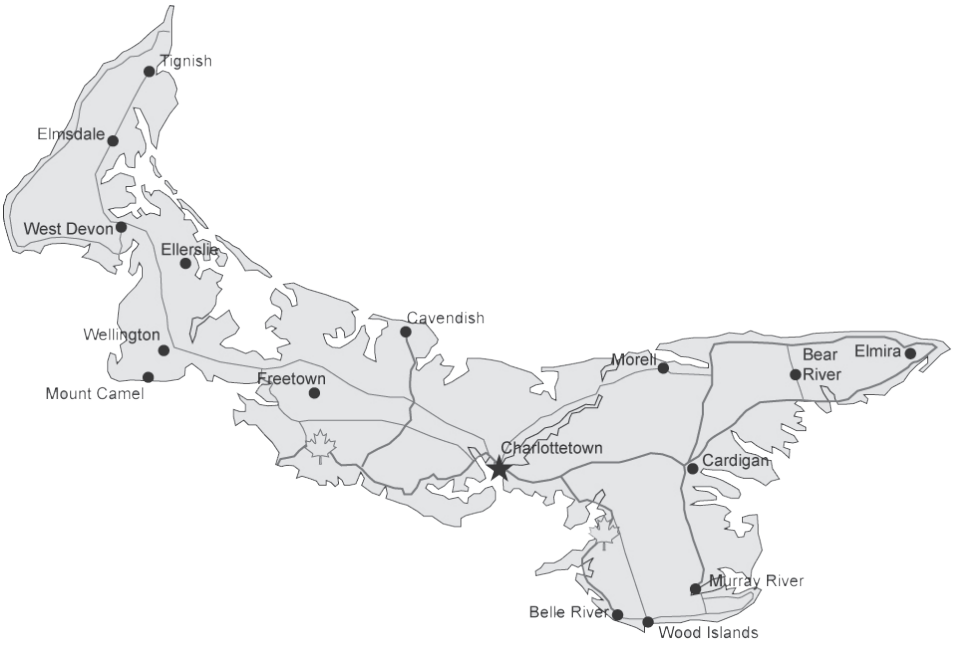
INFILTRATOR®
water technologies

Design and Installation Manual for Prince Edward Island



Prince Edward Island

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The purpose of this product information sheet is to provide specific design and installation information pertinent for the use of Infiltrator Quick4 and Quick4 Plus chambers in Prince Edward Island. For more detailed design information, please contact Infiltrator Systems at 1-800-221-4436.

For more detailed design information, please contact Infiltrator Water Technologies at 1-800-221-4436

Prince Edward Island

Prince Edward Island
CANADA

Environment, Energy and Forestry

Environnement, Énergie et Forêts

Île-du-Prince-Édouard
CANADA

Environment Division
PO Box 2000, Charlottetown
Prince Edward Island
Canada C1A 7N8

Division de l'environnement
C.P. 2000, Charlottetown
Île-du-Prince-Édouard
Canada C1A 7N8

May 9, 2011

Mr. Dennis F. Hallihan, P. Eng.
Infiltrator Systems Inc.
6 Business Park Road
PO Box 768
Old Saybrook, CT USA 06475

Dear Mr. Hallihan:

Re: *ISI Design & Installation Manual for Prince Edward Island*

The Department of Environment, Energy and Forestry has reviewed the *Infiltrator Systems Inc. Design & Installation Manual for Prince Edward Island* and based on the document submitted, we are pleased to advise ISI that the Department hereby gives approval to the above-noted document.

The approval will take effect May 9, 2011. With the development of this new document, the Department will be making necessary changes to our *Environmental Protection Act* Sewage Disposal Systems Regulations to reflect this new approach. Also, in conjunction with ISI, the Department will organize educational seminars for the licensed contractors to bring them up to date with these changes.

Thank you for your prompt response to our request to have this document developed for the 2011 building season. I look forward to working with you and your company on the upcoming educational seminars.

Sincerely,

Jim Young, P. Eng.
Director

INTRODUCTION

These instructions address the installation of Infiltrator products in the province of Prince Edward Island. Infiltrator chambers must be installed in accordance with this manual, the Technical Guideline for Onsite Sewage Disposal Systems in Prince Edward Island and Chapter E-9, Environmental Protection Act, current Sewage Disposal System Regulations.

"As per Section 3.(1) of the regulations, Infiltrator Water Technologies Chambers may only be installed by a Pilot program Contractor (PPC) or Licensed Contractor (LC) in the province of Prince Edward Island."

Quick4 and Quick4 Plus Chambers

The Quick4 and Quick4 Plus chambers can be installed in 900-mm (3-ft)-wide multiple trenches, in at-grade systems and in built-up systems. Infiltrator chambers are approved for replacement of pipe and stone in conventional trenches.

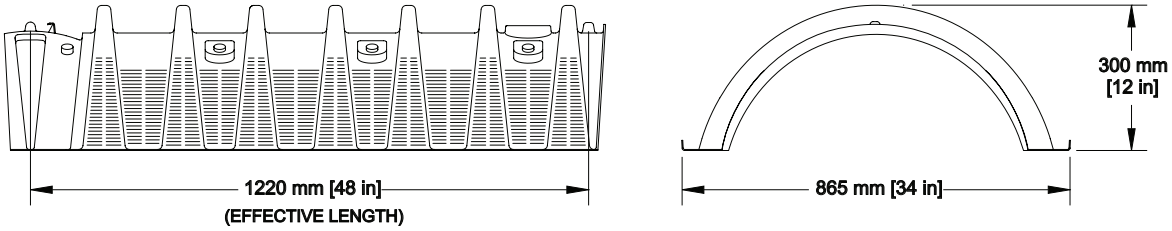


Quick4 Standard chambers

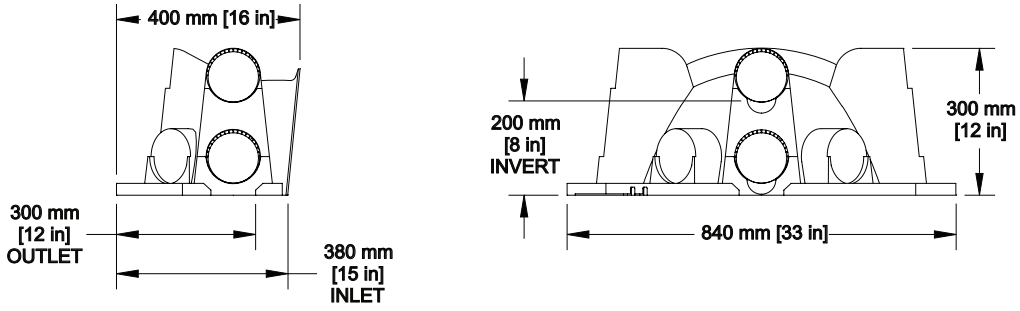
nominal specifications

Size (W x L x H)	85 cm x 120 cm x 31 cm (34" x 48" x 12")
Storage Capacity	165 L (44 U.S. gal)
Invert Elevation	20 cm (8")

SIDE AND END VIEWS
(not to scale)



MULTIPORT ENDCAP
SIDE AND END VIEWS
(not to scale)

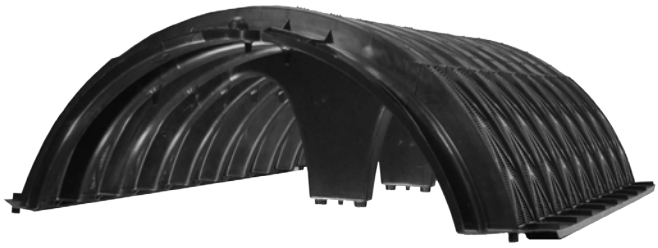


Quick4 Plus Standard chambers

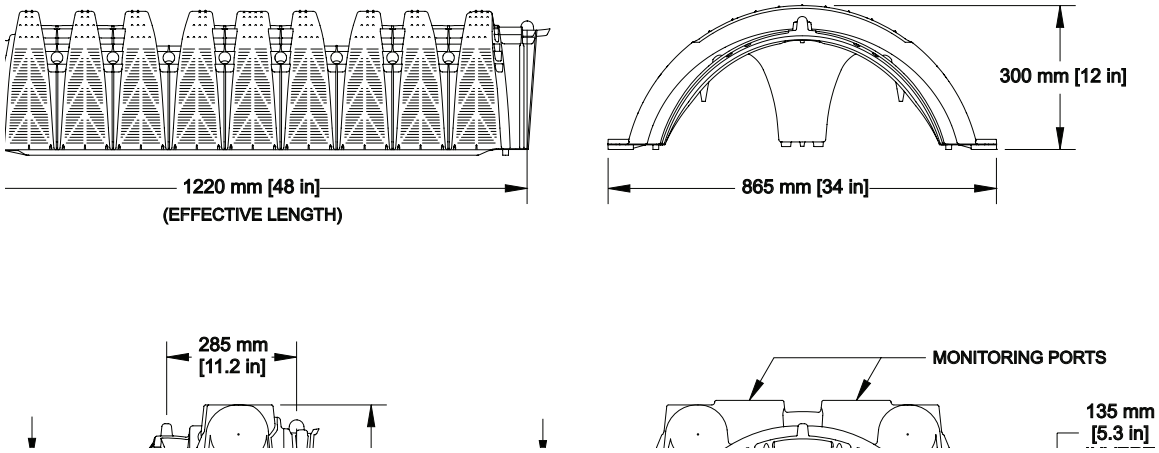
nominal specifications

Size (W x L x H)	86 cm x 120 cm x 31 cm (34” x 48” x 12”)
Storage Capacity	173 L (46 U.S. gal)
Invert Elevation	14 cm (5.3”), 34* cm (13.3”)

