

# Design and Installation Manual for Quick4® Plus Chambers in Indiana



**INFILTRATOR®**  
systems inc.



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## Indiana Standards for Chamber Trench Soil Absorption Field Technology

These standards apply to chamber trench soil absorption field (SAF) technology for manufacturers that have demonstrated products that meet or exceed Indiana performance criteria (see list of Indiana approved manufacturers and chamber trench SAF products at the end of this document). Manufacturers of chamber trench SAFs not approved under these standards may submit a proposal for review by the Indiana State Department of Health (department).

### I. Approval and Onsite Sewage System Construction Permit

- A. The department reviews, approves, and lists proprietary chamber trench SAF products when the manufacturer demonstrates that the product meets or exceeds the requirements contained in the department's *Protocols for Experimental Technologies*.
- B. Before a local health department (LHD) may issue a construction permit for an onsite sewage system incorporating a chamber trench SAF, the specific manufacturer, brand, and model number must be included in the plan submittal and be a product listed at the end of this document.  
[Only the specific models listed in this document are approved. If models in a manufacturer's product line do not appear on the list, they are not approved for use.]

### II. Application Standards

- A. Chamber trench SAFs must be designed and installed according to the manufacturer's requirements, in a manner that complies with *410 IAC 6-8.1* (including site evaluation, system selection and system size), *410 IAC 6-10*, this approval, and local ordinances, requirements and procedures.
- B. Chamber trench SAFs may be used for:
  - 1. Gravity-flow distribution;
  - 2. Alternating field gravity flow distribution;
  - 3. Flood dose distribution; and
  - 4. Pressure distribution.

### III. Chamber Standards

- A. Chamber trench SAFs must meet or exceed the following performance requirements:
  - 1. Chamber material must not decay, deteriorate, or leach chemicals or byproducts when exposed to sewage effluent and the soil environment.
  - 2. Chambers, when installed according to the manufacturer's requirements, must:
    - a. Meet or exceed the manufacturing and testing requirements of the *International Association of Plumbing and Mechanical Officials (IAPMO) PS 63-99a, Material and Property Standard for Plastic Leaching Chambers* for normal duty H-10 units; and

- b. Withstand the physical forces of the soil sidewalls, soil back-fill, and live loads associated with yard maintenance activities.

**B. The design of chambers must meet the following requirements:**

1. The distance from the infiltrative surface of the trench to the top of the chamber must be at least eight (8) inches.
2. The void volume of a chamber system must be equal to or greater than the void volume of a conventional aggregate trench system.
3. The trench bottom area per foot of a chamber must be equal to or greater than ninety (90) percent of the trench bottom area per foot of a conventional aggregate trench.
4. Chamber units must interlock to form a complete trench with the width of the infiltrative surface maintained for the length of the trench.  
[The use of pipe to connect chambers within a single trench is not allowed.]
5. The distal end of each trench must be fitted with a solid end plate that is mechanically interlocked to the end of the chamber.
6. Baffles or splash plates must be installed at the beginning of each chamber trench or be integral to the design of the inlet end plate [to reduce the velocity of incoming effluent and protect the trench bottom from erosion].
7. For gravity and flood dose SAFs, the bottom of the effluent sewer entering the inlet end plate must be at least three and three-tenths (3.3) inches above the trench infiltrative surface.
8. For trench pressure SAFs:
  - a. Pressure distribution laterals must be fastened with the obvert of the pipe at least four (4) inches above the trench infiltrative surface; and
  - b. The holes in the pressure distribution laterals must face up.

**IV. SAF Design Standards**

- A. For chamber trench SAFs, LHDs and the department may permit a reduction in the required size of the SAF of up to twenty-five (25) percent of a full-sized trench SAF as required in *410 IAC 6-8.1* or *410 IAC 6-10*.
- B. SAF size reductions for chamber trench SAF products may not be combined with SAF size reductions for effluent quality listed in the *Protocols for Experimental Technologies*.

**V. Requirements, Manufacturers and Installers**

- A. Each manufacturer's Indiana specific design and installation manual, and revisions, must:
  1. Contain procedures for design and installation consistent with the requirements of *410 IAC 6-8.1*, *410 IAC 6-10*, and these standards; and
  2. Be reviewed and accepted by the department.
- B. Each manufacturer must provide an Indiana specific design and installation manual to each installer of its chamber products, staff of the department, and staff of LHDs.
- C. Each manufacturer must train each installer of its chamber products, and staff of the department and LHDs, on the design and installation of its products in accordance with its design and installation manual.
- D. Each Installer must install chamber trench SAFs in compliance with the approved plan.

**VI. List of Approved Chamber Products**

Advanced Drainage Systems (ADS), Inc.

- BioDiffuser Standard
- Bio 3 (22" wide)
- ARC 36

Hancor, Inc.

- EnviroChamber Standard

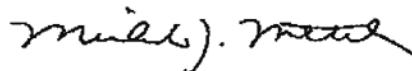
Infiltrator Systems, Inc.

- Quick4 Equalizer 36 (22" wide)
- Quick4 Standard & Quick4 Standard W
- Quick4 Plus Standard
- Quick4 Plus Standard Low Profile (LP)

Approved: July 22, 2005

Effective: August 1, 2005

Revised: December 22, 2009



*The purpose of this manual is to provide minimum specifications for design and installation of Quick4® Plus chambers approved for use in Indiana by the Indiana State Department of Health (see Indiana Standards for Chamber Trench Soil Absorption Field Technology, Document No. : OS-05-01, effective August 1, 2005). All local ordinances, requirements, and procedures must be followed. Each revised version of this design and installation manual supersedes the previous version. Please contact us or visit our website for more information regarding the most recent version of this design and installation manual.*

*The use of Infiltrator chambers according to this manual is approved by the Indiana State Department of Health. For more detailed design and installation information, please contact Infiltrator Systems at 1-800-221-4436.*

### Quick4 Plus Standard Chambers

The Quick4 Plus Standard chamber can be installed in a 36-inch-wide trench. This chamber offers superior strength through its center structural column. The Quick4 Plus All-in-One and the Quick4 Plus Endcaps are available with this chamber, providing increased flexibility in system configurations.



Quick4 Plus Standard Chamber

### Quick4 Plus Standard LP Chambers

The Quick4 Plus Standard Low Profile (LP) chamber can be installed in a 36-inch wide trench. This chamber is 4 inches shorter in height than other standard models allowing for shallower installation where a shallow groundwater table, impervious conditions, or other restrictions limit vertical separation distance. The Quick4 Plus All-in-One and the Quick4 Plus Endcaps are available with this chamber, providing increased flexibility in system configurations.



Quick4 Plus Standard LP Chamber

### Quick4 Plus All-in-One Endcap

The Quick4 Plus All-in-One Endcap may be used at the end of a chamber row or in-line with chambers. The in-line feature allows construction of chamber rows with a center feed, as an option to inletting at the ends of the chamber rows. Pipe connection options include the end, sides, or top.



