



DUPAGE COUNTY

STORMWATER MANAGEMENT

Best Management Practices for Catch Basin Cleaning

Overview and Benefit to Water Quality

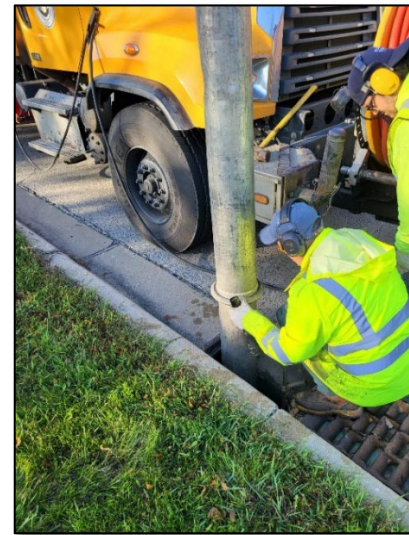
Stormwater runoff collects pollutants from roadways, parking lots, and other paved surfaces and flows into storm drain inlets and our local waterways. Catch basins are a critical component of stormwater drainage systems. They collect and trap pollutants such as sediment, litter, leaves, oil and grease, metals, nutrients, and bacteria, preventing roadway pollutants from entering stormwater runoff.

Catch basins fill with debris over time, which can reduce their effectiveness and lead to local drainage and water pollution issues. Regular catch basin cleaning is a very effective way to improve water quality and protect aquatic life.

**DuPage County DOT
cleans and inspects
approx. 17,000
stormwater system
points on a 5-to-7-
year rotation.**



a heavy amount of sediment and debris, a vacuum truck or mechanical equipment will be most efficient. Chemical cleaning is usually only performed for specific issues and should only be performed by a qualified professional.



Options

Equipment and Technology

Methods for cleaning catch basins include:

- Hand Cleaning - removing debris and sediment from catch basins using a shovel, rake, and bucket.
- Mechanical Cleaning - using a machine, such as a vacuum truck, or jetter/vacuum combo truck, to remove debris and sediment from catch basins.

The recommended equipment varies depending on the size and type of catch basin, the amount of debris present, and the budget available. For small catch basins with a light amount of debris, hand cleaning may be a viable option. For larger catch basins with

While manual cleaning with hand tools is sometimes necessary, vacuum trucks are the most commonly used type of catch basin cleaning equipment. They use a powerful vacuum to remove debris trapped by the basin. Two-man crews are usually required when using vacuum trucks. Vacuum trucks can also be used to clean stormwater pipes and other drainage structures. A storm sewer cleaning program is commonly implemented along with catch basin cleaning.

Costs

The cost of cleaning catch basins varies greatly depending on the size and amount of debris removed, the method of cleaning, and location. Hand cleaning involves primarily labor costs but depending on the number of catch basins to be cleaned, could be the most costly method. For a community with a large number of catch basins, using a vacuum truck will be more cost effective. Budgeting \$200 per catch basin for labor and equipment may be a good starting point. Costs for

the proper disposal of debris should also be considered.

Vacuum trucks can cost between \$300,000 and \$700,000 based on size and technology options. Due to the high capital cost of vacuum trucks, some communities have shared the purchase of the equipment, or contracted out catch basin cleaning.

Recommendations

Equipment

Vacuum trucks are the recommended equipment for catch basin cleaning for most applications. They are efficient and effective and can be used to clean a variety of catch basins and drainage system structures.

Frequency

The frequency of catch basin cleaning depends on a variety of factors, including the amount of traffic in the area, the type of debris that typically accumulates in the catch basin, and the climate. In general, catch basins should be inspected annually and cleaned if debris has reached one-third to one half of the catch basin volume. Catch basins in areas with a high volume of traffic, prone to flooding, or prone to leaf litter may need to be cleaned more often.

Schedule and Recordkeeping

To create an efficient catch basin cleaning schedule, municipalities should map and inventory all catch basins and determine areas for more frequent maintenance. Accessibility, routes, and climatic factors should be considered in creating a schedule.

Records for catch basin cleaning including date, location, equipment used, and amount of debris removed should be kept and used for prioritization.

Waste Management

The material collected by catch basin cleaning must be stored and handled in a manner that does not allow the material to enter stormwater runoff. Prior to landfill disposal, provide a storage location that does not allow the material to dewater to, or enter storm drains. The County's Woodridge Regional

Vactor Receiving Station is an option. Covering the material to prevent exposure to stormwater is recommended.

Additional Considerations

Communities can also consider the following to optimize their catch basin cleaning program:

- Educating the public about the importance of catch basins and how keeping them clean can reduce the amount of pollutants entering local waterways.
- Cleaning catch basins before predicted heavy rain events in areas with high pollutant loads.
- Repairing structural deficiencies as soon as possible.
- Installing and maintaining catch basin filter inserts which can help to remove pollutants from stormwater runoff before it enters the catch basin.
- Training crews in proper maintenance, recordkeeping, and waste disposal activities.

Conclusion

Catch basin cleaning plays a vital role in reducing stormwater pollutants and protecting local water quality. By implementing the best management practices outlined in this guidance, communities can maximize the benefits of their system maintenance and stormwater quality program.