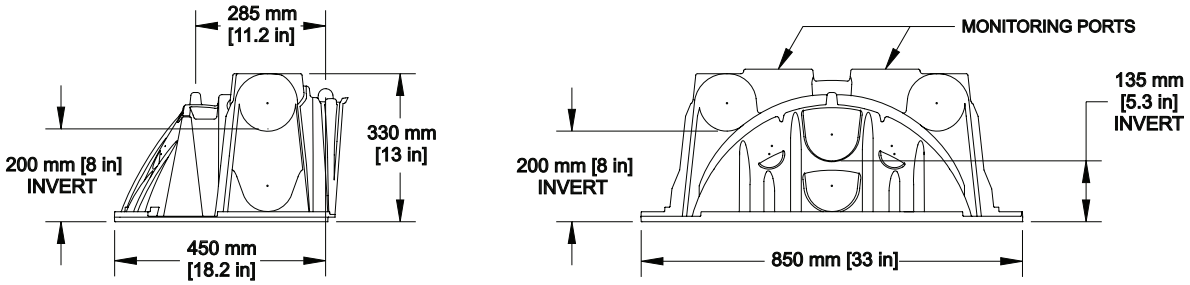
*Using Quick4 Plus Periscope

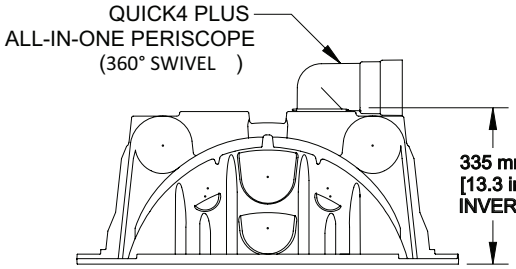


SIDE AND END VIEWS
(not to scale)



QUICK4 PLUS ALL-IN-ONE 12 ENDCAP
SIDE AND END VIEWS
(not to scale)





USE THE QUICK4 PLUS PERISCOPE WITH THE ALL-IN-ONE 12 ENDCAP FOR A 335-mm [13.3-in] INVERT WITH THE QUICK4 PLUS STANDARD CHAMBER

PRODUCTS

Quick4 Plus Standard Low Profile chambers

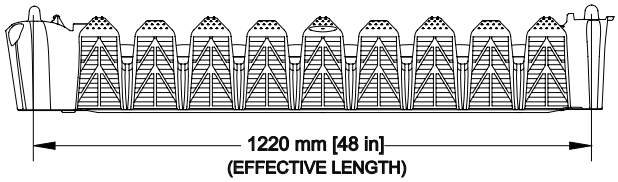
nominal specifications

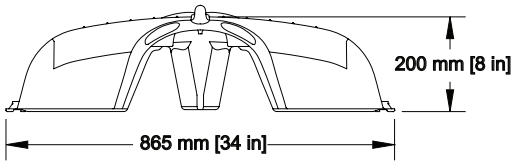
Size (W x L x H)	86 cm x 120 cm x 20 cm (34” x 48” x 8”)
Storage Capacity	122 L (32 U.S. gal)
Invert Elevation	9 cm (3.3”), 23* cm (9”)

*Using Quick4 Plus Periscope

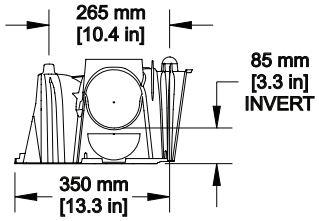


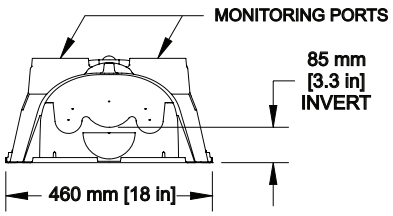
SIDE AND END VIEWS
(not to scale)

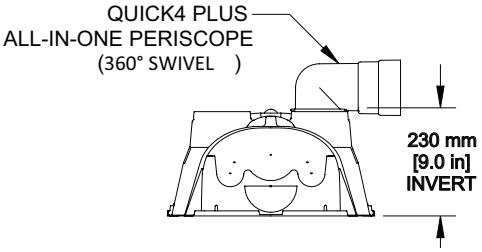




QUICK4 PLUS ALL-IN-ONE 8 ENDCAP
SIDE AND END VIEWS
(not to scale)

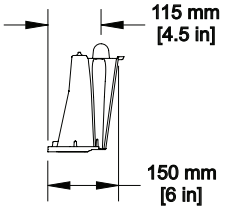


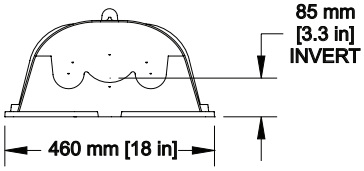




USE THE QUICK4 PLUS PERISCOPE WITH THE ALL-IN-ONE 8 ENDCAP FOR A 230-mm [9.0-in] INVERT WITH THE QUICK4 PLUS STANDARD LP CHAMBER

QUICK4 PLUS 8 ENDCAP
SIDE AND END VIEWS
(not to scale)





DISPOSAL FIELD LENGTH SELECTION TABLES

Minimum Field Tile Length by Lot Category

Category I

Distance to Bedrock or Water Table from Ground Surface: Greater than 1.2 m (4 ft)
Depth of Permeable Soil from Ground Surface: Greater than 0.6 m (2 ft)

System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard	LF	Standard	LF	Standard	LF	Standard	LF			
[4] Contour System Type C1	0.9 m (3 ft)	30 m (100 ft)	–	37 m (120 ft)	–	49 m (160 ft)	40 m (130 ft)	61 m (200 ft)	49 m (160 ft)	No	Yes	EDS
[4] Contour System Type C2	0.9 m (3 ft)	30 m (100 ft)	–	37 m (120 ft)	–	49 m (160 ft)	40 m (130 ft)	61 m (200 ft)	49 m (160 ft)	No	Yes	EDS
Chamber system Multiple Trench	0.9 m (3 ft)	43 m (138 ft)	–	55 m (175 ft)	–	69 m (225 ft)	–	80 m (262 ft)	–	Yes	Possible	EDS
[1] Chamber system Serial Distribution	0.9 m (3 ft)	43 m (138 ft)	–	55 m (175 ft)	–	69 m (225 ft)	–	80 m (262 ft)	–	No	Possible	EDS

Category II

Distance to Bedrock or Water Table from Ground Surface: Greater than 1.2 m (4 ft)
Depth of Permeable Soil from Ground Surface: 0.3 to 0.6 m (1 to 2 ft)

[2] System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard	LF	Standard	LF	Standard	LF	Standard	LF			
[4] Contour System Type C2 and Type C3	0.9 m (3 ft)	37 m (120 ft)	–	46 m (150 ft)	37 m (120 ft)	57 m (187 ft)	46 m (150 ft)	71 m (235 ft)	57 m (187 ft)	No	Yes	EDS
Chamber system Multiple Trench	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	Yes	Possible	EDS
[1] Chamber system Serial Distribution	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	No	Possible	EDS

Category III

Distance to Bedrock from Ground Surface: 0.6 to 1.2 m (2 to 4 ft)
Depth of Permeable Soil from Ground Surface: 0.6 to 1.2 m (2 to 4 ft)

