Northwestern Health Unit
www.nwhu.on.ca

SEWAGE PERMIT APPLICATION

Permit #:

Date: Receipt Number: Amount Paid:

OWNER INFORMATION

Name of Registered Owner(s)

Property Parcel/PIN (Legal Description)

Municipality/Township

District of: Kenora ☐ Rainy River ☐

Mailing Address: Street Address/P.O. Box

City Province/State

Country Postal Code/Zip Code

Telephone / Fax Number Email address

DECLARATION OF HOMEOWNER: The information contained in this application, attached schedules, plans and specifications, and other attached documentation, is true to the best of my knowledge.

Signature of Applicant

Date: _____|_____|_____
year month day

Class	SYSTEM INFORMATION		
2	Grey water Design Flow (Q)		(L/day)
3	Cesspool Design Flow (Q)		(L/day)
2/3	Grey water/Cesspool sidewall area		(m^2)
4	Septic System Design Flow	[2]	(L)
4	Septic tank volume proposed	[3]	(L)
4	Trench length proposed	[4]	(m)
4	Filter bed effective size	[5]	(m^2)
4	Filter bed extended area	[6]	(m^2)
4	Filter bed mantle	[7]	(m^2)
5	Holding tank proposed volume	[3]	(L)
4	Tertiary System Design attached: ☐ yes		

DWELLING INFORMATION

No. of bedrooms:

Residential area: (m^2)

Fixture units of plumbing:

Walk-out basement? yes ☐ no ☐

SOILS INFORMATION

	Perc. Rate (T)
Design Soil T_D	
Mantle Soil T_M	
Native Material T_N	[1]

* Include lab report for design sand/soil.

* A lot survey must be submitted with this application.

INSTALLER INFORMATION * The qualified installer must be present during the site inspection at substantial completion.

Company Name: _____ BCIN: _____

Qualified Installer Name: _____ BCIN: _____

Contact Telephone or Cell Number (including area code): _____

DESIGNER INFORMATION

Company Name: _____ BCIN: _____

Permit Reviewed By: _____ Date: _____
(Signature of Inspector/Technician)

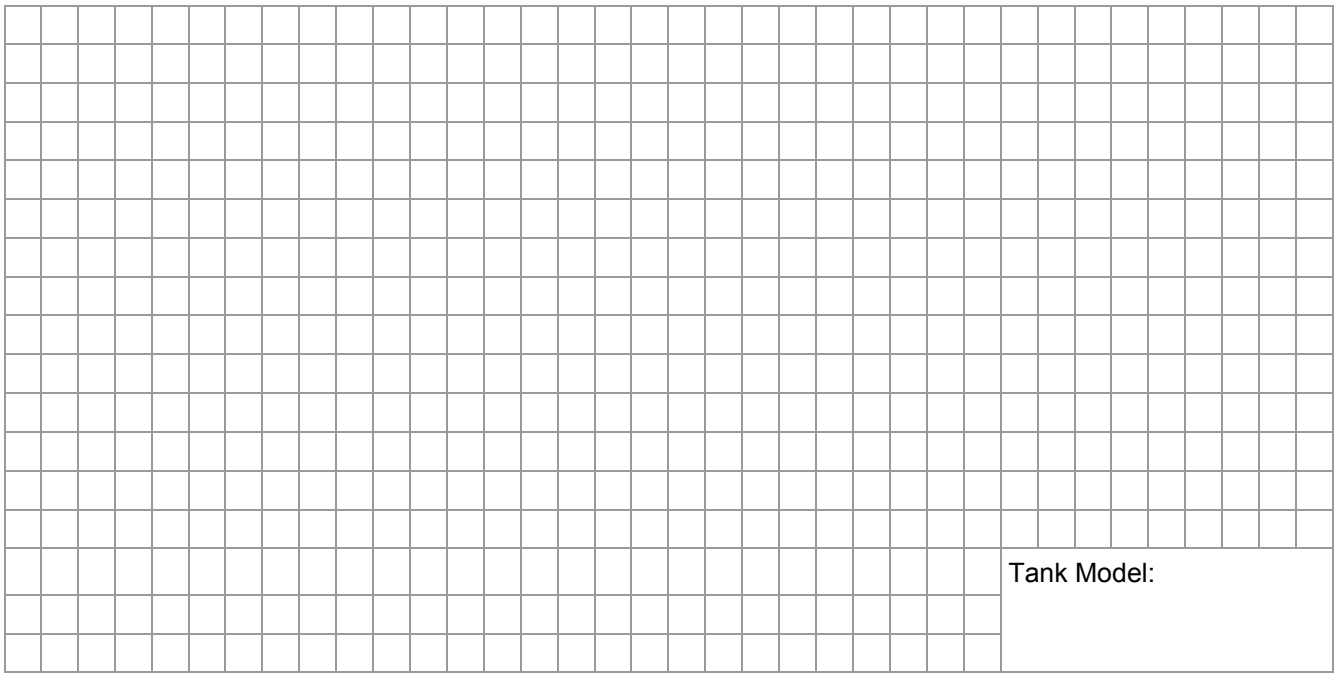
Permit Issued By: _____ Date: _____
(Signature of Chief Building Official)

