

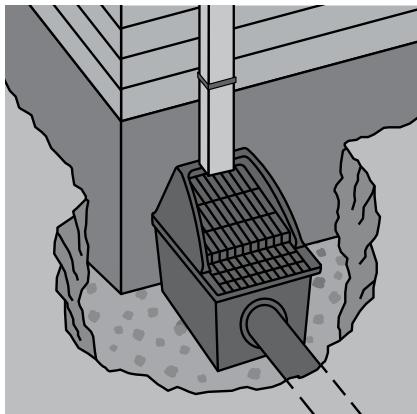


NDS®

We put water in its place

Downspout Defender™

Drainage
System Shield



ndspro.com

MADE IN
USA

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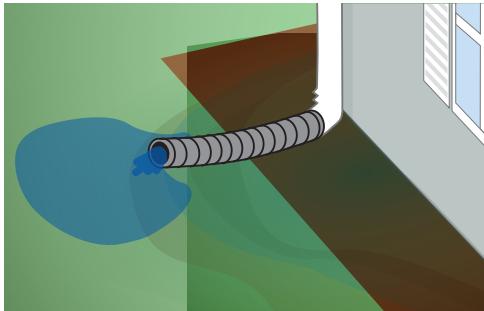
NDS Background

NDS is the known and trusted leader in residential and commercial stormwater management. Since 1972, NDS has been producing plastic drainage and landscape products. From the beginning, our commitment to leading the industry has been unwavering, leading to remarkable innovations and state-of-the-art products that fit every environment, every schedule, every need.

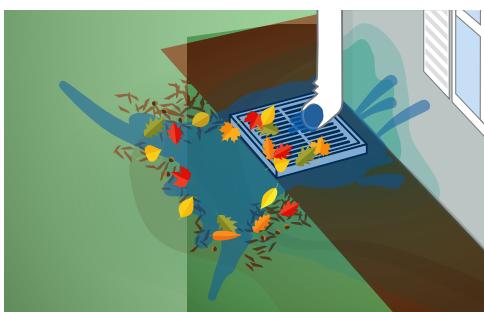
Stormwater Best Management Practice

Installing downspout drainage systems is a best practice for managing stormwater and protecting property. Downspout drainage systems move water away from structures where it can do damage to foundations, crawl spaces, basements, siding and walls. Stormwater allowed to pool and infiltrate adjacent to a building can create conditions conducive to mold and mildew growth, rot and pests. The NDS Downspout Defender™ makes a drainage system more effective by capturing more water from the downspout, preventing excessive splashing and deflecting debris to keep the system running clean.

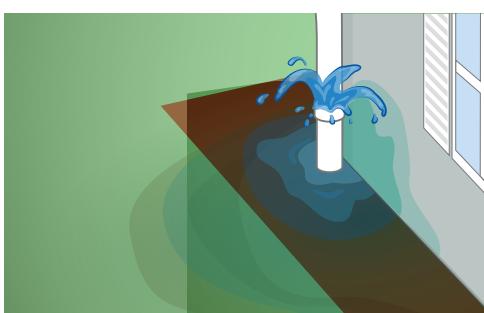
Downspout Drainage Problem Conditions



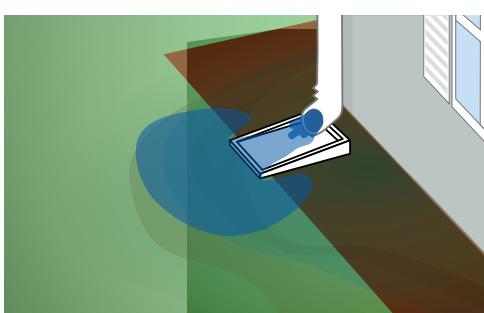
Above-ground piping is unsightly and doesn't always move water far enough away from the building, and gets in your way when maintaining the building and landscape.



Flat grates beneath downspouts can clog with leaves and debris, produce excessive splashing back onto the building, or the velocity of the water may simply overshoot the grate causing washouts.



Directly plumbing downspouts to underground drainage piping can potentially clog, causing potentially harmful backups and are an ongoing maintenance concern.



Downspout aprons don't always move water far enough away from the building to prevent damage, and can lead to washouts of landscape bed mulch and plantings.

Benefits of NDS Downspout Defender™

The NDS Downspout Defender™ addresses problem conditions associated with downspout drainage systems and provides the following benefits over current solutions:



1

**Reduces or eliminates debris from your roof,
gutter and downspout clogging your drainage system:**

- Self-cleaning grate sheds leaves and needles, twigs, nuts, seeds & cones
 - Prevents the grate or downstream drainage system from clogging
-

2

Captures more water than a flat-grate system:

- Reduces or eliminates splashing back onto your house or building wall
 - Reduces or eliminates downspout discharge from overshooting
-

3

**Eliminates water pooling and keeps water away
from foundation and basement**

Applications

The function of a downspout drainage system is to receive downspout flows, filter out debris and convey the flow away from the building for discharge or infiltration in a water-safe area downstream. The NDS Downspout Defender™ is designed as an integral component in a downspout drainage system. Its angled grate deflects debris like leaves, twigs and tree nuts from downspout flows. It also captures more water by preventing excessive splashing and overshooting which are both common with a flat grate system under a downspout.