[2] System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard		Standard	LF	Standard	LF	Standard	LF			
[4] Contour System Type C1 and Type C3	0.9 m (3 ft)	30 m (100 ft)	–	37 m (120 ft)	–	49 m (160 ft)	40 m (130 ft)	61 m (200 ft)	49 m (160 ft)	No	Possible	EDS
[4] Contour System Type C2	0.9 m (3 ft)	30 m (100 ft)	–	37 m (120 ft)	–	49 m (160 ft)	40 m (130 ft)	61 m (200 ft)	49 m (160 ft)	No	Yes	EDS
Chamber System Multiple Trench	0.9 m (3 ft)	43 m (138 ft)	–	55 m (175 ft)	–	69 m (225 ft)	–	80 m (262 ft)	–	Yes	Possible	No
[1] Chamber system Serial Distribution	0.9 m (3 ft)	43 m (138 ft)	–	55 m (175 ft)	–	69 m (225 ft)	–	80 m (262 ft)	–	No	Possible	No

Technical Guidelines, On-site Sewage Disposal Systems in PEI, 2009
1. Serial chamber Systems may only be considered as a last choice of system selection and it must be reviewed with the department prior to construction.
2. Systems in this category will require the addition of Good Quality Fill.
3. Systems in this category will require the addition of a minimum of 1.2 m (4 ft) of Good Quality Fill.
4. Contour Trenches using chambers may only be designed by a Professional Engineer licensed in the province of PEI.

LF = 20% reduction for low flow fixtures (6L toilets)
EDS = Engineered Designed System

Contact Infiltrator Water Technologies 1-800-221-4436 for additional technical and product information.

DISPOSAL FIELD LENGTH SELECTION TABLES

Category III
Distance to Bedrock from Ground Surface: 0.6 to 1.2 m (2 to 4 ft)
Depth of Permeable Soil from Ground Surface: 0.3 to 0.6 m (1 to 2 ft)

[2] System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard	LF	Standard	LF	Standard	LF	Standard	LF			
[4] Contour System Type C1	0.9 m (3 ft)	37 m (120 ft)	–	46 m (150 ft)	37 m (120 ft)	57 m (187 ft)	46 m (150 ft)	71 m (235 ft)	57 m (187 ft)	No	Possible	EDS
[4] Contour System Type C2 and Type C3	0.9 m (3 ft)	37 m (120 ft)	–	46 m (150 ft)	37 m (120 ft)	57 m (187 ft)	46 m (150 ft)	71 m (235 ft)	57 m (187 ft)	No	Yes	EDS
Chamber System Multiple Trench	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	Yes	Possible	EDS
[1] Chamber system Serial Distribution	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	No	Possible	EDS

Category III
Watertable 0.6 to 1.2 m (2 to 4 ft)

[2] System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard	LF	Standard	LF	Standard	LF	Standard	LF			
All systems to be designed by a Professional Engineer	EDS	EDS		EDS		EDS		EDS		EDS	EDS	EDS

Category IV
Distance to Bedrock from Ground Surface is greater than 0.3 m (1 ft.)
Depth of Permeable Soil from Ground Surface 0.0 to 0.3 m (0 to 1 ft.)
Note: Where the distance to Water Table from Ground Surface is less than 1.2 m (4 ft.) the system is to be designed by a Professional Engineer.

[3] System Description	Minimum Trench Width	Number of Bedrooms								Slope %		
		2		3		4		5		<5	5-30	>30
		Standard	LF	Standard	LF	Standard	LF	Standard	LF			
[4] Contour System Type C1 and Type C2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No
[4] Contour System Type C3	0.9 m (3 ft)	37 m (120 ft)	–	46 m (150 ft)	37 m (120 ft)	57 m (187 ft)	46 m (150 ft)	71 m (235 ft)	57 m (187 ft)	No	Yes	EDS
Chamber System Multiple Trench	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	Yes	Possible	EDS
[1] Chamber system Serial Distribution	0.9 m (3 ft)	53 m (175 ft)	–	69 m (225 ft)	–	86 m (280 ft)	–	100 m (328 ft)	–	No	Possible	EDS

Technical Guidelines, On-site Sewage Disposal Systems in PEI, 2009
1. Serial chamber Systems may only be considered as a last choice of system selection and it must be reviewed with the department prior to construction.
2. Systems in this category will require the addition of Good Quality Fill.
3. Systems in this category will require the addition of a minimum of 1.2 m (4 ft) of Good Quality Fill.
4. Contour Trenches using chambers may only be designed by a Professional Engineer licensed in the province of PEI.

LF = 20% reduction for low flow fixtures (6L toilets)
EDS = Engineered Designed System

INSTALLATION INSTRUCTION

Quick4 and Quick4 Plus Chamber System Installation Instructions

Before You Begin

Quick4 and Quick4 Plus chambers may only be installed according to the PEI Technical Guidelines and this manual. If installed by a Licensed Contractor (LC) under the old program, require a permit for installation. For complete instructions on Site Assessment, Selection of On-Site Sewage Disposal Systems, Construction Requirements and Maintenance pease refer to the PEI Technical Guideline. For permit information contact The Department of Environment, Energy and Forestry.

Similar to conventional systems, an approved Site Assessment must me conducted as set out in Section 3 of the Prince Edward Island Technical Guideline before installation. If using a Licensed Site Assessor/Installer they are required under the Technical Guidelines to provide 24 hours notice to the Department of Environment, Energy and Forestry prior to installing the system to allow for possible audit of the On-Site Sewage Disposal System installation.

Materials and Equipment Needed

- ☐ Quick4 or Quick4 Plus Chambers
- ☐ Endcaps
- ☐ PVC Pipe and Couplings
- ☐ Backhoe
- ☐ Laser, Transit, or Level
- ☐ Shovel and Rake
- ☐ Tape Measure
- ☐ Screwdriver or Knife
- ☐ Hole Saw
- ☐ 2-inch Drywall Screws*
- ☐ Screw Gun*
- ☐ Small Valve-Cover Box*
- ☐ 4-inch Cap for Inspection Port*
- ☐ Invert Adapter*

* Optional

These guidelines for construction machinery must be followed during installation:

- ☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 12-inch minimum of compacted cover to support a wheel load rating of 16,000 lbs/axle or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

Excavating and Preparing the Site

Note: As is the case with all On-Site Sewage Disposal Systems systems, do not install the systems in wet conditions or in overly moist soils, as this causes machinery to smear the soil.

1. Stake out the location of all trenches and lines. Set the elevations of the tank, pipe, and trench bottom.

2. Install sedimentation and erosion control measures. Temporary drainage swales/berms may be installed to protect the site during rainfall events.

3. Excavate and level .9 meter (3-ft) wide trenches with proper center-to-center separation. Verify that the trenches are reasonably level and have no prescribed slope.

Note: Over excavate the trench width in areas if the trenches will be along the contour.

4. Rake the bottom and sides to check if smearing has occurred while excavating. Remove any large stones and other debris. Do not use the bucket teeth to rake the trench bottom.

Note: Raking to eliminate smearing is not necessary in sandy soils. In fine textured soils (silts and clays), avoid walking in the trench to prevent compaction and loss of soil structure.

5. Verify that each trench is level using a level, transit, or laser.

Preparing the Quick4 Plus Endcaps

Quick4 Plus All-in-One 12 Endcap

Quick4 Plus All-in-One 8 Endcap

Quick4 Plus 8 Endcap

1. With a hole saw drill an opening appropriate for pipe diameter being used (100 mm (4 inch) Sewer Pipe size) on front or side of the endcap.

2. Snap off the molded splash plate located on the bottom front of the endcap.

3. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.

INSTALLATION INSTRUCTION

Quick4 and Quick4 Plus Chamber System Installation Instructions

Preparing the Multiport

1. With a screwdriver or utility knife start the tear-out seal at the appropriate diameter for the inlet pipe. The seal allows for a tight fit for 100 mm (4 inch) CSA Sewer Pipe.

2. Pull the tab on the tear-out seal to create an opening on the endcap.

3. Snap off the molded splash plate located on the bottom front of the endcap.

4. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.

5. Insert the inlet pipe into the endcap at the beginning of the trench. Extend the pipe into the endcap roughly 100 mm (4 in). (Screws optional.)



Start tear-out seal.



Pull tab on tear-out seal.



Install splash plate.

Low Pressure Systems

Low pressure dispersal is a system using a pump and are commonly used in residential systems where the disposal field is at a higher elevation than the septic tank.

