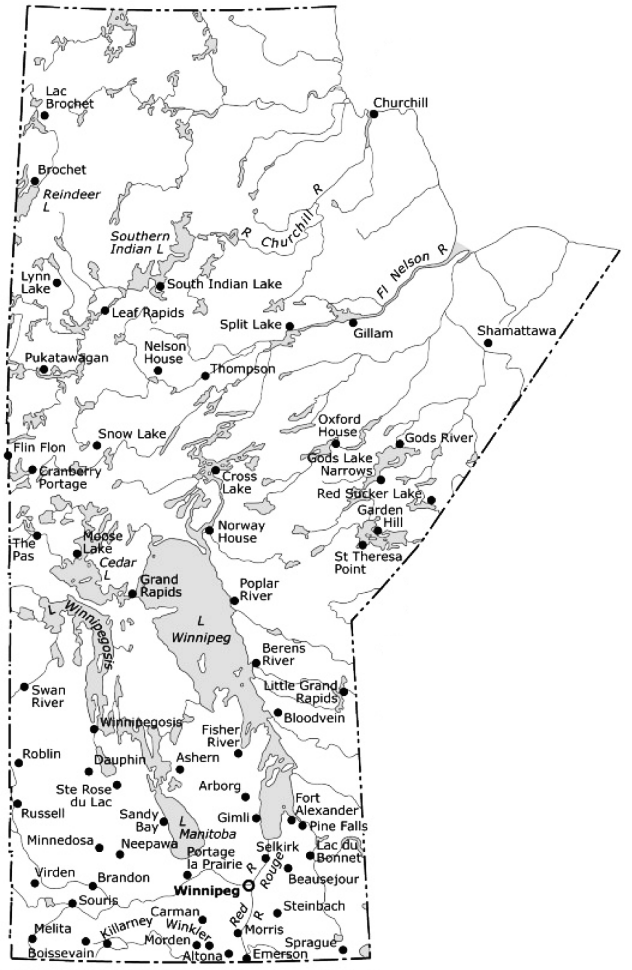
Infiltrator Water Technologies
Part of ADS

Manitoba

Design and Installation Manual for Quick4 Plus and Quick4 Chambers in Manitoba



The purpose of this product information sheet is to provide specific design and installation information pertinent for the use of Infiltrator Quick4 chambers in Manitoba. Infiltrator products must be used in conjunction with the standards described in the *Onsite Wastewater Management Systems Regulation* MR 83/2003 as set out in Schedule A section 2(5). and Infiltrator's approval. This document provides a brief description of the chamber and sizing specifications.

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

Infiltrator Chambers in Manitoba	

Manitoba

PRODUCTS

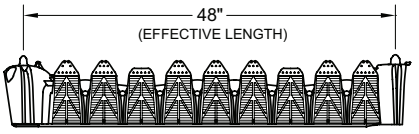
Quick4 Plus Chambers

The Quick4 Plus Equalizer 36 Low Profile, Quick4 Plus Standard, Quick4 Plus Standard Low Profile and Quick4 Plus High Capacity chambers are approved for use by Manitoba Conservation. These Quick4 Plus chamber models can be installed in several different configurations. The Quick4 Plus Equalizer 36 LP chamber can be installed in 24-inch-wide trenches. The Quick4 Plus Standard, Quick4 Plus Standard LP and Quick4 Plus High Capacity chambers can be installed in 36-inch-wide trenches. All Infiltrator chambers can be used in installations of total area fields and pressurized sand treatment mounds. There are a variety of system inletting options to choose from, with and without a distribution box. The Quick4 Plus All-in-One 8 and 12 Endcap models can be installed mid-line in a chamber row, allowing for a center-fed trench or total area field. This configuration requires drilling of a 4-inch-diameter hole in the end of the end cap at ground level to allow effluent to flow to both sides of the chamber row.

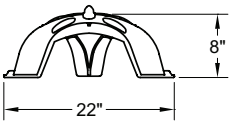
Quick4 Plus Equalizer 36 nominal chamber specifications

Chamber Rating	3.5 SF/LF
Size	22”W x 53”L x 8”H
	559 mm x 1346 mm x 203 mm
Storage Capacity	20 gal
	76 L
Invert Elevation	3.3”, 9”
	83 mm, 229 mm

Uses the Quick4 All-In-One 8 or Quick4 Plus 8 endcap.



SIDE VIEW

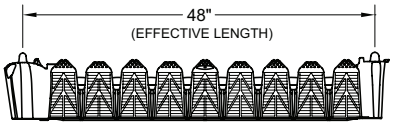


END VIEW

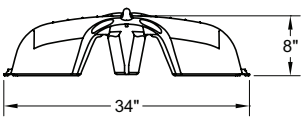
Quick4 Plus Standard LP nominal chamber specifications

Chamber Rating	4.3 SF/LF
Size	34”W x 53”L x 8”H
	864 mm x 1346 mm x 203 mm
Storage Capacity	32 gal
	121 L
Invert Elevation	3.3”, 9”
	83 mm, 229 mm

Uses the Quick4 All-In-One 8 or Quick4 Plus 8 endcap.



SIDE VIEW



END VIEW

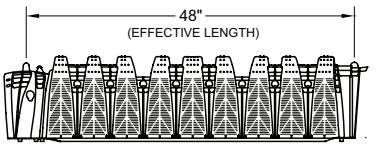
PRODUCTS

Quick4 Plus Chambers

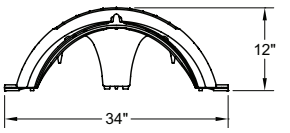
Quick4 Plus Standard nominal chamber specifications

Chamber Rating	4.3 SF/LF
Size	34”W x 53”L x 12”H 864 mm x 1346 mm x 203 mm
Storage Capacity	46 gal 176 L
Invert Elevation	8” 203 mm

Uses the Quick4 Plus All-In-One 12 endcap.



SIDE VIEW

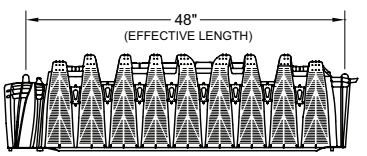


END VIEW

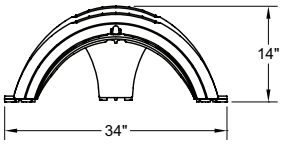
Quick4 Plus High Capacity nominal chamber specifications

Chamber Rating	4.8 SF/LF
Size	34”W x 53”L x 14”H 864 mm x 1346 mm x 356 mm
Storage Capacity	54 gal 204 L
Invert Elevation	8”, 12.7” 203 mm, 323 mm

Uses the Quick4 Plus All-in-One 12 endcap.



SIDE VIEW

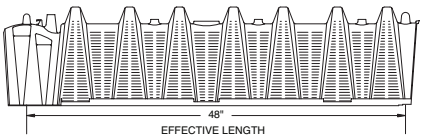


END VIEW

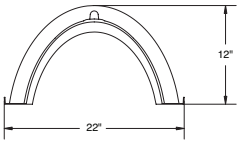
PRODUCTS

Quick4 Chambers

The Quick4 Equalizer 36, Quick4 Standard, Quick4 High Capacity and Quick4 Plus chambers can be installed in several different configurations. The Quick4 Equalizer 36 chamber can be installed in 24-inch wide trenches. The Quick4 Standard and Quick4 High Capacity chambers can be installed in 36-inch wide trenches. All Infiltrator chambers can be used in installations of total area fields and pressurized sand treatment mounds. There are a variety of system inletting options to choose from, with and without a distribution box.



SIDE VIEW

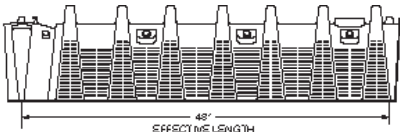


END VIEW

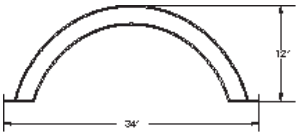
Quick4 Equalizer 36 nominal chamber specifications

Chamber Rating	3.5 SF/LF
Size	22”W x 53”L x 12”H 559 mm x 1346 mm x 305 mm
Storage Capacity	20 gal 121 L
Invert Elevation	6” 152 mm

Uses the Mulitport endcap.



