

Willie Chapman Slide AMD Abatement Project Pike County

Project Description

The Willie Chapman Slide AMD Abatement Project includes approximately 6.0 acres of total disturbance. Work proposed under this project will address health and safety issues posed by a landslide and three open mine portals, as well as the environmental impacts of two collapsed mine entries and the acidic mine drainage flowing from the underground mine workings associated with all of the above issues.

The landslide, which threatens to damage or destroy two barns/storage buildings, to dam an unnamed tributary to Stinking Branch, and block access to the property and natural gas collection wells and structures, will be completely excavated. Encroachment by the landslide has already forced shifting of the stream channel that has partially undermined the larger of two barns located on the valley floor. The material excavated from the landslide, along with spoils from the construction of subdrains and other drainage control structures, will be taken to an Excess Earth Placement Area in nearby Deskins Branch, upon the site of a Title V coal mining operation.

Three extant abandoned underground mine openings will be closed through installation of bat-friendly wildlife-accessible mine closures. Two of these mine openings emit drainage, and will have non-erosive flow paths established between the closures and the unnamed tributary. An existing eroded flow path adjacent to the third extant opening will be lined with a non-erosive material. The two collapsed mine entries, both of which show evidence of drainage flow, will be reopened for the installation of drainage structures and properly sealed. Non-erosive flow paths will also be established between these closures and the stream.

Due to the presence of acidic underground mine drainage, approximately 1,185 linear feet of the main stem of the unnamed tributary, along with approximately 300 linear feet of each of its forks will be converted to an open limestone channel comprised of high-purity (minimum 85% CaCO₃ content) Class III limestone with 3" of high-purity limestone sand underlayment. This material will neutralize acidity in the drainage and trap a portion of the resulting iron and aluminum oxide flocculants that currently form in the lower portion of the unnamed tributary and in the main stem of Stinking Branch below the confluence of the unnamed tributary.

Other project-related construction includes a quantity of 36” culvert is included for the replacement of an existing corrugated metal culvert that is likely to be damaged by construction traffic along the farm access road. An additional quantity of 60” culvert is included for potential use if existing culverts along the county road (Sunshine Lane) are damaged by project-related traffic. Fencing and access gates are included for the in-kind replacement of existing structures that may be damaged as a result of construction-related efforts, and bituminous pavement is included for repair of any damage to Sunshine Lane caused by project-related traffic.

Reclamation activities may result in the disturbance of trees over 3” dbh while accessing the collapsed mine portals, and during placement of calcareous limestone in the stream channel. Other than transient disturbances associated with closure of the three open underground mine entries, no disturbance of caves or cave-like structures or habitats will be required. There will be direct disturbance of the unnamed tributary for the placement of the Class III stone. However, the end result of the project will be the elimination of a source of sedimentation to Stinking Branch and its receiving stream – John’s Creek. Also, the use of this unnamed tributary as a treatment system for acidic mine drainage will help alleviate one of the major mine-related sources of acidity to the John’s Creek system. All disturbed areas at the project site that are outside of the Chapman residential yard will be revegetated through the use of the standard AML Reclamation Seed Mix. The landslide excavation area will be revegetated via hydroseeding and hydromulching, with all other areas being revegetated through standard agricultural tillage practices. The residential yard will be revegetated with the standard AML Residential Seed Mix. The Excess Earth Placement Site will be revegetated with the AML Acidic Conditions Seed Mix. Extra agricultural limestone, for use at rates up to 50 tons per acre, has been included for the Excess Earth Placement Area.