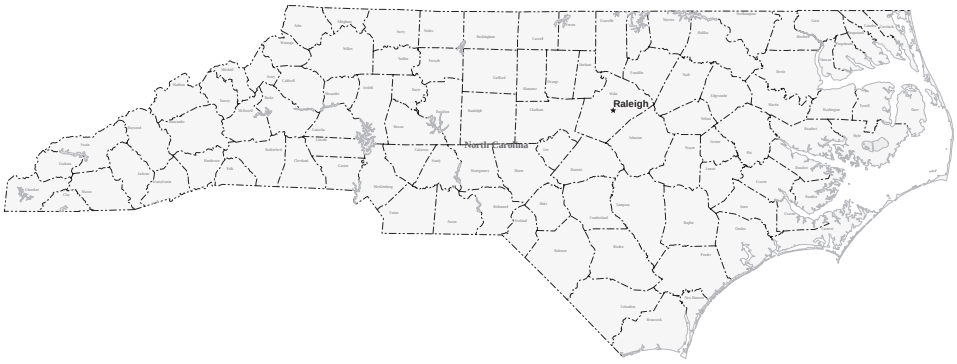
INFILTRATOR
water technologies

North Carolina

Design and Installation Manual for Infiltrator Chambers in North Carolina



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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 Plus chambers in North Carolina.

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

North Carolina

INTRODUCTION

This Design and Installation Manual for Infiltrator Chambers in North Carolina presents common allowable chamber bed and trench system designs. This document is not intended to show all conceivable and allowable Infiltrator Water Technologies (Infiltrator) chamber configurations. For the full scope of allowable Quick4 chamber systems in North Carolina, refer to the applicable accepted or innovative wastewater approval issued by the North Carolina Department of Health and Human Services. A summary of approvals and corresponding chamber models is presented on page 4.

Quick4 Chambers

Quick4 Plus Standard, Quick4 Plus Standard LP, and Quick4 High Capacity chambers fit into a 36-inch-wide trench. The Quick4 Plus Standard LP chamber is 4 inches shorter than the other standard chamber model, allowing for shallower installation. The Quick4 Plus line of endcaps is available with these chambers, providing increased flexibility in system configurations. All chambers can be installed in a conventional bed system (15A NCAC 18A.1955). Quick4 Plus Standard and Quick4 Plus Standard LP chambers can be installed in bed-in-fill systems (15A NCAC 18A. 1955). Ask your local Infiltrator sales representative for specific information on various system-inletting options.

Quick4 Plus Standard Nominal Chamber Specifications

Size:	34”W x 48”L x 12”H
Storage Capacity:	45 gal
Invert Elevation:	5.3”, 8”
Trench Equivalency Rating/Sizing:	4.0 ft²/lf
Bed Equivalency Rating/Sizing:	3.0 ft²/lf
Minimum Trench Spacing:	9 ft on center

QUICK4 PLUS STANDARD



Quick4 Plus Standard Low Profile (LP) Nominal Chamber Specifications

Size:	34”W x 48”L x 8”H
Storage Capacity:	32 gal
Invert Elevation:	3.3”, 9”
Trench Equivalency Rating/Sizing	3.0 ft²/lf
Bed Equivalency Rating/Sizing:	3.0 ft²/lf
Minimum Trench Spacing:	9 ft on center

QUICK4 PLUS STANDARD LOW PROFILE (LP)



Quick4 Equalizer 36 Chamber Nominal Specifications

Size	22”W x 48”L x 12”H
Storage Capacity	32 gal
Invert Elevation	6”
Trench Equivalency Rating/Sizing	3.0 ft²/lf
Minimum Trench Spacing:	6 ft on center

QUICK4 EQUALIZER 36



Quick4 High Capacity Chamber Nominal Specifications

Size	34”W x 48”L x 16”H
Storage Capacity	62 gal
Invert Elevation	11.5”
Trench Equivalency Rating/Sizing	4.0 ft²/lf
Minimum Trench Spacing:	9 ft on center

QUICK4 HIGH CAPACITY



INTRODUCTION

Quick4 Equalizer 24 Chamber Nominal Specifications

Size	16”W x 48”L x 11”H
Storage Capacity	20.8 gal
Invert Elevation	6”
Trench Equivalency Rating/Sizing	2.0 ft²/lf
Minimum 24” Trench Spacing:	6 ft on center
Minimum 18” Trench Spacing:	5 ft on center

QUICK4 EQUALIZER 24



Infiltrator IM-Series Tanks		
Tank	 **IM-1060**	 **IM-1530**
Applications	Suitable for use as a pump tank, 2-compartment septic tank or rainwater storage tank, shallow, multiple, and serial tank configurations.	Suitable for use as a pump tank, 2-compartment septic tank or rainwater storage tank, shallow, multiple, and serial tank configurations.
Working Capacity	1,094 gal	1,537 gal
Total Capacity	1,287 gal	1,787 gal
Septic Tank Approval Number	STB-2071	STB-3000
Pump Tank Approval Number	PT-2077	PT-2096

STATE APPROVAL SUMMARY

Excerpt from AWWS 2005-01-R5. Accepted approval with 4.0 ft^2/lf for the Quick4 Plus Standard chamber model and sizing only. Allows for substitution of any conventional permits.

IX. Responsibilities and Permitting

A. The local health department shall permit these accepted system in an equivalent manner as a conventional system, when the requirements of 15A NCAC 18A .1900 et. Seq., laws, and conditions of this accepted system approval are met.

B. When use of one or more of these accepted systems is requested in the application for a Construction Authorization, the local health department shall include a design for the designated accepted system(s) in accordance with the approved siting, sizing, and design criteria on the Construction Authorization.

C. When a permit or authorization is issued for a conventional system, the permit or authorization shall contain a statement that indicates that an accepted system may also be used. These accepted systems may be installed without permit/authorization modification, prior approval of the health department, or separate sign-off, if the accepted system can be placed in the permitted/authorized trench footprint and the installation is in accordance with the accepted system approval, without unauthorized product alteration.

D. When substitution with one of these accepted systems for a conventional system or another accepted system is made, permit modification, prior approval of the health department or separate owner sign-off is not required as long as no changes are necessary in the location of each nitrification line (except reduction in line length and/or number as allowed for in this approval), trench depth, or effluent distribution method.

E. Notwithstanding paragraphs C and D above, when a substitution in system type compared to a previously permitted or authorized system type or types shall result in a change in the location of any nitrification line (including any increase in line length), trench depth, or effluent distribution method, prior approval by the local health department is required before system installation. The local health department shall modify the permit/authorization upon a finding that all provisions of this approval and all other applicable rules shall be met.

F. The type of system installed shall be indicated on the Operation Permit, including designation of the manufacturer and model or unique code.

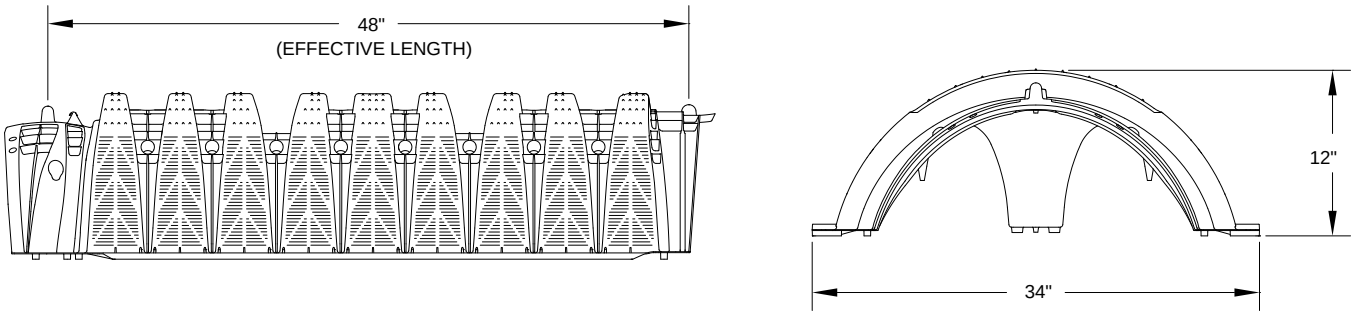
CHAMBER APPROVAL SUMMARY

Model	Accepted	Innovative
Quick4 Plus Standard	●[1]	●[2]
Quick4 Plus Standard LP		●[3]
Quick4 High Capacity		●[2]
Quick4 Equalizer 36		●[2]
Quick4 Equalizer 24		●[2]

NOTES:
1. AWWS 2005-01-R5
2. IWWS-1993-2-R17
3. IWWS-2010-1-R5
4. Wastewater system approval revision numbers subject to change.

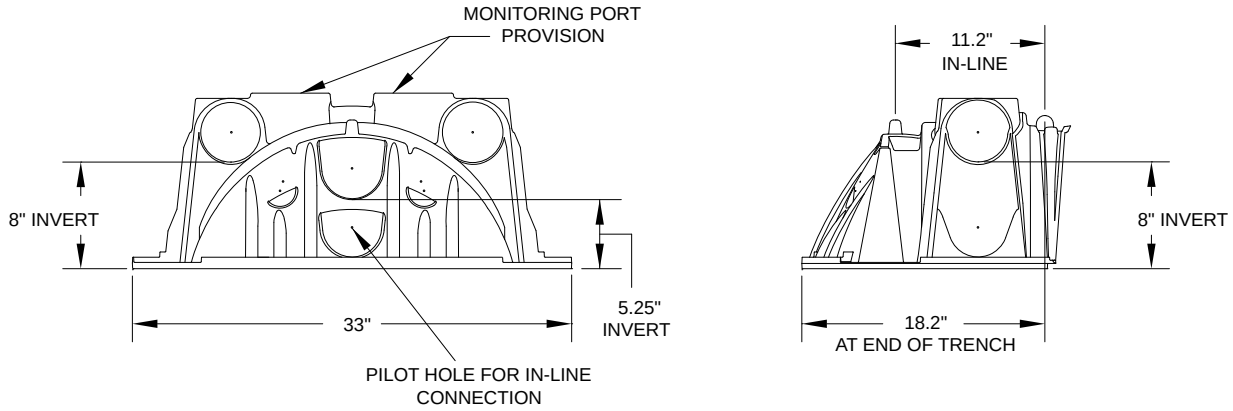
Quick4 Plus Standard Chamber

SIDE AND END VIEWS (not to scale)



Quick4 Plus All-in-One12 Endcap

SIDE AND END VIEWS (not to scale)

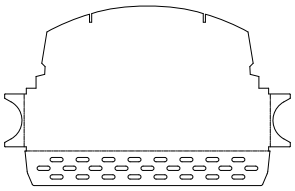


NOTES:

For use with the Quick4 Plus Standard Chambers.

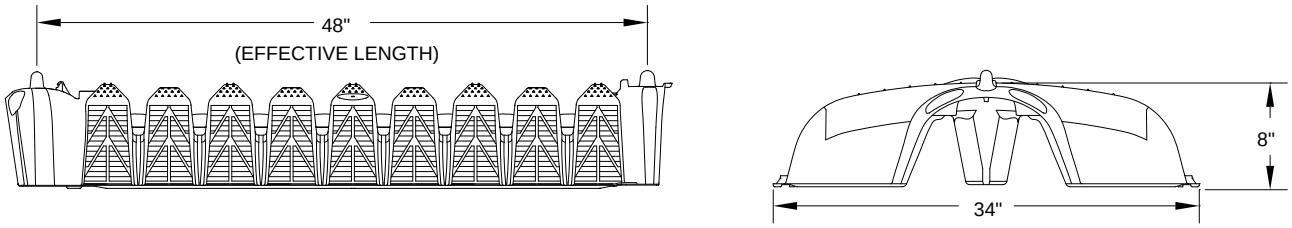
Quick4 Plus Standard High Flow Splash Plate

FLAT VIEW (not to scale)



Quick4 Plus Standard LP Chamber

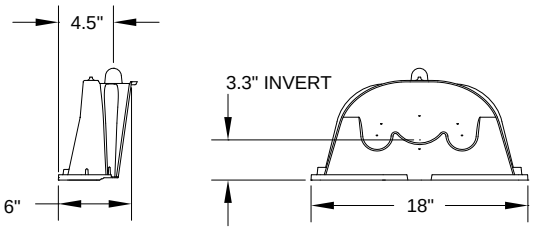
SIDE AND END VIEWS (not to scale)



NOTE: The Quick4 Plus Standard LP Chamber is compatible with the Quick4 Plus 8 Endcap and Quick4 Plus All-in-One 8 Endcap.