SIDE VIEW

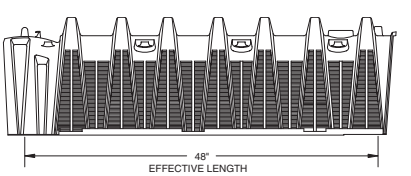


END VIEW

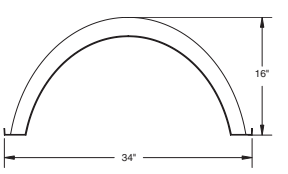
Quick4 Standard nominal chamber specifications

Chamber Rating	4.3 SF/LF
Size	34”W x 53”L x 12”H 864 mm x 1346 mm x 305 mm
Storage Capacity	45 gal 170 L
Invert Elevation	8” 203 mm

Uses the Mulitport endcap.



SIDE VIEW



END VIEW

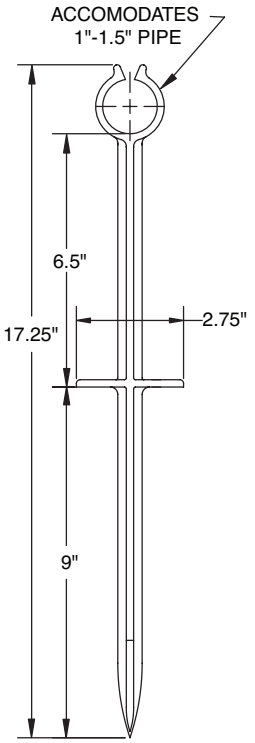
Quick4 High Capacity nominal chamber specifications

Chamber Rating	4.8 SF/LF
Size	34”W x 53”L x 16”H 864 mm x 1346 mm x 406 mm
Storage Capacity	62 gal 235 L
Invert Elevation	11.5” 292 mm

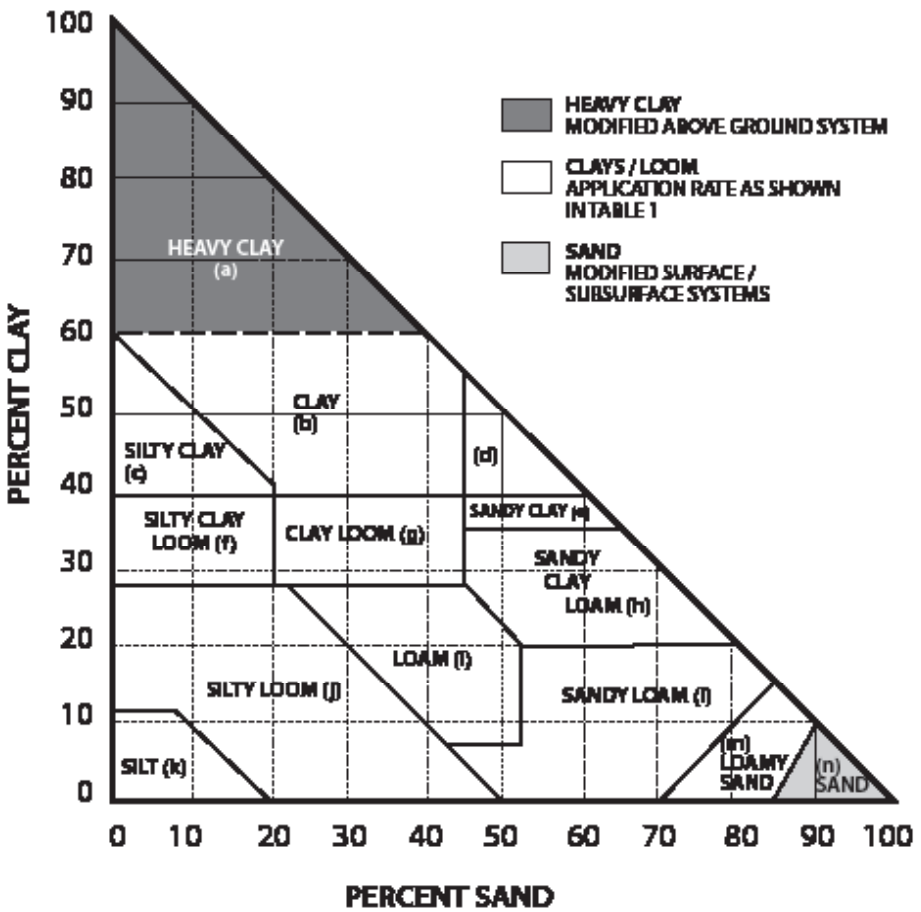
Uses the Mulitport endcap.

PRESSURE DOSING PIPE SUPPORT

(not to scale)



SOIL CLASSIFICATION TRIANGLES



APPLICATION RATE - IMPERIAL GALLONS PER DAY PER SQUARE FOOT

SIZING OF QUICK4 EQUALIZER 36 CHAMBERS

TABLE 1: QUICK4 EQUALIZER 36 LP CHAMBER SYSTEM SIZING FOR TRENCH FIELDS WITH A RATING OF 3.5 SF/LF									
		Quick4 Equalizer 36 Length of Trenches (Feet)							
Soil Type		Percolation Rate	Application Rate		2 Bdrm 220 gpd	3 Bdrm 330 gpd	4 Bdrm 440 gpd	5 Bdrm 550 gpd	Each Add. Bdrm
		(min/inch)	(igpd/ sq.ft)	(lpd/sq.m)					
(n) Sand 85-100%	Modified subsurface systems. See soil texture class matrix	1–8	0.60	29.36	105	157	210	262	52
(m) Loamy Sand	Traditional Subsurface Chamber Systems	9–15	0.60	29.36	105	157	210	262	52
		16–20	0.55	26.91	114	171	229	286	57
(l) Sandy Loam		21–25	0.50	24.47	126	189	251	314	63
		26–30	0.45	22.06	140	210	279	349	70
		31–35	0.41	20.06	153	230	307	383	77
		36–40	0.37	18.11	170	255	340	425	85
(i) Loam		41–45	0.34	16.64	185	277	370	462	92
		46–50	0.31	15.17	203	304	406	507	101
(j) Silty Loam		51–55	0.28	13.70	224	337	449	561	112
(h) Sandy Clay Loam									
(k) Silt		56–60	0.26	12.72	242	363	484	604	121
(g) Clay Loam		61–65	0.24	11.75	262	393	524	655	131
		66–70	0.22	10.76	286	429	571	714	143
		71–75	0.20	9.78	314	471	629	786	157
(f) Silty Clay Loam		76–80	0.18	8.81	349	524	698	873	175
(e) Sandy Loam Less than 40%									
(d) Sandy Clay 40–60%	Modified System See soil texture class matrix	81–120	0.17	8.32	370	555	739	924	185
(c) Silty Clay 40–60%									
b) Clay 40–60% clay									
a) Heavy Clay >60–100% clay	Modified Above Ground System See soil texture class matrix. No subsurface systems	>120							

SIZING OF QUICK4 PLUS STANDARD LP AND QUICK4 STANDARD CHAMBERS

TABLE 2: QUICK4 STANDARD CHAMBER SYSTEM SIZING FOR TRENCH FIELDS WITH A RATING OF 4.3 SF/LF

Quick4 Standard Length of Trenches (Feet)									
Soil Type		Percolation Rate	Application Rate		2 Bdrm 220 gpd	3 Bdrm 330 gpd	4 Bdrm 440 gpd	5 Bdrm 550 gpd	Each Add. Bdrm
		(min/inch)	(igpd/ sq.ft)	(lpd/sq.m)					
(n) Sand 85-100%	Modified subsurface systems. See soil texture class matrix	1–8	0.60	29.36	85	128	171	213	43
(m) Loamy Sand	Traditional Subsurface Chamber Systems	9–15	0.60	29.36	85	128	171	213	43
		16–20	0.55	26.91	93	140	186	233	47
(l) Sandy Loam		21–25	0.50	24.47	102	153	205	256	51
		26–30	0.45	22.02	114	171	227	284	57
		31–35	0.41	20.06	125	187	250	312	62
		36–40	0.37	18.11	138	207	277	346	69
(i) Loam		41–45	0.34	16.64	150	226	301	376	75
		46–50	0.31	15.17	165	248	330	413	83
(j) Silty Loam		51–55	0.28	13.70	183	274	365	457	91
(h) Sandy Clay Loam									
(k) Silt		56–60	0.26	12.72	197	295	394	492	98
(g) Clay Loam		61–65	0.24	11.74	213	320	426	533	107
		66–70	0.22	10.77	233	349	465	581	116
		71–75	0.20	9.79	256	384	512	640	128
(f) Silty Clay Loam		76–80	0.18	8.81	284	426	568	711	142
(e) Sandy Loam Less than 40%									
(d) Sandy Clay 40–60%	Modified System See soil texture class matrix	81–120	0.17	8.32	301	451	602	752	150
(c) Silty Clay 40–60%									
b) Clay 40–60% clay									
a) Heavy Clay >60–100% clay	Modified Above Ground System See soil texture class matrix. No subsurface systems	>120							

