

Wine Industry

ARCHITECTURAL DESIGN, PLANNING
& ENGINEERING SERVICES





Introduction



Brant Fetter

Architect

brant.fetter@intres.com

Tel: 510.231.7509

Brant Fetter, AIA is an Architect and Senior Project Manager at Interactive Resources. Brant has nearly two decades of architectural design experience. He is also the owner and principal architect at Studio Fetter Architecture. Brant specialized in sustainable design for residential, commercial, educational, and mixed use projects.

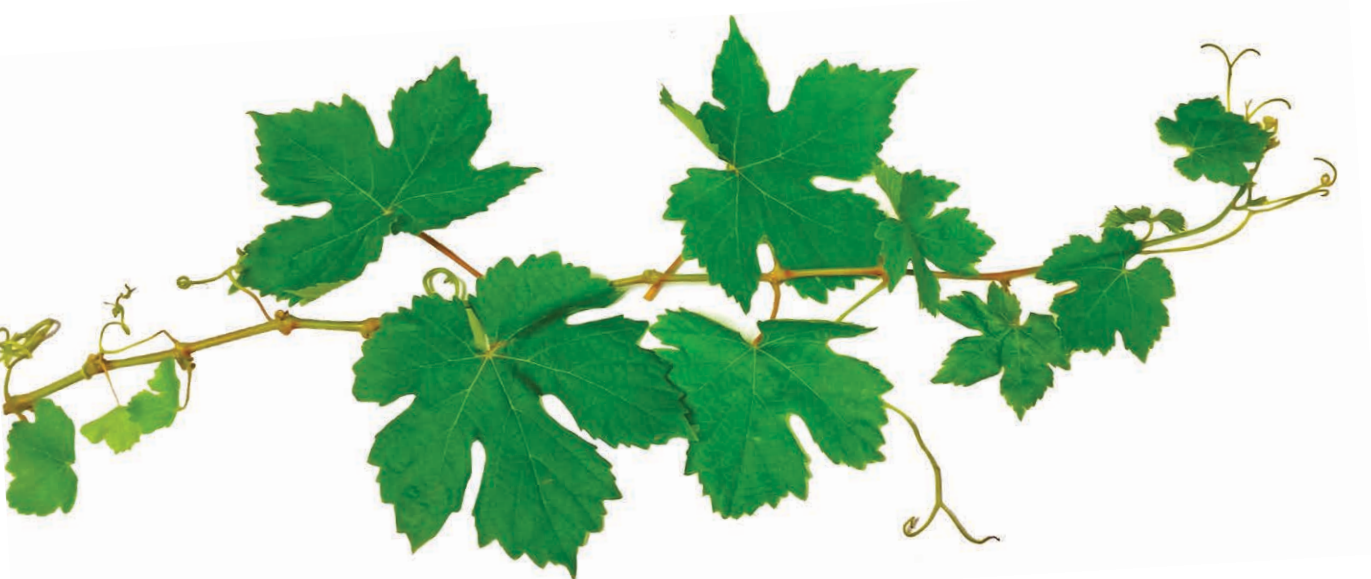
Brant has an extensive portfolio and has worked on a variety of architectural projects, including residential, hotels, assisted living facilities, mixed-use projects, large shell and tenant improvements, historic renovations, K-12 schools projects.

Brant is also our client relations manager, serving wine industry clients. He is also a certified Green Building Professional, and is the former chair of, and a current member of, the City of Richmond California Design Review Board.

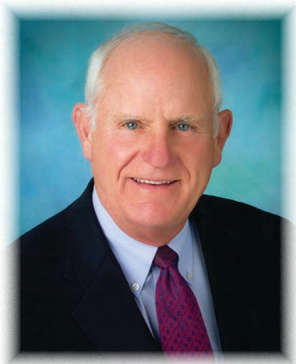
He is also a member of the American Institute of Architects (AIA). Brant is an expert on the principles of energy-efficient and green building design.

As architects and designers, we listen to our client's vision. We make it a commitment to achieve optimal functionality, aesthetics, and sustainable designs, while considering the environment and surroundings. The firm offers a wide range of expertise in design styles ranging from cutting edge contemporary to historically accurate, – tailoring each project to our client's needs and desires. Our collaborative approach allows our clients to work directly with our principals and senior staff. Understanding and meeting our client's needs is important to achieving success with the project. The firm has been rewarded by many repeat clients.