Justifying Conditions

The NDS Downspout Defender™ is particularly effective under the following conditions:

- Trees directly overhanging the roof dropping leaves or needles, twigs, nuts, seeds or cones
- Potential for windblown debris from nearby trees to land on the roof
- Gutters lack screens or guards and are not well maintained
- Downspout discharge splashing onto building wall or siding
- Poorly drained soils surrounding the downspout
- Corrugated-interior conveyance pipe away from downspout
- Wet or damp basement or crawlspace
- Lots of standing nuisance water after rain events
- Infiltration system like a dry well, infiltration trench, rain garden or bioswale downstream

Compatibility

The NDS Downspout Defender™ can be used as part of a new installation or as a retrofit for a flat grate in an existing system. The NDS Downspout Defender™ is compatible with NDS 12-inch-square catch basins, risers and low-profile adapters.



Usage Guidelines

Installation

There are several options for positioning the NDS Downspout Defender™ and 12-inch-square catch basin or low-profile adapter under a downspout for a new or retrofit installation. In all cases the downspout outlet must sit within the NDS Downspout Defender™ angled receiving area, aligned with the top edge of the NDS Downspout Defender™ as shown below.



Top view and outline of receiving area



Side view of downspout alignment



Front view of downspout alignment

1 Vertical Downspout

This installation requires 2 inches of horizontal clearance between the foundation wall and the downspout as shown in figure 1a. The downspout may need to be cut to length so that it sits just inside the receiving area at the top of the NDS Downspout Defender™, 8 inches above the top of the basin or low-profile adapter. If 2 inches of clearance is not available, a downspout extension may be utilized at an angle to get the necessary clearance as shown in figure 1b. For a new system installation, the basin or low-profile adapter must then be connected to drainage pipe for flow conveyance away from the building to a discharge point or infiltration area downstream.

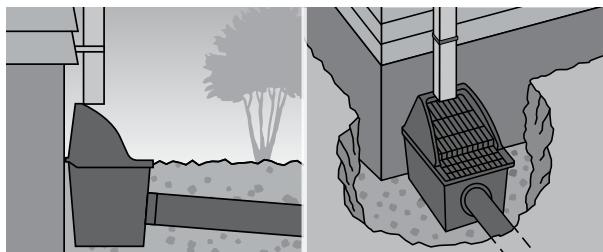


Figure 1a

Vertical downspout with 2" clearance available

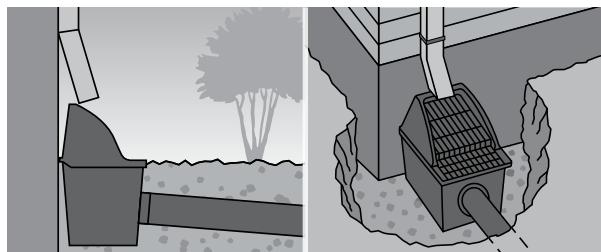


Figure 1b

Vertical downspout, less than 2" clearance with angled downspout extension

Usage Guidelines

2 Downspout with Two Elbows

This installation is suitable for situations where 2 inches of horizontal clearance between the building or foundation wall and the downspout is not practical, the foundation footing extends significantly beyond the foundation wall, or a basin or low-profile adapter is already installed further away from the building foundation. In this situation it will require two downspout elbows to make an "S" return so the outlet of the downspout returns sits in the receiving area of the NDS Downspout Defender™ as shown in **figure 2**. For a new system installation, the basin or low-profile adapter must then be connected to drainage pipe for flow conveyance away from the building to a discharge point or infiltration area downstream.

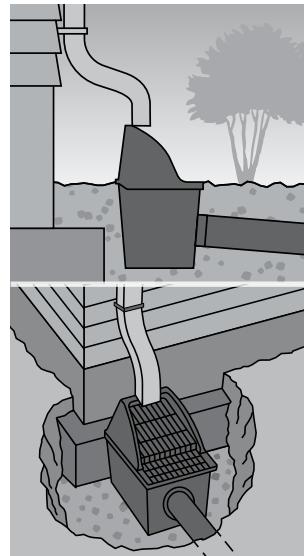


Figure 2

Downspout with return elbows

Maintenance

The NDS Downspout Defender™ drainage system shield is easy to maintain. Inspect the grate regularly and after any significant rain event. The amount of potential debris like leaves, twigs and seeds will vary depending on the seasonal cycle of local trees and other plants. Remove any debris that accumulates on the lower shelf or grate face. If also using a catch basin filter, remove the NDS Downspout Defender™ and lift out the filter for cleaning. Inspect the basin and discharge piping for obstructions.

