



On-Site Sewage System Application Guide

NOTE: The following information is provided to assist you when submitting an application for a building permit to Seguin Township. The best way to expedite your application is to provide accurate and complete information. Incomplete or inaccurate information may result in your application not being accepted. It is recommended that the applicant refer to the Ontario Building Code for the current construction requirements. It will be necessary, at minimum, to have access to Part 8 of the Ontario Building Code to complete all calculations required to design a sewage system.

APPLICATION FOR A PERMIT TO CONSTRUCT OR DEMOLISH

This form is required by legislation under the Ontario Building Code and must be completed.

- A. Project information: Provides information on the project. If the property does not already have a building or unit number then you must contact the municipal office to obtain one. Remember to record the estimated value of the project. Roll number and lot number can be found on your tax bill or obtained from the municipal office.
- B. Purpose of Application: This section is used to describe the type of permit you are applying for. Check the appropriate box and also describe the scope of the project.
- C. Applicant: Unless you are the legal owner of the property you should check authorized agent and supply a letter of authorization.
- D. Owner: This is the information pertaining to the legal owner of the property. This section must be completed if the applicant is different than the owner. The address here should be the address where the owner resides.
- E. Builder: This section is for the builders information.
- F. Tarion Warranty Corporation (Ontario New Home Warranty Program - ONHWP): In general, a new home which is designed to be used on a year-round basis and is going to be sold as a new home, or is constructed in its entirety by a contractor for the owner must be registered with the ONHWP or Tarion Warranty Corporation. Reference should be made to the ONHWP Act for clarification of details. Section F must be completed whether or not you are registering the home construction.
- G. Required Schedules: Your application must include all required schedules and attachments.
- H. Completeness and Compliance with Applicable Law: All boxes must be checked yes. Section iv) is referring to applicable law which could include any number of organizations including the municipality in question, MTO, MOECC, Bell Canada or Hydro One (etc.).
- I. Declaration of the Applicant: As outlined previously. If the person signing the application is someone other than the legal owner, the applicant must have a letter of authorization completed and signed by the legal owner to be submitted with the application.

Schedule 1: Designer Information: Must be filled out by the designer of the project. If it is the installer of the septic system, he/she must fill out Schedule 1 A, B, C and D. Installers, if they are installing the system, are exempt from registration but they must provide individual BCIN numbers in the appropriate section and their basis for exemption is “registered installer”. Homeowners who are designing their own system are exempt from registration and qualification requirements of the Ontario Building Code. Date and sign your name.

Schedule 2: Sewage System Installer Information: This section is to be completely filled out when there is an installer on the project. Anyone other than a licensed installer (ex: homeowner) who will be acting as the installer must fill out sections A, B and E.

Schedule 3: Site Evaluation Form: This form contains the soil and water table information which must be assessed to complete the design requirements for a Sewage System Building Permit. The designer shall complete the appropriate sections of this form, leaving shaded areas for the inspector to complete.

Test Pit: The Approximate Soil Percolation Rates T-time chart provides some common soil percolation rate ranges; remember to select the highest number of a range identified for the design. Soil type, groundwater and bedrock levels will determine the raised height of a sewage system, including contact area and mantle loading area requirements.

The charts provided are for guidance only and are not intended as complete design guidelines.

APPROXIMATE SOIL PERCOLATION RATES (T-time)						
The following are estimated ranges of soil percolation rates (T-times) measured in a rate of min/cm. Actual on-site soil conditions may vary significantly from estimated ranges. Differences in estimated T-times shall be resolved by samples analyzed by the Unified Soil Classification System and/or percolation tests being conducted on in-situ soils.						
Soil Type	Sand	Sandy Loam	Loam	Silty Loam	Clay Loam	Silt - Clay
T-time (min/cm)	10	12 - 20	17 - 25	20 - 30	30 - 40	40 - 50

