

Silver Creek Stormwater Mitigation Project

City of Owasso, OK
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► Completed in 2006

Following construction of this new residential development, local flooding issues prompted concerned homeowners to seek assistance from City officials. In 2003, the City of Owasso commissioned Meshek & Associates, PLC, to perform the Silver Creek Drainage Study.

The scope of services included the review of engineering as-built drawings and drainage computations, as well as development of a new hydrologic and hydraulic model, to assess system performance. This evaluation concluded that previous studies underestimated runoff volumes by 600 percent, resulting in the design and construction of a vastly inadequate drainage system.

In June 2005, City of Owasso approved a two-phase plan for the construction of the Silver Creek Drainage Improvements. Phase I included stormwater piping improvements (new 36-inch and 24-inch systems) throughout the Bradfords and Willows subdivisions, a collection structure in Nottingham, as well as the improvements to the Village pond - work necessary to mitigate existing excess flows. Phase II included excavation and grading of a 44 acre-foot detention pond, complete with outlet structure and associated piping, as well as a structure to convey the previously undetained flow from the Nottingham subdivision to such detention facility and provide added detention for future development.

The new detention facility was sized to accommodate mitigation and future development flows - thereby serving as a regional facility. Cost for construction of Phase I and Phase II improvements, including engineering design, was \$1,300,000. Investments, totaling \$600,000, were contributed by the private sector towards the construction of the new detention facility. This facility now functions not only to resolved previous flooding issues but also as a recreational amenity to residents of the area.



Top: Pre-improvements flooding during 5-year storm event.

Middle: Underground diversion system constructed to mitigate cul-de-sac flooding.

Bottom: Silver Creek Regional Detention Facility provided mitigation and future development storage.

Project Fee and Special Features

Construction Cost: \$1,300,000

Notable aspects of project included partnership between public and private sector to mitigate existing flooding issues and provide added capacity for most cost-effective future development.



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