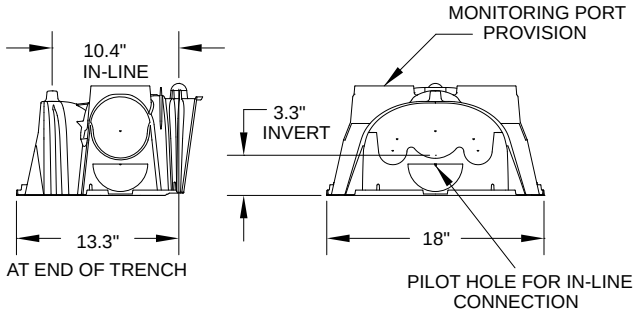
Quick4 Plus 8 Endcap

SIDE AND END VIEWS (not to scale)



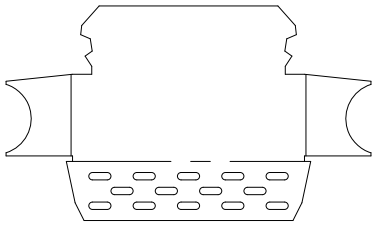
Quick4 Plus All-in-One 8 Endcap

SIDE AND END VIEWS (not to scale)



Quick4 Plus LP High Flow Splash Plate (not to scale)

Required when pumping into system



Sizing of Infiltrator Chamber Trench Systems for Residential

TABLE 1: 4 FT²/LF (25%) EQUIVALENCY RATING FACTOR – QUICK4 PLUS STANDARD OR QUICK4 HIGH CAPACITY CHAMBERS

Textural Group	Natural Soil LTAR (gpd. sq ft)	Stone & Pipe Conventional Trench			Quick4 Plus Standard or Q4 High Capacity Chambers					
		2 Bedroom Trench Length (ft)	3 Bedroom Trench Length (ft)	4 Bedroom Trench Length (ft)	2 Bedroom		3 Bedroom		4 Bedroom	
					Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required
Soil Group I Sands	1.0	80	120	160	60	15	90	23	120	30
	0.9	89	133	178	67	17	100	25	133	34
Soil Group II Coarse Loam	0.8	100	150	200	75	19	113	29	150	38
	0.7	114	171	229	86	22	129	33	171	43
Soil Group III Fine Loam	0.6	133	200	267	100	25	150	38	200	50
	0.5	160	240	320	120	30	180	45	240	60
	0.4	200	300	400	150	38	225	57	300	75
Soil Group IV Clays	0.3	267	400	533	200	50	300	75	400	100
	0.2	400	600	800	300	75	450	113	600	150
	0.1	800	1,200	1,600	600	150	900	225	1,200	300

TABLE 2: 3 FT²/LF EQUIVALENCY RATING FACTOR – QUICK4 PLUS STANDARD LOW PROFILE (LP) CHAMBER

Textural Group	Natural Soil LTAR (gpd. sq ft)	Stone & Pipe Conventional Trench			Quick4 Plus Standard Low Profile (LP) Chamber					
		2 Bedroom Trench Length (ft)	3 Bedroom Trench Length (ft)	4 Bedroom Trench Length (ft)	2 Bedroom		3 Bedroom		4 Bedroom	
					Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required
Soil Group I Sands	1.0	80	120	160	80	20	120	30	160	40
	0.9	89	133	178	89	23	133	34	178	45
Soil Group II Coarse Loam	0.8	100	150	200	100	25	150	38	200	50
	0.7	114	171	229	114	29	171	43	229	58
Soil Group III Fine Loam	0.6	133	200	267	133	34	200	50	267	67
	0.5	160	240	320	160	40	240	60	320	80
	0.4	200	300	400	200	50	300	75	400	100
Soil Group IV Clays	0.3	267	400	533	267	67	400	100	533	134
	0.2	400	600	800	400	100	600	150	800	200
	0.1	800	1,200	1,600	800	200	1,200	300	1,600	400

NOTES:

1. Required trench bottom area (sq ft) = design daily sewage flow (120 gallons per bedroom or 60 gallons per person, whichever is greater) / applicable long term acceptance rate (LTAR). The minimum daily sewage flow is 240 gallons per day.
2. Chamber trench sizing shall be calculated using the following ratings, Quick4 Plus Standard and Quick4 High Capacity at 4 ft²/lf, Quick4 Plus Standard LP at 3 ft²/lf.
3. To calculate the required trench bottom area (sq ft) sizing for additional bedrooms, multiply the number of bedrooms by 120 and divide by the applicable LTAR.
4. Trench lengths provided in Tables 1 and 2 do not include endcaps.
5. All innovative and accepted chamber drainfield products have a maximum LTAR limit of 1.0 gpd/sq ft for Group I soils. If the soil at a site could be approved for an LTAR, for a gravel system, of greater than 1.0 gpd/sq ft, it is acceptable for a chamber or polystyrene drainfield product to be used at a maximum LTAR of 1.0 gpd/sq ft. The 25% reduction does not apply to the Quick4 Plus Standard LP chamber.

Sizing of Infiltrator Trench Chamber Systems for Residential

TABLE 3: 3 FT²/LF EQUIVALENCY RATING FACTOR – QUICK4 EQUALIZER 36 CHAMBERS

Textural Group	Natural Soil LTAR (gpd. sq ft)	Stone & Pipe Conventional Trench			Quick4 Equalizer 36 Chambers					
		2 Bedroom Trench Length (ft)	3 Bedroom Trench Length (ft)	4 Bedroom Trench Length (ft)	2 Bedroom		3 Bedroom		4 Bedroom	
					Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required
Soil Group I Sands	1.0	80	120	160	80	20	120	30	160	40
	0.9	89	133	178	89	23	133	34	178	45
Soil Group II Coarse Loam	0.8	100	150	200	100	25	150	38	200	50
	0.7	114	171	229	114	29	171	43	229	58
Soil Group III Fine Loam	0.6	133	200	267	113	34	200	50	267	67
	0.5	160	240	320	160	40	240	60	320	80
	0.4	200	300	400	200	50	300	75	400	100
Soil Group IV Clays	0.3	267	400	533	267	67	400	100	533	134
	0.2	400	600	800	400	100	600	150	800	200
	0.1	800	1,200	1,600	800	200	1,200	300	1,600	400

TABLE 4: 2 FT²/LF EQUIVALENCY RATING FACTOR - QUICK4 EQUALIZER 24 CHAMBERS

Textural Group	Natural Soil LTAR (gpd. sq ft)	Stone & Pipe Conventional Trench			Quick4 Equalizer 24 Chambers					
		2 Bedroom Trench Length (ft)	3 Bedroom Trench Length (ft)	4 Bedroom Trench Length (ft)	2 Bedroom		3 Bedroom		4 Bedroom	
					Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required
Soil Group I Sands	1.0	80	120	160	120	30	180	45	240	60
	0.9	89	133	178	133	34	200	50	267	67
Soil Group II Coarse Loam	0.8	100	150	200	150	38	225	57	300	75
	0.7	114	171	229	171	43	257	65	343	86
Soil Group III Fine Loam	0.6	133	200	267	200	50	300	75	400	100
	0.5	160	240	320	240	60	360	90	480	120
	0.4	200	300	400	300	75	450	113	600	150
Soil Group IV Clays	0.3	267	400	533	400	100	600	150	800	200
	0.2	400	600	800	600	150	900	225	1,200	300
	0.1	800	1,200	1,600	1,200	300	1,800	450	1,600	600

NOTES:

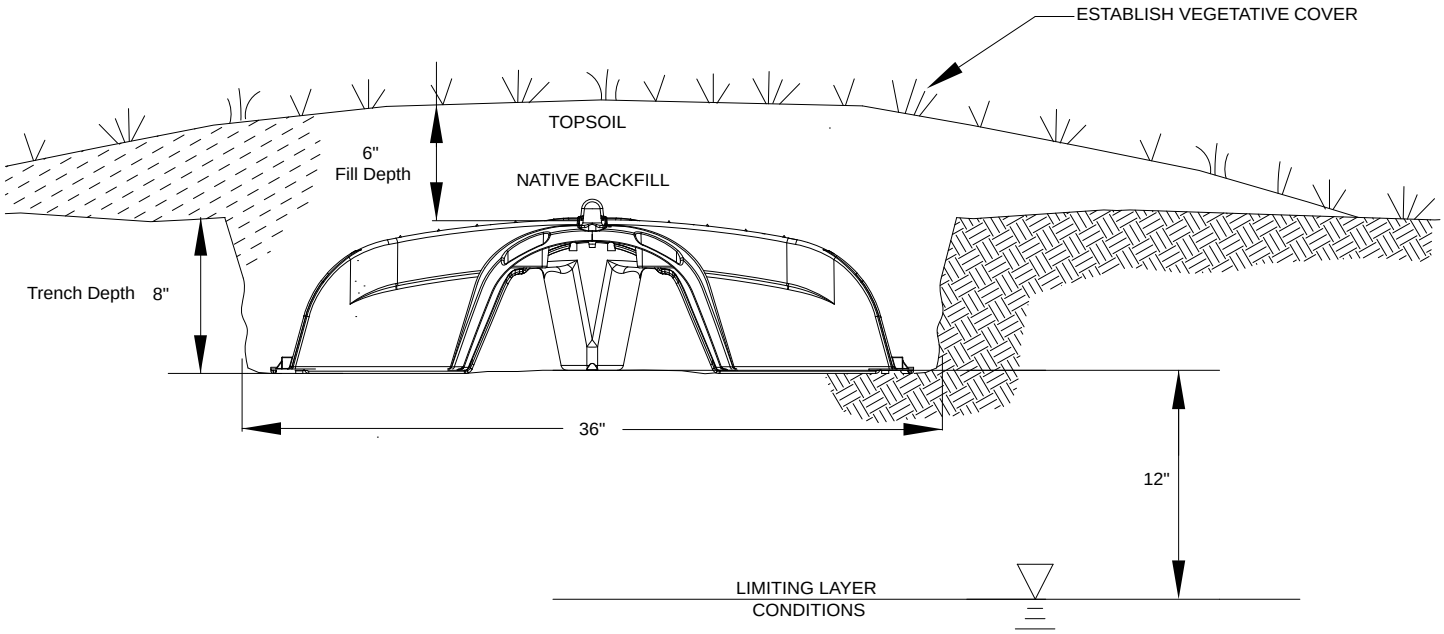
1. Required trench bottom area (sq ft) = design daily sewage flow (120 gallons per bedroom or 60 gallons per person, whichever is greater) / applicable long term acceptance rate (LTAR). The minimum daily sewage flow is 240 gallons per day.
2. Chamber trench sizing shall be calculated using the following ratings, Quick4 Equalizer 36 at 3 ft²/lf and Quick4 Equalizer 24 at 2 ft²/lf.
3. To calculate the required trench bottom area (sq ft) for additional bedrooms, multiply the number of bedrooms by 120 and divide by the applicable LTAR.
4. Trench lengths provided in Tables 3 and 4 do not include endcaps.
5. All innovative and accepted chamber drainfield products have a maximum LTAR limit of 1.0 gpd/sq ft for Group I soils. If the soil at a site could be approved for an LTAR, for a gravel system, of greater than 1.0 gpd/sq ft, it is acceptable for a chamber or polystyrene drainfield product to be used at a maximum LTAR of 1.0 gpd/sq ft.

Quick4 Plus Standard LP Chamber

- Quick4 Plus Standard LP chambers are sized at 1:1 with 3-foot-wide conventional gravel and pipe trenches and beds.
- Quick4 Plus Standard LP chambers are approved for statewide use.

Trench Detail

TYPICAL CROSS SECTION (not to scale)



NOTES:
1. Soil profiles referred to in this section are applicable to installations in soil groups II-IV. For installations in soil group I, 18 inches of vertical separation are required from the trench bottom to the limiting layer.

TABLE 6: Trench Equivalency Factors for Quick4 Endcaps and Mid-Line Connections

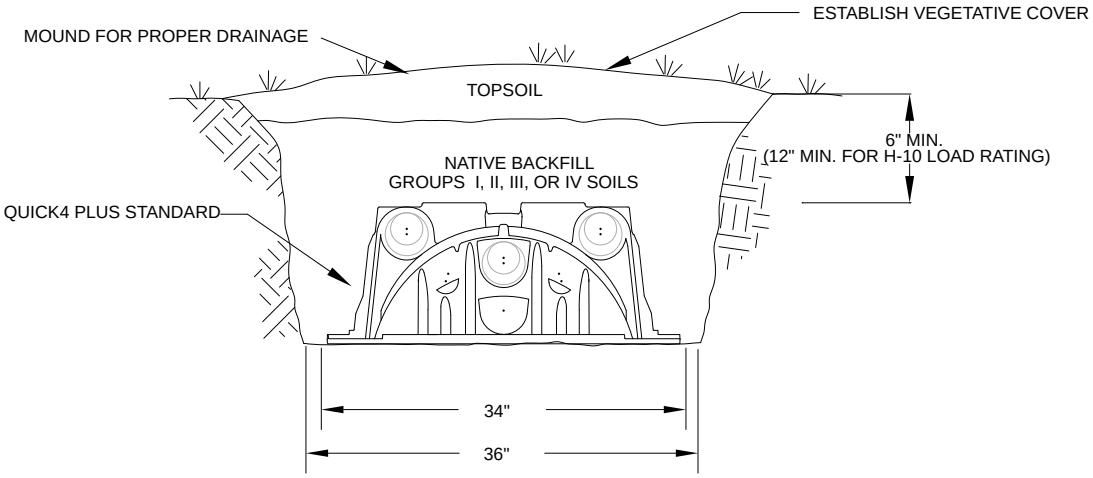
Product	Excavated Trench Width (inches)	Approved Chamber Equivalency Factor Linear Foot Basis[1] (ft^2/lf)	Linear Feet of Chamber Credit per Pair When Placed at Ends of Chamber Line (lf)[2]	Linear Feet of Chamber Credit per Unit when Placed as Mid-Line Connection (lf)[3]
Quick4 Plus Standard All-in-One 12 Endcap	36	4.0	2	1
Quick4 Plus Standard LP All-in-One 8 Endcap	36	3.0	1	1
Quick4 HC Multiport Endcap	36	4.0	2	NA
Quick4 Equalizer 36 Multiport Endcap	24	3.0	1	NA
Quick4 Equalizer 24 Multiport Endcap	18-24	2.0	1	NA

NOTES:
1. Actual linear foot equivalency rating of compatible chamber part.
2. Must install a minimum of two (2) endcap parts to get approved linear feet of chamber credit.
3. Single endcap part installed within chamber line receives one (1) linear foot of chamber credit.
4. Equivalency factors also apply to bed systems.

