

# On-Site Leaching Chamber Specifications & Features

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Design & Installation Manual – Minnesota





# On-Site Leaching Chamber

- This manual provides general design and installation information for use of plastic leaching chambers in the State of Minnesota.
- All chamber configurations and installations must comply with applicable state and local rules.
- This manual contains a brief description for each chamber model and general design and installation procedures. For more detailed information please contact ADS at 800-821-6710.
- For CAD drawings refer to our website at: [www.adspipe.com](http://www.adspipe.com).

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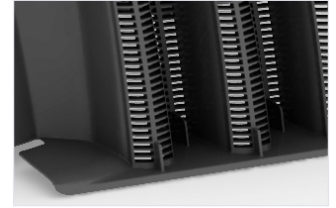
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### Arc 18 Features

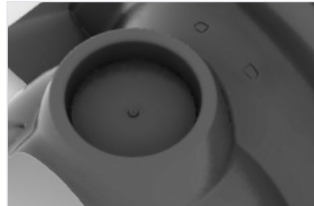
- Base flanges on the chamber ends lock during final engagement to form a very strong joint.
- The Arc 18 chamber feet are designed with an extra large surface area to provide support particularly in sandy soils.
- Sidewall louvers allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance and a convenient location for drain ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the "Post" end joint. When removed, these knockouts are for the use of zip ties to support piping in dosing systems.



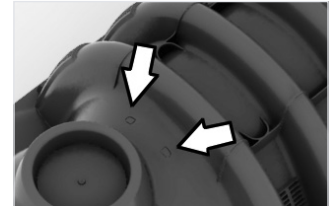
Overlocking Ends



Louvers and Feet



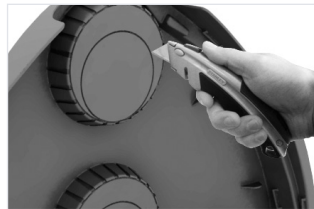
Observation Port



Zip Tie Knockouts

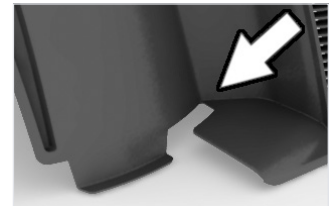
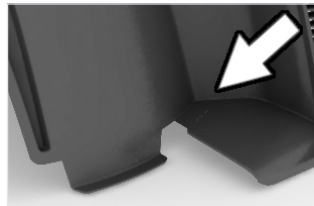
### Arc 18 End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- End caps are designed to attach the chamber's dome or post end.



### Arc 18 Swivel Feature

- Each chamber's post end has swivel lockout tabs at either base flange. When removed, the incoming chamber will turn up to ten degrees in the direction of the removed lockout tab. Without removal of the swivel lockout tab, the chambers will align in a straight pattern.
- Swivel lockout tabs may be removed carefully with a utility knife.





# ARC 18 System

Before beginning installation, please note the following engineered features of the Arc 18 model chambers and end caps.

Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

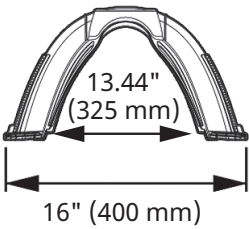
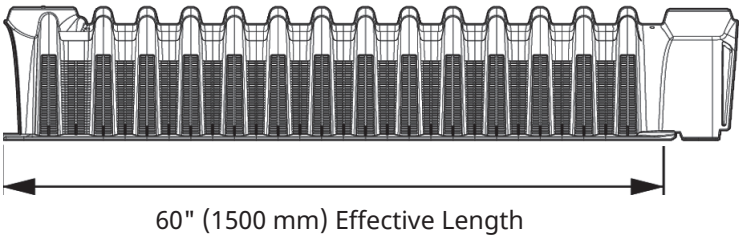
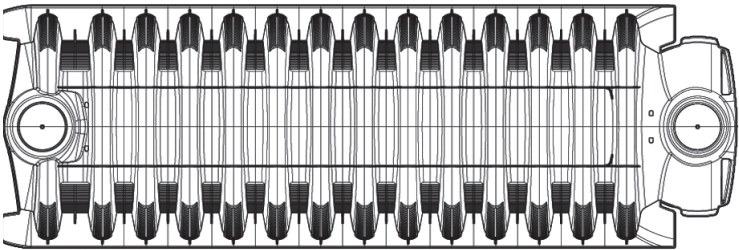
## Chamber Specifications

Calculations and dimensions are nominal

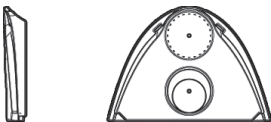
Length	67" (1700 mm)
Repeat Length	60" (1500 mm)
Overall Width	16" (400 mm)
Ave. Open Bottom Width	1.12' (0.34 m)
Overall Height	12" (300 mm)



Arc 18 Chamber — Top, Side, and End Views (not to scale)



Arc 18 End Cap: Side, and End Views (not to scale)



# ARC 24 System

Before beginning installation, please note the following engineered features of the Arc 18 model chambers and end caps.

Each chamber end is either marked "Dome" or "Post" on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

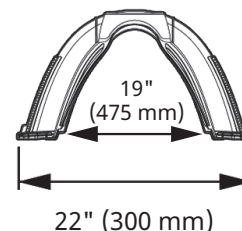
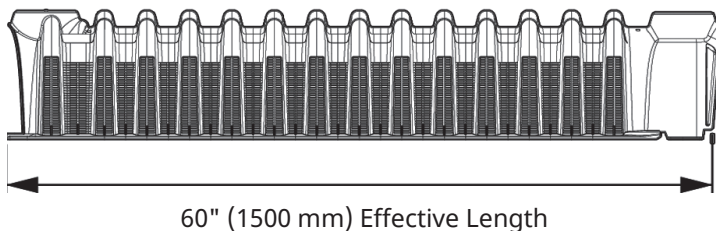
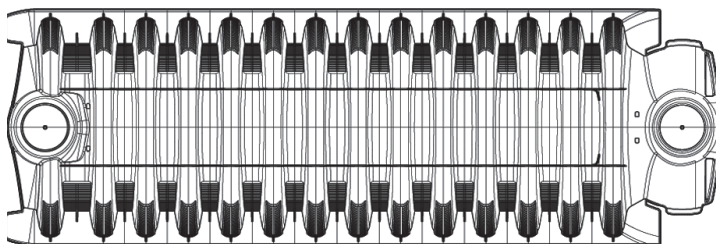
## Chamber Specifications

Calculations and dimensions are nominal

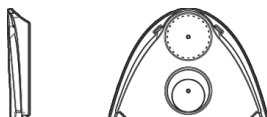
Length	67" (1675 mm)
Repeat Length	60" (1500 mm)
Overall Width	22" (550 mm)
Ave. Open Bottom Width	1.59' (0.4 m)
Overall Height	12" (300 mm)



Arc 24 Chamber — Top, Side, and End Views (not to scale)



Arc 24 End Cap — Side, and End Views (not to scale)

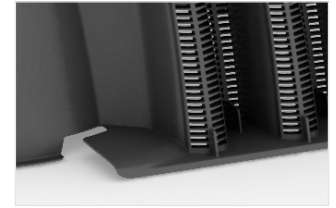


## Arc 24 Features

- Base flanges on the chambers ends over lock during final engagement to form a strong joint.
- The Arc 24 chamber feet are designed with an extra large surface area to provide support particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the "Post" end joint. When removed, these knockouts allow for the use of zip ties to support piping in low pressure dosing systems.



