




AARON FOX
EXECUTIVE DIRECTOR

LOWELL WASTEWATER UTILITY WASTEWATER TRANSPORT AND TREATMENT



SERVING LOWELL
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TO: Thomas A. Golden, Jr., City Manager 

FROM: Aaron Fox, Executive Director

DATE: September 7, 2023

RE: CITY COUNCIL Motion Response 11.8 C. Robinson - Req. City Mgr. Provide An Update On Catch Basin Cleaning Progress.

The purpose of this motion response is to provide an update on the status of the Lowell Regional Wastewater Utility's ongoing catch basin cleaning progress throughout the City.

Lowell has a total of 6,514 mapped municipal catch basins within its sewerage and drainage collection systems, per the City's GIS record. A total of 3,639 catch basins have been cleaned between October of 2019 through August 31, 2023.

In October 2019, the Utility began to use ArcGIS Online applications (Survey123, Collector, and Workforce), to assign and manage catch basin cleaning activities for both in-house and contracted catch basin cleaning services. By utilizing these applications, a digital record of the cleaned catch basin, including a conditional assessment of the structure, is created in real time, enabling for a more effective means to track and report on the progress of system wide catch basin cleaning activities.

Calendar Years (CY) 2020 and 2021 saw in-house and contracted services clean a combined total of 540 and 639 catch basins, respectively. Starting in CY 2022 the Utility directed a renewed focus towards managing catch basin cleaning in Lowell. As part of this effort the Utility contracted a new vendor to clean a total of 1,500 catch basins. This resulted in a total of 1,659 cleaned catch basins in CY 2022: an averaged 184% increase in cleaned catch basins as compared to the prior calendar years. It is estimated that 1500 catch basins will be cleaned in CY 2023. This reduces the city-wide cleaning cycle from over 10 years to 5 years. Once every catch basin is cleaned at least twice, sediment level data collected during these cleanings will be used to extrapolate the rate at which the catch basin fills with debris. This rate will be used to develop an optimal cleaning schedule by providing an estimate as to when a catch basin is at 50% capacity and in need of cleaning.

Catch Basin Cleaning Program Update

Figure 1, shows a breakdown of the total number of catch basins cleaned per calendar year since October 2019, and highlights the increased catch basin cleaning efforts by the Utility over each subsequent year.

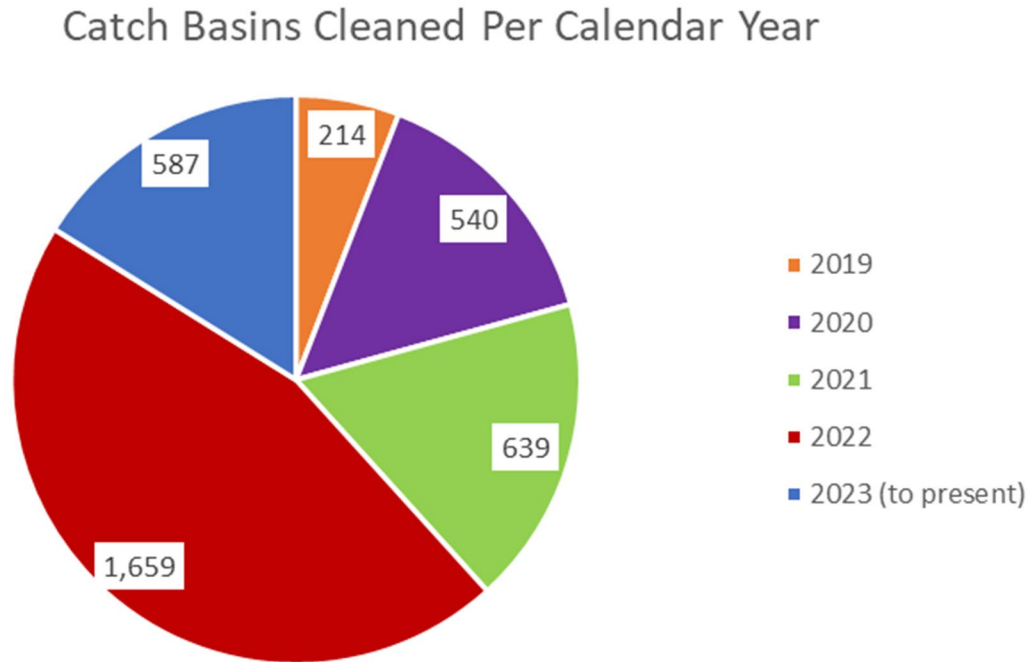


Figure 1. Catch Basins Cleaned per Fiscal Year Breakdown

Catch basins are cleaned system wide by priority. Certain areas in Lowell are known to experience greater amounts of sediment and debris build-up on the road; these areas have been prioritized to be cleaned more frequently (High priority). Additionally, residents may submit a request to have a catch basin cleaned through CivicPlus by following the “Report a Concern” link on the City’s website; these catch basin requests receive highest (Critical) priority, which are investigated and cleaned as soon as possible.