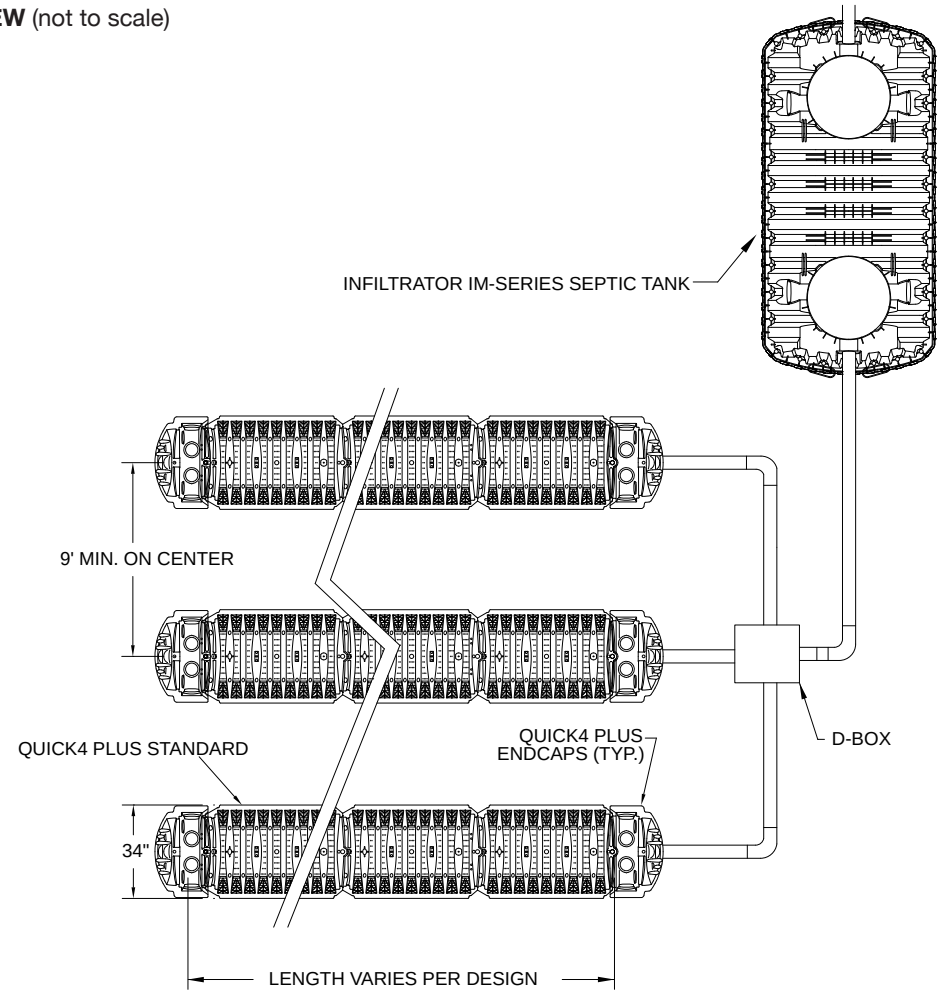
CHAMBER CONFIGURATIONS

Parallel Distribution

TYPICAL CROSS SECTION (not to scale)



TYPICAL PLAN VIEW (not to scale)

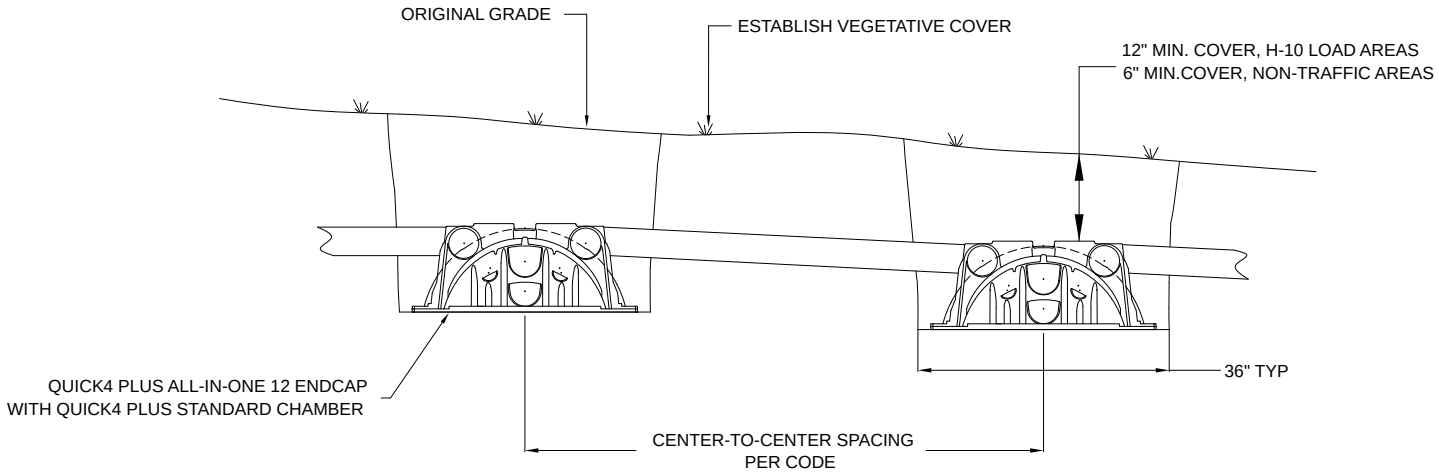


NOTES:

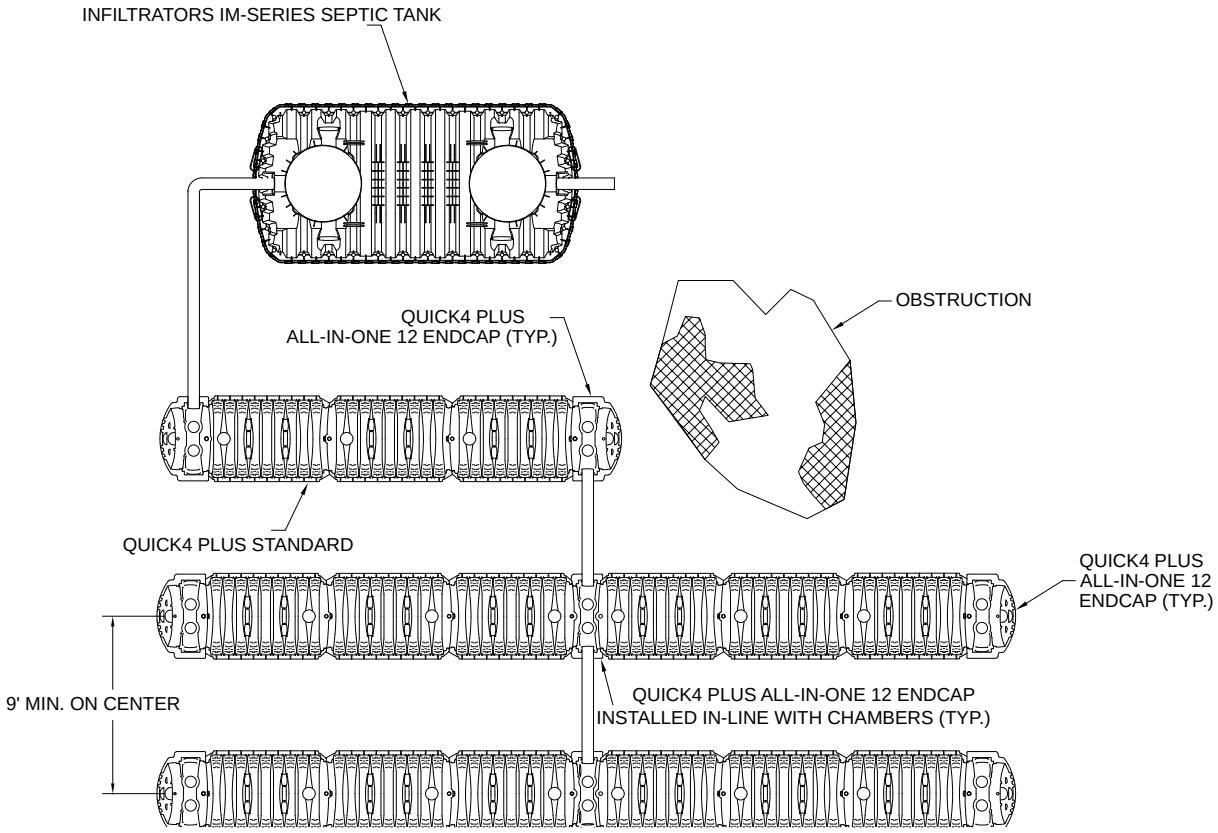
1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

Serial Distribution – Quick4 Plus Standard Chambers Cross Over on Hillside with Midline Connection

TYPICAL CROSS SECTION (not to scale)



TYPICAL PLAN VIEW (not to scale)