SIZING OF QUICK4 HIGH CAPACITY CHAMBERS

TABLE 3: Quick4 High Capacity CHAMBER SYSTEM SIZING FOR TRENCH FIELDS WITH A RATING OF 4.8 SF/LF									
Quick4 High Capacity Length of Trenches (Feet)									
Soil Type		Percolation Rate	Application Rate		2 Bdrm 220 gpd	3 Bdrm 330 gpd	4 Bdrm 440 gpd	5 Bdrm 550 gpd	Each Add. Bdrm
		(min/inch)	(igpd/ sq.ft)	(lpd/sq.m)					
(n) Sand 85-100%	Modified subsurface systems. See soil texture class matrix	1–8	0.60	29.36	76	115	153	191	38
(m) Loamy Sand	Traditional Subsurface Chamber Systems	9–15	0.60	29.36	76	115	153	191	38
		16–20	0.55	26.91	83	125	167	208	42
(l) Sandy Loam		21–25	0.50	24.47	92	138	183	229	46
		26–30	0.45	22.02	102	153	204	255	51
		31–35	0.41	20.06	112	168	224	279	56
		36–40	0.37	18.11	124	186	248	310	62
(i) Loam		41–45	0.34	16.64	135	202	270	337	67
		46–50	0.31	15.17	148	222	296	370	74
(j) Silty Loam		51–55	0.28	13.70	164	246	327	409	82
(h) Sandy Clay Loam									
(k) Silt		56–60	0.26	12.72	176	264	353	441	88
(g) Clay Loam		61–65	0.24	11.74	191	286	382	477	95
		66–70	0.22	10.77	208	313	417	521	104
		71–75	0.20	9.79	229	344	458	573	115
(f) Silty Clay Loam		76–80	0.18	8.81	255	382	509	637	127
(e) Sandy Clay Less than 40%									
(d) Sandy Clay 40–60%	Modified System See soil texture class matrix	81–120	0.17	8.32	270	404	539	674	135
(c) Silty Clay 40–60%									
b) Clay 40–60% clay									
a) Heavy Clay >60–100% clay	Modified Above Ground System See soil texture class matrix. No subsurface systems	>120							

SIZING OF QUICK4 CHAMBERS

TABLE 4: SYSTEM SIZING FOR TOTAL AREA FIELDS								
				Chamber Total Area System				
Soil Type		Percolation Rate (min/inch)	Application Rate (igpd/sf)	2 220	3 330	4 440	5 550	Each Add. BR
Coarse to Medium Sand	Modified Surface/Subsurface Systems	1–5	0.60	550	825	1100	1375	275
Fine Sand Sandy Loam		6–10	0.60	550	825	1100	1375	275
		11–15	0.60	550	825	1100	1375	275
		16–20	0.55	600	900	1200	1500	300
		21–25	0.50	660	990	1320	1650	330
		26–30	0.45	733	1100	1467	1833	367
Silty Loam		31–35	0.41	805	1207	1610	2012	402
		36–40	0.37	892	1338	1784	2230	446
		41–45	0.34	971	1456	1941	2426	485
		46–50	0.31	1065	1597	2129	2661	532
		51–55	0.28	1179	1768	2357	2946	589
		56–60	0.26	1269	1904	2538	3173	635

Area of Field (sq ft)

NOTE: See chamber configurations, page 11.

Chamber Ratings [sf/chamber]:
Quick4 Equalizer 36 Rating = 14 sf/chamber
Quick4 Standard Rating = 17.2 sf/chamber
Quick4 High Capacity Rating = 19.2 sf/chamber

$$\text{Area of Field} = \frac{\text{Daily Sewage Flow X Safety Factor}}{\text{Application Rate}}$$

Area of Field (sq.ft.): Total required disposal field surface area

Daily Effluent Flow (igpd): Volume produced on a daily basis, 110 igpd/bedroom

Application Rate (igpd/sq. ft.): Application rate given, based upon US EPA

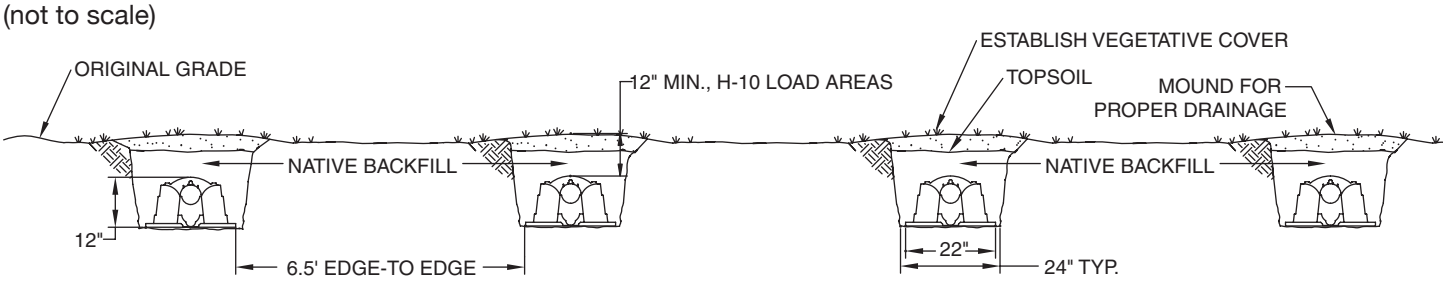
Safety Factor: Factor of 2.0 for graded stone and pipe systems and 1.5 for chamber/aggregate-free systems

Legend: min/inch = minutes per inch
igpd/sf = imperial gallons per day per square foot
igpd = imperial gallons per day
BR = bedroom