The pump typically delivers effluent to the drain field through a force main to a 100 mm (4”) header or distribution box at which point the flow converts to a gravity or “low pressure” flow.

Where a System is installed using a pump, the force main from the pump to the distribution system must have a minimum diameter as specified by the pump manufacturer but shall not be less than 38 mm (1.5 inches).

When using Infiltrator Water Technologies chambers in these Low Pressure Systems, it is important to ensure that measures have been taken to reduce the possibility of erosion at the front of the chamber lateral.

1. Follow steps 1–5, “Preparing The Multiport Endcap instructions above.

2. Place an energy dissipation device such as a patio stone or 1.2 m x 1.2 m (4 ft x 4 ft) piece of filter fabric on the floor of the trench in the area under the endcap where the effluent will fall.

3. Where multiple lines of Infiltrator chambers are installed, complete step 2 on each lateral where the header pipe is connected to an endcap.

4. Proceed with steps 1–9, “Installing The System”.

Installing the System

1. Check the header pipe to be sure it is level or has the prescribed slope.

2. Set the invert height at 200 mm (8 in) from the bottom of the inlet.

3. Place the inlet end of the first chamber over the back edge of the endcap.


3

Place first chamber onto endcap.

4. Lift and place the end of the next chamber onto the previous chamber by holding it at a 90-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower it to the ground to connect the chambers.

Note: When the chamber end is placed between the connector hook and locking pin at a 90-degree angle, the pin will be visible from the back side of the chamber.


4

Note: The connector hook serves as a guide to ensure proper connection and does not add structural integrity to the chamber joint. Broken hooks will not affect the structure or void the warranty.

5. Swivel the chamber on the pin to achieve the proper direction for the trench layout.

Note: The Quick4 chambers allow 10-degree of swivel in either direction at each joint.

6. The last chamber in the trench requires an endcap. Lift the endcap at a 45-degree angle and insert the connector hook through the opening on the top of the endcap. Applying firm pressure, lower the endcap to the ground to snap it into place. Do not remove the tear-out seal.

7. To ensure structural stability, fill the sidewall areas with Good Quality Fill (GQF). For at-grade chamber system installations, fill the areas between chamber rows with GQF the full height of the chambers. Start at the joints where the chambers connect. Continue backfilling the entire sidewall area, making sure the GQF covers the louvers.

8. Pack down the backfill by walking along the edges of the trench and chambers. This is an important step in assuring structural support.

Note: If installing in wet conditions can not be avoided, do not walk on sidewalls.

9. Proceed to the next trench and begin with Step 1.

Installing Optional Inspection Ports

1. With a hole saw, drill the pre-marked area in the top of the chamber to create a 100-mm (4-in) opening for the Quick4 Standard chamber, or a 75-mm (3-in) opening for the Quick4 Plus Standard and Quick4 Plus Standard Low Profile chambers.

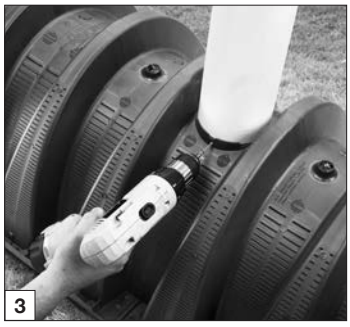
2. Set a cut piece of pipe of the appropriate length into the corresponding chamber's inspection port sleeve.

Note: The sleeve will accommodate a 100-mm (4-in)
or 75-mm (3-in) SCH40 pipe.

3. Use two screws to fasten the pipe to the sleeve around the inspection port.

4. Attach a threaded cap or cleanout assembly onto the protruding pipe at the appropriate height.

5. A small valve cover box may be used if inspection port is below the desired grade.


3

Fasten the pipe.

Covering the System

Before backfilling with GQF and native soil cover. Create an as-built drawing at this time for future records.

1. Backfill the trench by pushing native fill material over the chambers with a backhoe. Keep a minimum of 300 mm (12 in) of compacted cover over the chambers before driving over the system.

Note: Do not drive over system while backfilling in sand.

2. It is best to mound several inches of soil over the finish grade to allow for settling. This also ensures that runoff water is diverted away from the system.

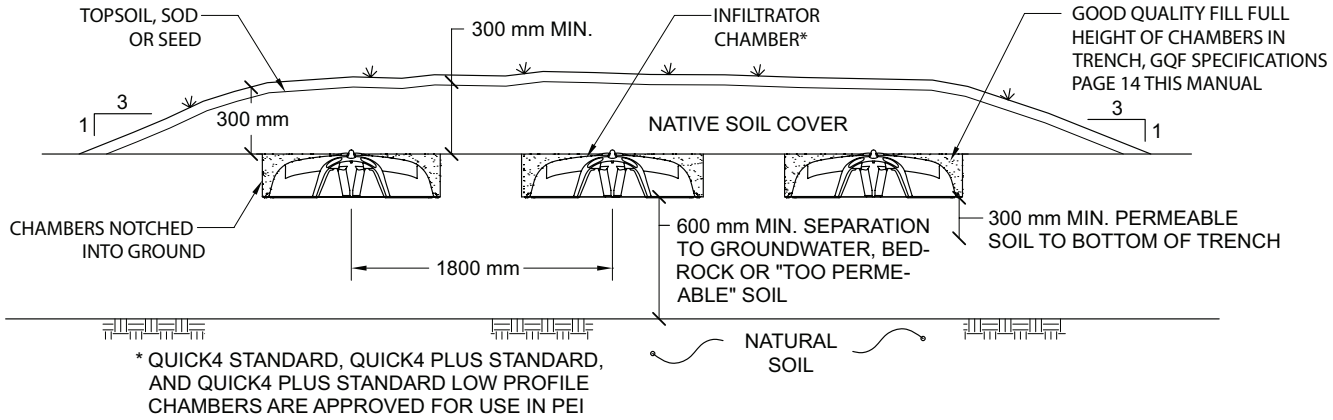
3. After the system is covered, the site should be seeded or sodded to prevent erosion.

Note: If the system is for new home construction, it is important to leave marking stakes along the boundary of the system. This will notify contractors of the site location so they will not cross it with equipment or vehicles.

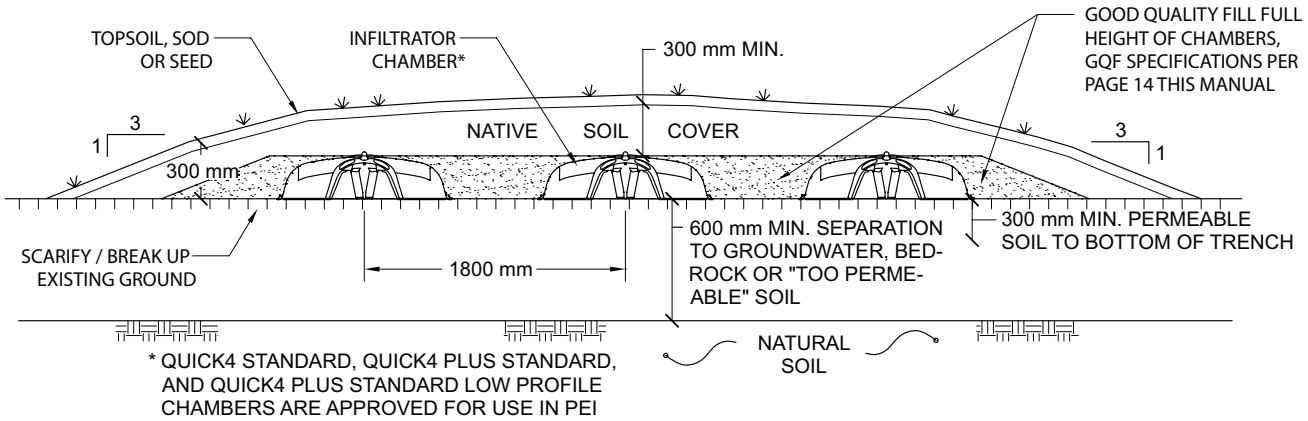
4. Following the completion of the installation, the Licensed Site Assessor/Installer must complete the Certificate of Completion found in the Technical Guideline and submit to CCA and L within 60 days.

CHAMBER CONFIGURATIONS

TYPICAL FULLY-TRENCHED CHAMBER SYSTEM
CROSS SECTION
(not to scale)



TYPICAL AT-GRADE CHAMBER SYSTEM
CROSS SECTION
(not to scale)



SYSTEM LAYOUTS

Quick4 and Quick4 Plus Chamber Systems

Infiltrator Water Technologies recommends two different layouts for fully-trenched or at-grade chamber systems in PEI: the same-end-inlet design (**Figure 1**), and serial-distributions design (**Figure 2**). These layouts are appropriate for fully trenched, at-grade, and built-up chamber system installations.

