

Wyssen Reference Project

# Wyssen Towers replace historic howitzer shots in LCC



**Safety** through **innovation**

**WYSSSEN** switzerland **avalanche control**



## Wyssen Towers replace historic howitzer shots in LCC, Utah

<b>Project:</b>	Wyssen Towers replace historic howitzer shots in LCC
<b>Place:</b>	Emma Ridge, Little Cottonwood Canyon, Utah
<b>Country:</b>	USA
<b>Year:</b>	2017 - 2020
<b>Customer:</b>	Utah Department of Transportation (UDOT)
<b>Protected Object:</b>	Highway, Town of Alta
<b>Installed Systems:</b>	<ul style="list-style-type: none"><li>- 1x Wyssen Avalanche Tower 12 shots <i>(installed in 2017)</i></li><li>- 12x Wyssen Avalanche Tower 12 shots <i>(installed in 2020)</i></li><li>- 1x Weather Station</li><li>- 2x LIA® Laser Scanner</li><li>- 1x IDA® Infrasonnd Detection System</li></ul>



### Initial Situation

Little Cottonwood Canyon (LCC) has historically been at the forefront of avalanche control innovation. Monty Atwater employed the use of the howitzer canon to control the slopes after his service with the 10th Mountain Division in World War II. Nowadays, the UDOT avalanche team of LCC still has their hands full during the winter months. The popular ski areas of Alta and Snowbird keep a constant stream of excited skiers driving up the canyon right under avalanche hazard. According to UDOT “There are 64 slide paths in Little Cottonwood Canyon alone, with over half of S.R. 210 threatened by avalanches. Over 50 buildings and 76% of the road passing through Snowbird and the Town of Alta are in avalanche paths. The road is fully closed to the public when avalanche mitigation is in progress.”

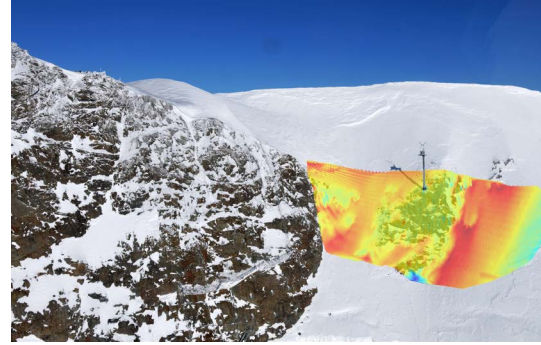
## Our Solution

UDOT had been searching for a solution to controlling the avalanche hazard of Emma Ridge above the town of Alta and approached Wyssen personnel at the 2016 ISSW in Breckenridge. In 2017 the first Wyssen Avalanche Tower in the United States was installed at Cardiff Bowl as a test. Due to effective range and ease of use, 12 more Wyssen Avalanche Towers were installed on the slopes of Emma Ridge above the town of Alta. Since installation, Little Cottonwood Canyon has seen some major storms with elevated avalanche hazard and has been able to rely on the Wyssen Towers to protect the road and structures below. Additionally, LIA® has been installed to monitor snow in the start zones of select paths and IDA® has been used to monitor activity in additional slide paths.

## Highest efficiency and environmental friendliness - a statement from Damian Jackson, UDOT LCC Avalanche Team

“The Utah Department of Transportation’s Little Cottonwood Canyon Wyssen installation is proving a great fit in our task to manage a unique avalanche problem that’s been ongoing since the early days of avalanche mitigation. Monty Atwater pioneered active avalanche control processes in these very paths over a half century ago and since his day, it’s been military artillery used as the bread and butter means to protect upper Highway 210 and the Town of Alta from avalanche zones that have proved deadly since the mining boom of the 1800’s. Replacing howitzers, being such a highly effective and proven tool, is big shoes to fill and thus far our 13 Wyssen Tower’s spanning the Emma Ridgeline has proved a great fit. The installation’s environmental footprint is relatively small and the elevated explosive charges are effective across the bowls, open slopes and gullies that threaten the Town of Alta. UDOT’s Avalanche Program has gone through much effort of late to modernize its systems and we know better than most that adapting to new equipment and methods can come with growing pains. Trusting the system will work without fail is crucial, especially when the large storms that Little Cottonwood is known for have shut the canyon from the mouth up, leaving the canyon’s residents and visitors with no option but to shelter in the town’s structures and wait out the storm. Wyssen’s technical support has been excellent and the flexibility the system provides is broadening our Avalanche team’s ability to keep up with what nature dishes out.”

- Damian Jackson of the UDOT LCC Avalanche Team.



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