



Installation Instructions

For SC-18, SC-34 & SC-44
NDS[®] StormChamber[®]



NDS® StormChamber® Installation Instructions

TABLE OF CONTENTS

Before Your StormChambers Arrive	2
When Your StormChambers Arrive	2
Trench Preparation	3
Installing The NDS® StormChamber® SedimenTraps™	3
Installing Base Rock & Filter Fabric.....	4
Placing The StormChamber®	4
Installing Pipes	5
Backfilling The System	5
NDS® StormChamber® Limited Warranty.....	6



NDS® StormChamber® Installation Instructions

BEFORE YOUR STORMCHAMBERS ARRIVE

Materials needed

- **Drywall screws** – 3" (75 mm)
To secure overlap of chambers at their base.
- **Crushed, washed, hard stone** – ¾" – 2" (20 mm – 50 mm) (Round Stone must not be used.
Stone must meet ASHTO #4 rating requirement).
For trench base and backfill above and around the StormChamber system.
- **Schedule 40 or SDR 35 PVC pipes** – 10" (250 mm)* For SC-18 use 8"
For connecting adjacent chambers.
- **Schedule 40 or SDR 35 PVC pipes** – 10" (250 mm)*
One for each cleanout riser.

Equipment needed

- **Long chain/cable/rope** (to remove oversized pallets from an enclosed truck)
- **Wire cutters** (to cut bands securing chambers to pallets)
- **Forklift** (with extended forks, to remove oversized pallets from truck)
- **Excavator**
- **Battery or power operated screw guns** (to screw together overlap of chambers at their base)
- **Transit or laser**
- **Stone bucket**
- **Sawzall, router bit on a drill, or keyhole saw** (to cut chamber as needed)
- **Light-weight, tracker dozer**
Not exceeding 1,100 lbs (500kg) per square foot to spread stone over chambers.
- **Hand-operated compactor, vibratory roller, or tracked vehicle** (for compaction of soil backfill).
Not exceeding 1,100lbs (500kg) per square foot.

*Or as specified

WHEN YOUR STORMCHAMBERS ARRIVE

Unloading the pallets

Use a forklift, chain, cable or strap to drag the pallets off the enclosed van. Use a forklift with extended blade to remove chambers from a flat-bed truck.

Count the materials

Check your list of materials and make sure the number you have matches your purchase order. The list should include, but may not be limited to, the following:

- | | |
|-------------------|------------------------------|
| · Start Chambers | · SedimenTraps |
| · Middle Chambers | · Non-Woven Filter Fabric |
| · End Chambers | · Woven Stabilization Fabric |
| · Closed Chambers | · Manhole Frames and Covers |

Check the materials for damage. **CONTACT NDS IMMEDIATELY IF ANY MATERIALS ARE MISSING OR DAMAGED.** We maintain pictures of your pallets as they appear when loaded for delivery.

NOTE: Do not be concerned if the narrow shipping strips at the end wall of the chambers appear damaged. You remove them as part of the installation.

NDS® StormChamber® Installation Instructions

!!HEAT ADVISORY!!

In hot weather conditions, if possible, store all chambers and backfill stone in a shaded area until they are ready to be installed.

Our recommendation is that the system be laid out and all pipes connected the day prior to backfilling with stone.

When temperatures are above 85 degrees, backfilling of stone should be restricted to cooler morning periods only.

TRENCH PREPARATION

Make sure there's no forecast of rain between excavating the trench and when covering the stone above the chambers with filter fabric.

Excavate the trench

Make sure the bottom of the trench is level. There should be enough room for the StormChamber system, plus at least one foot of border stone. If you can't excavate from outside the trench, back the excavator out as you excavate to avoid compacting the soil.

Excavate for SedimenTraps™*

Excavate a hole approximately 5' deep by 5' wide by 5' long wherever SedimenTraps are specified in the construction drawings for your system. SedimenTraps must be aligned directly below the riser pipe. Place at least 6" of stone at the bottom of each excavated hole.

Line the trench walls with non-woven filter fabric

Line the trench walls (not the trench bottom) with provided non-woven filter fabric. Make sure the filter fabric overlaps by at least two feet. The fabric can be held in place by stakes.