Quick4 Plus All-in-One Endcap

### Quick4 Plus Endcap

The Quick4 Plus Endcap is installed at the end of the chamber and allows installation of a pipe from the end only. This end cap does not provide side-inletting capability. Pipe connection options include drill points for gravity or pressure pipe.



Quick4 Plus Endcap

### Quick4 Standard Chambers

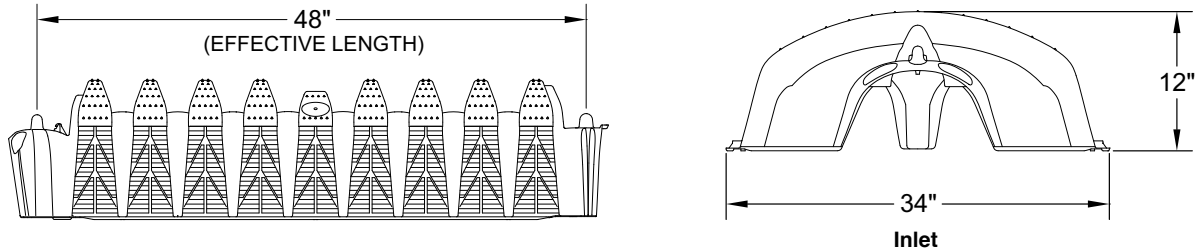
The Quick4 Standard chamber has been replaced with the Quick4 Plus design. Design information for the Quick4 Standard chamber can be obtained by calling Infiltrator Systems Inc.

Nominal Chamber Specifications	Quick4 Plus Standard Chamber	Quick4 Plus Standard Low Profile
Size (W x L x H)	34" x 48" x 12"	34" x 48" x 8"
Equivalency Rating	16.0 ft <sup>2</sup> /chamber	16.0 ft <sup>2</sup> /chamber
Storage	47 gal (6.3 ft <sup>3</sup> )	32.0 gal (4.3 ft <sup>3</sup> )
Inlet Invert Elevation	3.3" or 9.0"	3.3" or 9.0"

## Quick4 Plus Standard Chambers

**SIDE AND END VIEWS**

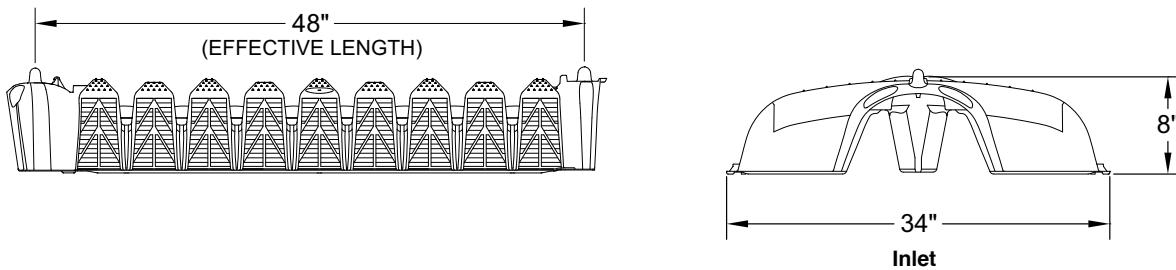
(Not to scale)



## Quick4 Plus Standard Low Profile (LP) Chambers

**SIDE AND END VIEWS**

(Not to scale)

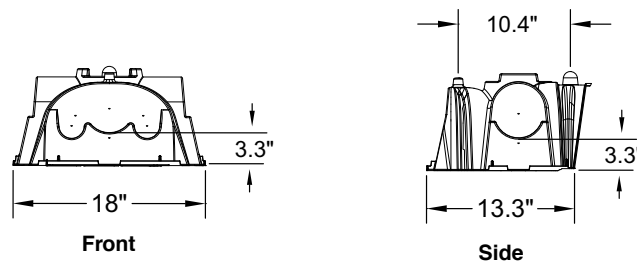


## Quick4 Plus All-in-One End Cap

**SIDE AND END VIEWS**

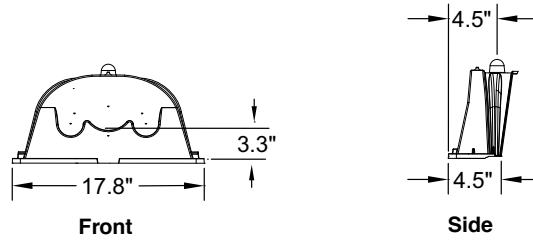
(Not to scale)

The Quick4 Plus All-in-One Endcap can be installed either mid-line within a chamber row, or at either end of a chamber row for end-fed configurations. A minimum 3.3-inch inlet invert is required. (See options below)



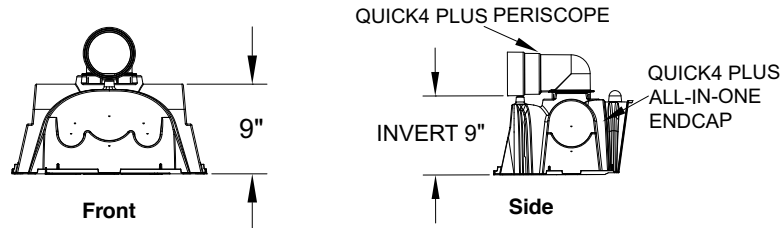
## Quick4 Plus End Cap

**SIDE AND END VIEWS** (Not to scale) The Quick4 Plus Endcap can only be installed at the end of a chamber row for end-fed configurations. A minimum 3.3-inch invert is required. (See options below)



## Quick4 Plus Periscope

**SIDE AND END VIEWS** (Not to scale) The Quick4 Plus Periscope can be installed in the top of the Quick4 Plus All-in-One Endcap, allowing for an inlet invert height of 9 inches. This adapter allows for mid-line piping connections, as shown on page 10.



## Sizing of Quick4 Chamber Systems

These sizing charts are for residential systems. Commercial onsite systems may be sized per 410 IAC 6-10 with a 25% reduction in required size.

**TABLE 1: QUICK4 PLUS STANDARD AND QUICK4 PLUS STANDARD LOW PROFILE (LP) CHAMBER SIZING FOR 25% REDUCTION - MINIMUM NUMBER OF CHAMBERS AND TRENCH LENGTH\***

Load Rate [GPD/ft <sup>2</sup> ]	Number of Bedrooms and Bedroom Equivalents											
	2			3			4			5		
	Gravel [ft <sup>2</sup> ]	Quick4 Plus Chambers	Length* (ft)	Gravel [ft <sup>2</sup> ]	Quick4 Plus Chambers	Length* (ft)	Gravel [ft <sup>2</sup> ]	Quick4 Plus Chambers	Length* (ft)	Gravel [ft <sup>2</sup> ]	Quick4 Plus Chambers	Length* (ft)
1.20	250	19	76	375	24	96	500	32	128	625	40	160
0.75	400	25	100	600	38	152	800	50	200	1000	63	252
0.60	500	32	128	750	47	188	1000	63	252	1250	79	316
0.50	600	38	152	900	57	228	1200	75	300	1500	94	376
0.30	1000	63	252	1500	94	376	2000	125	500	2500	157	628
0.25	1200	75	300	1800	113	452	2400	150	600	3000	188	752

\*Systems should be oriented as long and narrow as the site permits in accordance with the requirements of 410 IAC 6-8.1. For example, four 96 foot-long trenches are preferred over six 64 foot-long trenches (both systems provide 384 feet of total trench length).

