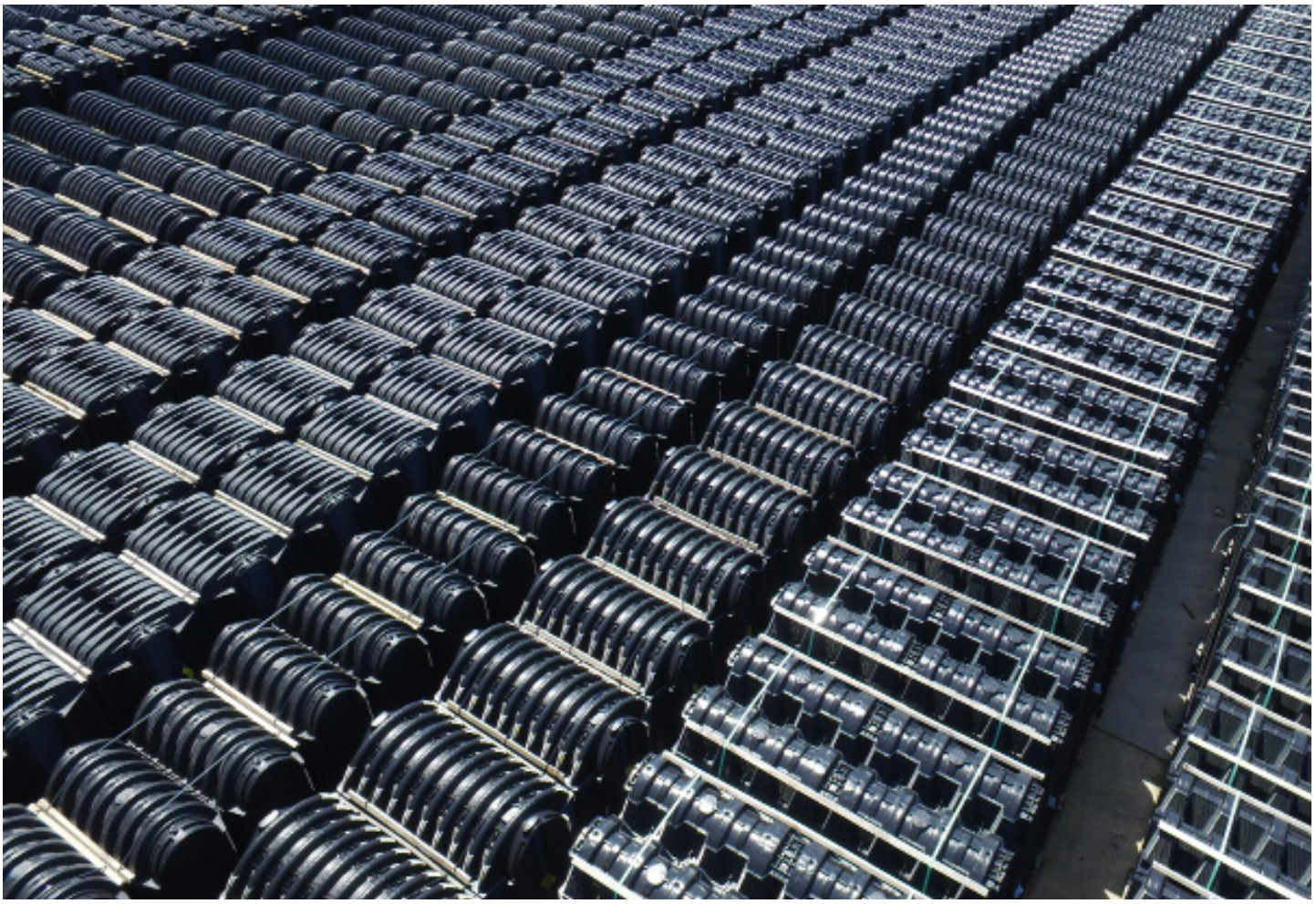
March 2026

Design and Installation Manual for **Infiltrator Chamber Systems**

Ontario, Canada



The purpose of this product manual is to provide specific design and installation information pertinent for the use of Infiltrator products. Infiltrator products must be used in conjunction with the requirements described in the Ontario Amendments to the National Building Code of Canada 2020 (issued April 5, 2024). **For more detailed design information, please contact Infiltrator Water Technologies at (800) 221-4436.**

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Infiltrator™ Water Technologies
Part of ADS

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Infiltrator Chambers

The Quick4 Equalizer 24, Quick4 Equalizer 24 HD and Quick4 Equalizer 24 LP chambers can be installed in an 0.45 metre (18 inch) wide trench. The Quick5 Equalizer 36 chamber fits in a 0.6 metre (24 inch) trench. All chambers offer advanced contouring capability with their Contour Swivel Connection™. The MultiPort™ Endcaps have high and low inlets allowing for maximum piping flexibility.

Quick4 Equalizer 24



Quick4 Equalizer 24/Quick4 Equalizer 24 HD nominal chamber specifications

Size: (Width × Length × Height)	0.41 m × 1.35 m × 0.28 m 16″ × 53″ × 11″
Invert Height:	0.15 m 6″

Quick4 Equalizer 24 HD



Quick4 Equalizer 24 LP nominal chamber specifications

Size: (Width × Length × Height)	0.41 m × 1.35 m × 0.20 16″ × 53″ × 8″
Invert Height:	0.05 m 2″

Quick4 Equalizer 24 LP



Quick4 Equalizer 36 nominal chamber specifications

Size: (Width × Length × Height)	0.56 m × 1.35 m × 0.31 m 22″ × 53″ × 12″
Invert Height:	0.15 m 6″

Quick4 Equalizer 36



Quick5 Equalizer 36 nominal chamber specifications

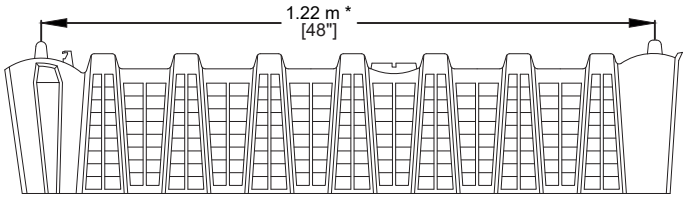
Size: (Width × Length × Height)	0.56 m × 1.65 m × 0.31 m 22″ × 65″ × 12″
Invert Height:	0.15 m 6″

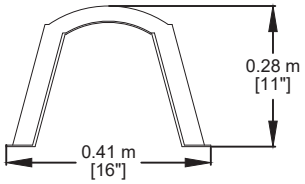
Quick5 Equalizer 36



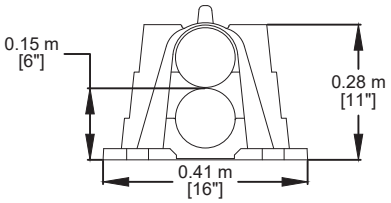
Quick4 Equalizer 24/Quick4 Equalizer 24 HD Chambers

TYPICAL SIDE AND END VIEWS
(not to scale)

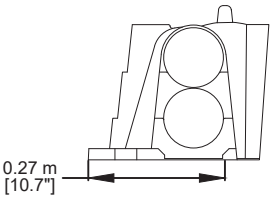




MULTIPORT ENDCAP
(not to scale)



FRONT VIEW

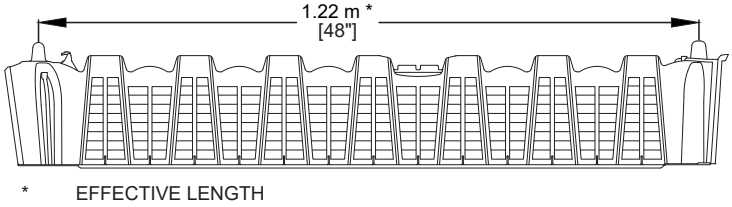


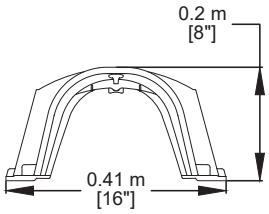
SIDE VIEW

Quick4 Equalizer 24 Low Profile Chambers

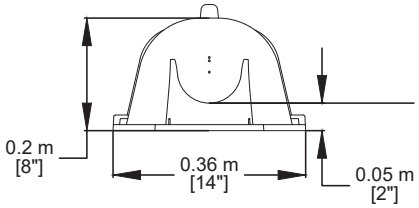
Shallow Buried Trenches ONLY

TYPICAL SIDE AND END VIEWS
(not to scale)

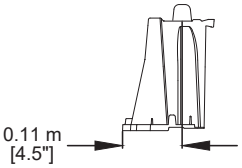




MULTIPORT ENDCAP
(not to scale)



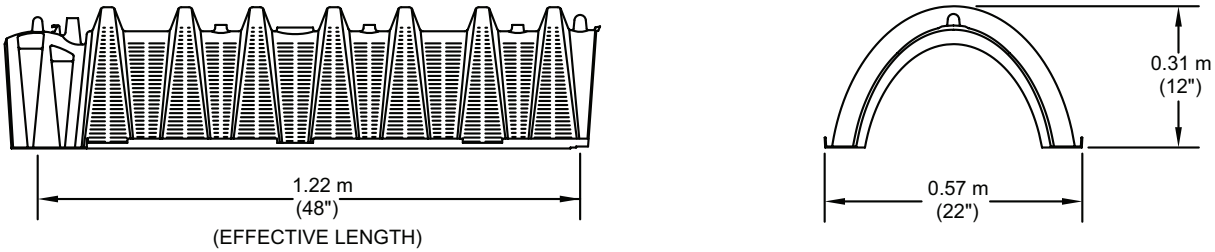
FRONT VIEW



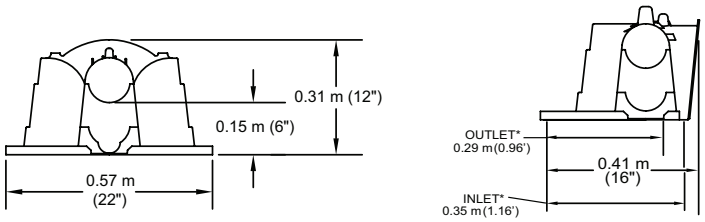
SIDE VIEW

Quick4 Equalizer 36 Chambers

TYPICAL SIDE AND END VIEWS
(not to scale)



