



## **WEBB CITY ELK LODGE SHAFT SUMMARY**

### **PROJECT NUMBER: WCEL-12-01LZ**

Location: The Webb City Elks Lodge Shaft Project is located at 1010 N. Madison Ave., Webb City, Missouri, in Jasper County. The vertical opening was situated directly behind the Webb City Elks Lodge and in the backyard of a homeowner where their children and neighborhood kids play.

Background Information: A subsidence was reported to the Missouri Department of Natural Resources/Land Reclamation Program/Abandoned Mine Land (MDNR/LRP/AML) unit by Mr. Carl Francis, chief of police for Webb City. The subsidence was located in a wooded area directly behind the Webb City Elks Lodge and was investigated and confirmed by MDNR/LRP/AML staff on December 22, 2011. The vertical opening was approximately 30 feet in diameter and coned down to an irregular shaped hole that measured 90 feet to the bottom of the mine workings. The profile of the shaft was 8-10 feet of fill material over an additional 15-20 feet of red clay overburden over weathered sandstone. The shaft opening was approximately 12' x 14' where they mined through the sandstone and the edges of the rock opening were relatively unstable as the sides had sloughed off into the hole. It was determined by AML staff that the shaft posed an immediate danger since it was located next to a subdivision with children playing in the immediate area. Concrete hoisting shaft foundations indicated that the subsidence was caused by the collapsed of an abandoned lead/zinc mine shaft that was presumably filled with unconsolidated fill material and debris.

Construction: Reclamation of the Webb City Elks Lodge Shaft Project entailed the construction and placement of a steel-reinforced concrete plug over an open shaft, and then backfilling to the surface with fill material from excavation. The Contractor, Emery Sapp & Sons DBA/Kennedy-ESS Contractors of Springfield, Missouri, benched down and excavated the opening to expose a solid ledge where the shaft was mined through sandstone bedrock. Steel I-beams were placed across the competent rock to span the open shaft and deck sheeting was placed over the beams to form the bottom of the constructed concrete seal. A reinforcement rebar cage was constructed and then placed on top of the decked form. Finally, concrete was poured to create a steel-reinforced concrete seal and was backfilled to the surface with chat and fill material from excavation. Upon completion, a MDNR monument marker was installed to mark the physical location of the shaft.

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Project Cost: The project was bid as an under \$25,000.00 project. A total of five contractors attended the mandatory pre-bid meeting with three contractors submitting a bid. The contract was awarded to Emery Sapp & Sons DBA/Kennedy-ESS Contractors, 5350 E. State Highway AA, Springfield, Missouri in the amount of \$17,216. Final total cost was \$19,656.74, due to the additional rebar and concrete necessary to span the unexpected increased size of the shaft.

DWD:ms