



COLORADO

**Division of Reclamation,
Mining and Safety**

Department of Natural Resources

Marshall Coal Fire Project Stats

Project Name: Marshall Coal Fire Mitigation

Construction dates: Nov. 4, 2024 to Feb 13, 2025

(Finished 2½ weeks ahead of schedule)

Total cost of construction: \$849,188.00

Project Funding: Infrastructure Investment and Jobs Act

Total Project Area: 12 acres

Area of underground coal fire related mitigation: Approximately 5.75 acres

Total volume of material excavated, blended and backfilled: 178,800 cubic yards

Average temperature range of subsurface burning/smoldering coal: 175° F to 225° F

Highest temperature encountered: Approximately 535° F

Any material exceeding 80° F was considered “hot” for the purposes of this mitigation project.

Marshall Coal Fire Mitigation Project Summary

The Marshall Coal Fire mitigation project located in and around the Marshall Mesa Trailhead owned by City of Boulder Open Space Mountain Parks immediately east of State Highway 93 (Hwy 93) and south of State Highway 170. The area was heavily mined for coal from the late 1800s into the mid-1900s. Subsurface coal mine and coal seam fires have been reported in the area for the past 100 years.

Following the destructive wildfire in December 2021, DRMS conducted two subsurface investigations to identify and quantify areas of burning or smoldering subsurface coal in the immediate vicinity of the Marshall Mesa Trailhead. Two areas of subsurface heat were identified. One approximately 300 feet south of the trailhead parking lot and another under the northeastern most closed parking area. Evidence of unburned voids and rubble zones from historic subsurface fire activity were also reported as well as small areas of unburned coal.

The Marshall Coal Fire Mitigation project addressed the two areas of subsurface heat identified in the drilling investigations by excavating the smoldering material, mixing it with cold soil and rock, and spreading the blended material to reduce its temperature to below 80°F. A truck-mounted water cannon was employed to spray water on the material, assisting in the cooling process and controlling dust. Additionally, any remaining unburned coal was excavated where possible and blended with soil and rock to minimize the risk of future ignition. Lastly, areas affected by previous subsurface fires near the planned OSMP trailhead were excavated to eliminate the possibility of future ground subsidence, which could damage future trailhead infrastructure or create safety hazards.

The cooled and blended material was used to backfill the mitigation areas. The northern and southern sections of the project site were regraded to match the natural surrounding topography. These areas were then seeded with a native plant mix, developed in collaboration with OSMP.

The central portion of the site is designated for redevelopment by OSMP into the new Marshall Mesa Trailhead. Collaboration between DRMS and OSMP enabled the mitigation effort's final grade to align with the elevations needed for the upcoming trailhead redevelopment project.