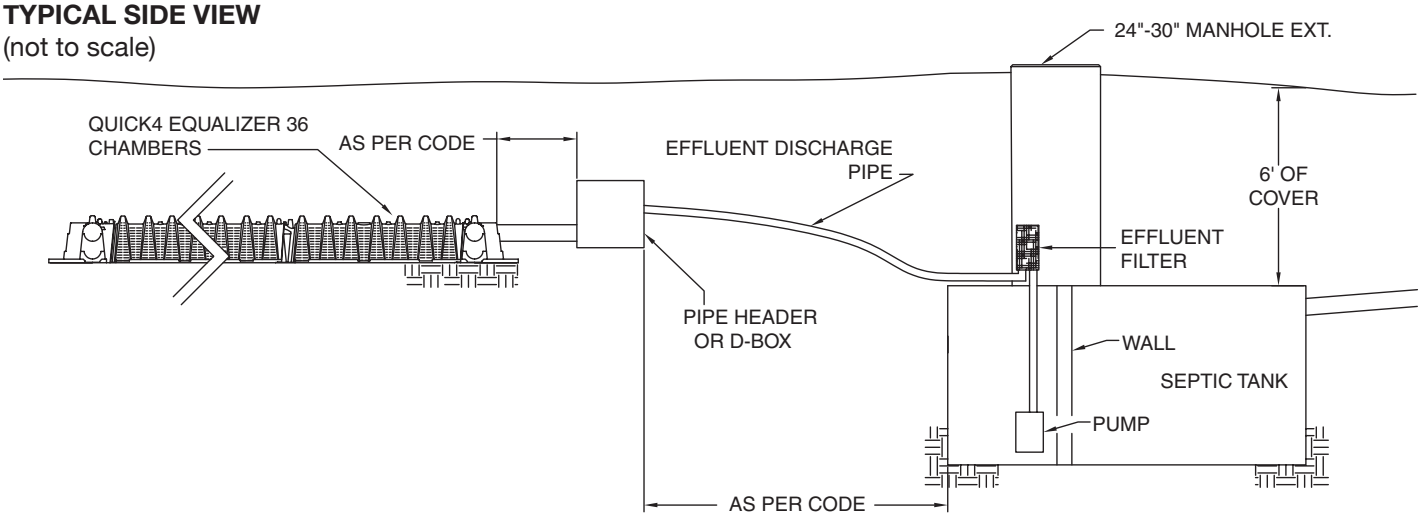
CHAMBER CONFIGURATIONS

Quick4 Equalizer 36 Trench Configurations

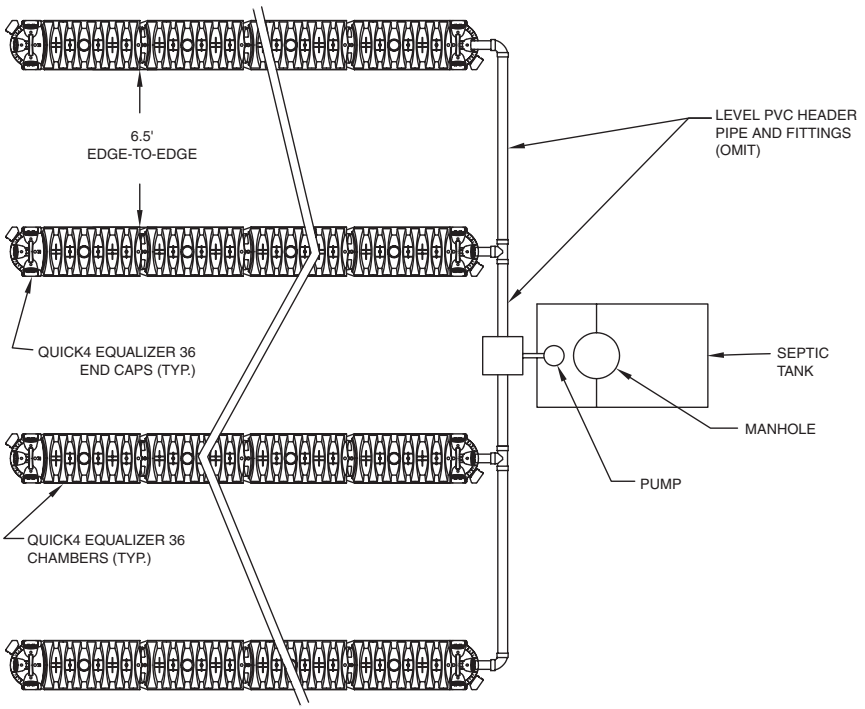
TYPICAL CROSS SECTION
(not to scale)



TYPICAL SIDE VIEW
(not to scale)



TYPICAL PLAN VIEW
(not to scale)

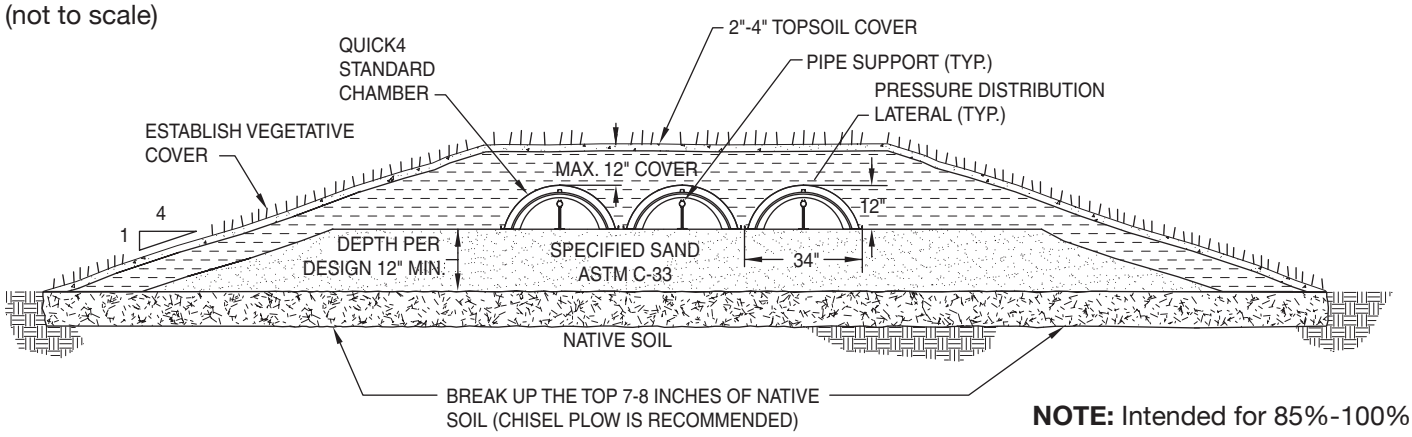


CHAMBER CONFIGURATIONS

Quick4 Standard Modified Above ground Total Area Field

TYPICAL CROSS SECTION

(not to scale)



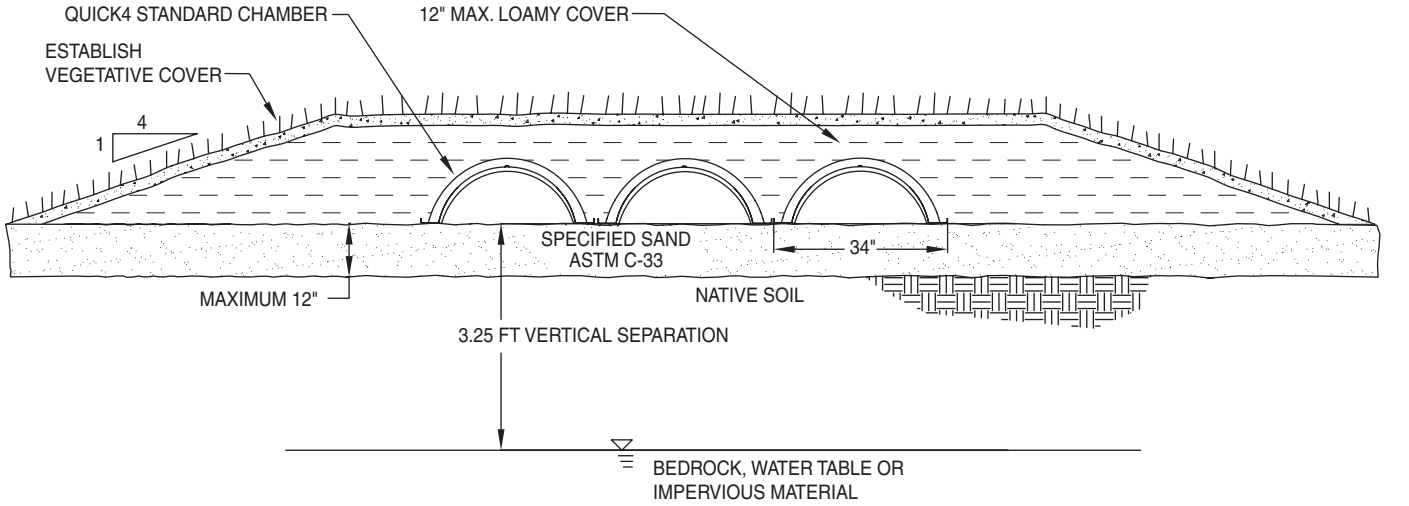
NOTE: Intended for 85%-100% heavy clay soils.

NOTE: All septic fields must be bermed with suitable material.

Quick4 Standard Modified Above ground Total Area Field

TYPICAL CROSS SECTION

(not to scale)



NOTE: Intended for 40%-60% clay soils.

