



WINE BUSINESS INCUBATOR FEASIBILITY STUDY FOR THE PORT OF KENNEWICK

Technical Memorandum – August 2008

HDR

Table of Contents

Executive Summary

Technical Memorandum 1

1.0	The Washington Wine Industry	1
2.0	Complementary Facilities	10
3.0	Competing Facilities	11

Technical Memorandum 2

1.0	Performance of Other Incubators	1
2.0	Discussion of Potential Sites	2
3.0	Project Cost and Construction Estimates.....	8

Technical Memorandum 3

1.0	Construction Timeline.....	1
2.0	Group in Charge of Marketing	2
3.0	Economic Outcomes of Incubator	4
4.0	Measuring Outcomes to Full Occupancy	6
5.0	Long Term Collection of Outcomes.....	6

Technical Memorandum 4

1.0	Oregon Wineries	2
2.0	Napa Wineries.....	6

Sources

List of Tables

Technical Memorandum 1

Table 1	Grape Bearing Acreage (2004 to 2007)	2
Table 2	New Wineries in Washington	5
Table 3	Gallons of Wine Produced in Washington State.....	5
Table 4	Estimated Demand for Higher Education or Specialized Training.....	8

Table 5 Wine-based Curriculum at Washington State Higher Education 8

Technical Memorandum 2

Table 1 Summary Results of Scenarios 9

Technical Memorandum 3

Table 1 Business Success Rates 5

Table 2 Average Compounded Annual Growth Rate 5

List of Figures

Technical Memorandum 1

Figure 1 Washington Winery Growth 3

Figure 2 Wineries in Southeast Washington (1985 – 2006) 4

Figure 3 Total U.S. Wine Consumption 6

Figure 4 Forecasted Number of Wineries in Washington State 7

Technical Memorandum 2

Figure 1 Potential Wineries in Port of Kennewick 4

Appendices

Appendix 1 Companies Serving the Wine Industry in the Napa Valley

Appendix 2-1 Analysis of Net Present Value Cash Flow for Port Incubator

Appendix 2-2 Building Diagrams

Appendix 3 Economic Impact Analysis

Executive Summary

Over the past year HDR Engineering has been developing a study for the Port of Kennewick to determine whether the development of a wine business incubator or other win-related business ventures would be feasible to perform on Port-owned property in the Red Mountain Wine Estates or on other property the Port owns. This study found that the project was indeed feasible and that the development of such a facility would greatly enhance the Ports efforts in diversifying the economy of the region.

Among some of the findings in the study:

- Value added food products, including wine processing are among the targeted industries identified by the Tri-Cities Industrial Development Council (TRIDEC) as critical to the regions growth. Other industries the agency is targeting include technology manufacturing, medical equipment manufacturing and research and development.
- Between 2001 and 2006 there was growth in the winery industry of over 60 percent in Washington State, much of which was focused on the area immediately surrounding the Tri-Cities.
- Two winery incubator spaces owned by the Port of Benton and the Port of Walla Walla are currently operating at capacity and both have waiting lists. A third small business incubator – privately owned – is also at capacity, showing a significant need to make increased space available to start-up businesses.
- An analysis of sites owned by the Port shows that the Red Mountain Estates property is the best candidate for such a development given its existing infrastructure and its proximity to one of the major winery regions in the area.
- About 40 new direct jobs will be created or sustained by the facility in its first five years of operation.

Technical Memorandum 1 – February 11, 2008

In 2007 the Port of Kennewick contracted with HDR Engineering to conduct a study to determine if the development of a winery business incubator or other wine-related business ventures would be feasible to perform on property in the Red Mountain Wine Estates that the Port of Kennewick owns in West Richland, WA.

HDR was tasked with addressing the feasibility of such an effort based on the goals of the Port and the State of Washington. Those elements included:

- I. Develop a product market analysis of the history and growth of the wine industry in the Columbia Valley, and whether market growth would support a wine incubator facility.
- II. Perform an economic and market analysis of the viability of a wine incubator facility.
- III. Prepare a market strategy containing action elements linked to timelines.

This memorandum addresses the first feasibility study element with the others to follow.

1.0 The Washington Wine Industry

The first step in the development of this feasibility study was to determine general wine industry trends in Washington. Included in this would be an analysis of the overall health of the industry based on its past and current growth rate, projections of how the industry may develop over the next 20 years, and what the growth rates in grape production and wine production look like in comparison to Oregon and California, two other major wine producing areas in the United States.

In general, the wine industry in Washington is critical to the overall economic health of the State and more importantly it is critical to the overall health of the Tri-Cities region. The wine industry in the area has grown significantly over the past 20 years, with that growth accelerating over the past 10 years. Both the Tri-Cities Industrial Development Council (TRIDEC) and the Tri-Cities Visitor and Convention Bureau view the wine industry as a significant player in the overall growth of the region and TRIDEC views wine processing as a “significant backbone” to its industry target of value-added food processing.

Washington Wine Grape Growth

The State of Washington is the second largest grape producer in the United States behind California.¹ While the growth in the Washington wine industry is promising and while it has begun to obtain a number of serious accolades from wine critics throughout the world, Washington State is dwarfed in its production by California. In fact, every other state in the United States, when combined together, does not produce as much wine as California does by itself. However, the Golden State appears to have maximized its grape production ability while Washington State continues to grow grape production year-over-year.

According to a survey published by the USDA National Statistics Service in 2007, Washington and Oregon are the only grape producing states in the top six nationally that show any significant year-over-year growth in the development of grape acreage.

¹ USDA NASS Survey of Grape Production, January 2008

Table 1 shows that Washington grape acreage over the past 4 years has continued to grow – increasing from 53,000 acres in 2004 up to 56,500 acres in 2007. While that amount may seem small, especially when compared to the nearly 800,000 acres in California, Washington (and to a much smaller extent Oregon) are the only two states that exhibit any major growth in acreage under production.

Table 1 Grape Bearing Acreage (2004 to 2007)				
State	Acres			
	2004	2005	2006	2007
California	800,000	800,000	797,000	797,000
Washington	53,000	54,000	55,500	56,500
New York	31,000	31,000	31,000	34,000
Michigan	13,900	14,200	14,200	14,100
Oregon	11,100	11,800	12,200	13,000
Pennsylvania	12,000	12,000	12,100	12,100

The growth in acres in grape production in Washington State is likely to continue to outpace those in California in the future for several key reasons.

First, wine producing areas in California are already largely developed, particularly in the two largest wine producing areas (the Central and North Coast). In areas of California that are not as developed, the state's environmental regulations will hinder development, making it unlikely that wine production in California will increase. Meanwhile, the largest of the Washington viticultural areas (the Columbia Valley) is largely undeveloped or has traditionally been developed with other crops. Land is available to be cultivated for wine grapes well into the future assuming the past decade's trend of converting apple growing to grape production continues, and assuming that water rights are available for agriculture.

California has the most viticultural areas of all the states in the U.S. with 63 of the 115 approved viticultural areas (55 percent) located entirely within California. And while the California viticultural areas make up 55 percent of all those in the U.S., those areas represent only 19 percent of the total acreage of viticultural areas in the United States. In fact, the two most well known California viticultural areas – Napa Valley and Sonoma County – account for less than 1 million total acres (in land mass). <http://www.iwineinstitute.com/ava/CALAVABYSIZE.ASP>

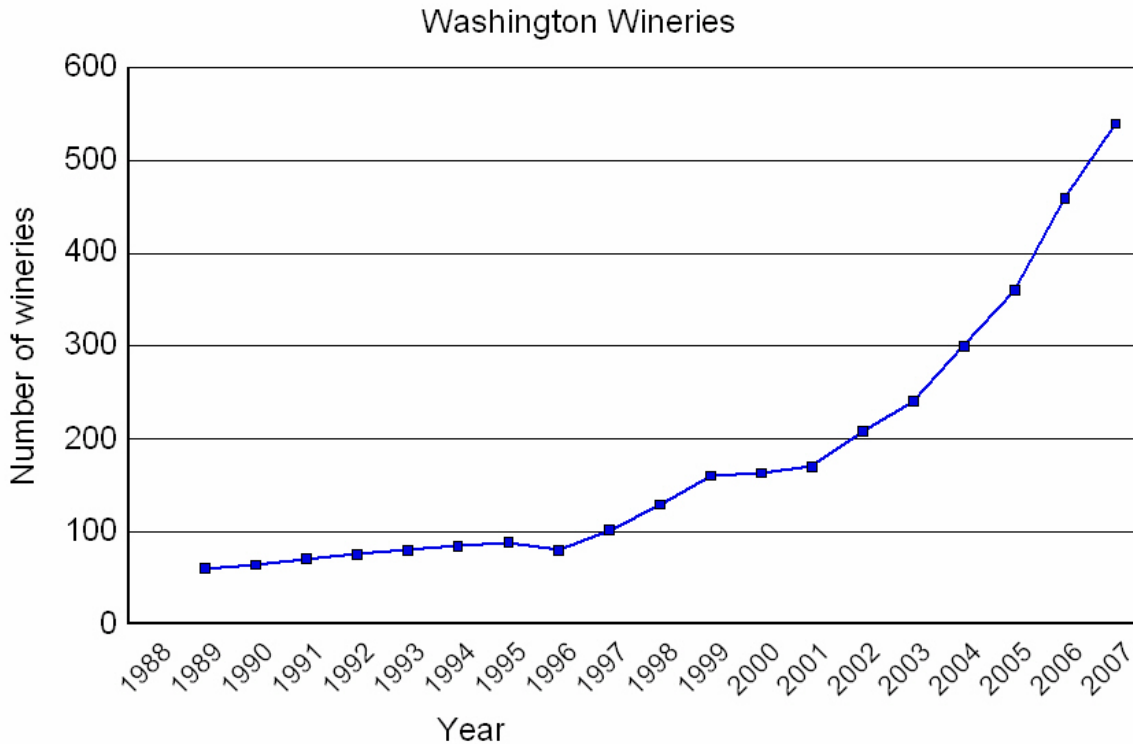
By contrast, the three major viticultural areas closest to West Richland (the Columbia Valley including the Wahluke Slope, Horse Heaven Hills, and Yakima Valley) have over 2 million acres in land mass – much of that undeveloped land, with just over 27,000 grape acres under production as of 2006. (<http://www.iwineinstitute.com/ava/avabysize.asp>)

Washington Winery Growth

While production of wine grapes over the past 3 years has been steady, the growth in wineries in Washington State has been significant. According to the Washington Wine Commission, the State experienced a growth rate of one winery per week in 2006.

This growth reflects the trend of growth in the State (see Figure 2) between 2001 and 2006, which averaged over 70 per year. Growth in 2007 took the State to over 500 wineries, with most of the growth occurring in the Columbia Valley.

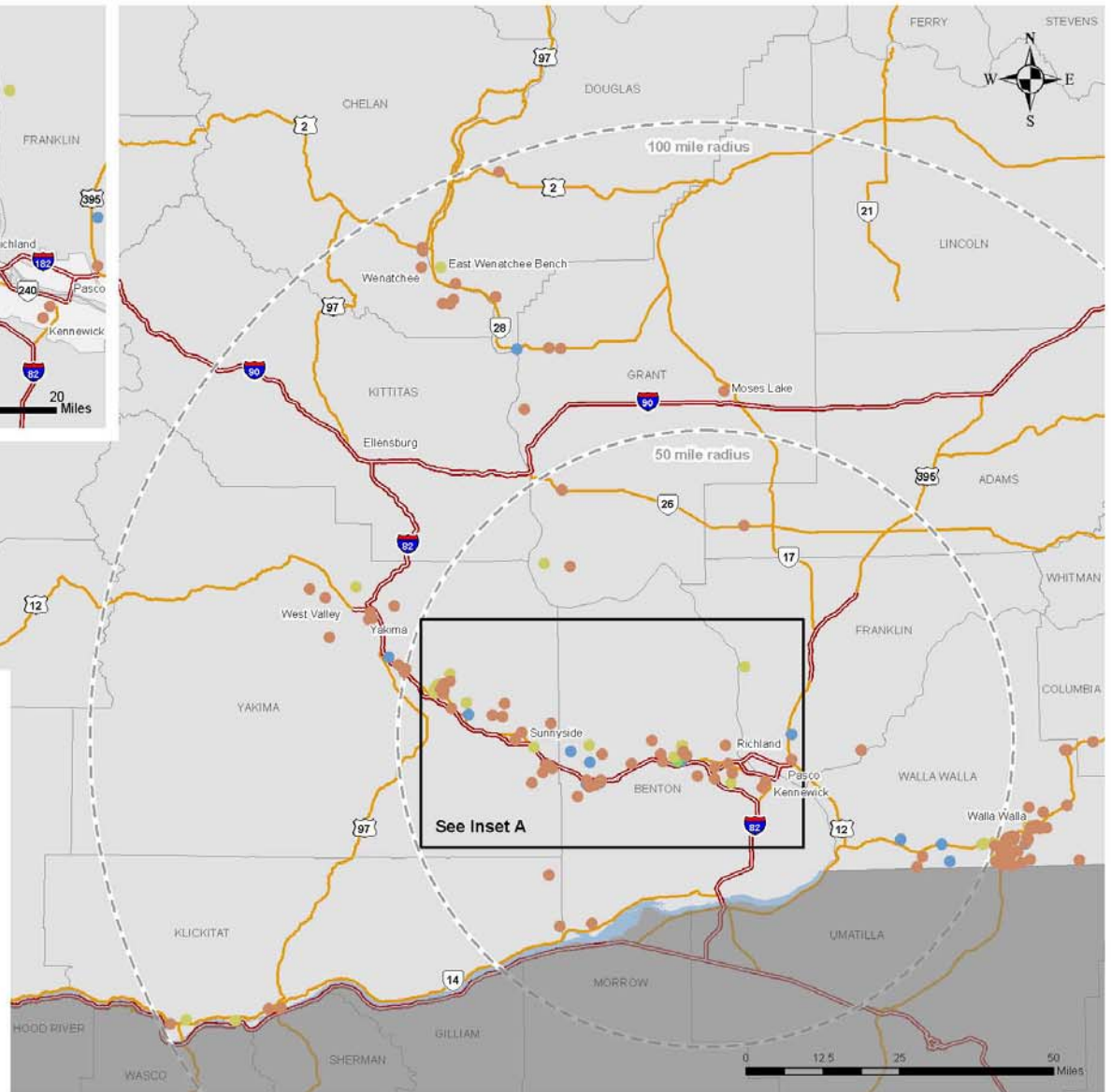
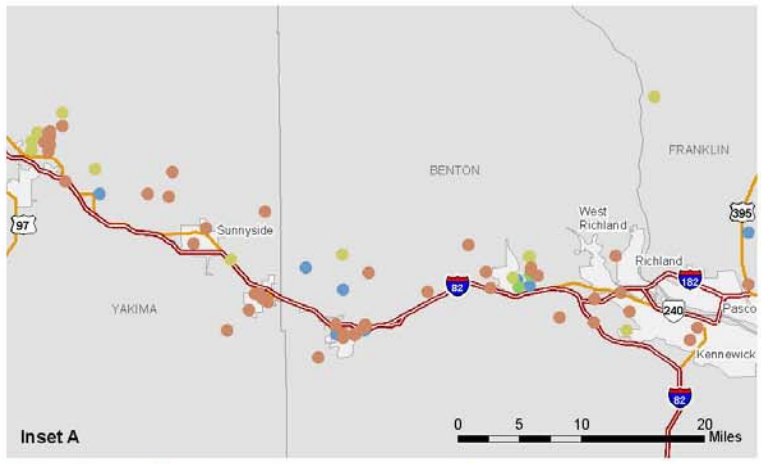
Figure 1 Washington Winery Growth



Not only has growth in the number of wineries been rapidly increasing, the majority of that growth has occurred in the Columbia Valley – much of it within 100 miles of West Richland (see Figure 2).

Table 2 shows the total number of wineries started in Washington State since 1985 and how many of those are within 50 miles of West Richland, within 50 to 100 miles from West Richland, and more than 100 miles from West Richland. Currently over 200 wineries are within 100 miles of West Richland.

Within the 50-mile range of West Richland, 50 wineries opened between 2001 and 2006 while within the 100-mile range another 137 opened in the same time frame. The Puget Sound has seen 213 new wineries in the same time frame, matching the growth in the much more sparsely populated Columbia Valley in total numbers..



Wineries in Southeast Washington 1985-2006

Business Start Up Date

- 2001-2006
- 1991-1995
- 1996-2000
- 1985-1990

Miles from West Richland	Total Population
50 mile radius	331086
100 mile radius	797249

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Spatial Data: ESRI Data and Maps CD, 2005
2000 Census Information: US Census Bureau
Document: Wineries_in_SE_Washington_1985-2006.mxd
Publication: HDR Oregon GIS, 7/12/2007

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Some of the major new wineries in the area include the Snoqualmie and Desert Wind wineries in Prosser, Fidelitas Winery and Canon Del Sol on Red Mountain and Pacific Rim Winemakers on the property adjacent to the Port's proposed location for the winery incubator.

Table 2 New Wineries in Washington								
Year	Total Wineries	Percent growth	Miles from West Richland		Miles from West Richland		Number of Wineries further than 100 miles from West Richland	Percent growth
			Number of Wineries within 50 miles of West Richland	Percent growth	Number of Wineries between 50 to 100 miles from West Richland	Percent growth		
1985-1990	35		11		8		16	
1991-1995	18	51%	4	36%	1	13%	13	81%
1996-2000	63	119%	8	53%	26	289%	29	100%
2001-2006	365	315%	50	217%	102	291%	213	367%
Totals	481		73		137		271	
Townships			Tri-Cities, Benton City, Prosser, Grandview Patterson, Eltopia		Walla Walla, Othello, Mattawa, Sunnyside, Yakima,		Spokane, Seattle, Tacoma, Wenatchee, Vacouver, Omak	

In fact, if you look at year-over-year growth in wineries in the State since 2000, not once in that timeframe has growth in new wineries been less than 10 percent. Between 1991 and 1995 the average annual growth rate was 10.2 percent, between 1996 and 2001 there was a 23.8 percent increase, and between 2001 and 2006 there was a jump of 365 wineries, an average annual increase of 62.9 percent.

This growth has led to a significant increase in wine production overall in the State as well. In 1987 the State was producing just over 3.5 million gallons of wine. By 2006 that number had jumped to over 20 million gallons, a 561 percent increase.

Table 3 Gallons of Wine Produced in Washington State		
Year	Gallons	Percent Change
1987	3,579,000	
1997	9,187,000	156.70%
1998	10,515,000	14.50%
1999	11,495,000	9.30%
2000	11,151,000	-3.00%
2001	17,604,000	57.90%
2002	16,250,000	-7.70%
2003	17,857,000	9.90%
2004	16,578,000	-7.20%
2005	19,096,000	15.20%
2006	20,073,000	5.10%

Growth in the Washington wine industry is being driven by two major factors – the first is the availability of arable land which is exceptional for growing wine grapes, and the second is the increase in demand for wine nationally. After falling to a low of 449 million gallons of consumption in 1993, consumption of wine increased to nearly 670 million gallons in 2004 (Figure 2).

In fact, wine consumption in the U.S. has been growing at a steady rate since the mid-1930s except for a brief fall off between 1989 and 1993. Wine consumption on an individual level has also grown with the amount of wine consumed by individuals growing to nearly 2.4 gallons per year in 2006 compared to 1.98 gallons in 1979.

(<http://www.wineinstitute.org/resources/statistics/article86>)

By looking at the recent growth in Washington wineries, HDR was able to forecast growth over the next 5 years using simple regression analysis. Figure 3 is based upon a least squares regression of the number of wineries in Washington as a function of the underlying industry growth related to increase in acreage under production and bottles of wine produced. It is anticipated that there will be 560 wineries in Washington by the end of 2008. Within 5 years, at the end of 2013, it is anticipated that there will be 884 wineries. This estimation is assuming that the growth continues in a stable, steady state. There has been robust growth across the board in Washington for the entrance of new wineries into the market, as demonstrated by the growth in not only wineries, but in acreage in production and bottles of wine produced. The compounded annual growth rate since 2001 has been 18.86 percent, while the long term compounded annual growth rate since 1988 has been 12.74 percent. This demonstrates that since 2001 there has been a large expansion in Washington in the wine industry and that the trend is continuing to strengthen. As a result, the forecasted compound annual growth rate for 2008 to 2013 is expected to be 9.26 percent.