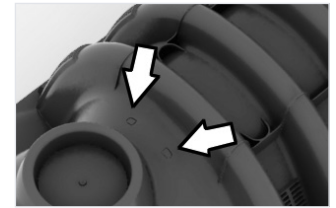
Overlocking Ends



Louvers and Feet



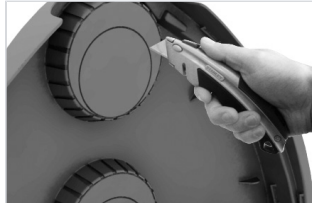
Observation Port



Zip Tie Knockout

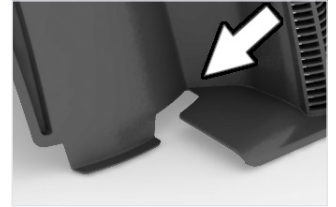
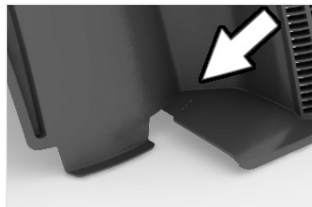
## Arc 24 End Cap

- Upper and lower knockouts expand to accommodate both Schedule 40 and SDR 35 piping in a single hole tap. Dimples are offered for the positioning of 4.25" (100.25 mm) hole saw pilot drills.
- End caps are designed to attach the chamber's dome or post end in the same fashion for each end with the Arc 24 logo facing outward.



## Arc 24 Swivel Feature

- Each chamber's post end has swivel lockout tabs at either base flange. When removed, the incoming chamber will turn up to ten degrees in the direction of the removed lockout tab. Without removal of the swivel lockout tab, the chambers will align in a straight pattern.
- Swivel lockout tabs may be removed with a striking blow to the tab and then peeling off the remaining piece of plastic, or cut with a knife.



## Arc 24 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry into the trench line. This accessory provides a variety of design and installation options.



# ARC 36 System

Before beginning installation, please note the following engineered features of the Arc 36 model chambers and end caps.

Each chamber end is either marked "Dome" or "Post" on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

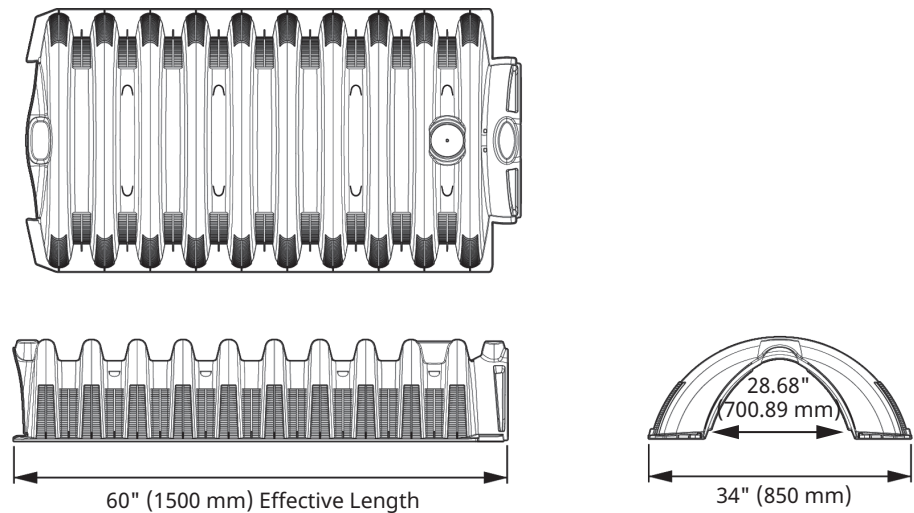
## Chamber Specifications

Calculations and dimensions are nominal

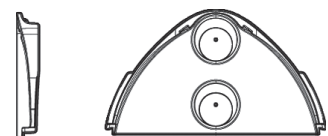
Length	63" (1575 mm)
Repeat Length	60" (1500 mm)
Overall Width	34" (850 mm)
Ave. Open Bottom Width	2.39' (0.7 m)
Overall Height	13" (325 mm)



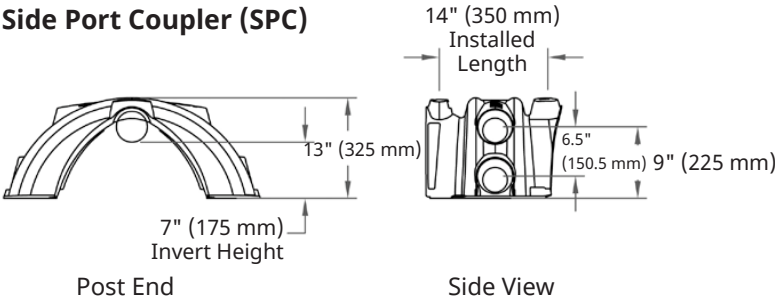
Arc 36 Chamber—Top, Side, and End Views (not to scale)



Arc 36 End Cap  
Side, and End Views (not to scale)



Side Port Coupler (SPC)





## Arc 36 Features

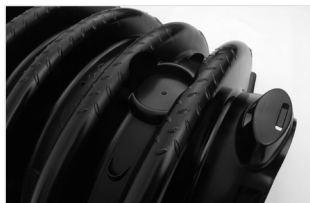
- The post and dome creates a positive lock securing the chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system and a convenient location for drain field ventilation pipes.
- Small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



Lock and Drop



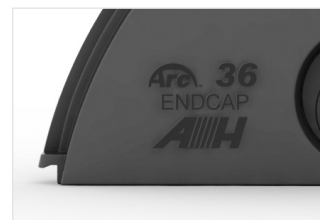
Louvers and Feet



Observation Port

## Arc 36 Universal End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Knockouts can be removed with a knife or hole saw. Dimples are also offered for the positioning of hole saw pilot drills.
- End caps are designed to attach to the chamber's dome or post end in the same fashion for each end with the Arc 36 logo facing outward.



## Arc 36 Swivel Feature

- The engagement mechanism of the Arc 36 chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.



## Arc 36 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry into the trench line. This accessory provides a variety of design and installation options.



# ARC 36 High Capacity (HC) System

Before beginning installation, please note the following engineered features of the Arc 36 HC model chambers and end caps.

Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

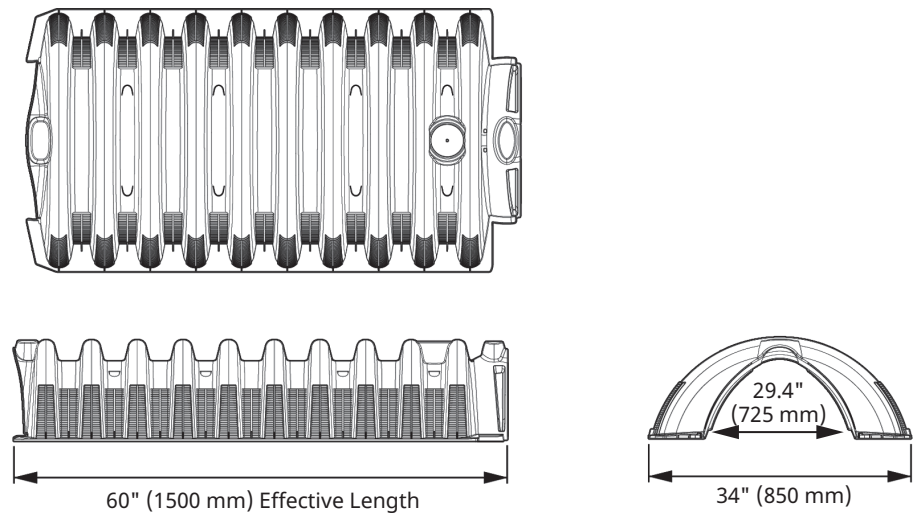
## Chamber Specifications

Calculations and dimensions are nominal

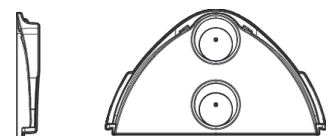
Length	63" (1575 mm)
Repeat Length	60" (1500 mm)
Overall Width	34" (850 mm)
Ave. Open Bottom Width	2.45' (0.7)
Overall Height	16" (400 mm)



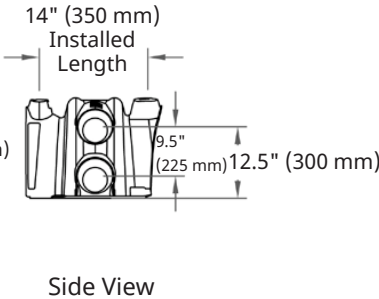
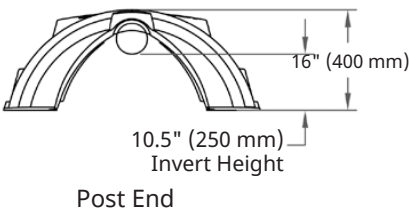
Arc 36 HC Chamber—Top, Side, and End Views (not to scale)



Arc 36 HC End Cap  
Side, and End Views (not to scale)



Side Port Coupler (SPC)

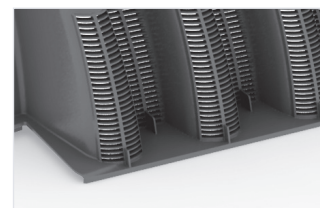


### Arc 36 Features

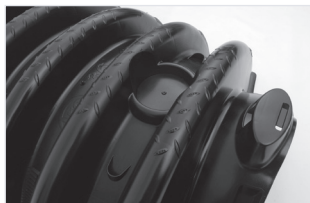
- The post and dome creates a positive lock securing the chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system and a convenient location for drain field ventilation pipes.
- Small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



Lock and Drop



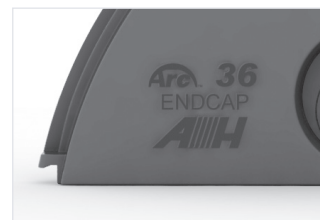
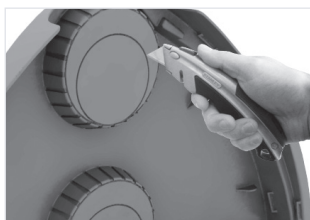
Louvers and Feet



Observation Port

### Arc 36 Universal End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Knockouts can be removed with a knife or hole saw. Dimples are also offered for the positioning of hole saw pilot drills.
- End caps are designed to attach to the chamber's dome or post end in the same fashion for each end with the Arc 36 logo facing outward.



### Arc 36 Swivel Feature

- The engagement mechanism of the Arc 36 chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.



### Arc 36 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry into the trench line. This accessory provides a variety of design and installation options.



# ARC 36 LP System

Before beginning installation, please note the following engineered features of the Arc 36 LP model chambers and end caps.

Each chamber end is either marked "Dome" or "Post" on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

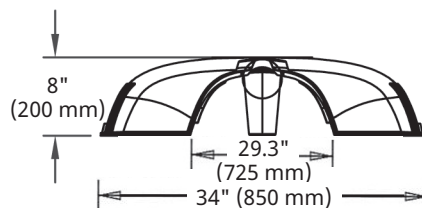
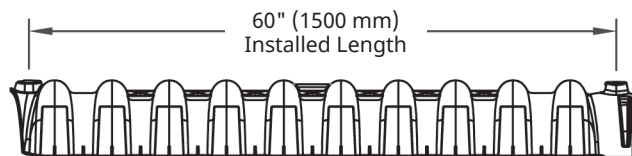
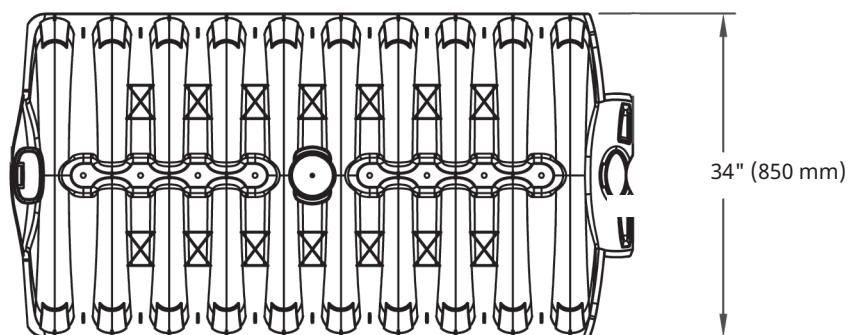
## Chamber Specifications

Calculations and dimensions are nominal

Length	63" (1575 mm)
Repeat Length	60" (1500 mm)
Overall Width	34" (850 mm)
Ave. Open Bottom Width	2.44' (0.7 m)
Overall Height	8" (200 mm)



Arc 36 LP Chamber—Top, Side, and End Views (not to scale)

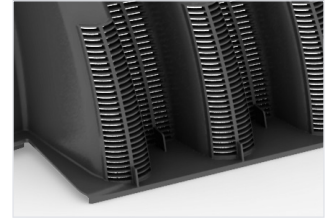


### Arc 36 LP Features

- The post and dome creates a positive lock securing the chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 LP chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes. These knockout ports also allow for introduction of inlet pipe through the roof of the Arc 36 LP chamber to achieve 8-inch invert height.



Lock and Drop



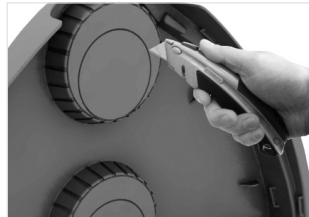
Louvers and Feet



Observation Port

### Arc 36 LP Universal End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are provided on interior aspect of end cap to direct positioning of hole saw pilot drills for pressure distribution (small diameter) pipe. Knockouts can be removed with a knife or hole saw.
- End caps are designed to attach to the chamber's dome or post end in the same fashion for each end with the Arc 36 LP logo facing outward.