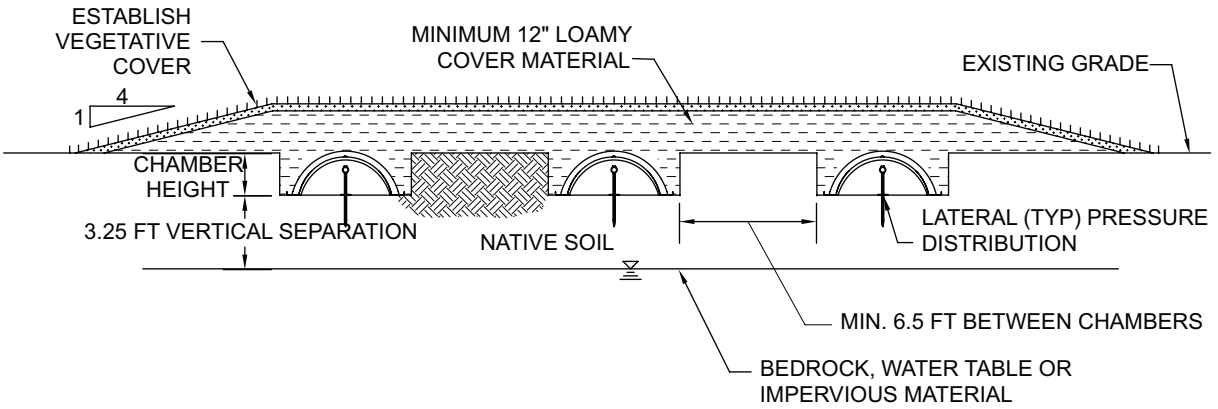
NOTE: All septic fields must be bermed with suitable material.

CHAMBER CONFIGURATION

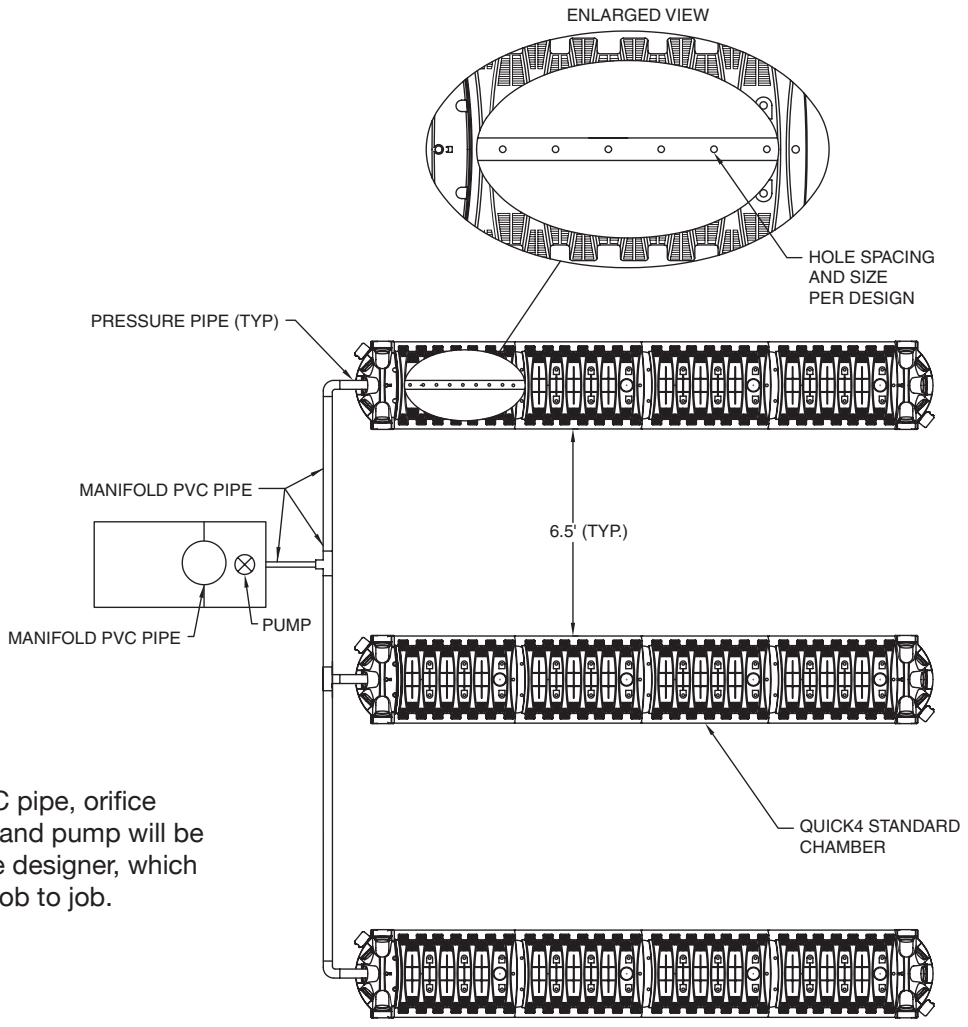
Quick4 Standard Modified Trench Configurations (MTC)

TYPICAL SHALLOW IN-GROUND SYSTEM CROSS SECTION
(not to scale)

NOTE: Intended for 40% - 60% clay soils.



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.

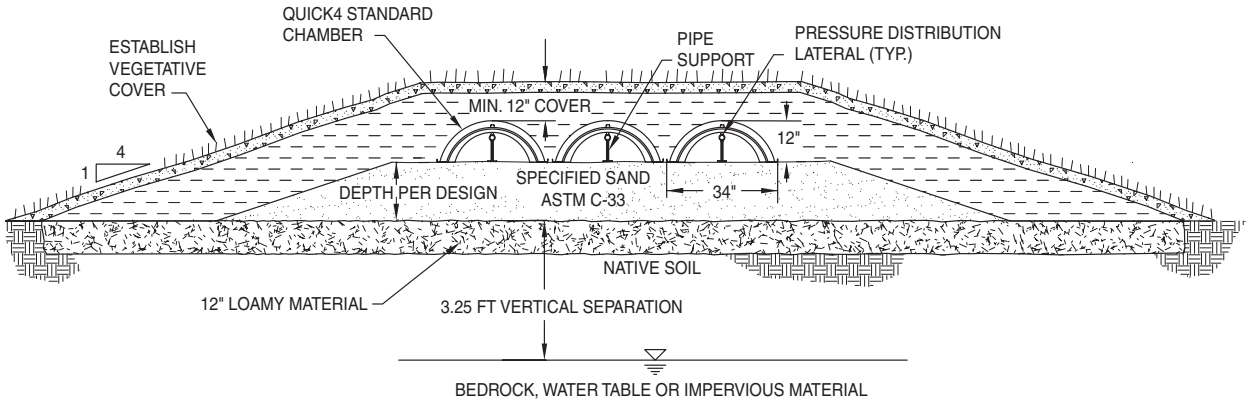
CHAMBER CONFIGURATION

Quick4 Standard Lined Total Area (LTA) Field

NOTE: Intended for 85%-100% sand.

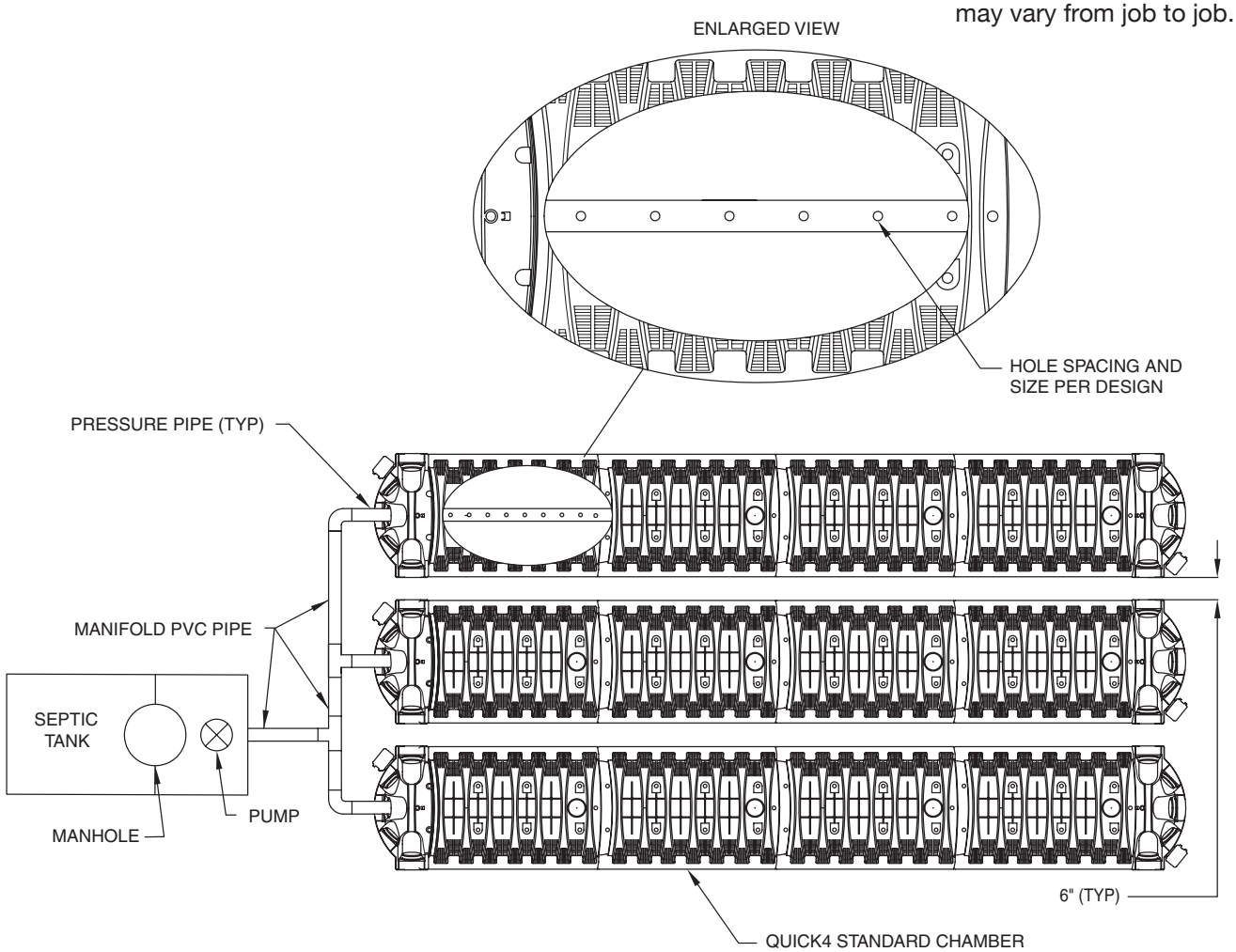
NOTE: All septic fields must be bermed with suitable material.