Sewage System Permit Application – PLAN VIEW

PLAN VIEW LOT DIAGRAM: Drawing must be close to scale and show the following information accurately:

IMPORTANT NOTE:
Failed site inspections may require a re-inspection at standard Northwestern Health Unit rates.

- The entire property showing lot size and dimensions including existing or proposed buildings, wells, traveled roadways, test pits and any existing sewage systems.
- All important topographical information including streams, rivers, lakes, steep embankments and bedrock outcroppings.
- Location of the proposed sewage system components on the property, clearance distance between the system and all site features noted above. Include neighbour's well, if known.



NOTE: This plan represents approved design. Unauthorized changes may result in refusal of application. Any changes are to be reported to the Northwestern Health Unit.

CERTIFICATE OF COMPLETION

This certifies that the constructed treatment works have been inspected and approved at substantial completion. Remaining work includes: final grading, cover and seeding.

☐ **Other** _____

Inspected By:

_____
Signature of Inspector/Technician

Date:_____

Issued By:

_____
Signature of Chief Building Official

Date:_____

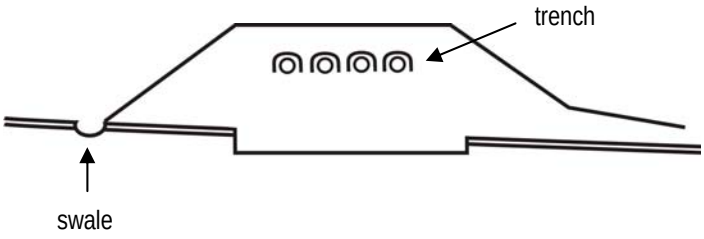
Sewage Permit Application – PROFILE

Septic Tank: Gravity ☐ Pump ☐ * Pump systems require permit from the Electrical Safety Authority 1-877-372-7233
Septic tank to be buried within manufacturers' specifications: yes ☐ no ☐
Is a deep burial tank proposed: yes ☐ no ☐
Is the effluent filter accessible: yes ☐ no ☐

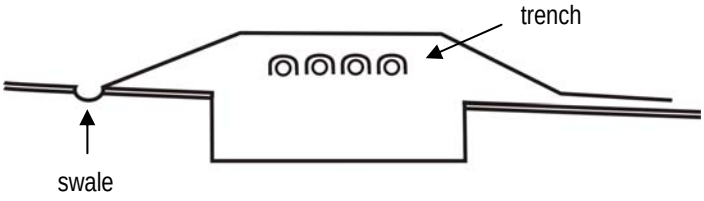
Slope in proposed field area before construction: 0 – 10% ☐ 10 – 20% ☐ > 20% ☐
Slope in proposed mantle area before construction: 0 – 10% ☐ 10 – 20% ☐ > 20% ☐

