percolation rate of the soil exceeds 30 minutes per 2.5 cm [1 in.] or the slope of the absorption field area is greater than 30%.
13. An inspection and sampling chamber or fitting shall be provided on the effluent line immediately downstream of the plant and shall be accessible from the ground surface.
14. An absorption field shall be located not less than
 - (a) 3 m [10 ft.] from a building,
 - (b) 3 m [10 ft.] from a parcel boundary,
 - (c) 3 m [10 ft.] from an interceptor drain,
 - (d) 30.5 m [100 ft.] from a source of domestic water,
 - (e) 30 m [100 ft.] from the high water mark, and
 - (f) 3 m [10 ft.] from a domestic water pipeline.
15. The absorption field shall not be located
 - (a) under a roadway,
 - (b) under a paved area, and
 - (c) under an area used or intended for the parking of motor vehicles.
16. The length of a drainage pipe in an absorption field shall be determined as set out in the Appendix in accordance with the percolation rate and the estimated sewage flow. The minimum length of drainage pipe for any installation shall accommodate the treatment capacity of the package treatment plant and shall not be less than 18 m [60 ft.].

17. A drainage pipe in an absorption field shall be at least 7.5 cm [3 in.] in internal diameter and laid to a maximum slope of 10 cm [4 in.] per 30 m [100 ft.]. The lines of drainage pipe shall not be less than 2 m [6 ft.] apart and the maximum length of drainage pipeline shall not exceed 30 m [100 ft.]. Dead ends of drainage pipe shall be suitably plugged or vented. When drainage tile is used in an absorption field, it shall be laid with joints 0.6 to 1.2 cm [1/4 to 1/2 in.] wide, and the top half of the joints shall be covered with asphalt treated paper or other suitable material to prevent entrance of soil.

18. The conventional absorption field shall be constructed in the following manner:
 - (a) excavate level and flat trenches at least 61 cm [24 in.] in width, 55 to 61 cm [22 to 24 in.] deep and to the length required by section 17;
 - (b) place coarse sand ranging in size from 0.1 mm to 10 mm in the trenches to a depth of 2.5 to 7.5 cm [1 to 3 in.]. Coarse sand is also to be placed across the width of the trenches;
 - (c) place 30 cm [12 in.] of coarse gravel on the sand and across the width of the trenches. The gravel may range in size between 1.2 to 6 cm [1/2 to 2 1/2 in.];
 - (d) drainage pipe is placed on the coarse gravel at the centre line of the trench;
 - (e) fill the trench with gravel to a point 7.5 cm [3 in.] from the ground surface and level the gravel across the width of the trenches;
 - (f) cover the gravel with untreated building paper;
 - (g) place top soil over the paper to the full width of the trenches and finish to a minimum slope of 2% across the trench or across the entire absorption field area.

19. The drainage pipe shall be laid across the slope of the land.

20. A distribution box, or where the system is under pressure, either a header or a combination of a distribution box and header, shall be installed to distribute the effluent uniformly throughout the drainage pipe.

21. A sewage disposal system must be so located, constructed and the ground surface landscaped to protect the system from storm water.

APPENDIX – Package Treatment Plant Absorption Field Lengths

(Schedule 3, section 5)

Percolation Rate in Minutes per 2.5 cm [1 in.]	Number of metres [ft.] of drainage pipe per 4 546 L [1 000 imp. gal.] per day (estimated daily sewage flow)
1	46 [150]
5	68 [220]
10	93 [300]
15	102 [330]
20	111 [360]
25	127 [410]
30	139 [450]

[en. B.C.Reg. 11/92; am. B.C.Reg. 109/2002.]

Interpretation and application

1. In this Schedule:

"body of water" means any nontidal lake, canal, spring or flowing body of fresh water;

"porous soil depth" means the minimum vertical distance from the finished surface grade of the absorption field to the underlying

- (a) impervious layer,
- (b) bedrock, or
- (c) groundwater table,

whichever is uppermost.

