

Northwest Wine Academy: Turning Remnants into Gold

By Joe Chauncey, LEED® and Liz Coleman - Boxwood

Each fall the Northwest Wine Academy (NWA) is offered free grapes - grapes that no one else wants, grapes still on the vine, unpicked, the leftovers after all other wineries select and purchase what they want. Each year the students make wine from those left over grapes - Cabernet, Merlot, Syrah, Chardonnay, Viognier, Roussanne - and the wine is good. Very good. So it came as no surprise when it came time to expand their program that they graciously accepted what they were offered, an old industrial building on campus, and their goal was to turn it into something special. Very special.

This is one of those 'pinch me - we actually get to work on this' projects - save an old building and sustainably adapt it to a new use that educates both new and existing wine industry specialists. Yes, this project for NWA at South Seattle Community College (SSCC) is unfolding on our drawing boards (computers) at this writing and we (the design team and the client group) are having a blast.

Northwest Wine Academy

NWA was officially launched in 2004 and offers certificates in three areas: Wine Making, Wine Marketing and Sales, and Food and Wine Pairing. It is an aggressive, thorough set of programs, so popular that only half of the applying students can matriculate each year. The balance are placed on a waiting list and will need to wait for the following year's classes. The reward is that student wine makers, learning from and working along side Peter Bos, Instructor and Winemaker, have the opportunity to put their mark on wines that are entered in serious wine competitions each year. In 2009 NWA received five awards including a Double Gold for their 2007 Syrah. In fact,

they have won awards in each of the five years that they have entered. Regina Daigneault, Faculty Coordinator/Instructor, with 30 years in the restaurant and wine industry, teaches

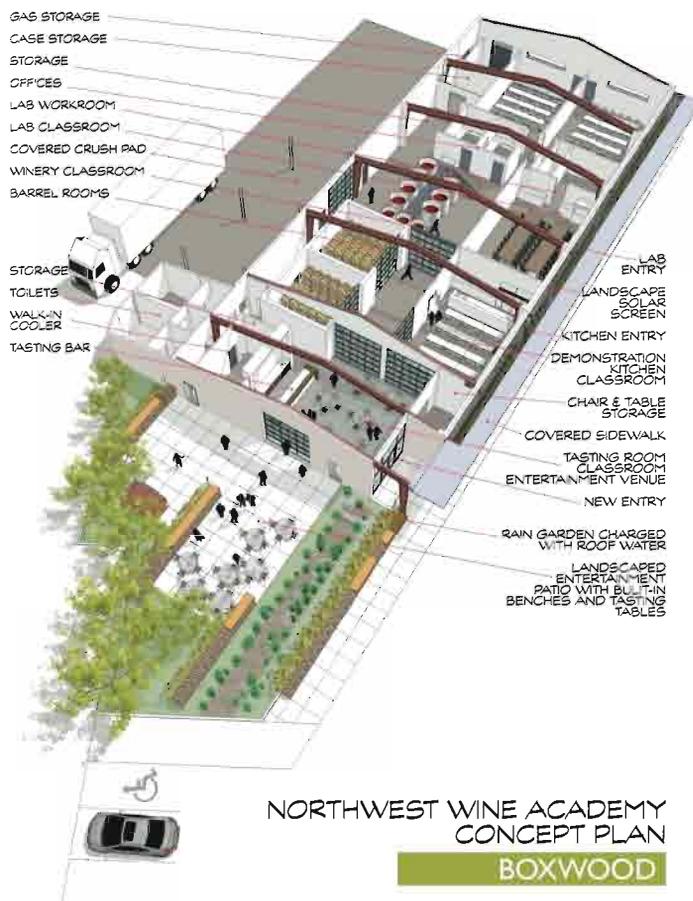
Wine Marketing and Sales, Introduction to Wines of the World, Wine History and Appreciation, and Sensory Evaluation. Kat House is the Viticulture and Chemistry Instructor, Leonard Rede teaches Food and Wine Pairing, and Dean Michael Ryan, a former student at SSCC, leads the entire program with more than 18 years of experience in the hospitality industry.