FIGURE 1: SAME-END-INLET DESIGN

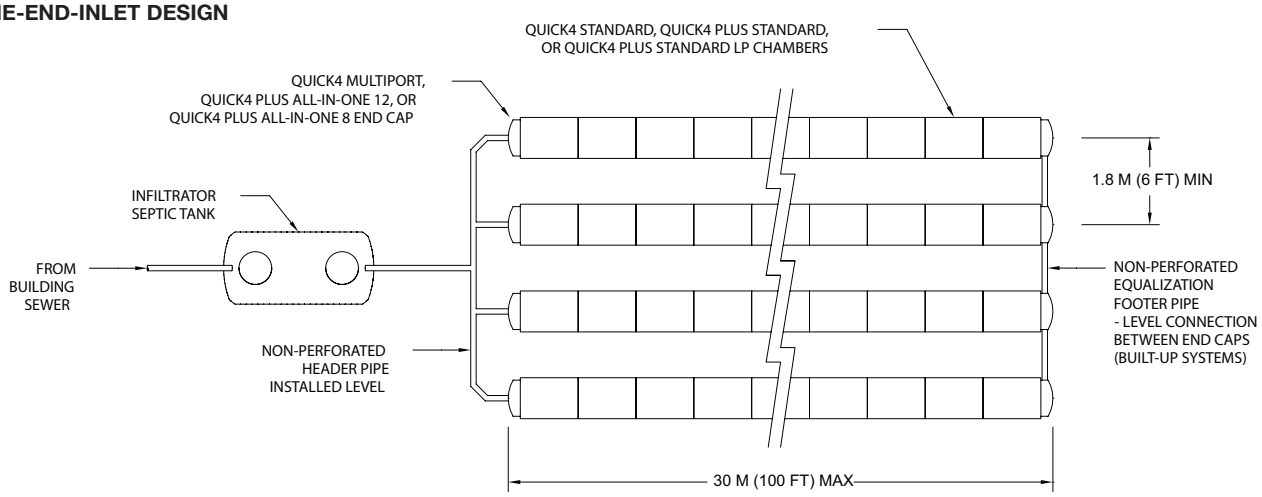
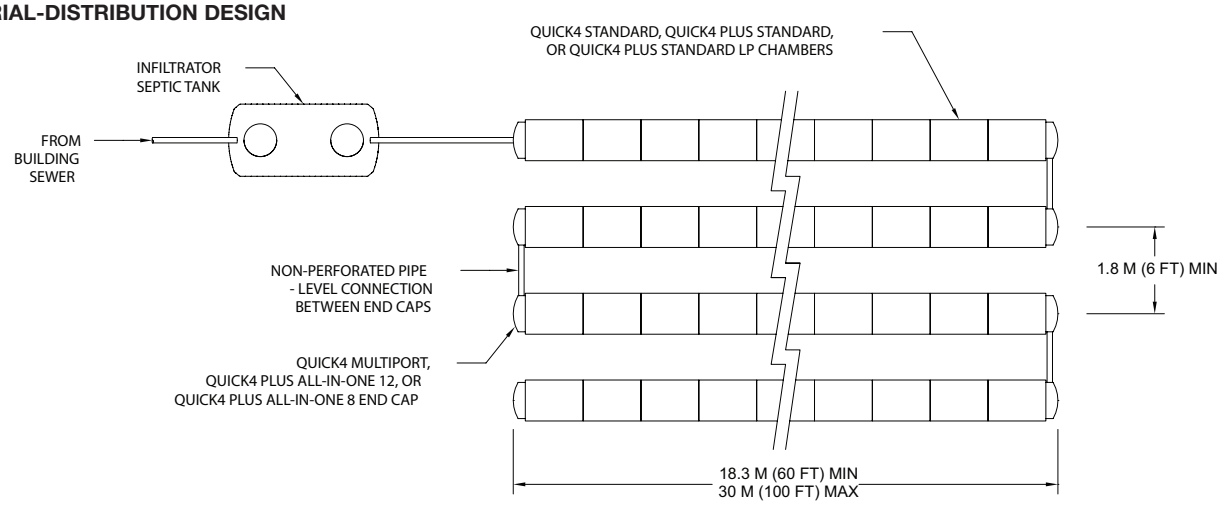


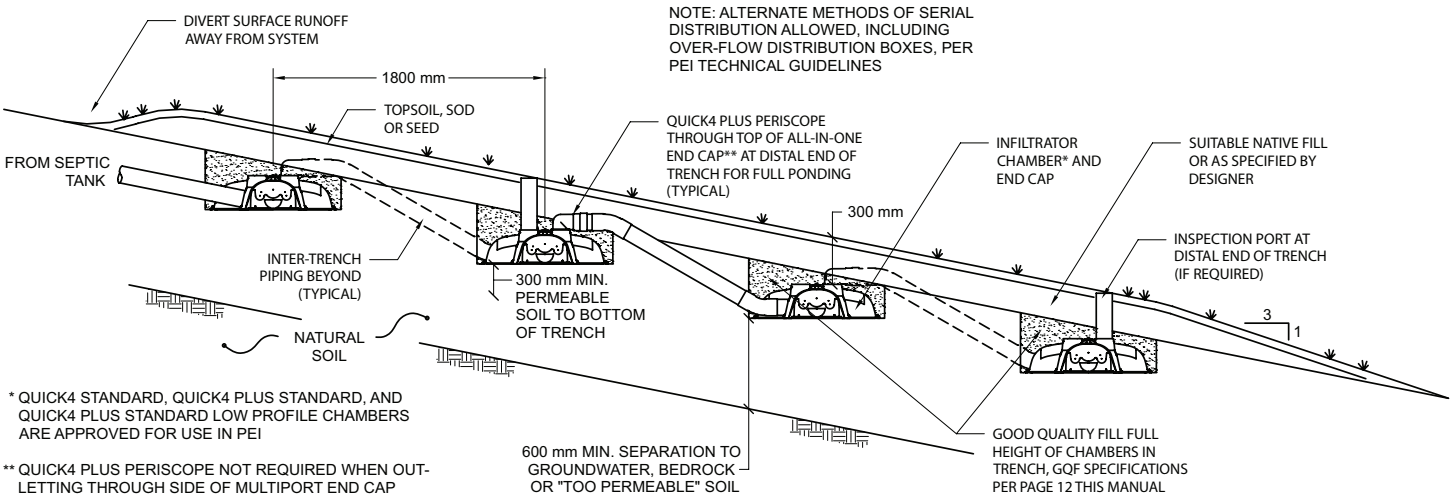
FIGURE 2: SERIAL-DISTRIBUTION DESIGN



Note: Serial chamber systems may only be considered as a last choice of system selection and it must be reviewed with the department prior to construction.

SERIAL DISTRIBUTION

Serial Distribution on Sloping Sites



Note: Serial chamber systems may only be considered as a last choice of system selection and it must be reviewed with the department prior to construction.

Built-Up Chamber System Installation Instructions

Before You Begin

Quick4 and Quick4 Plus chambers may only be installed according to the PEI Technical Guidelines and this manual. If installed by a Licensed Contractor (LC) under the old program, require a permit for installation. For complete instructions on Site Assessment, Selection of On-Site Sewage Disposal Systems, Construction Requirements and Maintenance pease refer to the PEI Technical Guideline. For permit information contact The Department of Environment, Energy and Forestry.

Similar to conventional systems, an approved Site Assessment must me conducted as set out in Section 3 of the Prince Edward Island Technical Guideline before installation. If using a Licensed Site Assessor/Installer they are required under the Technical Guidelines to provide 24 hours notice to the Department of Environment, Energy and Forestry prior to installing the system to allow for possible audit of the On-Site Sewage Disposal System installation.

Excavating and Preparing the Site

Note: As is the case with all On-Site Sewage Disposal Systems systems, do not install the systems in wet conditions or in overly moist soils, as this causes machinery to smear the soil.

1. Review the site plans to determine all elevations and location of leaching system.

2. Stake our the location and area for the downslope area.

3. Set elevations of the tank, distributions box or piping and chamber drainfield.

4. Before placing specified sand fill, clear and grade area. Remove top soil and keep for final drainfield grading and dressing.

5. Before placing fill, scarify the bottom surface of the excavated area parallel with the contour of the land. Use a multiple shar plow, chisel plow or a similar implement attached to lightweight equipment.