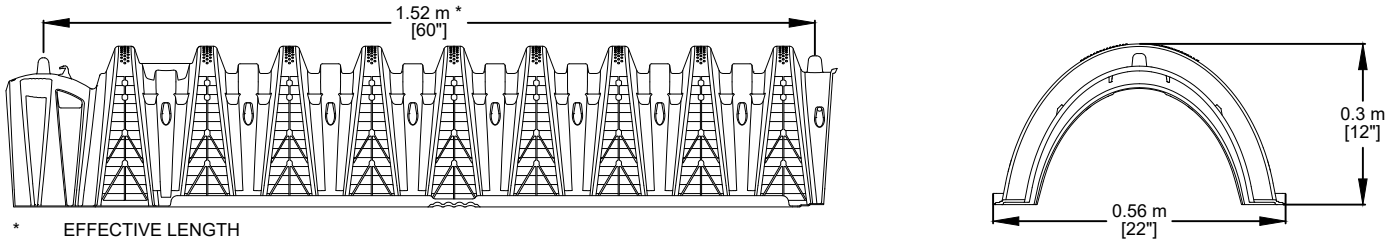
MULTIPORT ENDCAP
(not to scale)



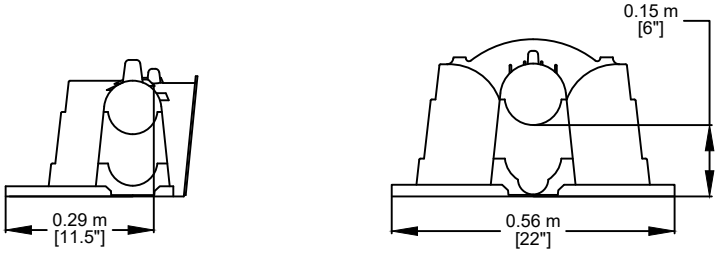
FRONT VIEW **SIDE VIEW**

Quick5 Equalizer 36 Chambers

TYPICAL SIDE AND END VIEWS
(not to scale)



MULTIPORT ENDCAP
(not to scale)



SIDE VIEW **FRONT VIEW**

TABLE 1: QUICK4 EQUALIZER 24/QUICK4 EQUALIZER 24 HD CHAMBER SIZING

Quick4 Equalizer 24/Quick4 Equalizer 24 HD Chamber (TYPE I CHAMBER)				
	Number of Bedrooms			
Percolation Time, min (T)	2	3	4	5
	1100 l/day (Q)	1600 l/day (Q)	2000 l/day (Q)	2500 l/day (Q)
	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)
1	40	40	40	40
2	40	40	40	40
3	40	40	40	40
4	40	40	40	50
5	40	40	50	63
6	40	48	60	75
7	40	56	70	88
8	44	64	80	100
9	50	72	90	113
10	55	80	100	125
11	61	88	110	138
12	66	96	120	150
13	72	104	130	163
14	77	112	140	175
15	83	120	150	188
16	88	128	160	200
17	94	136	170	213
18	99	144	180	225
19	105	152	190	238
20	110	160	200	250
21	116	168	210	263
22	121	176	220	275
23	127	184	230	288
24	132	192	240	300
25	138	200	250	313
26	143	208	260	325
27	149	216	270	338
28	154	224	280	350
29	160	232	290	363
30	165	240	300	375
31	171	248	310	388
32	176	256	320	400
33	182	264	330	413
34	187	272	340	425
35	193	280	350	438
36	198	288	360	450
37	204	296	370	463
38	209	304	380	475
39	215	312	390	488
40	220	320	400	500
41	226	328	410	513
42	231	336	420	525
43	237	344	430	538
44	242	352	440	550
45	248	360	450	563
46	253	368	460	575
47	259	376	470	588
48	264	384	480	600
49	270	392	490	613
50	275	400	500	625

NOTES:1. Per Section 8.7.3.2 (1)(b) of the Amendments, the total length of leaching chamber shall not be less than 40 m for any absorption trench other than a shallow buried trench.2. Per Section 8.7.3.2 (2) of the Amendments, for a type I leaching chamber, the total length of leaching chamber shall not be less than the value calculated using the formula L = QT/200. For example, a home with a flow rate of 1200 l/day and a percolation time of 15 min would need 90 m total length of Quick4 Equalizer 24 or Quick4 Equalizer 24 HD chambers: 1200 l/day(Q) x 15 min (T) divided by 200 = 90 m of trench required. The calculated total trench length must be rounded up to ensure sufficient system sizing.

ABSORPTION TRENCHES (8.7.3 OF AMENDEMENTS)

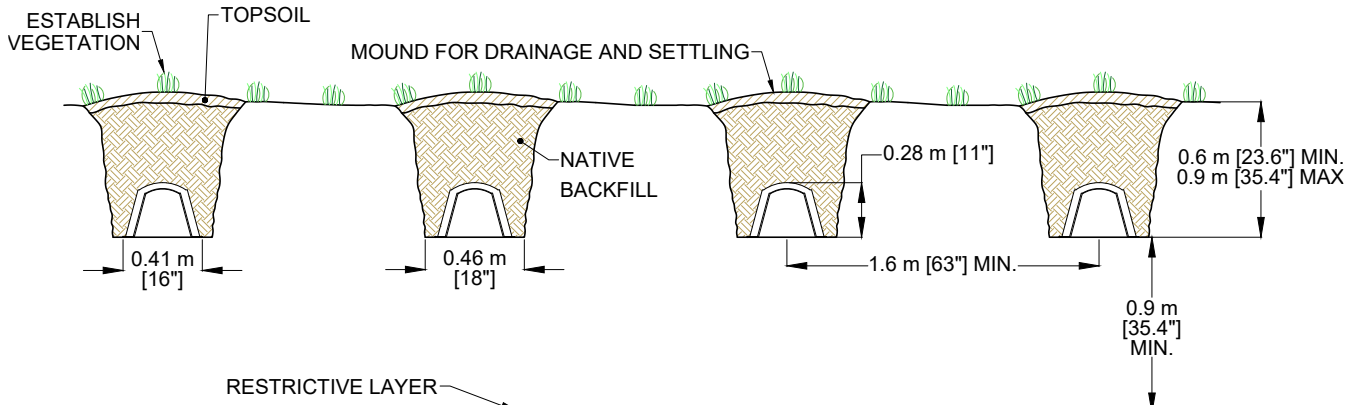
TABLE 2: CHAMBER SIZING

QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36 Chamber (TYPE II CHAMBER)				
	Number of Bedrooms			
Percolation Time, min (T)	2	3	4	5
	1100 l/day (Q)	1600 l/day (Q)	2000 l/day (Q)	2500 l/day (Q)
	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)
1	40	40	40	40
2	40	40	40	40
3	40	40	40	40
4	40	40	40	40
5	40	40	40	42
6	40	40	40	50
7	40	40	47	59
8	40	43	54	67
9	40	48	60	75
10	40	54	67	84
11	41	59	74	92
12	44	64	80	100
13	48	70	87	109
14	52	75	94	117
15	55	80	100	125
16	59	86	107	134
17	63	91	114	142
18	66	96	120	150
19	70	102	127	159
20	74	107	134	167
21	77	112	140	175
22	81	118	147	184
23	85	123	154	192
24	88	128	160	200
25	92	134	167	209
26	96	139	174	217
27	99	144	180	225
28	103	150	187	234
29	107	155	194	242
30	110	160	200	250
31	114	166	207	259
32	118	171	214	267
33	121	176	220	275
34	125	182	227	284
35	129	187	234	292
36	132	192	240	300
37	136	198	247	309
38	140	203	254	317
39	143	208	260	325
40	147	214	267	334
41	151	219	274	342
42	154	224	280	350
43	158	230	287	359
44	162	235	294	367
45	165	240	300	375
46	169	246	307	384
47	173	251	314	392
48	176	256	320	400
49	180	262	327	409
50	184	267	334	417

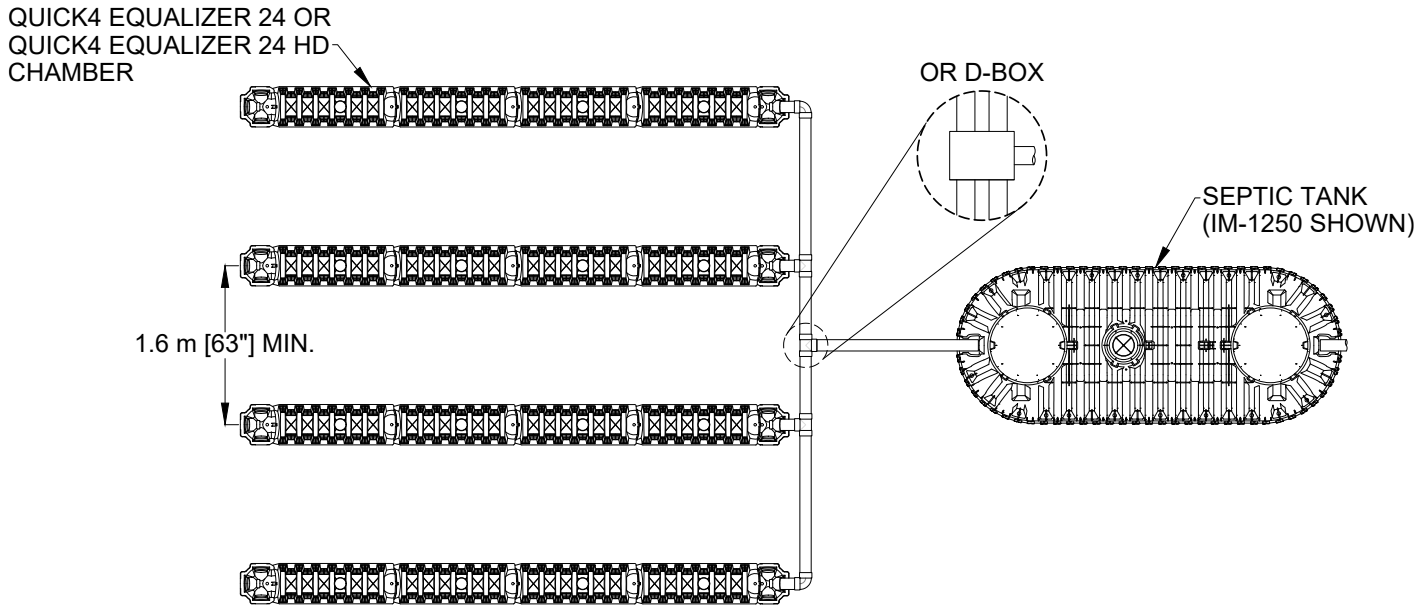
NOTES: 1. Per Section 8.7.3.2 (1)(b) of the Amendments, the total length of leaching chamber shall not be less than 40 m for any absorption trench other than a shallow buried trench.2. Per Section 8.7.3.2 (2) of the Amendments, for a type II leaching chamber, the total length of leaching chamber shall not be less than the value calculated using the formula L = QT/300. For example, a home with a flow rate of 1200 l/day and a percolation time of 15 min would need 60 m total length of Quick5 Equalizer 36 chambers: 1200 l/day(Q) x 15 min (T) divided by 300 = 60 m of trench required. The calculated total trench length must be rounded up to ensure sufficient system sizing.