### Arc 36 LP Swivel Feature

- The engagement mechanism of the Arc 36 LP chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.





# 11" (275 mm) Standard System

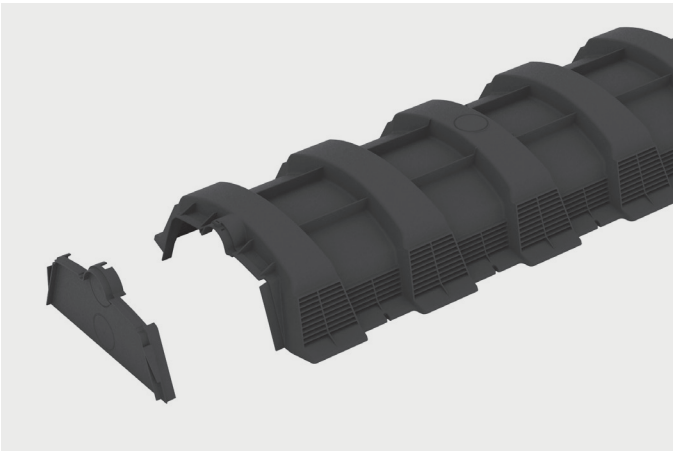
Before beginning installation, please note the following engineered features of the 11" (275 mm) Standard model chambers and end caps.

Each chamber end is either marked "Dome" or "Post" on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

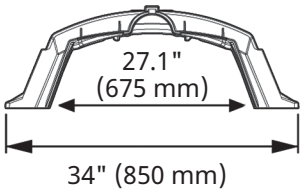
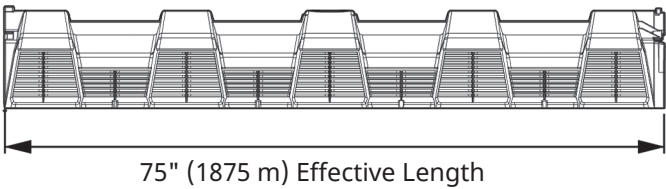
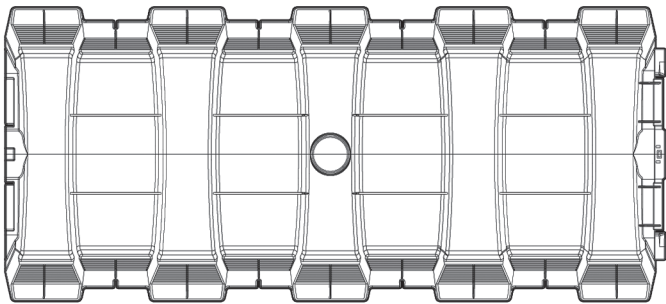
## Chamber Specifications

Calculations and dimensions are nominal

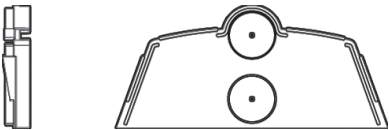
Length	76" (1900 mm)
Repeat Length	75" (1875 mm)
Overall Width	34" (850 mm)
Ave. Open Bottom Width	2.26' (0.7 m)
Overall Height	11" (275 mm)



11" Standard Chamber — Top, Side, and End Views (not to scale)

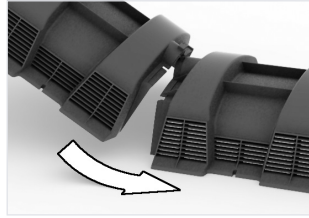


11" (275 mm) Standard End Cap — Side, and End Views (not to scale)

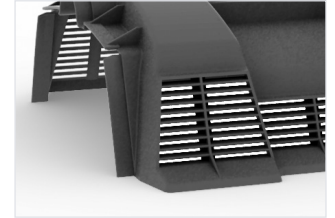


### 11" (275 mm) Standard Features

- The post and dome creates a positive lock securing the chambers for final engagement.
- The 11" (275 mm) Standard chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the "Post" end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



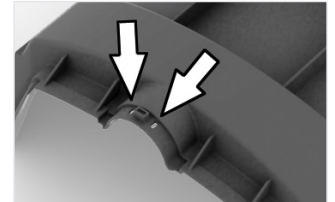
Interlocking joint



Louvers and Feet



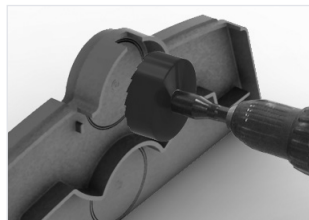
Observation Port



Zip Tie Knockouts

### 11" (275 mm) Standard Universal End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- End caps are designed to attach to the chamber's dome or post end.



## 16" (400 mm) High Capacity

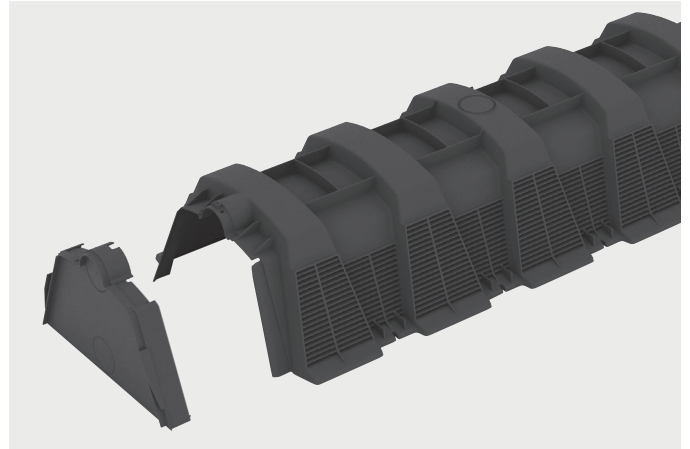
Before beginning installation, please note the following engineered features of the 16" (400 mm) High Capacity model chambers and end caps.

Each chamber end is either marked "Dome" or "Post" on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

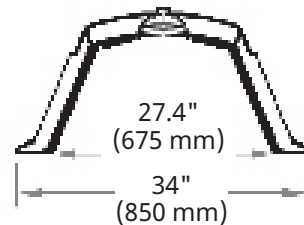
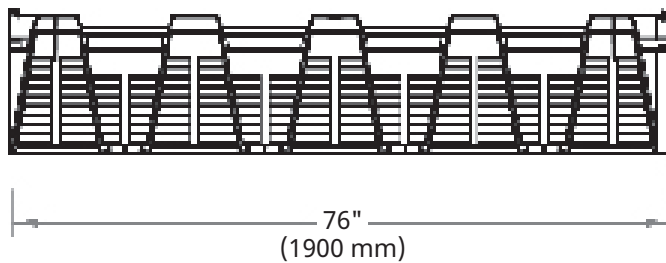
### Chamber Specifications

Calculations and dimensions are nominal

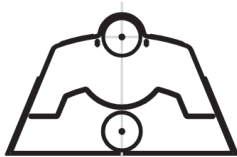
Length	76" (1900 mm)
Repeat Length	75" (1875 mm)
Overall Width	34" (850 mm)
Ave. Open Bottom Width	2.28' (0.7 m)
Overall Height	16" (400 mm)