Indicate most appropriate design:

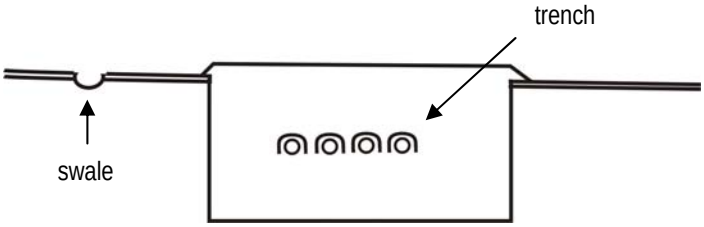
☐ Fully raised with mantle:



☐ Partially raised with mantle:



☐ In-ground, no mantle:



☐ Other – provide and attach details

Directions or map to property:

Worksheet - Consult Code and/or Backgrounder Document for complete detail.

Step 1: Determine Flow Rate (Q)

Information required to complete Step 1
- No. of bedrooms in dwelling
- living area of dwelling
- No. of fixture nits of plumbing in dwelling

Use steps below for Residential Occupancies only.
For all other Occupancies see Tables 8.2.1.3.A. & B. of the Building Code.

The Total Daily Design Sewage Flow Rate (Q) is obtained by first establishing a base flow rate (BFR) based on bedrooms, up to five and then adding additional flow for:

1. bedrooms over five; or
2. living area over 200 square metres; or
3. fixture units of plumbing over 20 fixtures.

Residential Occupancy	Litres per day (L/d)
DWELLINGS	
a) 1 bedroom dwelling	750
b) 2 bedroom dwelling	1100
c) 3 bedroom dwelling	1600
d) 4 bedroom dwelling	2000
e) 5 bedroom dwelling	2500
f) Additional flow for i) each bedroom over 5, or	500
ii) a) each 10 m^2 (or part of it) over 200 m^2 up to 400 m^2 (2),	100
b) each 10 m^2 (or part of it) over 400 m^2 up to 600 m^2 (2) , and	75
c) each 10 m^2 (or part of it) over 600 m^2 (2) , or	50
iii) each fixture unit over 20 fixture units	50
Indicate Water Supply: DUG WELL ☐ DRILLED WELL ☐ SURFACE WATER ☐ OTHER ☐	

Number of bedrooms = _____

Base Flow Rate based on number of bedrooms
BFR =_____L/d

Living area of dwelling(s) = _____ m^2
(Round up to next 10 m^2)

Fixture Units of Plumbing = _____
(See chart)

1A BFR _____ L/d + _____ L/d

for bedrooms over 5 = _____L/d

1B BFR _____L/d + _____ L/d

for living area over 200 m^2 = _____ L/d

1C BFR _____L/d + _____ L/d

for fixture units over 20 = _____L/d

Table to calculate FIXTURE UNITS OF PLUMBING

FIXTURE	FIXTURE UNIT	#	TOTAL
Bathroom Group (3 piece)	6	___	___
Bathtub with/without shower	1 ½	___	___
Clothes Washer	1 ½	___	___
Dishwasher	½	___	___
Shower not in bathroom group	1 ½	___	___
Extra shower head	1 ½	___	___
Sinks not in bathroom group	1 ½	___	___
Toilets not in bathroom group	4	___	___

Total Fixture Units of Plumbing = _____

Q = _____ [2] **L/d (Highest of 1A, 1B or 1C)**

Enter value [2] on page 1 where applicable.

Step 2: Determine Minimum Tank Volume for Class 4 Systems

Minimum Tank Volume for Residential Occupancies is 2 times daily flow rate (Q) = _____litres.

Minimum Tank Volume for Non-Residential Occupancies is 3 times daily flow rate (Q) = _____litres.