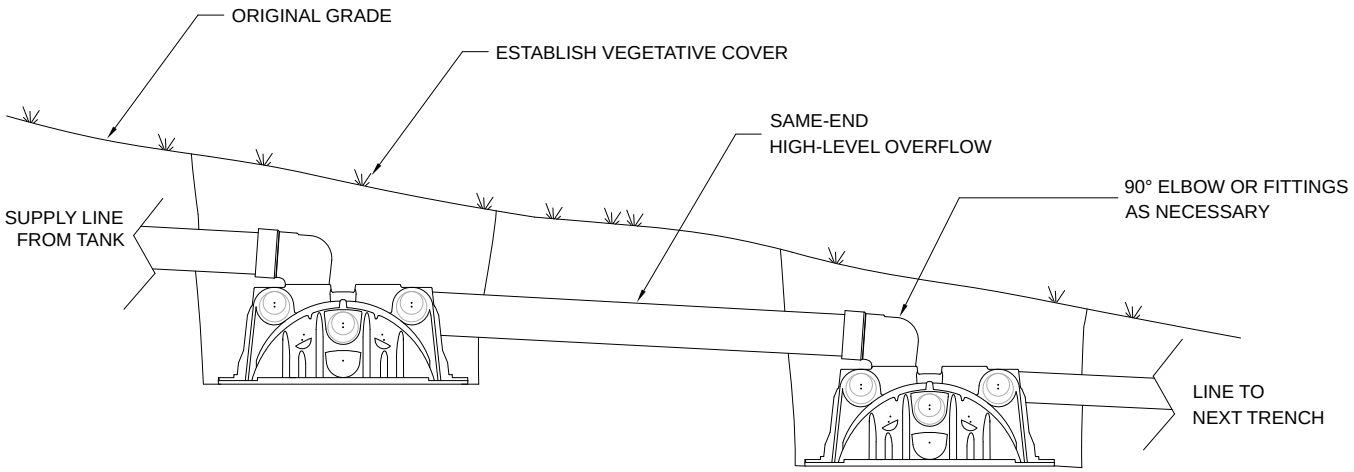


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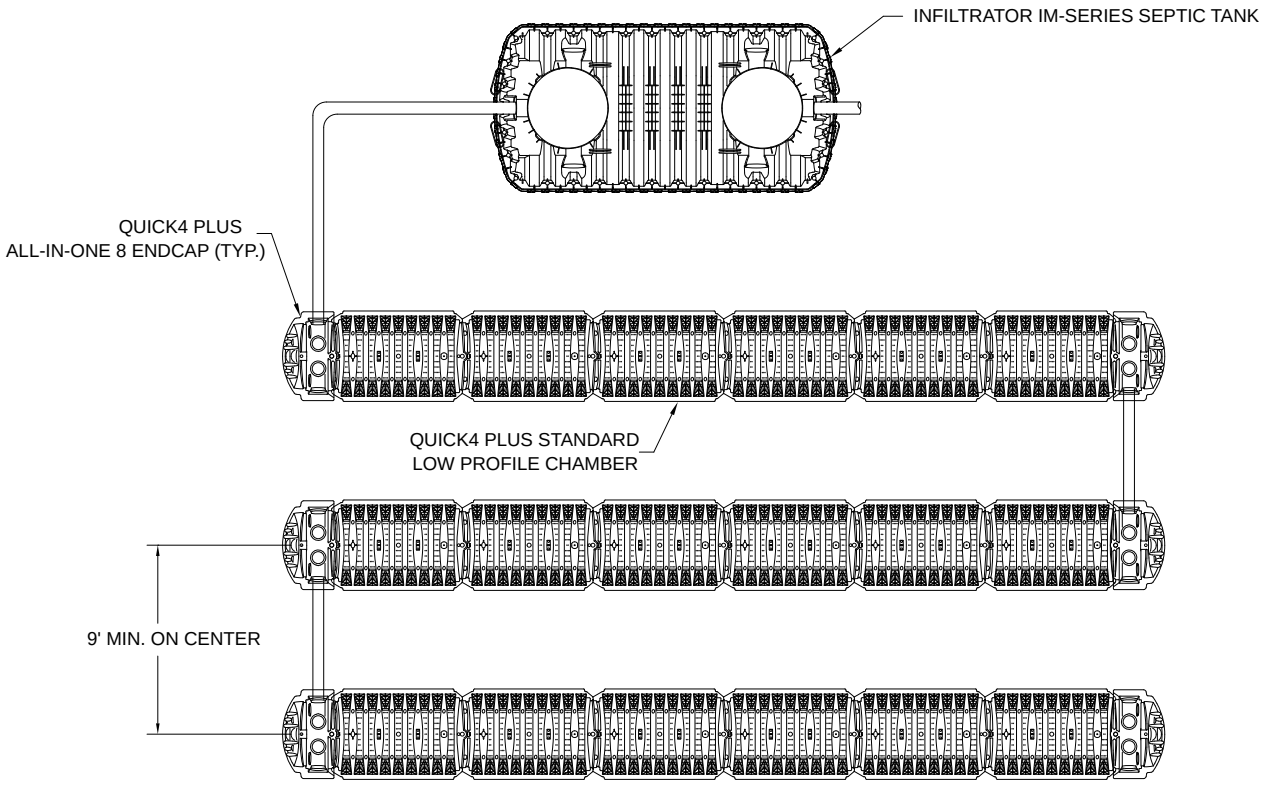
1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.
4. Chambers may be installed subsurface or at-grade.

Serial Distribution – Quick4 Plus Standard LP Chambers Using Alternating Ends

TYPICAL CROSS SECTION (not to scale)



TYPICAL PLAN VIEW (not to scale)

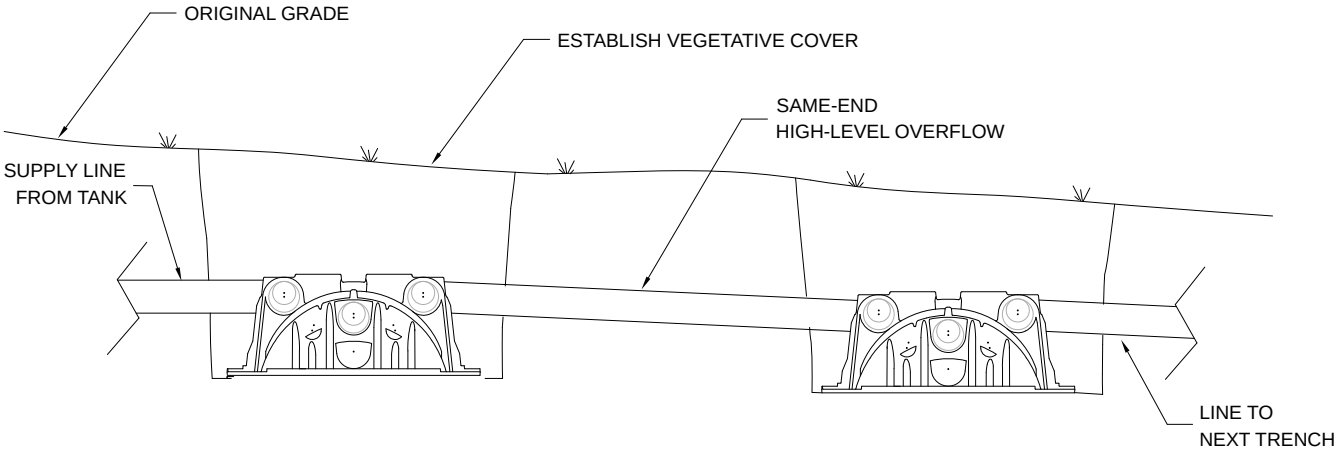


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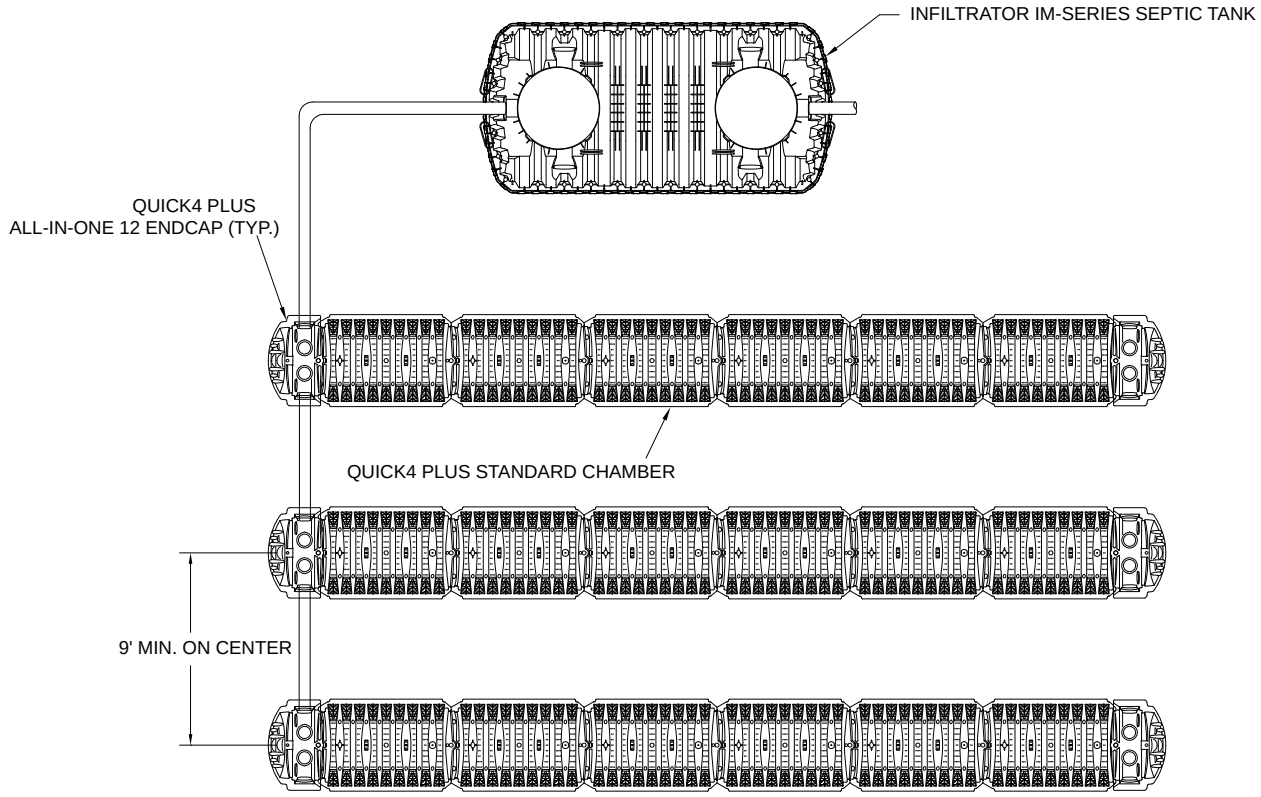
1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

Serial Distribution – Quick4 Plus Standard Chambers Using Quick4 Plus All-in-One 12 Endcaps as Drop Boxes

TYPICAL CROSS SECTION (not to scale)



TYPICAL PLAN VIEW (not to scale)

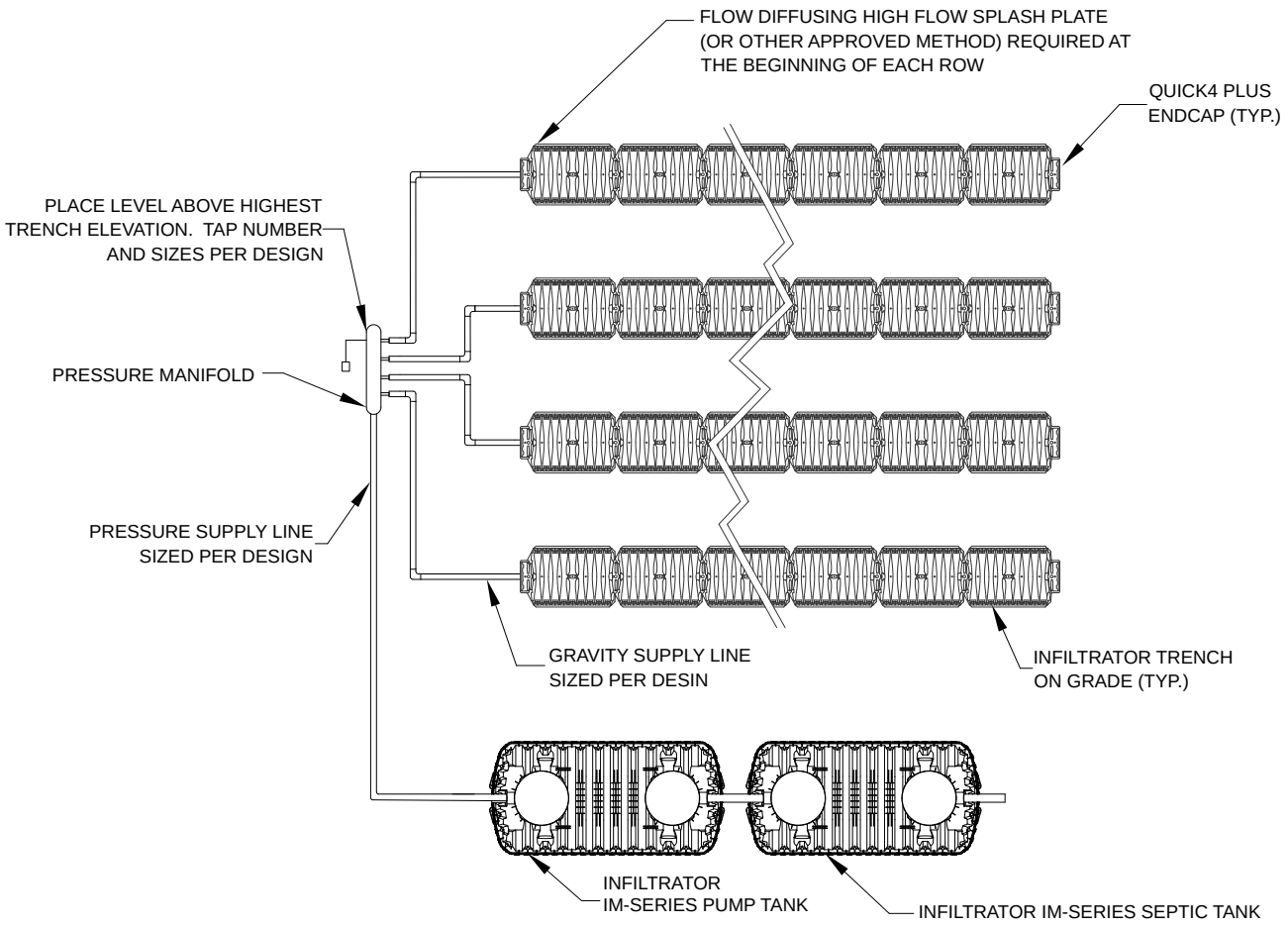


NOTES:

1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

Pump Configuration – Pumping to a Manifold – Gravity Distribution to Trenches

TYPICAL PLAN VIEW (not to scale)

