

# Lighthouse project receives a boost with 3D imaging process

Posted by Ken Grabowski on September 12th, 2014

MANISTEE — In today's world the things that can be done with technology are endless.

When City of Manistee Planning and Zoning Administrator Denise Blakeslee saw what Real 3D Places and 3D Laser Advantage did digitally mapping parts of the downtown area, she instantly knew it would be a perfect fit for the Fifth Avenue Beach Lighthouse restoration project.

"I was at a meeting where Ken Cummings of the Manistee-based Real 3D Places was showing a video of what they had done, and I met with him after the meeting to ask if he would be interested in maybe doing the lighthouse," she said.

A meeting ensued with Cummings and 3D Laser Advantage co-owners Steve Schuchard and Larry Louzon, Blakeslee, Manistee County Historical Museum Director Mark Fedder and former director Steve Harold, who is heading up the fundraising efforts on restoring the lighthouse. Blakeslee said they explained to the laser companies that the lighthouse restoration is a project that is near and dear to the hearts of the local residents.

"We told them that the funding that has been raised so far is going for the restoration and they agreed to do this pro bono for us," she said. "It is going to be a great resource to help with the restoration of the lighthouse."

What they do is use a FARO scanner that fires millions of lasers in all directions to conduct measurements, down to a fraction of an inch in accuracy. The lasers reflect off all surfaces, and the scanner captures their intensity upon return to to gather distance information. From there the scanner takes a photograph to give measurements color.



*The lighthouse at Fifth Avenue Beach has been a scene that most local residents identify with when thinking of this area. Fundraising is taking place and to assist in the grant process and the Real3D Places and 3D Laser Advantage created 3D images of the Lighthouse on Friday.*

Each scan takes eight minutes to complete, and they can measure up to 100 yards away. The data that is gathered can be used in a variety of ways on the project from applying for grants on up to creating a virtual tour of the structure.

"This along with the structural report we are doing now keeps us on track for trying to get the lighthouse painted, as in the grant process you have to have different stages done before you can keep working," she said. "I think it is amazing and can't wait to see the final product."

Fedder said the technology being used is new to this area, and he is quite excited about what it brings to the table.

"It will give us a better idea of the lighthouse itself," he said. "It is another step in the right direction of the lighthouse."

Blakeslee said this process will give an added dimension to what they will have to offer to the public in the future.

"When we acquired the lighthouse, we realized it wasn't going to be universally accessible to everyone," she said.

With the interior filled with ladders giving access to the next level, it bars those who are physically challenged from seeing all levels of the structure.

"You can't modify the lighthouse for that accessibility, so what we wanted to do with this was make it so you can do a virtual tour of of it," she said. "We will have the scanning before and if we can come up with some more money to do the scanning after, it would be great. I think this would be great tool to help with our fundraising. This will really show where we were and where we went to with it."

Fedder said it wouldn't have been possible to do this without the donation from Real3D Places and 3D Laser Advantage.

"We couldn't have afforded it, and this is a big process that we have to follow, but this is another step in that direction," he said. "Our hopeful target date to get it painted would be sometime next year, but realistically it will not be until 2016. Steve and Denise have been working on all the steps to appease the State of Michigan for our grant."

Blakeslee said that until they get the structural report done it is hard to apply for grants. This laser work will assist with that report. She added that when everything is in place, they still will have to find the right time to paint it.

"We also have to take under consideration that the lighthouse is outside, so there are only certain times of the year that we can paint it," she said. "We thank everyone who has donated to this point and we are always looking for grants and resources, but there is always match money that is needed. If people want to donate they should contact the Manistee County Historical Museum at (231) 723-5531."

Fedder said they have always looked at the project as a five-year plan and it began in 2011, so they are right on target for the completion date.

Larry Louzon of 3D Laser Advantage said this scan will give the the lighthouse people some accurate dimensions.

"By using the 3D laser technology it allows us to document the conditions, so we can measure it and they can engineer how how to fix it," he said. "This will give them the as-is condition and it will locate where all the bolts and structures, and that allows you to bring it into a CAD system. What you can to is interrogate it, measure it and re-engineer it to restore it."

His partner Steve Schuchard said that the accuracy is uncanny with the laser.

"There is no way you would be able to measure around a structure like this and to see if it is leaning or if it sags," said Louzon. "All of those things will be recorded."

Schuchard said that doing this type of work with a lighthouse can be difficult because of the limited space available on the pier to place the scanner.

"If you step out to the edge, all you can see is what the laser can see," he said. "If you imagine a radio beam coming out of the center of it, and it measures everything in front of it but itself."

Both Louzon and Schuchard said they hoped to have the project done by Saturday, depending upon if the weather slowed them down or not.