Information required to complete Step 2

- Calculated Flow Rate (Q) from Step 1

Proposed Tank Volume _____ litres. [3] Enter value [3] on page 1.
Note: Minimum allowable tank volume is 3,600 L**.**

Step 3: Determine Soils to be Used

The Northwestern Health Unit requires documentation on the soils to be used by a certified soil technician to determine the T time for conventional type fields or suitability as filter bed sand for filter bed systems.

Loading Rates for Fill-Based Trenches and Filter Beds	
ESTIMATED	**ASSIGNED**
Percolation Time (T_N) of Native Soil, min/cm	Loading Rates – LRM (L/m^2) /day
1 < T ≤ 20	10
20 < T ≤ 35	8
35 < T ≤ 50	6
T > 50	4
Loading rate of mantle from above table = LRM = _____ litres/m^2/day.	

Information required to complete Step 3

- Percolation Rate (T_D) of Design Soil, as determined by accredited laboratory analysis
- Percolation Rate (T_M) of Mantle Sand;
- Classification of Native Soil as determined through the excavation of on-site test holes.
- Lab report must be attached to Sewage Permit Application.

GUIDE FOR ESTIMATING PERCOLATION RATE OF NATIVE SOIL (**Circle one**)

SOIL TYPE	**Coarse Gravel, no fines**	**Gravel, some small rocks**	**Gravel, Sand Mix, some fines**	**Sand, uniform, some fines**	**Sand / Loam Mix**	**Silty Loam**	**Clay**
T-Time Min/cm	0 – 1	1 – 5	5 – 10	10 – 15	15 – 25	25 – 50	> 50

- Enter T_D of soil to be used _____ min/cm [1].
- Enter estimated T_N of native soil in mantle area _____ min/cm [1].
  (See loading rate chart and soil chart in Backgrounder document.)
- Enter T_M of mantle sand _____ min/cm [1]. Enter value [1] on page 1.

Step 4: Show Field Design Calculations

For applications using patented treatment, attach design with maintenance and sampling contract.

COMPLETE THE APPROPRIATE SECTION FOR THE TYPE OF SYSTEM BEING PROPOSED:

- Class 4: Trench Type System - 4A, **or**
- Class 4: Conventional Filter Bed - 4B, **or**
- Class 5: Holding Tank Design - 4C, **or**
- Class 2: Greywater System Design - 4D.

4A - TRENCH SYSTEM

The formula for calculating the length of pipe (L) is $L=QxT_D/200$. L= _____ metres.

Proposed Length: L = _____. [4]
Note: Minimum length is 40 metres.

Complete where patented product is proposed:

- Name of product:___ _____.
  (Attach BMEC authorization.)
- Length of trench based on BMEC authorization = _____ metres. [4]

Information Required to Complete Section 4A
- Calculated Flow Rate (Q) From Step 1.
- Design Soil (T_D) from laboratory.
- Registered Name of Patented product (if used). BMEC Authorization must be attached to Sewage Permit Application.

4B - FILTER BED WITH SEPTIC TANK

There are three calculations for the sizing of a filter bed (effective area, extended contact area & mantle).

Effective area = Q/ 75 = _____m^2 [5]
where Q is 3000 litres or less.

Effective area = Q/50 = _____m^2 [5]
where Q is over 3000 litres.

Minimum Extended Filter Sand Area (A)
$A = Q \times T_N / 850$ = _____ m^2 [6]

Mantle area = Q / LRM = _____ m^2. [7]

Information Required to Complete Section 4B
- Calculated Flow Rate (Q) From Step 1.
- Loading Rate of Mantle (LRM) From Step 3.
- Percolation Rate of Native Soil (T_N) From Step 3.

All Filter Sand must be tested by an approved laboratory. (Report must be attached to Sewage Permit Application.)

4C - HOLDING TANK DESIGN

Minimum Volume of holding tank is 7 times daily flow rate. (Q) = _____ litres.

