



CHALLENGE: Normal berm equipment wouldn't work for the 26-foot berms

SOLUTION: Used atypical boom structure on two large excavators to shape berms

OWNER: State of Michigan

CONTRACT AMOUNT: \$412,875

DESIGN ENGINEER: Nowak & Fraus Engineers

ENGINEER CONTACT: 248-332-7931

LOCATION: Traverse City, Michigan

DATE STARTED: October 2, 2017

DATE COMPLETED: November, 2018

SELF-PERFORMED: 94%

PARTNERS: G&J Site Solutions, B&B General Contracting (Elmer's worked as subcontractor of B&B)

BY THE NUMBERS

Sidewalk Removal: 7,260 square yards Grading: 27,240 square yards Aggregate Base: 1,056 ton Acres cleared: 7 Curb & Gutter: 5,889 feet Sult Fence: 4,200 square feet Top Soil: 3,300 yards Sand transportation: 35,000 cubic yards

The Michigan DNR spent years carefully planning the construction of a new public shooting range in Grand Traverse County. They took the time to investigate the best location, as well as gave the community opportunities for their input.

Team Elmer's came in as a subcontractor of B&B General Contracting to tackle the project and in October 2017, construction began on the new shooting range.

Although they worked as a subcontractor, Team Elmer's completed

almost the entire project themselves, providing site work, clearing, dirt moving and shaping, grading, graveling, and paving work. This was a unique project for Team Elmer's, too, giving them the opportunity to overcome new challenges and learn new solutions.

One challenge they encountered was creating 26-foot tall berms at a 1 on 1.5 feet slope, which means normal berm equipment would not work. Team Elmer's overcame the challenge by using two large excavators together to shape the berms after the sand was placed.

There were many unique elements to this project as well, including

TEAM ELMER'S PROJECT PROFILE | DNR Shooting Range

special materials. After the berms where shaped, Team Elmer's had to find a blue pliable clay source completely free of any rocks to spread on the face of the berms that were going to be shot into.

Even the weather was unique to this project. For the most part, Team Elmer's didn't run into any bad weather, which is unique in northern Michigan. When bad weather did show up, though, Team Elmer's could keep working thanks to the sand site. This helped ensure the project was completed on time and without delays.

The range is now complete with 12 shooting lanes, three each at 10 yards, 25 yards, 50 yards, and 100 yards. Structures to protect users from inclement weather were built, along with concrete walkways and parking spaces, sound abatement-measures, and groundwater monitoring wells.











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