Texture Class	Feel Test	Moist Cast Test	Ribbon Test	Estimated T-time (min/cm)
Sand	Grainy with little floury material	No cast	None	10
Loamy Sand	Grainy with slight amount of floury material	Very weak cast, no handling	None	10 - 15
Silty Sand	Grainy with moderate amount of floury material	Weak cast, no handling	Almost flakes if sand portion is very fine or fine sand	17 - 20
Sandy Loam	Grainy with moderate amount of floury material	Weak cast, allows careful handling	Barely ribbons	17 - 25
Loam	Fairly soft and smooth with evident graininess	Good cast, readily handled	Thick and very short (< 2.5 cm)	17 - 25
Silt Loam	Floury with slight graininess	Weak cast, allows careful handling	Flakes, rather than ribbons	20 - 25
Silt	Very floury	Weak cast, allows careful handling	Flakes rather than ribbons	20 - 30
Sandy Clay Loam	Very substantial graininess	Moderate cast	Short and thick (2.5 - 5 cm)	20 - 30
Clay Loam	Moderate graininess	Strong cast	Fairly thin breaks readily barely supports own weight	20 - 30
Silty Clay Loam	Smooth and floury	Strong cast	Fairly thin, breaks readily barely supports own weight	30 - 35
Sandy Clay	Substantial graininess	Strong cast	Thin, fairly long (5 - 7.5 cm), holds own weight	35 - 40
Silty Clay	Smooth	Very strong	Thin, fairly long (5 - 7.5 cm), holds own weight	40 - 50
Clay	Smooth	Very strong	Very thin, very long (> 7.5 cm)	> 50
MANTLE LOADING RATE : T-time 1 - 20: Q/10; T-time 21 - 35: Q/8; T-time 36 - 50: Q/6; T-time > 50: Q/4				

Water Supply: Be sure to check off whether or not it is **Existing** or **Proposed** and which type of water supply will be used on the property.

Schedule 4: Design Criteria: This sheet shall be completed to determine the *Total Daily Design Sewage Flow (Q = liters / day)*. This section must be completed to determine the minimum size of sewage system required. It is recommended that the applicant refer to the Ontario Building Code (www.ontario.ca/buildingcode) for the current construction requirements.

Schedule 5: Proposal to Construct:

Class 2: Greywater Pit / Class 3: Cesspool: This section should be filled out when applying for either a greywater pit or a cesspool. Note that the Total Daily Design Sewage Flow (Q) for both systems cannot exceed 1000 L/day.

Septic Tank / Treatment Unit / Class 5: Holding Tank: Check the appropriate box to indicate whether the septic tank/treatment unit/holding tank will be new, a replacement or existing. If the proposed use of the building is residential, multiply "Q" by two to size the septic tank. If the proposed use is non-residential, multiply "Q" by three to size the septic tank. Consult Part 8 of the Ontario Building Code (OBC) for sizing requirements of treatment units and holding tanks. When using a treatment unit tank, specify the make / model and level of treatment (OBC Table 8.6.2.2.) in the appropriate box. The BMEC or CAN/BNQ approval must be attached to the application for the inspectors review. The OBC minimum accepted tank size for residential use is 3600 L.

Leaching Bed: The leaching bed can be a filter bed, trench bed, Type A / B bed or shallow buried trenches. The trench and filter beds can be used with a septic tank or Other Treatment Unit, but, Type A or B beds and shallow buried trenches must include an Other Treatment Unit (OBC 8.6.2.2.(2)). When an Other Treatment Unit is proposed, the BMEC or CAN/BNQ approval must be attached to the application.

A minimum of 2 test holes should be provided at every site with a new sewage system location. The test hole in the bed area should be as deep as the proposed sewage system (ex. for a fully dug in filter bed the inspector should see a 1.5 meter deep test hole). The second test hole should be 15 meters in the direction of flow and be as deep as the mantle loading area is proposed to be on the cross section (ex. for a fully raised filter bed the test hole should be 30cm deep, but for a fully dug in filter bed the mantle loading area test hole should also be 1.5 meters deep).

For bed applications check the appropriate box if a pump is proposed / existing and which type it is. Indicate the proposed method of subsurface detection (ex. tracer wire or rebar), as well as the T-time from Schedule 3 in the spaces provided.

Filter Bed: If "Q" is less than 3000 liters/day the filter bed area in square meters is $Q / 75$ (Q is the daily design sewage flow from Schedule 4). $Q / 50$ must be used if your "Q" exceeds 3000 liters/day. The number of filter beds needed is determined by the requirement that no one filter bed can be less than 10 square meters or more than 50 square meters. When the filter bed area is larger than 50 square meters, divide the calculated area by 2 to determine the size of each bed required.