### 16" (400 mm) High Capacity — Side, and End Views (not to scale)

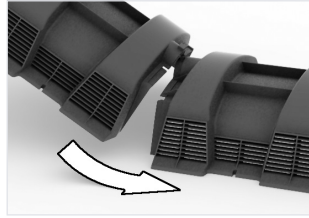


### 16" (400 mm) High Capacity End Cap — Side View (not to scale)

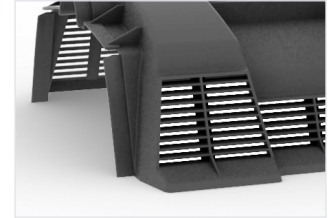


### 16" (400 mm) High Capacity Features

- The post and dome creates a positive lock securing the chambers for final engagement.
- The 16" (400 mm) High Capacity chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the "Post" end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



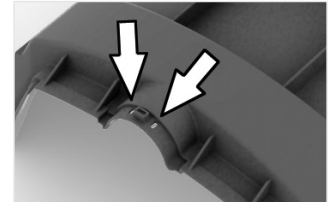
Interlocking joint



Louvers and Feet



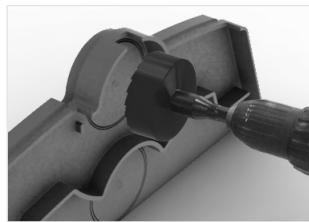
Observation Port



Zip Tie Knockouts

### 16" (400 mm) High Capacity Universal End Cap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- End caps are designed to attach to the chamber's dome or post end.



# General Instructions

## Preparation

- Excavate to proper width and depth as described in the system plans, design and/or permit. All excavations must comply with state and local rules as well as the appropriate MPCA system approval.
- Smooth irregularities in the excavation. Clear rocks and debris from the bottom surface area.

## Installation

- Installation of the chamber leaching system begins with laying the first chamber onto the prepared bottom surface area, with the “dome” end of the chamber at the header end of the excavation. Each additional incoming chamber is then installed by placing its dome over the post of the chamber already in place.



A slight tug of the chamber will “lock” the joint to the previously installed chamber. Once “lock” engagement occurs, “drop” (lower) the incoming chamber into place.



- As the incoming chamber is lowered down onto the excavation bottom, the two chambers fully engage in a straight-line pattern creating a very strong joint. **Note: if the following chamber is simply laid onto the preceding chamber the joint will not be fully engaged.**

## Turns

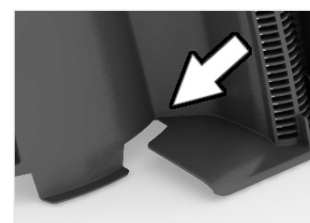
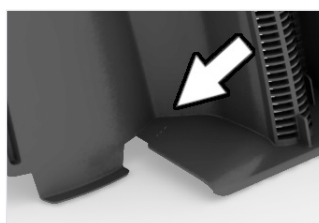
- All Arc chambers are designed with an articulating joint that allows for a turn of up to 20°, with maximum of 10° in either direction.



- To make turn, articulate incoming chamber to side after engagement has been completed.

### (Note: The Arc 24 is designed with lockout tabs)

- If a turn application is desired with the Arc 24 chamber, the lockout tab should be removed before installing the incoming chamber. The lockout tab is located at the base flange on the Post end of the previously-installed chamber.



## Installation of End Caps & Pipe Connections

- Prior to installing end caps, remove the appropriate knockout for pipe connections. Snap an end cap on each end of the drain lines with the product or company logo facing out (knockouts can be removed with a knife or a 4" (100 mm) hole saw).



## Splash Plates

- Splash plates may be installed on each inlet end cap.
- Splash plates or equivalent are recommended on all ADS chamber systems where effluent is provided to the system under pressure.
- Company-provided splash plates are installed by simply aligning the holes on the splash plate with the corresponding dimples on the end cap and snapping into place.
- Splash plates are sold separately.

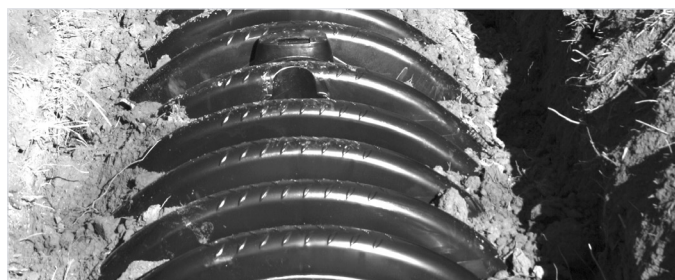


## Observation/Inspection Points

- Observation/inspection ports may be required in certain designs.
- Knockouts are provided on the roof sections of each ADS chamber. These are designed to accommodate Sch. 40 pipe.
- The dome/post feature of the Arc 24 chamber also acts as a knock-out for observation/inspection ports. Here a PVC pipe may be introduced into the chamber and extended to grade.
- Make certain that observation/inspection pipes are assembled in such a fashion as to prevent rainwater from entering and effluent from exiting the chamber line.

## Backfilling

- After chamber assembly is completed, fill that area adjacent to the louvered sidewall with loose soil that is free from clods or rocks.



- Modestly compact the sidewall area backfill material by simply walking down the sides of the chambers. Sidewall compaction is important to begin the stabilization process of the soil, to support the chamber sidewalls, and help prevent fine sand migration into the chamber louvers. This procedure may be accomplished any time during the installation or covering process.



- Do not drive heavy equipment over a system comprised of non-compacted cover material without first bridging the excavation. Use lightweight or tracked equipment to push the soil onto the system to the proper height set forth by local and state codes.

## Cover

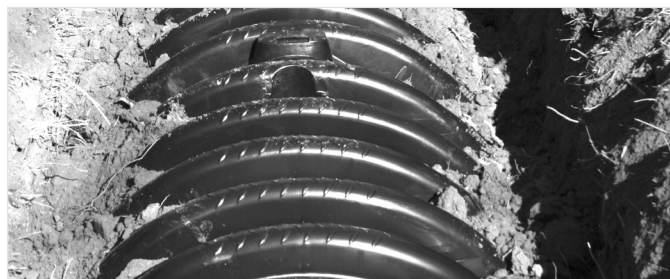
- System must be inspected by the local unit of government prior to installation of cover material.
- Install cover to specification. Minnesota rules require a minimum of 12" (300 mm) of cover.

## Final Grade

- Make certain that storm water runoff is diverted away from the drain field. System final grade should be crested or sloped, never left flat or concave, in order to channel water away from the drain field.
- Final grading subcontractors and landscapers should be alerted and instructed to proper covering procedures, cover materials, and finish contours and elevations.
- Final grade material should be shaped and smoothed with minimum equipment traffic to help maintain an aerobic state in the drain field.
- Stabilize the drain field area with grass-type vegetation prior to heavy rains if possible.