TYPICAL CROSS SECTION
(not to scale)



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.



CHAMBER CONFIGURATION

Lined Trenches for Porous Soils

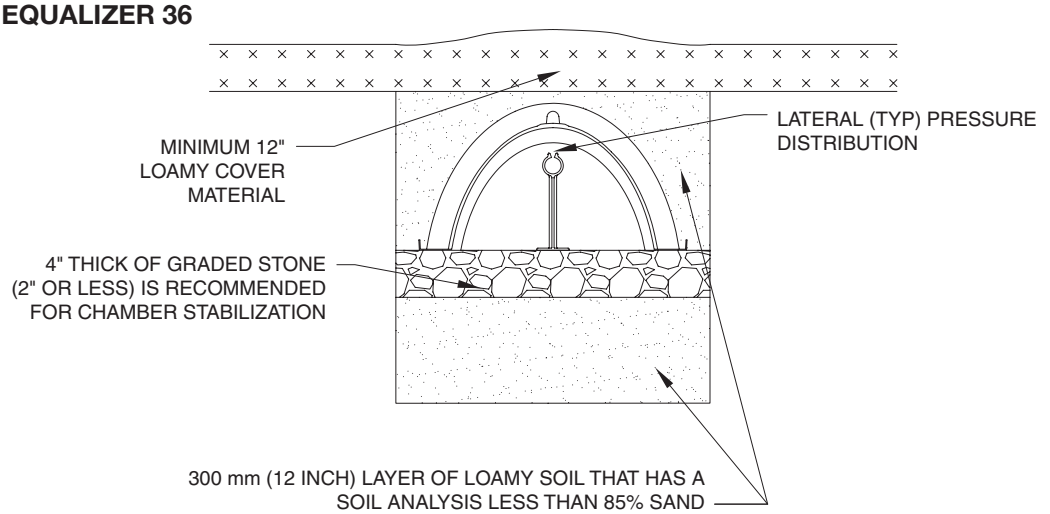
For installations where the existing soil has a soil analysis greater than or equal to 85% sand the trench may be over excavated and a 300 mm (12 inch) layer of loamy soil is installed across the bottom and up the sides of the trench.

This layer of soil is intended to slow the movement of the effluent and prevent saturated flow of effluent through the more porous surrounding soils. Leave the soil mounded over the trench to allow for settlement.

Pressure distribution laterals shall be used to ensure even distribution of the effluent and reduce the possibility that effluent will quickly escape through cracks in the imported soils.

NOTE: Intended for 85%-100% sand.

TYPICAL QUICK4 EQUALIZER 36 CROSS SECTION
(not to scale)

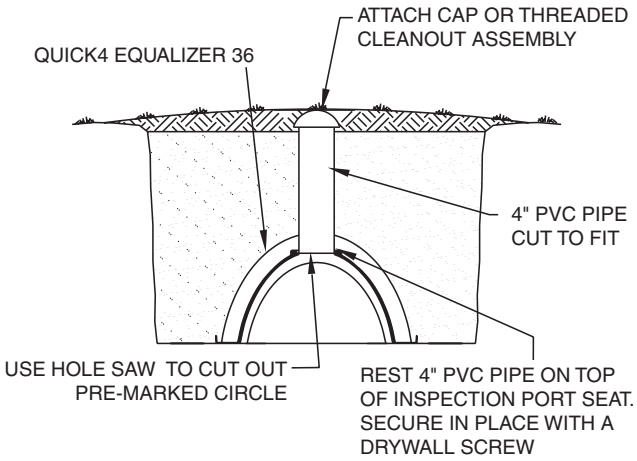


Optional Inspection Port Detail

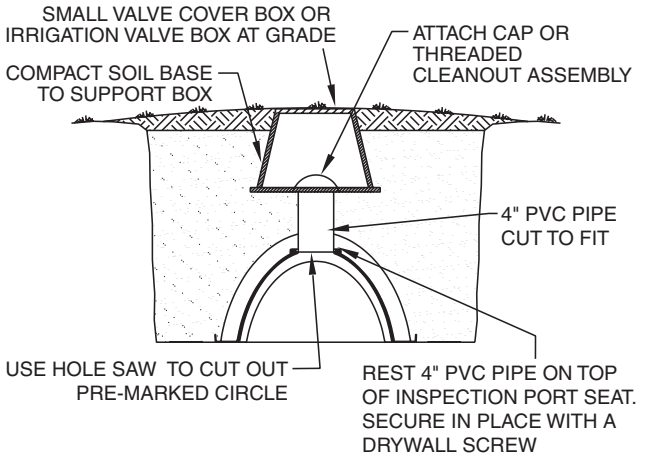
NOTE: All Infiltrator chamber models may be designed for this application.

NOTE: The DEQ recommends a monitoring port at the end of each line.

OPTION A: TYPICAL CHAMBER RISER TO GRADE
(not to scale)



OPTION B: INSTALLATION WITH VALVE BOX
(not to scale)



CHAMBER CONFIGURATION

Pressure Distribution

Pressure Distribution (PD) systems are commonly used in rapidly draining soil where vertical separation between the water table and/or restrictive layer is required. One to two-inch pipe, commonly SCH40, with orifices at the 12 o'clock position allow effluent to spray off the inside chamber dome, providing more even distribution.

