EXCELLENCE IN CONSTRUCTION PARTNERING
First Annual Awards

ITD/AGC Annual Excellence in Construction Partnering Awards
- 2020 Nomination Form -

Contract Number/Route/Milepost: 23078	Construction Engineer: Jared Hopkins
Project Name: US-95, Rock Slide Mitigation Near Riggins	Date Project Started: 08/18/2020
Contractor Name: Scarsella Bros., Inc.	Date Project Completed if applicable:
Email: janet.zarate@itd.idaho.gov	Phone #: 208-799-4218

1. Did the Contractor/ITD team participate in a Partnership Workshop or informal partnering?

Y ☐ N ☑

2. Category of Award (select one):

State Highway Projects (select size):

☐ Projects less than $1 million

☑ Projects $1 million - $5 million

☐ Projects $5 million - $10 million

☐ Projects greater than $10 million

Local Road Projects (select size):

☐ Projects less than $3 million

☐ Projects greater than $3 million

3. Application:

Please provide an overview of the project explaining scope of work, cost, and schedule. Be sure to include the below evaluation criteria where applicable.

Evaluation Criteria:
(1) Safety First, (2) Customer-Focused Results, (3) Innovative Problem Solving, (4) Overcoming Extraordinary Challenge, (5) Effective Contract Administration, and (6) Timely Completion of Project.

Project Overview:

US-95 MP 188 Slide Repairs

On July 3, part of the rocky slope above US-95 at MP 188 fell and blocked the primary north-south route in Idaho for five days. This failure was followed by a second event on July 10. While no crashes were reported, these events deposited more than 20,000 cubic yards of rock and debris. Thus severing the state in half, separating goods, services and people by an hours-long detour. Not only was an immediate response needed to restore connectivity, but a long-term repair to address continued movement on the slope would be required to prevent future disruptions.

Successful private and public partnerships have been essential to the completion of this emergency stabilization project, beginning with the rapid hiring and deployment of industry professionals.

Overcoming extraordinary challenges

Due to the complex nature of the slide, industry subject matter experts were relied upon to design a permanent repair under constant slope changes. In just 21 days after the first slide, ITD advertised the project and held a pre-bid meeting on site. Given the discovery of naturally occurring asbestos (NOA) on the slope—the first known occurrence on an ITD project—the bid was delayed for an addendum with the blasting plan for the north slope, NOA specifications and partial test results. ITD hired a Blaster-In-Charge with a separate contract to utilize the time between bidding and awarding to develop specifications and a blast plan. The construction contract was awarded to Scarsella Brothers on August 18 for $3.2 million, and drilling started within 48 hours.

Drilling was completed in seven days, with support from ITD, the contractor and consultants to load 130 holes and meet the deadline. The unstable material was blasted with 6,000 pounds of explosives just ten days after the time of award.

This blast was unique in that it would remove 14,000 cubic yards in one explosion. Cushion blasting of the wall-control holes was selected to minimize the chance that the mass would separate from the slope prior to charges in the body of the mass firing. This required drilling more than half of the holes at an angle to reduce the risk of misfired explosives in the muckpile. This method improved breakage allowing for debris removal without any traditional ground blasting. This method was also selected to protect the final slope as much as possible given the discontinuous nature of the geology. Electronic detonators were used for initiation so that the timing could be adjusted based on the field conditions of the size and shape of the rock mass.

Safety first

In order to improve safety for drivers and workers, a combination of manual survey and automated instrumentation were used. Because of instrumentation implemented early on, ITD pulled workers off site and closed US-95 to traffic on July 8—just hours after it had opened for the first time—and then on July 10 a second slide blocked the highway, crumpling 40 foot conex containers that had been placed to shield drivers. Prompt response to the instrumentation data and the safety protocol in place saved an untold number of lives.

Telemetry included data from crack gauges, tilt meters, prisms and robotic total station targets. This information was sent every 20 minutes through a hotspot, donated by Verizon Wireless, and made communication possible for monitoring and other emergency purposes. The logging database then alerted staff with text messages if device readings exceeded safe tolerances or if data was not received. A 24-hour spotter was stationed on site with a remote control for traffic signals to halt traffic at a moment's notice.