Chamber Configurations

QUICK4 EQUALIZER 24/QUICK4 EQUALIZER 24 HD
TYPICAL CROSS SECTION
(not to scale)



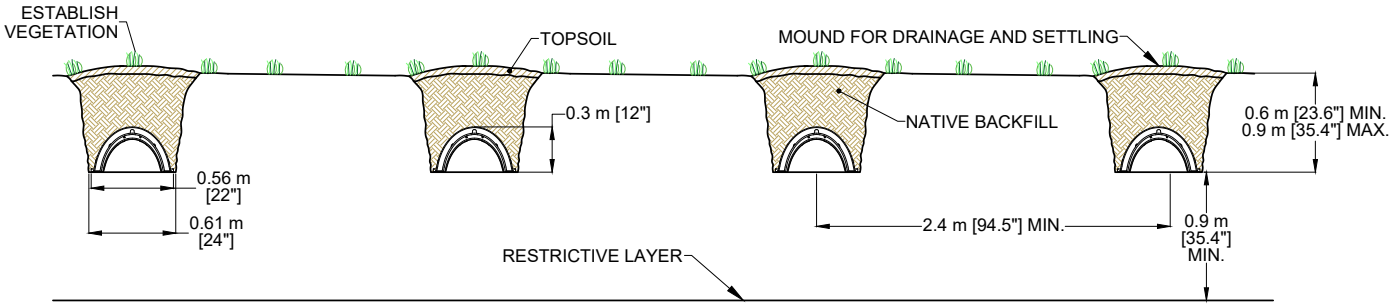
QUICK4 EQUALIZER 24/QUICK4 EQUALIZER 24 HD
TYPICAL PLAN VIEW
(not to scale)



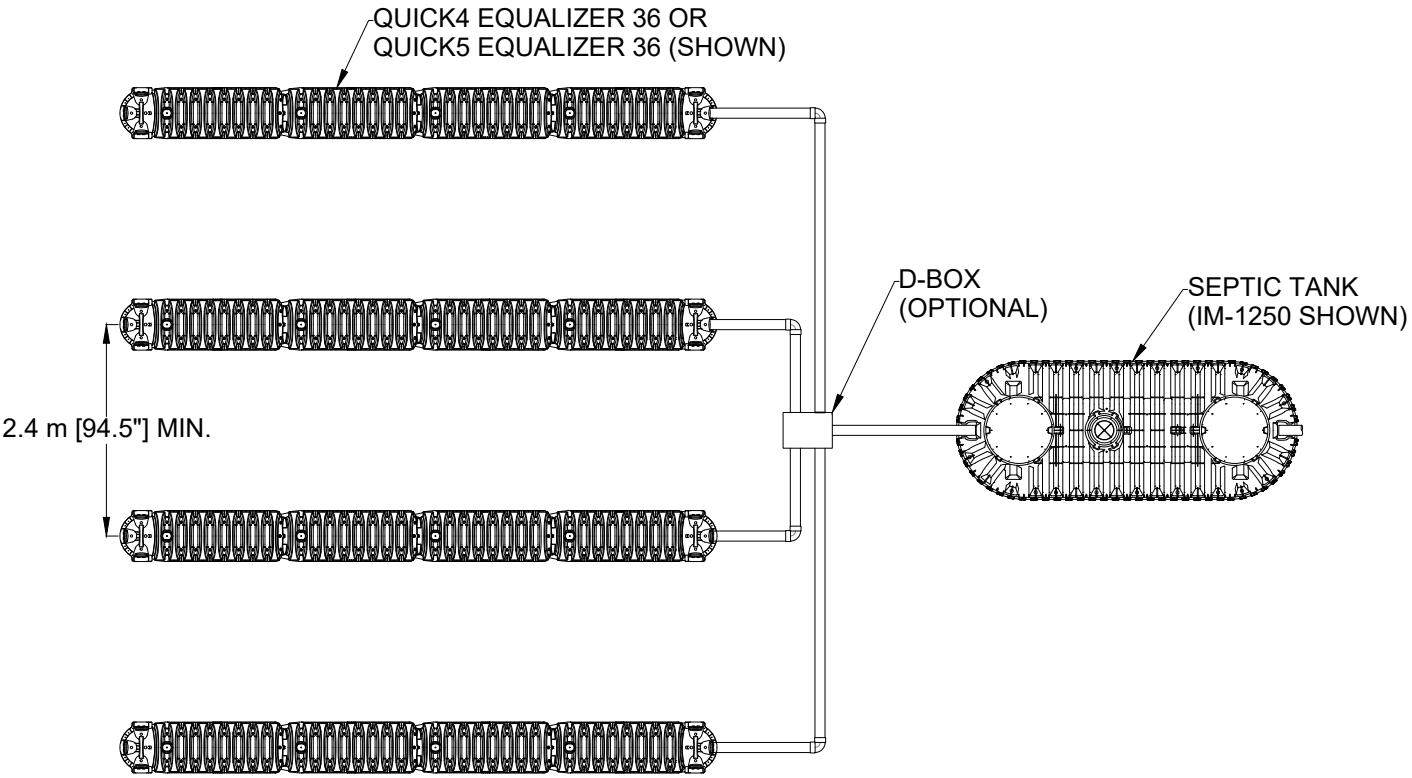
ABSORPTION TRENCHES (8.7.3 OF AMENDEMENTS)

Chamber Configurations

QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36
TYPICAL CROSS SECTION
(not to scale)



QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36
TYPICAL PLAN VIEW
(not to scale)



Gravity Trench Systems

Infiltrator Chambers may only be installed according to provincial regulations. If unsure of the installation requirements for a particular site, contact the local regulator.

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

Materials and Equipment Needed

- ☐ Infiltrator Chambers
- ☐ Endcaps
- ☐ PVC pipe and couplings
- ☐ Backhoe
- ☐ Laser, transit or level
- ☐ Shovel and rake
- ☐ Tape measure
- ☐ Screwdriver or knife
- ☐ 4.25-inch or 4.5-inch Hole saw
- ☐ 1-1/4-inch drywall screws
- ☐ Screw gun*
- ☐ Small valve-cover box*
- ☐ 4-inch cap for Inspection port*
- ☐ Invert adapter*

*Optional

These guidelines for construction machinery must be followed during installation.

- ☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 0.3 metres (12-inch) minimum of compacted** cover to support a wheel load rating of 7250 kg/axle (16000 lbs/axle) or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

**Compacted to a comparable level of native soil.

Excavating And Preparing The Site

NOTE: As is the case with conventional systems, do not install the systems in wet conditions or in overly moist soils, as this causes machinery to smear the soil.

1. Stake out the location of all trenches and lines. Set the elevations of the tank, pipe, and trench bottom. Install sedimentation and erosion control measures.

2. Temporary drainage swales/berms may be installed to protect the site during rainfall events.

3. Excavate and level 0.46 metre (18-inch) to 0.61 metre (24-inch) wide trenches with proper centre-to-centre separation. Verify that the trenches are level or have the prescribed slope.

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

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

NOTE: Raking to eliminate smearing is not necessary in sandy soils.

In fine-textured soils (silts and clays), avoid walking in the trench to prevent compaction and loss of soil structure.

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

Preparing the Endcap

1. Identify the proper inlet location on the endcap and the outer diameter of the inlet pipe. Based on the pipe diameter select a properly sized hole saw to create the inlet opening.

NOTE: that a 3.5-inch hole saw is required for a tight fit with 3-inch SCH40 pipe, a 4.25-inch hole saw is required for a tight fit with 4-inch SDR35 pipe, and a 4.5-inch hole saw is required for a tight fit with 4-inch SCH40 pipe.

2. Using a cordless drill with the selected hole saw align the pilot drill on the hole saw with the drill point on the endcap inlet. Drill the hole taking caution to secure the endcap from moving during the drilling procedure.

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

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

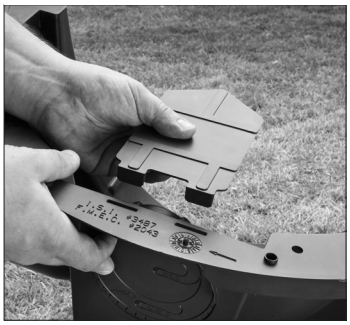
5. Insert the inlet pipe into the endcap at the beginning of the trench. Extend the pipe into the endcap roughly 7.6 centimetres (3 inches) before reaching the stop. (Screws optional.)



1. Identify the proper inlet location on the endcap.



2. Drill the hole on the endcap.



4. Install splash plate.



5. Insert inlet pipe.

Installing the System



2. Place first chamber onto endcap.

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, measured from the bottom of the inlet.

NOTE: Use the Invert Adapter if needed.

3. Place the inlet end of the first chamber over the back edge of the endcap. Line up the notches on the bottom of each side of the endcap with the slots on the bottom edge of the chamber.