## Side Port Coupler (SPC)

- Side Port Coupler (SPC) parts may be installed at the end of, or within any line of, Arc chambers.
- Each SPC is installed in the same manner as chambers are installed – “dome” over “post”.
- SPC parts may be installed in series, and/or with an end cap at the end of a chamber line.



- SPC parts may receive area sizing credit (see page 25 for design considerations) if approved by the local permitting authority.

### Trench System Applications

- All trench systems shall be designed in accordance with 7080.2210.

### Seepage Bed System Applications

- All Seepage Bed systems shall be designed in accordance with 7080.2210.
- Seepage bed system design requires bed configuration of the chambers and observation ports. See Bed Installation section (below) and Observation/Inspection Port section (above).

### At-Grade System Applications

- All At-Grade systems shall be designed in accordance with 7080.2230.
- At-Grade system design requires bed configuration of the chambers and pressure distribution of the effluent. See bed and pressure distribution sections (below).
- The system absorption area interface must be scarified prior to chamber installation.
- Each chamber row must have a pressure distribution pipe.
- Chamber rows installed on a slope must be installed along the contour.
- Chambers installed on slopes >1% shall be covered with filter fabric.

### Mound System Applications

- All Mound systems shall be designed in accordance with 7080.2220.
- The system absorption area interface must be scarified prior to chamber installation.
- Sand shall be installed in 6 to 12 inch lifts.

**Step #1:** Install initial 6" (150 mm) lift of specified sand.

**Step #2:** Install a 12" (300 mm) lift of specified sand.

**Step #3:** "Firm-up" the 12" (300 mm) lift by driving a tracked vehicle across the surface in both directions. [Repeat these steps until the design elevation of the system absorption area interface is achieved.]

**Step #4:** Install chambers as per design. Place specified sand between chamber rows to top of louvered sidewall and "walk-in" compact this mound sand.

**Step #5:** Install a 2' (0.6 m) high pile of berm material around the perimeter of the sand mound and directly against the sidewalls of the outside rows of Arc chambers.

**Step #6:** Use a tracked vehicle to push the berm material over the chamber rows from the upslope side, maintaining a minimum of 12" (300 mm) of depth prior to introduction of vehicular traffic.

**Step #7:** Install seed or sodding as per 7080.2150.



## Bed Installation

- Follow normal chamber product installation procedures.
- Rake/scarify bottom surface of excavation if any smearing has occurred.
- Minimize walking on infiltrative surface to prevent compaction.
- Arc chamber rows used in Seepage Bed applications must be placed adjacent to one another. Fill material must be "walk-in" compacted between chamber rows prior to application of cover material.
- A minimum of 12" (300 mm) of cover is required, with 6" (150 mm) of this being comprised of topsoil.
- If driving over the chambers is required for installation, use only tracked machinery, complete sidewall backfilling to spec, and install a minimum of 12" (300 mm) of cover material prior to loading.

## Pressure Distribution

- All systems utilizing pressure distribution shall be designed in accordance with 7080.2050.
- Choose an appropriate hole saw that matches the outside diameter of the specified PVC distribution pipe. Use the provided dimple on the upper knockout as a drill guide and drill hole in Arc end cap to accommodate lateral pipe.
- Drill holes in lateral pipe as per design.
- Pressure pipes should be installed with orifices facing upward. Include one hole at end of the lateral on opposite side of pipe to allow for pipe to drain after each dose and install orifice shield or dissipation device on the infiltrative surface directly below. If design calls for primary orifices to point downward, orifice shields shall be utilized.

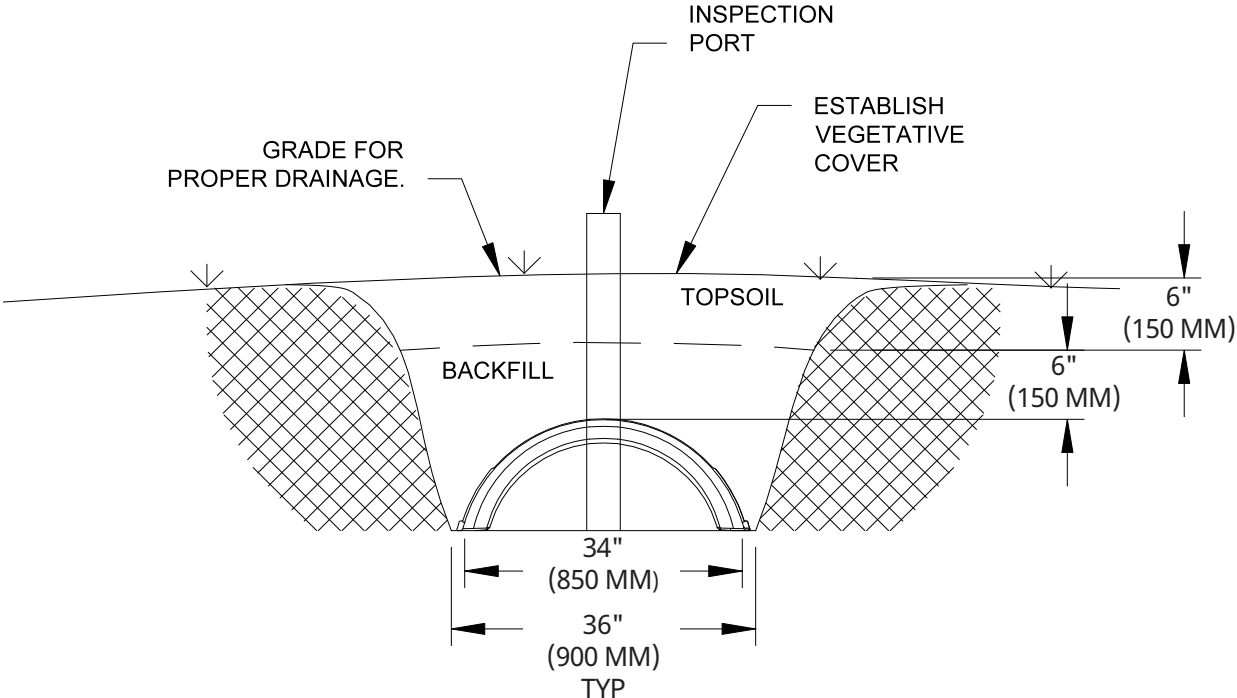
- Insert pressure pipe through hole in end cap, then attach end cap to first Arc chamber.
- Insert pressure pipe through hole in end cap, then attach end cap to first Arc chamber.
- Small knockouts or openings are provided on the roof of each chamber's post end to accommodate heavy duty black zip ties for the hanging of pressure distribution pipes under the roof of the chamber lines. Secure the pressure pipe to the chamber at each chamber joint.
- Complete pressure pipe installation by repeating step one above with distal end cap.
- Chamber rows installed on a slope must be installed along the contour.
- In At-Grade System applications, chambers installed on slopes >1% shall be covered with filter fabric.
- Clean-out extensions are required. To create clean-out extend pressure pipe out the distal end cap and install 90 degree elbow. Extend pipe from there to mound surface.

**Note:** Specified PVC pressure distribution pipe may be installed on the infiltrative surface. Pipe must be stabilized by appropriate means to prevent movement and rotation.

