

US-31: The Miracle Mile

PROJECT: US Highway 31: The Miracle Mile

CHALLENGE: Extremely high traffic volume, tight schedule

SOLUTION: Communication and planning with all involved, keep one lane open in each direction.

OWNER: MDOT Traverse City TSC

CONTRACT AMOUNT: \$10,340,775.60

DESIGN ENGINEER: David L. Pax, PE

ENGINEER PHONE: 231-941-1986

LOCATION: US-31 from west of Three Mile Road to east of Holiday Road, Grand Traverse County

DATE STARTED: April 6, 2015

DATE COMPLETED: June 18, 2015

SELF-PERFORMED: 80%

PARTNERS: MIOSHA, Bella Concrete Construction, Give 'em A Brake Safety, Inland Seas Engineering, J Ranck Electric, PK Contracting

You know the frustration. You're driving on a crowded stretch of road when suddenly you're hit with lane closures. Traffic comes to a standstill. No one really knows what the delay is for and the highway crew seems disinterested in your predicament. Oh, and it's a hot summer day and the kids are fighting in the back seat.

That could have been the case when a busy portion of US Highway 31 just east of Traverse City, Michigan, was reconstructed in April-June, 2015. But it wasn't.

Reason? Team Elmer's and the Michigan Department of Transportation (MDOT) worked together using a new project protocol called Construction Manager/General Contractor (CM/GC) to carefully plan the project in advance. Then employed effective communication techniques to inform motorists about the road work. These measures, plus enthusiastic traffic supervisors, and close coordination with the businesses along the corridor, helped ease the pain.

Nick Broad, Team Elmer's project manager, explains that the innovative approach enabled his company to work with MDOT in planning the project a year

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before construction began. “We walked the route ahead of time,” he explains. “We had one-on-one contact with people along the right of way, and went to township meetings. We made sure to communicate the expectations early. It was a lot better than showing up with equipment and barricades, with no opportunity to inform people ahead of time.”

Rebuilding the road.

US-31 is a vital north-south highway carrying vacationers as well as local traffic along the popular west coast of Michigan. In the Traverse City area, the 5-lane route extends from the downtown area east and north along Grand Traverse Bay into East Bay Township. It's lined with restaurants and motels and is the main route into Traverse City from the east. An average of 38,000 vehicles per day travel the busy corridor.

Phase I of the contract with the MDOT called for Team Elmer's to completely rebuild a 1.5 mile portion of the highway between Three Mile Road and Holiday Road. The work included removing and replacing the roadway, forming new curb and gutter, installing storm sewers, installing new sidewalks, interconnecting all sidewalks, and updating traffic signals.

During construction, lane closures, with one lane of traffic kept open in each direction, maintained access to driveways and businesses at all times.

Project manager Broad explains that Team Elmer's used an “assembly line” approach to execute the project 16 days ahead of schedule. “We milled off the old asphalt, then broke and removed the concrete, processing it into gravel onsite,” he explains. “We installed new storm sewers, then compacted the sand base and spread the gravel back on the right-of-way. On top of that, we laid down six and a half inches of new asphalt, constructed new curb and gutter, poured new sidewalk and approaches, updated the traffic signals, and restored the top soil.”

“If you drove from one end to the other you'd see the entire road being built in phases. We had an average of 84 workers on site each day, working a lot of overtime. We took advantage of good weather and good planning.”

Broad says the crew put in 26,000 man-hours of labor in 12 weeks. “We didn't want to have a situation at the end where we might have gotten caught by bad weather (resulting in delays). Our crews really knocked it out of the park.”

And while the pace of construction was accelerated, safety was not sacrificed. In fact, Team Elmer's joined a collaborative effort with the Michigan Occupational Health and Safety Administration and the Department of Licensing and Regulatory Affairs, successfully completing the project with zero “lost time” accidents





or injuries. Traffic regulators were on hand to assist business traffic safely across the work zone and construction traffic effectively into and out of the work zone.