Contact area is calculated using $QT / 850$ (Q is the daily design sewage flow from Schedule 4, T is the T-time from Schedule 3 and the result is the total bed size in meters squared). The minimum raised height of a bed is calculated by taking 1.5 meters and subtracting the depth to ground water table and/or hardpan and/or bedrock and/or impervious soil.

Filter Graph: An up-to-date filter graph (tested within 2 years of the submission date) which meets OBC requirements 8.7.5.3.(3), and includes the volume of filter sand imported to the site, will be required prior to or upon Substantial Completion Inspection or the inspection will not pass until submitted.

Trench Bed: The trench bed length is calculated as $QT / 200$ (Q is the daily design sewage flow from Schedule 4, T is the T-time from Schedule 3 and the result is the total bed length in meters). If an Other Treatment Unit is utilized, the formula becomes $QT / 300$, also resulting in meters of total bed length. A pump is mandatory when the total trench bed length is 150 meters or larger. The minimum vertical separation from the bottom of the stone in the trench to ground water table and/or hardpan and/or bedrock and/or impervious soil is 900mm. Test holes must be dug to find out if this separation can be achieved and this will determine whether or not a dug in, partially raised or fully raised system can be proposed.

Class 4 Mantle Loading Area Requirements: Indicate in the appropriate box if a native or imported mantle is proposed. The mantle loading area must extend for a distance of at least 15 meters beyond the outer distribution pipes in the direction of flow and cover a total area as required by the calculation provided in Part 8 of the OBC Section 8.7.4.1..

Type A or B Bed: OBC 8.7.1.2.(1) references that the design and installation of a Type A or Type B dispersal bed shall be carried out by a person competent in this field of work. The requirements as set out in Part 8 of the OBC for a Type A Dispersal Bed can be found under section 8.7.7. and for a Type B Bed can be found under section 8.7.8.

Sieve Analysis: An up-to-date sieve analysis (tested within 2 years of the submission date) which meets OBC requirements 8.7.7.1.(4), and includes the volume of sand imported to the site, will be required prior to or upon Substantial Completion Inspection or the inspection will not pass until submitted.

Shallow Buried Trench (SBT): OBC 8.7.1.2.(1) references that the design and installation of a shallow buried trench bed shall be carried out by a person competent in this field of work. Construction requirements as set out in Part 8 of the OBC for a Shallow Buried Trench can be found under section 8.7.6.

Piping used in shallow buried trenches must be pressurized and therefore a pump is always required. Shallow buried trench length is calculated using Table 8.7.3.1. of the Ontario Building Code.

BNQ / BMEC / Other (ex. Other Treatment Unit): Consult the CAN/BNQ or BMEC approval to determine the design criteria and to calculate the stone area, sand area, and the raised height of the bed proposed. The manufacturer of the treatment unit technology should also be consulted in regards to the installation, use, maintenance (maintenance agreements), training and continuing education where this application is to be used. When using a treatment unit, specify the make / model and level of treatment (OBC Table 8.6.2.2.).

Letter of Authorization: This form (or a personalized variation of it) must be filled out and signed by the legal owner if the applicant is not the owner. A PDF version of this can be found on the website.

Fee Schedule: Pay the appropriate fee with the submission of your application. The current fee schedule can be found on the website. An application will not be processed until fee payment is received.