Once scarified it is very important not to allow any equipment or foot traffic onto the prepared area until GQF is placed. Doing so may compact the soil and damage the peculation rate of the receiving soil.

6. Calculate the number of GQF lifts necessary. Lifts should be measured and installed in 300 mm (12”) lifts.

7. Confirm that the imported fill meets the requirements of the regulation and the recommendations of Infiltrator Water Technologies.

Recommended Fill Material

Note: Recommended fill shall be “Good Quality Fill” (GQF) as defined by PEI Technical Guidelines, Onsite Sewage Disposal Systems. GQF has the following gradation:

Sieve	Percent Passing
10-mm (3/8-in.)	70 to 100
75-µm (No. 200)	2.5 to 15

Note: If the imported fill material does not meet the specifications for GQF detailed above, then the system can not be installed.

Placing the Good Quality Fill


1

1. Place the GQF on the edge of the site. Use a dozer or other track equipment to evenly spread the first 300 mm (12”) lift of fill over required area.

2. Stabilize sand fill by driving a track vehicle over entire area.

3. Place consecutive lifts following Steps 1 and 2 until desired elevation is achieved. Lifts should not exceed 300 mm (12”) in height.

4. Once required vertical searation to trench bottom is obtained, rake level the area where the trenches will be placed on the sand fill. Chambers are to be installed without any prescribed slope.

Preparing the Quick4 Plus Endcaps

Quick4 Plus All-in-One 12 Endcap

Quick4 Plus All-in-One 8 Endcap

Quick4 Plus 8 Endcap

1. With a hole saw drill an opening appropriate for pipe diameter being used 100 mm (4 inch) on front of the endcap.

2. Snap off the molded splash plate located on the bottom front of the endcap.

3. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.

Built-Up Chamber System Installation Instructions

Preparing the MultiPort Endcap

1. With a screwdriver or utility knife start the tear-out seal at the appropriate diameter for the inlet pipe. The seal allows for a tight fit for 100 mm (4 inch) CSA Sewer Pipe.

2. Pull the tab on the tear-out seal to create an opening on the endcap.

3. Snap off the molded splash plate located on the bottom front of the endcap.

4. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.

5. Insert the inlet pipe into the endcap at the beginning of the trench. Extend the pipe into the endcap roughly 100 mm (4 in). (Screws optional.)



Start tear-out seal.



Pull tab on tear-out seal.



Install splash plate.

Installing the System

1. Check the header pipe to be sure it is level or has the prescribed slope.

2. Set the invert height at 200 mm (8 in) from the bottom of the inlet.

3. Place the inlet end of the first chamber over the back edge of the endcap.

4. Lift and place the end of the next chamber onto the previous chamber by holding it at a 90-degree angle.



Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower it to the ground to connect the chambers.

Note: When the chamber end is placed between the connector hook and locking pin at a 90-degree angle, the pin will be visible from the back side of the chamber.



Connect the chambers.

Note: The connector hook serves as a guide to ensure proper connection and does not add structural integrity to the chamber joint. Broken hooks will not affect the structure or void the warranty.

5. Swivel the chamber on the pin to achieve the proper direction for the trench layout.

Note: Quick4 Chambers allow 10-degree of swivel in either direction at each joint.

6. Continue connecting the chambers until the desired trench length is obtained.

Note: As chambers are installed verify that they are moderately level or laser equipment on center area of each chamber installed. Chambers should be installed without any prescribed slope.

7. The last chamber in the trench requires an endcap. Lift the endcap at a 45-degree angle and insert the connector hook through the opening on the top of the endcap. Applying firm pressure, lower the endcap to the ground to snap it into place. Do not remove the tear-out seal.

Note: Use straight lengths of pipe with the MultiPort Endcap at the trench ends to create fitting free looped ends. See footer assembly instructions below.

8. Proceed to the next trench and begin with Step 1.

Installing Header

1. Install the header assembly with the desired number of laterals required for each row of chambers. Install an inlet “T” as close to center as possible. it may be necessary to install a double header to ensure even distribution to all laterals if the design is for an odd number of rows.

Note: It may be necessary or recommended to use a distribution box in place of a pipe header in some applications.

2. Pack sand or gravel around the header to secure the assembly and provide support of the header and make leveling easier.

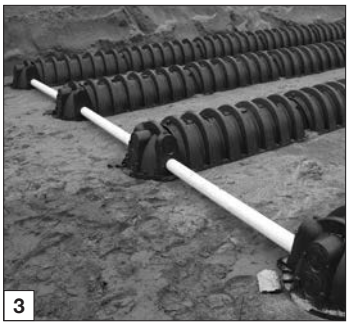
3. Ensure that header or d-box is installed with necessary support to ensure it remains level after system is backfilled.

Installing Recommended Footer Assembly

1. Measure and cut required number of 100 mm (4”) PVC sewer pipe to join the MultiPort Endcaps at the trench ends. Pipes should be cut to suitable length without the possibility of dislodging during backfill or settlement.

2. Tear or cut out the lower tear-out seal in the side of the endcaps facing each other in each row.

3. Insert a piece of the precut PVC sewer pipe into each of the openings created in each endcap to form a fitting-free looped end.



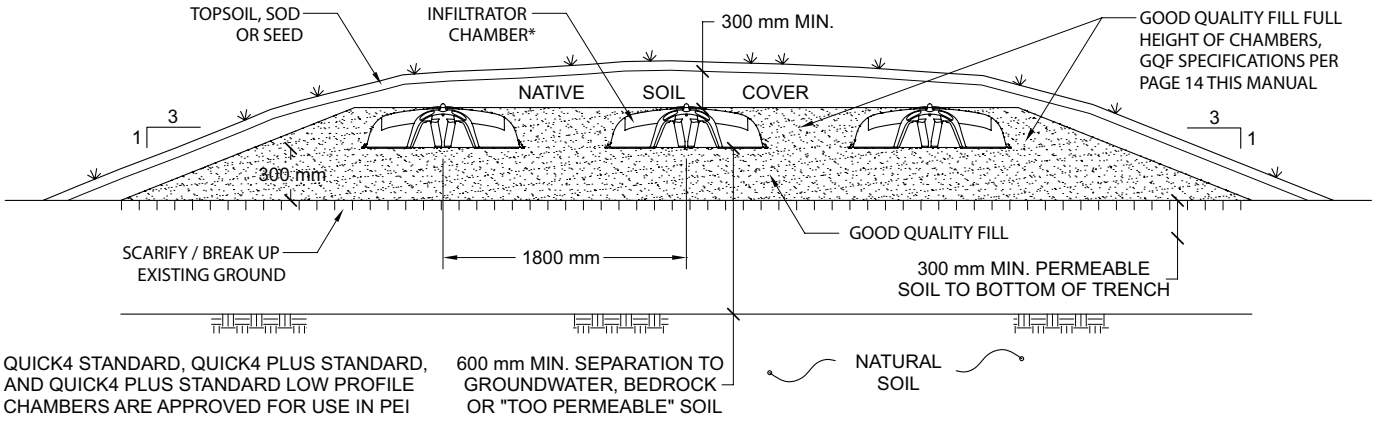
3

Fitting-free looped end.

BUILT-UP CONFIGURATIONS

Quick4 and Quick4 Plus Built-Up Chamber System

TYPICAL CROSS SECTION
(not to scale)



PRESSURE SYSTEMS

High Pressure Systems

This section of this manual provides information for the specification of chambers in Pressure Distribution (PD) systems.

Pressure Distribution systems are commonly installed in rapidly draining soil, long contour systems, C3 systems or mounds.

Infiltrator Water Technologies recommends the use of Polyvinyl Chloride (PVC) Series 160, Series 200 or Schedule 40 pipe with orifices centered at the 12 o'clock position. The pipe shall be suspended inside the chamber for the entire length of the trench.

The use of PD can provide more uniform distribution of effluent in the system. This combined with frequent short doses (time dosing recommended but not required) by the use of a pump; or siphon may be more effective than gravity fed systems.

The Prince Edward Island On-Site Sewage Disposal System Technical Guidelines require pressurized systems shall be designed by a Professional Engineer licensed in the province of PEI.

See page 22 for specific Pressure Distribution Installations.
The Quick4 Standard, Quick4 Plus Standard, and Quick4 Plus Standard LP chambers may be installed in pressure distribution systems.