Figure 3 Total U.S. Wine Consumption

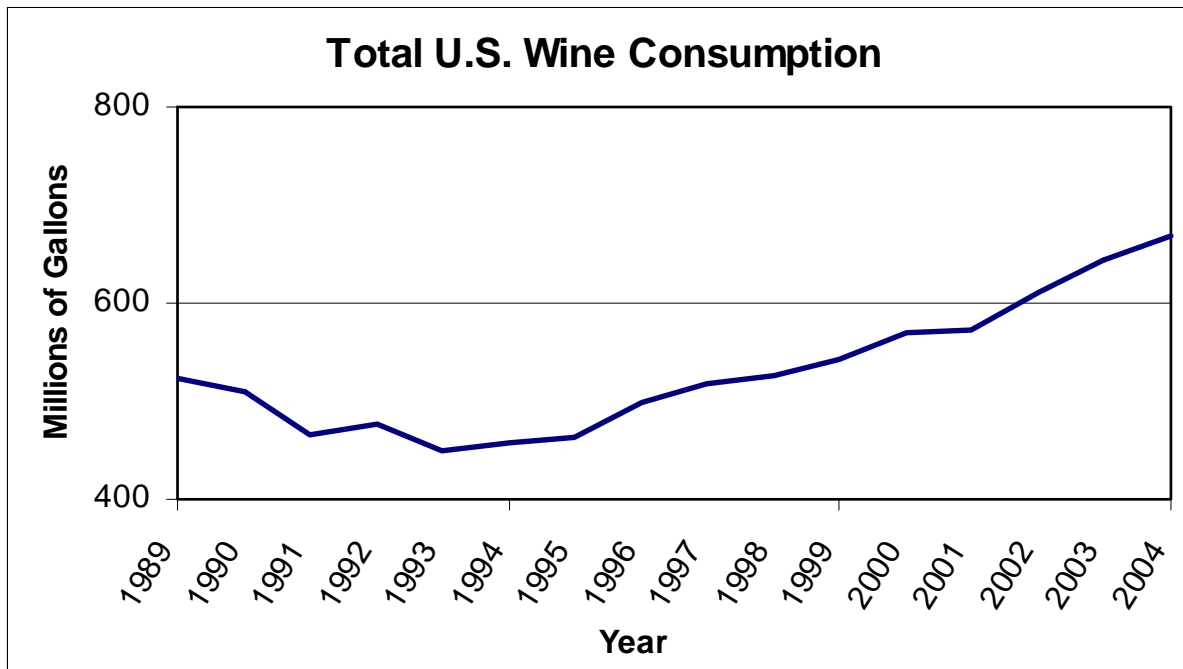
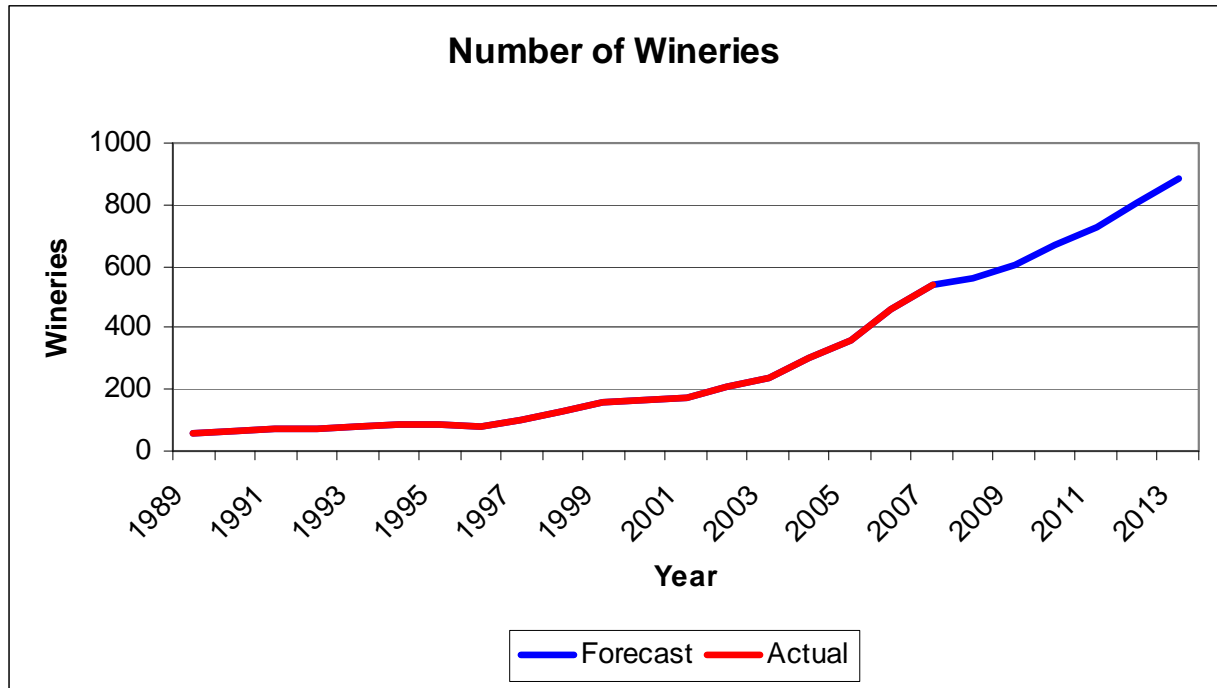


Figure 4 Forecasted Number of Wineries in Washington State



Washington Winemaker Education

One of the key driving factors in the creation of new wineries has always been finding winemakers who are willing (and able) to open their own businesses. As the Washington wine industry has grown, so too have the number of winemakers who venture out on their own to start wineries. Big winemakers such as Columbia Crest, Snoqualmie and others have many employees who learn how to make wine, and some of these employees leave these companies to start their own wineries. Mike Haddox, owner of the Winemaker's Loft in Prosser is an example of this type of entrepreneurial individual, as is Charlie Hoppes of Fidelitas who has made wine for a number of vineyards in the area over the years.

Another way for new winemakers to get started is through educational programs. There are a number of colleges in the area which have developed programs in viticulture and enology, which is helping to increase winemaking capacity in the area.

These programs have been developed over the past decade and provide the core competencies needed in the region to fuel the growth of winemaking capacity the industry needs to continue its growth.

The Washington Wine Education Consortium is a public/private partnership organized to establish viticulture and enology education programs at state and community colleges. The consortium has begun the development of a strong university level program to educate winemakers. Table 4 represents a 2004 study that estimates the numbers and educational needs of industry job markets, while Table 5 shows those institutions that have developed curriculum specifically targeted at these needs, either as higher education or specialized training. This training will continue to provide a significant flow of educated professionals that will drive industry growth as they graduate and begin working in the winemaking industry.

Table 4				
Estimated Demand for Higher Education or Specialized Training				
Area	Measure	Demand over the next 5-years (Number of People)		
		4-yr Degree Program	Community College	Continuing Education
Viticulture	Forecasted Number of Students by Education Level	211-859	129-524	938-3,813
	Needs Assessment	37-141	50-205	3,672-14,998
Enology	Forecasted Number of Students by Education Level	192-224	127-146	169-200
	Needs Assessment	47-56	58-68	891-989

Table 5				
Wine-based Curriculum at Washington State Higher Education				
Institution/Location	Educational Focus	Continuing Education	Certificate Programs	Degree Programs
CWU/Ellensburg	Business	Yes	Wine Trade	BA-Minor
WWCC/Walla Walla	Science Business	Yes	Viticulture Enology Wine Marketing	AS, AA
YVCC/Grandview	Science		Viticulture Enology	AS
WVC/Wenatchee	Science	Yes		AS, BS*
WSU/Pullman	Science Business	Yes	Viticulture Enology Horticulture	BS, BA, MA, MS, PhD
CBC/Pasco	Science		Horticulture	AS

* Partner with WSU/Horticulture

Central Washington University, Ellensburg

CWU has created a unique, individually stylized approach to the regions wine markets. The educational offerings include a Certificate program or a minor within its Recreation and Tourism Degree program. This World Wine Program also offers a set of continuing education; specialized training; or self study offerings.

The Wine Trade Professional Certificate program is an intensive course of study for people interested in careers in winery and vineyard management, purchasing, import and export, marketing, merchandising, retail, distribution, event management, and hospitality.

World Wine Program
 400 E. University Way
 Bouillon 206
 Ellensburg, WA 98926
 (509) 963-1754
<http://www.cwuace.org/wine-education/index.asp>

Walla Walla Community College, Walla Walla

The Institute for Enology and Viticulture provides students with hands-on experience in winemaking, viticulture practices, and wine sales. To this end, the Institute has developed several acres of teaching vineyards and a certified nursery where students actively participate in vineyard management and the growing of quality wine grapes used to support the teaching winery. The Institute has also created a state-of-the-art commercial teaching winery where students are responsible for winemaking and wine-related chemical analyses.

Institute for Enology and Viticulture
Walla Walla Community College
500 Tausick Way
Walla Walla, WA 99362
(509) 522-2500

<http://www.wvcc.edu/CMSX/main.php?module=department&collegecode=200&deptcode=EV>

Yakima Valley Community College, Grandview

The Agriculture Program at YVCC has an enology option that provides students with an understanding of principles and application of technology associated with the production of wine. Students will have the opportunity to learn about wine making using appropriate production, processing, sanitation, preservation, and safety methods. The college's viticulture option emphasizes the development of grape production principles with specialization in the integrated management of insect, disease, and weed pests.

Viticulture and Enology Program
Yakima Valley Community College
500 West Main Street
Grandview, WA. 98930-1284
(509) 882-7007

<http://yvcc.edu/programs/agriculture/default.asp>

Washington State University, Pullman

Viticulture and enology are a degree option in the WSU Horticulture Program. The degree is a Bachelor of Science (B.S.) degree and offers technical, scientific, and practical experience in winemaking. It is the first program of its kind in the Pacific Northwest. WSU courses are offered on both the Pullman and Tri-Cities campuses.

WSU also offers certificate programs in viticulture and enology through the WSU extension program. These classes are tailored for people who are interested in wine grape growing and winemaking, but are not interested in obtaining a college degree.

Viticulture and Enology Program
Department of Horticulture and Landscape Architecture
Washington State University
Pullman, WA 99164-6414
(509) 335-4561

<http://www.wineducation.wsu.edu/>

In summary the region has several educational programs available which complement the industry and its growth. The winemaking industry's recent growth in Eastern Washington indicate that winemaking and supporting industries will continue to expand in the region. That expansion needs the continued support of the education industry to provide a skilled workforce

that understands the business and can help with continued growth. Current efforts by the college and university system are supporting that growth and programs are in place to continue to support growth for the foreseeable future.

2.0 Complementary Facilities

In determining the feasibility of a wine incubator facility a significant amount of research was done using the internet and interviews with Washington winemakers to determine what types of businesses exist to support the wine industry in other areas, and local wine makers' needs that are currently not well supported in the Eastern Washington wine growing region.

Other State (California, Oregon) Activities

In building the background for this section a significant amount of research was done in the wine-making regions of California (Napa and Sonoma) due to the size of the wine industry there compared to any other region in the United States. In performing this research, a number of potential business opportunities were identified that the Port could focus on in an effort to expand the wine industry in the area through the growth of support services. While many of these activities would not likely work in a business incubator setting, some of them may.

On the professional services side of the industry, Napa Valley employs a number of companies which are probably already being used by the industry in eastern Washington. Businesses such as accountants, land appraisers, financial service providers, legal services, and land use/title services are needed by all winemaking firms in order to operate their business. Those same services are well established in the Tri-Cities region and likely do not need expansion in order to serve the industry.

Other business activities present some opportunities for the region and a concerted effort by the Port to obtain industry support for the services could go a long way to luring one of the industry leaders to expand its business in eastern Washington.

Those types of businesses that may be able to successfully expand into the area include: cork and capsule providers, government compliance consulting services, enology consulting services, cooperages or oak barrel manufacturers, winery equipment suppliers, fuel providers – specifically biodiesel providers, glass bottle suppliers, GIS mapping services, glass etching businesses, sustainable agricultural service suppliers and consultants, label and packaging design services, laboratories, marketing services, packaging and printing services, high quality catering services, and storage (particularly temperature controlled storage) services, are all items which could be pursued in support of the industry in eastern Washington. A (web-linked) list of the companies serving the industry in the Napa Valley is included as attachment A.

One critical component to luring any of these types of businesses to the region would be that the Port develops a strong working relationship with the two regional wine associations (Columbia and Yakima Valley) and work closely with the wineries to build support for the location of one of those facilities in the region. Specifically - because the wineries have had to obtain these services from other locales in order to operate - the Port would need to get the wineries' commitment to use these service providers as a selling point to recruiting them. Businesses are reluctant to invest in a mature market without some ability to break into that market and compete.

In conversations with the area winemakers several needs were brought forward as being unmet in the region. One of those needs was the ability to obtain on short notice many of the smaller parts (tubes, valves, hoses, etc.) needed to keep a winery operating. This need is met in Walla Walla by a small firm, Grapeland Supply (<http://www.grapelandsupply.com/>), which provides minor supplies to the local wineries from their storefront and orders larger items for rapid delivery when they do not have them in stock.

In Oregon, Davison Winery Supply of McMinnville provides supplies for the wineries in the Yamhill and Willamette Valleys and to wineries throughout the rest of Oregon and into Washington. Davison provides a wide range of chemicals, fermentors, and other accessories to the winemaking community. (<http://www.dwinesupplies.com/>)

In terms of laboratory testing services, ETS Labs of Walla Walla provides much of the local wine industry with testing services. There may be room for additional labs as the industry grows, but according to the vintners in the region ETS can provide them with most of what they need quickly and affordably.

Other items local winemakers expressed an interest in included the location of more temperature controlled storage facilities, the local siting of a wholesale biodiesel distributor, the need for quality caterers to serve at the wineries, and the need for a local distributor as many of the non-corporate wineries have to ship their wine to Seattle for distribution – which is not efficient, or cost effective.

One other area mentioned, particularly by smaller wineries, would be the location of a bottling company. Smaller wineries cannot afford to build their own bottling line, so most of them turn to Signature Mobile Bottling of Portland to meet their needs. If one of the major privately held wineries could provide that service for themselves and for the local wineries, it would be very beneficial to the industry.

3.0 Competing Facilities

In performing research in the region for facilities that may compete with the incubator, we were able to identify three facilities that could serve as competitors. Ironically, all three facilities are filled to capacity with small wineries and none are seeing the kind of turnover or losses that would lead us to believe that another incubator facility would suffer from an inability to compete.

The first facility is the Port of Benton's Wine and Food Park in Prosser. This facility is basically a strip-mall type development with storefront space available to small wineries starting up or in their early development phase. The facility has been in place for nearly 20 years.

The second facility, one which has just recently opened, is the Winemakers Loft, also in Prosser. This facility is much more wine-oriented than the Port of Benton facility in that the facility was developed as a self-contained chateau with 1,000 square foot spaces for each winery and an enclosed co-operative production facility complete with tanks and winemaking equipment.

The third facility was developed by the Port of Walla Walla on property it owns at the Walla Walla airport. Like the Port of Benton facilities, the Port of Walla Walla provides nothing more than the space for the winemakers to use. It provides no internal winemaking capacity like the Winemakers Loft does. A detailed analysis of each of the three competing facilities will be performed in the second technical memo of this study.

Technical Memorandum 2 – June 25, 2008

In 2007 the Port of Kennewick contracted with HDR Engineering to conduct a study to determine if the development of a winery business incubator or other wine-related business ventures would be feasible to perform on property in the Red Mountain Wine Estates that the Port of Kennewick owns in West Richland, WA.

HDR was tasked with addressing the feasibility of such an effort based on the goals of the Port and the State of Washington. Those elements included:

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- II. Perform an economic and market analysis of the viability of a wine incubator facility.
- III. Prepare a market strategy containing action elements linked to timelines.

This memorandum addresses the second feasibility study element.

1.0 Performance of Other Incubators

There are three facilities in eastern Washington which could be deemed as incubator facilities. The first is the facility owned by the Port of Benton in Prosser at the Prosser Wine and Food Park, the second is the recently opened incubator owned and operated by the Port of Walla Walla and the third is a privately run facility which is not an incubator in the truest sense of the word, but it does provide a place for small wineries to get started.

A review of the Port of Benton facility shows that an incubator can work in the best possible sense of the word. The facility, which was built by the Port in the early 1990s to assist small wineries in getting started, is currently fully occupied and has seen virtually no vacancy over the past 10 years. According to Scott Keller, Executive Director of the Port, there has been a waiting list of firms looking to occupy space in his facility for space for the past seven years.

The Port of Benton incubator facility is at its heart the most basic type of incubator in that it provides space for small startup firms to operate. The facility does not have any of the traditional accoutrements of an incubator insofar as no equipment or even a crush pad exist at the facility so wine makers have to have their grapes crushed and processed at other locations.

Likewise, another – more recently opened incubator facility is the Winemakers Loft, also in Prosser. Mike Haddox, who started the loft as a private enterprise, has nearly filled the facility with new wineries eager to start producing for the public. Haddox charges about \$4,000 per month in rent and had originally fully committed the facility. Delays in construction cost him a few tenants, but he has since filled those vacant openings.

Finally, the Port of Walla Walla obtained a grant from the Governor's office to build its own wine incubator facility on Port property at the Walla Walla airport. According to Paul Gerola of the Port, the facilities were full before construction was complete and they have a significant waiting list of tenants seeking to get into the facility. "We are seeking some additional money to build two more facilities," said Gerola. "Right now we can't provide enough space to fill the need in the community."

The Port of Walla Walla structured its rental somewhat differently than Haddox, charging just \$1,000 per month for rent in the first year, increasing yearly up to a final rate of \$2,200 in the final two years of a 6-year lease. Unlike Haddox or the Port of Benton facility, the Port of Walla Walla requires its tenants to leave after six years, assuring some level of turnover.

The Port, like the Port of Benton, does not provide any of the equipment needed to manufacture wine. Haddox does provide a full vintners kit for his clients which is part of his rental price. Charging more than either of the Ports for rent.

“What I charge (for rent) is fairly cheap when you consider what the startup cost of a winery is,” said Haddox who indicated that the equipment he provides would cost an individual about \$700,000.

Gerola said the Port of Walla Walla wouldn’t want to deal with owning and maintaining the equipment for a winery indicating that Ports do their best business when they just deal with property.

Regardless of the business model, all three major incubator facilities in the region are full and Haddox has done well enough to beginning planning for expansion in the form of additional Winemakers Lofts.

“I think we can replicate this,” he said. “There’s enough demand out there that we can expand to other locations.”

All three incubators are just that – they focus on small start-up type operations which normally produce no more than 2,000 cases of wine per year. That type of operation employs no more than three individuals in a full-time capacity in the early stages of operation. However, as the wineries mature and move out, they grow and expand into viable businesses with up to 500 employees – such as Columbia Crest has done.

The success of these operations and the lengthy waiting lists at the two Port-owned facilities, combined with the strong growth in the industry over the past 15 years, indicate that another facility would experience as much success as the others have.

Conclusion

The development of an additional wine incubator facility in the region would assist in the diversification of the economy of the region by providing additional opportunity for winemakers who currently cannot find or afford space to develop their business. This not only allows the Port to diversify its economic efforts by expanding on its traditional manufacturing base – but it meets a key need in the region by providing additional startup space for winemakers seeking to start businesses. It is evident by the success of all three current incubators that there is a pent-up demand for space to start wineries in the region and this facility would address that need by providing space for continued growth in the industry.

2.0 Discussion of Potential Sites

In developing this study it was determined that there should be a discussion of a number of sites owned by the Port which could be used for a wine incubator facility – or for another type of facility that supported the wine industry cluster in the region. In discussions with the Port it was determined that an analysis should be performed on four different sites to determine each sites

appropriateness to serve as a location for an incubator. The analysis should include a discussion of the zoning, the ability of the site to support the facility upon completion, any environmental or cultural issues associated with the site and an analysis of how this facility would assist the Port in its economic development efforts.

The four sites to be discussed in this study include the preferred site in Red Mountain estates, the West Richland racetrack which the Port just recently acquired, land near Vista Field near the Columbia Mall shopping area in Kennewick proper, and a site on Columbia Drive which the Port has recently acquired for redevelopment purposes. The sites will be discussed as the Red Mountain Estates site, the West Richland Raceway site, the Vista Field site and the Columbia Drive site. For locations of the four sites see Figure 1.

Site 1 – Red Mountain Estates

Located just to the north and east of the Red Mountain AVA, the Red Mountain Estates development was completed by the Port in 2007 in order to support the recruitment of the Pacific Rim Winery now located on the site.

Pacific Rim, a California winemaker, plans to manufacture Riesling in large quantities at their Port facility and began production at the site in 2008. This site, which is 3 acres in size, could support a wine incubator facility for several reasons.

- The site is in a designated wine development area created by the Port and the City of West Richland to support the Pacific Rim recruitment. As such, all environmental and cultural studies were completed at the site to support the development.

- The site has all of the utilities needed to begin operations immediately.

- The site has excellent road access and is in close proximity to the Red Mountain AVA where there are 10 other wineries which draw visitors from throughout the nation to taste and purchase wine.

- Development continues to occur in the area of the site, though progress is slow. Wineries on Red Mountain have indicated that they believe development will occur between the mountain and West Richland, precisely where the site is located.

- The Port has full control of both this site, and of the West Richland raceway sit to the immediate south. These sites could be developed as a center of the wine industry in the future creating a tightly knit group of the wine industry cluster in close proximity, similar to those on Red Mountain itself.