2



“Interactive Resources offers innovative and cost effective architectural design, engineering and project management services for the wine industry. Our clients appreciate the versatility and responsiveness of our firm and, consequently, a great deal of our work comes from referrals by satisfied customers.”

—Tom Butt, FAIA, LEED® AP, President



Architectural & Engineering Services



For more than three decades, Interactive Resources has provided innovative, cost-effective architecture and engineering (A/E) services for a diverse portfolio of wine industry and agricultural clients.

Architects and engineers at Interactive Resources understand the operational needs and challenges of winery-related structures. Our firm has experienced technical experts that can provide creative design solutions for building design challenges. Our full-service A&E firm provides the following services for existing and new buildings that support the wine industry:

- New construction and winery, hospitality, production, storage, visitor centers and administrative facility remodels;
- Structural engineering and seismic retrofitting;
- Evaluation of building envelope components and their performance: roofing, waterproofing, windows and doors;
- Complete building diagnostics;
- Repair design and/or upgrades to existing building systems and components;
- Energy-efficient studies and design;
- Photovoltaic (solar) power feasibility and design;
- Building permitting and planning entitlements;
- Sustainable and LEED certified design;
- Historic preservation services for existing facilities; and
- Design services for residential dwellings.

A sampling of some of our project work is shown on the following pages.



Beringer Vineyards



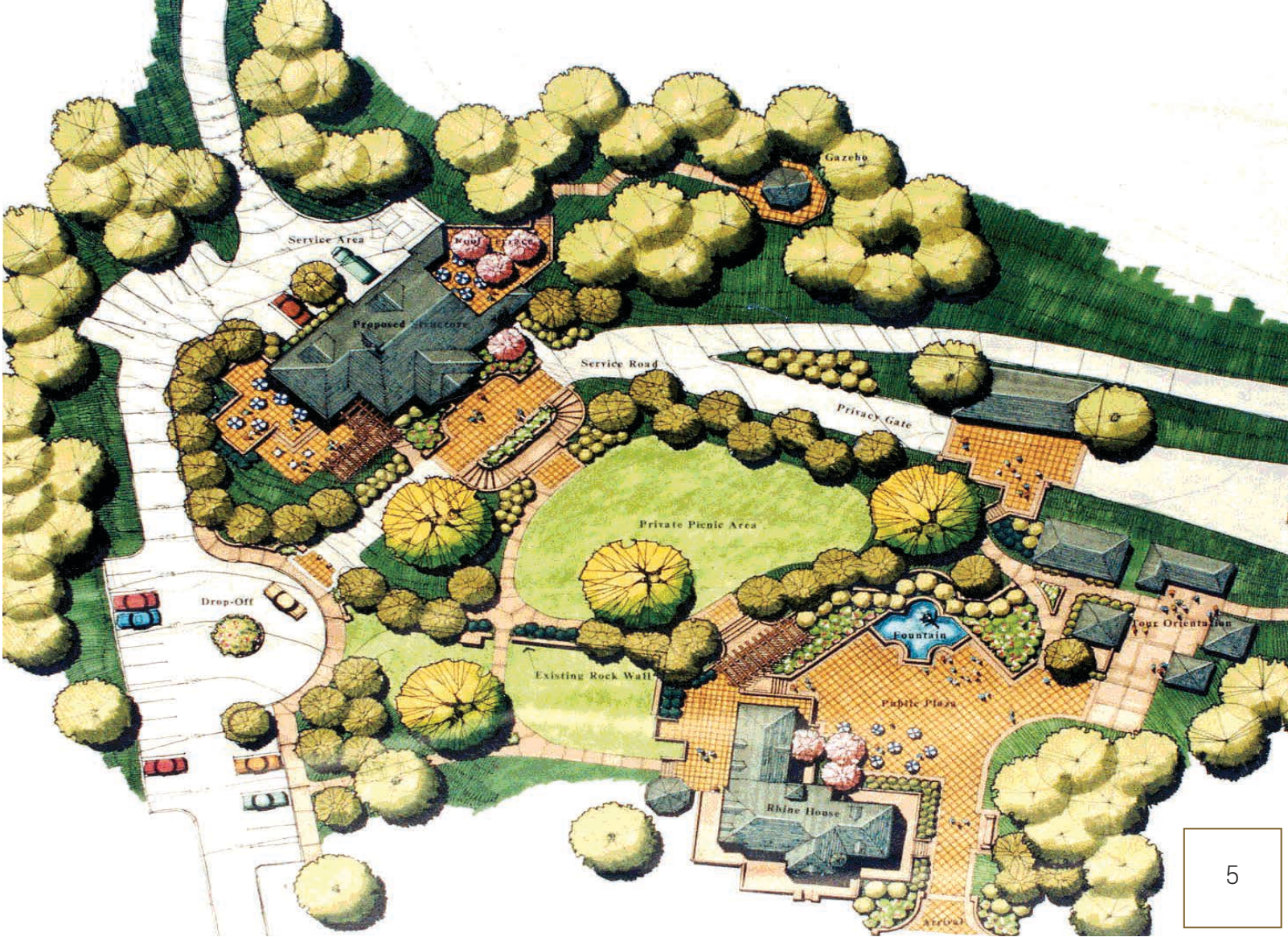
When Beringer Vineyards in St. Helena, CA needed to both expand and reorganize its visitor and hospitality facilities, Interactive Resources was retained to assist designer Jonathan Livingston explore a number of options.