The rapid growth in the Washington wine industry has created crowded classrooms at NWA. They have outgrown their makeshift spaces next to the Welding Program and the do-it-all-in-one-room winery. It is time to grow to meet the needs of the students. The industrial building they were offered was at one time a machine shop for metal working classes and is currently being used for

storage. It was originally built in 1980 with additions in 1990 and 1999. Fortunately, we had experience working with wineries in industrial type buildings like Hightower Cellars (Grapevine 8/09: "What Every Old Building Wants to Be") so this project fits like a glove for Boxwood.

Pre-Engineered Steel (Metal) buildings by their nature are designed to barebones minimum structural standards. Older metal buildings like this one also have very little insulation and because of their design, roof insulation cannot be increased without a significant structural upgrade. The most cost effective solution for a winery, where barrels should be kept in an area with minimal temperature variation, is to create

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self supporting insulated spaces – a building within a building. This design can also be used effectively for classrooms that need tighter temperature control than the industrial shop that previously occupied the space.

Teaching students how to make, market, and pair wine with food requires more than a working winery, it requires classroom space for an ever expanding list of classes. To accommodate their programs, NWA indicated that they needed as many as six spaces that could function as classrooms. There are two existing standard classrooms in the building and the balance of the space is industrial. There is not enough square footage within the footprint of the building to add classrooms as well as production and service spaces. Our solution is to create multi-use spaces that can function as classrooms as well as working spaces. To supplement the two existing classrooms we offered the following solution:

- The laboratory for the working winery also functions as a teaching lab for 20 students.
- The kitchen used to prepare food for the tasting room and events is also a teaching kitchen for up to 30 students.
- The tasting room can easily convert in minutes to a study hall or a classroom for up to 40 students.
- The working winery has roll-away bleachers, a white board and full Audio/Visual components and can seat 20 students. The solution struck a chord with the faculty and staff. The college is getting the equivalent of a 13,000 SF wine education facility housed within the walls of an existing 9,000 SF building.

Working Winery

Grapes will be crushed outside the building under an existing lean-to canopy. Grapes must be dropped directly into small movable tanks and then moved inside to ferment or pumped into larger glycol chilled tanks located on two sides of a linear catwalk in the middle of the fermentation room. The winery has a laboratory, chemical mixing station, two temperature controlled barrel rooms and case storage, barrel drop down/working area, equipment storage, and a tasting room. We are putting Solatubes in the existing roof to provide enough daylighting to reduce the need for artificial lighting during daylight hours.

Barrel Rooms

The winery plans to grow from a few hundred cases per year to 2,500 cases per year; 60 percent of those cases will be reds, requiring space for approximately 62 barrels for each vintage. Reds generally are held in barrels for more than 12 months resulting in the need for twice the number of barrels and space. Boxwood has designed two barrel rooms that are constructed of insulated Faswall blocks with a flat insulated lid held down below the roof to provide storage space accessible via a rolling stair or forklift. Faswall blocks are made from decommissioned wood shipping palettes that have been chipped and mineral coated to seal the wood and neutralize the sugars that cause decay (a process similar to nature's petrifying process

that preserves wood for centuries), then mixed with a small quantity of cement as a binder to form blocks. The walls are finished with cement plaster. Each barrel room 'building' sits within the metal building walls, isolated from outside temperature fluctuations. Fan coil units connected to a closed loop glycol chiller provide cooling when necessary.

Laboratory and Kitchen Classrooms

Like the barrel rooms, each of these classrooms is isolated from the outside walls. Insulated light gauge metal-framed walls and ceilings will be built inside the metal building. The ceiling is held down from the metal building roof to provide enough room for fan coil units and ductwork for these spaces.

The laboratory will perform all of the tests necessary for a state of the art working winery. It also has bench space for 20 students with Audio/Visual and a white board for instruction, as well as a separate lab area for experiments that need to continue without interruption while classes are being held.