Proposed Tank Volume _____ litres. [3]
Note: Minimum allowable tank volume is 9,000 litres.

Information Required to Complete Step 4C
- Calculated Flow Rate (Q) from Step 1.

Enter values from [3], [4], [5], [6], [7] and [8] on page 1 where applicable.

4D - GREYWATER SYSTEM DESIGN

Read the Northwestern Health Unit's Sewage Permit Process Backgrounder and Guide for detailed design instructions.

Daily Flow Rate Q = # of Fixture Units x 125L/d (non-pressurized) or 200 litres/d (pressurized)
Q = _____litres

Sidewall Loading Rate L_R= 400/T
L_R= _____litres/m^2

Sidewall Area Required
$A = Q/ L_R$
A = _____ m^2 [8]

Length of Trench (assuming standard 300 mm sidewall depth) L_T = A/(0.300 m)(2 sides)
L_T = _____ m [4]

TEST PIT SOIL DATA SHEET

Name of Applicant: _____

Test Pit Description: _____

NWHU Inspector/Technician: _____

TEST PIT #1		TEST PIT #2	
Depth in Metres	Description of Soil List colour and type	Depth in Metres	Description of Soil List colour and type
-		-	
-		-	
-		-	
-		-	
-		-	
-		-	

TEST PIT INFORMATION REQUIRED	**Test Pit #1**	**Test Pit #2**
Depth to groundwater?		
Seasonal high groundwater?		
Was bedrock located? If yes, at what depth?		

NOTE: Except as otherwise directed by the Northwestern Health Unit, a minimum of two test pits must be used. The soil profile from the test pits and any percolation results must be included as part of the plans submitted for approval. The soil profile must be to a depth that is at least 1.0 metre below the bottom of the proposed field bed or trench.

COLLECTION OF INFORMATION

Personal information on this form is collected, under the authority of the Ontario Regulation 350/06 Building Code to ensure compliance with legal and regulatory requirements.

Questions about this collection can be mailed to:
Freedom of Information Officer
Northwestern Health Unit
21 Wolsley Street
Kenora, ON P9N 3W7 or by telephone at: 807- 468-3147 ext 260 or 1-800-830-5978.

Typical Drawing – Filter Bed
(drawings are not to scale)

Name of Applicant: _____ Name of Designer: _____

PLAN VIEW
(complete all fields)

Is mantle required?