The principal project involved redesigning the entire circulation plan including construction of a new parking area, new walkways and driveways, landscaping, an entry courtyard, fountain and rose garden.

Our firm worked with Perry Burr and Associates, landscape architects on these components.

The firm provided a preliminary design of a new hospitality facility and technical consultation for historic preservation and maintenance issues involving the signature Rhine House, and also preservation and color consultation for the rehabilitation and expansion of the historic Hudson house.





Stag's Leap Wine Cellars



Nestled in the hillsides of the Napa Valley wine region is Stag's Leap Wine Cellars – one of California's premier wine makers. The winery consists of an assortment of buildings, constructed at various times, and in a variety of styles, scattered on the hillside of the fifty-plus acres property. The main winery building, a crescent shaped structure with earth-toned stucco walls, battered flagstone base, and a slate tile roof, wraps around the base of an oak-studded hillside.

Interactive Resources was first retained by Stag's Leap Wine Cellars to diagnose the cause of, and design repairs for water intrusion and moisture problems in the relatively new main winery building. In the construction litigation that stemmed from our findings, we provided expert witness services that resulted in a beneficial settlement for the winery.

Design services were also provided for several other projects, including various interior alterations to the winery, a unique shade structure for outdoor tanks, and the entry to a vast cave complex under the adjacent mountain.

Stag's Leap called upon us to work with renowned eco-architect Javier Barba to design and execute a grand, yet contextually and environmentally sensitive entrance to their cave system, which serves as an entrance promenade at the gateway to a complex of manmade caverns. The caverns serve as a natural, temperature controlled, aging facility for thousands of oak wine barrels, and a series of subterranean rooms for entertaining.

A concrete colonnade, reminiscent of Antonio Gaudi's Park Güell in Barba's native Barcelona, was designed that has a series of finger-like, pre-cast concrete bents, which reach out of the base of the hillside, creating a path and breezeway through which one engages with the caverns, and integrates the existing landscape. The fourteen feet high structural members are connected to one another via welded pre-cast concrete slabs, which act simultaneously as roof and planting beds for native plants.

The excavated hillside, left exposed, is held back with a woven copper mesh, secured by





steel rock anchors, driven fifteen to twenty-five feet into the bedrock. The finish of the structure is a spray-applied mixture of cement and earth called PISE (Pneumatically Impacted Stabilized Earth). The structure was designed to integrate into the hillside to minimize erosion and provide stability. The cave roof also doubles as a planting bed for native grasses and other drought-tolerant plantings.

The shade structure, adjacent to the main winery building and the wine cave entryway provides a ventilated and screened enclosure around a cluster of fermentation tanks. A system of operable aluminum louvers and steel gratings were designed, supported by a welded tube steel superstructure — the result is an aesthetically pleasing and low impact design that compliments the existing facility.