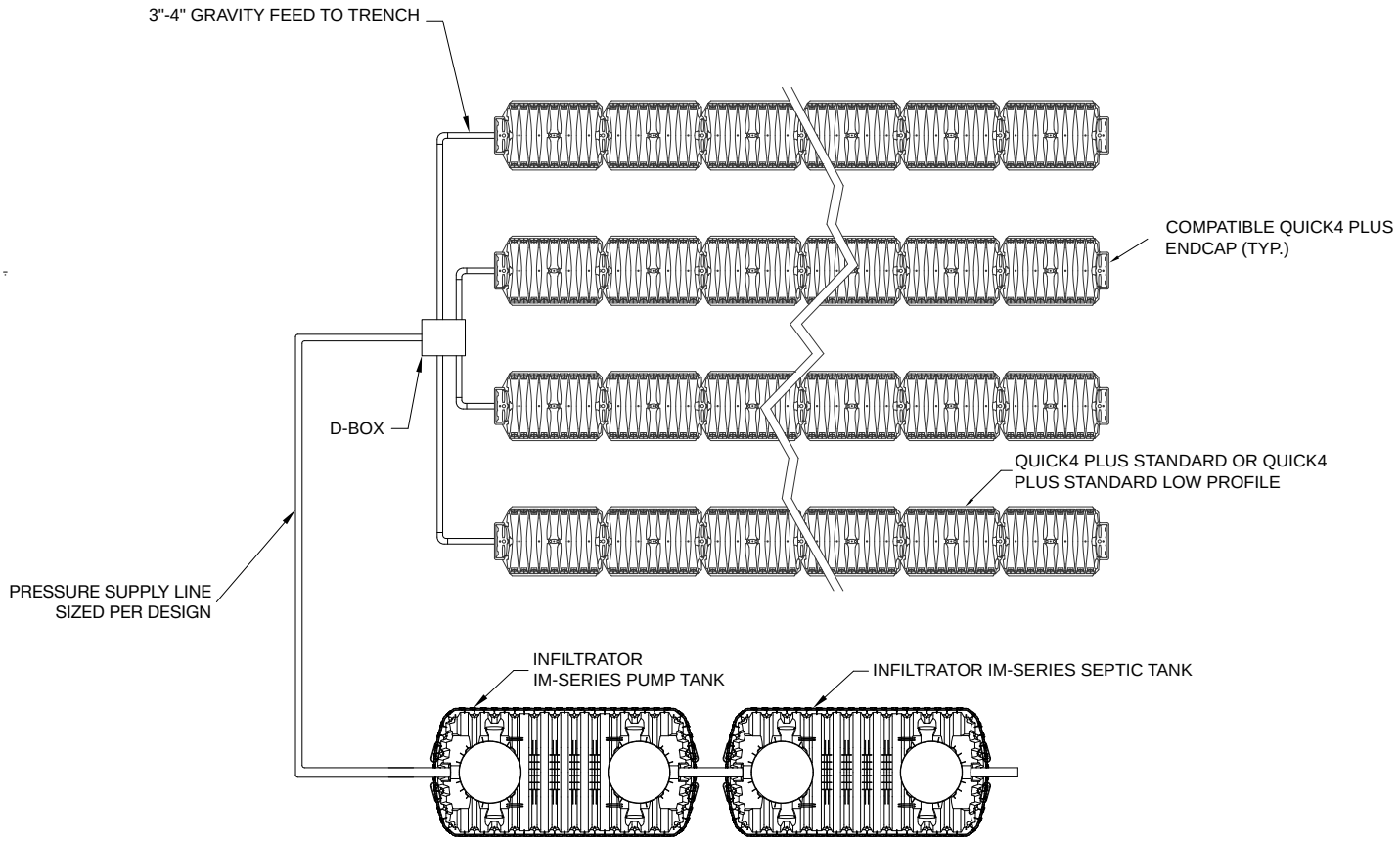


NOTES:

1. For dosing volumes, refer to Inspectors Checklist on page 29.
2. See endcap sizing chart to determine endcap linear foot credit.
3. These are schematic drawings only; pipe size, type and layout per design.
4. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

Pump Configuration – Pumping to D-Box to Gravity with Equal Length Lines for Level Sites

TYPICAL PLAN VIEW (not to scale)

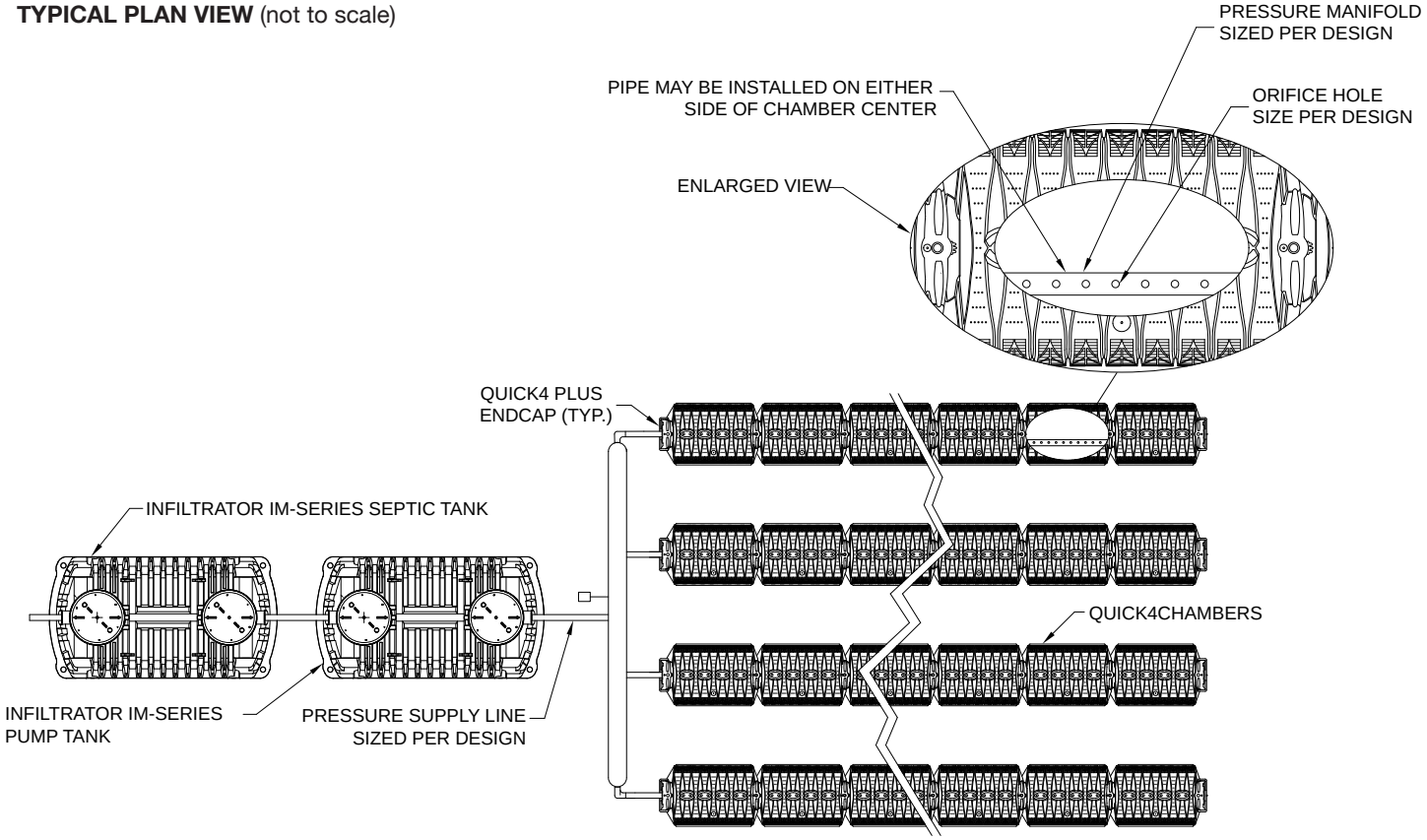


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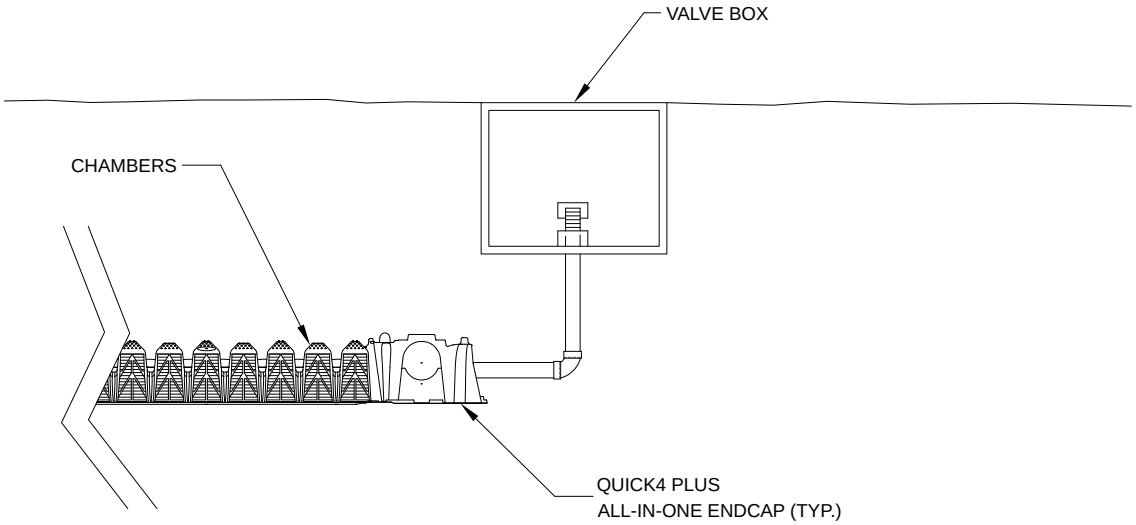
1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

Pressure Dosing System (LPP)

TYPICAL PLAN VIEW (not to scale)



TYPICAL VALVE BOX CROSS SECTION (not to scale)

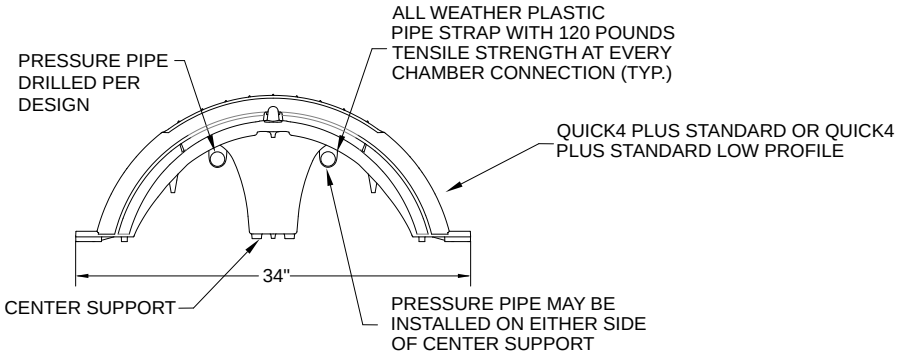


NOTES:

1. See endcap sizing chart to determine endcap linear foot credit.
2. These are schematic drawings only; pipe size, type and layout per design.
3. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.
4. See pages 2 and 3 for minimum trench spacing requirements.
5. Sleeving the pressurized pipe within a larger-diameter pipe is not required, recommended, or prohibited.

Pressure Dosing System

TYPICAL PLASTIC PIPE STRAP OPTION CROSS SECTION (not to scale)



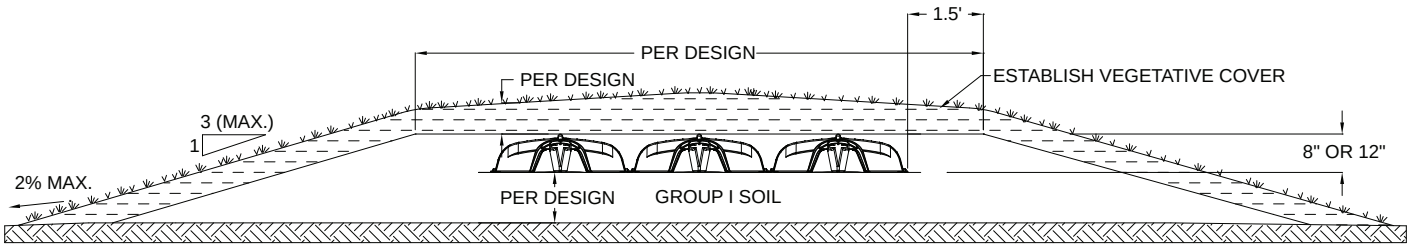
NOTES:

1. All Quick4 Plus chamber models may be pressure-dosed in this manner.
2. Sleeving the pressurized pipe within a larger-diameter pipe is not required, recommended, or prohibited.