Figure 2, provides a mapped overview of the 3,639 recorded catch basin cleanings, broken down by calendar year. This data is essential in determining the areas for future catch basin cleaning.

Catch Basin Cleaning Program Update

Catch Basin Cleaning Records: October 2019 - August 2023

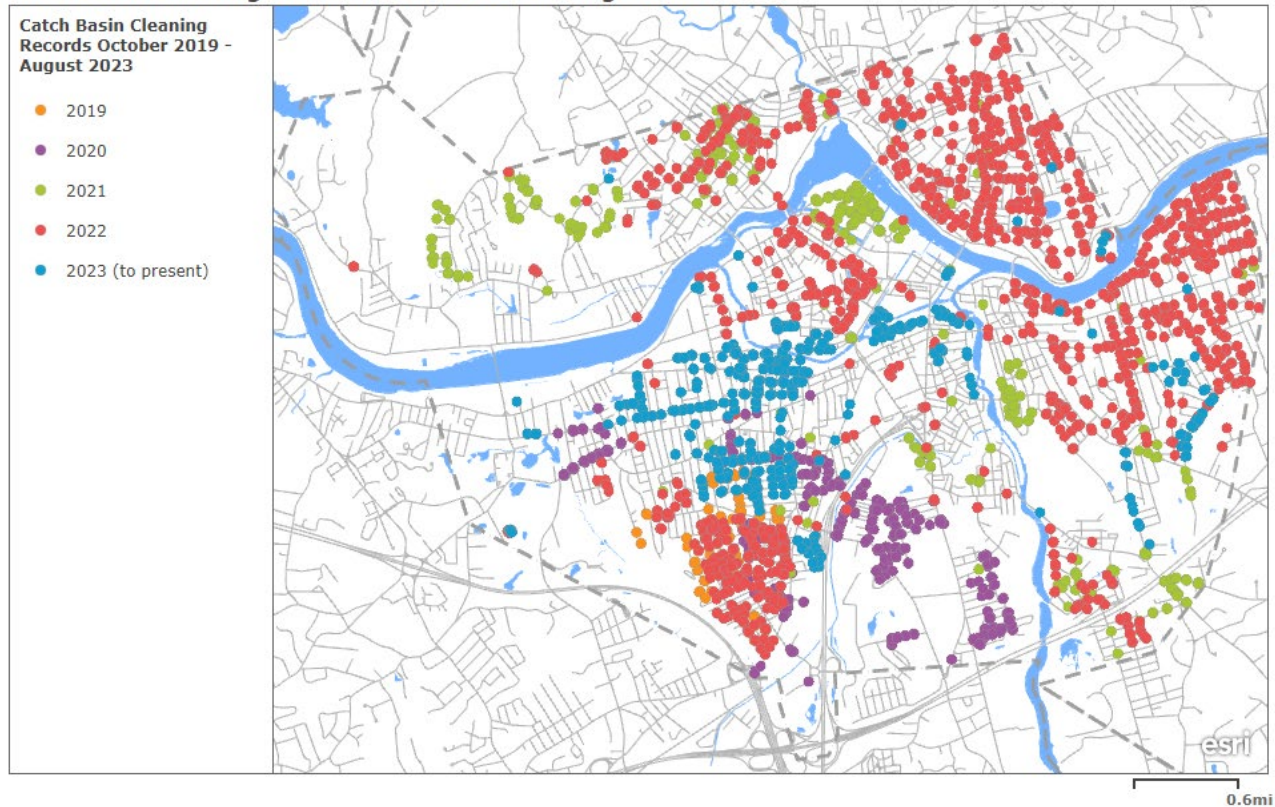


Figure 2. Catch Basin Cleaning Records (Calendar Year)

Over the course of this past summer, Lowell has received near historic levels of rainfall. The two-month rainfall total in June and July 2023 was 17.5 inches: this is the largest total rainfall recorded since 1938. With heavier rainfall becoming a more common occurrence, the upkeep and maintenance of the City’s municipal catch basins is an important priority for the Utility. The Lowell Regional Wastewater Utility is committed to refine, progress, and manage its catch basin cleaning program with continued efficiency and attention.

For a more detailed and holistic summary of the Utility’s catch basin cleaning program, its purpose, and its relation with respect to the Utility’s collection system Capacity, Management, Operations and Maintenance (CMOM) program, the reader is referred to the available “Catch Basin Cleaning Program Overview” document, which can be found linked on the Utility’s webpage here: <https://www.lowellma.gov/1076>.