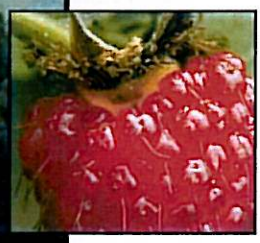
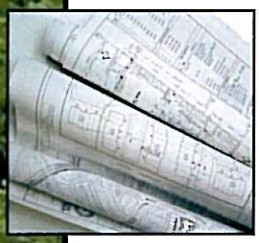
APPDC

Agricultural Processing and Product Development Center

Matanuska - Susitna Borough





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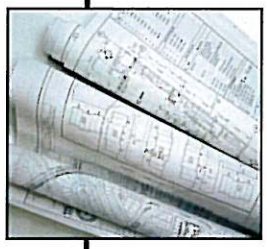
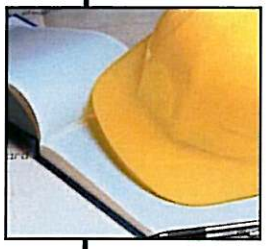
Project Status

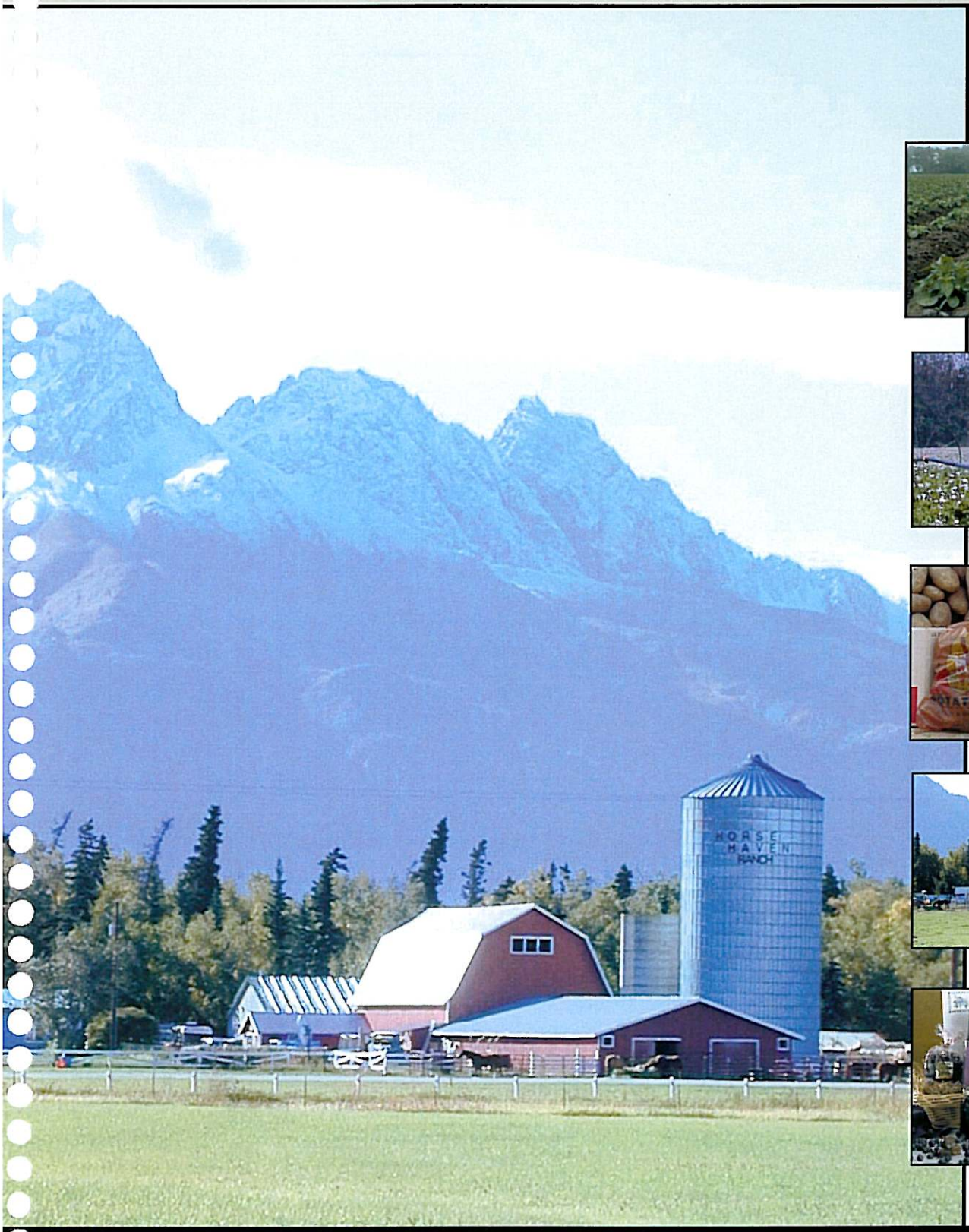
COMPLETED

- ☑ Agricultural Processing and Product Development Center Feasibility Study
- ☑ Feasibility Study of Business Incubators and Public-Private Partnerships
- ☑ Incubator Feasibility Study
- ☑ Market Analysis
- ☑ Economic Impact Report
- ☑ Environmental Permitting
- ☑ Architectural Concept & Schematic Design
- ☑ Local Bond/Match Approved
- ☐ Construction ($9,200,000)





Executive Summary



Executive Summary

The Matanuska-Susitna Borough (MSB) proposes to construct and equip an Agricultural Processing and Product Development Center (APPDC) with the capacity to produce frozen, fresh-cooked and juiced vegetables and berries grown in Alaska. The APPDC will be co-located with the MSB School Nutrition Center, recently bonded at $11,998,356, in order to facilitate the easy transport of value-added agricultural products for use in the School Lunch Program. Freeze processing will provide the first opportunity for Alaskan farmers to enter the year-round market with vegetables such as broccoli, zucchini, cauliflower, carrots, and peas.