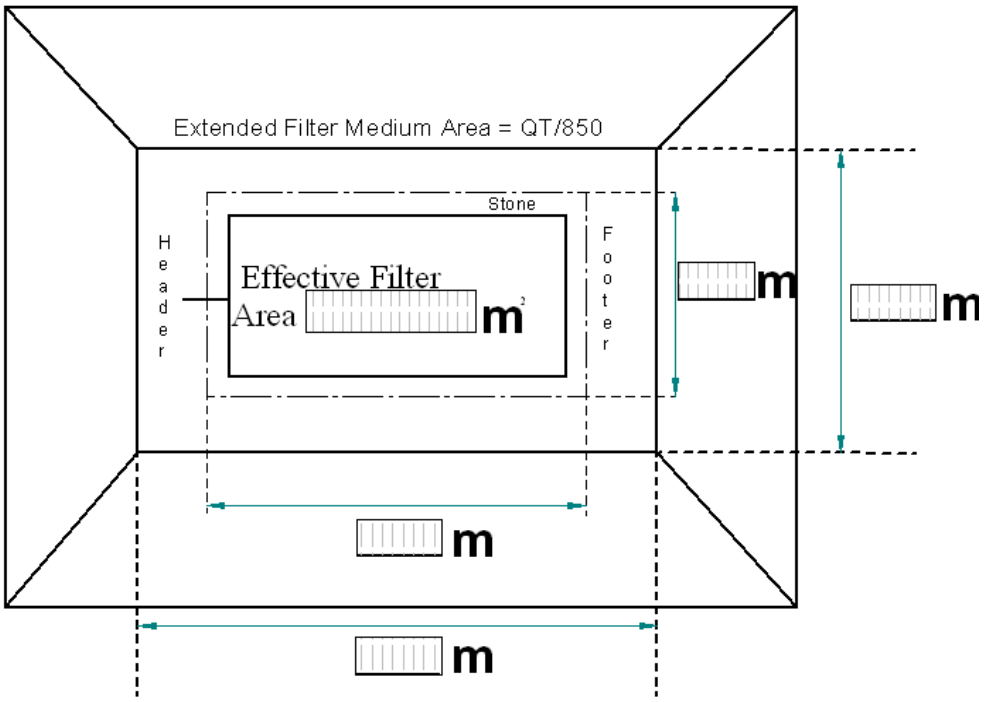
YES ☐

NO ☐

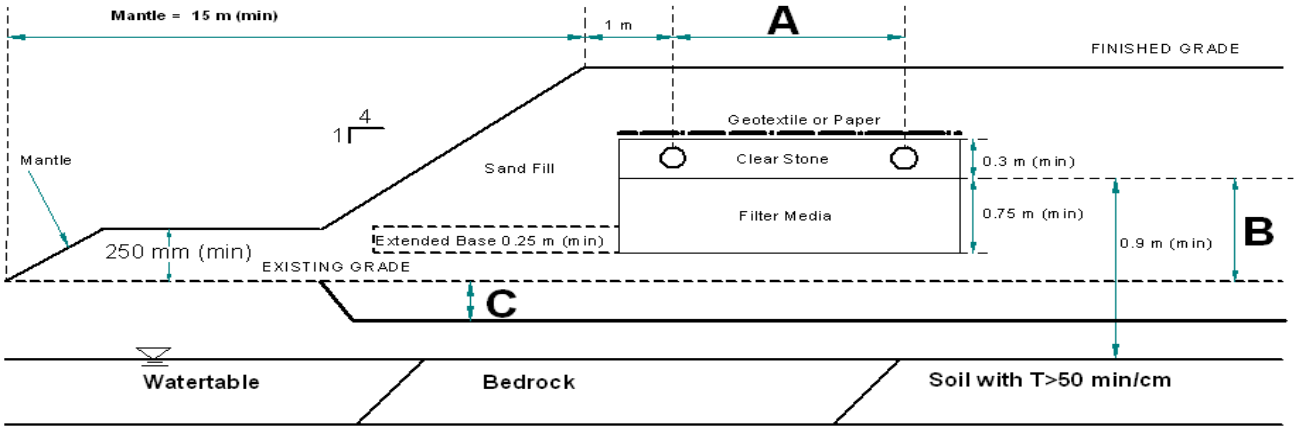
Direction _____

Total Mantle Area (m^2):_____

Extended Filter Medium Area (m^2):_____



PROFILE VIEW
(complete all fields)