**SedimenTraps must be centered below the defined top portal of the chamber/riser pipe. The 44" and 18" chambers do not have a defined top portal - contractor to cut a portal on the crown of the chamber at the defined distance from the end.*



INSTALLING THE NDS® STORMCHAMBER® SEDIMENTRAPSTM

Most StormChamber systems include SedimenTraps to capture and help remove sediment.

Place the SedimenTraps

If the SedimentTrap did not arrive connected to the corrugated SedimentTrap pipe then the SedimentTrap and SedimentTrap pipe will have to be screwed together at this point.

Place a SedimenTrap in each of the holes. Only the top corrugation of the SedimentTrap pipe should be exposed above the height of the stone base.

Secure with stone

Fill any extra space around the SedimenTrap with ¾" – 2" crushed, washed, hard stone.

NDS® StormChamber® Installation Instructions

INSTALLING BASE ROCK & FILTER FABRIC

1. Add hard stone

Cover bottom of trench with ¾" – 2" crushed, washed, hard stone, to the depths specified (in construction drawings).

2. Level it out

If necessary, you can use a light-weight tracked dozer to level the stone. Dozer should not exceed 1,100 lbs (500kg) per square foot to avoid soil compaction.

3. Place woven stabilization fabric

Place woven stabilization fabric underneath the entire row(s) of StormChamber's receiving inlet storm drain pipes. Cut a hole so that the fabric fits snugly under the top corrugation of the SedimenTrap pipe.



PLACING THE STORMCHAMBERS

Cut off shipping strips

Cut off the narrow shipping strips at the end walls of the middle & end chambers to allow the chambers to overlap. Do not cut off the weir-wall of the start chamber.

Place chambers

Place all Start Chambers first. Make sure the closed ends of the Start Chambers are at least 1 foot from the facing trench wall. Each chamber row should be spaced according to the construction drawings. The distance between the center of one chamber row will always be equal to the width of the chamber plus the specified space between rows. Refer to the construction drawings for these numbers. Next build the chamber rows by placing the first rib of a Middle Chamber over the last rib of each Start Chamber. Extend all rows equally rather than one at a time. Finish each row with an End Chamber placed at least 1 foot from the end of the trench.

Screw chambers together

As you overlap the first rib of the next chamber over the last rib of the previous chamber, screw the chambers together at the foot of the overlapped ribs with 3 inch drywall screws. Include one screw on each side, making sure to bring the chambers close enough so no stone can pass through during the backfilling process.

To minimize installation time, begin placing pipe and backfilling as the remaining chambers are being placed.



NDS® StormChamber® Installation Instructions

INSTALLING PIPES

Cut out the inflow portal hole(s)

Cut a hole in the inflow chamber according to the location specified in your construction drawings. The hole should be sized to match the inflow pipe being used.

Insert inflow pipes*

Install the inflow pipe into the inflow hole.

Cut out the side portal holes

After placing the Start Chambers, cut open the side portals along the indentation guides for the lateral connecting pipes, as specified in your construction drawings.

Insert row connecting pipes*

Mark the pipe 6" from each end. Slide the pipe into each chamber so that the marks are no longer visible. The connecting pipes must be inserted about 6" into each chamber. The connector pipe should be 3ft for the SC-18 chamber, 4ft for the SC-34 chamber and 5ft for the SC-44 chamber.

Cut hole for riser pipes*

Cut out the top portals along the indentation guides as specified in your construction drawings. **

Install cleanout risers*

When installing the 10" PVC cleanout riser pipes, mark the pipe to allow for 6 inches of pipe to enter the chamber from the valley of the chamber rib. Drill holes and install at least 4 bolts along the markings. (2 bolts at rib peak and 2 in the valley. One bolt on each side of the pipe.) When you install the pipe the bolts should rest on top of the chamber to hold the pipe in place. The frames and lids may be installed at the same time as the riser pipe or as part of the backfilling process.

Cut the outflow portal hole(s)

Cut a hole in the outflow chamber according to the location specified in your construction drawings. The hole should be sized to match the outflow pipe being used.