3. Connect the chambers.

4. Insert two 1-1/4-inch drywall screws on each side of the chambers. Tighten each screw until the endcap is firmly secured to the chamber.

5. Lift and place the end of the next chamber onto the previous chamber by holding it at a 90-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower 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 90-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 the 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 a 10-degree swivel in either direction at each joint.



5. Activate StraightLock Tabs.

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

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

8. The last chamber in the trench requires a MultiPort endcap. Lift the endcap at a 45-degree angle and insert the connector hook through the opening on the top of the endcap. Applying firm pressure, lower the endcap to the ground to snap it into place

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

9. To ensure structural stability, fill the sidewall area by pulling soil in from the sides of the trench with a shovel. Start at the joints where the chambers connect. Continue backfilling the entire sidewall area, making sure the fill covers the louvers.

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

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

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

Installing Optional Inspection Ports



3. Fasten the pipe.

1. With a hole saw, drill the pre-marked area in the top of the chamber to create a 7.6-centimetre (4-inch) opening.

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

NOTE: The sleeve will accommodate up to a 4-inch SCH40 pipe.

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

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

5. A small valve cover box may be used if 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 provincial 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 0.3 metres (12 inches) of compacted cover over the chambers before driving over the system.

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

NOTE: For shallower cover applications, you must mound 0.3 metres (12 inches) of soil over the system before driving over it and then grade it back to 0.15 metres (6 inches) upon completion.

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

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

NOTE: If the system is for new home construction, it is important to leave markings staking along the boundary of the system. This will alert others to the site location so they will not cross it with vehicles or machinery.

Pressure Distribution Trench Systems

Infiltrator Chambers may only be installed according to provincial regulations. If unsure of the installation requirements for a particular site, contact the local health department.

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

Materials and Equipment Needed

- ☐ Infiltrator Chambers
- ☐ Endcaps
- ☐ PVC pipe and couplings
- ☐ Backhoe
- ☐ Laser, transit or level
- ☐ Shovel and rake
- ☐ Tape measure
- ☐ Utility knife
- ☐ 1-1/4-inch drywall screws
- ☐ Screw gun*
- ☐ Small valve-cover box*
- ☐ 4-inch cap for Inspection port*

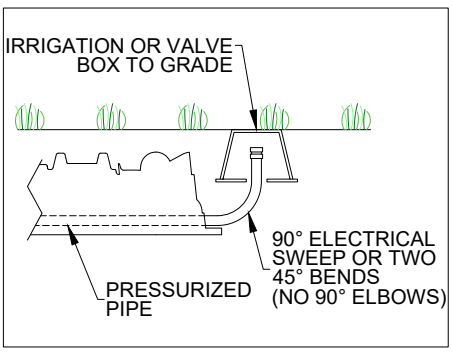
*Optional

These guidelines for construction machinery must be followed during installation.

- ☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 0.3 metres (12-inch) minimum of compacted cover to support a wheel load rating of 7250 kg/axle (16000 lbs/axle) or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ☐ Avoid stones larger than 75 mm (3 inches) in diameter in the backfill. Remove any stones of this size or larger that are in contact with the chambers.

Installing The Chambers And End Caps

1. To allow pressure laterals to drain after each dose, drill a hole in the bottom of the pipe at the end of the pressure line. Place the snap-off splash plate or a paving block at the bottom of the trench to protect the infiltrative surface from erosion.
2. With a hole saw, drill out the appropriate diameter hole to accommodate the pressure lateral pipe.
3. Insert the pressure lateral pipe into the 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.

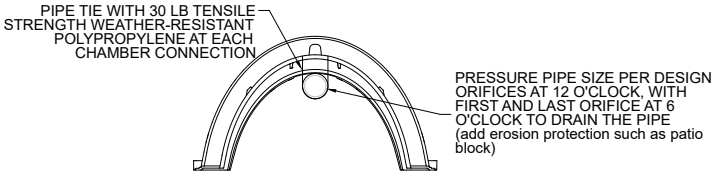


NOTE: Local health departments may require a wet-run pressure check to be completed prior to chamber installation when the pipe is lying on the ground. Check with your local health unit for the appropriate procedure.
5. (Method A) Secure the pressure lateral pipe to the top of the first chamber using 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.
6. (Method B) With the holes facing upward, stabilise the pressure lateral pipe on the ground to prevent it from moving.
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. (Method A) 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 end cap, it may be necessary to remove the tongue of the connector hook on the last chamber using a pair of pliers, depending on your pipe diameter.
11. 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.

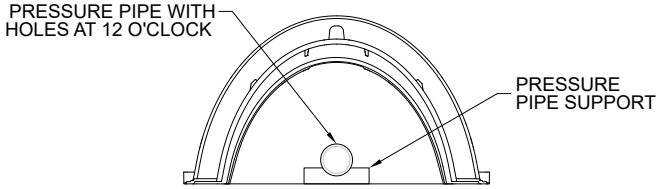
NOTE: If cleanout extensions are required, use a hole saw to cut a hole in the top of the end cap so the pressure lateral pipe with an elbow can extend to the ground surface. For cleanout access, refer to the Installing Optional Inspection Ports section in Gravity Trench Systems installation instructions.

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.

Method A: Top Placement



Method B: Bottom Placement



FILL BASED ABSORPTION TRENCHES (8.7.4 OF AMENDMENTS)

Required Fill Material

Leaching bed fill should be an unconsolidated material placed in the designated area to achieve the required unsaturated zone below the leaching chambers and to provide sufficient lateral extent for effluent absorption. The leaching bed fill should consist of clean sand and gravel, free of organic material and deleterious substances. It must meet Infiltrator's specification of 8% or less silt content passing the No. 200 sieve, as outlined in this manual. Refer to the gradation requirements in the table below.



TABLE 1: SIEVE SIZE

Sieve	Percent Passing
9.5-mm (3/8-in.)	95 to 100
4.75-mm (No. 4)	85 to 100
2.36-mm (No. 8)	65 to 100
1.18-mm (No. 16)	40 to 85
600-µm (No. 30)	20 to 65
300-µm (No. 50)	20 to 40
150-µm (No. 100)	8 to 20
75-µm (No. 200)	0 to 8

TABLE 2: QUICK4 EQUALIZER 24/QUICK4 EQUALIZER 24 HD CHAMBER SIZING FOR FILL BASED ABSORBTION TRENCHES

Quick4 Equalizer 24/Quick4 Equalizer 24 HD Chamber (TYPE I CHAMBER)				
	Number of Bedrooms			
Percolation Time, min (T)	2	3	4	5
	1100 l/day (Q)	1600 l/day (Q)	2000 l/day (Q)	2500 l/day (Q)
	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)
1	40	40	40	40
2	40	40	40	40
3	40	40	40	40
4	40	40	40	50
5	40	40	50	63
6	40	48	60	75
7	40	56	70	88
8	44	64	80	100
9	50	72	90	113
10	55	80	100	125
11	61	88	110	138
12	66	96	120	150
13	72	104	130	163
14	77	112	140	175
15	83	120	150	188

NOTES:1. Per section 8.7.3.2 (1)(b) of the Amendments, the total length of leaching chamber shall not be less than 40 m for any absorption trench other than a shallow buried trench.2. If the leaching bed fill does not meet the percolation criteria set in 8.7.4.2(2) of the Amendments, the trench must be sized per Section 8.7.3.2 Amendments, using the formula for Type I chamber L = QT/200, where T is the percolation time of the least permeable soil within 0.9 m from the bottom of the absorption trench. For example, a home with a flow rate of 1750 l/day and a percolation time of 7 min would need 62 m total length of Quick4 Equalizer 24 or Quick4 Equalizer 24 HD chambers: 1750 l/day(Q) x 7 min (T) divided by 200 ≈ 62 m of fill based absorption trench required. The calculated total trench length must be rounded up to ensure sufficient system sizing.3. If the native soil has percolation time that exceeds 15 minutes, contact Infiltrator for guidance on acceptable leaching bed fill and trench sizing.

TABLE 3: QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36 CHAMBER SIZING FOR FILL BASED ABSORBTION TRENCHES

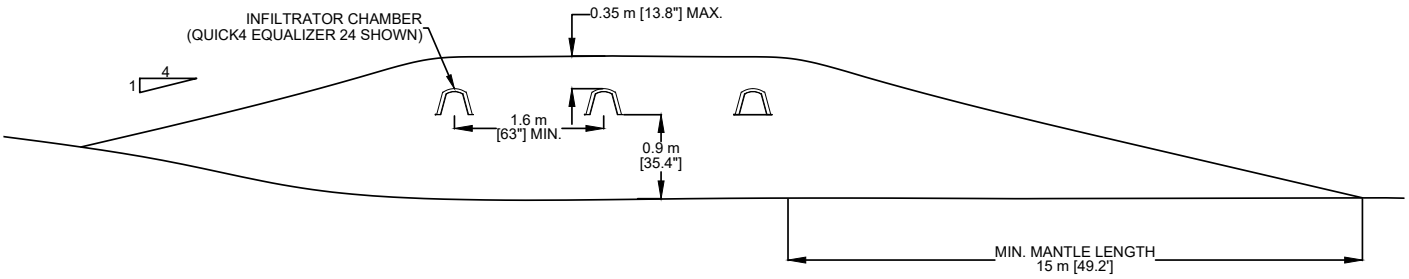
Quick4 Equalizer 36/Quick5 Equalizer 36 Chamber (Type Chamber)				
Percolation Time, min (T)	Number of Bedrooms			
	2	3	4	5
	1100 L/Day (Q)	1600 L/Day (Q)	2000 L/Day (Q)	2500 L/Day (Q)
	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)	Trench Length, m (L)
1	40	40	40	40
2	40	40	40	40
3	40	40	40	40
4	40	40	40	40
5	40	40	40	42
6	40	40	40	50
7	40	40	47	59
8	40	43	54	67
9	40	48	60	75
10	40	54	67	84
11	41	59	74	92
12	44	64	80	100
13	48	70	87	109
14	52	75	94	117
15	55	80	100	125

NOTES:1. Per section 8.7.3.2 (1)(b) of the Amendments, the total length of leaching chamber shall not be less than 40 m for any absorption trench other than a shallow buried trench.2. If the leaching bed fill does not meet the percolation criteria set in 8.7.4.2(2) of the Amendments, the trench must be sized per Section 8.7.3.2 Amendments, using the formula for Type I chamber L = QT/200, where T is the percolation time of the least permeable soil within 0.9 m from the bottom of the absorption trench. For example, a home with a flow rate of 1750 l/day and a percolation time of 7 min would need 62 m total length of Quick4 Equalizer 24 or Quick4 Equalizer 24 HD chambers: 1750 l/day(Q) x 7 min (T) divided by 200 ≈ 62 m of fill based absorption trench required. The calculated total trench length must be rounded up to ensure sufficient system sizing.3. If the native soil has percolation time that exceeds 15 minutes, contact Infiltrator for guidance on acceptable leaching bed fill and trench sizing.