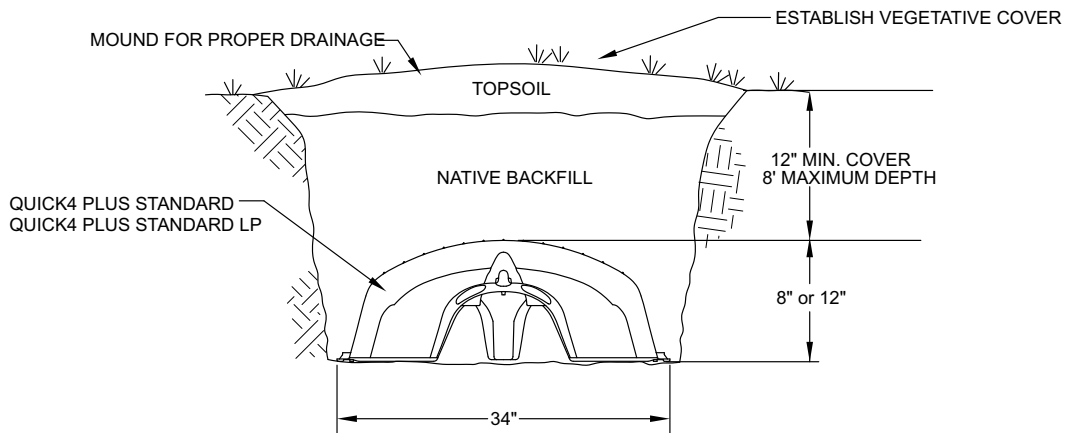
**Note:**

1. The recommended minimum number of chambers is 19 Quick4 Plus Standard or Quick4 Plus Standard LP chambers.
2. The chart is to be used with Infiltrator Systems Inc. Quick4 Plus Standard and Quick4 Plus Standard LP chambers only. Substitutions for other products not permitted.
3. The connected Quick4 Plus Standard and Quick4 Plus Standard LP chamber length is 4.0 ft. (per chamber). Add length to each trench for endcaps. See Products Section for the lengths of Quick4 Plus All-in-One and Quick4 Plus Endcaps.

## Conventional Gravity Trench Configurations

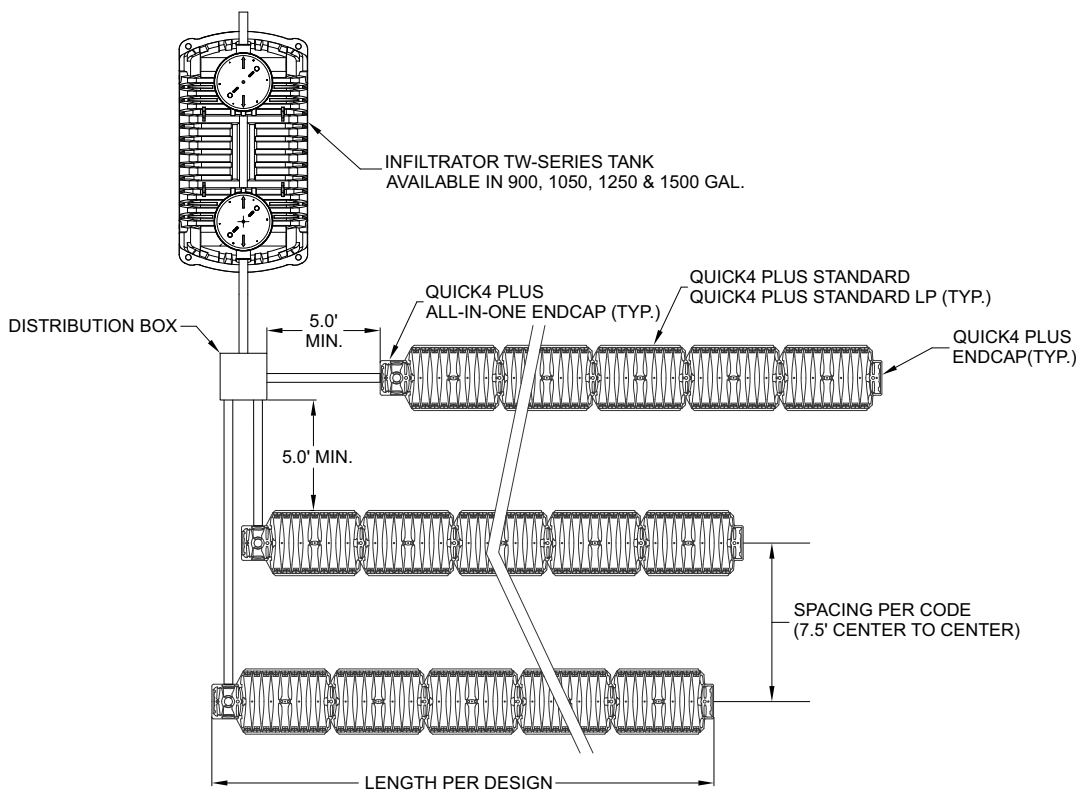
### CROSS SECTION (TYP.)

(Not to scale)



### SIDE INLET PLAN VIEW (TYP.)

(Not to scale)

