

Cherokee School Drainage Improvements

Tulsa County, OK

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► Completed in 2005

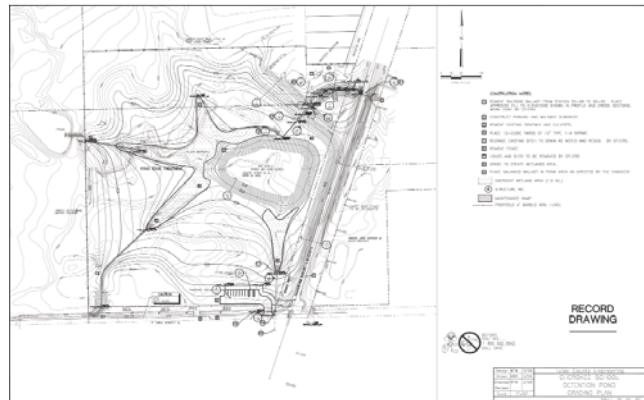
Meshek & Associates, PLC, was contracted by Tulsa County to address severe flooding problems at Cherokee School. The work, which was funded as part of the Tulsa County 4-To-Fix program, included the design of a new 35 acre-feet detention facility and 1,550 feet of channel improvements. The new concrete channel long the school property is 24 feet wide by 6 feet deep, and is a vertical-concrete-wall design to minimize maintenance and right-of-way requirements. Downstream, the channel is a 6-foot wide concrete bottom wide channel with 3:1 earthen side slopes.

The project was designed to improve and use an existing railroad embankment - by providing a multi-state outlet and emergency spillway - thereby minimizing construction costs.

The constructed drainage improvements addressed the flooding issues affecting the school and downstream areas by providing storage and conveyance for the 100-year rain event.

The *Project Scope* included the following responsibilities:

- *Detailed hydrology and hydraulics analysis of existing and future conditions*
- *Design of a stormwater detention facility with 35 acre-feet of storage*
- *Design of 1,550 feet of channel to improve stormwater conveyance*
- *Design of a double 10'x6' RCB roadway culvert*
- *Assistance during bidding and general observation during construction*
- *Preparation of as-built plans*



Top: Cherokee School Creek Stormwater Detention Facility.

Bottom: Channel Improvements from Peoria Avenue to 61st Street North.

Project Fee and Special Features

Construction Cost: \$1,300,000

Notable aspects of the design include the combination of needed stormwater detention in a multipurpose recreational facility to enhance amenities for the area.



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