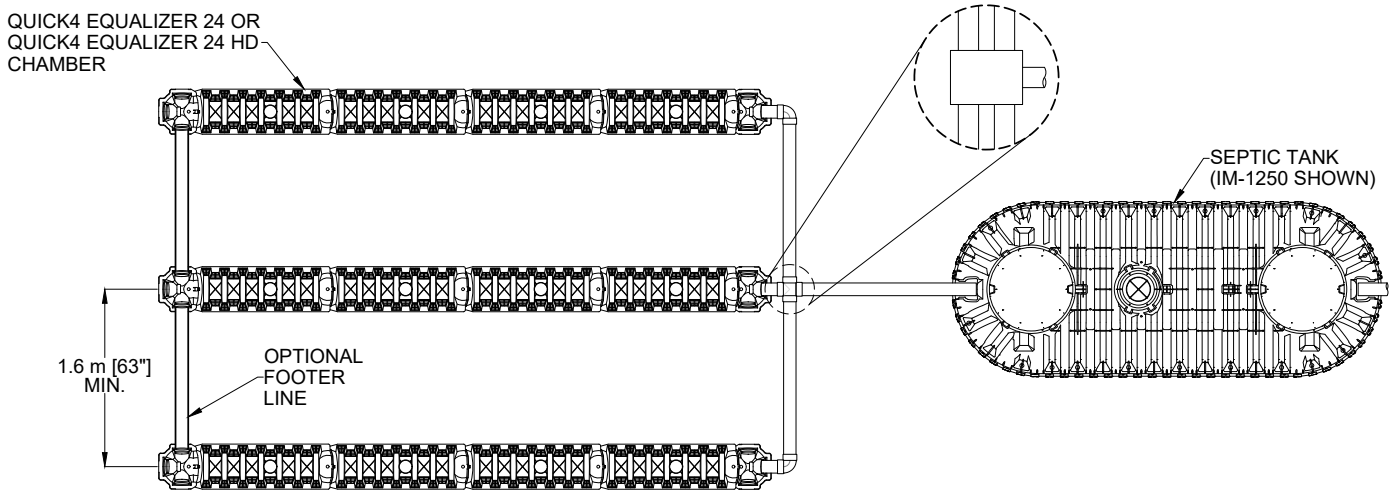
FILL BASED ABSORPTION TRENCHES (8.7.4 OF AMENDMENTS)

Chamber Configurations

QUICK4 EQUALIZER 24
TYPICAL CROSS SECTION (not to scale)

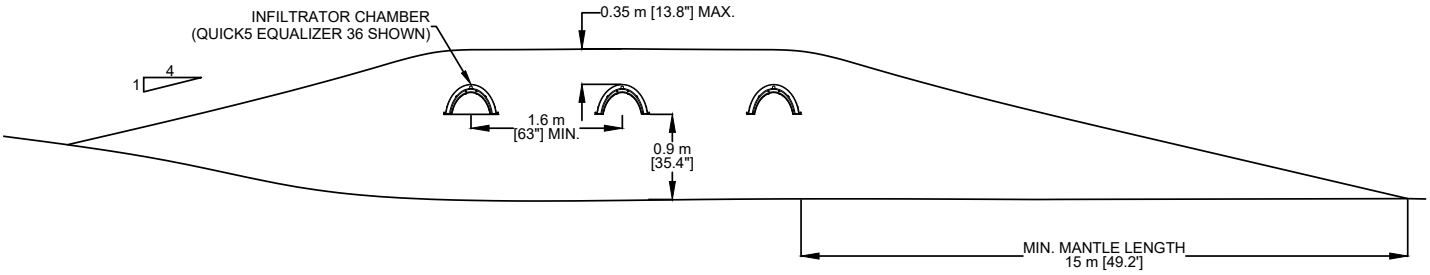


QUICK4 EQUALIZER 24
TYPICAL PLAN VIEW (not to scale)

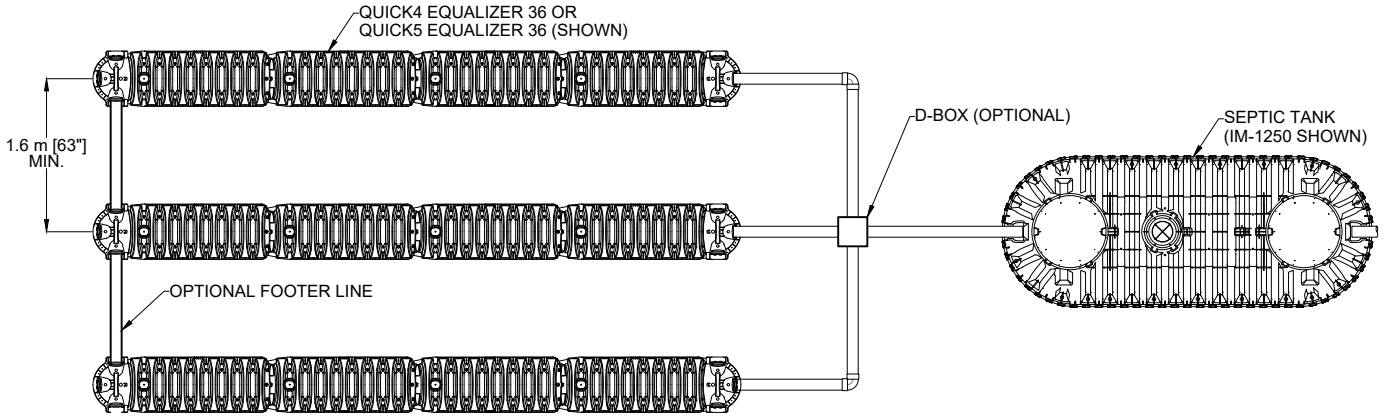


Chamber Configurations

QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36
TYPICAL CROSS SECTION
(not to scale)



QUICK4 EQUALIZER 36/QUICK5 EQUALIZER 36
TYPICAL PLAN VIEW
(not to scale)



FILL BASED ABSORPTION TRENCHES (8.7.4 OF AMENDMENTS)

Special Procedures

Before You Begin

These instructions address the installation of Infiltrator chambers in fill based absorption trenches using leaching bed fill in Ontario. Infiltrator chambers must be used in accordance with Part 8.7.4 of the Amendments.

Materials and Equipment Needed

- ☐ Infiltrator chambers
- ☐ Endcaps
- ☐ PVC Pipe and Couplings
- ☐ Backhoe
- ☐ Laser, transit or level
- ☐ Small valve cover box*
- ☐ Invert Adapter*
- ☐ Shovel and rake
- ☐ Hole Saw 4.25-inch or 4.5-inch
- ☐ Tape measure
- ☐ Snips and zip ties
- ☐ Screwdriver or utility knife
- ☐ 4-inch Cap for Inspection Port*
- ☐ 1-1/4-inch Drywall Screws

*Optional

These guidelines for construction machinery must be followed during installation.

- ☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 0.3 metres (12-inch) minimum of compacted cover to support a wheel load rating of 7250 kg/axle (16000 lbs/axle) or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

Preparing the Site

1. Review the site plans to determine all elevations and location of the leaching bed.
2. Stake out the location and area for the expanded contact area and mantel.
3. Set elevations of the tank, distribution box or piping and chamber drainfield.
4. Before placing specified sand fill, clear and grade area. Remove top soil and keep for final drainfield grading and dressing.
5. Before placing fill, scarify the bottom surface of the excavated area parallel with the contour of the land. Use a multiple-share plough, chisel plough or a similar implement attached to lightweight equipment.
6. Calculate the number of sand lifts necessary. Lifts should range in depth from 0.3 metres (12 inches) to 0.6 metres (24 inches), based on the quality of the fill material.
7. Confirm that the sand that will be used meet the requirements of this manual (no more than 8% fines passing No.200 sieve). A lab gradation report may be necessary if uncertain.

Placing the Leaching Bed Fill



1. Place the leaching bed fill on the edge of the site. Use a dozer or other track equipment to evenly spread the first lift of fill over required area.
Note: Do not drive work equipment on prepared sub-grade.
2. Stabilize sand fill without compacting by driving a track vehicle over entire area.
3. Place consecutive lifts following Steps 1 and 2 until desired elevation is achieved.
4. Once required vertical separation to trench bottom is obtained, rake level the area where the trenches will be placed on the sand fill. Chambers are to be installed without any prescribed slope.
Note: For Raised Beds in Imported Fill the on-centre spacing for Infiltrator Chambers is 1.6 meters.

Preparing the Endcap



1. Identify the proper inlet location on the endcap.

1. Identify the proper inlet location on the endcap and the outer diameter of the inlet pipe. Based on the pipe diameter select a properly sized hole saw to create the inlet opening.
NOTE: that a 3.5-inch hole saw is required for a tight fit with 3-inch SCH40 pipe, a 4.25-inch hole saw is required for a tight fit with 4-inch SDR35 pipe, and a 4.5-inch hole saw is required for a tight fit with 4-inch SCH40 pipe.
2. Using a cordless drill with the selected hole saw align the pilot drill on the hole saw with the drill point on the endcap inlet. Drill the hole taking caution to secure the endcap from moving during the drilling procedure.
3. Snap off the moulded splash plate located on the bottom front of the endcap.
4. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.
5. Insert the inlet pipe into the endcap at the beginning of the trench. Extend the pipe into the endcap roughly 7.6 centimetres (3 inches) before reaching the stop. (Screws optional.)