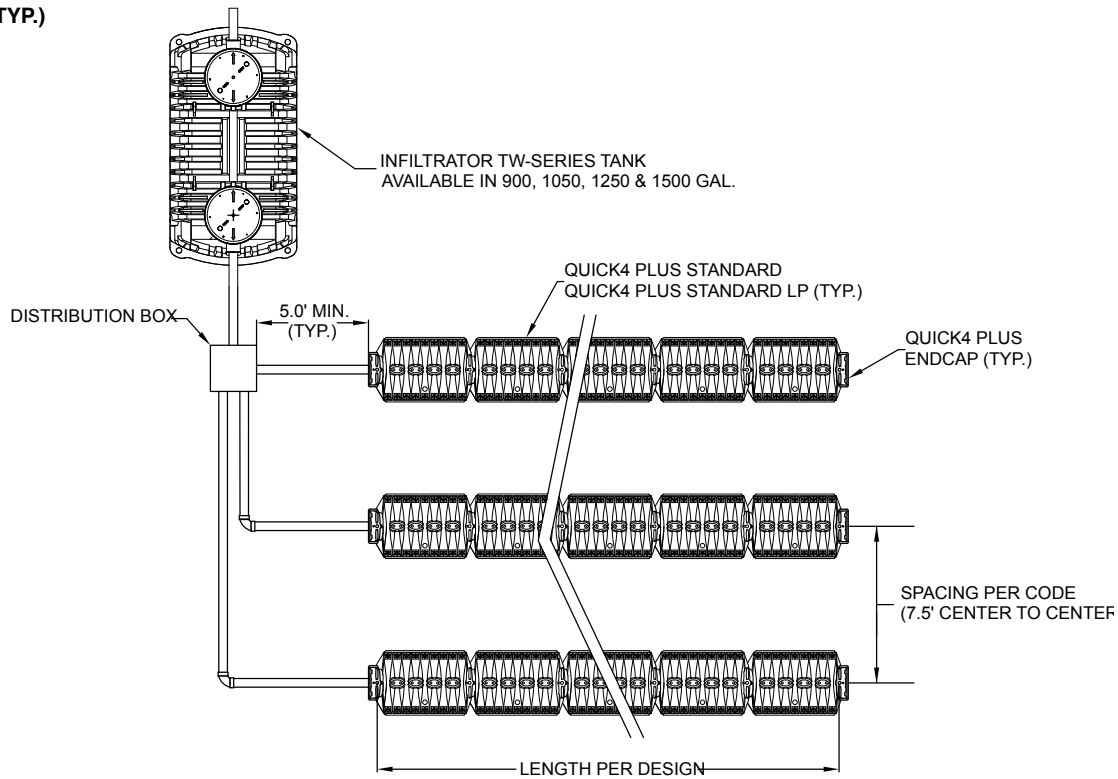


*Note: A dose tank is required when field is in excess of 500 LF.*



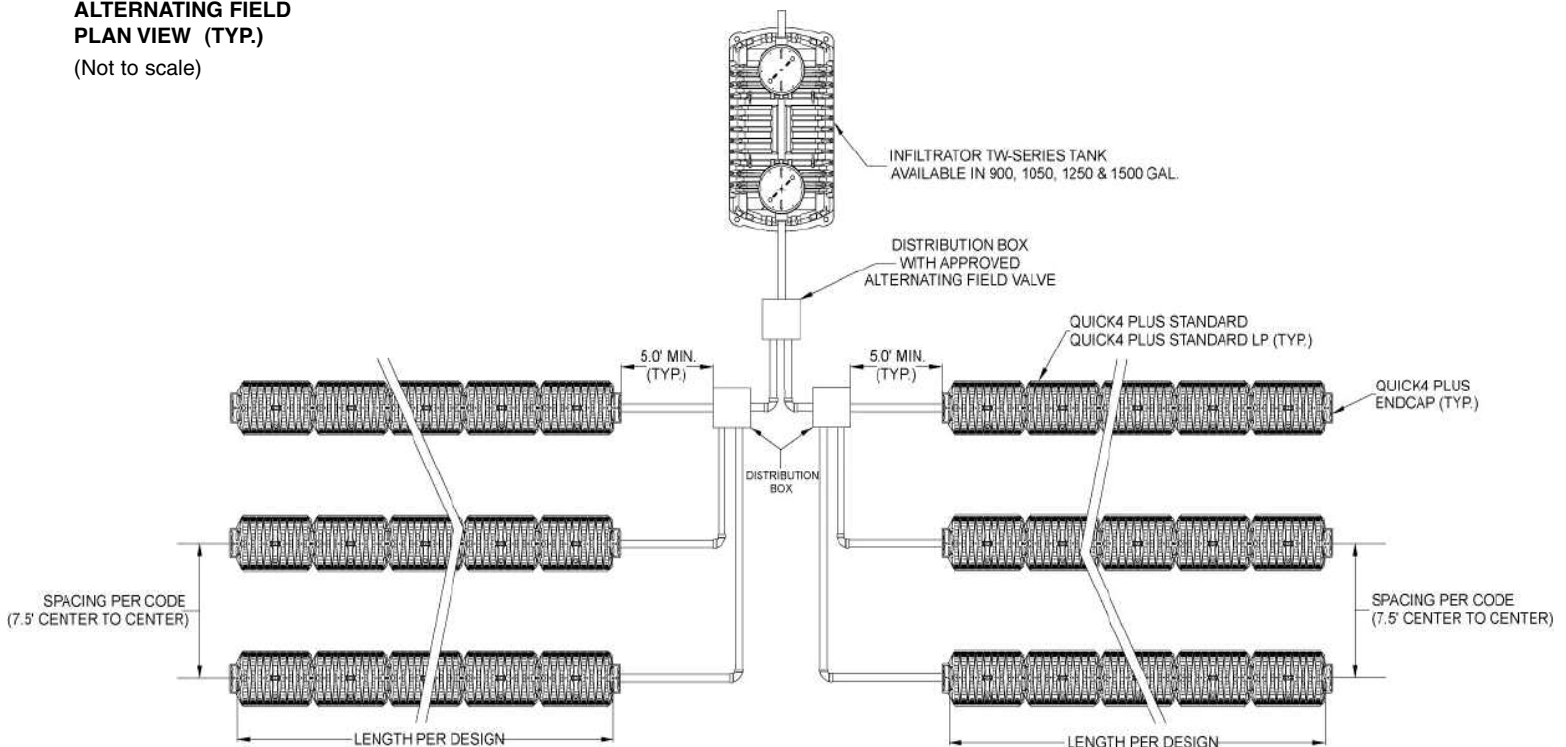
## Conventional Gravity Trench Configurations