The teaching kitchen is a full service catering kitchen suitable for serving small plates for up to 300 guests. It also functions as a demonstration/instructional kitchen with dual camera Audio/Visual for enhanced visibility of the cooking surface via wall-hung monitors.

Tasting Room

This multi-function space will be open for retail sales of NWA produced wine during regularly scheduled hours. The balance of the time it will be used as a study hall and can be used as a classroom for up to 40 students. For special events this space is connected to the winery, kitchen, and patio through large, overhead glass doors that promote movement throughout the facility. The tasting room function is supported by a temperature controlled retail case storage area, glass washing station, chair and table storage, and restrooms.

Entertainment Patio

This landscaped, three season patio has gabion benches, standup tasting counters, and a wood-fired pizza oven. It can be covered with three square canvas structures or left open. Its primary purpose is to expand the size of the tasting room and provide a flexible venue for wine events and Foundation fundraisers.

Building

The exterior of the building changes very little - a new coat of paint on the metal panels, new windows into the classrooms, and a new recessed entry achieved by removing girts, purlins and wall panels from the structural frame of the building and building new insulated walls set back from the façade. To reduce heat gain and promote connection to the campus we designed a canopy that covers the sidewalk but allows rain to drop between the sidewalk and the building to provide moisture to the planting beds. This canopy and a Greenwall living

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trellis shade the long, western facade of the metal building to reduce heat gain.

Mechanical Systems

Existing classroom mechanical systems were saved and reused. The mechanical systems for the main shop area will be replaced with a new chiller and fan coil system that will provide cooling throughout the rest of the building as well as wine making processes, barrel, and case storage rooms.

Electrical Systems

The building, because of its previous classes, had 800 amps of electrical service already in place, plenty of power for our project. We were able to reuse all of the existing panel and main distribution systems. New, more efficient lighting with sensors to integrate with the Solatube skylights will be used.

Process Waste

Because this winery is located within the King County Metro Sewer District, it will be required to adjust the pH of its process water to meet discharge limits and avoid costly damage to the sewer lines. We have designed a manual system monitored by students as part of their education. Process waste will be directed to an underground tank where it will be held and treated prior to entering the sanitary sewer.

Storm Water

Rain water from the roof will be directed into a rain garden and used for irrigation prior to becoming part of the ground water system.

Viticulture

To augment their trips to eastern Washington vineyards, a small working vineyard is planned across the road to the northeast that will serve students in viticultural classes.

Educating and cultivating winemakers in a program of such high quality strengthens the entire wine industry and the Washington wine industry in particular. The Northwest Wine Academy is an example of a project that started with something small, but its effects are far-reaching. Continually this program has taken whatever it was given – leftovers, unwanted grapes – and turned it in to something exquisite. In the same spirit this team is taking an underutilized, nondescript building and transforming it into a state of the art wine making school with a program that is hand-in-glove in its integration with Washington State University. With so many issues to navigate – the need for extensive insulation, structural limitations of the building, mechanical and electrical system changes, the addition of winemaking equipment, waste and storm water processing, and the requirement to create multi-purpose spaces – this project could have had a very hard time getting going. Instead, the collaborative team is going for gold.

The project “breaks ground” in January with planned com-

pletion of Phase I in Fall 2011.

Collaborative Team

Design Group

Boxwood – Planning and Architecture; Bright Engineering – Structural; FSI Engineering – Mechanical; Cierra – Electrical; SvR – Landscape, Civil; Greenbusch Group - Audio Visual

Core Client Group

State of Washington General Administration – Jonathan Martin

South Seattle Community College - Gary Oertli, Jean Hernandez, Bear Holmes, Michael Ryan, Regina Daigneault, Peter Bos

Boxwood [an integrated design studio] was founded in 1989. The three words they use to describe themselves are: collaborative, creative, and assiduous. The firm has completed and has on the boards wineries and wine industry brand identities in Washington, Oregon, California and British Columbia, and the entire professional staff is LEED (Leadership in Energy and Environmental Design) certified by the U.S. Green Building Council. To learn more go to www.eboxwood.com, follow them on **Twitter@eBoxwood**, or find them on Facebook.



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