Grate Removal

The NDS Downspout Defender™ can be removed without disturbing the downspout alignment. Facing the front of the grate, grab each of the curving sides with your hands and tilt the top of the grate away from you so the front edge of the grate lifts up and clears the front basin edge. Pull towards you slowly, rotating the top of the grate away from you and down to clear the downspout. Reinstall the grate in the reverse process.

Technical Specifications

Downspout Grate



Part Number:	1200DSG
Material:	HDPE – High-Density Polyethylene
Color:	Black
Weight:	1.56 lbs.
Fits:	NDS 12" Catch Basin (1200, 1203, 1204, 1200NGB) Catch Basin Risers (1215, 1217) Low-Profile Adapters (1230, 1221, 1222)
Opening:	54.54 square inches
Flow Rate with 1/2" of head:	166.84 GPM

Frequently Asked Questions

Q: What parts does this fit?

A: The NDS Downspout Defender™ will fit all NDS 12" square Catch Basins, 12" square Catch Basin Risers, and 12" square Low-Profile Adapters.

Q: Can the NDS Downspout Defender™ be installed on an existing 12" square catch basin or low-profile adapter?

A: Yes, the NDS Downspout Defender™ can be installed on an existing 12" square catch basin or low-profile adapter. Unscrew and remove the existing grate and replace it with the NDS Downspout Defender™ so the angled grate faces away from the adjacent building. The NDS Downspout Defender™ can be screwed down using the same screws that were used on the original grate. The downspout itself will likely need to be realigned and modified so the bottom of the downspout aligns with the top of the NDS Downspout Defender™ above the angled receiving area per the installation instructions.

Q: How do I install the NDS Downspout Defender™?

A: The NDS Downspout Defender™ can be installed on a new or existing 12" square catch basin or low-profile adapter. To install the NDS Downspout Defender™, place the grate on top of the catch basin and screw in place. Align the basin or adapter and NDS Downspout Defender™ with the center line of the downspout. The downspout may need to be modified upon installing the NDS Downspout Defender™ for proper alignment, considering the top of the NDS Downspout Defender™ sits 7-3/4" above the top of the catch basin rim. The downspout can drain vertically into the grate, a return "S" can be used in situations where the basin and grate cannot be placed close to the building wall, and in relatively low-rainfall regions a single elbow off the downspout can work. Adjust the downspout so the bottom of the downspout aligns with the top of the NDS Downspout Defender™ above the angled receiving area. Detailed and complete installation instructions are available on ndspro.com.

Q: How do I cut my rain gutter downspout?

A: The method and tools for cutting downspouts will depend on the type and material of downspout to be cut. A handheld hacksaw or pipe saw will often be sufficient. Always use proper safety gear like gloves and eye protection when using cutting tools. Mark all measurements and cut lines with the downspout in place, then detach from the gutter and building wall and remove before cutting to avoid damaging building siding or trim.

Frequently Asked Questions

Q: What are the advantages of this grate over a flat grate?

A: The NDS Downspout Defender™ is designed to deflect leaves, sticks, cones, and other debris which allows the top of the grate to remain open to receive additional water from the downspout. The NDS Downspout Defender™ reduces or eliminates water splashing off of the grate onto the building wall behind the grate, and reduces water overshooting the grate into the landscape, both of which are more likely with a flat grate.

Q: How often do I need to remove debris from the NDS Downspout Defender™?

A: The frequency of maintenance will depend on the amount of debris deflecting off and collecting below the NDS Downspout Defender™. For optimal performance, NDS recommends that debris be removed before and after each rain event.

Q: Why is the bottom of the back edge of the NDS Downspout Defender™ cut at an angle?

A: The chamfered edge allows the grate to be removed for servicing the catch basin without disturbing the downspout alignment. See the Grate Removal section of the Usage Guidelines for simple instructions.

Q: Can the NDS Downspout Defender™ be used with the Catch Basin Filter?

A: Yes, the NDS Downspout Defender™ is compatible with the 12 inch Catch Basin Filter.

Q: Why are there holes in the side of the NDS Downspout Defender™?

A: The side holes are to prevent water from pooling next to the sides of the grate. Water can drain into the basin on all sides of the grate.

NDS Resources

The NDS Downspout Defender™ drainage system shield has great supporting resources available on ndspro.com:



[Video Library](#)



[Online Calculators](#)



[Downloads, Guides & Case Studies](#)



[Doctor Drainage](#)



[DesignWorx™](#)



[Field Support](#)



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