**CONVENTIONAL INLET  
PLAN VIEW (TYP.)**  
(Not to scale)



*Note: A dose tank is required when field is in excess of 500 LF.*

**ALTERNATING FIELD  
PLAN VIEW (TYP.)**  
(Not to scale)

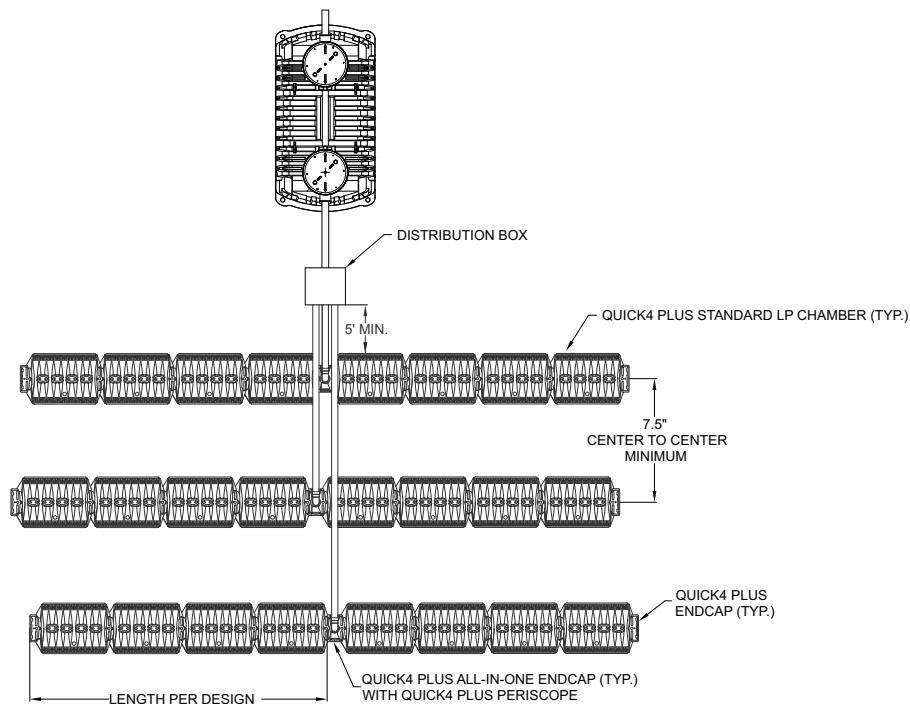


*Note: A dose tank is required when either side of the field is in excess of 500 LF.*

## Mid-line Connection Configuration

PLAN VIEW (TYP.)

(Not to scale)

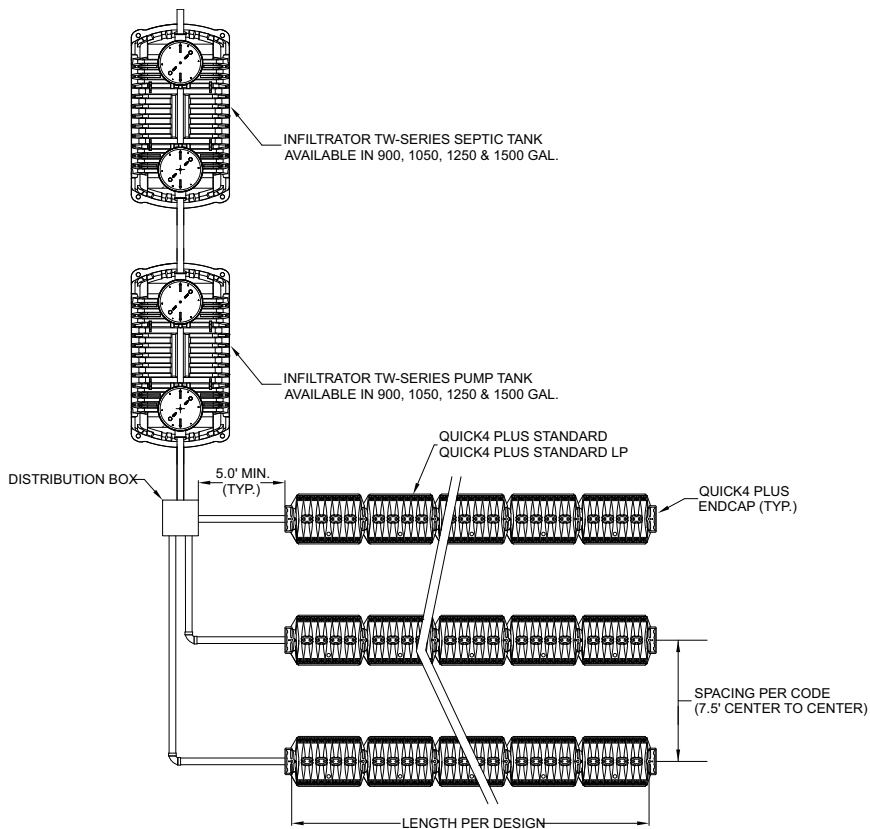


Note: A dose tank is required when field is in excess of 500 LF.

## Flood Dose Trench Configuration

PLAN VIEW (TYP.)

(Not to scale)

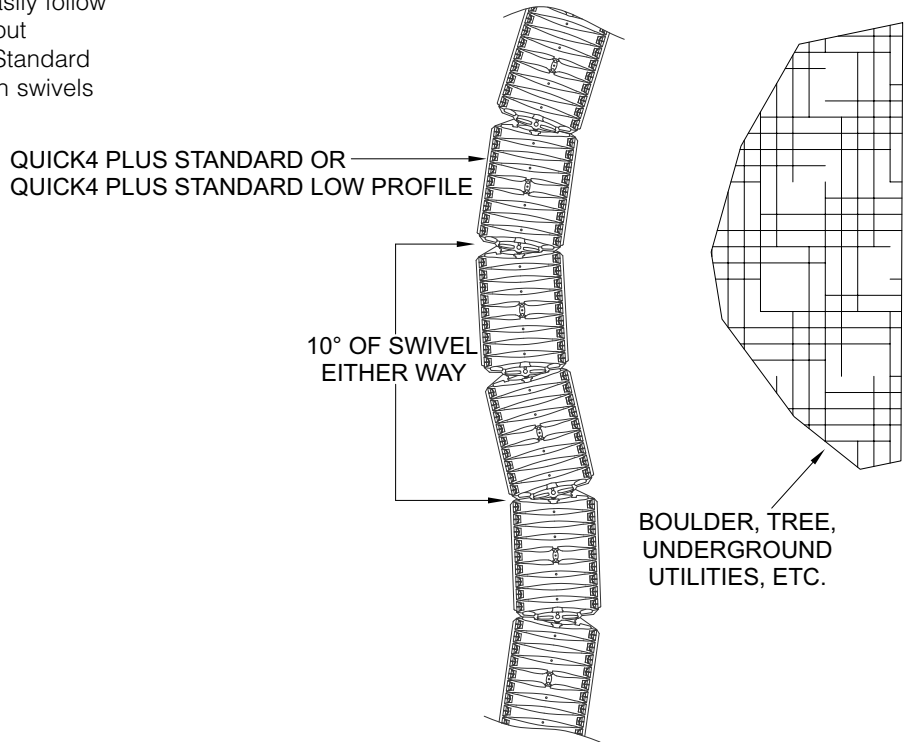


## Turn Design Configuration

### Contour Swivel Connection™

Quick4 Plus chambers feature the Contour Swivel Connection, which allows systems to be installed on contour on sloping sites while avoiding obstructions. The chamber easily follow contours or an "S" curve, avoiding obstacles without additional parts or accessories. The Quick4 Plus Standard and Quick4 Plus Standard LP chamber connection swivels 10 degrees right or left (see drawing).

PLAN VIEW (TYP.)  
(Not to scale)



## Gravity Systems

### Before You Begin

These instructions are for the installation of Quick4 Plus Standard and Quick4 Plus Standard LP chambers in Indiana. These chambers may only be installed according to 410 IAC 6-8.1 and department standards, and local health department ordinances and procedures.