2. Drill the hole on the endcap.



5. Insert inlet pipe.

Special Procedures

Installing the System



3. Place first chamber onto endcap.

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

2. Set the invert height at 0.15 metres (6 inches) as specified in the design from the bottom of the inlet.

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

4. Lift and place the end of the next chamber onto the previous chamber by holding it at a 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 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 insure proper connection and does not add structural integrity to the chamber joint. Broken hooks will not affect the structure nor void the warranty.



4. Connect the chambers.

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

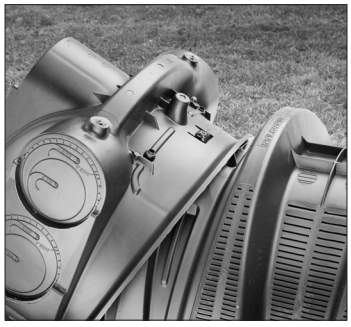
NOTE: Infiltrator Chambers allow 10 degrees of swivel in either direction at each joint.

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

NOTE: As chambers are installed verify that they are moderately level using a 4 foot hand level or laser equipment on centre area of each chamber installed. Chambers should be installed without any prescribed slope.

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

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



7. Attach endcap to chamber.

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

Installing Header

1. Install the header assembly with the desired number of laterals required for each row of chambers. Install an inlet "T" as close to centre as possible. It may be necessary to install a double header to ensure even distribution to all laterals if an odd number of rows have been installed.

NOTE: It may help to keep the header level if it is constructed so that the lateral branches are short to keep the header close to the chamber endcaps.

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

NOTE: An optional drywall screw can be used at the 12 o'clock position to secure the pipe to the endcap.

3. Ensure that the header lines or distribution box are installed with necessary support, so they remain level after the system is backfilled.

Installing Footer Line

1. Measure and cut required number of 3-inch or 4-inch PVC sewer pipe to join the MultiPort Endcaps at the trench ends. Pipes should be cut to suitable length without the possibility of dislodging during backfill or settlement.



3. Fitting-free looped end.

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

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

Backfilling and Covering the System

1. Ladle in backfill over chambers in each row by placing excavator on edge of bed area within reach of the middle rows. Carefully spread fill over dome of chamber ensuring that the chamber does not move out of place. Firm the sand fill between the chamber rows by walking it in. This important step assures correct structural support of the system.

NOTE: Some local jurisdictions may require an inspection before backfilling. Do not cover the chambers above the sidewall louvers prior to the inspection unless permitted by local guidelines.



1. Ladle soil on chamber domes.

2. Continue to ladle the sand fill into place until the entire system is covered and the chambers have 0.2 metres (8 inches) to 0.35 metres (13.8 inches) of cover.

3. Create the required slope from the top of the backfilled drainfield according to the Amendments. Use a light tracked vehicle or dozer to level and stabilise the fill. Always work perpendicular to the chambers.

NOTE: Do not use backhoe or rubber tire equipment to level area.

NOTE: Per Section 8.7.4.2(9) and Section 8.7.4.2(10) of the Amendments, for systems raised above natural ground, the sides of the leaching bed fill must be sloped no steeper than 1 vertical to 4 horizontal, unless erosion control measures are implemented. If such measures are in place, a slope of up to 1 vertical to 3 horizontal is permitted.



3. Build ramp of soil.

4. After system has been covered, minimum 0.15 metres (6 inches) of topsoil should be placed over entire system shortly after installation and be sure that the area is graded for proper drainage away from system. Seed or sod the site to prevent erosion.

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

FILL BASED ABSORPTION TRENCHES (8.7.4 OF AMENDMENTS)

Special Procedures

Before You Begin

This section explains the installation procedures for the distribution pipe in Infiltrator chambers as required by Section 8.6.1.3(2) of the Amendments. When the total trench length of 150 m (500 ft) or more is required and the length of Infiltrator chambers has been reduced as permitted by local health department, a distribution pipe shall be installed in the chambers, according to the manufacturer's recommendations and extended the total length of the trench. The effluent must be dosed to the leach field by pump or siphon to meet the requirements of Section 8.6.1.3.(2) of the Amendments.The above condition is not a Manufacturer's requirement, but a requirement by the BMEC for Infiltrator to achieve compliance with the requirements set in the Amendments. Distribution piping is not recommended by Infiltrator to be installed along the length of Infiltrator chambers in dosing applications.

NOTE: When the total trench length required is less than 150 metres, but the system still requires dosing, a volume of effluent within the range of 3.5–5 litres per metre of Infiltrator chamber systems must be pumped within a 15-minute period to meet the requirements of 8.6.1.3(5) of the Amendments.

Materials and Equipment Needed

- ☐ Infiltrator chambers
- ☐ Endcaps
- ☐ PVC Pipe and Couplings
- ☐ Backhoe
- ☐ Laser, transit or level
- ☐ Small valve cover box*
- ☐ Invert Adapter*
- ☐ Shovel and rake
- ☐ Hole Saw 4.25-inch or 4.5-inch
- ☐ Tape measure
- ☐ Snips and zip ties
- ☐ Screwdriver or utility knife
- ☐ 4-inch Cap for Inspection Port*
- ☐ 1-1/4-inch Drywall Screws

*Optional

These guidelines for construction machinery must be followed during installation.

- ☐ Avoid direct contact with chambers when using construction equipment. Chambers require a 0.3 metres (12-inch) minimum of compacted cover to support a wheel load rating of 7250 kg/axle (16000 lbs/axle) or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

Excavating and Preparing the Site

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

2. Install sedimentation and erosion control measures. Temporary drainage swales/berms may be installed to protect the site during rainfall events. Stake out the location of all trenches and lines. Set the elevations of the tank, pipe and trench bottom in accordance with the design.

3. Excavate and level 0.6 m (2-ft) wide trenches with the proper centre-to-centre separation.

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.

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

7. Ensure that you have the necessary amount of 3-inch PVC perforated sewer pipe, caps and zip-tie straps.

Preparing the Endcap

1. Identify the proper inlet location on the endcap and the outer diameter of the inlet pipe. Based on the pipe diameter select a properly sized hole saw to create the inlet opening.

NOTE: that a 3.5-inch hole saw is required for a tight fit with 3-inch SCH40 pipe, a 4.25-inch hole saw is required for a tight fit with 4-inch SDR35 pipe, and a 4.5-inch hole saw is required for a tight fit with 4-inch SCH40 pipe.

2. Using a cordless drill with the selected hole saw align the pilot drill on the hole saw with the drill point on the endcap inlet. Drill the hole taking caution to secure the endcap from moving during the drilling procedure.

3. The moulded splash plate will not be required for this application.

4. Insert the solid inlet pipe stub through 3-inch drilled-out opening in the endcap. Feed 7.5 to 10 cm (3 to 4 inches) of pipe through so that a new length of pipe can be connected inside the cap.

5. Connect by gluing a length of 3-inch PVC perforated pipe using the hub end to the inserted stub of solid pipe.

NOTE: Ensure that the holes in the perforated pipe are oriented in a downward position.



1.



2.



4.



5.

Installing the System

1. Construct the header with the required number of laterals and spacing with 3-inch or 4-inch solid PVC pipe.

NOTE: If 4-inch pipe is used for the header, you will need to reduce to 3-inch at each lateral tee or elbow connection.

2. Set the invert height at 0.15 m (6 inches) from the trench bottom to align with the endcap connection.

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



3.

4. At the connection end of the first chamber, centre the extended 3-inch PVC perforated pipe under the chamber and with one hand, lift the pipe to the roof of the chamber.

5. Using the provided holes in the end of the chamber, feed the end of a 35 to 40 cm (14 to 16 inches) long 120-pound nylon zip-tie through one of the holes. Bring the zip-tie around the pipe and back through the other hole in the chamber.



5.

6. Synch the zip-tie tight tying the pipe firm to the roof of the chamber. Check to ensure that the holes are in the downward position.



6.

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

Note: The connected chambers will clear the zip-tie and the tie will not obstruct the connection.

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 of the chamber.

Note: Broken hooks will not affect structure nor void the warranty.



7.

8. Continue gluing lengths of 3-inch PVC perforated pipe together until desired or designed trench length is achieved. Make sure to keep the holes facing the downward position.

9. Continue connecting chambers and tying the 3-inch PVC pipe to the top of each chamber as each chamber is put in place.

NOTE: It is recommended that a 120-pound zip-tie is used to support the pipe at every chamber joint.

NOTE: Use only 120-pound nylon zip-ties with a width of 64 mm (0.25 inches).

10. Terminate the 3-inch PVC perforated pipe at the last zip-tie connection of the chamber row and glue an approved PVC cap on the cut end of the pipe.

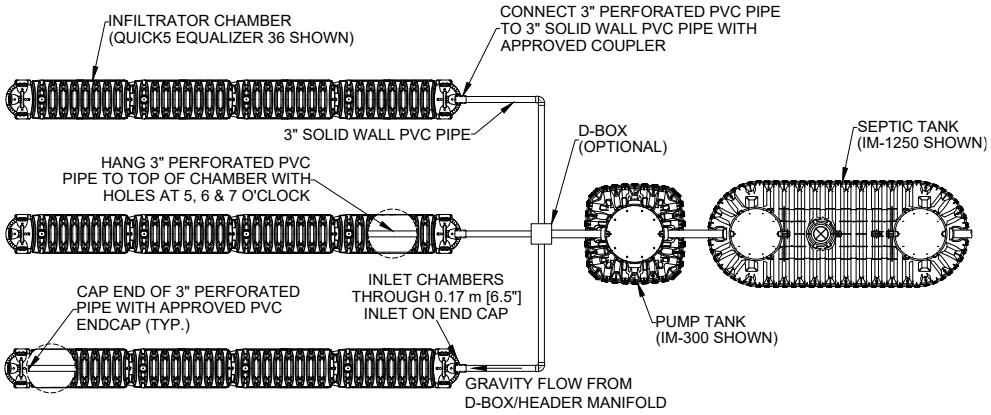
11. The last chamber in the trench requires an endcap. Lift the cap at a 45-degree angle and insert the connector hook through the opening on the top of the endcap. Apply firm pressure, lower the endcap to the ground to snap it into place. Do not remove the tear-out seals.

