State Highway Projects
$1 Million – $5 Million

EXCELLENCE IN CONSTRUCTION PARTNERING
First Annual Awards

- Elephant Butte Swelling Clays
  - District 3: Caleb Lakey; (208)334-8301
- US-95 Rock Slide Mitigation Near Riggins
  - District 2: Doral Hoff; (208)799-4200
- Webb Road to Aspen Lane
  - District 2: Doral Hoff; (208)799-4200

EXCELLENCE IN CONSTRUCTION PARTNERING
First Annual Awards

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

Contract Number/Route/Milepost: 19112/8289: US95: 16-18	Construction Engineer: Daris Bruce
Project Name: Elephant Butte Swelling Clays	Date Project Started: July 23, 2018
Contractor Name: Central Paving Company, Inc.	Date Project Completed if applicable: November 2, 2018
Email: daris.bruce@itd.idaho.gov	Phone #: 208-484-9747

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:

This project consisted of the reconstruction of two miles of rural highway in Southwestern Idaho. This project was very unique because of the native soils encounter in the area. Physical and chemical characteristics of the native soils makes them exceptionally susceptible to volumetric change (expansion).

Since the highway was realigned in the sixties, the Idaho Transportation Department (ITD) had employed convention and non-conventional engineering and construction practices to arrest and mitigate the detrimental effects of the highly expansive soils. Unfortunately in all instances remedies employed resulted in temporary improvements that over time deteriorated into an exceptionally rough highway.

Considering that typical engineering and construction practices did little to arrest or mitigate the effects of the expansive soils, ITD partnered with the Boise State University (BSU) Civil Engineering Department to develop new methods to address the expansive soils. ITD and BSU developed unique plan using geo-synthetic materials and non-typical construction practices to mitigate the effects of the expansive soils.

The project was developed as a typical design, bid, build project, Central Paving Company, Inc. (CPI) of Boise won the project. Considering the unique characteristics of the project, ITD and CPI started partnering immediately following award of the project. CPI and ITD made a concerted effort to collaborate early and proactively manage administration and construction of the project. This early collaboration resulted in ITD and CPI implementing minor changes to the traffic control to enhance worker and traveling public safety. Impacts to budget and time were negligible.

The use of geo-synthetic materials in highway construction is not a unique practice, what was unique was the how an erosion control geo-synthetic material was used as a subgrade structural element. This required not only collaboration with CPI, but also with the geo-synthetic supplier. ITD, BSU, and CPI worked collaboratively to develop new construction practices that resulted in a superior product.

Since completion in November of 2018, ITD has monitored the roadway surface in order to assess the success of the project. To date the highway profile and smoothness remain unaffected by expansive soils.

This project is being submitted as an “Excellence in Construction Partnering” candidate because ITD and CPI took the initiative to proactively and collaboratively partner early and consistently throughout construction of this project. Though unique this project was deliver with negligible budget and time changes.


DeWALT


CATERPILLAR

EXCELLENCE IN CONSTRUCTION PARTNERING
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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

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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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Contract Number/Route/Milepost: Contract 8559 / US-95 / 290-300	Construction Engineer: Howard Cooley, Curtis Arnzen, and Jeremy Walkup (Poe Asphalt)
Project Name: Webb Road to Aspen Lane	Date Project Started: April 23, 2020
Contractor Name: Poe Asphalt Paving, Inc.	Date Project Completed if applicable: June 19, 2020
Email: jeremy@poeasphalt.com	Phone #: 1 (208) 799-4222

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

   Y ☐ N ☑

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Evaluation Criteria:
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Project Overview

Webb Road to Aspen Lane is a pavement preservation project on US-95 between Mileposts 290 and 300 through Lapwai, Idaho in Nez Perce County. The project repaired highly distressed pavement, completed a smoothness grind, placed a Stress Absorbing Layer of Straight Asphalt, and placed a thin 0.15' layer of Class SP-5 Superpave Pavement. The project had a construction starting date of April 23, 2020 and a completion date of June 19, 2020. The total project Plant Mix tonnage was 19,634 tons of Superpave Hot Mix Asphalt and the total Contract amount was $2,601,120.

