

JACKSONVILLE, FLA.
COMMERCIAL
STORMWATER SYSTEM REPAIRS

JACKSONVILLE, FLA. WET DETENTION POND REHABILITATION

A wet detention pond located adjacent to a shipping and transportation warehouse required corrective action to restore access for maintenance. AQUALIS utilized a swift, environmentally conscious solution to rehabilitate the pond and ensure proper maintenance moving forward.



PROBLEM

A large detention pond in Jacksonville, Fla. required a clearing and regrading due to the overgrowth of vegetation along the pond's shallow land buffer, littoral shelf and compacted earthen structures. This heavy slash pine proliferation and maturation impacted the property owner's ability to effectively maintain, mow and make corrective repairs to the pond. Failure to properly maintain the pond could have quickly led to the risk of erosion and perforation of earthen structures that could threaten the nearby area.

Time was of the essence for this project, as the longer the overgrowth was allowed to proliferate, the more devastating the impact would be on both system functionality and the surrounding area. If a lack of routine maintenance and vegetation management is prolonged, the shoreline is at risk of erosion, due to water improperly moving from roots of the invasive vegetation to sections of the pond ill-equipped to deal with runoff, such as the embankment. Erosion can cause complete system failure, as proper drainage and water filtration is impeded, which can lead to sedimentation clogging the system and steep banks or landscape indentations to form around the pond.

Severe risks follow erosion occurrence. Sinkhole formation presents multiple safety risks and the threat of irreparable damage to the surrounding environment, compromising nearby infrastructure, residents, workers and passerby.

AQUALIS classified this project as a rehabilitation, due to the denseness and extent of the woody stems and tree coverage that was allowed to overgrow over a period of 11 years.

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SOLUTIONS

The stormwater professionals at AQUALIS enacted a full-scale clearing and removal of overgrown vegetation surrounding the wet pond. Using a combination of a specialized excavator, a flail mower, forest mulcher and ground men with chainsaws, AQUALIS cleared and removed all trees and woody stem vegetation from the pond's interior slopes, berm, the toe of the slope and the outlet/outfall area. All trees 12 feet and under were chipped and recycled as mulch on the back side of the dam, as well as for heavily shaded areas of the access road. All trees 12 feet and above were then bucked and disposed of offsite, with the remaining stumps removed, compacted and graded.

Next, the pond's drainage swale and detention pond were regraded to stabilize the interior slopes, the access road along the berm and the outlet area. A seed bed was prepared around the pond to make soil amendments to plant beneficial vegetation that can impede sedimentation and erosion of the shoreline, while enhancing the quality and filtration of water discharging into the pond. These seeded areas, as well as previously disturbed areas were then covered with an erosion control blanket, with wheat straw utilized in flatter low flow areas.

With access to the pond restored and invasive vegetation removed and recycled, the stormwater professionals at AQUALIS positioned the property owners for success. A routine maintenance plan, that included regular plantings and vegetation management was scheduled and implemented, ensuring the pond would not require costly repairs to restore functionality in the future.

Learn more about the rehabilitation process, repairs and systems AQUALIS services [here](#).