

City of Zilwaukee

Catch Basin Prioritization Procedure

The City of Zilwaukee has used its zoning map as basic decision criteria for the prioritization for catch basins in those zones. The DPW will look at the areas every two years to determine if there exists a need to change the priority of an area or zoning section of a region in the community due to an increase in litter or other refuse that may get into the street catch basins. For example; a large box store develops and there is an increase in litter from shopping bags or discarded drink containers; a residential area has significant increase in leaf litter due to trees that have reached maturity. It should be noted that this is only for catch basins owned by the city. It does not apply to MDOT roads or private developments.

Procedure steps: Use a municipal or zoning/land use map and develop districts based on residential, business/commercial, industrial and open spaces. Overlay the storm drainage system over this map and then proceed to prioritize the areas. Look at age of drainage systems, known drainage problems, areas in floodway or floodplain, areas with gravel roads or parking spaces, and known areas of potential contaminants in proximity to the municipal system. Interview DPW staff for their opinions on problem areas, and review drainage complaints to assist in the prioritization.

This inventory will be updated annually following the construction of a catch basin or a change in the priority level.

Priority A (High):

Commercial/Business Areas, Industrial Areas, Educational Institutions and similar high pedestrian traffic areas. These areas tend to accumulate larger volumes of trash due to heavy foot traffic, material handling issues, large parking areas, or business activities. The inlet grates to the catch basins in these areas have a lot of trash in them after significant storm events. Other areas to consider are those that potentially can contribute large sediment loads in stormwater runoff and can deposit large quantities of sediment in the catch basin sumps.

The specific areas are as follows:

1. Educational districts.....
2. Business district.....
3. Restaurant / Tavern district.....
4. Industrial Area.....
5. Parking areas, sports areas.....
6. Gravel/Dirt roads.....

Priority B (Medium):

These areas include residential, industrial and commercial areas with low foot traffic, for example, high density residential areas, commercial, medical clinics, small industries where all operations are inside and there are few employees (generally less than 30 staff or employees).

These areas can also be located at major intersections that generate moderate amounts of trash. Overall, the DPW staff know the area generates moderate levels of trash that collects at the catch basin inlets or in the open drains and detention areas on public properties.

The specific areas are as follows:

1. Commercial district.....
2. Light industrial areas.....
3. High Density housing.....

Priority C (Low):

These areas include residential areas that are medium density or single family homes and have very low foot traffic. These areas are typically well kept up and do not generate much volume as far as trash or debris are concerned.

The specific areas are as follows:

1. Residential areas.....
2. Open Space & Recreational areas.....
3. Mixed Urban areas.....

There are 3 catch basins designated as high priority at the City’s DPW building. There are 6 catch basins designated as medium priority at the City’s offices and police station. There are 7 catch basins designated as low priority on the other City owned properties. These are included in Table 1. The location of these is listed in the City’s Municipal Facility and Property Inventory and Assessment Procedure.

Table 1. Catch Basin Priority Designation Summary Table for City owned properties other than its roadway system. (See Figure 1 on page 5)

Priority	Number of Catch Basins
Priority A (High)	3
Priority B (Medium)	6
Priority C (Low)	7
Total Catch Basins =	16
See map SASWA COZ 2019 SSWC	

In addition, there are catch basins in the city owned streets. These catch basins are prioritized as follows:

Priority D (High):

Industrial areas where the streets have curb and gutter.

Priority E (Medium):

Commercial district and residential areas where the streets have curb and gutter.

Priority F (Low):

Residential areas where the catch basins are in vegetated areas adjacent to the paved streets.

Table 2. Catch Basin Priority Designation Summary Table for Catch basins in the City of Zilwaukee roadway system.

Priority	Number of Catch Basins
Priority D (High)	28
Priority E (Medium)	156
Priority F (Low)	485
Total Catch Basins	669
See map: City of Zilwaukee Storm Sewer Base Map	

The catch basins on City owned properties and those catch basins associated with the City roadway system will be reprioritized after the initial inspection according to the criteria in Table 3. When inspecting individual catch basins during routine inspection cycles the following prioritization method will be used to assist in reprioritizing catch basins for inspections and maintenance:

Table 3. Individual Catch Basin Priority Designation

Catch Basin Condition*	Priority Level
No problems - new system	Low
Sump has no sediment	Low
Sump has 6" of sediment	Low
Sump has 12" of sediment	Medium
Sump is half full of sediment (within 18 inches of pipe invert)	High
Sump has sediment at pipe invert	High
Sump has bad odor	High
Catch basin interior is cracked; sand is coming into the cracks; no displacement is noted at the cracks	High
There is settling around the rim; the interior has gaping cracks and displacement; sinkholes are nearby; the sump is full	High
If built out of brick; bricks are failing; bricks are missing; the rim is settling into the street or parking lot; the sump is full	High

Catch Basin Inspection and Cleaning

Cleaning all of the catch basins at once is more economical than trying to inspect/clean some and not others on different years. The permittee will inspect all catch basins with a low priority once every 5 years and will clean out the catch basin(s) if sediment or debris is within 18 inches of the pipe invert (half full of sediment) *. The permittee will inspect all catch basins with a medium priority once every 2 years and will clean out the catch basin(s) if sediment or debris is within 18 inches of the pipe invert (half full of sediment) *. For the high priority catch basins, the permittee will inspect each structure every year and will clean out the catch basin if sediment or debris is within 18 inches of the pipe invert (half full of sediment) *. When a catch basin is cleaned the depth of the sump will be documented. All documentation/reports of these activities will be presented in their permit progress reports.

Please see the Drainage System Maintenance Standard Operating Procedure for additional recommended protocols for the maintenance and cleaning of catch basin/inlet structures.

*For purposes of this procedure, a conservative assumption will be made that the sump is 36 inches deep and the catch basin will be cleaned if sediment is within 18 inches of the pipe invert of the discharge pipe (half full of sediment).

Measurable Goals

- # of revisions or updates annually after new construction or reconstruction.
- # of individual Catch Basins prioritized after inspection annually.



Figure 1. Prioritization Map (Only applies to City owned properties other than streets)