This paving project is unique because it was the first production paving project that was constructed with the version of the Section 405 of the Idaho Specifications Book that addresses Superpave Hot Mix Asphalt developed in the Summer and Fall of 2019. This version of Section 405 accepts plant mix and pays for QA/QC bonuses using test results from the ITD Laboratories, not Contractor Furnished Laboratories. This is a significant change from older versions of Section 405, and required a good understanding of the new specification by ITD and Poe Asphalt and an excellent partnership to work through issues associated with the change.

Safety First

The project had an excellent safety record with no workzone crashes. In addition to excellent workzone safety, the Contractor and ITD needed to navigate through issues associated with the beginning of the Covid-19 Pandemic and take extra precautions including a social distancing policy, use of sanitizing fluid, and use of on-line video conferences. The Contractor and ITD Team did not have any instances of Covid-19.

Customer Focused Results

This roadway has high volume of traffic for a two-way two-lane highway with an ADT of 5,000 vehicles per day; however, the workzone traffic flow was still excellent and met the specification requirement for delay of 15 minutes or less. Keeping the workzone traffic flow moving helps economic opportunity by improving the flow of commerce and reducing the delay for our customers. The project only received a few complaints from the public regarding project delays.

The superpave plant mix quality was very high. The contractor earned $37,357.11 (81% of total available) for QA/QC bonuses and $61,005 (76% of total available) for smoothness bonuses. ITD likes paying for plant mix bonuses because this is a good indication that the pavement has high quality and will have a long lasting life.

Innovative Problem Solving / Overcoming Extraordinary Challenge

Since this project was the first production paving project to be constructed using the version of Section 405 for plant mix that accepted plant mix with State Laboratories, mistakes and growing pains were expected. In fact, other contractors in the state were reluctant to try the new specification out and chose to have high level discussions with ITD HQ before commencing their work. ITD and Poe Asphalt

knew that a good partnership would be required to overcome the growing pains and mistakes and construct a quality project.

One change to the 405 specification requires the bulk specific gravity of the recycled asphalt pavement (RAP) to be tested and calculated by the ITD Central Laboratory before a mix design is created by the contractor and ultimately approved by ITD. The timeframe from submittal of the recycled asphalt pavement until mix design approval can be 2 to 3 months. Unfortunately, ITD made an error in calculating the bulk specific gravity of the RAP which would have caused a minimum two month delay to have an approved mix design in accordance with the specification by resampling, retesting, and recalculation of the bulk specific gravity. Poe Asphalt bid the project to be constructed between April and June because their schedule was very busy from August through October, so creating a new mix design and building the project late in the year was not a good option for Poe Asphalt, the ITD, or the public.

Poe Asphalt and ITD could have agreed that the best way forward through this issue would be through the claims process. Significant project delay and costs would have been anticipated through the claims process. Instead ITD and Poe Asphalt used an innovative solution to overcome this challenge.

ITD hired Murphy Pavement Technology to provide recommendations about adjusting the mix design to account for the adjusted bulk specific gravity of the RAP without going through the entire two month long mix design process again with the corrected bulk specific gravity. ITD and Poe Asphalt agreed to Murphy Pavement Technology's recommendations and this allowed the project to proceed as planned. The adjustments had associated costs, but they were reasonable to ITD and Poe Asphalt.

The partnership built on trust between Poe Asphalt and ITD is what allowed the project to be built on time, within budget, with high quality building materials that earned significant QA/QC and smoothness bonuses. In the end, because of the partnership, Poe Asphalt, ITD, and the public were all winners.

Effective Contract Administration

Webb Road to Aspen Lane is an excellent example of effective contract administration. As mentioned above, Poe Asphalt and ITD both sought practical and innovative solutions to overcome issues. Both parties had excellent communication in the middle of a global pandemic even though face to face discussion and in-person meetings were limited. The project stressed safety, workzone traffic flow, used high quality building materials, finished within budget, and finished on time.

Timely Completion of Project

This project finished on time and only 37 of 45 contract days were used. Without an excellent partnership between Poe Asphalt and ITD, it is possible that the project still would not be completed. Both parties may be litigating a claim instead.


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Webb
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