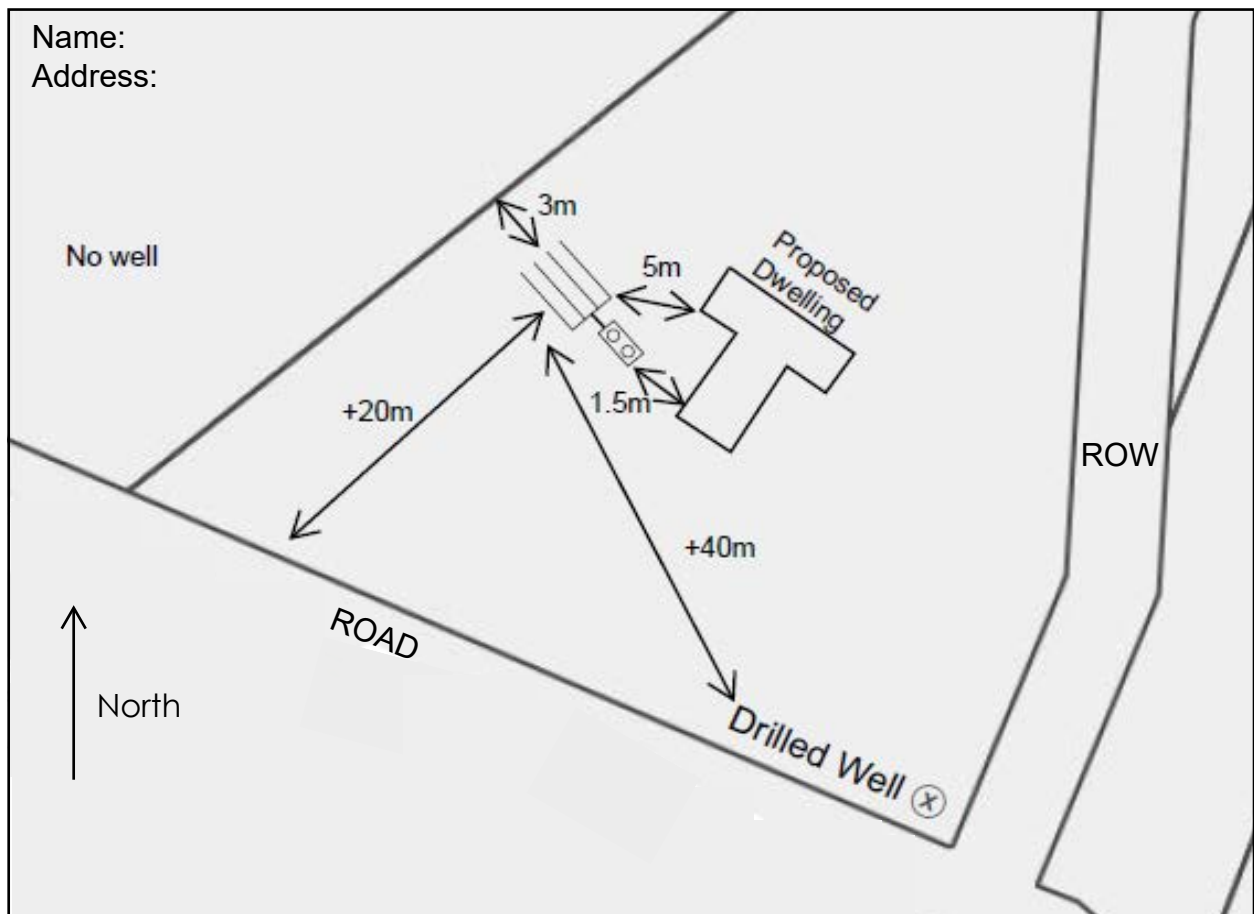
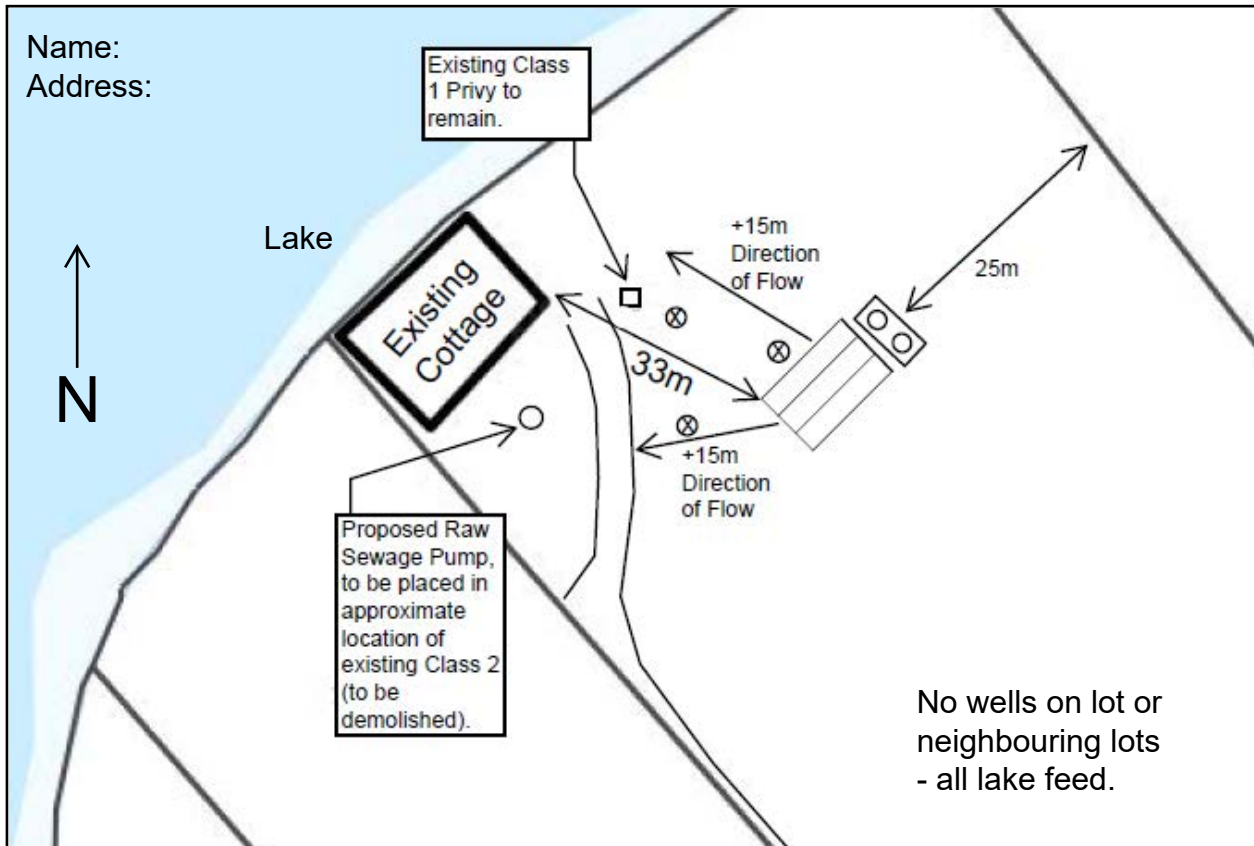
Site Plan: These can be surveys or drawings providing they are accurate and legible. The site plan must include proposed setbacks (NOT the minimum requirements of the OBC).