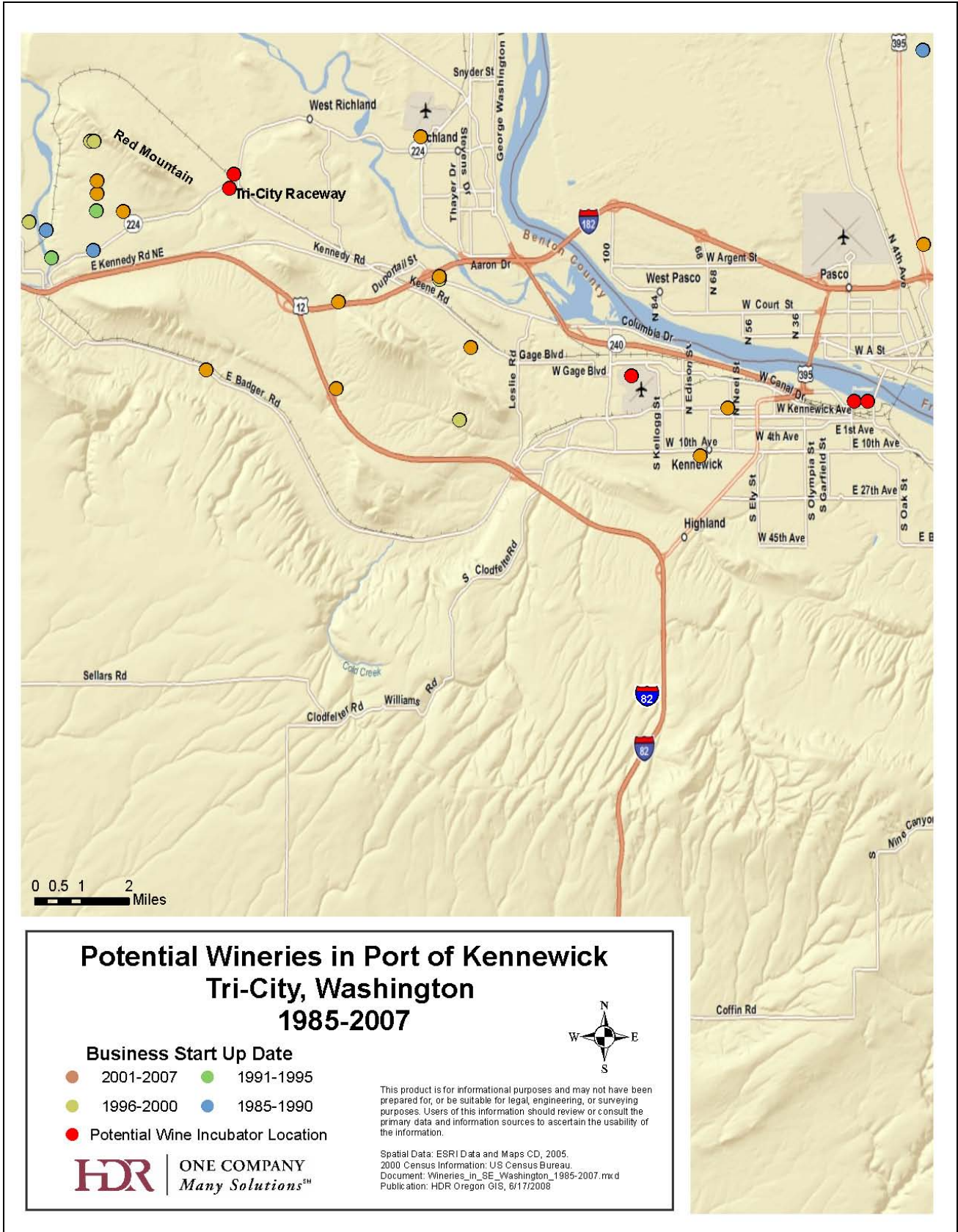


Figure 1

HDR believes this site is excellent for such an incubator facility. With an existing winery next door the facility could also double as the tasting room for Pacific Rim which would give it a built-in anchor tenant out into the future. The site is already zoned and annexed into the City and thus has all services. Its location, proximate to the Red Mountain AVA make it an ideal site for such an incubator. The biggest drawback to this site we see is the slower speed of development. This can be mitigated by a good advertising campaign by the Port to let consumers know where the facility is located.

Site 2 – Tri-City Raceway

Located in close proximity to the Red Mountain Estates site, the Tri-City Raceway site holds some promise for development of wine-related industry but it may be too soon to use the site for the purposes of the incubator. The site covers 97 acres zones for commercial and light industrial use and could serve as the site for an incubator, but several things would need to occur for that to happen in the near future. To the positive, the site has several attractive features.



- Location for development of a wine incubator is excellent because of the close proximity to other wineries.
- The size of the property would allow for a wide range of development opportunities including the incubator facility.
- Electricity already serves the site, which is easily accessed from a number of directions.
- An abundance of irrigated water rights. This is a critical component to any wine industry development – or any other development and the Port acquired these rights when it acquired the Raceway.

Some of the negatives associated with the Tri-City Raceway site include:

- No sewer capacity available at the City of West Richland if the site were developed in the short term. The City is pursuing additional capacity, but that will take time to bring online – assuming the City gets the funding it needs to build the capacity.
- The site is not annexed into the City and thus has no city water or sewer available.

- The site is, for all intents and purposes, an undeveloped site without any developed plan as yet. This would slow the development of an incubator because the Port would not want to just insert one without planning the full site ahead of the development.

HDR believes this site has a lot of potential, but that some of the planning and pre-development work need to occur before the site could become an attractive site for an incubator facility. Once a master plan is developed then this area could certainly serve as a good location for a winery incubator.

Site 3 – Vista Field

The third of the four sites is a Port owned property near Vista Field in the City of Kennewick. The property is located along Grand Ridge Boulevard fairly near the major shopping area of the City of Kennewick, as well as being in close proximity to the City’s convention center and the Tri-Cities Coliseum. This site has a significant number of positives including:

- Being located close to the major shopping region of the area. The location of an incubator facility in the City of Kennewick would be beneficial to both the community and the small businesses attempting to get started up because more individuals would see them at this location than might see them at either the Tri-City Raceway or at the Pacific Rim property.
- All utilities are readily available at the site which is zoned for commercial and light industrial use.
- No known environmental or cultural issues exist at the site as far as HDR knows and the Port has developed significant amounts of property near the site.
- Close proximity to both the Coliseum and Convention Center would provide increased exposure to the businesses located at the facility.



While the Vista Field site is an ideal site with excellent reasons for the Port to pursue as an incubator site there are also a number of reasons why the Port should defer to a different location for the incubator including:

- Value of the land the Port owns at Vista Field is rapidly increasing due to the rapid growth in the commercial/retail sector. As such the land may be better used to generate retail and commercial jobs over the long term.
- Uncertainty of the future of the airport. The Port has considered closing the airfield it currently operates to open up more acreage for development of commercial, light industrial and retail activity. If the Port chooses to close the airfield this land could be

better matched to and planned development strategy for big box retail and professional office space related to the medical facilities located nearby.

Site 4 – Columbia Drive

Two (and possible three) sites along Columbia Drive in old downtown Kennewick are also being considered by the Port for use as possible sites for the incubator building. Those sites can be combined into one overall area as they are largely contiguous and generally represent the same benefits and drawbacks. The sites are represented by two dots on the map (Figure 1) though there are technically three potential sites if the mobile home park behind the two identified sites is included. The other two sites are the former Beaver Furniture Building and the Lee Building (an auto repair building) located adjacent to one another and the former Cable Greens miniature golf course located at the corner of Columbia Drive and the Cable Bridge over the Columbia River.

Positives for the three Columbia Drive sites are not without merit, though ultimately overall locational issues and the delivery time associated with redevelopment should preclude the use of this site. The positives associated with these sites include:

- A waterfront location on the Columbia River associated with Duffy's Pond which would assist in promoting the current redevelopment efforts of the Port in the area.
- The site has all of the necessary utilities including ample water, power and sewer for the operation of an incubator facility.
- There is some restaurant and retail in the immediate vicinity and the road itself has a tremendous amount of traffic that could drive sales.



While those are strong positives for the location, the negatives far outweigh the positives and should be strong enough to eliminate the site from consideration.

- The site is not ready for the location of a winery yet. There is substantial redevelopment that needs to be completed before any consideration of such a development could occur.
- The site (all three combined) would require considerable clean-up in order to turn into the kind of facility that wine connoisseurs would seek out.
- The neighborhood is in a state of



disrepair. As the oldest part of the City the Columbia Drive area needs some significant redevelopment work and while a plan is in place to perform that redevelopment, thus far the private investment has been slow to come to the area.

- While there is some retail, the amount is relatively small and would likely not draw enough casual traffic to the area to help the small wineries survive.
- Finally, there is some property associated with the area that the Port does not currently own. This area has significant potential for redevelopment and the inclusion of a winery or wine tasting area, but until the redevelopment is complete the best recommendation would be to save the area for a more industrial use ancillary to the industry such as a winery general store (supplier) or a distribution facility.

3.0 Project Cost and Construction Estimates

The finances of the wine incubator operations have been modeled utilizing a discounted cash flow methodology. All annual values of cash flows have been discounted back to 2009 dollars using a nominal 2.20 percent discount rate. The cumulative discounted cash flow represents the net present value (NPV) for the wine business incubator and illustrates the expected financial performance of the wine incubator over a 20 year time period in 2009 dollars. This method of analysis was employed in order to best illustrate the value of the wine incubator over its lifespan relative to 2009 dollars.

Within the discounted cash flow analysis many assumptions were made. It was assumed that the facility would sit on a 0.5 acre lot (21,780 square feet) and that the actual structure would be 8,000 square feet (two sample diagrams are included in Appendix 2-2). Each bay within the facility was assumed to be 1,000 square feet. The improvement costs for the land were assumed to be \$8 per square foot, while the actual costs to construct the facility were assumed to be \$120 per square foot. The facility and land assumptions are based on data from HDR's database of projects of similar scope and scale. This generated a total cost of building and site construction of \$1,134,240 in which there is \$174,240 in capital costs for land improvement and an additional \$960,000 in capital costs for the actual facility construction. For the financing it was assumed that the loan to construct would be generated from municipal bonding at a 6.5 percent interest (coupon) rate. The municipal bond was assumed to have a 20 year life span and payback period. In addition, on the financing side it was assumed that there were three potential scenarios in relation to receiving a subsidy. It was assumed that there would be no subsidy, a subsidy of \$100,000 or a subsidy of \$225,000 provided by the Washington State Department of Community Trade and Economic Development (CTED).

Beyond the major baseline assumptions, there were also several more made in relation to the model. The first of these was that the Port of Kennewick (POK) would collect monthly rental fees from each tenant of \$1,200 per month initially, which would escalate through time at the rate of inflation. The actual rate of inflation was expected to be an annual 2.2 percent core inflation, which excludes energy and housing costs. It was also assumed that the POK would realize \$1,200 annually in base marketing costs (or \$100 per month on average to attract and maintain tenants). Furthermore, it was assumed that the POK would hire a property management company to oversee and maintain the property. This fee was assumed to be 10 percent of monthly rental income, which is a normal management fee at current market rates. In addition, it was assumed that power costs would be \$0.12 per square foot per month and that the water and sewer costs would be roughly \$0.08 per square foot per month. The power and water/sewer

rates are based on data collected by contacting local utility entities. From all of the assumptions mentioned, the model was constructed to determine the NPV in 2009 dollars.

In performing the analysis, the model indicated varying results based on how much subsidy was received, ranging from no subsidy up to \$225,000 in grants from CTED. For a basis of comparison, the evaluation metrics employed in the analysis were NPV and the discounted cash flow rate of return (DCFROR). As mentioned before, the NPV is the value of the streams of cash flows for 20 years in 2009 dollars. The DCFROR is the rate of return generated at a breakeven scenario, or the point at which NPV is equal to zero. The first scenario in which a subsidy of \$225,000 was received yielded an NPV of \$314,999.76 over the 20 year evaluation life. In addition, the DCFROR yielded was 14.88 percent. In this scenario a positive cash flow for the facility is realized in the second year. In the second scenario in which a subsidy of \$100,000 was received from CTED, an NPV of \$133,031.09 was yielded. For the second scenario, the DCFROR was 9.37 percent. In this scenario a positive cash flow is generated in the sixth year of operation. In the third scenario in which no subsidy was received the NPV created was (\$12,543.85) with a DCFROR of 0.22 percent and positive cash flow occurring in the tenth year. For this third scenario the POK would incur a maximum annual negative cash flow of \$15,275 in the second year of operation. The average negative cash flow prior to positive cash flow generation is \$8,160 per year. In general, the analysis illustrates that the project generates a profit for the POK when a subsidy is received. However, even when no subsidy is received the POK is losing only \$12,543.85 over 20 years. Obviously, the \$225,000 subsidy is the preferable alternative, but the POK at worst case does not lose more than the NPV generated in the third scenario. The summary results for each of the scenarios are illustrated in Table 1 below. A detailed breakdown can be found in Table 1-3 in the Appendix.

Scenario	1	2	3
Subsidy Value from CTED	\$225,000.00	\$100,000.00	\$0.00
NPV	\$314,999.76	\$133,031.09	(\$12,543.85)
DCFROR	14.88%	9.37%	0.22%

Funding

HDR looked at three different funding scenarios for the incubator facility as part of the study. The first scenario looked at a fully financed Port facility with no State assistance, the second looked at a Port funded scenario with a \$100,000 grant from the State (or other agency), and the third looked at a Port funded facility with a 20 percent grant (\$225,000) from other sources.

In the first scenario (with a \$225,000 subsidy) the Port is able to earn a net income of nearly \$30,000 (assuming fully leased space) in the second year of operations on an incubator facility, and its discounted cash flow turns positive in the 5th year of operation (see Table 1).

In the second scenario (with a \$100,000 subsidy) the Port is able to earn a net income of over \$21,000 (assuming fully leased space) in the second year of operations, and a positive discounted cash flow in year 13 of operation (see Table 2), and in the final scenario (Port fully funds), the facility earns a net income of over \$15,000 in the second year of operation while never reaching positive numbers in its discounted cash flow rate (Table 3).

Technical Memorandum 3 – July 1, 2008

In 2007 the Port of Kennewick contracted with HDR Engineering to conduct a study to determine if the development of a winery business incubator or other wine-related business ventures would be feasible to perform on property in the Red Mountain Wine Estates that the Port of Kennewick owns in West Richland, WA. HDR was tasked with addressing the feasibility of such an effort based on the goals of the Port and the State of Washington. HDR's feasibility study included the following elements:

- I. Development of a product market analysis of the history and growth of the wine industry in the Columbia Valley, and whether market growth would support a wine incubator facility.
- II. Performing an economic and market analysis of the viability of a wine incubator facility.
- III. Preparation of a market strategy containing action elements linked to timelines.

This memorandum addresses the third feasibility study element. The analysis for this document includes:

- A. Development of a timeline for the construction of a wine incubator facility.
- B. Identification of the group in charge of marketing and operating the facility.
- C. Tracking development progress
- D. Description of how those outcomes will be measured until the facility has been completely leased.
- E. Description of what data will be collected to assess progress, and how it will be collected.

1.0 Construction Timeline

For the purposes of this section, HDR assumed that construction of the incubator facility would begin in August, 2009, based on the Port's estimated construction start date. The schedule would be adjusted if this start date were changed. HDR developed this construction schedule in conjunction with its Design-Build unit. The schedule was estimated based on past HDR Design-Build experience.

HDR believes construction of the building which would house the incubator can be completed in approximately 270 days from start to finish, if there were no overlap in activities. The following is a timeline for this construction scenario:

- | | |
|---|---------|
| • Mass Excavation and Layout | 15 days |
| • Structural Excavation and Foundations | 30 days |
| • Underslab MEP and SOG | 20 days |
| • Building Structure | 30 days |
| • Exterior Skin and Roofing | 30 days |
| • Interior Framing and MEP Rough-in | 45 days |

• Site Utilities	20 days
• Interior and MEP finishes	30 days
• Asphalt and concrete sitework	20 days
• Landscaping	15 days
• Punch/Commission/Turnover	<u>15 days</u>
Total time	270 days

(MEP - Mechanical, Electrical and Plumbing; SOG – Slab on Grade)

In developing the overall estimated project schedule HDR has determined that the project (assuming permitting is completed prior to the start of construction) could take less time by overlapping certain activities. The project schedule below (Schedule 1) shows where the overlaps could be achieved, reducing the overall construction time to 263 days, assuming a 3 month winter work shutdown. This timeframe could be reduced further to 180 days if the contractor can continue working through the winter months, as depicted in Schedule 2. Schedule 2 is tied better to the cash flow models depicted in the second technical memo in terms of the start and finish times for construction, while Schedule 1 has a 3 month delay in the work due to winter shutdown.

2.0 Group in Charge of Marketing

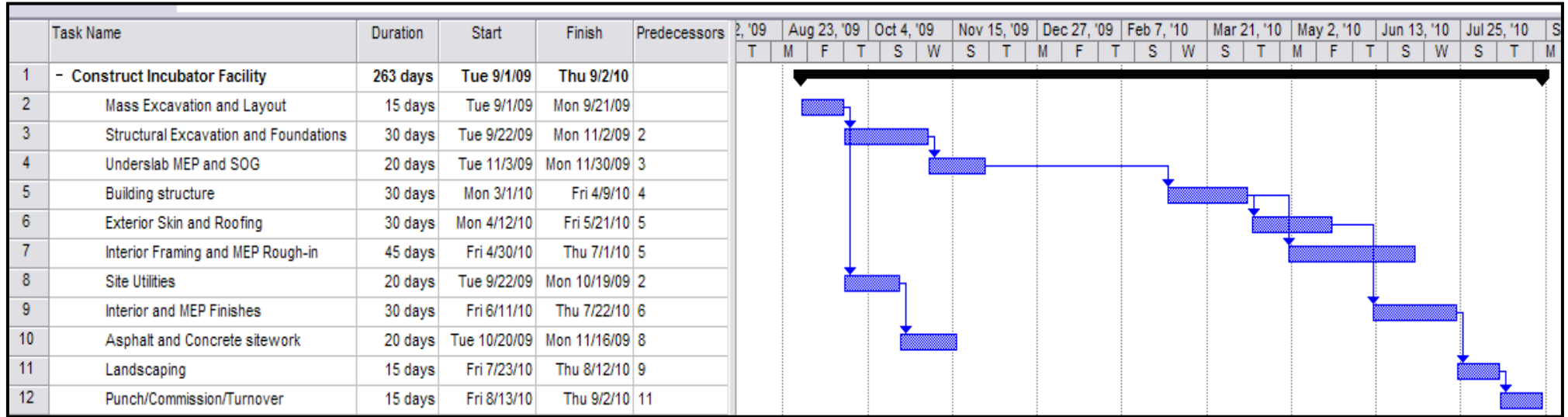
There will essentially be three groups tasked with marketing the facility: the Port of Kennewick which, as the owner, will take the lead on the marketing of the facility and the Tri-Cities Industrial Development Council and City of West Richland, will assist the Port.. In addition, the Port may coordinate with the Washington Wine Commission and Washington State University on marketing activities.

Port of Kennewick

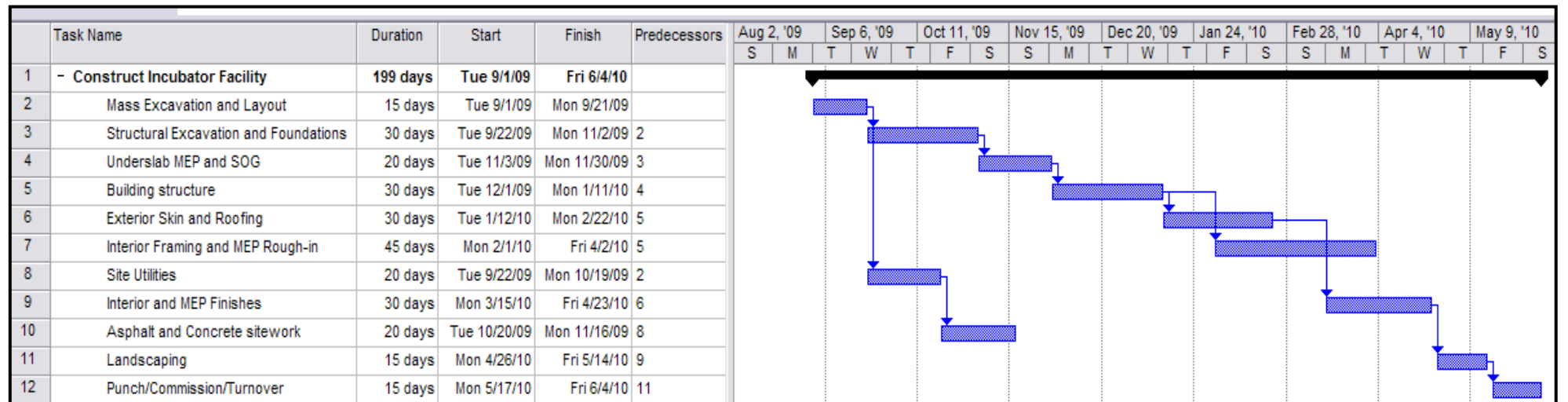
The Port of Kennewick has been serving as one of the lead economic development agencies in the Tri-Cities Region since the 1940s. The mission of the Port is to provide and support sound economic growth opportunities that create jobs and improve the quality of life for Port district residents. The Port of Kennewick began purchasing land for industrial development in the 1940s and has a strong track record of successful development activities in the region since that time.

As the owner/operator, the Port of Kennewick will serve as the lead agency in marketing the wine incubator facility. Teresa Hancock, the head of Real Estate and Special Projects, and Tana Bader Inglima, Director of Government Relations and Marketing, will serve as the leads in marketing the facility to potential tenants.