Calera Wine Company



Calera Wine Company's founder Josh Jensen made his first vintage in 1975, producing 1,000 cases of Zinfandel from purchased grapes. During his first two years as a wine maker, the Calera wines were crafted in a rented space in a larger nearby winery.

In 1977 Jensen purchased property for building his own winery. He chose a 100-acre site on Cienega Road halfway between the vineyard and the town of Hollister. One thousand feet lower in elevation than the vineyard, this property included the abandoned remains of a multi-level rock crushing facility built into the steep hillside in the 1950s.

Thirty years later, the walls and terraces, with some substantial seismic reinforcing designed

by Interactive Resources, (the San Andreas fault lies just 100 yards away) became the heart of Calera's gravity-flow winery. The multi-layered hillside construction allows for the gentlest handling of Calera wines; wines move through the winemaking process by the natural force of gravity, rather than by mechanical pumping.

After tackling the challenging structural issues, a series of cascading structures were designed that housed crushers at the top level, descending to the fermentation tank rooms, barrel cellar, warehouse and bottling line.

The barrel cellar uses both earth and evaporative cooling to take advantage of the cool night valley air. The result is energy costs far below average.





Calera is now a state-of-the-art winemaking facility, with barrel cellars built into the hillside, a top-of-the-line German grape press, and an Italian bottling line.

Recent improvements include additional warehouse space, an underground wine library, offices and a laboratory.

Calera was named "Winery of the Year" by Wine & Spirits in 2008.



Ridge Lytton Springs Winery



Structural failures brought Interactive Resources to the Ridge Lytton Springs Winery north of Healdsburg, California. Interactive Resources was retained by Ridge Vineyards Inc. to assist in the planning for the removal of the failed fermentation building roof.

Our services included an evaluation of the existing conditions, including moisture testing. After the extensive analysis, our architects prepared a schematic design and construction documents for the roof replacement.

The new roof was constructed entirely of moisture-resistant metal and urethane foam insulation.

The project also included a number of interior and exterior accessibility improvements to the building and site, including: accessible parking, exterior path of travel to primary entrance, primary entrance, accessible doors, showers, egress paths, interior stairs, men's bathroom, water closets.

This century-old estate is an eco-sustainable winemaking facility built out of vineyard clay over straw bale construction. The facility is powered by roof-mounted solar panels. It has a spacious wine tasting room and outdoor patio seating area that overlooks their beautiful vineyards.





Wine Country Shipping



Interactive Resources was retained by SolarCraft to provide structural engineering services for the anchorage design of a solar photovoltaic (PV) array to an existing standing seam roof at the Wine Country Shipping facilities located in Windsor, California.

Our services included the preparation of structural calculations for the S-5! Clamp connection between the proposed solar arrays

and the existing standing seam roof; as well as the preparation of structural calculations for submittal to the building department and responded to comments.

Wine Country Shipping expanded to more than 10,000 square feet of temperature controlled warehouse space in Windsor, and provides shipping services for over 150 wineries, retail outlets and hotels.

12



Ruby Hill Winery



Interactive Resources was retained by Perpetual Power to perform structural engineering services for the Ruby Hill Winery facilities in Pleasanton, California. Our structural engineers designed the anchorage of the solar array to the roof, and verified the ability of the building's existing framing to support the new roof-mounted solar photovoltaic array system.

Our services included the review of "as-built" drawings, and structural engineering services for the attachment/support of the array(s) to the existing roof structures.

The attachments were designed to meet the wind load requirements on the array for the site-specific wind speed and in accordance with the provisions of ASCE Method. Wind loads were in the accordance with the provisions of ASCE 7. In addition, we performed an evaluation of the existing framing to determine that the array would not trigger a code mandated seismic upgrade, as required by CBC Section 3403.2; prepared structural calculations to determine the anchorage requirements for the array; and prepared details of the anchorage connections.



Ramal Winery



Interactive Resources was retained by Solon to review the SOLquick Ballasting Report pertaining to the combination ballasted and anchored arrays located atop the existing facilities of Ramal Winery in Santa Rosa, California. Our review consisted of an independent engineering review of the findings in the report.

