

## Tragedy to gateway: Wildfire-salvaged wood gets new life at Portland International airport

**Bill Poehler**

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When the 2020 Labor Day wildfires burned 50 miles to the south, destroying more than 3,000 homes and scorching 1.2 million acres of trees, the lingering smoke cast the state's largest airport in a haze.

Now, as the Portland International Airport takes on an ambitious \$2.2 billion makeover that will expand the main terminal and make significant improvements, much of the wood for the new roof over the main terminal is coming from wood salvaged from those wildfires.

"Being able to do something with it is fantastic," Portland International Airport spokesperson Kama Simonds said. "To know that we could have a part of that in this project through our partners who care about the land that they come from, care about their business, care about their communities and kind of pulling that all together, it feels both hopeful and helpful."

Something that was the result of one of the most devastating disasters in the state's history will become the gateway to Oregon for millions of people each year.

### PDX terminal set for expansion

Portland International Airport opened in 1941 and the current terminal opened in 1959, though it's been remodeled through the years.

It's the terminal D.B. Cooper passed through in 1971 on his way to his infamous flight, and more than 19 million-pass through in a typical year to catch a flight to locations around the world.

Owned and operated by the Port of Portland, a quasi-governmental agency, the airport has become the 30th busiest in the United States.



Crews with Hoffman-Skanska work on the new \$2 billion remodel of the roof using salvaged wood product from Freres Lumber Co. at Portland International Airport in Portland, Oregon on Friday, July 16, 2021.

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To more efficiently move those millions of people, the airport undertook an expansion in 2017, with plans including a new concourse, a new ticketing area and a major expansion of the terminal.

When completed, the pre-security area will be widened 150 feet to the west to add about 175,000 square feet, nearly doubling it to about 360,000 square feet.

The stores below the roof will be built to resemble Portland neighborhoods, complete with doughnut shops.

To give travelers the feel they are in the Pacific Northwest, the designers opted to build as much as possible out of locally-sourced wood. A project that big requires a lot of it.

“The concept behind the roof is that you’re in the forest, that you have the light filtering down through the trees, and you’re obviously walking underneath wood,” Simonds said.

“I don’t think people are going to step off an airplane and say, ‘It feels like I’m in a forest,’ but it’s one of those things in your surroundings that you’ll just feel – similar to lighting. When you bring natural light in, people step off a plane and think, ‘This is so nice.’”

The roof is designed to appear like rolling waves to simulate the current of rivers and oceans in Oregon, and decorative elements underneath will be made of more wood, including planters for trees on the floor.

## Giving destruction new life

The Beachie Creek Fire, first detected Aug. 16 in the Opal Creek Wilderness, spread rapidly due to a high wind event Sept. 7, growing to over 130,000 acres in one night.

The fire killed five people, ravaged 193,573 acres and destroyed about 500 homes.

When it tore through communities in the Santiam Canyon, Freres Lumber’s Mass Ply mill and other manufacturing facilities in Lyons were in the evacuation areas.

“We had fires still going on our properties next to the mill site,” said Tyler Freres, vice president of sales for the family-owned business.

The wood product manufacturing business was shut down for three weeks. Though its facilities were relatively unscathed, the private timber land the company owns around the Santiam Canyon was heavily impacted.

Freres said about 5,700 of the company’s 17,000 privately-owned acres of timber were damaged in the Beachie Creek Fire.

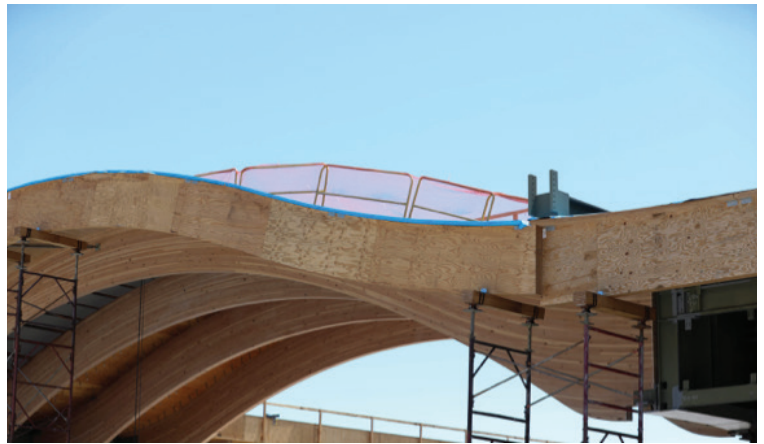
But the flames moved so fast that when it killed the trees, the wood wasn’t harmed structurally.