Port of Kennewick Incubator Construction – Schedule 1



Port of Kennewick Incubator Construction – Schedule 2



Tri-Cities Industrial Development Council (TRIDEC)

The Tri-City Development Council (TRIDEC) is the lead economic development organization for the Tri-Cities and surrounding areas. TRIDEC works to create and sustain a region that is globally competitive - fueled by a diversified, technology-driven economy - and positioned to achieve sustained economic prosperity and opportunity for its business and residential communities. The core mission of the organization is to achieve economic stability and balanced growth through the retention and creation of jobs and the enhancement of the quality of life in the region. TRIDEC achieves this by marketing the region to promote new business investment which creates jobs for residents in the region. TRIDEC also collaborates with its partners in the Tri-Cities, including the Port of Kennewick, in setting regional goals and seeking regional opportunities for economic growth.

3.0 Economic Outcomes of Incubator

For the purposes of assessing the economic impacts of the Port of Kennewick wine business incubator, the IMPLAN economic input-output model was employed. The output from the IMPLAN model was then utilized with a time series regional industry growth forecast model to project the economic impacts over a 20 year life cycle. The base IMPLAN sector utilized to perform the analysis was sector 87 within the Benton County, Washington dataset. Within the model sector, 87 is the sector representing wineries and wine making activities. By utilizing these two models in tandem, the direct, indirect, and induced economic impacts to the regional economy resulting from the wine business incubator have been estimated. The economic impacts under observation for the purpose of this study are job creation and sustenance, the total value added to the regional economy, and the total economic output generated as a result of the wine business incubator.

The IMPLAN model utilizes the business expenditures created by the potential wine business activity to estimate job creation and sustenance, value added to the regional economy, and the total economic output generated based on the current conditions of the regional economy represented within the dataset. The core dataset for Benton County within the IMPLAN model serves as a key assumption regarding the overall state of the regional economy. The IMPLAN model was used to estimate economic impacts for each year over a 20 year time horizon based upon the regional economic dataset. Estimates were made for different stratifications of business activity in terms of the business that would be utilizing the wine business incubator. In general, annual expenditures for companies were estimated and the IMPLAN economic impact multipliers were applied to the expected expenditures.

In addition, some assumptions were made within the time series growth forecasts to better estimate the impacts. Within the time series model it was assumed that the core rate of inflation (which excludes food, energy, and housing costs) would be 2.20 percent. This rate of inflation was used within the time series model as a deflator in estimating the economic impacts. Within the time series model, it was assumed that every five years there would be new businesses cycling through the incubator as companies either failed and shut down or became established and moved on. This created four distinct cycles over the 20 year time horizon. Due to the rapid growth of an average of 44 percent per year in the wine industry in the regional economy, and increasing growth acceleration that has been noted, the estimates for wine business success rates were slightly elevated relative to generally expected business startup conditions. Table 1 below summarizes the assumptions made around the business success rates for the incubator by time period. In general, there are diminishing expectations around business viability as the industry reaches greater levels of maturity, which is reflected in Table 1.

Table 1 Business Success Rates	
Period (years)	Start-up Business Success Rate
0 – 5	50%
6 – 10	50%
11 – 15	30%
16 – 20	20%

Assumptions surrounding business growth rates were also made. Even though industry growth is roughly 44 percent per year on an average compounded growth basis, it was assumed that since the businesses would be start-ups they would grow the most in their initial five year period, followed by diminishing returns to growth. Table 2 below illustrates the assumptions within the model surrounding the estimated compound annual growth rates within the time series model for each incremental five year period. The average compound annual growth rates represent the average growth rate applied to business activity for those businesses that are successful. The businesses that fail have incrementally diminishing expenditures. A negative average compound annual growth of 5.4 percent per year was applied to the failing businesses.

Table 2 Average Compounded Annual Growth Rate	
Period (years)	Average Compound Annual Growth Rate
0 – 5	13.67%
6 – 10	12.62%
11 – 15	10.13%
16 – 20	7.70%

The models utilized to forecast the economic impacts of the wine business incubator indicate positive economic results stemming from the incubator's development. In terms of job creation and sustenance, the model indicates that the wine incubator would create or sustain 15.15 direct full time equivalents (FTEs) and 30.30 indirect and induced FTEs in the first full year of operation. In year 20 it is estimated that the wine business incubator will have created or sustained 314.80 direct FTEs and 629.15 indirect and induced FTEs within the regional economy over the 20 year time span as a result of both the businesses utilizing the wine business incubator and the business that were seeded and grew to maturity. Along the same lines, the total direct value added to the regional economy over the 20 year time span is estimated to be \$19.2 million dollars, with an additional \$31.1 million in indirect and induced economic value added. In terms of the total economic output created over the 20 year horizon, it is estimated that economic output in the regional economy will directly be increased by \$87.9 million, with an additional \$49.6 million in indirect and induced economic output. These numbers indicate that a wine business incubator would significantly stimulate the regional economy over the 20 year time horizon that was analyzed.

Based on this study, the economic impacts are significant to the regional economy in terms of job creation, economic value added, and economic impacts to the region over the 20-year time horizon looked at as part of this study. The complete economic impact assessment is contained in the Appendix to this report, as are the IMPLAN modeling runs.

4.0 Measuring Outcomes to Full Occupancy

The Port of Kennewick will measure facility occupation performance against the following goals. Within 6 months of opening the facility the Port hopes to have a 50 percent occupancy rate and 10 new jobs. The second goal is to operate the facility at 75 percent capacity by the end of the first year of operation, creating 14 new jobs. The final goal is to have the facility fully occupied no longer than 18 months after opening the doors to small winery businesses, with 18 total new jobs created.

5.0 Long Term Collection of Outcomes

The Port of Kennewick is proposing that long term collection of jobs be the measurement by which the success of the facility is measured. Based on the IMPLAN model run by HDR, tenants of the facility should create 300-plus direct jobs over a 20-year span, and over 900 jobs including indirect and induced jobs.

In order to measure job creation the Port would require that tenants who move into the facility report their job creation numbers to the Port on an annual basis. Once a tenant moves out of the incubator (which they will be required to do after five years maximum), the Port will ask them to continue reporting jobs on an annual basis through the end of the 20-year life-cycle of the facility. Job creation and retention tracking over the life of the facility will be measured as follows:

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jobs	15	18	22	28	38	67	78	92	110	133

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Jobs	155	168	184	202	223	244	259	275	294	315

The reason for the large jump in jobs between 2014 and 2015 is the assumption that by year six, eight entirely new businesses will move into the winery incubator, while the previous five have expanded and moved out creating an additional 30 jobs. In each fifth year increment you see significant job increases as the tenants turn over and move into larger facilities. These job numbers reflect the growth rates discussed in the section 3 discussion on the economic impacts of the incubator.

Technical Memorandum 4 – July 2, 2008

In 2007 the Port of Kennewick contracted with HDR Engineering to conduct a study to determine if the development of a winery business incubator or other wine-related business ventures would be feasible to perform on property in the Red Mountain Wine Estates that the Port of Kennewick owns in West Richland, WA.

HDR was tasked with addressing the feasibility of such an effort based on the goals of the Port and the State of Washington. Those elements included:

- IV. Develop a product market analysis of the history and growth of the wine industry in the Columbia Valley, and whether market growth would support a wine incubator facility.
- V. Perform an economic and market analysis of the viability of a wine incubator facility
- VI. Prepare a market strategy containing action elements linked to timelines, and
- VII. Develop a list of potential tenants who could be approached by the Port to occupy the facility specifically focusing on Oregon and California wineries.

This section covers the final item and includes a list of both Oregon and California wineries who may be interested in opening an operation in Eastern Washington. It should be noted that during the course of this study it was found that there are ample tenants seeking space in eastern Washington with both the Port of Benton and the Port of Walla Walla incubator facilities at full capacity and both with waiting lists as new tenants seek to get into their currently fully occupied facilities.

1.0 Oregon Wineries

WINERIES	CITY	Phone	CONTACT	CONTACT TITLE
Portland Area				
Alloro Vineyard	Sherwood, OR 97140	(503) 813-0063	David Nemarnik	Founder/vineyard manager
Antica Terra Winery	Portland, OR 97211	(503) 452-5369		
Apolloni Vineyards	Forest Grove, OR 97116	(503) 330-5946	Laura Gordon	Marketing Director
Beran Vineyards	Hillsboro, OR 97123	(503) 628-1298	Bob Grims	Vineyard Manager
Carabella Vineyard	Wilsonville, OR 97070	(503) 925-0972		
Clear Creek Distillery	Portland, OR 97210	(503) 248-9470	Stephen McCarthy	Proprietor
Cooper Mountain Vineyards	Beaverton, OR 97007	(503) 649-0027	Robert Gross	Proprietor
David Hill Vineyards	Carlton, OR 97111	(503) 359-5436	Milan & Jean Stoyanov	
Helvetia Winery	Hillsboro, OR 97124	(503) 647-5169	John Derthick	Winemaker
Hip Chicks Do Wine	Portland, OR 97202	(503) 234-3790	Laurie Lewis and Renee Neely	Owners
Laurel Ridge Winery	Carlton, OR 97111	(503) 852-7050	Jason Bull	Winemaker
Lion Valley Vineyards	Cornelius, OR 97113	(503) 628-5458	David Levinthal	Winemaker
Marquam Hill Vineyards	Molalla, OR 97038	(503) 829-6677	Jude Strater	Events Coordinator
Momokawa Sake Brewery	Forest Grove, OR 97116	(503) 357-7056	Steve Boone	President
Montinore Vineyards	Forest Grove, OR 97116	(503) 359-5012	Rudy and Kristin	Managing Team
Oak Knoll Winery	Hillsboro, OR 97123	(503) 648-8198	John Kobbe	Proprietor
Ponzi Vineyards	Beaverton, OR 97007	(503) 628-1227	Luisa Ponzi	Winemaker
Raptor Ridge Winery	Hillsboro, OR 97123	(503) 887-5595	Scott Shull	Winemaker & Founder
Shafer Valley Vineyards	Forest Grove, OR 97116	(503) 357-6604	Harvey and Miki Shafer	Owners
St. Josef's Wine Cellar	Canby, OR 97013	(503) 651-3190	Joe Fleischmann	Owner
Tualatin Estate Vineyards	Forest Grove, OR 97116	(503) 357-5005	Jim Bernau	Founder/President
Wasson Brothers Winery	Sandy, OR 97055	(503) 668-3124	Jim Wasson	Owner
Yamhill County				
ADEA Wine Company	Gaston, OR 97119	(503) 662-4509	Mark Dowers	Executive Chief
Adelsheim Vineyard	Newberg, Oregon 97132	(503) 538-3652	David Adelsheim	President
Anam Cara Cellars	Newberg, Oregon 97132	(503) 537-9150	Nick and Shelia	Owners
Anderson Family Vineyard	Newberg, Oregon 97132	(503) 554-5541	Cliff and Allison Anderson	Owners
Andrew Rich Wines	Carlton OR 97111	(503) 284-6622	Andrew Rich	
Anne Amie Vineyards	Carlton, OR 97111	(503) 864-2991	Craig Camp	General Manager
Archery Summit Winery	Dayton OR 97114	(503) 864-4300		
Argyle Winery	Dundee, Oregon 97115	(503) 538-8520		
Beaux Frères	Newberg, Oregon 97132	(503) 537-1137	Michael Etzel	Managing Partner
Bella Vida Vineyard	Dundee, OR 97115	(503) 538-9821	Ryan Harms or Brian O'Donnell	Winemakers
Belle Pente Wine Cellars	Carlton, OR 97111	(503) 852-9500	Jill & Brian O'Donnell	Owners
Brick House Vineyards	Newberg, OR 97132	(503) 538-5136		
Cameron Winery	Dundee, OR 97115	(503) 538-0336		
Carlo and Julian Winery	Carlton OR 97111	(503) 852-7432		
Champoege Wine Cellars	Aurora, OR 97002	(503) 678-2144		
Chehalem	Newberg, OR 97132	(503) 538-4700	Caroline Ravia	Direct Sales Team
Coleman Vineyard	McMinnville, OR 97128	(503) 843-2707	Mike Hallock	winemaker
Cuneo Cellars	Carlton, OR 97111	(503) 852-0002	Gino Cuneo	winemaker
Dalla Vina Wines/ Owen Roe	Wilsonville, OR 97070	(503) 925-0712	Karl Dinger	winemaker
Dobbes Family Estate	Dundee, Oregon, 97115	(503) 538-1141	Joe Dobbes	winemaker
Domaine Drouhin Oregon	Dundee, OR 97115	(503) 864-2700		
Domaine Serene Vineyards	Dayton, OR 97114	(503) 864-4600	Allan Carter	Director Marketing & Sales
Duck Pond Cellars	Dundee, OR 97115	(503) 538-3199	Doug and Jo Ann Fries	Managers
EIEIO & Co	Carlton, Oregon 97111	(503) 852-6733		
Elk Cove Vineyards	Gaston, OR 97119	(503) 628-0337	Pat & Joe Campbell	Founders
Erath Vineyards	Dundee, OR 97115	(503) 538-3318	Dick Erath	Founder & Winegrower
Freja Cellars	Hillsboro, OR 97123	(503) 628-7843	Willy Gianopulos	Winemaker
Gypsy Dancer Estates	Cornelius, OR 97113	(503) 628-0955	Gary & Christine Andrus	Owners
Hamacher Wines	Carlton, Oregon 97111	(503) 852-7200	Eric Hamacher	Winemaker

WINERIES	CITY	Phone	CONTACT	CONTACT TITLE
Hauer of the Dauen	Dayton, OR 97114	(503) 868-7359		
Ken Wright Cellars	Carlton, OR 97111	(503) 852-7070	Ken Wright	Owner
Kramer Vineyards	Gaston, OR 97119	(503) 662-4545	Keith and Trudy Kramer	Owners
Lange Winery	Dundee, Oregon 97115	(503) 538-6476		
McKinlay Vineyard	Newberg, OR 97132	(503) 625-2534	Matt and Holly Kinne	Owners/Winemakers
Medici Vineyards	Newberg, OR 97132	(503) 538-9668	Peter Rosback	Winemaker
Panther Creek Cellars	McMinnville, OR 97128	(503) 472-8080	Liz Chambers	Owner
Patton Valley Vineyards	Gaston, Oregon 97119	(503) 985-3445	Jerry Murray	Vineyard Manager
Rex Hill Vineyards	Newberg, Oregon 97132	(800) 739-4455	Paul Hart and Jan Jacobsen	Owners
Sokol Blosser Winery	Dundee, OR 97115	(503) 864-2282	Susan Sokol Blosser	President
Stag Hollow Vineyards	Yamhill, OR 97148	(503) 662-5609	Jill Zarnowitz and Mark Huff	Owners
Stone Wolf Vineyard	McMinnville, OR 97128	(503) 434-9025		
The Eyrie Vineyards	Dundee, OR 97115	(503) 472-6315	Jason Lett	Winemaker
The Four Graces	Dundee, Oregon 97115	(800) 245-2950	STEVE AND PAULA BLACK	Proprietors
Torii Mor	Dundee, OR 97115	(800) 839-5004	Donald Ol	Owner
Westrey Wine	McMinnville, OR 97128	(503) 434-6357	Amy Wesselman or David Autrey	Winemakers
Willakenzie Estate	Yamhill, Oregon 97148	(503) 662-3280	Ronni & Bernard Lacroute	Owners
Wine Country Farm	Dayton, Oregon 97114	(503) 864-3446	Pascal Valadier	Winemaker
Yamhill Valley Vineyards	McMinnville, OR 97128	(800) 825-4845		
Youngberg Hill Vineyards	McMinnville, OR 97128	(503) 472-2727		
Eola Hills, Polk County				
Airlie Winery	Monmouth, Oregon 97361	(503) 838-6013	Mary E. Olson	Owner
Amity Vineyards	Amity, OR 97101	(503) 835-2362	Myron Redford,	President and Winemaker
Arborbrook Vineyards	Newberg, OR 97132	(503) 538-0959	Dave and Mary Hansen	Owners
August Cellars	Newberg, OR 97132	(503) 554-6766	Jim and Tom Schaad	Managers
Ayres Vineyard	Newberg, OR 97132	(503) 538-7450	Brad McLeroy	Winemaker
Barking Frog Winery	Newberg, OR 97132	(503) 625-6581		
Bergstrom Wines	Newberg, OR 97132	(503) 554-0468	Josh Bergström	Winemaker
Bishop Creek Cellars	Newberg, OR 97132	(503) 476-8686	Jeremy Saville,	Vineyard Manager
Boedecker Cellars	Carlton, OR 97111	(503) 288-7752	Stewart Boedecker	Owner
Brooks Wines	McMinnville, OR 97128	(503) 435-1278	Jimi Brooks	Winemaker/Vineyard Mgr.
Bryce Vineyard	Carlton, OR 97111	(503) 852-6100	Marcia and Bryce Bagnall	Owners
Château Bianca Winery	Dallas, Oregon 97338	(877) 623-6181	Andreas Wetzel	Winemaker
Cherry Hill Winery	Rickreall, Oregon 97371	(503) 623-7867	Chris Luby	Winemaker
Coelho Winery	Amity, Oregon 97101	(503) 835-9305	Dave and Deolinda Coelho	Owners
Cottonwood Winery	Salem, Oregon 97304	(503) 572-9869	Aaron Lieberman	Winemaker
Croft Bailey Vineyards	McMinnville, OR 97128	503-881-8300	Toni Croft and Bill Bailey	Founders
DePonte Cellars	Dayton, OR 97114	(503) 864-3698	Scott and Rae Baldwin	Founders
Domaine Coteau	Amity, Oregon 97101	(503) 697-7319		
Elvenglade Vineyard	Gaston, Oregon 97119	(503) 662-9960		
Eola Hills Wine Cellars	Rickreall, OR 97371	(503) 623-2405	Tom Huggins	Founder
Evergreen Vineyards	McMinnville, OR 97128	(866) 434-4818		
Firesteed Cellars	Rickreall, OR 97371	(503) 364-7052	Howard Rossbach	Founder
Flynn Vineyards	Rickreall, OR 97371	(503) 623-6505	Howard Rossbach	Owner
J K Carriere Wines	Newberg, OR 97132	(503) 554-072	Jim Prosser	Owner and Winemaker
Kristin Hill Winery	Amity, OR 97101	(503) 835-0850		
LaBete Wines	McMinnville, OR 97128	(503) 977-1493	John R Eliassen	Owner and Winemaker
Lachini Vineyards	McMinnville, OR 97128	(503) 864.4553	Ron & Marianne Lachini	Founders
Lawton Winery	Newberg, Oregon 97132	(503) 538-6509	Keith Lawton or Robin Lawton	Owners
Le Cadeau Vineyard	Dundee, OR 97115	(612) 799-8969	Deb and Tom Mortimer	Proprietors
Lemelson Vineyards	Carlton OR 97111	(503) 852-6619	Laura Arce	Direct Sales Manager
Maysara Winery	McMinnville, OR 97128	(503) 843-1234	Todd Hamina	Winemaker
Methven Family Vineyards	Dayton, OR	(503) 580-1320	Allen and Jill Methven	Owners
Monks Gate Vineyard	Carlton, Oregon 97111	(503) 852-6521		
Mystic Wines	Salem, OR	(503) 581-2769	Rick Mafit	Founder
Namaste Vineyards	Dallas, Oregon 97338	503-623-4150	Chris Miller	Owner
Natalie's Estate Winery	Newberg, Oregon	(503) 807-5008		
Owen Roe	St Paul, OR 97137	(503) 678-6514	Jerry Owen	Vineyard
Patricia Green Cellars	Newberg, Oregon	(503) 554-0821	Jim Anderson	Owner
Penner Ash Wine Cellars	Newberg, OR 97132	(503) 554 5545	Lynn & Ron Penner-Ash	Winemaker
Prive Vineyards	Newberg, OR 97132	(503) 554-0464	Mark and Tina Hammond	Owners
R Stuart & Co	McMinnville, Oregon 97128	(866) 472-6990	Rob Stuart	Winemaker