Recommended Installation Instructions:

When constructing a pressure distribution system:

- Pipe and orifice sizing shall be determined by the design of the Professional Engineer
- Pump, system selection type and layout shall be determined by the design of the Professional Engineer
- Laterals may be suspended using plastic pipe hangars, 300 mm (12") nylon or PVC zip ties, or supported using pipe support units (PSU)
- Drain orifices and shields positioned at the 6 o'clock position
- Acceptable 90-degree sweep cleanout extensions installed at the end of each lateral

Where a high pressure system is designed by a professional engineer, the solid pipe from the pump or siphon chamber to the distribution system must have a minimum diameter as specified by the pump or siphon manufacturer but shall not be less than the diameter of the distribution piping. For pump systems the discharge piping shall meet the Canadian Plumbing Code requirements for water pressure pipe (CSA B137 Series).

Distribution piping shall be certified to CSA B137 and be:

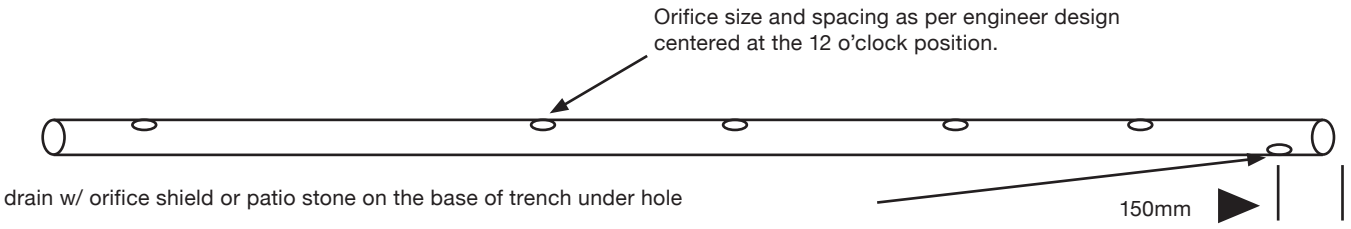
- PVC Series 160 pipe with glue joints, or
- PVC Series 200 pipe with glue joints, or
- PVC Schedule 40 pipe with glue joints

Pump selection is based on the application and can change from system to system, be sure to review pump selection criteria with the pump manufacturer. If the system exceeds these conditions then contact Infiltrator Technical Services for design assistance.

PRESSURE SYSTEMS

High Pressure Systems

FIGURE 1
PRESSURE DISTRIBUTION PIPE



PRESSURE DISTRIBUTION SYSTEM

Pipe diameter: 38 mm (1.5 inches) minimum

No slope required

Orifice diameter by design

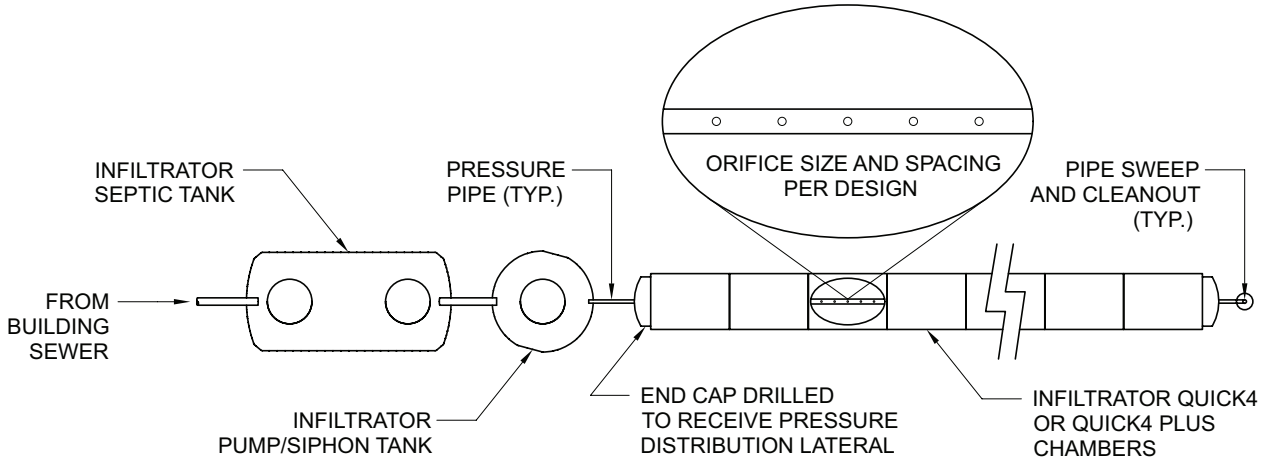
Orifice intervals at 12 o'clock per design

Pipe shall conform to CSA B137

For large systems a hydraulic calculation should be used to determine best pipe and orifice size and spacing

Note: For larger system designs, the system design: orifice size and spacing must be calculated. Call Infiltrator for Technical Support.

TYPICAL FIGURE 2
PLAN VIEW



PRESSURE SYSTEMS

High Pressure Systems

Where High Pressure distribution systems are designed by a Professional Engineer in conjunction with Infiltrator Water Technologies chambers.. 38 mm (1.5 inch) minimum polyvinyl chloride (PVC), with orifices at the 12 o'clock position, allows effluent to spray onto the inside surface of the chamber dome, providing more uniform distribution.

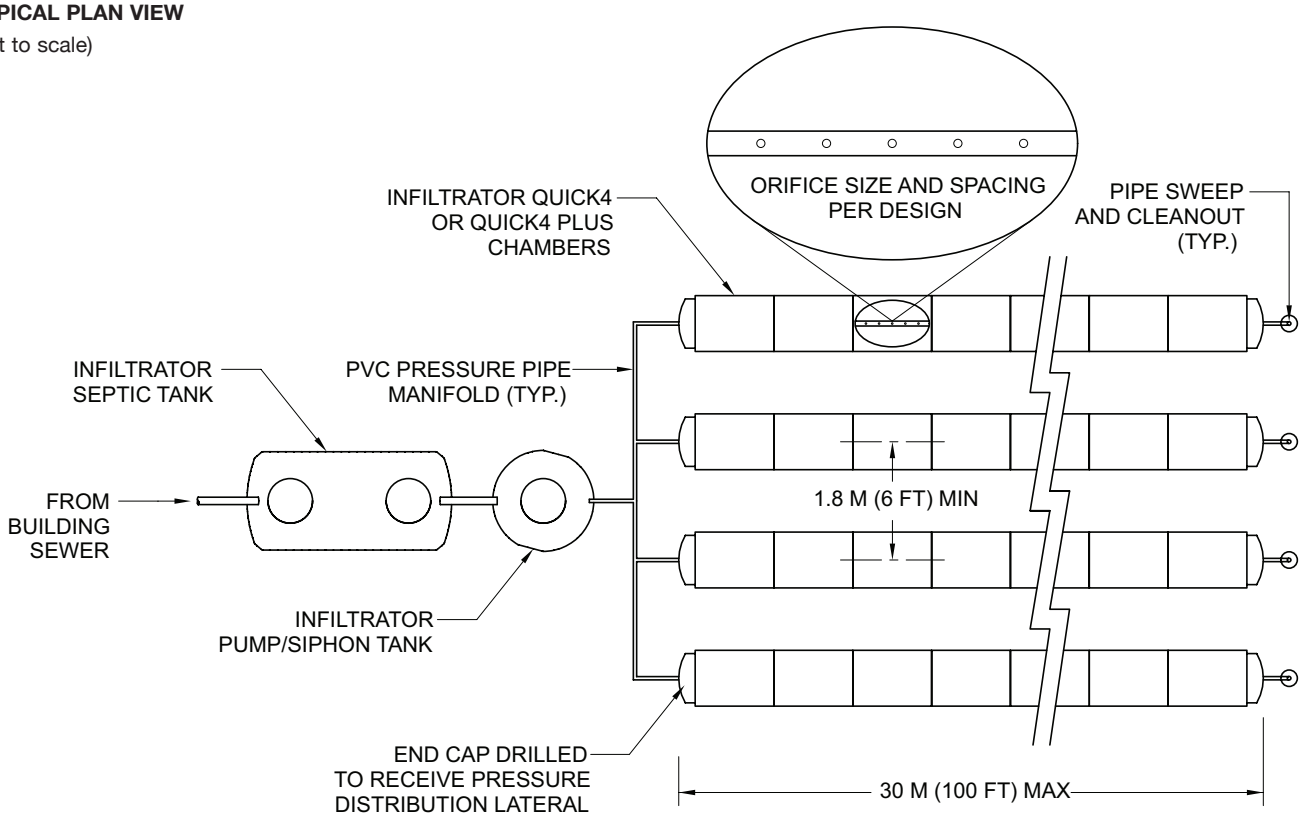
See page 22 for specific Pressure Distribution Installation Instructions. All Quick4 and Quick4 Plus chambers may be used in pressure distribution systems.