12. Proceed to the next lateral and begin with Step 3.

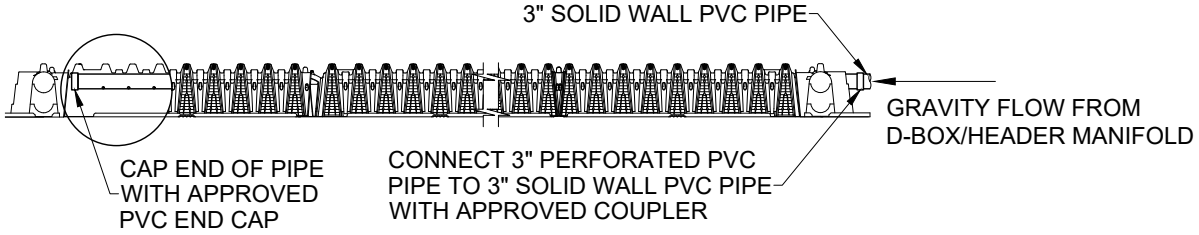
FILL BASED ABSORPTION TRENCHES (8.7.4 OF AMENDMENTS)

TYPICAL

Plan View (not to scale)

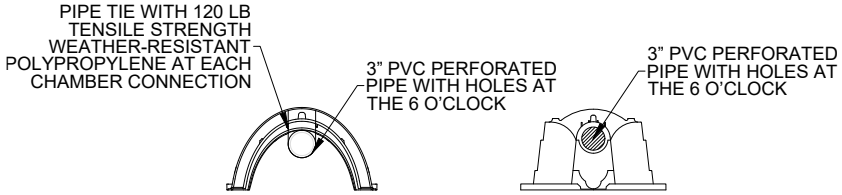


Side View (not to scale)



DETAILS

Side And End Views (not to scale)



System Sizing

TABLE 1A. Q4EQ24 AND Q4EQ36 FILTER BED LENGTH CHART

No. of Chambers in a Row	Filter Medium Sand Length (Including Offets)
3	4.9 m (16 ft)
4	6.1 m (20 ft)
5	7.3 m (24 ft)
6	8.5 m (28 ft)
7	9.8 m (32 ft)
8	11 m (36 ft)
9	12.2 m (40 ft)
10	13.4 m (44 ft)

NOTE: Measurements are outside shoulder to outside shoulder of filter medium sand.

TABLE 1B. Q5EQ36 FILTER BED LENGTH CHART

No. of Chambers in a Row	Filter Medium Sand Length (Including Offets)
3	6.1 m (20 ft)
4	7.6 m (25 ft)
5	9.2 m (30 ft)
6	10.7 m (35 ft)
7	12.2 m (40 ft)
8	13.7 m (45 ft)
9	15.3 m (50 ft)
10	16.8 m (55 ft)

Table 2A. Q4 EQ24 FILTER BED WIDTH (0.6 METRE SPACING)

No. of Chambers in a Row	Filter Bed Width
2	1 m (3 ft 4 in)
3	1.8 m (5 ft 11 in)
4	2.9 m (9 ft 8 in)
5	4.5 m (14 ft 10 in)
6	6.4 m (21 ft)
7	8.7 m (28 ft 8 in)
8	11.4 m (37 ft 5 in)
9	14.5 m (47 ft 8 in)
10	18 m (59 ft 2 in)

NOTE: Chamber centre-on-centre spacingas follows: Quick4 Equalizer 24 HD Chambers Minimum: 0.6 meters Maximum: 0.9 meters Quick4 Equalizer 36 Chambers Minimum: 0.8 meters Maximum: 1.0 meters

TABLE 2B. Q4EQ36 AND Q5EQ36 FILTER BED WIDTH (0.8 METRE SPACING)

No. of Chambers in Row	Filter Bed Width
2	1.1 m (3 ft 8 in)
3	2 m (6 ft 8 in)
4	3.5 m (11 ft 6 in)
5	5.4 m (17 ft 10 in)
6	7.8 m (25 ft 8 in)
7	10.7 m (35 ft 2 in)
8	14.1 m (46 ft 4 in)
9	18 m (59 ft 2 in)
10	22.3 m (73 ft 3 in)

TYPE A BEDS (8.7.7 OF AMENDMENTS)

System Sizing – Type A beds
Step 1: Minimum Dispersal Area

Q ≤ 3000 l/day	Q > 3000
A = Q/75	A = Q/50

Where:
A = The area over which the leaching chambers are spaced (m2)
Q = The total daily design sanitary sewage flow (L)

Step 2: Minimum Sand Layer

	Number of Bedrooms					
Native Soil Design Rate, min (T)	2	3	4	5	6	7
	1100 l/day (Q)	1600 l/day (Q)	2000 l/day (Q)	2500 l/day (Q)	3000 l/day (Q)	3500 l/day (Q)
	Sand Area, m2	Sand Area, m2	Sand Area, m2	Sand Area, m2	Sand Area, m2	Sand Area, m2
1	14.7	21.4	26.7	33.4	40.0	70.0
2	14.7	21.4	26.7	33.4	40.0	70.0
3	14.7	21.4	26.7	33.4	40.0	70.0
4	14.7	21.4	26.7	33.4	40.0	70.0
5	14.7	21.4	26.7	33.4	40.0	70.0
6	14.7	21.4	26.7	33.4	40.0	70.0
7	14.7	21.4	26.7	33.4	40.0	70.0
8	14.7	21.4	26.7	33.4	40.0	70.0
9	14.7	21.4	26.7	33.4	40.0	70.0
10	14.7	21.4	26.7	33.4	40.0	70.0
11	14.7	21.4	26.7	33.4	40.0	70.0
12	15.6	22.6	28.3	35.3	42.4	70.0
13	16.9	24.5	30.6	38.3	45.9	70.0
14	18.2	26.4	33.0	41.2	49.5	70.0
15	19.5	28.3	35.3	44.2	53.0	70.0
16	44.0	64.0	80.0	100.0	120.0	140.0
17	46.8	68.0	85.0	106.3	127.5	148.8
18	49.5	72.0	90.0	112.5	135.0	157.5
19	52.3	76.0	95.0	118.8	142.5	166.3
20	55.0	80.0	100.0	125.0	150.0	175.0
21	57.8	84.0	105.0	131.3	157.5	183.8
22	60.5	88.0	110.0	137.5	165.0	192.5
23	63.3	92.0	115.0	143.8	172.5	201.3
24	66.0	96.0	120.0	150.0	180.0	210.0
25	68.8	100.0	125.0	156.3	187.5	218.8
26	71.5	104.0	130.0	162.5	195.0	227.5
27	74.3	108.0	135.0	168.8	202.5	236.3
28	77.0	112.0	140.0	175.0	210.0	245.0
29	79.8	116.0	145.0	181.3	217.5	253.8
30	82.5	120.0	150.0	187.5	225.0	262.5
31	85.3	124.0	155.0	193.8	232.5	271.3
32	88.0	128.0	160.0	200.0	240.0	280.0
33	90.8	132.0	165.0	206.3	247.5	288.8
34	93.5	136.0	170.0	212.5	255.0	297.5
35	96.3	140.0	175.0	218.8	262.5	306.3
36	99.0	144.0	180.0	225.0	270.0	315.0
37	101.8	148.0	185.0	231.3	277.5	323.8
38	104.5	152.0	190.0	237.5	285.0	332.5
39	107.3	156.0	195.0	243.8	292.5	341.3
40	110.0	160.0	200.0	250.0	300.0	350.0
41	112.8	164.0	205.0	256.3	307.5	358.8
42	115.5	168.0	210.0	262.5	315.0	367.5
43	118.3	172.0	215.0	268.8	322.5	376.3
44	121.0	176.0	220.0	275.0	330.0	385.0
45	123.8	180.0	225.0	281.3	337.5	393.8
46	126.5	184.0	230.0	287.5	345.0	402.5
47	129.3	188.0	235.0	293.8	352.5	411.3
48	132.0	192.0	240.0	300.0	360.0	420.0
49	134.8	196.0	245.0	306.3	367.5	428.8
50	137.5	200.0	250.0	312.5	375.0	437.5

Step 3: Chamber Row Length

Row Length Per Number of Chamber	
# of chambers in row	**Row Length (m)**
3	**3.66**
4	**4.88**
5	**6.1**
6	**7.32**
7	**8.54**
8	**9.76**
9	**10.98**
X	**X*1.22**

Step 4: Determine Minimum Bed Width

Bed Width = Dispersal Area/ Row Length

• Divide Dispersal Area by row length chosen in Step 3.