WINERIES	CITY	Phone	CONTACT	CONTACT TITLE
Redman Wines	Newberg, OR. 97312	(503) 554-1290	Bill and Cathy Redman	
Scott Paul Wines	Carlton, OR	(503) 852-7300	Scott Paul Wright	
Seufert Winery	McMinnville, OR 97128	(503) 709-1255		
Shea Wine Cellars	Portland Oregon 97221	(503) 241-6527	Dick & Deirdre Shea.	Owners
Sineann	Newberg, OR 97132	(503) 341-2698	Peter Rosback	Winemaker & Owner
St. Innocent Winery	Salem, Oregon 97303	(503) 378-1526	Mark Vlossak's	Winemaker
Stoller Vineyards	Dayton, Oregon 97114	(503) 864-3404	Bill and Cathy Stoller	Owners
Thistle Wines	Gaston, Oregon	(503) 590-0449	Jon Jennison	Winemaker
Tyrus Evan	Carlton, Oregon	(503)852-7070		
Van Duzer Vineyards	Dallas, OR 97338	(800) 884-1927	Carl & Marilyn Thomas	Owners
Vercingetorix	Newberg, OR 97132	(503) 538-9895	The Halls	Family Owners
Walnut City Wineworks	McMinnville, Oregon 97128	(503) 472-3215	Matt Blumhart	Sales and Distribution
Willamette Valley Vineyards	Turner, OR 97392	(503) 588-9463	Jim Bernau	Founder/Winegrower
Winter's Hill Vineyard	Lafayette, Oregon 97127	(503) 864-4610	Peter Gladhart	Owner
Salem				
Ankeny Vineyards	Salem, OR 97306	(503) 378-1498	Joe Olexa	Owner
Anthony Dell Cellars	Salem, Oregon 97301	(503) 399-9933	Anthony Dell	Owner
Bethel Heights Vineyard	Salem, Oregon 97304	(503) 581-2262	Terry Casteel	Winemaker
Cristom Vineyards	Salem, OR 97304	(503) 357-3068	Paul Gerrie	Founder and Owner
Evesham Wood Winery	Salem, OR 97304	(503) 371-8478		
Honeywood Winery	Salem, OR 97302	(800) 726-4101		
Kathken Vineyards	Salem, Oregon 97304	(503) 316-3911	Ken & Kathy Slusser	Owners
Northwest Viticulture Center	Salem, Oregon 97309	(503) 584-7254		
Pudding River Wine Cellars	Salem, OR 97317	(503) 365-0391		
Redhawk Vineyard	Salem, OR 97304	(503) 362-1596		
Stangeland Vineyards	Salem, Oregon 97304	(503) 581-0355		
Whistling Dog Cellars	Salem, Oregon			
Witness Tree Vineyard	Salem, OR 97304	(503) 585-7874	Steven Westby	Winemaker
Oregon Coast				
Flying Dutchman Winery	Otter Rock, OR 97369	(541) 765-2553	Richard Cutler	Owner
Nehalem Bay Winery	Nehalem, OR 97131	(503) 368-9463	Ray Shackelford	Owner
Shallon Winery	Astoria, OR 97103	(503) 325-5978	Paul van der Veldt	Winemaker
Columbia Gorge				
Cathedral Ridge Winery forme	Hood River, OR 97031	(541) 386-2882	Lonnie Wright	Grape Grower
Edgefield Winery	Troutdale, Oregon 97060	(503) 665-2992	McMenamins	
Hood River Vineyards	Hood River, OR 97031	(541) 386-3772	Bernie and Anne Lerch	Owners
Pheasant Valley Vineyard & W	Hood River, Oregon 97031	(541) 387-3040	Scott & Gail Hagee	Owners
Zerba Group	Milton-Freewater, Oregon 97862	(541) 938-9463	Cecil and Marilyn Zerba	Founders
Corvallis, Eugene				
Alpine Vineyards	Monroe, Oregon 97456	(503) 424-5851		
Benton-Lane Winery	Monroe, OR 97456	(541) 847-5792	Steve and Carol Girard	Owners
Briggs Hill Vineyard	Eugene 97405	(541) 341-3974		
Broadley Vineyards	Monroe, OR 97456	(541) 847-5934	Claudia & Craig Broadley	Owners
Chateau Lorane	Lorane, OR 97451	(541) 942-8028	Linde and Sharon Kester	Owners
Eugene Wine Cellars	Eugene, Oregon 97402	(541) 342-2600	Bruce and Brad Biehl	Managers
Houston Vineyards	Eugene, OR 97405	(541) 747-4681	Steve Houston	Owner
J Scott Cellars	Eugene, OR 97405	(541) 344-1935	Jonathan Oberlander	Winemaker
King Estate Winery	Eugene, Oregon 97405	(541) 942-9874	Ed King Jr	Owner
LaVelle Vineyards	Elmira, Oregon 97437	(541) 935-9406	Doug LaVelle	Founder
Rainsong Vineyards	Cheshire, OR 97419	(541) 998-1786	Michael & Merry Fix	Proprietors
Secret House Winery	Veneta, OR 97487	(541) 935-3774		
Silvan Ridge/Hinman Vineyard	Eugene, Oregon 97405	(541) 345-1945	Jonathan Oberlander	Winemaker
Springhill Cellars	Albany, Oregon 97321	(541) 928-1009		
Tyee Wine Cellars	Corvallis, OR 97333	(541) 753-8754	Barney Watson	Winemaker
Umpqua Valley				
Abacela Vineyards & Winery	Roseburg, Oregon 97470	(541) 679-6642	Earl and Hilda Jones	Owners
Bear Creek Winery	Cave Junction, OR 97523	(541) 592-3977	Lelo and Bob Kerivan	Owners
Brandborg Vineyard & Winery	Elkton, OR 97436	(541) 584-2870	Terry and Sue Brandborg	Owners
Champagne Creek Cellars	Roseburg, OR 97470	(541) 673 7901	Janiece Brown	Marketing Director
De Nino Umpqua River Estate	Roseburg, OR 97470	(541) 673-1975	DeNino Family	
Del Rio Vineyards	Gold Hill, OR 97525	(541) 855-0777	Jeff Kandarian	Winemaker
Edenvale Winery	Medford, OR 97501	(541) 512-2955	Anne H. Root	Sales/Marketing
Girardet Wine Cellars	Roseburg, Oregon 97470	(541) 679-7252	Marc Girardet,	Winemaker
Henry Estate Winery	Umpqua, OR 97486	(541) 459-5120	Calvin Scott Henry III	Founder
Roxy Ann Winery	Roseburg, OR 97470	(541) 673-3709	Jack Day	Principal Owner
La Garza Cellars	Roseburg, OR 97470	(541) 679-9654		
Spangler Vineyards	Roseburg, OR 97470-9365	(541) 679-9654	Pat and Loree Spangler	Owners

WINERIES	CITY	Phone	CONTACT	CONTACT TITLE
Southern Oregon				
Ashland Vineyards & Winery	Ashland, Oregon 97520	(541) 488-0088	Phil Kodak,	Owner/Winemaker
Bridgeview Vineyards	Cave Junction, OR 97523	(541) 592-4688	Robert & Lelo Kerivan	Proprietors
Foris Vineyards Winery	Cave Junction, OR 97523	(800) 84-FORIS	Vinnie Coterie	Winemaker
Paschal Winery	Talent, Oregon 97540	(800) 446-6050	Roy or Jill Paschal	
The Academy	Grants Pass, OR 97527	(541) 846-6817	Barney	
Troon Vineyards	Grants Pass, Oregon 97527	(541) 846-9900	Chris Martin	Manager
Valley View Vineyard	Jacksonville, Oregon 97530	(541) 899-8468	Michael Wisnovsky	
Weisinger's of Ashland	Ashland, OR 97520	(541) 488-5989	John Weisinger	
Central Oregon				
Mountain View Winery	Bend, OR 97702	(541) 388-8339		
12 Ranch Wines	Bonanza Oregon, 97623	(541) 545-1204		
Maragas Wines	Bend, OR 97701	(541) 546-5464	Doug Maragas	Founder

2.0 Napa Wineries

NAPA WINERIES	ADDRESS	CITY	PHONE	CONTACT	CONTACT TITLE
Amici Cellars	P.O. Box 399	Rutherford, CA 94573	(707) 967-9560	Jeff Hansen	Winemaker
Amuse Bouche LLC	135 Camino Dorado Suite 8	Napa, California 94558	707-251-9300	Heidi Barrett	Winemaker
Anderson's Conn Valley Vineyards	680 Rossi Road	St. Helena, CA 94574	(707) 963-8600	Todd Anderson	Manager
Andretti Winery	4162 Big Ranch Road	Napa, CA 94558	(707) 259-6777	BOB PEPI	Winemaker
Anomaly Vineyards	PO Box 741	St. Helena, California 94574	(707) 967-8448	Mark Porembski	Winemaker
Anselmo Vigne	4270 Silverado Trail	Napa, CA 94558	(707) 226-3777	CRAIG MACLEAN	Winemaker
Araujo Estate Wines	2155 Pickett Road	Calistoga CA 94515	(707) 942-6061		
Ardenite Winery	2929 Atlas Peak Road	Napa, CA 94558	(707) 226 7669	Phillipe Melka	Winemaker
Arger-Martucci Vineyards	1455 Inglewood Avenue	St. Helena, CA 94574	707.963.4334	Kosta Arger	Winemaker
Arietta	P.O. Box 349	Oakville, CA 94562	707 963 5918	John Kongsgaard	Winemaker
Artesa Winery	1345 Henry Road	Napa, CA 94559	(707) 224-1668	Dave Dobson	Winemaker
Astrale e Terra	5017 SILVERADO TRAIL	NAPA, CALIFORNIA 94558	(707) 255-1134	Paul Johnson's	Proprietor
ATALON	3299 BENNETT LANE	CALISTOGA, CA 94515	1-800-224-4090	Jess Jackson	Owners
Atlas Peak	3700 Soda Canyon Road	Napa, CA 94558	(707) 252-7971	DARREN PROCSAL	Winemaker
Azalea Springs Vineyards	4301 Azalea Springs Way	Calistoga, CA 94515	(707) 942-4811		
Baldacci Family Vineyards	6236 Silverado Trail	Napa, CA 94558	(707) 944-9261	Rolando Herrera	Winemaker
Barlow Vineyards	4411 Silverado Trail	Calistoga, CA 94515	(707) 942-8742	Warren & Jeanne Smith	
Barnett Vineyards	4070 Spring Mountain Road	St. Helena, CA 94574	(707) 963-7075	Fiona and Hal Barnett	Owners
Beaucanon Estate	1006 Monticello Road	Napa, CA 94558	707-254-1460	Louis de Coninck	Winemaker
Beaulieu Vineyard	1960 St. Helena Highway	Rutherford, CA 94573	(707) 967-5200	Andre Tchelistcheff	Winemaker
Benessere	1010 Big Tree Road	St. Helena, CA 94574	707-963-5853	John and Ellen Benish	Owners
Bennett Lane	3340 Highway 128	Calistoga, CA 94515	(707) 942-6684	Rob Hunter	Winemaker
Beringer Vineyards	2000 Main Street	St. Helena, CA 94574	(707) 963-7115	Ed Sbragia	Winemaster
Bighorn Cellars	3105 Silverado Trail	Napa, CA 94558	(707) 226-8569	Dick Wollack	Owners
Blackbird Vineyards	5033 Big Ranch Road	Napa, CA 94558	(707) 252-4444	Michael Polenske	Proprietor
Bond			(707) 944-9445	H. William Harlan	Owner
Bouchaine Vineyards	1075 Buchli Station Road	Napa, CA 94559	(707) 252-9065	Tatiana Copeland	President
Bourassa Vineyards	190 Camino Oruga Suite H	Napa, CA 94558	(707) 254-4922	Vic Bourassa	Owner
Brandlin Vineyard	1221 Duhig Road	Napa, CA 94558	(707) 942-6266	Steve Rogstad	Winemaker
Bravante Vineyards	330 Stone Ridge Rd	Angwin, CA 94508	(559) 635-9159	George & Nancy	Owners
Bressler Vineyards			(707) 967-8748	Mia Klein	Winemaker
Broman Cellars	945 Deer Park Road	St. Helena, CA 94574	(707) 963-5451	Bob Broman	Winemaker
Brookdale Vineyards	4006 Silverado Trail	Napa, CA 94558	707.258.1454	Kristi Seitz	Owner
Brown Estate Vineyards	3233 Sage Canyon Road	St. Helena, CA 94574	(707) 963-2435	David F. Brown	Winemaker
Bryant Family Vineyard	1567 Sage Canyon Road	St. Helena, CA 94574	(707) 963-0483		
Buehler Vineyards	820 Greenfield Road	St. Helena, CA 94574	(707) 963-2155	John Buehler: x11	
Burgess Cellars	1108 Deer Park Road	St. Helena, CA 94574	(707) 963-4766	Bill Sorenson	Winemaker
Cafaro Cellars	2591 Pinot Way	St. Helena, CA 94574	(707) 963-7181	Joe Cafaro	Owner
Cain Vineyard & Winery	3800 Langtry Road	St. Helena, CA 94574	(707) 963-1616	Jim and Nancy Meadlock	Owners
Cakebread Cellars	8300 St. Helena Highway	Rutherford, CA 94558	(707) 963-5221	Jack Cakebread	Owner
Cardinale	7600 St. Helena Highway	Oakville, CA 94562	707-948-2643	Christopher Carpenter	Winemaker
Carter Cellars	1170 Tubbs Lane	Calistoga, CA 94515	707.444.8067		
Carver Sutro Wines	3106 Palisades Road	Calistoga, CA 94515	(707) 942-5153	Anne Carver and Denis Sutro	Owners
Casa Nuestra Winery & Vineyards	3451 Silverado Trail, North	St. Helena, CA 94574	(707) 963-5783	Allen Price	Winemaker
CE2V	7415 St. Helena Highway	Yountville, CA 94599	(707) 944-1220	Mitch Cosentino	Winemaker
Ceja Vineyards	1016 Las Amigas Road	Napa, CA 94559	(707) 255-3954	Armando Ceja	Winemaker
Chappellet Winery and Vineyard	1581 Sage Canyon Road	St. Helena, CA 94574	(707) 963-7136	Phillip Corallo - Titus	Winemaker
Chateau Boswell Winery	3468 Silverado Trail	St. Helena, CA 94574	(707) 963-5472	Joshua Peoples	Owner
Chateau Montelena Winery	1429 Tubbs Lane	Calistoga, CA 94515	(707) 942-5105	Bo Barrett	Winemaker
Chateau Potelle Winery	3875 Mount Veeder Road	Napa, CA 94558	(707) 255-9440	Terry Hall	Communications
Chimney Rock	5350 Silverado Trail	Napa, CA 94558	(707) 257-2641	Doug Fletcher	Winemaker
Clark-Claudon Vineyards	P.O. Box 15	St. Helena, California 94574	(707) 965-9393	Laurie Claudon & Tom Clark	Owners
Cliff Lede Vineyards	1473 Yountville Cross Road	Yountville, CA 94599	(707) 944-8642	Cliff Lede	Proprietor
Clos Du Val Wine Co., Ltd.	5330 Silverado Trail	Napa, CA 94558	(707) 261-5200	Bernard Portet	Co-Founder
Clos Pegase	1060 Dunaweal Lane	Calistoga, CA 94515	(707) 942-4981	Jan Shrem	Founder
Cloud View Vineyards	1677 Sage Canyon Road	St. Helena, CA 94574	(707) 963-2260	Linda & Leighton Taylor	Owners
Colgin Cellars	Post Office Box 254	Saint Helena, California 94574	707 963 0999	Ann Barry Colgin	Owner
Conn Creek Winery	8711 Silverado Trail	St. Helena, CA 94574	(707) 963-9100	Kari Leitch	Communications/PR
CONSTANT	2121 Diamond Mountain Rd.	Calistoga, CA 94515	(707) 942-0707	Fred Constant	Owner
Corison Winery	987 St. Helena Highway	St. Helena, CA 94574	(707) 963-0826	Cathy Corison	Winemaker
Cornerstone Cellars	P. O. Box 10767	Napa, CA 94581	(707) 363-6828	Michael Dragutsky	Owners
Cosentino Winery	7415 St. Helena Highway	Yountville, CA 94599	(707) 944-1220	Mitch Cosentino	Winemaker
Crauford Wine Company	P.O. Box 10463	Napa, California 94581	(707) 257-3040	Marilyn Crauford Anderson	Owner
Crocker & Starr Wines	1230 Spring Street	St. Helena, CA 94574	(707) 967-9111	Pam Starr	Winemaker
Cuvason Estate Wines	4550 Silverado Trail North	Calistoga, CA 94515	(707) 942-6266	Jay Schuppert	President
D.R. Stephens Estate	1860 Howell Mountain Road	St. Helena, CA 94574	(707) 963-2908	Celia Welch Masyczek	Winemaker
Dalla Valle Vineyards	Post Office Box 329	Oakville, California 94562	(707) 944-2676	Naoko & Gustav Dalla Valle	Founder/Proprietors

