

PROJECT Saxum Vineyard

YEAR

2018

LOCATION

Paso Robles, CA, United States

USE

Agricultural

CONSTRUCTION

New Construction

ARCHITECT

Clayton Korte

ENGINEER

Buehler

DEVELOPER

BUILDER

Rarig Construction

SUPPLIER

SPECIALISTS

GROSS AREA

2,340 sq-ft

MEAN ROOF HEIGHT

STORIES ABOVE GRADE

1

STORIES BELOW GRADE

0

RISK CATEGORY

I (low risk to human life)

COST INFORMATION

Unavailable

LCA INFORMATION

Unavailable



Credit: Casey Dunn

MATERIALS

Steel

SYSTEMS

Columns, Non-Structural

SCALE

Elemental

DfD

Design for
Disassembly

SCR

Structural
Component Reuse

DECON

Deconstruction

SUMMARY

At a winery in Paso Robles, an agricultural equipment barn was constructed using reclaimed oil field drill stem pipe for the columns and reclaimed shoring materials as architectural finishes.

SUSTAINABILITY GOALS

Many of the sustainable building features, while not explicitly aiming to reduce embodied carbon, were implemented with resource efficiency in mind. The primary goals of the barn were to provide a support structure for a photovoltaic roof to offset energy needs of the adjacent winery, collect rainfall for on-site irrigation, and to provide covered storage for equipment. The photovoltaic system is designed to fully offset the power demands of the Saxum Winery and its irrigation wells. Minimalistic materials were selected to withstand the particularly dry climate, for regional availability, long-term durability, and minimal maintenance.

CIRCULAR ECONOMY STRATEGIES

The project's primary circular economy strategy was the reuse of salvaged materials. The barn is a relatively simple structure, consisting of columns, pipe trusses, purlins, and a tension-only diaphragm and vertical bracing. The columns and pipe trusses are constructed of welded Schedule 40 pipe in 2", 3" and 3.5" diameters. The pipe was reclaimed from an oil field drill stem pipe. The barn doors are clad in steel salvaged from the adjacent winery shoring walls.

KEY FINDINGS, RECOMMENDATIONS, AND LESSONS LEARNT

The barn is a very bare-bones structure with minimal material. With the structure exposed aesthetically and to the elements, it was important to select materials that would be durable and an expression of the values of the winery. The barn stands as an off-grid testament to the winery's commitment to sustainability that celebrates locally reclaimed materials.

FURTHER INFORMATION AND RESOURCES

<https://www.aisc.org/awards-and-competitions/ideas2-awards/ideas2-awards-archives/saxum-vineyard-equipment-barn/>

<https://claytonkorte.com/project/saxum-vineyard-equipment-barn/>

<https://www.archdaily.com/932817/saxum-vineyard-equipment-barn-clayton-and-little>

<https://www.architectmagazine.com/project-gallery/saxum-vineyard-equipment-barn>

AVAILABLE QUANTITATIVE DATA

ABOUT THE DATABASE

This case study has been prepared by the Structural Engineering Institute Sustainability Committee Circular Economy Work Group with the goal of sharing and promoting the excellent circular economy work that project teams are working on throughout North America and the world. Often it is hard to find information on how circular economy principles are implemented in practice; these circular economy case studies aim to better share information amongst the industry.

Some case studies have been prepared directly by a project team member, while others have been prepared based on available texts and publications. In the second case, the text descriptions are a summary of information available from other sources. These sources are referenced in the *Further information and resources* section.

While reasonable efforts have been made to ensure the information is representative and accurate, we cannot guarantee there are no errors. [Please contact the case study team](#) to provide additional information, suggest updates and amendments, or with any other questions. To submit a new case study to the database, [please use this submission form](#). Thank you!