Since the wildfire, Freres Lumber has been salvaging wood from its private acreage and wildfire-damaged trees from other sources and turning them into usable products.



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“So far, we have yet to see a real structural or even a visual aspect that’s been affected by the fires for the wood that we’re processing,” Freres said. “Of the fiber that we’re pulling in that salvage wood, it’s all good usable fiber.”

Freres said the company has already replanted more than 500,000 seedlings in the salvage logged areas.

A large part of the wood products being processed at Freres’ Mass Ply Panel facility on the edge of Lyons has been going to Portland International Airport since April.

## Building a roof, then putting it in place

The new roof is going to be gigantic.

It’s being built 13 feet up on 23 acres of concrete poured specifically for the construction on the northwest portion of the airfield. The entire roof will be constructed in pieces.

Over the span of three nights in the spring of 2022, each piece will be moved a few thousand feet to the terminal by a transporter designed to move submarines and installed 55 feet in the air at times there will be no one below.

“It really keeps the terminal operating,” said Katrina Day, construction manager for contractor Hoffman Skanska, explaining that building the roof in place would have required the terminal to be shut down for safety.

Zip-O-Log Mills of Eugene is supplying the beams for the project and Freres is supplying the MPP panels, a structural veneer-based mass-timber product.

The Y-shaped steel supports for the roof at the terminal are being dug 160 feet into the ground, as opposed to the normal 90 feet, and the entire roof is designed to sway 24 inches in any direction in case of an earthquake.

“It’s all being designed so that when, not if, but when we get the big Cascadia event, that this thing rides it out and this region still has an airport,” said Brad Harrison, senior manager of construction service for the Port of Portland.

Freres said the family company will supply about 800,000 board feet of MPP for the roof, the equivalent of 79,000 cubic feet of wood or about 30 acres of mature timber.

Each panel is warped by carpenters onsite to fit the waves in the roof over the beams, but still fit precisely next to each other like a jigsaw puzzle.



**A skylight in the \$2 billion remodel being built by Hoffman-Skanska using salvaged wood product from Freres Lumber Co. Portland International Airport in Portland, Oregon on Friday, July 16, 2021.**

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The company started delivering panels in April and will continue multiple deliveries each week through June 2022. Much of the wood ceiling won’t be visible during construction as it will be covered with acoustic panels.

Once the new wood roof is in place, the current one will be removed and more construction will take place below.

## Salvage logging a difficult proposition

Salvage logging after a wildfire is a contentious issue.

On public lands, it often draws a fight, such as when the Oregon Department of Forestry put forth in 2020 a controversial plan to log about 20% of the more than 15,000 acres of state-owned timber land burnt in the wildfires.

Environmental groups like Sierra Forest Legacy argue salvage logging increases fire risk, unnecessarily disrupts wildlife and can lead to increased erosion.

On private lands, the state requires notification, reforestation, wetland protections and that salvagers follow fire prevention and suppression methods.

Salvage logging allows private companies like Freres, which took an estimated \$24 million hit due to the wildfires, to recoup as much as possible.

All of the wood Freres is currently processing is salvaged.

“To me, it’s really interesting and a somewhat complex concept because wildfire is devastating,” Simonds said. “It’s devastating to the people, the communities, the land owners and the forests.”

“It’s nice to have something to do on the back side because it does mean the landowners still have a way to benefit and find sustenance and survivability for the companies and families.”

The Portland International Airport terminal will reopen by 2023, though further phases of construction will continue through 2025

The thousands of people each day who pass under it may not know the circumstances of the wood, but they will still be protected by it when the Oregon skies are pouring rain, producing something good from tragedy.

“That’s the silver lining, when you get down to it,” Freres said.

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**An Alaska Airlines airplane takes off behind the new \$2 billion remodel of the roof using salvaged wood product from Freres Lumber Co. at Portland International Airport in Portland, Oregon on Friday, July 16, 2021.**

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**Work takes place on the \$2 billion remodel being built by Hoffman-Skanska using salvaged wood product from Freres Lumber Co. Portland International Airport in Portland, Oregon on Friday, July 16, 2021.**

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**An airplane takes off as crews with Hoffman-Skanska work on the new \$2 billion remodel of the roof using salvaged wood product from Freres Lumber Co. at Portland International Airport in Portland, Oregon on Friday, July 16, 2021.**

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