Requirements for permit

2. A permit must not be issued under section 3 of this regulation unless,

- (a) in the case of a conventional sewage disposal system, the system has at least 70 cm of undisturbed, natural, porous soil beneath the trench containing the drainage pipe, and complies with

- (i) the minimum distances specified in Table 1, or

- (ii) the modified minimum distances specified in section 3 of this Schedule, or

Am ⇒
[May 23/02]

- (b) in the case of an on site phosphorus reduction sewage disposal system, the Ministry of Water, Land and Air Protection has verified that the system is capable of continuously removing at least 80% of

the initial concentration of phosphorus.

TABLE 1

Minimum horizontal distance (metres) between the absorption field and the high water mark of any body of water within an Environmental Control Zone

Percolation Rate (minutes/2.5 cm)	Porous Soil Depth (m)				
	≥ 1.2 but	≥ 1.8 but	≥ 2.4 but	≥ 3.6 but	≥ 6.0
≥ 2 but < 5	150	150	120	90	30
≥ 5 but < 10	150	120	90	60	30
≥ 10 but < 15	120	90	60	30	30
≥ 15 but < 20	90	60	30	30	30
≥ 20 but < 30	60	30	30	30	30
≥ 30	30	30	30	30	30

Horizontal distances

3. (1) The minimum horizontal distance specified in Table 1 may be reduced by 1 metre for every 1.5 metres of additional field length in excess of the minimum specified in Appendix 2 of Schedule 2.
- (2) Notwithstanding subsection (1), a distance of at least 30 metres shall be maintained between the absorption field and the high water mark of any body of water.

Repair of existing system

4. Where a sewage disposal system, constructed or installed prior to the date this Schedule comes into force, is in need of repair and the repair cannot reasonably be effected in accordance with Table 1 or section 3 of this Schedule, the medical health officer or public health inspector may nonetheless issue a permit provided that, when the system is repaired or altered in accordance with the conditions contained in the permit, it will not constitute a health hazard.

Expansion of existing system

5. Notwithstanding section 4 of this Schedule, where a sewage disposal system, constructed or

installed prior to the date this Schedule comes into force,

- (a) is in need of expansion due to enlargement of the premises or to an increase in the estimated sewage flow, and
- (b) the expansion cannot reasonably be effected in accordance with Table 1,

the medical health officer or public health inspector may nonetheless issue a permit provided that, when the system is expanded in accordance with the conditions contained in the permit, it will comply with section 2 (b) or 3 of this Schedule.

[en. B.C.Reg. 317/94.]

Pursuant to this application and the Sewage Disposal Regulation, permission is hereby granted to construct, install, alter or repair the sewage disposal system on this property. *This permit may be cancelled if variations are made to these plans and specifications.*

Conditions of Permit:

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Date Permit Valid

Signature of Public Health Inspector/EHO

NOTICE

This notice must be posted in a conspicuous place on the parcel for which the permit is issued not more than 3 days after the date the permit is issued and must remain posted for 30 consecutive days from the date the permit is issued.

Persons who consider themselves aggrieved by a decision made under the Sewage Disposal Regulation are eligible to file an appeal under section 8 (4) of the *Health Act*.

A Notice of Appeal must be delivered by hand, facsimile or registered mail to the Chair of the Environmental Appeal Board, Parliament Buildings, Victoria, B.C. V8V 1X4 within 30 days of the issuance of the permit. Please contact your local Health Unit for information on appeal procedures.

5. The effluent must be discharged into a porous material, such as natural inorganic soil or ASTM C-33 sand.
6. The sewage disposal system must be sized to hydraulically accept the effluent.
7. The effluent must not reach the surface of the land.
8. As a condition of continued operation, the owner or an occupier of the parcel of land must ensure that samples of effluent are collected and analyzed, and reports are submitted, as required by section 6.2 of the Sewage Disposal Regulation.

[Provisions of the *Health Act*, RSBC 1996, c. 179, relevant to the enactment of this regulation: section 8]