NAPA WINERIES	ADDRESS	CITY	PHONE	CONTACT	CONTACT TITLE
Darioush	4240 Silverado Trail	Napa, CA 94558	(707) 257-2345	Darioush Khaledi	Proprietor
David Arthur Vineyards	210 Long Ranch Road	St. Helena, CA 94574	(707) 963-5190	Dave and Bob Long	Owners
David Fulton Winery, LLC	825 Fulton Lane	St. Helena, CA 94574	(707) 967-0719	Allen Price	Winemaker
Del Dotto Vineyards	1055 Atlas Peak Road	Napa, CA 94558	(707) 963-2134	Dave Del Dotto	Owners
Diamond Creek Vineyards	1500 diamond mtn. rd.	Calistoga, ca 94515	(707) 942-6926	Al Brounstein	Founder
Diamond Terrace			(707) 942-1189	Joe Briggs	Winemaker
Dolce	1350 Acacia Drive	Oakville, CA 94558	(707) 944-8868	Greg Allen	Winemaker
Domaine Chandon	1 California Drive	Yountville, CA 94599	(707) 944-8844	Tom Tiburzi	Winemaker
Dominari	210 Camino Oruga	Napa, CA 94558	(707) 226-1600	Jurgen and Marie Schutz	Owners
Dominus Estate	2570 Napanook Road	Yountville, CA 94559	(707) 944-8954	Christian Moueix	Owner
Downing Family Vineyards	7830 St. Helena Highway	Oakville, CA 94558	(707) 237-3444	Randy Mason	Winemaker
Duckhorn Vineyards	1000 Lodi Lane	St. Helena, CA 94574	(888) 354-8885	Daniel Duckhorn	Co-Founder
Dutch Henry Winery	4310 Silverado Trail	Calistoga, CA 94515	(707) 942-5771	Less and Maggie Chafen	Owners
Dyer Vineyard	1501 Diamond Mountain Rd.	Calistoga, CA 94515	(707) 942-5502	Bill Dyer	Winemaker
Eagle & Rose Estate	3000 St. Helena Highway N.	St. Helena, CA 94574	(707) 965-9463	Norman Alumbaugh	Owners
Ehlers Estate	3222 Ehlers Lane	St. Helena, CA 94574	(707) 963-5972	Rudy Zuidema	Winemaker
Elkhorn Peak Cellars	200 Polson Road	Napa, CA 94558	(707) 255-0504	Ken Nerlove	Owner
Emilio's Terrace	P.O. Box 88	Oakville, CA 94562	(707) 944-2193	Joe Cafaro	Winemaker
Erba Mountainside Vineyards	1034 Loma Vista Drive	Napa, CA 94558	(707) 320-8722	Paul S Erba	Proprietor/Vintner
Etude	1250 Cuttings Wharf Road	Napa, CA 94559	(707) 257-5300	Tony Soter.	Founder
Fantasca Estate & Winery	2920 Spring Mountain Road	St. Helena, CA 94574	707.968.9229	Susan and Duane Hoff's	Proprietors
Far Niente	1350 Acacia Drive	Oakville, CA 94558	(707) 944-2861	Stephanie Putnam	Winemaker
Farella-Park Vineyards	2222 N. Third Avenue	Napa, CA 94558	(707) 254-9489	Tom Farella	Winemaker/Manager
Fleury Estate Winery	950 Galleron Road	Rutherford, CA 94573	(707) 967-8333	Brian Fleury	
Flora Springs Wine Company	677 South St. Helena Hwy	St. Helena, CA 94574	(707) 963-5711	John Komes & Julie Garvey	Winemakers
Flying Horse Winery	2825 St Helena Hwy, North	St. Helena, CA 94574	(707) 965-1600	Bryant Morris	Owner
Folie a Deux	7481 St. Helena Hwy	Oakville, CA 94562	(707) 963-3104		
Franciscan Oakville Estate	1178 Galleron Road	St. Helena, CA 94574	(707) 963-7111	Janet Myers	Director of Winemaking
Frank Family Vineyards	1091 Larkmead Lane	Calistoga, CA 94515	(310) 248-3970	Rich Frank	Owner
Frazier	70 Rapp Lane	Napa, CA 94558	(707) 255-3444	Bill Frazier	Owner
Freemark Abbey	3022 St Helena Hwy North	St. Helena, CA 94574	(707) 963-9694	Tim Bell	Winemaker
Frias Family Vineyard	3125 North St. Helena Hwy	St. Helena, CA 94574	(415) 566-2419	Manuel and Maria Frias	owners
Frog's Leap	8815 Conn Creek Road	Rutherford, CA 94558	(707) 963-4704	John Williams	Winemaker
Gargiulo Vineyards	575 Oakville Crossroad	Oakville, CA 94562	(707) 944-2770	Laurie Wood	Manager
Gemstone	Post Office Box 3688	Yountville, California 94599-3688	(707) 944-0944	Suzie and Paul Frank	Owners
Girard Winery	1551 Sage Canyon Road	St. Helena, CA 94558	(707) 968-9297	Marco DiGiulio	Winemaker
Grgich Hills Cellar	1829 St. Helena Highway	Rutherford, CA 94573	(800) 532-3057	Miljenko "Mike" Grgich	President & CEO
Groth Vineyards & Winery	750 Oakville Cross Road	Oakville, CA 94558	(707) 944-0290	Michael Weis	Winemaker
GustavoThrace Winery	1146 First St.	Napa, CA 94559	(707) 257-6796	Gustavo Brambila	Founders
Hall	401 St. Helena Hwy South	St. Helena, CA 94574	(707) 967-2626	Craig and Kathryn Hall	Owners
Hartwell Vineyards	5795 Silverado Trail	Napa, CA 94558	(707) 255-4269	Benoit Touquette	Winemaker
HDV	588 Trancas Street	Napa, CA 94558	(707) 251-9121	Aubert de Villaine	Director
Heitz Wine Cellars	436 St. Helena Hwy South	St. Helena, CA 94574	(707) 963-3542	David Heitz	Manager
Helena View Johnston Vineyards	3500 Highway 128	Calistoga, CA 94515	(707) 942-4956	Charles Johnston	Winemaker/Proprietor
Hendry	3104 Redwood Rd	Napa, CA 94558	(707) 226-8320	George Hendry	Owner
Hess Collection Winery, The	4411 Redwood Road	Napa, CA 94558	(707) 255-1144	Tom Selfridge	President
Hill Family Estate	7 Talent Lane	Yountville, CA 94599	(707) 738-1144	Doug Hill	Owner
Honig Vineyard & Winery	850 Rutherford Road	Rutherford, CA 94573	(707) 963-5618	Michael Honig	Owner
Hoopes Family Vineyard & Winery	1380 Yount Mill Road	Napa, CA 94558	(707) 944-1869		
Howell Mountain Vineyards	P.O. Box 693	Rutherford, CA 94573	(707) 967-9676	Peter Chow	Proprietor
Hundred Acre	P. O. Box 380	Rutherford, CA 94573	(707) 967-9398		
Husic Vineyards	189 Ridge Drive	Napa Valley, CA 94558	707.812.4909	Julie and Frank Husic	
Ilseley Vineyards	6275 Silverado Trail	Napa, CA 94558	(707) 944-1621	Ernie, Janice, David Ilseley	
IM	550 Gateway Dr. #220	Napa, CA 94558	(707) 256-2707	Rob Mondavi	Winemaker
J. Davies Vineyards	1400 Schramsberg Road	Calistoga, CA 94515	(707) 942-8354	Joe Agostine	Sales & Marketing
JAX Vineyards	3468 Highway 128	Calistoga, CA 94515	(415)341-5225	Kirk Venge	Winemaker
Jessup Cellars	6740 Washington Street	Yountville, CA 94599	(707) 944-5620	Brandi Jocelyn Pack	Owner
Joel Gott Wines	945 Main Street	St. Helena, CA 94574	(707) 963-3365		
John Anthony Vineyards	3230 Old Sonoma Road	Napa, California 94559	(707) 265-7711	Michele Truchard	
Jones Family Vineyards			(707) 942-0467	Sally and Rick Jones	Owners
Joseph Phelps Vineyards	200 Taplin Road	St. Helena, CA 94574	(707) 963-2745	Bill Phelps	Chairman of the Board
JP Harbison	7601 Silverado Trail	Napa, CA 94558	(916) 422-1972		
Judd's Hill	2332 Silverado Trail	Napa, CA 94574	(866)get-judd	Art Finkelst	Winemaker
Juslyn Vineyards	2900 Spring Mountain Road	St. Helena, CA 94574	(707) 265-1804	Stephanie DeMasi	General Manager
Robert Keenan Winery	3660 Spring Mountain Road	St. Helena, CA 94574	(707) 963-9177	Robert Keenan	
Keever Vineyards	26 Vineyard View Drive	Yountville, CA 94599	(707) 944-0910	Celia Welch Masyczek	Winemaker
Kelham Vineyards & Winery	360 Zinfandel Lane	St. Helena, CA 94574	(707) 963-2000	Hamilton & Ron Nicholasen	Winemakers
Kongsgaard	4050 Spring Mountain Road	St. Helena, CA 94574	(707) 963-1391	John & Maggy Kongsgaard	Owners
Krupp Brothers Estates	5055 Solano Avenue	Napa, CA 94558	(707) 226-2215	JOSHUA KRUPP	Winemaker
Kuleto Estate	2470 Sage Canyon Road	St. Helena, CA 94574	(707) 963-9750	Dave Latin	Winemaker
La Jota Vineyard Co.	1102 Las Posados Road	Angwin, CA 94508	(707) 944-2807		
La Tour Vineyards	1160 Oak Knoll Avenue	Napa, CA 94558	(415) 398-6242	Tom & Barbara Latour	Owners
Ladera Vineyards	150 White Cottage Road So.	Angwin, CA 94508	(707) 965-2445	Pat & Anne Stotesbery	Proprietors
Lail Vineyards	320 Stoneridge Road	Angwin, CA 94508	(707) 968-9900	Erin Lail	General Manager
Laird Family Estate	5055 Solano Avenue	Napa, CA 94558	(707) 257-0360	Rebecca Laird	General Manager
Lang & Reed Wine Company	Post Office Box 662	St. Helena, CA 94574	707-963-7547	John Skupny	Owner
Larkmead Vineyards	1100 Larkmead Lane	Calistoga, CA 94515	(707) 942-0167	Andy Smith	Winemaker
Levendí Estates Winery	4225 Solano Avenue, Ste 633	Napa, CA 94558	(877) 538-3634	Alison Doran	Winemaker
Lewis Cellars	4101 Big Ranch Road	Napa, CA 94558	(707) 255-3400	Debbie and Randy L	Owners
Livingston-Moffett Winery	340 West Ln	Angwin, CA 94508	(707) 965-3694	John Livingston	Vineyards
Lokoya	7600 St. Helena Highway	Oakville, CA 94562	(707) 944-2647	Christopher Carpenter	Winemaker
Long Meadow Ranch	1775 Whitehall Lane	St. Helena, CA 94574	(707) 963-4555	Ashley Heisey,	Winemaker
Longfellow Wine Company	910 Enterprise Way, Suite M	Napa, CA 94558	(888) 533-5569	Rolando Herrera	Winemaker
Louis M. Martini Winery	254 South St. Helena Highway	St. Helena, CA 94574	(707) 963-2736	Michael Martini	Winemaker
Luna Vineyards	2921 Silverado Trail	Napa, CA 94558	(707) 255-5862	Mary Ann Tsai	President
Lynch Vineyards	1040 Main Street, Suite 103	Napa, CA 94558	(707) 255-7094	Dan Lynch	Owner
Madonna Estate	5400 Old Sonoma Road	Napa, CA 94559	(707) 255-8864	Andrea Bartolucci	Winemaker
Markham Vineyards	2812 St. Helena Hwy North	St. Helena, CA 94574	(707) 963-5292	Bryan Del Bondio	President

Sources

USDA National Statistics Service 2008 Grape Release

[http://www.nass.usda.gov/Statistics by State/Washington/Publications/Fruit/grape08.pdf](http://www.nass.usda.gov/Statistics_by_State/Washington/Publications/Fruit/grape08.pdf)

2008 Economic Impact Study of Washington Grapes and Wine – MKF Research courtesy of the Washington Wine Commission (www.washingtonwine.org)

The Wine Institute (<http://www.wineinstitute.org/>)

The 2006 Washington Wine Production Survey.

[http://www.wawgg.org/files/documents/Prelim Winery Survy 2007.pdf](http://www.wawgg.org/files/documents/Prelim_Winery_Survey_2007.pdf)

Economic Outlook for Washington Grapes, Raymond J. Folwell

Historical look at the wine and concord industries, tables, graphs, and assessments

<http://www.grapesociety.org/pdf/Economic%20Outlook%20For%20Wa%20Grapes.pdf>

Kennewick-Richland-Pasco MSA (Benton and Franklin Counties) Labor Area Summary,

<http://www.workforceexplorer.com/article.asp?PAGEID=&SUBID=&ARTICLEID=6462&SEGMENTID=1>

Published Worksheets for Projecting Vineyard and Winery Costs

http://www.michiganwines.com/industry_support/gfx/CostProjectionWorksheets.pdf

2006 Wine Industry Salary Report.

<http://www.winebusiness.com/ReferenceLibrary/webarticle.cfm?dataId=45483>

Washington State Liquor Control Board (WaLCB) – Location of licensing information for wineries in the State of Washington.

Appendix 1

Companies serving the wine industry in the Napa Valley (Hyperlinked)

Capsules

[Varad Hasta](#)

[Lafitte Cork & Capsule](#)

[Ramondin](#)

Consultants

[Enologix](#)

jennifer@herblambvineyard.com

[Maher & Associates](#)

[Malbec & Malbec USA LLC](#)

[Motto Kryla & Fisher LLP](#)

[Tincknell & Tincknell](#)

info@marketingwine.com

Cooperages/Oak Products

[Barrel Associates Intl](#)

[Barrel Builders](#)

[The Barrell Mill](#)

[Barrel Shop, The \(used\)](#)

[Bouchard Cooperages](#)

[Demptos Napa Cooperage](#)

[Seguin Moreau](#)

[StaVin](#)

[Tonnellerie Radoux](#)

[Trust International](#)

Corks

[Cork Supply USA](#)

[Juvenal Direct](#)

[Lafitte Cork & Capsule](#)

[Neocork](#)

[Portocork](#)

[SupremeCorq](#)

Equipment

[Central Valley Builders and Irrigation Supply](#)

[Compleat Winemaker, The](#)

[Jim's Supply - Trellising](#)

[Lampson Tractor](#)

[McClain Ozone - Water Treatment, Sanitation](#)

[Napa County Farm Supply/Napa Valley Farm Supply](#)

[Napa Wine Racks](#)

[Narvco Enterprises - Equipment Appraisal](#)

[Orchard-Rite Wind Machines](#)

Rainbow Agricultural Services
R & S Supply - Piping
Treessentials Grow Tubes
Vintners Supply

GIS

Parks Vineyard and Trellising Systems
Terra Spase
Vestra

Glass Bottles

Caliber WinePak
California Glass Company
Demptos Glass
Saverglass

Glass Etching

Etched Images

Heating/Cooling

Earth Energy Systems - Geothermal

IPM/Sustainable Ag

Appropriate Technical Transfer for Rural Areas (ATTRA)
California Certified Organic Farmers
IPMnet - Consortium for International Crop Protection
Napa Sustainable Winegrowing Group
National IPM Network
Sustainable Agriculture Research and Education Program - UC Davis
UC Pest Management Guidelines

Labels/Packaging Design

Casey Coyle
CF Napa
designTHIS!, LLC
Mission Designs
Grapevine Graphics (GVG)

Laboratories

A&L Western Laboratories
Agri Analysis
Caltest Analytical Laboratory
Dellavalle Laboratory
Enologix
ETS Laboratories
Vinquiry
Wine Lab, The

Marketing

Barclay and Company

Grapes
Allied Grape Growers
Internet
Benson Marketing
Marketing/Importing
Wilson Daniels

Packaging

Napa Wooden Box
LeBlanc Design - Wine label and package design

Printers

Collotype Labels
Tapp Technologies

Storage

Napa Wine Lockers
Napa Valley Wine Storage
Valley Wine Warehouse
55 DEGREES

Appendix 2-1

Analysis of Net Present Value Cash Flow for Port Incubator

Table 1 – Net Present Value Cash Flow for Port Incubator with \$225,000 Subsidy

Infl. Rate Infl. Factor Year	1.022	1.044484	1.067462648	1.090946826	1.114947656	1.139476505	1.164544988	1.190164978	1.216348607	1.243108277	1.270456659	1.298406705	1.326971653	1.356165029	1.38600066	1.416492674	1.447655513	1.479503934	1.512053021	1.545318187	
	0.978473581	0.957410549	0.936800929	0.91663496	0.896903092	0.87759598	0.858704481	0.840219649	0.822132729	0.804435156	0.787118548	0.770174704	0.753595601	0.737373386	0.721500378	0.705969059	0.690772073	0.675902224	0.66135247	0.64711592	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue	\$ 52,735.20	\$120,324.56	\$122,971.70	\$125,677.07	\$128,441.97	\$131,267.69	\$134,155.58	\$137,107.01	\$140,123.36	\$143,206.07	\$146,356.61	\$149,576.45	\$152,867.13	\$156,230.21	\$159,667.28	\$163,179.96	\$166,769.92	\$170,438.85	\$174,188.51	\$178,020.66	
-Operating Costs	(\$16,311.12)	(\$33,339.93)	(\$34,073.41)	(\$34,823.02)	(\$35,589.13)	(\$36,372.09)	(\$37,172.28)	(\$37,990.07)	(\$38,825.85)	(\$39,680.02)	(\$40,552.98)	(\$41,445.14)	(\$42,356.94)	(\$43,288.79)	(\$44,241.14)	(\$45,214.45)	(\$46,209.16)	(\$47,225.77)	(\$48,264.73)	(\$49,326.56)	
-Property Management	\$ 5,273.52	\$ 12,032.46	\$ 12,297.17	\$ 12,567.71	\$ 12,844.20	\$ 13,126.77	\$ 13,415.56	\$ 13,710.70	\$ 14,012.34	\$ 14,320.61	\$ 14,635.66	\$ 14,957.65	\$ 15,286.71	\$ 15,623.02	\$ 15,966.73	\$ 16,318.00	\$ 16,676.99	\$ 17,043.89	\$ 17,418.85	\$ 17,802.07	
-Power	\$5,886.72	\$12,032.46	\$12,297.17	\$12,567.71	\$12,844.20	\$13,126.77	\$13,415.56	\$13,710.70	\$14,012.34	\$14,320.61	\$14,635.66	\$14,957.65	\$15,286.71	\$15,623.02	\$15,966.73	\$16,318.00	\$16,676.99	\$17,043.89	\$17,418.85	\$17,802.07	
-Water/Sewer	\$3,924.48	\$8,021.64	\$8,198.11	\$8,378.47	\$8,562.80	\$8,751.18	\$8,943.71	\$9,140.47	\$9,341.56	\$9,547.07	\$9,757.11	\$9,971.76	\$10,191.14	\$10,415.35	\$10,644.49	\$10,878.66	\$11,117.99	\$11,362.59	\$11,612.57	\$11,868.04	
-Marketing	\$1,226.40	\$1,253.38	\$1,280.96	\$1,309.14	\$1,337.94	\$1,367.37	\$1,397.45	\$1,428.20	\$1,459.62	\$1,491.73	\$1,524.55	\$1,558.09	\$1,592.37	\$1,627.40	\$1,663.20	\$1,699.79	\$1,737.19	\$1,775.40	\$1,814.46	\$1,854.38	
-Interest	(\$59,100.60)	(\$57,578.38)	(\$55,957.22)	(\$54,230.68)	(\$52,391.92)	(\$50,433.63)	(\$48,348.06)	(\$46,126.93)	(\$43,761.42)	(\$41,242.16)	(\$38,559.14)	(\$35,701.73)	(\$32,658.58)	(\$29,417.63)	(\$25,966.02)	(\$22,290.06)	(\$18,375.15)	(\$14,205.78)	(\$9,765.40)	(\$5,036.39)	
Net Income	\$0.00	(\$22,676.52)	\$29,406.25	\$32,941.07	\$36,623.37	\$40,460.92	\$44,461.97	\$48,635.24	\$52,990.01	\$57,536.09	\$62,283.90	\$67,244.49	\$72,429.58	\$77,851.62	\$83,523.79	\$89,460.11	\$95,675.45	\$102,185.60	\$109,007.31	\$116,158.38	\$123,657.71
-Capital Costs	(\$174,240)	(\$960,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-Improvement Costs	\$174,240																				
-Building Construction		\$960,000																			
-Loan Principal	\$909,240	(\$23,419)	(\$24,941)	(\$26,562)	(\$28,289)	(\$30,127)	(\$32,086)	(\$34,171)	(\$36,392)	(\$38,758)	(\$41,277)	(\$43,960)	(\$46,818)	(\$49,861)	(\$53,102)	(\$56,553)	(\$60,229)	(\$64,144)	(\$68,314)	(\$72,754)	(\$77,483)
-New Loan Principal		\$885,821	\$860,880	\$834,318	\$806,030	\$775,902	\$743,816	\$709,645	\$673,253	\$634,495	\$593,218	\$549,257	\$502,440	\$452,579	\$399,477	\$342,924	\$282,695	\$218,550	\$150,237	\$77,483	(\$0)
+Subsidy	\$225,000																				
Cash Flow	\$960,000.00	(\$1,006,095.26)	\$4,465.28	\$6,378.94	\$8,334.71	\$10,333.50	\$12,376.26	\$14,463.96	\$16,597.59	\$18,778.17	\$21,006.71	\$23,284.29	\$25,611.97	\$27,990.85	\$30,422.08	\$32,906.79	\$35,446.16	\$38,041.41	\$40,693.74	\$43,404.43	\$46,174.75
DCF	\$960,000.00	(\$984,437.64)	\$4,275.11	\$5,975.80	\$7,639.88	\$9,268.14	\$10,861.35	\$12,420.27	\$13,945.62	\$15,438.15	\$16,898.54	\$18,327.49	\$19,725.69	\$21,093.78	\$22,432.43	\$23,742.26	\$25,023.90	\$26,277.94	\$27,504.99	\$28,705.63	\$29,880.42
Cumulative DCF	\$960,000.00	(\$24,437.64)	(\$20,162.53)	(\$14,186.73)	(\$6,546.84)	\$2,721.30	\$13,582.66	\$26,002.92	\$39,948.55	\$55,386.69	\$72,285.23	\$90,612.73	\$110,338.41	\$131,432.20	\$153,864.63	\$177,606.89	\$202,630.79	\$228,908.73	\$256,413.72	\$285,119.35	\$314,999.76
Building size (SF)	8000																				
Lot Size (SF)	21780																				
Improvement Cost (per SF)	\$8																				
Building cost (per SF)	\$120																				
Marketing Costs (annual)	\$1,200																				
Interest Rate on Borrowed Capital	6.50%																				
Discount Rate	2.20%																				
Base tenant rate (per month)	\$1,200																				
Property Management Rate	10%																				
Power Rate (per SF)	\$0.12																				
Water/Sewer Rate (per SF)	0.08																				
Subsidy Control	1																				
Subsidy Scenario	1	2	3																		
Subsidy Value from CTED	\$225,000	\$100,000	\$0																		
NPV	\$314,999.76	\$133,031.09	(\$12,543.85)																		