CHAMBER CONFIGURATIONS

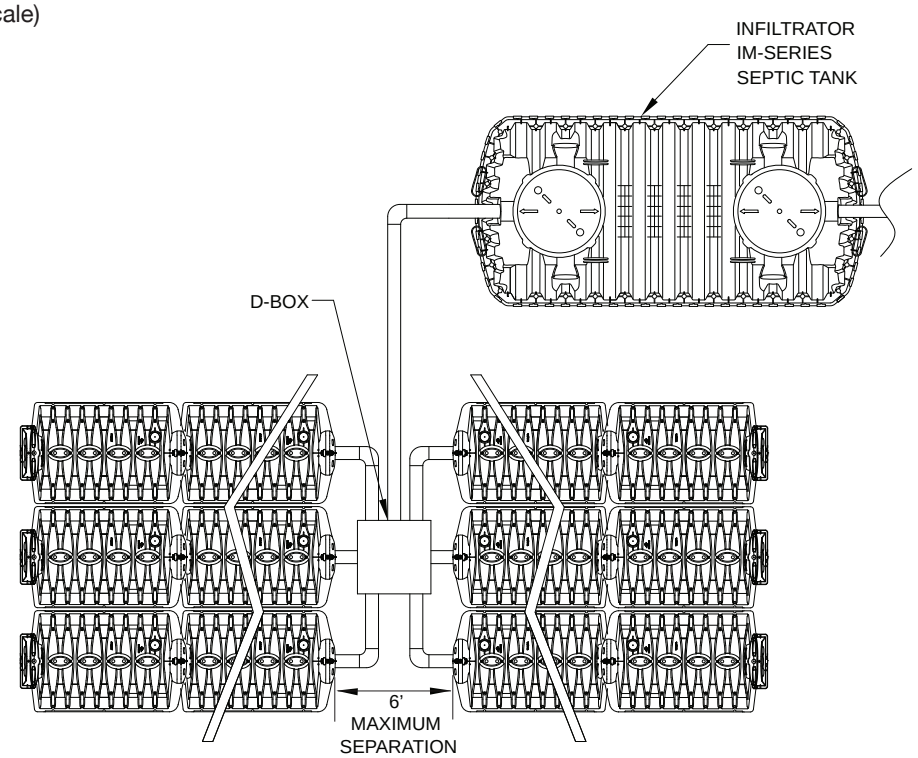
Bed-in-Fill System

TYPICAL CROSS SECTION (not to scale)



Bed-in-Fill System

PLAN VIEW (not to scale)



NOTES:

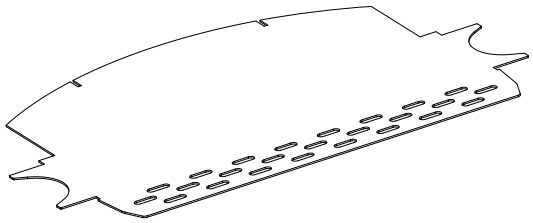
1. See endcap sizing chart to determine endcap linear foot credit.
2. The use of the Quick4 Plus Standard LP will reduce the mound height by 4".
3. These are schematic drawings only; pipe size, type and layout per design.
4. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.
5. The lateral pipe shall be connected to the end port of the end cap.
6. All approved separation distances shall be met.
7. Bed width must be no more than 24 feet and a multiple of 3 feet.
8. Maximum 8 lines on each side of the distribution device.
9. For low-pressure pipe systems installed in Quick4 Plus Standard and Quick4 Plus Standard LP chambers, the lateral shall be consistently installed either to the left or right of the center support. Alternating left-of-center and right-of-center between chamber rows within a system is prohibited.

High Flow Splash Plate

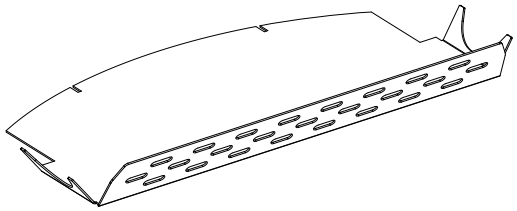
Infiltrator's high flow splash plates prevent soil erosion below the endcap invert, and can be used in conjunction with any gravity flow, pump or pressure system. However, it is only required for pump or pressure systems. No special tools or adhesives are needed for installation. A typical endcap and high flow splash plate assembly is shown.

NOTE: Install a 90-degree elbow inside the endcap to direct effluent onto the High Flow Splash Plate.

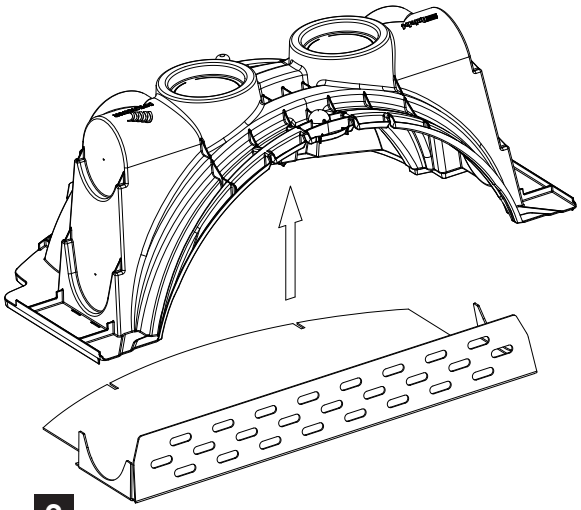
TYPICAL HIGH FLOW SPLASH PLATE AND ENDCAP ASSEMBLY



1



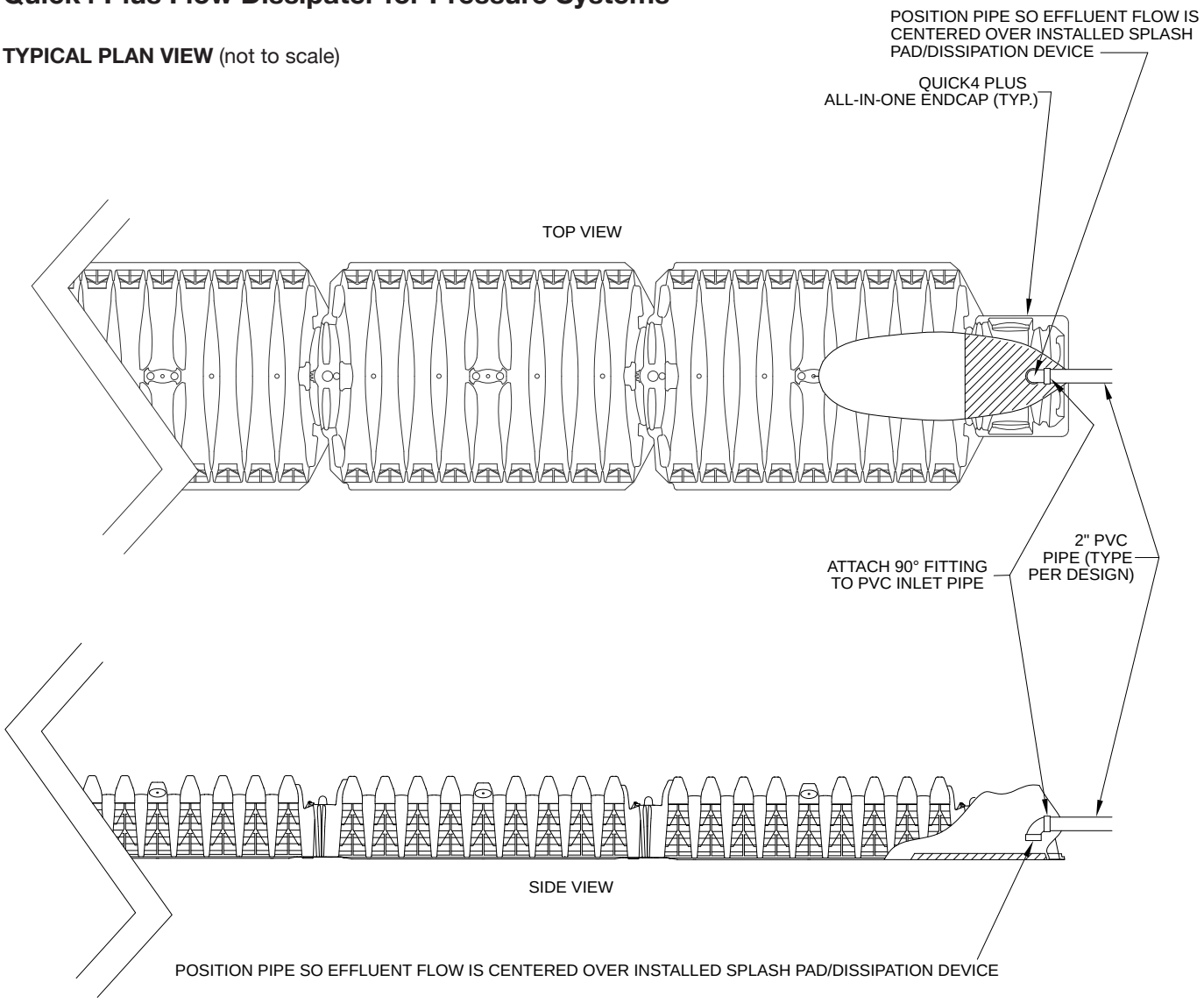
2

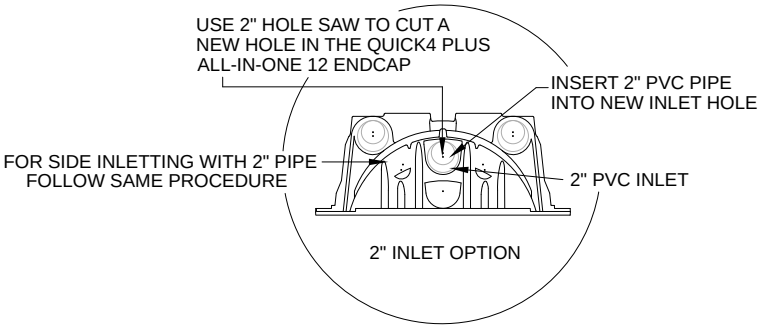


3

Quick4 Plus Flow Dissipater for Pressure Systems

TYPICAL PLAN VIEW (not to scale)





NOTES:

1. See endcap sizing chart to determine endcap linear foot credit.
2. Design can be substituted for any Infiltrator Water Technologies product.
3. Infiltrator Water Technologies supplies chambers and endcaps only. Additional products and materials to be supplied by contractor/installer.
4. These are schematic drawings only; pipe size, type and layout per design.
5. The Quick4 Plus Standard chamber is compatible with the Quick4 Plus All-in-One 12 Endcap. The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus All-in-One 8 Endcap and the Quick4 Plus 8 Endcap.

ALTERNATING DUAL-FIELD SYSTEMS DESIGN EXAMPLE

The Quick4 Plus Standard chamber accepted wastewater system approval allows use in alternating dual-field applications pursuant to 15A NCAC 18A .1955(p). The minimum trench length for each nitrification field in a Quick4 Plus Standard chamber alternating dual-field system is determined by dividing the required area by an equivalency factor of 4.61 ft^2/lf.

Design Example:

Three-bedroom residence with a design daily sewage flow of 360 gallons in a silty clay (Group IV) soil

- The total trench bottom area for each complete nitrification field is:

  360 gpd / 0.3 gpd/ft^2 LTAR = 1,200 ft^2

- The required length for each complete conventional gravel and pipe nitrification field is:

  1,200 ft^2 x 0.75 sizing factor / 3.0 ft^2/lf = 300.0 lf (see Figure 1 below)

- The required length for each complete Quick4 Plus Standard chamber nitrification field is:

  1,200 ft^2 / 4.61 ft^2/lf = 260.3 lf (see Figure 2 below)

Two complete nitrification fields with a minimum of 260.3 lf of Quick4 Plus Standard chambers are required. The nitrification fields require connection with piping and a valve that allows for alternating flow between fields, per 15A NCAC 18A .1955(p). Configuration options are as follows:

- 21 Quick4 Plus Standard chambers with end caps at the ends of trench and one mid-line end cap; or
- 22 Quick4 Plus Standard chambers with end caps at the ends of trench.

Figure 1 - Gravel and Pipe System

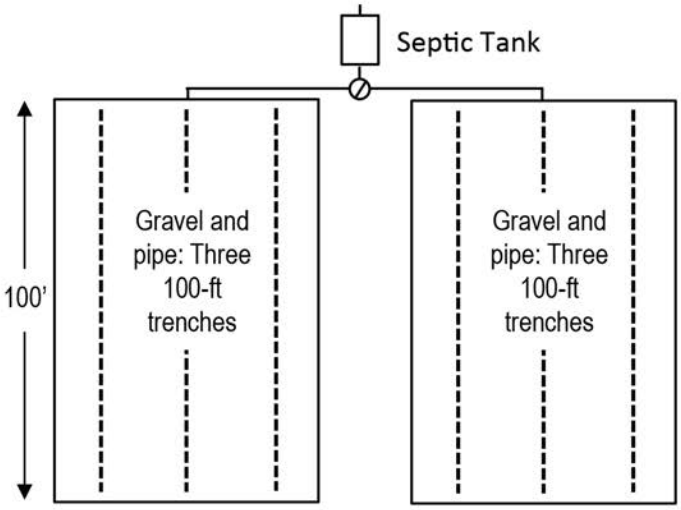
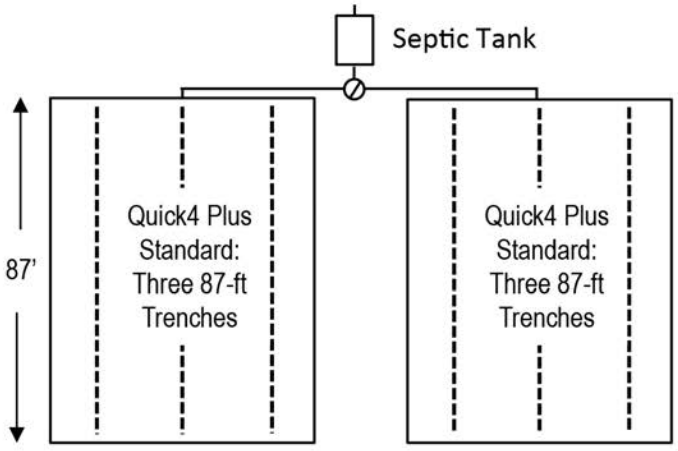


Figure 2 - Quick4 Plus Standard System



NOTE: Drawings are for illustrative purposes only, are not to scale, and do not show space in relative proportion.