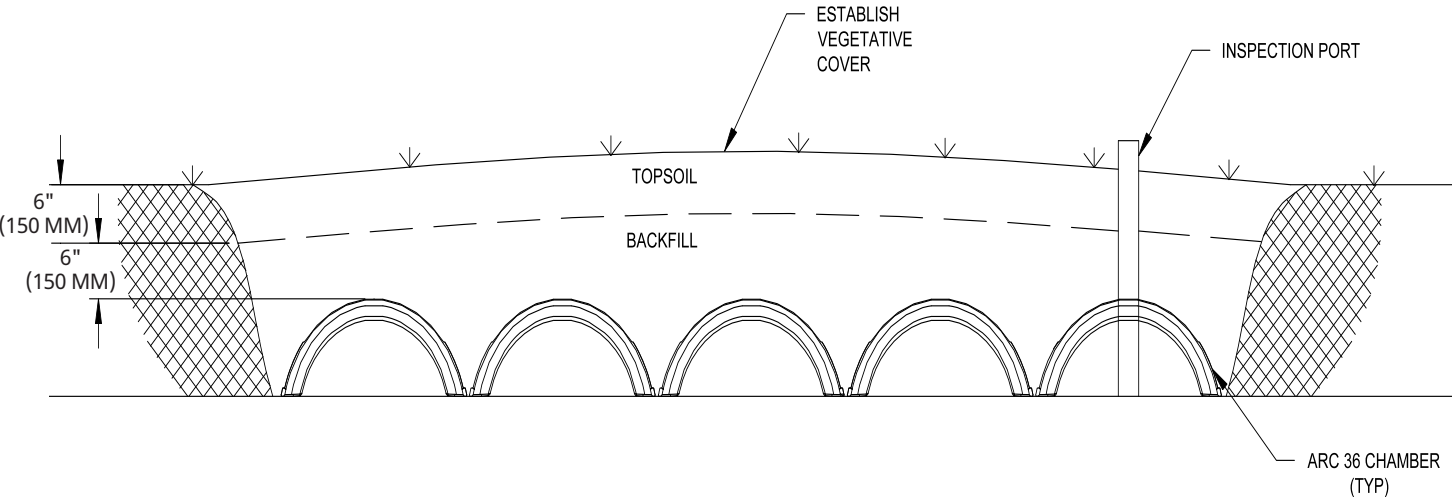


# Typical Installations

## Trench System (not to scale)

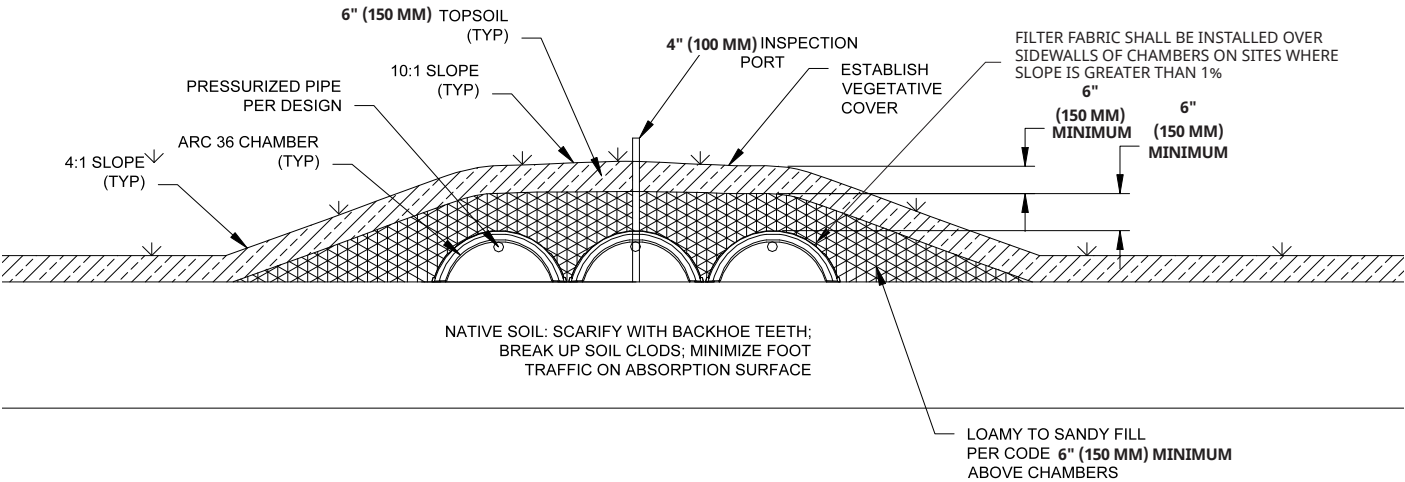


## Seepage Bed System (not to scale)

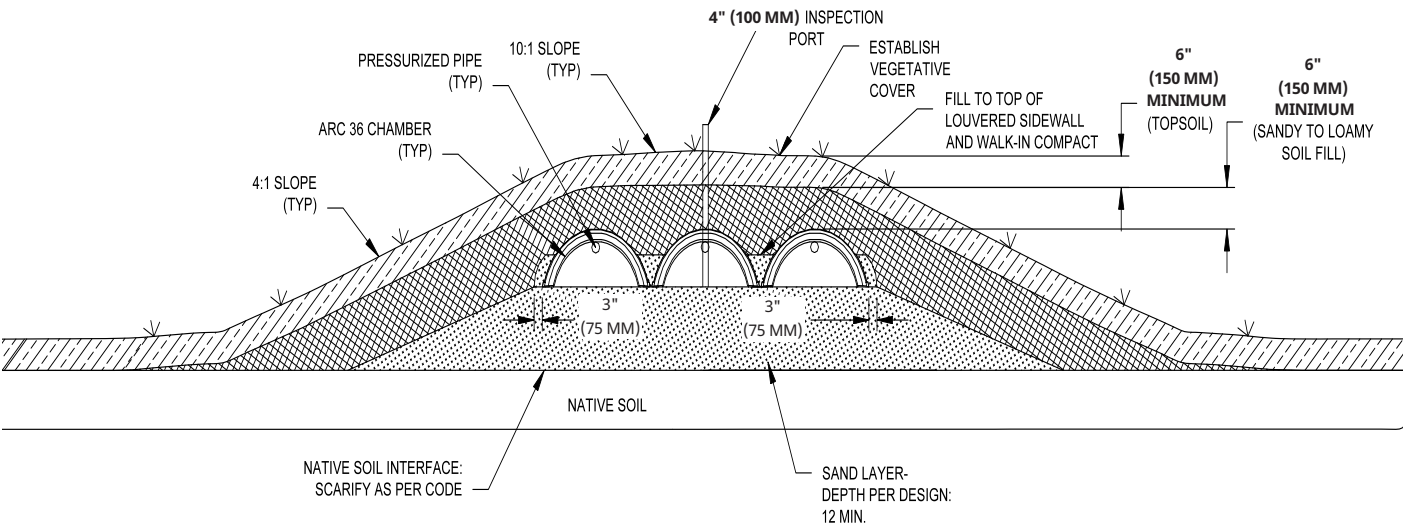


# Typical Installations

## At-Grade System (not to scale)



## Mound System (not to scale)





# Chamber Sizing

## A. Trench System Applications

Registered Arc chambers carry the following manufacturer's recommended equivalencies in trench system applications (per linear foot):

