

## Saving Vaudeville— Restoration for a Community

In 2012 I was approached by the Director of the [Rivoli Theater Restoration Coalition](#) from Pendleton, Oregon. He had seen a few of the point cloud visualizations our team put together for the [Petersen Rock Garden](#) in Redmond, Oregon and he was confident that the Rivoli could benefit from this sort of marketing as well as a high-tech documentation effort. I was immediately excited to know that people were beginning to hear about our historical preservation project and wanted a piece of it for their own areas of interest. I told him I would absolutely drive to Pendleton, home of the [Pendleton Round-Up](#).

The Rivoli also happened to be on [Restore Oregon's](#)—Most Endangered Places list which made her the ideal candidate for [ToPa 3D's](#) documentation goal of 100 historic sites scanned in Oregon. More importantly, it was our hope that 3D documentation would not be the end of the story for the Rivoli, but rather a beginning.

We started with hauling out a portion of what would eventually be over 20,000 pounds of debris. After this was accomplished, 3D laser scanning ensued using the older FARO Photon scanner. A representative panoramic photo was taken of the interior with our GigaPan Epic Pro (see [Panorama](#)).

### Into the Darkness...

There are several interesting facts about the Rivoli's history, not all of it glamorous. It began in the roaring 20's as a vaudeville theater, complete with a Wurlitzer organ above the stage. Below the theater, it is believed that the underground and quite expansive catacomb of an unfinished basement, connected to the [Chinese Tunnel system](#) that is a web under the desert town of Pendleton, Oregon. Not many people know that many of the opium den legends sprout from this very region.

There is also an old and amazing HVAC system in those crawl spaces made entirely of formed wood that is about 5' across and 2–3' high, connecting to a massive fan with pedals the size of oar blades. It's the most bizarre HVAC I've ever seen which can be seen in the point cloud [fly-through animation](#) in this article. It could be that this piped cool air from the tunnels into the theater.

Since our cleaning and documentation efforts, the Rivoli has seen new improvements as funding has manifested. The project—estimated to cost less than \$43,000—was paid for with Environmental Protection Agency funds. Later, a four-man crew removed nearly six tons of sand, almost three tons of concrete and 80 gallons of old diesel fuel from the building. The concrete was

thrown in a landfill and the rest recycled. Today, there is a clean, newly restored facade on the building that shines as a beacon of a unified community working together. The dream of reawakening the Rivoli is coming to pass...

If I were to conclude anything about this restoration project, it would be that it's only a matter of time before people can re-experience this amazing place. To quote Coalition President Andrew Picken, in reference to the renovation of the Rivoli Theater:

*"I will bet anyone \$5 million that this project will get done...before the end of time..."*

Well said Andrew! That is how I feel about documenting history with 3D technologies. I believe it will get done, one way or another, come fire or swarms of locusts, because there are a lot of people passionate about spaces and places that hold rich history and meaning in our State. Documenting in 3D will educate future generations about our history in a way unparalleled when compared to traditional 2D documentation methods. Belief is like a fire—hot, a little dangerous, and can spread fast. ■

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Founder and CEO of ToPa 3D based in Oregon, **Paul Tice** currently works with historic and archaeological preservationists documenting conditions of sites and architecture with 3D scanning and modeling technologies.