Texas Commission on Environmental Quality
Nonpoint Source Program

Best Management Pracices for Quarries

Water Body	The Edwards Aquifer
Location	Travis County
River Basin	Colorado River (14)
Contractor	The University of Texas at Austin (UTA)
Project Period	May 20, 2010 to August 31, 2011
Project Total	$150,000 (Federal 60% and Local Match 40%)

Project Description

Review of Land Use/Land Cover mapping indicates as many as 124 quarries, strip mines, and gravel pits in the recharge and contributing zones of the Edwards Aquifer. Contamination cases that may be linked to quarries include diesel spills and perchlorate detections in nearby groundwater. There is a need for protection of vulnerable aquifers, such as the Edwards Aquifer, from activities associated with active and abandoned rock, aggregate, and asphalt quarries. The removal of soil and overburden at these sites directly exposes potentially permeable rock units through removal of the natural filtering ability of the overburden. As a result of this activity, a direct pathway is provided for contaminants to reach the underlying aquifer.

In the first phase of this project, an assessment of selected quarries located in the recharge or contributing zones of the Edwards Aquifer in Central Texas was conducted to identify activities and potential pollutants associated with quarry operations and to determine pathways and factors affecting movement of contaminants into groundwater, and potential water quality impacts to groundwater. In the second phase, best management practices (BMP) were developed for activities that have a high potential to impact groundwater quality. In the final phase, the BMPs will be provided to the TCEQ Field Operations Division, the regulatory program for the Edwards Aquifer, for use in technical guidance documents. The BMPs will also be provided to groundwater conservation districts, for use statewide, in aquifers other than the Edwards Aquifer.

Project Results

The Quarry BMP Guidance Document was completed. Some of the suggested BMPs include: installation of perimeter berms to divert stormwater flow; construction of paved roads and parking lots to prevent tracking sediment onto adjacent roads and reduce the generation of dust; utilization of tire wash systems to clean vehicles that travel on unpaved roads; and preservation of naturally vegetated stream buffers to filter overland flow.

For More Information

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Project Highlights

- 05/20/2010 – Signed contract for project initiation.
- 04/01/2011 – Completed BMP Guidance Document.