Arc 18	=	18" (450 mm) wide stone and pipe trench	Arc 36LP	=	36" (900 mm) wide stone and pipe trench
Arc 24	=	24" (600 mm) wide stone and pipe trench	11" (275 mm) Standard	=	36" (900 mm) wide stone and pipe trench
Arc 36	=	36" (900 mm) wide stone and pipe trench	16" (400 mm) High Capacity	=	36" (900 mm) wide stone and pipe trench
Arc 36HP	=	36" (900 mm) wide stone and pipe trench			

**Table 1: Arc 18**

Soil Loading Rate (gpd/sf²)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)
1.20	34	170 (51)	52	260 (7)	68	340 (103)	84	420 (128)
0.78	52	260 (7)	78	390 (118)	104	520 (158)	130	350 (106)
0.60	68	340 (103)	100	500 (152)	134	670 (204)	168	840 (256)
0.50	80	400 (121)	120	600 (182)	160	800 (243)	200	1000 (304)
0.45	90	450 (137)	134	370 (112)	180	900 (274)	222	1110 (338)
0.24	168	840 (256)	252	1260 (384)	334	1670 (509)	418	2090 (637)

**Table 2: Arc 24**

Soil Loading Rate (gpd/sf²)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)
1.20	25	125 (38)	39	195 (59)	51	255 (77)	63	315 (96)
0.78	39	195 (59)	58	290 (88)	78	390 (118)	98	490 (149)
0.60	51	255 (77)	75	375 (114)	100	500 (152)	126	630 (192)
0.50	60	300 (91)	90	450 (137)	120	600 (182)	150	750 (228)
0.45	68	340 (103)	93	465 (141)	135	675 (205)	167	835 (254)
0.24	126	630 (192)	189	945 (288)	250	1250 (381)	314	1570 (478)

**Table 3: Arc 36, Arc 36HC, Arc 36LP, 11" (275 mm) Standard and 16" (400 mm) High Capacity**

Soil Loading Rate (gpd/sf²)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)	Number of Chambers	Linear ft (m)
1.20	17	85 (25)	26	130 (39)	34	170 (51)	42	210 (64)
0.78	26	130 (39)	39	195 (59)	52	260 (7)	65	325 (99)
0.60	34	170 (51)	50	250 (76)	67	335 (102)	84	420 (128)
0.50	40	200 (60)	60	300 (91)	80	400 (121)	100	500 (152)
0.45	45	225 (68)	67	335 (102)	90	450 (137)	111	555 (169)
0.24	84	420 (128)	126	630 (192)	167	835 (254)	209	1045 (318)

### Notes:

1. Soil loading rates are based on Section 7080.2150, Tables IX and IXa.
2. For Classification II & III Dwellings, reference Section 7080.1850, Table IV.
3. Rapidly permeable soil texture groups shall conform with Section 7080.2260, including but not limited to pressure distribution of the effluent.

# Chamber Sizing

## B. At-Grade System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for at-grade system applications:

<b>Arc 18</b>	each chamber row is equal to 1.5' (0.5 m) of stone and pipe width
<b>Arc 24</b>	each chamber row is equal to 2' (0.6 m) of stone and pipe width
<b>Arc 36</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>Arc 36HP</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>Arc 36LP</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>11" (275 mm) Standard</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>16" (400 mm) High Capacity</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width

### Notes:

1. At-grade systems utilizing Arc chambers shall be designed in full accordance with Section 7080.2230.
2. Maximum allowable at-grade system bed width is 15' (4.6 m).

## C. Mound System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for mound system applications:

<b>Arc 18</b>	each chamber row is equal to 1.5' (0.5 m) of stone and pipe width
<b>Arc 24</b>	each chamber row is equal to 2' (0.6 m) of stone and pipe width
<b>Arc 36</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>Arc 36HP</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>Arc 36LP</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>11" (275 mm) Standard</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width
<b>16" (400 mm) High Capacity</b>	each chamber row is equal to 3' (0.9 m) of stone and pipe width

### Notes:

1. Mound systems utilizing Arc chambers shall be designed in full accordance with Section 7080.2220.
2. The size of the mound distribution media area shall be calculated by dividing the design flow by the sand media loading rate, which is 1.2 gallons per day per square foot (4.5 liters per day per 0.3 m<sup>2</sup>). Other factors shall be considered in sizing of mound systems.
3. Maximum allowable width for mound distribution beds is 9' (2.7 m).

## D. Seepage Bed System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for seepage bed system applications:

Arc 18	each chamber row is equal to 1.5' (0.5 m) of stone and pipe width
Arc 24	each chamber row is equal to 2' (0.6 m) of stone and pipe width
Arc 36	each chamber row is equal to 3' (0.9 m) of stone and pipe width
Arc 36HP	each chamber row is equal to 3' (0.9 m) of stone and pipe width
Arc 36LP	each chamber row is equal to 3' (0.9 m) of stone and pipe width
11" (275 mm) Standard	each chamber row is equal to 3' (0.9 m) of stone and pipe width
16" (400 mm) High Capacity	each chamber row is equal to 3' (0.9 m) of stone and pipe width

### Notes:

1. Seepage bed systems utilizing Arc chambers shall be designed in full accordance with Section 7080.2210.
2. Design of seepage beds with widths up to 12' (3.7 m) may utilize gravity distribution.
3. Design of seepage beds with widths greater than 12' (3.7 m) shall utilize pressure distribution.

## Side Port Coupler (SPC) Product Sizing

The following registered Arc chambers utilize a Side Port Coupler (SPC) attachment (see product specifications on pages 2-6). These SPC parts may be used as part of the requisite system design area for trench, at-grade, mound, and seepage bed system applications when approved by the local permitting authority. The manufacturer recommends the following equivalencies for these parts (per unit):

Arc 24 SPC	1.5 ft <sup>2</sup> (0.46 m <sup>2</sup> ) per unit
Arc 36 SPC	3.5 ft <sup>2</sup> (1.07 m <sup>2</sup> ) per unit
Arc 36HP SPC	3.5 ft <sup>2</sup> (1.07 m <sup>2</sup> ) per unit

### Notes:

1. The Arc 24 SPC is 12" (300 mm) in length when engaged. Therefore we recommend that the per-unit rating be equivalent to that of the Arc 24 chamber (per-linear foot).
2. The Arc 36 SPC is 14" (350 mm) in length when engaged. Therefore we recommend that the per-unit rating be equivalent to 1.167 times that of the per-linear foot rating of the Arc 36 chamber (3 ft<sup>2</sup> [0.9 m<sup>2</sup>]).
3. The Arc 36HC SPC is 14" (350 mm) in length when engaged. Therefore we recommend that the per-unit rating be equivalent to 1.167 times that of the per linear foot rating of the Arc 36HC chamber (3 ft<sup>2</sup> [0.9 m<sup>2</sup>]).



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