- Property owner's name and property address (civic);
- Lot size, property dimensions, roads, existing rights-of-way, easements, or municipal/utility corridors;
- Show and identify neighboring properties, including wells with well type (indicate if none);
- Show location and size of all proposed and existing sewage system components (tanks, pump chambers, alarms, distribution bed) and the test pits;
- Show the direction of surface water flow, as well as any surface water (i.e. creek, pond, lake) on or adjacent to the property and provide the common name;
- Indicate direction of North on the site plan;
- Indicate distances to all utilities (i.e. telephone, Hydro lines above and below ground); and
- Show the distances from pipes in bed and tank to ALL buildings, structures, property lines, surface water, easements, rights-of-way, driveways and wells .

Cross Sectional Diagram: Provides a cross-sectional view of the sewage system.

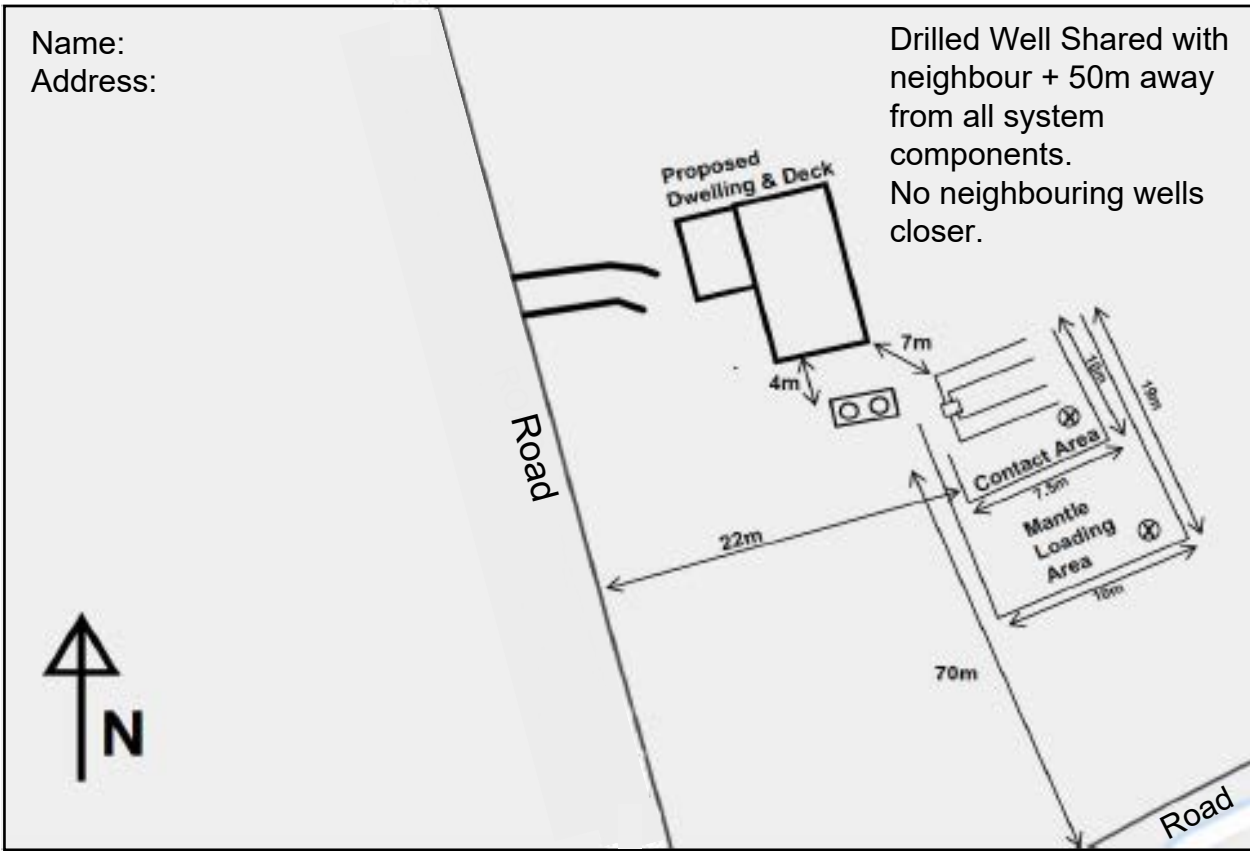
- Property owners name and property address (civic);
- Depth of topsoil;
- Depth of crushed stone;
- Depth of filter medium used;
- Depth and dimensions of contact area required;
- Depth to bedrock/groundwater table;
- Depth to hardpan/soils T-time >15min/cm;
- Height above/below existing grade of ground surface;
- Show side slopes of bed/mantle;
- Existing grade/Finished grade; and
- Distance between pipes.

Sample Site Plans:



Name:
Address:

