

PROJECT PROFILE

FORENSIC ANALYSIS AND REDESIGN OF FAILED ROCK SLOPE

A more than 100-foot-high rock slope on the south face of Mt. Washington along State Route 51 (Saw Mill Run Boulevard) in Pittsburgh, Pennsylvania failed killing a bulldozer operator who was working at the site and two motorists who were passing the site when the rock slope failed. At the time of the failure, the slope was being repaired in accordance with a design prepared by others.

D'Appolonia was retained by the City of Pittsburgh to determine the reason for the failure and to redesign the failed slope. Our scope of work for the project included the following:

- Geologic site reconnaissance, review of local geology, and review of available geotechnical data,
- Review of the engineering designs for the original slope repair that had been prepared by others,
- Conducting engineering analyses to evaluate slope configuration alternatives and drainage control measures and rock bolting requirements,



One hundred-foot-high rock slope along Saw Mill Run Boulevard following failure.

- Determination of the optimum approach for stabilizing the slope and completing the construction work considering cost and safety factors,

- Preparation of revised construction plans and specifications for completion of the repair of the slope,
- Review of rock blasting plans previously prepared by others,
- Providing full-time, on-site engineering consultation and construction monitoring during completion of the construction, and
- Preparation of traffic control plans defining exclusion areas and establishing time frames for managing traffic flow past the site during construction, and
- Preparation of a report documenting the construction monitoring effort and providing daily logs of all field activities.



Rock slope following completion of D'Appolonia designed repairs.

The reconstruction of the slope was successfully completed without further incident and has remained stable since the completion of the project.