Table 2 – Net Present Value Cash Flow for Port Incubator with \$100,000 subsidy

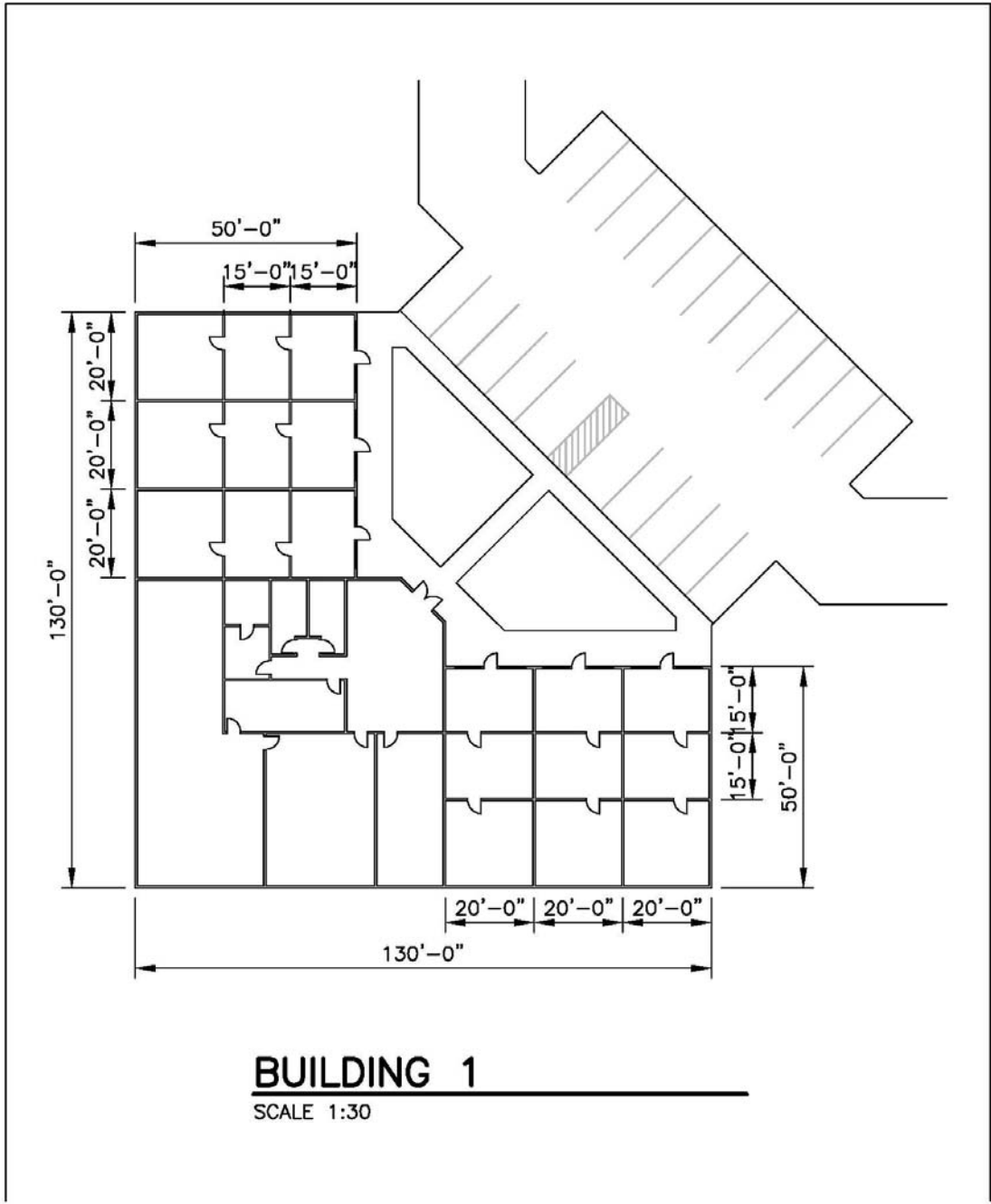
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue	\$ 52,735.20	\$120,324.56	\$122,971.70	\$125,677.07	\$128,441.97	\$131,267.69	\$134,155.58	\$137,107.01	\$140,123.36	\$143,206.07	\$146,356.61	\$149,576.45	\$152,867.13	\$156,230.21	\$159,667.28	\$163,179.96	\$166,769.92	\$170,438.85	\$174,188.51	\$178,020.66	
-Operating Costs	(\$16,311.12)	(\$33,339.93)	(\$34,073.41)	(\$34,823.02)	(\$35,589.13)	(\$36,372.09)	(\$37,172.28)	(\$37,990.07)	(\$38,825.85)	(\$39,680.02)	(\$40,552.98)	(\$41,445.14)	(\$42,356.94)	(\$43,288.79)	(\$44,241.14)	(\$45,214.45)	(\$46,209.16)	(\$47,225.77)	(\$48,264.73)	(\$49,326.56)	
-Property Management	\$ 5,273.52	\$ 12,032.46	\$ 12,297.17	\$ 12,567.71	\$ 12,844.20	\$ 13,126.77	\$ 13,415.56	\$ 13,710.70	\$ 14,012.34	\$ 14,320.61	\$ 14,635.66	\$ 14,957.65	\$ 15,286.71	\$ 15,623.02	\$ 15,966.73	\$ 16,318.00	\$ 16,676.99	\$ 17,043.89	\$ 17,418.85	\$ 17,802.07	
-Power	\$5,886.72	\$12,032.46	\$12,297.17	\$12,567.71	\$12,844.20	\$13,126.77	\$13,415.56	\$13,710.70	\$14,012.34	\$14,320.61	\$14,635.66	\$14,957.65	\$15,286.71	\$15,623.02	\$15,966.73	\$16,318.00	\$16,676.99	\$17,043.89	\$17,418.85	\$17,802.07	
-Water/Sewer	\$3,924.48	\$8,021.64	\$8,198.11	\$8,378.47	\$8,562.80	\$8,751.18	\$8,943.71	\$9,140.47	\$9,341.56	\$9,547.07	\$9,757.11	\$9,971.76	\$10,191.14	\$10,415.35	\$10,644.49	\$10,878.66	\$11,117.99	\$11,362.59	\$11,612.57	\$11,868.04	
-Marketing	\$1,226.40	\$1,253.38	\$1,280.96	\$1,309.14	\$1,337.94	\$1,367.37	\$1,397.45	\$1,428.20	\$1,459.62	\$1,491.73	\$1,524.55	\$1,558.09	\$1,592.37	\$1,627.40	\$1,663.20	\$1,699.79	\$1,737.19	\$1,775.40	\$1,814.46	\$1,854.38	
-Interest	(\$67,225.60)	(\$65,494.11)	(\$63,650.07)	(\$61,686.18)	(\$59,594.63)	(\$57,367.12)	(\$54,994.83)	(\$52,468.34)	(\$49,777.63)	(\$46,912.03)	(\$43,860.15)	(\$40,609.91)	(\$37,148.40)	(\$33,461.89)	(\$29,535.77)	(\$25,354.44)	(\$20,901.32)	(\$16,158.75)	(\$11,107.92)	(\$5,728.78)	
Net Income	\$0.00	(\$30,801.52)	\$21,490.52	\$25,248.21	\$29,167.88	\$33,258.22	\$37,528.48	\$41,988.47	\$46,648.60	\$51,519.88	\$56,614.03	\$61,943.48	\$67,521.40	\$73,361.80	\$79,479.53	\$85,890.37	\$92,611.07	\$99,659.43	\$107,054.33	\$114,815.85	\$122,965.32
-Capital Costs	(\$174,240)	(\$960,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-Improvement Costs	\$174,240																				
-Building Construction		\$960,000																			
-Loan Principal	\$1,034,240	(\$26,638)	(\$28,370)	(\$30,214)	(\$32,178)	(\$34,269)	(\$36,497)	(\$38,869)	(\$41,396)	(\$44,086)	(\$46,952)	(\$50,004)	(\$53,254)	(\$56,715)	(\$60,402)	(\$64,328)	(\$68,509)	(\$72,963)	(\$77,705)	(\$82,756)	(\$88,135)
-New Loan Principal	\$1,007,602	\$979,232	\$949,018	\$916,840	\$882,571	\$846,074	\$807,205	\$765,810	\$721,723	\$674,772	\$624,768	\$571,514	\$514,798	\$454,396	\$390,068	\$321,559	\$248,596	\$170,891	\$88,135	(\$0)	
+Subsidy	\$100,000																				
Cash Flow	\$960,000.00	(\$1,017,439.81)	(\$6,879.27)	(\$4,965.61)	(\$3,009.84)	(\$1,011.05)	\$1,031.71	\$3,119.41	\$5,253.05	\$7,433.62	\$9,662.16	\$11,939.74	\$14,267.42	\$16,646.30	\$19,077.53	\$21,562.24	\$24,101.62	\$26,696.86	\$29,349.19	\$32,059.88	\$34,830.20
DCF	\$960,000.00	(\$995,537.98)	(\$6,586.28)	(\$4,651.78)	(\$2,758.93)	(\$906.82)	\$905.42	\$2,678.65	\$4,413.71	\$6,111.42	\$7,772.58	\$9,397.99	\$10,988.40	\$12,544.58	\$14,067.26	\$15,557.16	\$17,014.99	\$18,441.44	\$19,837.19	\$21,202.88	\$22,539.18
Cumulative DCF	\$960,000.00	(\$35,537.98)	(\$42,124.26)	(\$46,776.04)	(\$49,534.97)	(\$50,441.79)	(\$49,536.37)	(\$46,857.71)	(\$42,444.00)	(\$36,332.58)	(\$28,560.00)	(\$19,162.01)	(\$8,173.61)	\$4,370.98	\$18,438.24	\$33,995.40	\$51,010.40	\$69,451.84	\$89,289.03	\$110,491.91	\$133,031.09
Building size (SF)	8000																				
Lot Size (SF)	21780																				
Improvement Cost (per SF)	\$8																				
Building cost (per SF)	\$120																				
Marketing Costs (annual)	\$1,200																				
Interest Rate on Borrowed Capital	6.50%																				
Discount Rate	2.20%																				
Base tenant rate (per month)	\$1,200																				
Property Management Rate	10%																				
Power Rate (per SF)	\$0.12																				
Water/Sewer Rate (per SF)	0.08																				
Subsidy Control		2																			
Subsidy Scenario		1	2	3																	
Subsidy Value from CTED	\$225,000	\$100,000	\$0																		
NPV	\$314,999.76	\$133,031.09	(\$12,543.85)																		

Table 3 – Net Present Value Cash Flow for Port Incubator with no subsidy

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue	\$ 52,735.20	\$120,324.56	\$122,971.70	\$125,677.07	\$128,441.97	\$131,267.69	\$134,155.58	\$137,107.01	\$140,123.36	\$143,206.07	\$146,356.61	\$149,576.45	\$152,867.13	\$156,230.21	\$159,667.28	\$163,179.96	\$166,769.92	\$170,438.85	\$174,188.51	\$178,020.66	
-Operating Costs	(\$16,311.12)	(\$33,339.93)	(\$34,073.41)	(\$34,823.02)	(\$35,589.13)	(\$36,372.09)	(\$37,172.28)	(\$37,990.07)	(\$38,825.85)	(\$39,680.02)	(\$40,552.98)	(\$41,445.14)	(\$42,356.94)	(\$43,288.79)	(\$44,241.14)	(\$45,214.45)	(\$46,209.16)	(\$47,225.77)	(\$48,264.73)	(\$49,326.56)	
-Property Management	\$ 5,273.52	\$ 12,032.46	\$ 12,297.17	\$ 12,567.71	\$ 12,844.20	\$ 13,126.77	\$ 13,415.56	\$ 13,710.70	\$ 14,012.34	\$ 14,320.61	\$ 14,635.66	\$ 14,957.65	\$ 15,286.71	\$ 15,623.02	\$ 15,966.73	\$ 16,318.00	\$ 16,676.99	\$ 17,043.89	\$ 17,418.85	\$ 17,802.07	
-Power	\$5,886.72	\$12,032.46	\$12,297.17	\$12,567.71	\$12,844.20	\$13,126.77	\$13,415.56	\$13,710.70	\$14,012.34	\$14,320.61	\$14,635.66	\$14,957.65	\$15,286.71	\$15,623.02	\$15,966.73	\$16,318.00	\$16,676.99	\$17,043.89	\$17,418.85	\$17,802.07	
-Water/Sewer	\$3,924.48	\$8,021.64	\$8,198.11	\$8,378.47	\$8,562.80	\$8,751.18	\$8,943.71	\$9,140.47	\$9,341.56	\$9,547.07	\$9,757.11	\$9,971.76	\$10,191.14	\$10,415.35	\$10,644.49	\$10,878.66	\$11,117.99	\$11,362.59	\$11,612.57	\$11,868.04	
-Marketing	\$1,226.40	\$1,253.38	\$1,280.96	\$1,309.14	\$1,337.94	\$1,367.37	\$1,397.45	\$1,428.20	\$1,459.62	\$1,491.73	\$1,524.55	\$1,558.09	\$1,592.37	\$1,627.40	\$1,663.20	\$1,699.79	\$1,737.19	\$1,775.40	\$1,814.46	\$1,854.38	
-Interest	(\$73,725.60)	(\$71,826.69)	(\$69,804.36)	(\$67,650.57)	(\$65,356.79)	(\$62,913.91)	(\$60,312.25)	(\$57,541.47)	(\$54,590.60)	(\$51,447.92)	(\$48,100.96)	(\$44,536.46)	(\$40,740.26)	(\$36,697.30)	(\$32,391.56)	(\$27,805.94)	(\$22,922.26)	(\$17,721.13)	(\$12,181.94)	(\$6,282.69)	
Net Income	\$0.00	(\$37,301.52)	\$15,157.93	\$19,093.93	\$23,203.48	\$27,496.05	\$31,981.69	\$36,671.06	\$41,575.47	\$46,706.91	\$52,078.14	\$57,702.67	\$63,594.85	\$69,769.94	\$76,244.12	\$83,034.58	\$90,159.57	\$97,638.49	\$105,491.95	\$113,741.84	\$122,411.40
-Capital Costs	(\$174,240)	(\$960,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-Improvement Costs	\$174,240																				
-Building Construction		\$960,000																			
-Loan Principal	\$1,134,240	(\$29,214)	(\$31,113)	(\$33,135)	(\$35,289)	(\$37,583)	(\$40,026)	(\$42,627)	(\$45,398)	(\$48,349)	(\$51,492)	(\$54,839)	(\$58,403)	(\$62,199)	(\$66,242)	(\$70,548)	(\$75,134)	(\$80,017)	(\$85,218)	(\$90,758)	(\$96,657)
-New Loan Principal		\$1,105,026	\$1,073,913	\$1,040,778	\$1,005,489	\$967,906	\$927,881	\$885,253	\$839,855	\$791,506	\$740,015	\$685,176	\$626,773	\$564,574	\$498,332	\$427,784	\$352,650	\$272,633	\$187,414	\$96,657	(\$0)
+Subsidy	\$0																				
Cash Flow	\$960,000.00	(\$1,026,515.45)	(\$15,954.91)	(\$14,041.24)	(\$12,085.48)	(\$10,086.69)	(\$8,043.93)	(\$5,956.23)	(\$3,822.59)	(\$1,642.02)	\$586.52	\$2,864.10	\$5,191.78	\$7,570.67	\$10,001.89	\$12,486.60	\$15,025.98	\$17,621.22	\$20,273.55	\$22,984.24	\$25,754.56
DCF	\$960,000.00	(\$1,004,418.25)	(\$15,275.40)	(\$13,153.85)	(\$11,077.98)	(\$9,046.79)	(\$7,059.32)	(\$5,114.64)	(\$3,211.82)	(\$1,349.96)	\$471.82	\$2,254.38	\$3,998.57	\$5,705.22	\$7,375.13	\$9,009.09	\$10,607.87	\$12,172.24	\$13,702.94	\$15,200.69	\$16,666.19
Cumulative DCF	\$960,000.00	(\$44,418.25)	(\$59,693.65)	(\$72,847.50)	(\$83,925.47)	(\$92,972.26)	(\$100,031.58)	(\$105,146.22)	(\$108,358.04)	(\$109,708.00)	(\$109,236.18)	(\$106,981.80)	(\$102,983.22)	(\$97,278.00)	(\$89,902.87)	(\$80,893.79)	(\$70,285.91)	(\$58,113.67)	(\$44,410.73)	(\$29,210.04)	(\$12,543.85)
Building size (SF)	8000																				
Lot Size (SF)	21780																				
Improvement Cost (per SF)	\$8																				
Building cost (per SF)	\$120																				
Marketing Costs (annual)	\$1,200																				
Interest Rate on Borrowed Capital	6.50%																				
Discount Rate	2.20%																				
Base tenant rate (per month)	\$1,200																				
Property Management Rate	10%																				
Power Rate (per SF)	\$0.12																				
Water/Sewer Rate (per SF)	0.08																				
Subsidy Control																					
Subsidy Scenario		1	2	3																	
Subsidy Value from CTED	\$225,000	\$100,000	\$0																		
NPV	\$314,999.76	\$133,031.09	(\$12,543.85)																		

Appendix 2-2

Building Diagrams



BUILDING 1

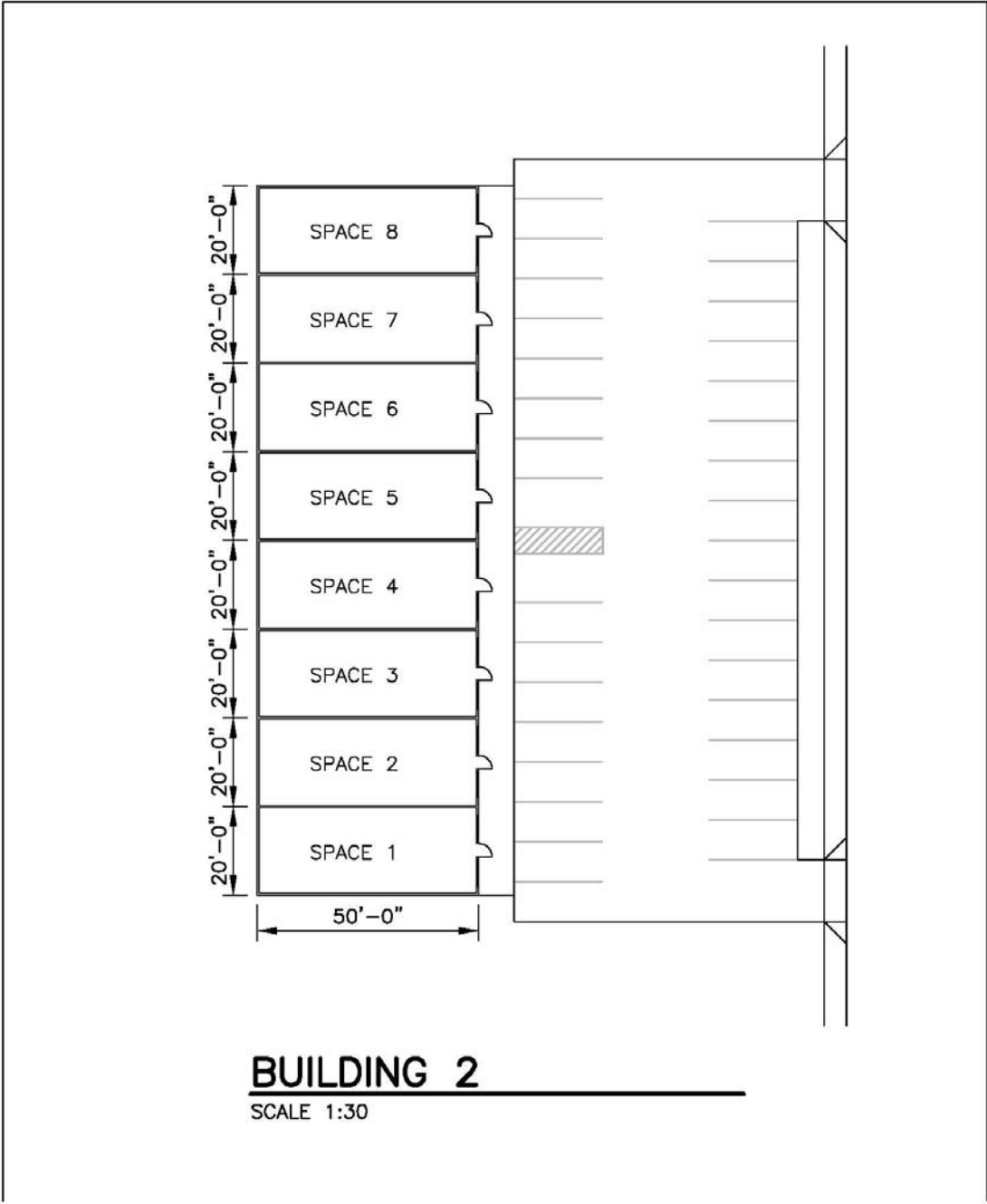
SCALE 1:30



**PORT OF KENNEWICK
WINE INCUBATION STUDY**

BUILDING 1

DATE	APRIL 2008
FIGURE	1



**PORT OF KENNEWICK
WINE INCUBATION STUDY**

BUILDING 2

DATE	APRIL 2008
FIGURE	2

Appendix 3

Economic Impact Analysis

Economic Impact Multipliers (per \$1 million in expenditures)												
Revenue Group	Employment				Value Added				Economic Output			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
\$0-\$2.5 million	3.224	3.224	3.224	9.671	\$0.194	\$0.153	\$0.162	\$0.509	\$0.890	\$0.261	\$0.241	\$1.392
\$2.5-\$5 million	3.184	3.184	3.184	9.551	\$0.194	\$0.153	\$0.162	\$0.509	\$0.890	\$0.261	\$0.241	\$1.392
\$5-\$10 million	3.190	3.180	3.190	9.560	\$0.194	\$0.153	\$0.162	\$0.509	\$0.890	\$0.261	\$0.241	\$1.392
\$10-\$50 million	3.187	3.180	3.187	9.555	\$0.194	\$0.153	\$0.162	\$0.509	\$0.890	\$0.261	\$0.241	\$1.392
\$50-\$500 million	3.186	3.180	3.186	9.551	\$0.194	\$0.153	\$0.162	\$0.509	\$0.890	\$0.261	\$0.241	\$1.392