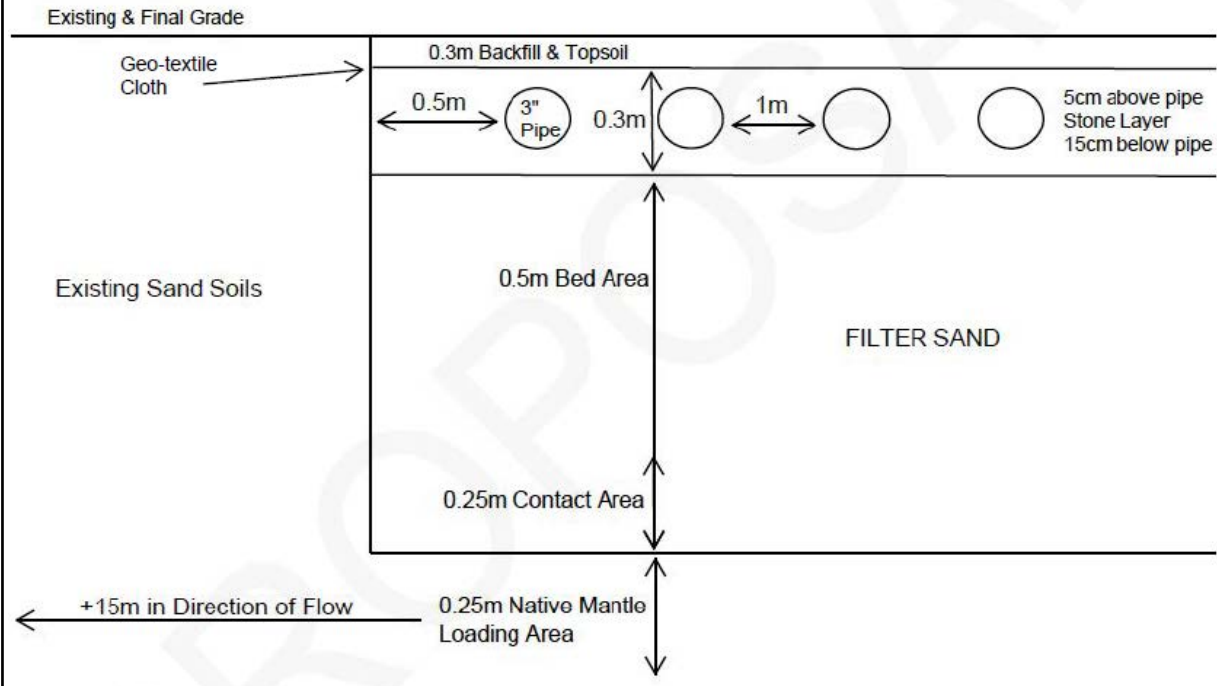
Drilled Well Shared with neighbour + 50m away from all system components. No neighbouring wells closer.



Sample Cross Sections:

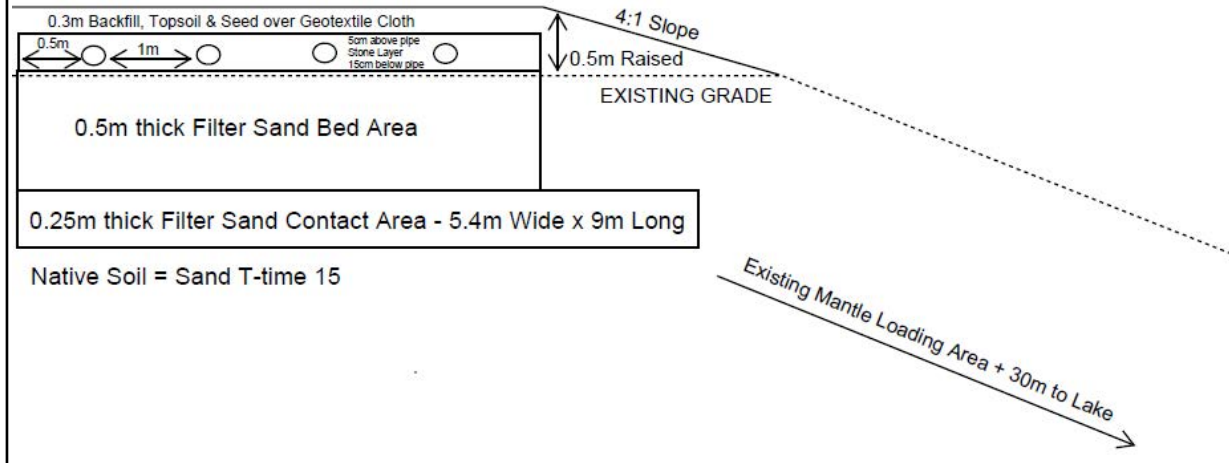
Fully Dug In Example

- * 4 runs of 3" PVC septic drain pipe 4.5m long at 1 meter centers.
- * 0.5m filter sand surrounding all 4 sides of bed.
- * Rebar to be used to mark all 4 runs & D-box.



Partially Raised Example

- *4 runs of 3" PVC septic drain pipe 8m long at 1 meter centers.
- *0.5m filter sand surrounding all 4 sides of bed.
- *Rebar to be used to mark all 4 runs & top 2 corners of header.



Fully Raised Example

- *4 runs of 4" PVC septic drain pipe 9m long at 1 meter centers.
- *0.5m filter sand surrounding all 4 sides of bed.
- *Rebar to be used to mark all 4 runs & D-Box.