Step 5: Determine number of Chamber Rows Required

No. of Chamber Rows = Bed Width / (Chamber Width + 0.2m)

• Round up if not whole number

Step 6: Adjust Row Spacing

Adjusted Row Spacing = [Bed Width – (Chamber Width * No. of Rows)]/ (No. Rows -1)

Step 7: Determine Final Dispersal Area Dimensions

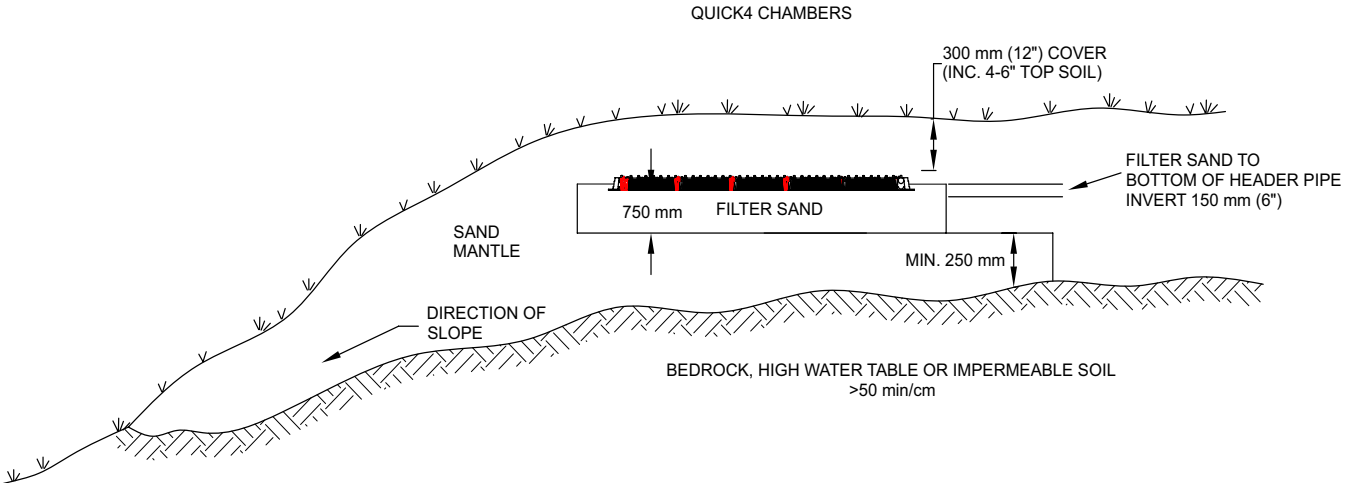
Length = Row Length + (EndCap Length*2) + 1.2m

Width = Bed Width + 1.2m

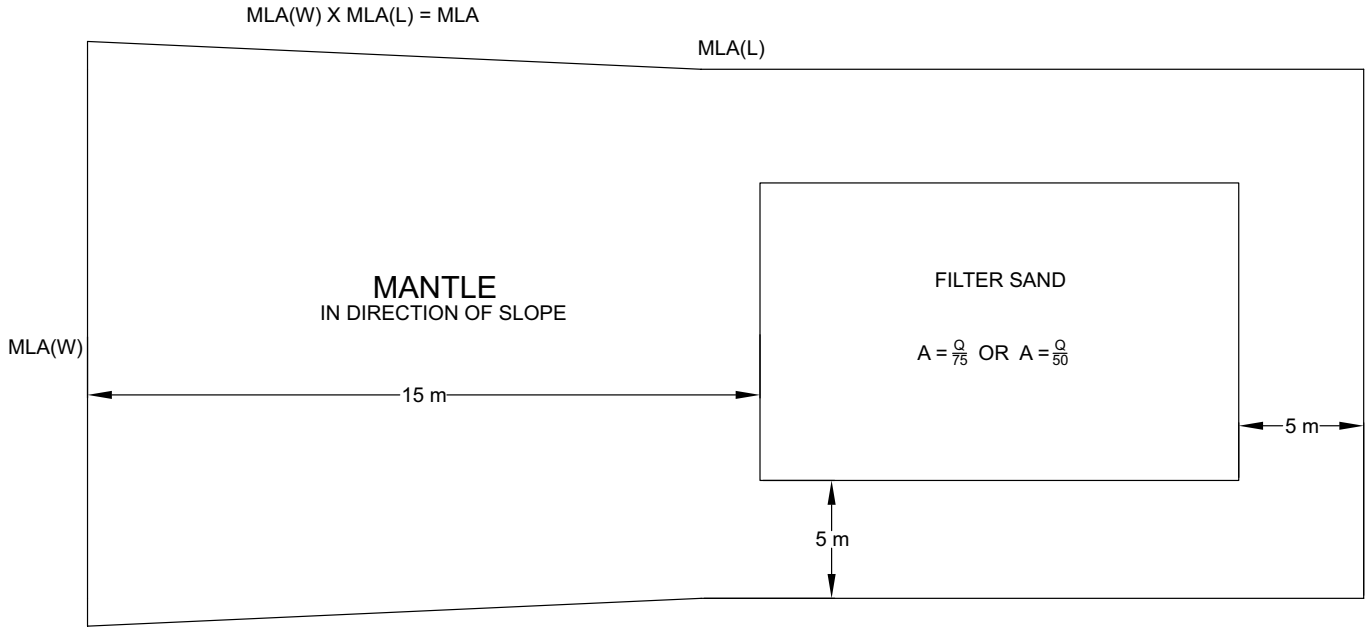
• If the T time is greater than 15 min/ cm the sand layer shall extend at least 15m in the direction in which the effluent entering the soil will move horizontally

Chamber Configurations

TYPICAL Cross Section (not to scale)



TYPICAL Plan View (not to scale)



Installation Instructions

Before You Begin

These instructions address the installation of Infiltrator chambers in Filter Beds in Ontario. Like conventional systems, the soil and site conditions must be approved prior to installation. Conduct a thorough site evaluation to determine the proper sizing and sitting of the systems before installation.

Materials and Equipment Needed

- ☐ Infiltrator chambers
- ☐ Multiport endcaps
- ☐ PVC Pipe and Couplings
- ☐ Laser, transit or level
- ☐ Invert Adapter*
- ☐ 2-inch Drywall Screws*
- ☐ Small Valve-Cover Box*
- ☐ Shovel or rake
- ☐ Tape measure
- ☐ Screwdriver or utility knife
- ☐ Screwdriver
- ☐ Screw Gun*
- ☐ Hole Saw
- ☐ 4-inch Cap for 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 0.3 metres (12-inch) minimum of compacted cover to support a wheel load rating of 7250 kg/axle (16000 lbs/axle) or equivalent to an H-10 AASHTO load rating.
- ☐ Only drive across the trenches when necessary. Never drive down the length of the trenches. If driving is necessary, use track vehicles only.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

Excavating and Preparing the Site

1. Review the site plans to determine all elevations and location of the leaching bed.
2. Stake out the location and area for the expanded contact area and mantel.
3. Set elevations of the tank, distribution box or piping and chamber filter bed ensuring that you have the required 0.9 metres (35.4 inches) vertical separation to bedrock, water table or soil with a t-time >50 min/cm.
4. Clear and grade area removing top soil and keep for final Filter Bed grading and dressing.
5. Before placing fill, scarify the bottom surface of the excavated area parallel with the contour of the land. Use a multiple share plough, chisel plough or a similar implement attached to lightweight equipment.
6. Calculate the area for the mantle and expanded contact area if needed.
7. Ensure that the mantle is designed in the directions of the downward grade of the limiting soil layer.

Placing the Specified Filter Sand

1. Place the sand fill on the edge of the site. Use a dozer or other track equipment to evenly spread the first 0.25 metres (10 inches) lift of fill over required area.
2. Stabilize sand fill by driving a track vehicle over entire area.
3. Place approved filter media sand in area to meet the design square meter area required to a depth of 0.75 metres (29.5 inches).
4. Once required depth of filter sand is obtained, rake level area where the chambers will be placed on the Filter Sand. Chambers are to be installed “nominally level.”



3. Evenly spread specified sand fill.

Preparing the Endcap

1. Identify the proper inlet location on the endcap and the outer diameter of the inlet pipe. Based on the pipe diameter select a properly sized hole saw to create the inlet opening.

NOTE: 3.5-inch hole saw is required for a tight fit with 3-inch SCH40 pipe, a 4.25-inch hole saw is required for a tight fit with 4-inch SDR35 pipe, and a 4.5-inch hole saw is required for a tight fit with 4-inch SCH40 pipe.

2. Using a cordless drill with the selected hole saw align the pilot drill on the hole saw with the drill point on the endcap inlet. Drill the hole taking caution to secure the endcap from moving during the drilling procedure.
3. Snap off the moulded splash plate located on the bottom front of the endcap.
4. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.
5. Insert the inlet pipe into the endcap at the beginning of the trench. Extend the pipe into the endcap roughly 10 centimetres (4 inches).
(Screws optional.)



1. Identify the proper inlet location on the endcap.



2. Drill the hole on the endcap.



5. Insert inlet pipe.

Installing the System

1. Check the header pipe to be sure it is level or has no prescribed slope.

2. Set the invert height at 15 centimetres (6 inches) as specified in the design from the bottom of the inlet.

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



3. Place first chamber onto endcap.

4. Lift and place the end of the next chamber onto the previous chamber by holding it at a 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 connect the chambers.

Note: When the chamber tend 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 insure proper connection and does not add structural integrity to the chamber joint. Broken hooks will not affect the structure nor void the warranty.



4. Connect the chambers.

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

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

Note: As chambers are installed, verify that they are moderately level using a 4 foot hand level or laser equipment on centre area of each chamber installed. Chambers should be installed without any prescribed slope.

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

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

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

Backfilling and Covering the System

Before backfilling, the system must be inspected by a building inspector, health officer or other official as required by Province of Ontario. Create an as-built drawing at this time for future records.

1. Ladle soil with a backhoe bucket or carefully dump soil on the dome of the chambers and spread in between.

Note: Pending local inspectors approval, this step may be performed before of after inspection. Be sure not to backfill the system any higher than the sidewall louvers.

2. Backfill with additional filter medium sand (if there is any left) by ladling sand with backhoe bucket or loader over the dome of the chambers. Let sand spread between chamber rows to the top of the sidewall or to the bottom of the pipe invert as a minimum.

3. Use good clean sand fill to complete the backfilling to 15 centimetres (6 inches) from desired finished grade.

4. When placing final cover on the Filter Bed, backfill by broadcasting the cover material over Filter Bed with excavator. Be sure to cover chambers to 30 centimetres (12 inches) working perpendicular to chambers.

5. Grade the area for proper drainage and then seed or sod the area.

Note: In a filter bed the minimum sand area size is 10m2 and the maximum areas size is 50m2. The filter medium sand area is calculated with the following formulas:

< 3000 liters/day use A=Q/75

> 3000 liters/day use A=Q/50

Expanded contact area is calculated using A=QT/850 of the underlying soil t-time.

Loading rates for fill based absorption trenches and fill beds

Percolation Time (T) of Soil (min/cm)	Loading Rates (L/m^2/day)
$1 < T \leq 20$	10
$20 < T \leq 35$	8
$35 < T \leq 50$	6
$T > 50$	4

INFILTRATOR WATER TECHNOLOGIES STANDARD LIMITED 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 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.

Contact Infiltrator's Technical Services Department for assistance at 1-800-221-4436 or info@infiltratorwater.com

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