"We had safety meetings each day," says Broad. "We equipped everyone with proper safety gear and equipment. Our experience paid off as the younger guys learned from the veterans. We kept our eyes open. Everybody knew where everybody else was at all times. It was a pretty smooth process overall."

Innovative planning.

MDOT had used the CM/GC project approach only twice before and never in the northern part of the state prior to the US-31 project. Team Elmer's fully embraced this innovative and successful process, helping avoid costly changes in the field.

"We built contingencies into the project," explains Broad, "so we wouldn't have any unforeseen costs. Contingencies were pre-negotiated so if they were encountered, there was no waiting. We could move ahead instantly."

That pre-planning, in turn with in depth staging, and continuous measurement against the time line, helped Team Elmer's and MDOT finish the project ahead of schedule, keeping traffic congestion and short tempers to a minimum.

The project was coordinated with the Federal Highway Administration, and the CG/MC process was approved because the road way in question was in a very sensitive urban area with a number of summer tourist businesses affected.

Gary Niemi, operations director for MDOT's Traverse City office, explains the origin of the CM/GC process and why his department feels the approach was ideal for this type of project.

"Once we had Team Elmer's on board, we went over our design concepts with them," says Niemi. "We bounced ideas off each other regarding traffic flow, staging, and expediting construction."

"When that phase was complete we moved to the price negotiation stage."

Niemi says MDOT involved a third party independent cost estimator as a cross-check on the pricing process. "After we negotiated a final price we awarded the contract."

He says the approach allowed Team Elmer's to line up subcontractors early, and prepare for the all-out effort that brought the project in over two weeks ahead of schedule. It also allowed for face-to face contact with stakeholders and businesses, which proved invaluable.

"It worked very well for us," Niemi says of the CM/GC process, adding that the conventional bid letting approach would not have been as timely.

"Overall, the public was real happy with it," he adds. "The road was in such poor shape everybody knew something had to be done."

Niemi is happy with the project, as well. "At first I was skeptical," he says, "but for highly sensitive, complex projects like this, I would definitely do it again."

Broad agrees. "It was nice to be familiar with the project ahead of

time and be involved from start to finish,” he says. “That’s the positive thing. We really understood the project.

“It was more work up front than is typical, but it saved a lot of headaches.”

Results.

The proof is in the access motorists had to destinations and the functionality of the rebuilt highway. While many hotels and restaurants along the right-of-way worried about the impact the construction would have on their businesses, careful planning and communication prevented any significant fall-off in customer traffic.

Nick Trahair, general manager of the AmericInn in the construction zone, says his bookings were actually up during the construction. “Our inn was down in local traffic for our swim program and meetings — but our overnight stays were up — so we were up overall,” he says.

“We did a big PR push that construction was going on,” he adds. “We wanted our guests to know what to expect. We

heard from people how nice it is with the workers helping people get in and out of the parking lot. We’re doing good and are very happy.”

Tim Olson, general manager of Pirate’s Cove resort adds, “It’s impressive to see with the scale of work that had to be done. Every single worker I’ve talked to has been professional and courteous.”

Even MDOT Director Kirk Steudle wrote a final note of congratulations, “As you know, the work we do is more often a topic of complaints than compliments. The sheer volume of positive notes and comments we received for this project is perhaps the greatest indication of its success. Team Elmer’s role in this achievement cannot be overstated. Please accept my appreciation for the hard work your company, and specifically the roles of Nick Broad, Project Manager, and Steve Endres, Project Superintendent, played in making the US-31 project such a great partnership with MDOT and, more importantly, an overwhelming communitywide success.”

**US-31: The Miracle Mile
By The Numbers**

- Finished 16 Days Ahead of Schedule	- 3,402 ft of Culvert
- MIOSHA Reportable Incidents: 0	- Drainage Structures: 84
- Safety Experience Management Rating (EMR): 0.59	- HMA: 34,331 tons various
- Cold Milling: 124,562 syd	- 20,349 ft of Curb & Gutter
- HMA Surface Removal: 59,691 syd	- 73,801 sq ft of Sidewalks & ADA Ramps
- 25,221 tons of Gravel	- 2,500 cyds of Concrete