A - Proposed Horizontal Offset Distance Between Tile Runs _____ m

B - Proposed Height of Stone Layer Above Existing Grade _____ m

C - Proposed Depth of Excavation for Partially Raised Field _____ m

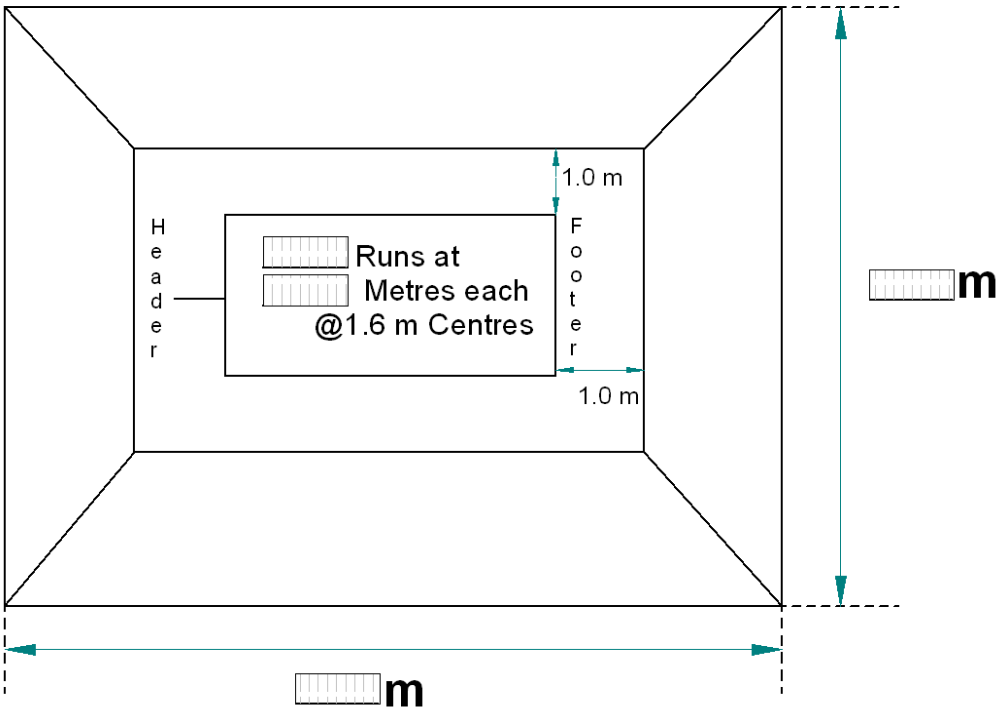
Typical Drawing – Absorption Trench

(Drawings are not to scale.)

Name of Applicant:_____ Name of Designer:_____

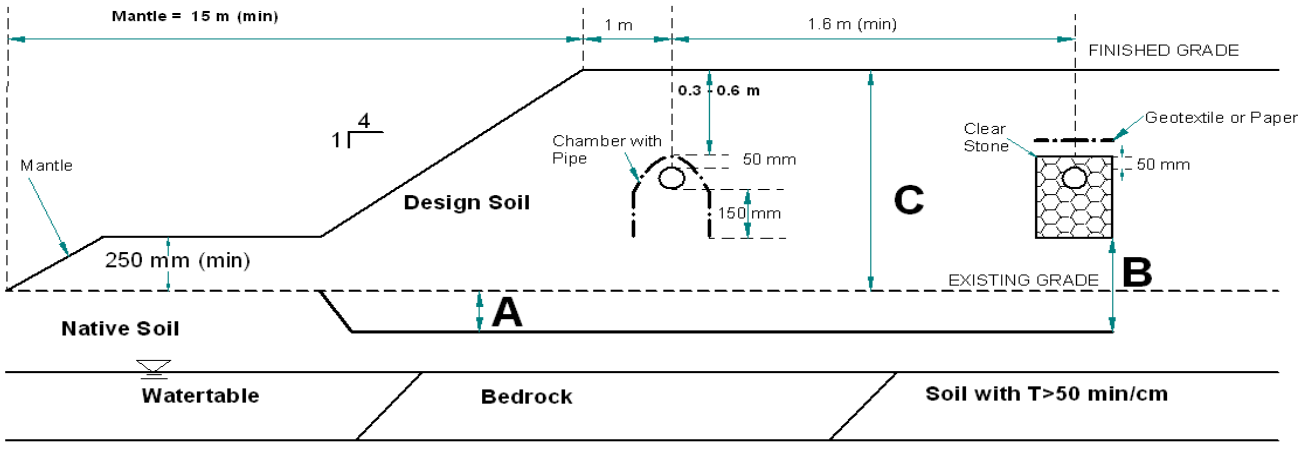
PLAN VIEW

(Complete all fields.)



PROFILE VIEW

(Complete all fields.)



A - Proposed depth of excavation for partially raised field _____ **m**

B - Proposed depth of fill beneath bottom of trench _____ **m**

C - Proposed height of finished grade above existing _____ **m**