If unsure of the installation requirements for a site, contact your local health department. If unsure of the use of Quick4 Plus Standard and Quick4 Plus Standard LP chambers, contact Infiltrator Systems, Inc. The soil and site evaluation and the design of the onsite system must be reviewed, and a construction permit obtained from the local health department before installation.

#### Materials and Equipment Needed

- Quick4 Plus Chambers
- Quick4 Plus Endcaps
- Quick4 Plus All-in-One Endcaps
- PVC Pipe and Couplings
- Backhoe
- Laser, Transit or Level
- Tape measure
- Shovel and Rake
- Utility Knife
- 1 1/4-inch Drywall Screws\*
- Screw Gun\*
- Small Valve-cover Box\*
- 4-inch Cap Inspection Port
- \* 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.
- When installing in sandy soil conditions, wheeled construction equipment is prohibited from crossing trenches during backfilling. Use of tracked vehicles is approved and recommended with only 6" of cover.
- Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

### Excavating and Preparing the Site

*Note: Per Indiana Department of Public Health requirements, soils absorption fields may not be installed during periods when the soil is sufficiently wet to exceed its plastic limit, as this causes machinery to smear the soil. Before installation of chambers, the installer must perform, and the soils must pass soil plasticity tests. Soil plasticity tests include the evaluation of soil samples throughout the chamber system footprint, from the surface to the depth of installation, to assure that the plastic limit of the soil is not exceeded. The plastic limit of a soil is exceeded when the soil can be rolled between the palms of the hands to produce threads one-eighth (1/8) inch in diameter that do not easily break apart or crumble.*

1. Stake out location of all trenches and lines. Set 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 36" wide trenches with proper center-to-center separation. Verify that trenches are level.

*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 End Cap

*Note: Quick4 Plus and Quick4 Plus All-in-One Endcaps are available for use with the Quick4 Plus chambers on either end of the trench, depending upon installer's preference and configuration requirements.*

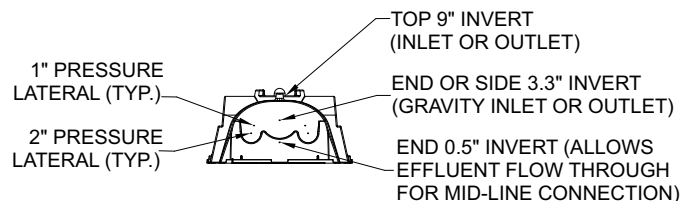
1. With a hole saw drill an opening appropriate for pipe diameter being used on front or side of end cap using center point marking (see illustration below) as a guide.



Drill end cap.

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

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



### Installing the Quick4 Plus Periscope

*Note: Available for use with Quick4 Plus All-in-One Endcap only. Invert options based on system design.*

1. With a hole saw drill the pre-marked area on top of the Quick4 Plus All-in-One Endcap.



1 Drill Quick4 Plus Periscope.

2. Insert the Quick4 Plus Periscope into the top of the Quick4 Plus All-in-One Endcap. Insert the Quick4 Plus Periscope until it snaps into place.



2 Insert Quick4 Plus Periscope.

3. Insert a 4" Schedule 40 PVC pipe into the Quick4 Plus Periscope at the appropriate locations for the system design.



3 Connect inlet pipe.

4. Rotate Quick4 Plus Periscope to desired angle.



4 Rotate to desired angle.

### Installing the System

1. Check the inlet pipe to be sure it has the prescribed slope.

2. Place the first chamber in the trench, orienting the "Inlet End" marking on the chamber where the inlet will be installed.

3. Place the back edge of the end cap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and end cap.



3 Place end cap inlet end.

4. Insert the inlet pipe 2.5 inches into the opening on the front of the end cap. Insert fully to the internal pipe stop.



4 Insert inlet pipe.

5. Lift and place the end of the next chamber onto the previous chamber by holding it 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 the chamber to the ground to connect the chambers.



5 Connect chambers.

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

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

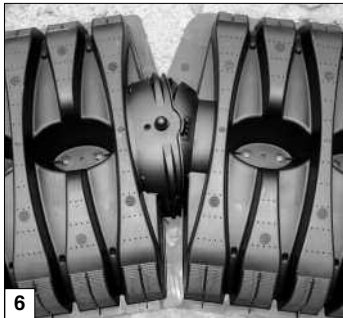
*Note: The chamber allows up to 10-degree swivel in either direction at each joint.*

**7.** Continue connecting 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 end cap. Lift the end cap at a 45-degree angle and align the connector hook on the top of the chamber with the raised slot on the top of the end cap. Lower the end cap to the ground and into place.

*Note: Place a few shovels of soil around the end cap to secure it during backfill.*



Swivel chambers.



Place end cap outlet end.

**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 fill by walking along the edges of trench and chambers.

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

**11.** Proceed to the next trench and begin with Step 1.

## Installing Quick4 Plus All-in-One Endcap as a Mid-line Connection

**1.** With a hole saw drill an opening appropriate for the pipe diameter being used on the side (3.3" invert) or on top (9.0" invert) of the Quick4 Plus All-in-One Endcap.



Drill sides or top of All-in-One Endcap.

**2.** With a hole saw, drill an opening on the end of the Quick4 Plus All-in-One Endcap to create an invert at 0.5 inches. This will allow effluent to fill both sides of the chamber line.

**3.** Snap off the molded splash plate located on the bottom front of the end cap.

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

**5.** Place the back edge of the end cap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and end cap.

*Optional: Fasten the end cap to the chamber with a screw at the top of the end cap.*

**6.** Insert the connection pipe 2.5 inches into the opening on the endcap. Insert fully to the internal pipe stop.



Drill end of All-in-One Endcap.



All-in-One as mid-line connection.

## Installing Inspection Ports

*Inspection ports may be installed on the chamber or the Quick4 Plus All-in-One Endcap. The Quick4 Plus Endcap does not allow inspection port construction. For mid-line inspection ports, use the Quick4 Plus All-in-One Endcap installed between two chambers as shown above.*

### Quick4 Plus All-in-One Inspection Port

**1.** With a hole saw drill the pre-marked area in the top of the Quick4 Plus All-in-One Endcap to create a 4-inch opening.

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

*Note: The sleeve will accommodate up to a 4-inch Schedule 40 pipe.*



All-in-One inspection port.

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 the inspection port is below the desired grade.

*Note: With a 4-inch hole drilled at the base of the Quick4 Plus All-in-One Endcap, the invert is 0.5 inches. This invert may cause effluent to periodically pond behind the 0.5-inch-high lip of plastic.*

**Chamber Inspection Port**

1. With a hole saw drill the pre-marked area in the top of the chamber to create a 2.5-inch opening.
2. Set a cut piece of pipe of the appropriate length into the corresponding chamber's inspection port sleeve.



*Chamber inspection port.*

*Note: The sleeve will accommodate up to a 2.5-inch Schedule 40 pipe.*

3. Use two screws to fasten the pipe through the chamber dome.

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 the 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 consolidated cover over the chambers before driving over the system.