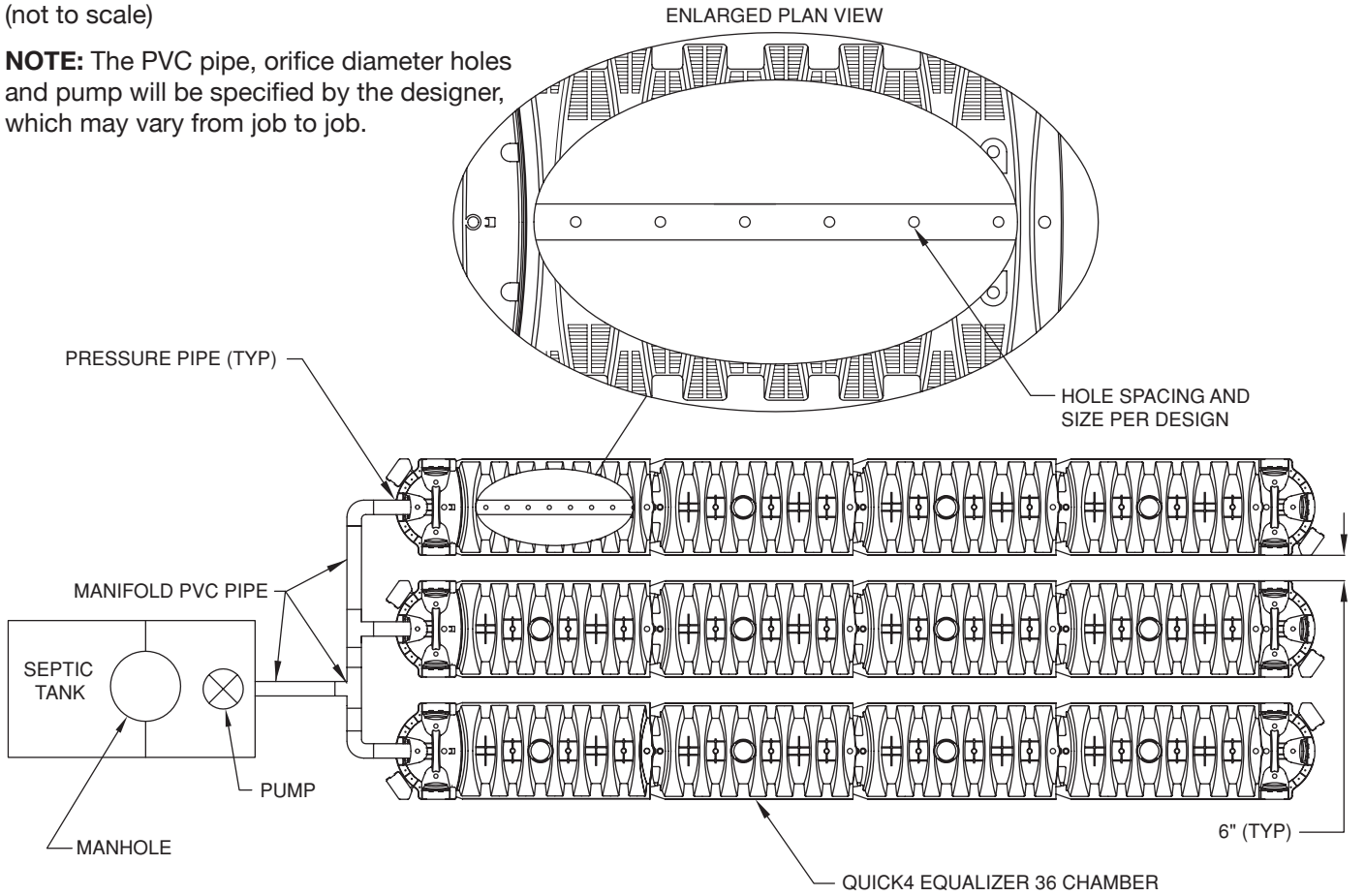
See page 19 for specific Pressure Distribution Installation Instructions. All Quick4 chambers may be used in pressure distribution systems.

When constructing a PD system:

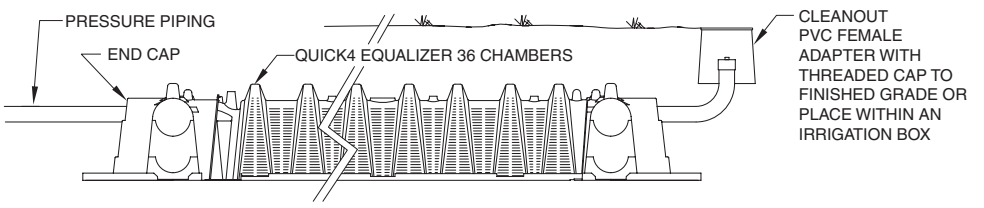
- Pipe, pump and orifice sizing is determined through design specifications
- Laterals may be suspended using plastic pipe hangers,12-inch plastic zip ties, or supported using pipe support units
- Drain orifices and shields at the 6 o'clock position are recommended in cold climates
- Accessible 90-degree 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.



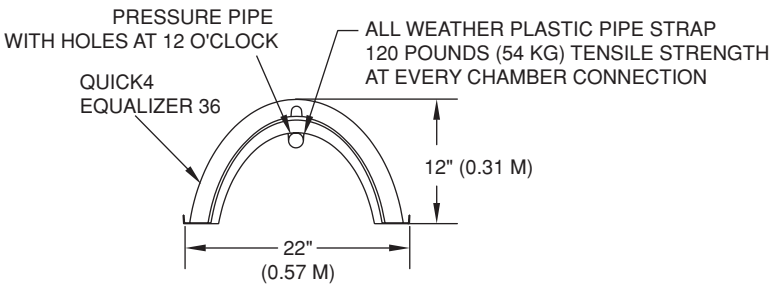
TYPICAL SIDE VIEW
(not to scale)



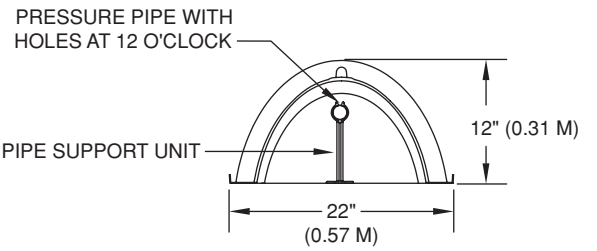
PRESSURE DISTRIBUTION SYSTEMS

Pressure Distribution

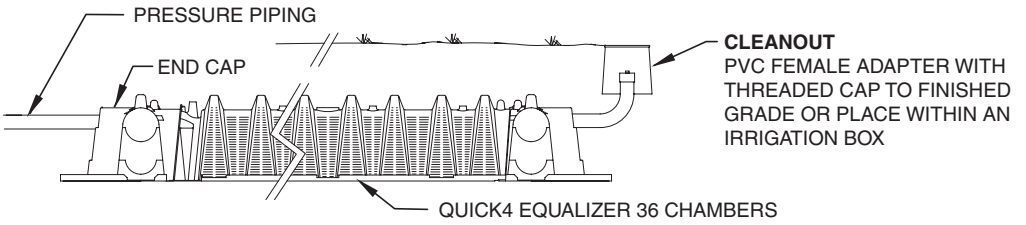
TYPICAL HANG PIPE END VIEW
(not to scale)



TYPICAL PIPE SUPPORT END VIEW
(not to scale)



TYPICAL CLEANOUT EXTENSION DETAIL
SIDE VIEW
(not to scale)



Improve Effluent Distribution

Even Distribution

- Hollow chamber allows effluent to spray in all directions off the chamber dome creating uniform distribution.
- Effluent spray pattern is increased onto the sand layer area.

Easy Installation

- Lightweight chambers are easy to deliver and handle, significantly reducing labor costs.

Convenient Maintenance

- Optional inspection ports in chambers provide easy access to the sand layer and piping.
- System observation and maintenance is quick and simple.

Guaranteed Performance

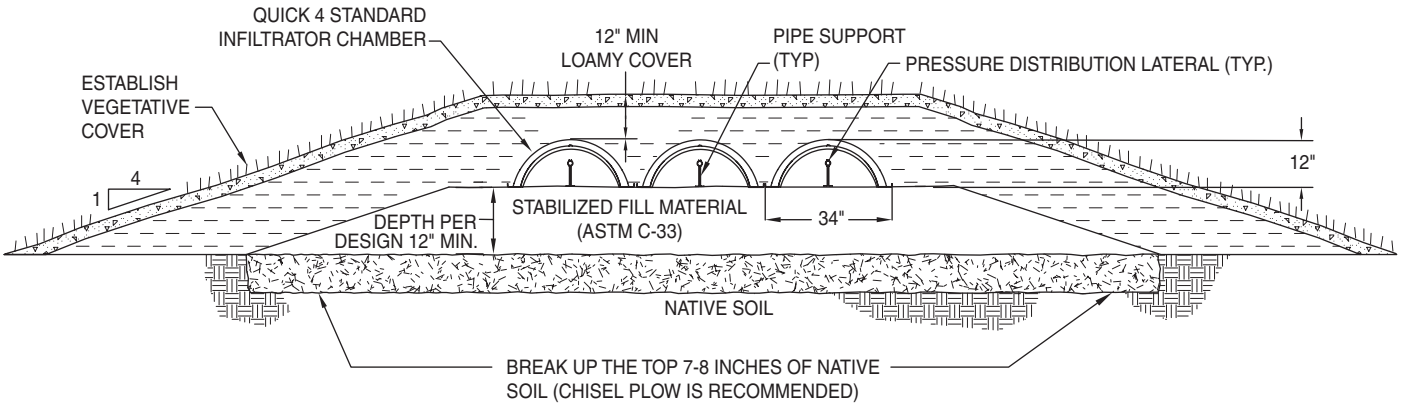
- Chamber technology offers increased infiltrative capacity over conventional methods.