Insert outflow pipes*

Install the outflow pipe into the outflow hole.

****If there's more than 1/2 inch gap between the pipe-hole and the pipe, cut a "X" shaped hole, sized just short of the hole diameter in one or more pieces of filter fabric and place it over the pipe hole before inserting the pipe. Keep repeating this process until the gap is filled and a tight seal is achieved.***

*****SC-44 and the SC-18 lack a defined top portal. The hole should be centered over the SedimenTrap™ and sized for the riser pipe.***



NDS® StormChamber® Installation Instructions

BACKFILLING THE SYSTEM

Backfill the hard stone

Deposit the ¾" – 2" crushed, washed, hard stone **directly along the centerline of the StormChamber rows end to end to prevent shifting of the rows.** Level the hard stone with a tracked vehicle not exceeding 1,100 lbs (500kg) per square foot. Make sure to keep at least 6" of stone under the tracks at all times.

Cover stone with non-woven filter fabric

Cover the backfill stone with non-woven filter fabric, making sure to overlap sheets by at least 2'.

Backfill with soil or as specified

Backfill the installation with soil and compact in lifts 6 to 8 inches high to at least 95% Standard Proctor. Make sure the pressure of the tracked dozer does not exceed 1,100 lbs (500kg) per square foot. Start at one corner of the system when grading lifts and keep at least 1 foot of under the tracks at all times. After compacting the backfill and setting the final grade, avoid traversing over the area with heavy equipment until paved.

IMPORTANT:

These instructions assume acceptable construction procedures, and that trucks do not exceed specified DOT load limits. Uncustomary loads or improper load distributions in vehicles may require additional cover. Contact NDS for installation under abnormal conditions. Installations not in compliance with these instructions will void the warranty. Contact NDS for technical assistance at 1.888.825.4716 or email us at TechService@ndspro.com



NDS® StormChamber® Installation Instructions

TERMS AND CONDITIONS OF SALE

NDS will warranty the structural integrity of each StormChamber unit in accordance with the installation instructions and is warranted to the original buyer against defective materials and workmanship for one year from the date of purchase.

It is the responsibility of the buyer to inspect the StormChamber units prior to installation and to inform NDS of any defect prior to installation. NDS will only be responsible for supplying replacement units. NDS's liability specifically excludes the cost of removal and/or installation of the units and shall not exceed the price or charge for its products. There are no other warranties with respect to the units, including no warranties of merchantability or fitness for a particular purpose.

This warranty does not extend to incidental, consequential, special or indirect damages. NDS shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other loss or expenses incurred by the buyer. Specifically, excluded from warranty coverage is damage to the units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the units, improper construction protocols, installation of the units not consistent with our installation instructions, placement by the buyer of improper materials into the system, damage due to crushing by heavy equipment weighing in excess of what is listed in the installation instructions, failure to maintain the minimum ground covers as set forth in the installation instructions or any other event not caused by NDS.

NDS shall not be responsible for any loss or damage to the buyer, the units, or any third party resulting from its installation or shipment. The buyer shall be solely responsible for ensuring that the installation of the system is completed in accordance with the installation instructions, and will abide by all applicable laws, codes, rules and regulations. Inspection of shipment must occur within 5 days of receipt of StormChamber units and written notice of alleged defect must be provided in detail. Failure to advise us of defects within this allotted period will constitute acceptance of the shipment. This warranty shall not apply to any party other than the original buyer. Furthermore, no Company representative or employee has the authority to modify or change this warranty in any manner, nor does this warranty apply to shipping or in transit damage.

FOR TECHNICAL INFORMATION, CONTACT: Technical Services, (888) 825-4716, TechService@ndspro.com

Stormwater Management brought to you by NDS



DesignWorx™ by NDS: NDS civil engineers and expert technicians are available to help make your project a success. We can evaluate and help you with the preparation of submittal drawings and specs to align with best stormwater practices. **(888) 825-4716** | ndspro.com/submityourdesign

Onsite support: Our customer support team will provide free on-site installation assistance, as needed.

More questions? Call **(800) 726-1994** (option 3)

Visit ndspro.com for: Downloads, instructions, detail sheets, configurations and more.