When constructing a HP system:

- Pipe, pump and orifice sizing is determined through design specifications
- Laterals may be suspended using plastic pipe hangers, 300 mm (12-inch) plastic zip ties, or supported using pipe support units
- Drain orifices and shields at the 6 o'clock position are recommended in cold climates
- Accessible 90° sweep cleanout extensions are installed at the end of each lateral

TYPICAL PLAN VIEW

(not to scale)



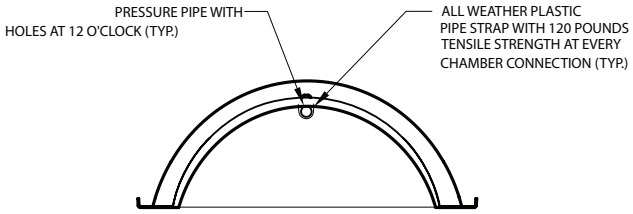
Note: The PVC pipe, orifice diameter holes and pump will be specified by the designer, which may vary from job to job.

PRESSURE SYSTEMS

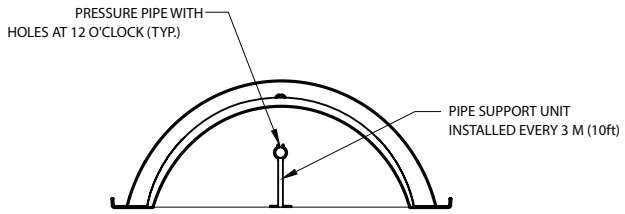
High Pressure Systems

QUICK4 STANDARD CHAMBER PRESSURE PIPE ATTACHMENT END VIEWS

(not to scale)



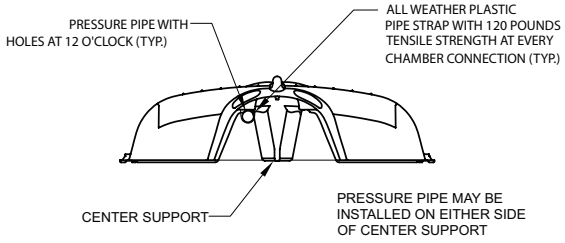
Hanging Pipe Method



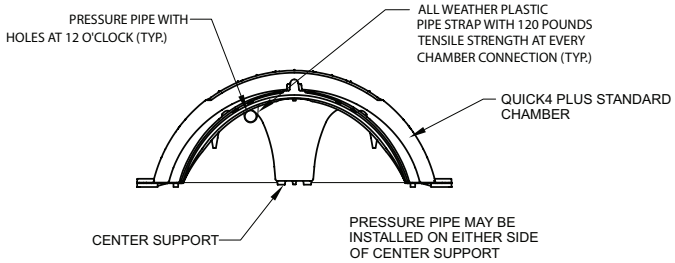
Pipe Support Method

QUICK4 PLUS CHAMBER PRESSURE PIPE ATTACHMENT END VIEWS

(not to scale)



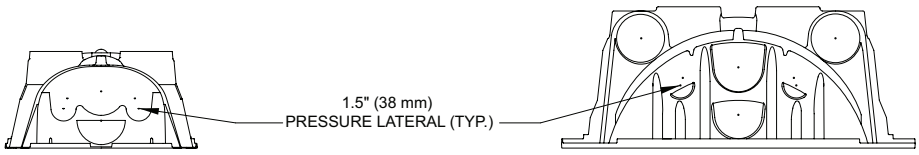
Quick4 Plus Standard Low Profile Chamber



Quick4 Plus Standard Chamber

PRESSURE LATERAL QUICK4 PLUS ENDCAP DRILL POINTS END VIEWS

(not to scale)

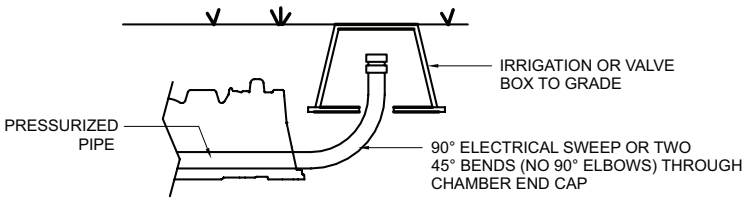


Quick4 Plus 8 and
Quick4 Plus All-in-One 8

Quick4 Plus All-in-One 12

CLEANOUT EXTENSION DETAIL SIDE VIEW

(not to scale)



Installation Instructions
Before You Begin

This section provides septic installation information for Quick4, Quick4 Plus Standard, and Quick4 Plus Standard LP chambers in pressure distribution systems. Contact Infiltrator Water Technologies for information on Quick4 Plus chambers in pressure distribution systems. These systems can only be installed according to provincial requirements. Contact your permitting authority for specific requirements. Soil and site conditions must be approved prior to installation.

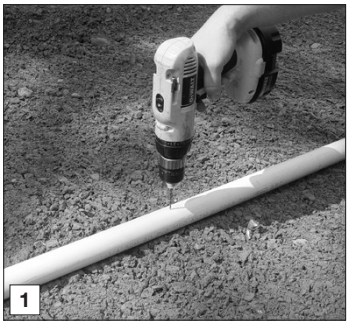
These guidelines for construction machinery must be followed during installation:

☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 0.31 m (12-inch) minimum of stabilized cover to support a wheel load rating of 71.2 kN/axle (16,000 lbs/axle) or equivalent to an H-10 AASHTO load rating.

☐ Do not drive over trenches. If unavoidable use a tracked vehicle. Never drive down the length of the trenches.

Installing Chambers and Endcaps

1. To allow pressure laterals to drain after each dose, drill a hole in the bottom of the pipe at the end of the pressure line. Place the snap-off splash plate or a paving block at the bottom of the trench to protect the infiltrative surface from erosion.


1
Drill hole in pipe.

2. With a hole saw, drill out the appropriate diameter hole to accommodate the pressure lateral pipe.

3. Insert the pressure lateral pipe into the endcap's drilled opening and slide it into the manifold pipe. Glue the pressure lateral pipe to the manifold pipe.

4. With the pressure lateral pipe through the endcap, place the inlet end of the first chamber over the back edge of the endcap.

Note: Regulators may require a wet-run pressure check be done prior to chamber installation when the pipe is laying on the ground. Check with your permitting authority for the proper procedure.

5. Secure the pressure lateral pipe to the top of the first chamber with a plastic pipe strap at the outlet end of the unit. Slide the strap up through a slot in the chamber top, down through the other slot, and cinch the two ends around the pipe.

Note: The Infiltrator Pipe Support Unit may also be used to hold and stabilize the pipe. See page 21 for detail.

6. Lift and place the next chamber onto the previous one at a 90-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower it to the ground to engage the interlocks.


5
Secure pipe to chamber.

7. Secure the lateral pipe to the top of the next chamber once in place. Follow the same method in Step 5.

8. Continue interlocking chambers and securing the pipe until the trench is completed.

9. Before attaching the final endcap, remove the tongue of the connector hook on the last chamber with a pair of pliers.

10. Insert the pressure lateral pipe through the hole in the final endcap and slide the endcap towards the last chamber. Lift the endcap over the modified connector hook and push straight down to secure it to the chamber.

Note: If cleanout extensions are required, use a hole saw to cut a hole in the endcap at the proper elevation so that the lateral pipe can extend. For clean-out access, a 90-degree sweep elbow that extends to the soil's surface can be attached to the lateral pipe.


9
Remove tongue.

11. If installing multiple rows of chambers, follow Steps 1-9 to lay the next row of chambers parallel to the first. Keep a minimum separation distance between each row of chambers as required by the permitting authority.


10
Lift endcap.

WARRANTY

Infiltrator Water Technologies, Standard Limited Warranty for Septic Products

(a) The structural integrity of each chamber, endcap, end plate and other accessory manufactured by Infiltrator (collectively referred to as "Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's installation instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date upon which a septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required for the septic system by applicable law, the one (1) year warranty period will begin upon the date that installation of the septic system commences. In order to exercise its warranty rights, Holder must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for those Units determined by Infiltrator to be defective and covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system (chamber, endcap, end plate or other accessory) is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change this Limited Warranty in any manner whatsoever, or to extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's corporate headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

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U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator is a registered trademark in France. Infiltrator Water Technologies is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Water Technologies.
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Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436