NOTE: The mound detail below is intended to provide a generic overview of treatment mound using Quick4 Standard Chambers. Alternate designs and/or configurations may be acceptable. Check with local regulatory authority prior to construction.

PRESSURIZED SAND TREATMENT MOUND SYSTEM
(not to scale)

NOTE: Intended for > 60%-100% heavy clay soils or 85%-100 sand.

NOTE: All septic fields must be bermed with suitable material.



INSTALLATION INSTRUCTIONS

Preparing the Site

1. Review site plans to determine the height of the seasonal high water table or other limiting factors.
2. Calculate the number of sand lifts necessary. Lifts should measure 6 to 12 inches in height.
3. Confirm that the sand used to build the mound meets plan specifications. If no specifications are available, Infiltrator Water Technologies recommends sands that meet the grain size specifications (ASTM C33) below.

Sieve	Effective Particle	Percent Passing
No. 4	4.75 mm	95–100 %
No. 8	2.36 mm	80–100 %
No. 16	1.18 mm	50–85 %
No. 30	600 mm	25–60 %
No. 50	300 mm	10–30 %
No. 100	150 mm	2–10 %
No. 200	75 mm	<3%

4. Install sedimentation and erosion control measures.
5. Cut trees flush to the ground (or remove if code allows), remove surface boulders that can be easily rolled off, and remove vegetation over 6 inches long.
6. Rough or plow the area parallel with the contour of the land. Do this by using a multiple share plow, chisel plow or a similar implement attached to lightweight equipment. Avoid rotary tilling.

Placing the Sand

1. Use a dozer or backhoe to evenly spread a one-foot lift of specified fill material over required area.
2. Each sand lift must be compacted to 90% of Standard Proctor density. The contractor determines the means and methods necessary to stabilize fill and attain required compaction. Optimal moisture content to aid compaction is approximately 10%. Add water as necessary to obtain appropriate moisture content.

1.

NOTE: Compaction is critical to prevent settling and will not have a significant effect on permeability of clean, sandy fill.

3. To obtain the necessary compaction, a tracked vehicle or wheeled backhoe can be driven over the entire bed. After first tracks are made across the bed, move across the bed at increments equal to the width of the wheels/tracks. A vibratory plate compactor may also be used for compaction.

NOTE: Check local regulations to determine if wheeled vehicles are allowed on fill systems. Wheeled vehicles may be used on the base fill. No wheeled vehicles are allowed over the chambers in a fill system.

4. Place consecutive lifts following Steps 1 and 2 until design elevation is achieved (desired elevation is the infiltrative surface). Lifts should not exceed a 12 inch height.
5. Lightly drag a landscape rake over the final infiltrative surface to scarify the top 1⁄2 inch of the sand. Check bed elevation to be sure it is level.

Covering the System

Before backfilling, the system must be inspected by a health or regulatory official as required by state and local codes. Create an as-built drawing at this time for future records.

1. Place a 2-foot high pile of berm material around the perimeter of the sand mound and directly against the outer rows of chambers for stabilization.
2. Ladle soil between the chamber rows to the top sidewall louver to prevent chamber movement before final backfill. Firm the soil between the chamber rows by walking it in. This important step assures correct structural support of the system.
3. Push the berm material between and over the chamber rows with a dozer. Keep a minimum 12-inches of compacted cover over the system.


2.

NOTE: NO wheeled machinery is allowed on chambers in mounds.

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

3.

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.

INSTALLATION INSTRUCTIONS

Pressure Distribution Systems

Before You Begin

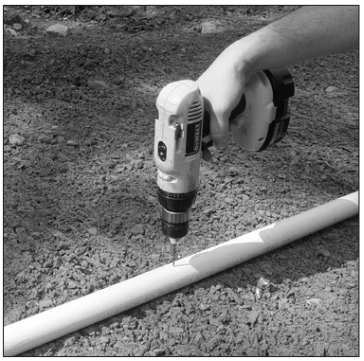
This section provides septic installation information for Quick4 chambers in pressure distribution systems. These systems can only be installed according to state and/or local regulations. Contact your local regulator for specific requirements. Soil and site conditions must be approved prior to installation. Have your local regulator conduct a thorough site evaluation to determine proper sizing and siting of the system before installation.

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 stabilized cover to support a wheel load rating of 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.**
- **Onsite rules do not allow for vehicular traffic over drainfields. Compaction may affect performance even if it does not damage the product.**

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: Health Departments may require a wet-run pressure check be done prior to chamber installation when the pipe is laying on the ground. Check with your local Health Department 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.

5. Secure pipe to chamber.

NOTE: The Infiltrator Pipe Support Unit may also be used to hold and stabilize the pipe. See page 16 for detail.

6. Lift and place the next chamber onto the previous one at a 45-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.

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.

9. Remove tongue.

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.

10. Lift endcap.

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.

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 local code.

INSTALLATION INSTRUCTIONS

Trench Systems

Before You Begin

This section provides installation information for Quick4 chambers in trench systems. These systems may only be installed according to State and/or local regulations. If unsure of the installation requirements for a particular site, contact the local health department.

Like conventional systems, the soil and site conditions must be approved prior to installation. Conduct a thorough site evaluation to determine the proper sizing and siting of the system before installation.

Materials and Equipment Needed

- ☐ Quick4 chambers
- ☐ Multiport 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 conventional 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 2-foot wide trenches with proper center-to-center separation. Verify that the trenches are level or have the prescribed slope.

NOTE: Over excavate the trench width in areas where you are planning to contour.

4. Rake the bottom and sides 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 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 3-inch, 4-inch SDR35, and 4-inch SCH40 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 4 inches. (Screws optional.)

1. Start tear-out seal.

2. Pull tab on tear-out seal.

4. Install splash plate.

5. Insert inlet pipe.

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 6, 9 or 10 inches as specified in the design from the bottom of the inlet.

NOTE: Use the Invert Adapter to achieve a 9" or 10" invert height.

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.

3. Place first chamber onto endcap.

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. 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: The chamber allows up to a 15-degree swivel in either direction at each joint.

6. Where the system design requires straight runs, use the StraightLock™ Tabs to ensure straight connections. To activate the tabs, pop the tabs up with your thumb and lock into place.

6. Activate StraightLock Tabs.

7. Continue connecting the chambers until the trench is completed.

NOTE: As chambers are installed, verify they are level or have the prescribed slope.

8. 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.

8. Attach endcap to chamber.

NOTE: Use straight lengths of pipe with the MultiPort Endcap at the trench ends to create fitting-free looped ends.

9. To ensure structural stability, fill the sidewall area by pulling soil from the sides of the trench with a shovel. Start at the joints where the chambers connect. Continue backfilling the entire sidewall area, making sure the fill covers the louvers.
10. Pack down the fill by walking along the edges of the trench and chambers. This is an important step in assuring structural support.

NOTE: In wet or clay soils, do not walk in the sidewalls.

11. 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 4-inch opening.
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 4-inch SCH40 pipe.

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

1. Fasten the pipe.

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.

Covering the System

Before backfilling, the system must be inspected by a health officer or other official as required by State and local codes. Create an as-built drawing at this time for future records.

1. Backfill the trench by pushing fill material over the chambers with a backhoe. Keep a minimum of 12 inches of compacted cover over the chambers before driving over the system.

1. Backfill the trench.

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

NOTE: For shallow cover applications, you must mound 12 inches of soil over the system before driving over it, and then grade it back to 6 inches upon completion.

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.

WARRANTY

Infiltrator Water Technologies, Standard Limited Warranty for Septic Products

(a) The structural integrity of each chamber and endcap 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) 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, 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.

Infiltrator Water Technologies recommends the use of septic tank filters and laundry filters with all onsite septic systems.

Infiltrator™
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Part of ADS

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Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-