Economic and Job Creation/Retention Impacts from IMPLAN Model Run

Economic Impact Expenditure Allocation Matrix

Base	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Cycle 1	1	\$ 1,800,000	\$ 2,160,000	\$ 2,592,000	\$ 3,628,800	\$ 5,443,200	\$ 6,804,000	\$ 7,484,400	\$ 8,232,840	\$ 9,056,124	\$ 9,961,736	\$ 10,659,058	\$ 11,405,192	\$ 12,203,555	\$ 13,057,804	\$ 13,971,851	\$ 14,670,443	\$ 15,403,965	\$ 16,174,164	\$ 16,982,872	\$ 17,832,015	
	2	\$ 750,000	\$ 1,200,000	\$ 1,680,000	\$ 2,352,000	\$ 3,292,800	\$ 3,622,080	\$ 3,984,288	\$ 4,382,717	\$ 4,820,988	\$ 5,303,087	\$ 5,833,396	\$ 6,416,736	\$ 7,058,409	\$ 7,764,250	\$ 8,540,675	\$ 9,394,743	\$ 10,334,217	\$ 11,367,639	\$ 12,504,403	\$ 13,754,843	
	3	\$ 600,000	\$ 870,000	\$ 1,261,500	\$ 1,829,175	\$ 2,652,304	\$ 2,917,534	\$ 3,209,288	\$ 3,530,216	\$ 3,706,727	\$ 3,892,063	\$ 4,086,667	\$ 4,291,000	\$ 4,505,550	\$ 4,730,827	\$ 4,967,369	\$ 5,215,737	\$ 5,476,524	\$ 5,750,350	\$ 6,037,868	\$ 6,339,761	
	4	\$ 400,000	\$ 520,000	\$ 676,000	\$ 878,800	\$ 1,142,440	\$ 1,370,928	\$ 1,645,114	\$ 1,974,136	\$ 2,368,964	\$ 2,842,756	\$ 3,127,032	\$ 3,439,735	\$ 3,783,709	\$ 4,162,080	\$ 4,578,287	\$ 4,807,202	\$ 5,047,562	\$ 5,299,940	\$ 5,564,937	\$ 5,843,184	
	5	\$ 500,000	\$ 400,000	\$ 320,000	\$ 256,000	\$ 204,800																
	6	\$ 300,000	\$ 270,000	\$ 243,000	\$ 218,700	\$ 196,830																
	7	\$ 200,000	\$ 160,000	\$ 128,000	\$ 102,400	\$ 81,920																
	8	\$ 150,000	\$ 105,000	\$ 73,500	\$ 51,450	\$ 36,015																
Cycle 2	1					\$ 5,500,000	\$ 7,700,000	\$ 10,780,000	\$ 15,092,000	\$ 21,128,800	\$ 24,298,120	\$ 27,942,838	\$ 32,134,264	\$ 36,954,403	\$ 42,497,564	\$ 46,747,320	\$ 51,422,052	\$ 56,564,257	\$ 62,220,683	\$ 68,442,751		
	2					\$ 750,000	\$ 1,200,000	\$ 1,680,000	\$ 2,352,000	\$ 3,292,800	\$ 3,622,080	\$ 3,984,288	\$ 4,382,717	\$ 4,820,988	\$ 5,303,087	\$ 5,833,396	\$ 6,416,736	\$ 7,058,409	\$ 7,764,250	\$ 8,540,675		
	3					\$ 600,000	\$ 870,000	\$ 1,261,500	\$ 1,829,175	\$ 2,652,304	\$ 2,917,534	\$ 3,209,288	\$ 3,530,216	\$ 3,706,727	\$ 3,892,063	\$ 4,086,667	\$ 4,291,000	\$ 4,505,550	\$ 4,730,827	\$ 4,967,369		
	4					\$ 400,000	\$ 520,000	\$ 676,000	\$ 878,800	\$ 1,142,440	\$ 1,370,928	\$ 1,645,114	\$ 1,974,136	\$ 2,368,964	\$ 2,842,756	\$ 3,127,032	\$ 3,439,735	\$ 3,783,709	\$ 4,162,080	\$ 4,578,287		
	5					\$ 650,000	\$ 520,000	\$ 416,000	\$ 332,800	\$ 266,240												
	6					\$ 400,000	\$ 360,000	\$ 324,000	\$ 291,600	\$ 262,440												
	7					\$ 300,000	\$ 240,000	\$ 192,000	\$ 153,600	\$ 122,880												
	8					\$ 225,000	\$ 157,500	\$ 110,250	\$ 77,175	\$ 54,023												
Cycle 3	1									\$ 400,000	\$ 520,000	\$ 676,000	\$ 878,800	\$ 1,142,440	\$ 1,370,928	\$ 1,645,114	\$ 1,974,136	\$ 2,368,964	\$ 2,842,756			
	2									\$ 750,000	\$ 1,200,000	\$ 1,680,000	\$ 2,352,000	\$ 3,292,800	\$ 3,622,080	\$ 3,984,288	\$ 4,382,717	\$ 4,820,988	\$ 5,303,087			
	3									\$ 600,000	\$ 870,000	\$ 1,261,500	\$ 1,829,175	\$ 2,652,304	\$ 2,917,534	\$ 3,209,288	\$ 3,530,216	\$ 3,706,727	\$ 3,892,063			
	4									\$ 800,000	\$ 480,000	\$ 288,000	\$ 172,800	\$ 103,680								
	5									\$ 725,000	\$ 580,000	\$ 464,000	\$ 371,200	\$ 296,960								
	6									\$ 550,000	\$ 495,000	\$ 445,500	\$ 400,950	\$ 360,855								
	7									\$ 380,000	\$ 304,000	\$ 243,200	\$ 194,560	\$ 155,648								
	8									\$ 310,000	\$ 217,000	\$ 151,900	\$ 106,330	\$ 74,431								
Cycle 4	1															\$ 750,000	\$ 1,200,000	\$ 1,680,000	\$ 2,352,000	\$ 3,292,800		
	2															\$ 600,000	\$ 870,000	\$ 1,261,500	\$ 1,829,175	\$ 2,652,304		
	3															\$ 800,000	\$ 480,000	\$ 288,000	\$ 172,800	\$ 103,680		
	4															\$ 725,000	\$ 580,000	\$ 464,000	\$ 371,200	\$ 296,960		
	5															\$ 550,000	\$ 495,000	\$ 445,500	\$ 400,950	\$ 360,855		
	6															\$ 380,000	\$ 304,000	\$ 243,200	\$ 194,560	\$ 155,648		
	7															\$ 310,000	\$ 217,000	\$ 151,900	\$ 106,330	\$ 74,431		
	8															\$ 220,000	\$ 176,000	\$ 140,800	\$ 112,640	\$ 90,112		

Jobs Created or Sustained

Base	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cycle 1	Direct	15.15	17.93	21.42	28.00	38.18	42.10	45.71	49.65	53.50	57.66	60.77	64.10	67.62	71.37	75.34	78.41	81.62	84.99	88.54	92.29
	Indirect	15.15	17.93	21.42	28.00	38.13	42.04	45.64	49.58	53.43	57.54	60.67	64.05	67.57	71.31	75.27	78.22	81.41	84.91	88.46	92.21
	Induced	15.15	17.93	21.42	28.00	38.18	42.10	45.71	49.65	53.50	57.66	60.77	64.10	67.62	71.37	75.34	78.41	81.62	84.99	88.54	92.29
	Total	45.45	53.79	64.27	84.00	114.48	126.25	137.05	148.88	160.43	172.86	182.21	192.24	202.82	214.04	225.94	235.04	244.64	254.89	265.55	276.78
Cycle 2	Direct						25.35	32.50	42.40	56.44	75.82	82.60	92.30	103.19	114.98	128.16	137.50	147.48	158.27	169.86	182.33
	Indirect						25.30	32.43	42.34	56.35	75.70	82.46	92.14	103.01	114.78	127.90	137.21	147.21	157.97	169.54	181.99
	Induced						25.35	32.50	42.40	56.44	75.82	82.60	92.30	103.19	114.98	128.16	137.50	147.48	158.27	169.86	182.33
	Total						76.00	97.42	127.14	169.22	227.35	247.67	276.75	309.38	344.73	384.23	412.21	442.17	474.50	509.26	546.64
Cycle 3	Direct											11.71	11.84	12.94	15.32	19.03	18.21	19.91	21.80	23.51	25.37
	Indirect											11.71	11.84	12.94	15.32	19.03	18.21	19.91	21.80	23.51	25.33
	Induced											11.71	11.84	12.94	15.32	19.03	18.21	19.91	21.80	23.51	25.37
	Total											35.12	35.52	38.81	45.96	57.09	54.63	59.74	65.39	70.54	76.07
Cycle 4	Direct																10.08	9.84	10.41	11.96	14.82
	Indirect																10.08	9.84	10.41	11.96	14.82
	Induced																10.08	9.84	10.41	11.96	14.82
	Total																30.25	29.51	31.23	35.87	44.47
Aggregate Annual Employment	Direct	15.15	17.93	21.42	28.00	38.18	67.45	78.20	92.05	109.94	133.49	155.09	168.24	183.75	201.66	222.53	244.20	258.84	275.46	293.87	314.80
	Indirect	15.15	17.93	21.42	28.00	38.13	67.34	78.07	91.91	109.77	133.23	154.84	168.03	183.51	201.40	222.20	243.73	258.37	275.09	293.48	314.35
	Induced	15.15	17.93	21.42	28.00	38.18	67.45	78.20	92.05	109.94	133.49	155.09	168.24	183.75	201.66	222.53	244.20	258.84	275.46	293.87	314.80
	Total	45.45	53.79	64.27	84.00	114.48	202.25	234.48	276.02	329.65	400.21	465.01	504.51	551.00	604.72	667.26	732.13	776.06	826.02	881.22	943.96

Economic Value Added

Base	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cycle 1	Direct	\$912,578.05	\$1,103,831.11	\$1,296,430.99	\$1,694,757.92	\$2,322,642.68	\$2,562,460.57	\$2,781,390.43	\$3,021,097.87	\$3,255,081.54	\$3,511,734.66	\$3,702,680.62	\$3,905,174.50	\$4,119,972.06	\$4,347,881.10	\$4,589,765.35	\$4,775,334.05	\$4,970,552.72	\$5,176,034.35	\$5,392,434.81	\$5,620,456.94
	Indirect	\$720,046.13	\$870,949.42	\$1,022,916.37	\$1,337,206.30	\$1,832,624.71	\$2,021,847.28	\$2,194,588.54	\$2,383,723.83	\$2,568,342.89	\$2,770,849.09	\$2,921,510.65	\$3,081,283.54	\$3,250,764.36	\$3,430,590.48	\$3,621,443.39	\$3,767,861.38	\$3,921,893.71	\$4,084,023.99	\$4,254,769.52	\$4,434,684.83
	Induced	\$759,118.14	\$918,209.92	\$1,078,421.06	\$1,409,764.62	\$1,932,061.59	\$2,131,551.03	\$2,313,665.15	\$2,513,062.86	\$2,707,699.34	\$2,921,192.78	\$3,080,028.47	\$3,248,470.47	\$3,427,147.14	\$3,616,730.43	\$3,817,938.82	\$3,972,302.32	\$4,134,692.73	\$4,305,620.08	\$4,485,630.12	\$4,675,307.49
	Total	\$2,391,742.32	\$2,892,990.45	\$3,397,768.42	\$4,441,728.84	\$6,087,328.99	\$6,715,858.88	\$7,289,644.12	\$7,917,884.56	\$8,531,123.77	\$9,203,776.52	\$9,704,219.74	\$10,234,928.51	\$10,797,883.56	\$11,395,202.00	\$12,029,147.55	\$12,515,497.76	\$13,027,139.16	\$13,565,678.42	\$14,132,834.45	\$14,730,449.26
Cycle 2	Direct						\$1,536,835.27	\$1,971,064.66	\$2,574,248.70	\$3,427,096.35	\$4,616,722.71	\$5,030,697.37	\$5,621,269.19	\$6,283,817.64	\$7,001,557.11	\$7,807,834.86	\$8,376,474.59	\$8,987,767.79	\$9,644,946.85	\$10,351,494.06	\$11,111,155.64
	Indirect						\$1,212,601.49	\$1,555,219.46	\$2,031,147.23	\$2,704,065.67	\$3,642,712.98	\$3,969,349.81	\$4,435,326.15	\$4,958,093.89	\$5,524,408.74	\$6,160,582.90	\$6,609,254.28	\$7,091,579.60	\$7,610,110.74	\$8,167,594.62	\$8,766,987.09
	Induced						\$1,278,398.41	\$1,639,606.92	\$2,141,357.98	\$2,850,788.99	\$3,840,363.38	\$4,184,722.89	\$4,675,982.73	\$5,227,115.45	\$5,824,158.14	\$6,494,850.00	\$6,967,865.87	\$7,476,362.94	\$8,023,029.19	\$8,610,761.73	\$9,242,676.79
	Total						\$4,027,835.16	\$5,165,891.04	\$6,746,753.91	\$8,981,951.02	\$12,099,799.07	\$13,184,770.07	\$14,732,578.07	\$16,469,026.98	\$18,350,123.99	\$20,463,267.77	\$21,953,594.74	\$23,555,710.33	\$25,278,086.79	\$27,129,850.41	\$29,120,819.53
Cycle 3	Direct											\$705,214.05	\$713,110.84	\$779,125.59	\$922,681.34	\$1,156,692.19	\$1,108,175.40	\$1,211,544.36	\$1,326,075.51	\$1,430,026.48	\$1,545,781.70
	Indirect											\$556,430.93	\$562,661.69	\$614,748.92	\$728,017.88	\$912,659.83	\$874,379.05	\$955,939.80	\$1,046,307.80	\$1,128,327.74	\$1,219,661.83
	Induced											\$586,624.65	\$593,193.51	\$648,107.16	\$767,522.46	\$962,180.09	\$921,821.80	\$1,007,808.01	\$1,103,079.34	\$1,189,549.71	\$1,285,839.01
	Total											\$1,848,269.63	\$1,868,966.05	\$2,041,981.67	\$2,418,221.68	\$3,031,532.11	\$2,904,376.24	\$3,175,292.17	\$3,475,462.65	\$3,747,903.93	\$4,051,282.55
Cycle 4	Direct																\$607,292.37	\$592,437.57	\$627,016.91	\$727,007.27	\$902,309.40
	Indirect																\$479,168.36	\$467,447.56	\$494,731.50	\$573,626.30	\$711,945.49
	Induced																\$505,169.57	\$492,812.76	\$521,577.21	\$604,753.11	\$750,574.71
	Total																\$1,591,630.29	\$1,552,697.88	\$1,643,325.63	\$1,905,386.68	\$2,364,829.60
Aggregate Annual Economic Value Added	Direct	\$912,578.05	\$1,103,831.11	\$1,296,430.99	\$1,694,757.92	\$2,322,642.68	\$4,099,295.83	\$4,752,455.08	\$5,595,346.56	\$6,682,177.89	\$8,128,457.37	\$9,438,592.04	\$10,239,554.53	\$11,182,915.29	\$12,272,119.55	\$13,554,292.40	\$14,867,276.41	\$15,762,302.44	\$16,774,073.63	\$17,900,962.63	\$19,179,703.68
	Indirect	\$720,046.13	\$870,949.42	\$1,022,916.37	\$1,337,206.30	\$1,832,624.71	\$3,234,448.77	\$3,749,808.00	\$4,414,871.06	\$5,272,408.56	\$6,413,562.07	\$7,447,291.38	\$8,079,271.38	\$8,823,607.17	\$9,683,017.09	\$10,694,686.12	\$11,730,663.07	\$12,436,860.66	\$13,235,174.03	\$14,124,318.18	\$15,133,279.25
	Induced	\$759,118.14	\$918,209.92	\$1,078,421.06	\$1,409,764.62	\$1,932,061.59	\$3,409,949.44	\$3,953,272.07	\$4,654,420.84	\$5,558,488.33	\$6,761,556.15	\$7,851,376.01	\$8,517,646.72	\$9,302,369.75	\$10,208,411.03	\$11,274,968.91	\$12,367,159.56	\$13,111,676.44	\$13,953,305.83	\$14,890,694.66	\$15,954,398.01
	Total	\$2,391,742.32	\$2,892,990.45	\$3,397,768.42	\$4,441,728.84	\$6,087,328.99	\$10,743,694.04	\$12,455,535.15	\$14,664,638.47	\$17,513,074.78	\$21,303,575.59	\$24,737,259.43	\$26,836,472.63	\$29,308,892.22	\$32,163,547.67	\$35,523,947.43	\$38,965,099.04	\$41,310,839.54	\$43,962,553.49	\$46,915,975.47	\$50,267,380.94

Total Economic Output Generation

Base	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cycle 1	Direct	\$4,181,100.65	\$5,057,352.59	\$5,939,775.69	\$7,764,764.94	\$10,641,508.96	\$11,740,268.24	\$12,743,325.68	\$13,841,578.49	\$14,913,607.04	\$16,089,501.94	\$16,964,346.26	\$17,892,100.15	\$18,876,225.10	\$19,920,422.11	\$21,028,648.47	\$21,878,859.66	\$22,773,282.38	\$23,714,725.19	\$24,706,194.17	\$25,750,909.40
	Indirect	\$1,226,462.98	\$1,483,498.31	\$1,742,343.95	\$2,277,677.13	\$3,121,526.24	\$3,443,830.64	\$3,738,062.42	\$4,060,218.33	\$4,374,681.73	\$4,719,612.19	\$4,976,234.39	\$5,248,376.96	\$5,537,055.13	\$5,843,354.52	\$6,168,435.96	\$6,417,831.97	\$6,680,196.64	\$6,956,354.59	\$7,247,186.96	\$7,553,638.31
	Induced	\$1,134,868.49	\$1,372,707.95	\$1,612,221.57	\$2,107,574.73	\$2,888,402.52	\$3,186,636.40	\$3,458,894.21	\$3,756,990.70	\$4,047,969.23	\$4,367,139.96	\$4,604,596.90	\$4,856,415.20	\$5,123,534.18	\$5,406,958.39	\$5,707,761.95	\$5,938,533.70	\$6,181,305.47	\$6,436,839.37	\$6,705,951.76	\$6,989,516.67
	Total	\$6,542,432.12	\$7,913,558.85	\$9,294,341.21	\$12,150,016.80	\$16,651,437.72	\$18,370,735.29	\$19,940,282.31	\$21,658,787.52	\$23,336,258.00	\$25,176,254.09	\$26,545,177.55	\$27,996,892.31	\$29,536,814.41	\$31,170,735.01	\$32,904,846.39	\$34,235,225.32	\$35,634,784.50	\$37,107,919.15	\$38,659,332.89	\$40,294,064.38
Cycle 2	Direct						\$7,041,224.10	\$9,030,706.67	\$11,794,277.20	\$15,701,717.16	\$21,152,156.46	\$23,048,839.29	\$25,754,626.24	\$28,790,184.12	\$32,078,607.36	\$35,772,683.91	\$38,377,986.13	\$41,178,710.32	\$44,189,667.83	\$47,426,812.38	\$50,907,307.82
	Indirect						\$2,065,436.62	\$2,649,021.20	\$3,459,672.60	\$4,605,860.90	\$6,204,664.87	\$6,761,027.98	\$7,554,729.58	\$8,445,164.48	\$9,409,773.59	\$10,493,374.43	\$11,257,600.31	\$12,079,150.18	\$12,962,368.88	\$13,911,936.11	\$14,932,886.64
	Induced						\$1,911,185.72	\$2,451,187.02	\$3,201,297.23	\$4,261,885.83	\$5,741,285.93	\$6,256,098.52	\$6,990,524.69	\$7,814,459.91	\$8,707,029.88	\$9,709,705.47	\$10,416,857.27	\$11,177,051.65	\$11,994,309.60	\$12,872,961.03	\$13,817,664.69
	Total						\$11,017,846.45	\$14,130,914.90	\$18,455,247.03	\$24,569,463.89	\$33,098,107.26	\$36,065,965.79	\$40,299,880.51	\$45,049,808.51	\$50,195,410.82	\$55,975,763.80	\$60,052,443.72	\$64,434,912.16	\$69,146,346.31	\$74,211,709.53	\$79,657,859.15
Cycle 3	Direct											\$3,231,034.24	\$3,267,214.48	\$3,569,670.03	\$4,227,390.27	\$5,299,543.69	\$5,077,257.50	\$5,550,856.56	\$6,075,596.69	\$6,551,862.27	\$7,082,213.16
	Indirect											\$947,775.29	\$958,388.22	\$1,047,109.01	\$1,240,041.35	\$1,554,541.60	\$1,489,337.31	\$1,628,260.48	\$1,782,185.12	\$1,921,890.48	\$2,077,460.49
	Induced											\$876,993.71	\$886,814.04	\$968,909.00	\$1,147,432.80	\$1,438,443.90	\$1,378,109.04	\$1,506,657.04	\$1,649,086.16	\$1,778,357.95	\$1,922,309.98
	Total											\$5,055,803.24	\$5,112,416.74	\$5,585,688.04	\$6,614,864.42	\$8,292,529.19	\$7,944,703.84	\$8,685,774.09	\$9,506,867.97	\$10,252,110.69	\$11,081,983.63
Cycle 4	Direct																\$2,782,392.72	\$2,714,333.42	\$2,872,763.41	\$3,330,882.85	\$4,134,054.22
	Indirect																\$816,173.05	\$796,208.88	\$842,681.93	\$977,064.38	\$1,212,662.78
	Induced																\$755,219.76	\$736,746.55	\$779,748.91	\$904,095.43	\$1,122,097.38
	Total																\$4,353,785.54	\$4,247,288.85	\$4,495,194.26	\$5,212,042.66	\$6,468,814.38
Aggregate Annual Economic Output Generation	Direct	\$4,181,100.65	\$5,057,352.59	\$5,939,775.69	\$7,764,764.94	\$10,641,508.96	\$18,781,492.34	\$21,774,032.35	\$25,635,855.69	\$30,615,324.21	\$37,241,658.40	\$43,244,219.79	\$46,913,940.87	\$51,236,079.26	\$56,226,419.74	\$62,100,876.08	\$68,116,496.01	\$72,217,182.69	\$76,852,753.13	\$82,015,751.67	\$87,874,484.60
	Indirect	\$1,226,462.98	\$1,483,498.31	\$1,742,343.95	\$2,277,677.13	\$3,121,526.24	\$5,509,267.27	\$6,387,083.63	\$7,519,890.93	\$8,980,542.63	\$10,924,277.06	\$12,685,037.66	\$13,761,494.76	\$15,029,328.62	\$16,493,169.45	\$18,216,351.99	\$19,980,942.63	\$21,183,816.18	\$22,543,590.52	\$24,058,077.93	\$25,776,648.22
	Induced	\$1,134,868.49	\$1,372,707.95	\$1,612,221.57	\$2,107,574.73	\$2,888,402.52	\$5,097,822.13	\$5,910,081.23	\$6,958,287.93	\$8,309,855.05	\$10,108,425.89	\$11,737,689.12	\$12,733,753.93	\$13,906,903.09	\$15,261,421.06	\$16,855,911.32	\$18,488,719.77	\$19,601,760.72	\$20,859,984.04	\$22,261,366.17	\$23,851,588.73
	Total	\$6,542,432.12	\$7,913,558.85	\$9,294,341.21	\$12,150,016.80	\$16,651,437.72	\$29,388,581.73	\$34,071,197.21	\$40,114,034.55	\$47,905,721.89	\$58,274,361.35	\$67,666,946.58	\$73,409,189.56	\$80,172,310.96	\$87,981,010.25	\$97,173,139.38	\$106,586,158.42	\$113,002,759.58	\$120,256,327.70	\$128,335,195.77	\$137,502,721.55