In-Ground Trench Systems

Before You Begin

These installation instructions are for Quick4 Plus chambers in North Carolina. These chambers may only be installed according to state and/or local regulations. If unsure of the installation requirements for a site, contact the local health department.

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

Materials and Equipment Needed

- ☐ Quick4 Plus Standard Chambers
- ☐ Quick4 Plus All-in-One 12 Endcaps
- ☐ Quick4 Plus LP Chambers
- ☐ Quick4 Plus 8 Endcaps
- ☐ Quick4 Plus All-in-One 8 Endcaps
- ☐ 1 1/4-inch Drywall Screws*
- ☐ Drill
- ☐ Hole Saw
- ☐ Screw Gun*
- ☐ Small Valve-cover Box*
- ☐ 4" Cap for Inspection Port
- ☐ Utility Knife
- ☐ Laser, Transit or Level
- ☐ Tape Measure
- ☐ Shovel and Rake

*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 over top of system. Tracked equipment can be used over top of system with a minimum of 6" of soil 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: 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 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 or have the prescribed slope. Chamber trenches shall be constructed level in all directions with a plus or minus one-half-inch tolerance from side-to-side and maximum fall in a single trench bottom not exceeding one-fourth inch in 10 feet end-to-end for any continuous contoured segment. Trenches shall follow the contour of the ground surface elevation.

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 levelness for each trench using a level, transit or laser.

Preparing the Endcap

NOTE: Quick4 Plus endcap systems are available for use with the Quick4 Plus chambers on either end of the trench, depending upon the installer's preference and configuration requirements.

1. The Quick4 Plus All-in-One 12 Endcap is compatible with the Quick4 Plus Standard chamber. The Quick4 Plus All-in-One 8 Endcap and Quick4 Plus 8 Endcap are compatible with the Quick4 Plus LP chambers.

NOTE: Endcap photos shown throughout this document are for demonstrative purposes only. The endcap being used may differ and is dependent upon the chamber being used and system design.

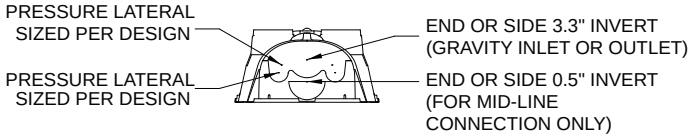
2. With a hole saw drill an opening appropriate for pipe diameter being used (typically 3-4 inches) on front or side of endcap using center point marking as a guide.



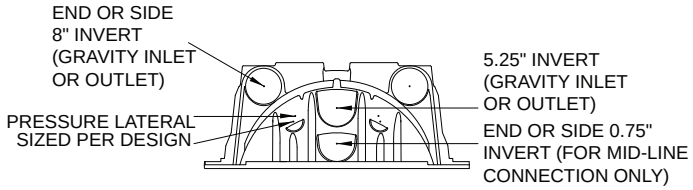
2. Drill endcap.

NOTE: When drilling inlet pipe use top three ports for distribution.

QUICK4 PLUS ALL-IN-ONE 8 ENDCAP DRILL LOCATIONS:



QUICK4 PLUS ALL-IN-ONE 12 ENDCAP DRILL LOCATIONS:



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

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



4. Place endcap inlet end.

Installing the System

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

2. Set the invert height as specified in the design from the bottom of the inlet.

3. Place the first chamber in the trench.

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

5. Insert the inlet pipe 2.5 inches into the opening on the endcap.

6. 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.

NOTE: When the chamber end is placed between the connector hook and locking pin at a 45-degree angle, the pin will be visible from the back side of the chamber.

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.

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

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

8. Continue connecting chambers until the trench is completed.

NOTE: As chambers are installed, verify levelness.

9. The last chamber in the trench requires an endcap. Lift the endcap 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 endcap. Lower the endcap to the ground and into place.



5. Insert inlet pipe.



6. Connect chambers.



7. Swivel chambers.



9. Place endcap outlet end.

NOTE: Place a few shovels of soil around the endcap to secure it during backfill.

10. 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.

11. Pack down fill by walking along the edges of trench and chambers.

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

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

Installing Quick4 Plus All-in-One 8 and Quick4 Plus All-in-One 12 Endcaps as a Mid-line Connection

1. With a hole saw, drill an opening on the provided drill point, appropriate for the pipe diameter being used on the side or on top of endcap.

NOTE: Piping configurations are determined by the preference of the installer or designer.

2. With a hole saw, drill an opening on the end of the Quick4 Plus All-in-One 8 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 endcap.

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

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

6. Insert connection pipe at least 2.5 inches into opening on endcap.



1. Drill endcap on top.



2. Drill endcap on end.



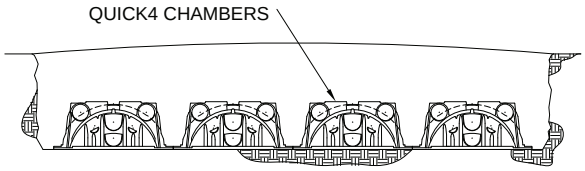
6. Insert connection pipe into endcap opening.

In-Ground Bed Systems

Excavating and Preparing the Site

1. There is no reduction in drainfield for bed systems.

2. Excavate the desired depth of the bottom of the system. Chamber beds shall be constructed level in all directions with a plus or minus one-half-inch tolerance from side-to-side and maximum fall not exceeding one-fourth inch in 10 feet end-to-end for any continuous contoured segment.**3.** Install chambers so that the feet of each chamber are maximum 1 inch end-to-end. (See below.)



Installing the Chambers

1. Check the levelness of the excavation area to make sure the depth is correct.

2. Check your header pipe to make sure that you have the proper fall coming from the distribution device.

3. Prepare the endcap as described on page 23.

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

5. Lift and place the end of 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 connect the chambers.

6. Continue interlocking the chambers until bed is complete.

Covering the System

1. After installation of chambers in a trench or bed configuration, a filter fabric barrier shall be installed in uncompacted, fine or very fine uniform sand and at least one of the following conditions are present:

– installations are left uncovered and subject to a major rain event.

– systems are subject to not being sodded (or stabilized) in a timely manner after final cover-up has occurred.

– the drainfield is not protected from surface drainage.

2. Apply the desired backfill material along the sides of the chambers and walk the soil in. Continue backfilling the soil to the top of chambers.

NOTE: When backfilling a wide excavation or using fill material, the use of tracked equipment is recommended.

Low Pressure Piping Systems

This section provides septic installation instructions for low pressure piping systems in North Carolina. Quick4 Plus chambers 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. Conduct a thorough site evaluation to determine proper sizing and siting of the system before installation.

Materials and Equipment Needed

☐ Quick4 Plus Standard Chambers
☐ Quick4 Plus All-in-One 12 Endcaps
☐ Quick4 Plus Low Profile (LP) Chambers
☐ Quick4 Plus 8 Endcaps
☐ Quick4 Plus All-in-One 8 Endcaps
☐ PVC Pipe and Couplings

☐ Backhoe	☐ 1 1/4-inch Drywall Screws*
☐ Drill	☐ Hole Saw
☐ Screw Gun*	☐ Small Valve-cover Box*
☐ 4-inch Cap for Inspection Port	☐ Utility Knife
☐ Laser, Transit or Level	☐ Tape Measure
☐ Shovel and Rake	*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 AASHTO H-10 load rating.

☐ When installing in sandy soil conditions, wheeled construction equipment is prohibited over top of Quick4 Plus Standard LP chamber systems. Wheeled or tracked equipment can be used over top of system with a minimum of 6” of stabilized soil cover.

☐ Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

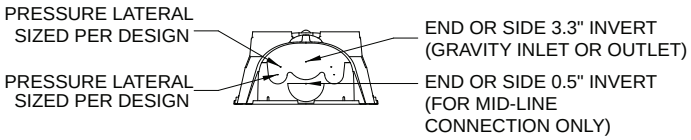
Installing the Chambers and Endcaps

1. The Quick4 Plus All-in-One 12 Endcap is compatible with the Quick4 Plus Standard chamber. The Quick4 Plus All-in-One 8 Endcap and Quick4 Plus 8 Endcap are compatible with the Quick4 Plus LP chambers.

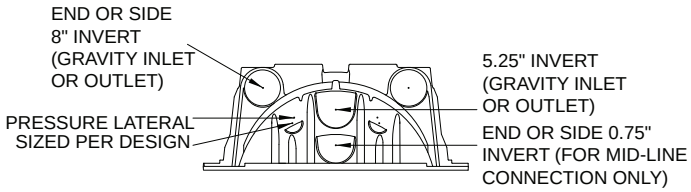
NOTE: Endcap photos shown throughout this document are for demonstrative purposes only. The endcap being used may differ and is dependent upon the chamber being used and system design.

2. 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 trench to protect infiltrative surface from erosion.

QUICK4 PLUS ALL-IN-ONE 8 ENDCAP DRILL LOCATIONS:



QUICK4 PLUS ALL-IN-ONE 12 ENDCAP DRILL LOCATIONS:



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



3. Drill pressure pipe location.

4. 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.

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

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.

6. Method A

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. Do not pull straps completely tight, leaving approximately one inch of space between the pipe and the top of the chamber.



6. Secure pressure pipe.

7. 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.

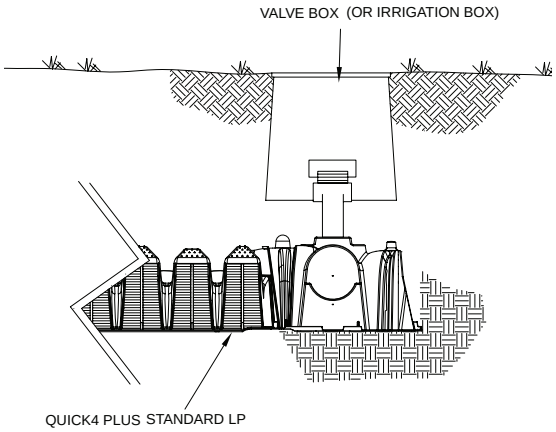
8. Secure the lateral pipe to the top of the next chamber once in place. Follow the same method in Step 5.

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

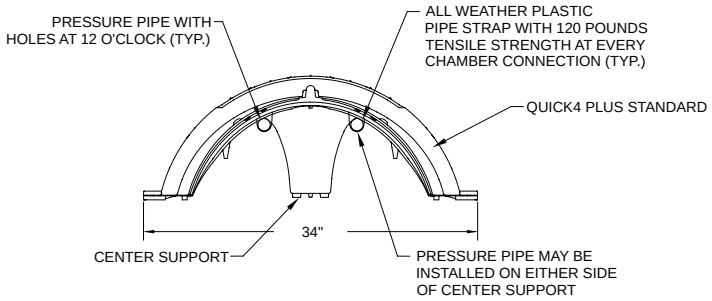
10. Before attaching the final endcap, it may be necessary to remove the tongue of the connector hook on the last chamber with a pair of pliers depending on your pipe diameter.

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

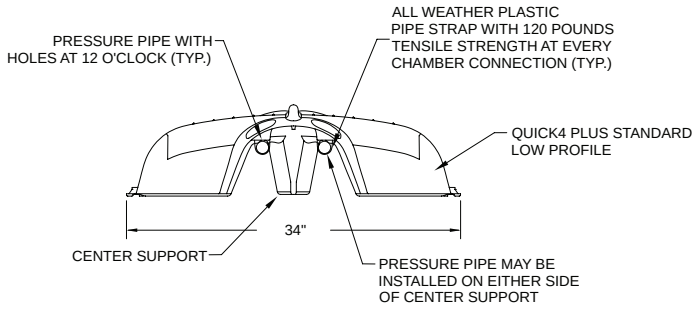
NOTE: If clean-out extensions are required, use a hole saw to cut a hole in the top of the Quick4 Plus All-in-One 8 Endcap or Quick4 Plus All-in-One 12 Endcap so the pressure lateral pipe with an elbow can extend to the ground surface. For clean-out access, use the "Installing Optional Inspection Ports" section in the general installation instructions.



QUICK4 PLUS STANDARD:



QUICK4 PLUS STANDARD LOW PROFILE:



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.

INSTALLATION INSTRUCTIONS

Bed-in-Fill Systems

This section provides installation instructions for bed-in-fill systems in North Carolina. Quick4 chambers 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. Conduct a thorough site evaluation to determine proper sizing and siting of the system before installation.