While rock fall was the primary threat to public safety, during the development of plans, ITD encountered another threat of NOA. There was no policy for ITD to follow, and expert resources were hard to find. ITD worked with McMillen Jacobs Associates (MJA) and Dr. Bradley Erskine to follow best practices for sampling the slope and identify a certified lab to analyze the samples. By splitting the slope into six distinct zones, ITD was able to characterize the geography of the slope and identify areas with NOA to reduce disturbance and use mitigation methods. ITD helped Scarsella quickly obtain a permit from IDWR to use water from the river to keep dust a minimum; the two entities partnered again for the development of a Health and Safety Plan, incremental perimeter air monitoring and personal dosimeter implementation to monitor activities.

ITD, consultants and the contractor held separate safety meetings for the high-risk activities of drilling, blasting, scaling and helicopter draping of netting.

Customer-focused results

While US-95 serves many national and state travelers, it is a critical route for residents in Riggins and McCall. With it blocked by a slide that continued to move, ITD partnered with Idaho County to temporarily repair an old landslide on Pollock Road so that it could be opened for daytime local traffic. ITD then provided a water truck to mitigate fire risk and adjusted the daily opening time to accommodate industry shifts. This provided critical opportunities to pass through the closure for 18 days until ITD was able to open the shoofly on July 27. ITD later located and installed illumination on US-95 to allow for 24/7 travel on the shoofly.

Upon receiving feedback about the change in levels of traffic on Pollock Road, ITD offered a $10,000-per-day incentive to the contractor to avoid utilizing it as a detour after the first blast. Scarsella took advantage of this opportunity and opened US-95 just five days after the blast.

The significance of the route and the impacts of its closure required nearly constant communication with media partners and residents, especially during the initial response. ITD published frequent press releases, utilized message signs as far south as Weiser and as far north as Lewiston to alert drivers, posted photos and videos to social media and developed a stakeholder list for email updates. The project manager coordinated directly with emergency services, local officials and schools. These updates and relationships helped the public understand the scope and significance of the work underway, buying patience and earning trust from this rural community.

Innovative problem solving

Scaling requires traffic to be held and normally results in debris accumulation on the road. ITD required the construction of a rock berm—utilizing debris from the two events—to catch rock during scaling and drilling, minimizing how much reached the road and the amount of time needed to clear it. This solution reduced delays for the public during weeks of scaling activities and especially the four major blasts.

Long-term repairs included cable netting to direct future debris into the ditch. The rugged terrain would not allow the netting to be draped from the top of the slope, and the netting needed to be a maximum of 173 feet above the roadway, exceeding the limits of available cranes. To overcome accessibility challenges, the contractor used a helicopter in place of conventional methods.

The mobile drill rigs could not achieve the right incline for holes for the trim shot blast on the south slope. Although this blast was shown in the plans, the angle of the failure plane was not documented. The Blaster-In-Charge, Scarsella and MJA redesigned the blast to use vertical holes advanced slightly above the failure plane and avoid project delays.

Effective contract administration

Despite the hurried nature of an emergency response, the scope of each team member was clearly defined, and the team was able to process payments efficiently. Weekly meetings kept everyone updated on the schedule, which was the primary concern for the public. These meetings also provided an open space to brief each other on more sensitive issues, like County Commissioners' attitudes regarding use of the local detour and the current sentiment of its residents.

Timely Completion of Project

Site conditions did alter the original design of the repairs, but the design and construction teams were able to overcome them without running too late into the season to finish work. There was no guarantee what the slope would look like after blasting, and the team was able to adjust to post-blast conditions and achieve a larger catchment zone without major delays. This involved working through various highway realignment scenarios to achieve the extra width. The plans were also modified to include the mesh at the top of the slope, which was originally thought to be primarily rock. There ended up being more dirt and boulders than thought, and the drillers had to shift quickly from one operation to the next to allow for timely installation of both mesh at the top and cable netting at the face of the slope. This shift was accomplished through early communication and a focus on the schedule.

From the initial emergency response to completion of the project, this project has required the tireless work and commitment to partnership from contractors, local officials, consultants, and ITD to provide a long-term solution for the public.


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