Our analysis confirmed that the ballast requirements shown substantially met the provisions of ASCE 7-05. Our review was limited to the design of the ballast and penetration connectors where used for wind and seismic loads.

In addition, we provided supplemental structural engineering services to evaluate the existing framing, including the review of the existing "as-built" plans; preparing structural calculations to check framing to support vertical array loads including ballast; to check if the array plus ballast is below maximum allowable load increase of 10% mass at the roof level; and to prepare a review letter summarizing the results of our analysis. The project team consisted of Solon, Sunworks and Interactive Resources. Photo is courtesy of Sunworks. The array is a 280 kW roof-mounted solar PV system.



Limoneira Solar Farm & Visitor Center

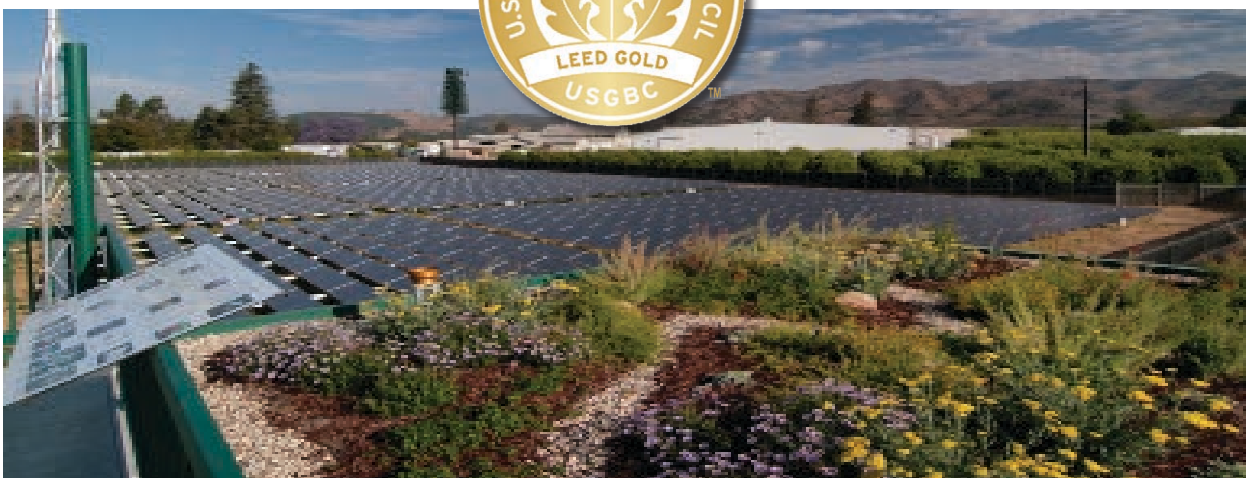


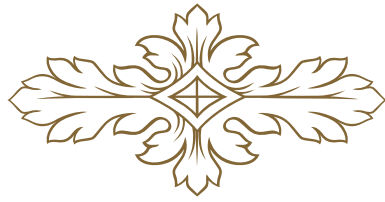
Limoneira Solar Farm and Visitor Center, designed by Interactive Resources was awarded a LEED Gold certification, making it the first private sector LEED Gold project in Ventura County. The firm provided architectural design, structural engineering services and LEED consulting for the Limoneira Solar Photovoltaic project. Limoneira Solar is a 1 megawatt solar ground-mounted photovoltaic array that provides electrical power far beyond what the Visitor Center requires.

The solar array covers 5-1/2 acres, and unlike typical ground-mounted arrays in California, the ground below the array has been planted with native grasses and wildflowers, and miniature sheep are used to graze it.

Power is be used for the nearby lemon processing and storage facilities. The Limoneira Company is the largest lemon and avocado grower in the U.S.A.

The Visitor Center incorporates numerous sustainable design elements that include a green roof (both a "cool" roof and a "green" planted roof), drought-tolerant landscaping, onsite disposal of both storm water and sanitary sewage, pervious concrete paving, daylighting, operable windows, low water use, energy-efficient lighting and recycled materials.







Interactive Resources

Contact: Brant Fetter, AIA
117 Park Place
Richmond, California 94801
T: 510.236.7435 | F: 510.232.5325
Email: brant.fetter@intres.com
www.intres.com