Before You Begin

Materials and Equipment Needed

- ☐ Quick4 Plus Standard Chambers
- ☐ Quick4 Plus All-in-One 12 Endcaps
- ☐ Quick4 Plus Low Profile (LP) Chambers
- ☐ Quick4 Plus 8 Endcaps
- ☐ Quick4 Plus All-in-One 8 Endcaps
- ☐ PVC Pipe and Couplings
- ☐ Excavation Equipment
- ☐ Drill
- ☐ Screw Gun*
- ☐ 4-inch Cap for Inspection Port
- ☐ Laser, Transit or Level
- ☐ Shovel and Rake
- ☐ 1 1/4-inch Drywall Screws*
- ☐ Hole Saw
- ☐ Small Valve-cover Box*
- ☐ Utility Knife
- ☐ Tape Measure

*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 AASHTO H-10 load rating.
- ☐ When installing in sandy soil conditions, wheeled construction equipment is prohibited over top of Quick4 Plus Standard LP systems. Wheeled or tracked equipment can be used over top of systems with a minimum of 6” of stabilized soil cover.
- ☐ Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

Preparing the Site

1. Confirm that the sand fill is Group I soil containing not more than 10 percent debris. If no specifications are available, Infiltrator Water Technologies recommends sand that meets the grain size specifications (ASTM C33) below.
2. Install sedimentation and erosion control measures.
3. Prior to sand fill placement, remove vegetative cover, organic litter, and any debris from the location where the fill system will be constructed.
NOTE: Take precautions not to remove naturally occurring soil.

Placing the Sand Fill Material

1. The system shall be constructed as an elongated berm with the long axis parallel to the ground elevation contours of the slope.
2. Spread maximum six-inch lifts of sand fill material uniformly over the required area, with each fill layer mixed with the underlying layer of natural soil or sand fill material.
3. Bring the sand fill elevation to the bed bottom elevation required per the system design.
4. Verify that the bottom of the bed is level in all directions with a tolerance of ± ¼ inch.
5. Construct the side slope of the fill at a maximum rise-to-run ratio of 1:3.

Installing the System

Gravity Distribution:

1. Verify that the distribution device is at the proper elevation and is level, per the system design.
2. Place the first chamber in the bed.
3. Place the back edge of the endcap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and endcap.
OPTIONAL: Fasten the endcap to the chamber with a screw at the top of the endcap.
4. Insert the inlet pipe from the distribution device 2.5 inches into the opening on the endcap.
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 chambers.
6. Continue connecting chambers until the chamber row is completed.
7. The last chamber in the row requires an endcap. Lift the endcap 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 endcap. Lower the endcap to the ground and into place.
NOTE: Place a few shovels of soil around the endcap to secure it during backfilling.
8. Place additional chamber rows as described in steps 1-7 above, with the centerline of the chambers and end caps spaced 3 feet on center between chamber rows.

Low Pressure Pipe Distribution:

1. For the Quick4 Plus Standard and Quick4 Plus Standard LP, laterals are installed to the left or right of the chamber centerline due to the presence of the chamber center support structure. For these chamber models, all laterals must be installed consistently on the left or right side of the center support. Alternating left-of-center and right-of-center between chamber rows within a system is prohibited in bed-in-fill systems.
2. To allow the pressure laterals to drain after each pump cycle, drill an orifice at the 6 o’clock position at the end of each lateral. Place a splash plate or a paving block below this orifice on the bed bottom to protect the infiltrative surface from erosion.
3. Create a circular hole in the endcap at the proper elevation. Size the hole to accommodate the pressure lateral pipe. Insert the pressure lateral pipe through the hole in the end cap and connect it to the manifold pipe.
4. Glue the pressure lateral pipe to the manifold pipe.

NOTE: The health department may require a pressure check. This may be done prior to chamber installation, when the pipe is laying on the bed surface. 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.
NOTE: Do not pull straps completely tight, leaving approximately one inch of space between the pipe and top of the chamber.
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 chamber once in place. Follow the same method as described in Step 5.
8. Continue interlocking chambers and pipe until a lateral is completed.
9. Attach an endcap to the last chamber in the row. If cleanout extensions are required, create a hole in the endcap at the proper elevation to allow for a lateral pipe penetration. For cleanout access, a 90° elbow that extends to the soil surface shall be attached to the lateral pipe.
10. Place additional chamber rows with the centerline of the chambers and end caps spaced 3 feet on center between chamber rows. Follow Steps 1-9 for all laterals in the permitted system.

Covering the System

NOTE: Before covering the system, it must be inspected by the health department as required by state and local codes. Create an as-built drawing at this time for future records.
1. Place sand fill material between chambers up to the top-of-louver elevation.
2. Stabilize the sand fill material between chambers by walking alongside the chamber sidewalls.
3. Place sand fill material to the top of the chambers.
4. Place sand fill material around the perimeter of the bed and directly against the outer chamber rows per the system design.
5. Place Group II or III soil over the sand fill material per the system design.
6. After the system is covered, the site should be seeded or sodded to produce erosion-resistant vegetation.
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.

Trench-in-Fill Systems

This section provides installation instructions for trench-in-fill systems in North Carolina. Quick4 chambers 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. Conduct a thorough site evaluation to determine proper sizing and siting of the system before installation.

Preparing the Site

1. Confirm that the sand fill is Group I soil. If no specifications are available, Infiltrator Water Technologies recommends sand that meets the grain size specifications (ASTM C33) below.
2 . Fill material shall have no more than ten percent by volume of fibrous organics, building rubble, or other debris, and shall not have discreet layers containing greater than 35 percent shell fragments.
3. Install sedimentation and erosion control measures.
4. Prior to sand fill placement, remove heavy vegetative cover or organic litter.
NOTE: Take precautions not to remove naturally occurring soil.

Placing the Sand Fill Material

1. The system shall be constructed as an elongated berm with the long axis parallel to the
ground elevation contours of the slope.
2. Spread maximum six-inch lifts of sand fill material uniformly over the required area.
3. Added fill material shall be mixed with existing soil to a depth of six inches below the existing soil interface.
4. Bring the sand fill elevation to the trench bottom elevation required per the system design.
5. Verify that the locations where trenches will be constructed are level in all directions with a ± ½-inch tolerance from side-to-side and maximum fall in a single trench bottom not exceeding ¼ inch in 10 feet end-to-end for any continuous contoured segment.
6. Where the existing soil is Group II, III, or IV, construct the side slope of the sand fill at a maximum rise-to-run ratio of 1:4. Where the first 18 inches below the naturally occurring soil surface is Group I soil, construct the side slope of the sand fill at a maximum rise-to-run ratio of 1:3.
7. Construct the top of the side slope at least 5 feet horizontally from the outside edge of the nitrification trench.

Installing the System

Gravity Distribution:

1. Place the first chamber where the trench is to be constructed.
2. Place the back edge of the endcap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and endcap.
OPTIONAL: Fasten the endcap to the chamber with a screw at the top of the endcap.
3. Insert the inlet pipe from the distribution device 2.5 inches into the opening on the endcap.
4. 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 chambers.
5. Continue connecting chambers until the chamber row is completed.
6. The last chamber in the row requires an endcap. Lift the endcap 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 endcap. Lower the endcap to the ground and into place.

NOTE: Place a few shovels of soil around the endcap to secure it during backfilling.
7. Place additional chamber rows as described in steps 1-7 above, with the centerline of the chambers and end caps spaced per the system design.

Low Pressure Pipe Distribution:

1. To allow the pressure laterals to drain after each pump cycle, drill an orifice at the 6 o'clock position at the end of each lateral. Place a splash plate or a paving block below this orifice on the trench bottom to protect the infiltrative surface from erosion.
2. Create a circular hole in the endcap at the proper elevation. Size the hole to accommodate the pressure lateral pipe. Insert the pressure lateral pipe through the hole in the end cap and connect it to the manifold pipe.
3. Glue the pressure lateral pipe to the manifold pipe.
NOTE: The health department may require a pressure check. This may be done prior to chamber installation, when the pipe is laying on the trench surface. Check with your local health department for the proper procedure.
4. 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: Do not pull straps completely tight, leaving approximately one inch of space between the pipe and top of the chamber.



4. Secure lateral pipe to the top of the chamber.

5. 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.
6. Secure the lateral pipe to the top of the chamber once in place. Follow the same method as described in Step 4.
7. Continue interlocking chambers and pipe until a lateral is completed.
8. Attach an endcap to the last chamber in the row. If cleanout extensions are required, create a hole in the endcap at the proper elevation to allow for a lateral pipe penetration. For cleanout access, a 90° elbow that extends to the soil surface shall be attached to the lateral pipe.
9. Place additional chamber rows with the centerline of the chambers and end caps spaced per the system design. Follow Steps 1-8 for all laterals in the permitted system.

Covering the System

NOTE: Before covering the system, it must be inspected by the health department as required by state and local codes. Create an as-built drawing at this time for future records.
1. Place sand fill material between chambers up to the top-of-louver elevation.
2. Stabilize the sand fill material in contact with the chambers by walking alongside the chamber sidewalls.
3. Place sand fill material to the top of the chambers.
4. Place sand fill material around the perimeter of the trenches and directly against the outer chamber rows per the system design.
5. Place Group II or III soil over the sand fill material per the system design.
6. After the system is covered, the site should be seeded or sodded to produce erosion-resistant vegetation.
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.

INSPECTOR'S CHECKLIST

The following checklist may be used when inspecting Quick4 chambers.

1. Check for level distribution device and watertight connections.

2. Confirm distribution lines (manifold header pipes) have been primed and glued for securing.

3. Confirm distribution lines have been properly bedded and secured into endcap.

4. Determine correct length of lines.

5. Inspections:
- **a.** Sidewalls have been carefully walked in
- **b.** Visually inspect chamber joints
- **c.** Confirm step-downs are properly bedded
- **d.** Verify trench depth

6. Shoot trench or bed grade at top of chamber or from side of chamber foot at the trench or bed bottom.

Chamber trenches shall be constructed level in all directions with a plus or minus one-half-inch tolerance from side-to-side and maximum fall in a single trench bottom not exceeding one-fourth inch in 10 feet end-to-end for any continuous contoured segment. Trenches and bed laterals shall follow the contour of the ground surface elevation.

7. Always run pump before issuing Operation Permit (OP).
- **a.** Run draw down test to verify correct dosing volume.

WARRANTY – DRAINFIELD

INFILTRATOR WATER TECHNOLOGIES STANDARD LIMITED DRAINFIELD WARRANTY

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

WARRANTY – TANKS

INFILTRATOR WATER TECHNOLOGIES ("INFILTRATOR") INFILTRATOR® SEPTIC TANK LIMITED WARRANTY FIVE (5) YEAR MATERIALS AND WORKMANSHIP LIMITED WARRANTY

(a) This limited warranty is extended to the end user of an Infiltrator Septic Tank. A Septic Tank manufactured by Infiltrator, when installed and operated in accordance with Infiltrator's installation instructions and local regulation by a licensed installer, is warranted to you: (i) against defective materials and workmanship for five (5) years after installation. Infiltrator will, at its option, (i) repair the defective product or (ii) replace the defective materials. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Septic Tank.
(b) In order to exercise its warranty rights, you must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect.
(c) YOUR EXCLUSIVE REMEDY WITH RESPECT TO ANY AND ALL LOSSES OR DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER SHALL BE SPECIFIED IN SUBPARAGRAPH (a) ABOVE. INFILTRATOR SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, HOWEVER OCCASIONED, WHETHER BY NEGLIGENCE OR OTHERWISE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
(d) THIS LIMITED WARRANTY IS THE EXCLUSIVE WARRANTY GIVEN BY INFILTRATOR AND SUPERSEDES ANY PRIOR, CONTRARY, ADDITIONAL, OR SUBSEQUENT REPRESENTATIONS, WHETHER ORAL OR WRITTEN. INFILTRATOR DISCLAIMS AND EXCLUDES TO THE GREATEST EXTENT ALLOWED BY LAW ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FINESSE FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. NO PERSON (INCLUDING ANY EMPLOYEE, AGENT, DEALER, OR REPRESENTATIVE) IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY CONCERNING THIS PRODUCT, EXCEPT TO REFER YOU TO THIS LIMITED WARRANTY. EXCEPT AS EXPRESSLY SET FORTH HEREIN, THIS WARRANTY IS NOT A WARRANTY OF FUTURE PERFORMANCE, BUT ONLY A WARRANTY TO REPAIR OR REPLACE.
(e) YOU MAY ASSIGN THIS LIMITED WARRANTY TO A SUBSEQUENT PURCHASER OF YOUR HOME.
(f) NO REPRESENTATIVE OF INFILTRATOR HAS THE AUTHORITY TO CHANGE THIS LIMITED WARRANTY IN ANY MANNER WHATSOEVER, OR TO EXTEND THIS LIMITED WARRANTY.

CONDITIONS AND EXCLUSIONS
There are certain conditions or applications over which Infiltrator has no control. Defects or problems as a result of such conditions or applications are not the responsibility of Infiltrator and are NOT covered under this warranty. They include failure to install the Septic Tank in accordance with instructions or applicable regulatory requirements or guidance, altering the Septic Tank contrary to the installation instructions and disposing of chemicals or other materials contrary to normal septic tank usage.

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of a Septic Tank 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 a Septic Tank.

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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's Technical Services Department for assistance at 1-800-221-4436