

AGING INFRASTRUCTURE

Multiple catch basins on a property were due for repairs as a result of damaged and aging infrastructure. These issues not only posed a safety hazard but also risked further damage and possible flooding. AQUALIS team members were able to implement repairs that restored functionality, enhanced safety and extended the lifespan of the system.

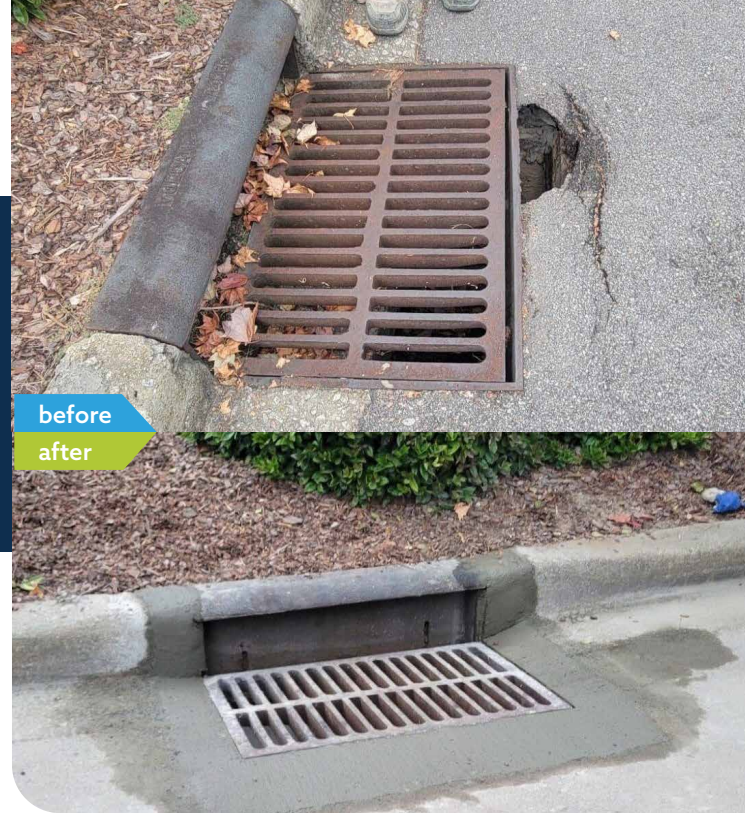
PROBLEM

AQUALIS was called to assess and address concerns regarding a stormwater system that was no longer functioning properly. Upon inspection, it was evident that the property contained multiple catch basins with visible signs of infrastructure failure. The surrounding areas were noticeably deteriorating, which can contribute to compromised system performance over time. Catch basins play a pivotal role in managing stormwater runoff and preventing flooding by directing water away from buildings and roadways. If left unaddressed, issues can escalate, leading to costly damage and environmental concerns. Therefore, preventative action was necessary to restore proper operation and safeguard the surrounding area.

In addition to collecting debris and conveying water, catch basins can be an entry point to underground infrastructure. They act as a connection point between stormwater pipes and allow for non-invasive cleaning.

The concrete at the front of one of the catch basins had significantly deteriorated, causing loose asphalt fragments to fall directly into the junction box below. The degradation created an opening on the surface, presenting a safety hazard with the potential for pedestrian trips or falls. Additionally, the opening allows debris, sediment and trash to bypass surface filtration and enter the stormwater pipes below, which can contribute to blockages and inefficiencies. The surrounding pavement also shows signs of structural compromise due to the ongoing asphalt deterioration, further highlighting the urgency for repair. This occurs often, especially in high traffic areas like parking lots and curbs. Years of vehicles driving over these metal grates result in settling and eventual deterioration.

Multiple catch basins on this site suffered similar wear, which is to be expected as the infrastructure was installed at the same time. Stormwater assets, like all infrastructure have expected lifespans. Without maintenance and corrective repairs, these problems worsen, ultimately shortening the lifespan of the asset. Small cracks, when caught early like this instance, can be repaired quickly before full failure or a notice from the city is received.





SOLUTIONS

AQUALIS started the repair process by securing the project area to ensure safety and prevent disruption to business operations. A wet saw was used to cut the existing asphalt and concrete around the catch basin, allowing for clean removal. The deteriorated material was then removed for proper disposal in accordance with environmental and site regulations.

The catch basin grate and frame were in working order and therefore could be reinstalled once the repair was completed. These catch basins were originally built with individual bricks laid to the appropriate height of the road. The bricks at the top of the structure were under the most pressure and began to fail. AQUALIS removed these failing bricks and laid additional concrete to add strength and structure to the area. This layer of concrete allows the stormwater professionals to meet the proper elevation, or grade, of the road which will ensure proper drainage. This technique helps in preventing water accumulation and maintaining system performance.

Compactable backfill material was then placed and compacted in layers to achieve the desired subgrade elevations. Once the subgrade was prepared, the catch basin frame was reinstalled, ensuring a secure and level fit. New asphalt/ concrete was then poured and finished around the frame, restoring the surface to its original integrity. Finally, the catch basin grate was reinstalled, marking the completion of the repair. AQUALIS fully restored the functionality of the system and area safety.