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

2. It is best to mound several inches of soil over the finished grade to allow for settling, creating a slight crowned surface. This ensures that runoff water is diverted away from the system.

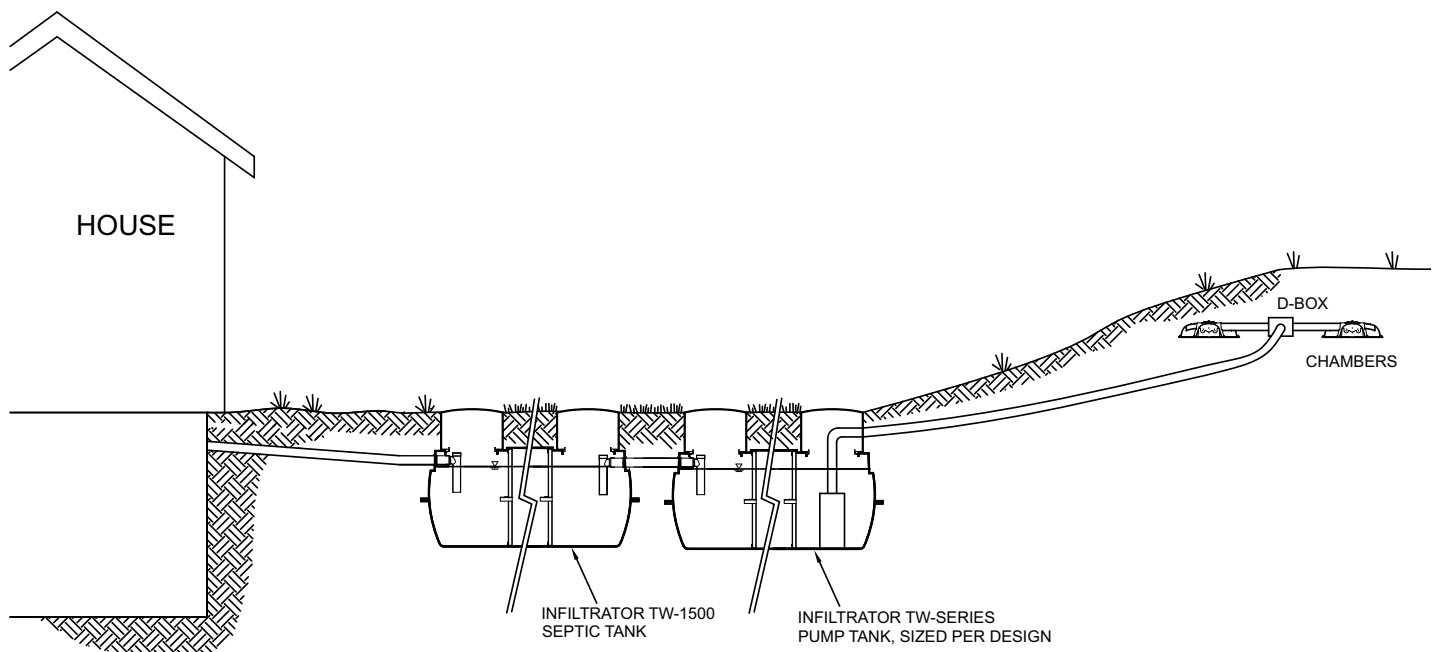
3. After the system is covered, the site should be seeded or sodded to prevent erosion.

*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 system location so they will not cross it with equipment or vehicles.*

**Flood Dose Systems**

In a flood dose onsite system, the effluent is pumped to a distribution box which receives a predetermined dose volume of effluent. It is then gravity fed to the soil absorption field and distributed to the chamber trenches. In a flood dose onsite system, the effluent is gravity fed as shown in the figure below.

**FIGURE 2: FLOOD DOSE ONSITE SYSTEM**



## Pressure Systems

### Before You Begin

These instructions are for the installation of Quick4 Plus Standard and Quick4 Plus Standard LP chambers in Indiana. These chambers may only be installed according to 410 IAC 6-8.1 and department standards, and local health department ordinances and procedures.

If unsure of the installation requirements for a site, contact your local health department. If unsure of the use of Quick4 Plus Standard and Quick4 Plus Standard LP chambers, contact Infiltrator Systems, Inc. The soil and site evaluation and the design of the onsite system must be reviewed, and a construction permit obtained from the local health department before installation.

#### Materials and Equipment Needed

- Quick4 Plus Chambers
- Quick4 Plus Endcaps
- Quick4 Plus All-in-One Endcaps
- PVC Pipe and Couplings
- Backhoe
- Laser, Transit or Level
- Tape measure
- Shovel and Rake
- Utility Knife
- 1 1/4-inch Drywall Screws\*
- Screw Gun\*
- Small Valve-cover Box\*
- 4-inch Cap Inspection Port
- \* Optional*

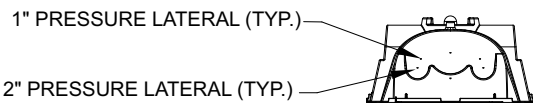
#### These guidelines for construction machinery must be followed during installation:

- 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.
- When installing in sandy soil conditions, wheeled construction equipment is prohibited from crossing trenches during backfilling. Use of tracked vehicles is approved and recommended with only 6" of cover.
- Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

### Installing Chambers and End Caps

*Note: Pressurized systems can be constructed with either the Quick4 Plus All-in-One or Quick4 Plus 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 a paving block at the bottom of the trench to protect the infiltrative surface from erosion.



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



Drill pressure pipe hole.

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

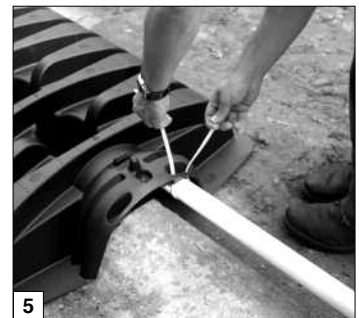
4. With the pressure lateral pipe through the end cap, place the back edge of the end cap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and end cap.

*Note: Health departments may require a wet-run pressure check to be done prior to chamber installation when the pipe is laying on the ground. Check with your local health department for the proper procedure.*



Place end cap over inlet end.

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.



Secure pressure pipe.

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 end cap, it may be necessary to remove the tongue of the connector hook on the last chamber with a pair of pliers depending on your pipe diameter.



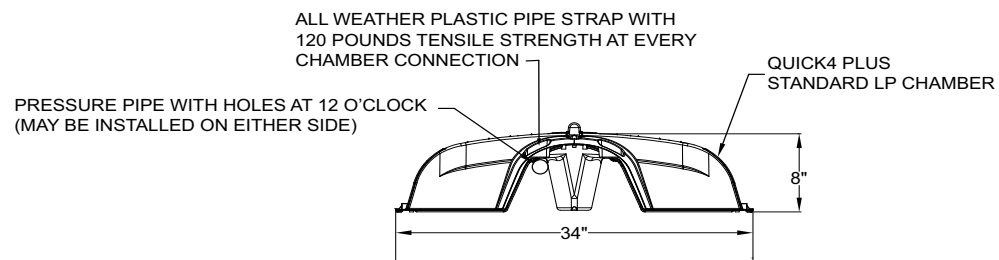
10. Insert the pressure lateral pipe through the hole in the final end cap and slide the end cap toward the last chamber. Lift the end cap over the modified connector hook and push straight down to secure it to the chamber.

Lateral pipe through end cap.



12. 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.

**PRESSURE DISTRIBUTION PIPE POSITION**



## TW-SERIES SEPTIC TANKS

The TW-Series Septic Tanks by Infiltrator Systems come in five different sizes: TW-375, TW-900, TW-1050, TW-1250, and TW-1500. These tanks may be used as a septic or pump tank. Tanks come in single or dual compartment configurations (except for the TW-375) and include access port lids and 4" diameter pipe grommets that accommodate SDR 35 or Schedule 40 pipe. Inlet and outlet tees are optional. *Note: Installation instructions are provided with tank.*

### **TW-375** **Nominal Specifications**

Size (W x L x H)	59.6" x 59.6" x 52.3"
Volume	375 gal
Access Ports (1)	24"



TW-375

### **TW-900** **Nominal Specifications**

Size (W x L x H)	66" x 110.4" x 50.6"
Working Volume	900 gal
Access Ports (2)	24"



TW-900

### **TW-1050** **Nominal Specifications**

Size (W x L x H)	66" x 123.7" x 50.6"
Working Volume	1050 gal
Access Ports (2)	24"



TW-1050

### **TW-1250** **Nominal Specifications**

Size (W x L x H)	66" x 143.7" x 50.6"
Working Volume	1250 gal
Access Ports (2)	24"



TW-1250

### **TW-1500** **Nominal Specifications**

Size (W x L x H)	66" x 170.4" x 50.6"
Working Volume	1500 gal
Access Ports (2)	24"



TW-1500

The Aquaworx Intelligent Pump Control (IPC) Panels provide an innovative approach to pump control. Relying on an embedded microprocessor in the pump controller and a floatless pressure transducer in the pump chamber, the IPC Panels monitor liquid levels, control pumping time intervals, and log events in real-time. The IPC line of panels is designed for timed dosing but can easily be set up to accommodate demand dosing. The IPC Panel utilizes the Mountable and Removable Controller (MARC™) as the user interface to collect system data and transfer it to a PC-based application using a Scan Disk (SD) card.

#### **Benefits Include:**

##### **Pressure Transducer Technology**

- Eliminates the troubles associated with floats
- Accurate to 0.1 of an inch
- Single wire reduces installation time and eliminates the need for a junction box

##### **Mountable and Removable Controller (MARC)**

- Simple and logical user interface
- Removable to protect against tampering
- Single unit may be used on multiple pumps

##### **Data Logging**

- Records real-time events including pump run time, which can be used to calculate flow volume
- SD card records up to 4,000 events

##### **Micro Processor**

- Circuit board allows for time dosing to extend system performance

##### **Solid-State Relay Technology**

- Provides a soft ramp up of power
- Eliminates the hard start and noise of a motor contactor

## **Models:**

### **Simplex IPC Panel**

The Simplex IPC Panel has the ability to time control a single pump. This panel comes with a MARC.



### **Duplex IPC Panel**

The Duplex IPC Panel has the ability to control two pumps in an alternating design with independent timing. This panel comes with MARC.



### **Sand Filter IPC Panel**

The Sand Filter IPC Panel has the ability to time control two individual pumps having independent level sensors, allowing for a design which will simultaneously time dose a treatment system and drainfield. This panel comes with a MARC.

(a) Infiltrator warrants that each Quick4 Standard chamber and end cap manufactured by Infiltrator (collectively, the "Units"), when installed and operated in a leachfield of an onsite septic system of a single family residence in accordance with Infiltrator's instructions, for a period of five (5) years from the date of installation (i) shall be free from defective materials and workmanship; and (ii) shall perform in such a manner to absorb effluent within the design flow rate for the septic system containing the Units, so that there will be no sewage backup into the dwelling or structure which uses the septic system, or visible pooling of effluent around the system. The presence of such sewage backup or such visible pooling shall constitute a "Failure" of the system. This Limited Warranty covers new, permitted leachfield installations only, and does not cover extensions or additions to existing leachfields. This Limited Warranty extends only to the original purchasing contractor. For this Limited Warranty to apply, the Units must be installed in accordance with all necessary permits and in accordance with all site conditions required by state and local codes for the installation of gravel and pipe systems, and must be sized according to Infiltrator specifications and state, county and local requirements.

In order to exercise these Limited Warranty rights, the warranty holder must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of any alleged defect or Failure. The notice shall be accompanied by (i) a copy of the appropriate permit for the septic system; and (ii) proof to Infiltrator's satisfaction that the septic tank has been pumped at least once every three (3) years since installation. Upon notification of a possible breach of warranty, Infiltrator may undertake an investigation of the circumstances of the possible breach. In its discretion, Infiltrator may perform tests to determine the cause of any breach and may hire a soil scientist or professional engineer or use Infiltrator personnel to evaluate soil conditions and otherwise assist in the investigation.

In the event that Infiltrator determines that there has been a breach of this Limited Warranty due to a Failure, Infiltrator will, at its option, either: provide Units as it deems necessary to extend the size of the leachfield and a fee of \$8.00 per Unit toward the cost of installation; or provide an equivalent, state-approved solution to cure the breach. Infiltrator will not be responsible for pumps or any other necessary mechanical devices needed to extend or repair the leachfield following a Failure, nor shall Infiltrator be liable for the addition of pump systems or underground water diversion systems, or repair or replacement of any landscape or irrigation systems, following a Failure.

In the event of any other breach of this Limited Warranty, Infiltrator will, at its option, either: provide replacement Units for Units determined by Infiltrator to be defective and a fee of \$8.00 per Unit toward the cost of installation; or provide an equivalent state-approved solution to cure the breach.

Infiltrator's liability under this Standard Limited Warranty specifically excludes any other cost of removal and/or installation of the Units.

(b) THIS LIMITED WARRANTY AND THE REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES TO THE ORIGINAL PURCHASING CONTRACTOR 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, end cap 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 warranty holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to Acts of God; 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 cover 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 warranty holder fails to comply with all of the terms set forth in this Limited Warranty, including the information required by subparagraph (a).

Furthermore, in no event shall Infiltrator be responsible for any loss or damage to the warranty holder, the Units, or any third party resulting from installation (except as expressly set forth in subparagraph (a) or shipment, or from product liability claims of the warranty 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 written 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 purchasing contractor.



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