• Feasibility Study

A feasibility study, funded by Housing and Urban Development (HUD) and received through the efforts of Senator Stevens, indicates a strong potential for success for the APPDC, based on the capacity of farmers to produce, interest from the MSB School District Nutrition Services Director, the size of the potential markets, both institutional and retail, as well as general interest in unique products identified for production. Although the MSB is conducting the research and seeking funding for construction and equipment it does not intend to operate the plant. It is expected that a non-profit or for-profit contractor will bid for the opportunity to enter this new, year-round, market sector.

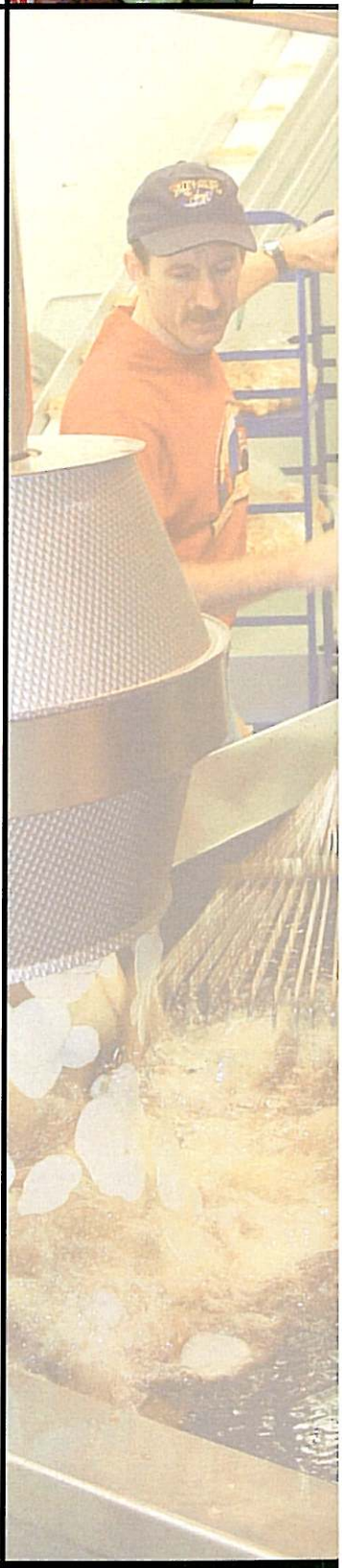
• Unique Alaskan Products

The extensive study identified markets, food trends, producer concerns, construction costs, and equipment needs. It also examined the potential vegetable products that could be produced profitably and competitively in Alaska. Fresh-cooked potatoes were found to be a product line with a great potential for success, including sliced, diced, cubed, shredded and french fry cut.

Supplying various cuts of refrigerated, partially cooked potatoes enables homemakers and foodservice operators to add their own creative signature to potato dishes, while eliminating the inconvenience of peeling, cutting, and lengthy cook time. Fresh french fries have the added benefit of both tasting more like fresh potatoes than their frozen counterpart and having 43-64% less fat per serving. With obesity concerns and childhood diabetes on the rise, many consumers and all school lunch programs are looking for a lower fat alternative.

The special equipment used for the production of preservative-free FreshFries can also roast vegetables. This allows interesting options such as roasted zucchini slices with olive oil and rosemary or roasted potatoes with locally grown herbs.

Local producers encouraged the research team to consider rhubarb for processing. Going beyond the standard diced product, the team experimented with juicing and pasteurizing and then sampled the product. The results have been very favorable, with Safeway reporting requests for the product from people who have tasted it. There is also potential for rhubarb fruit leather, sweetened dehydrated pieces and frozen cuts for pie and crisp. A juice line opens the door to the bottling of other beverages and emergency water supplies for local schools, and it is recommended for the APPDC.



Executive Summary

• Research

Consumer preference for nutritious products is on the rise. A small study of nutraceutical and antioxidant properties of rhubarb is anticipated through a cooperative effort with the University of Alaska, although additional funds would be needed for more complete research. Shelf testing of bottled rhubarb juice is currently underway at the Kodiak Fishery Industrial Technology Center.

Through a partnership with the Matanuska-Susitna Borough and the State of Alaska Division of Agriculture, a food science and home economics specialist at the University of Alaska-Fairbanks (UAF) test kitchen is working to determine what potato variety that grows well in Alaska is best suited for potato products produced at the APPDC. The State of Alaska Division of Agriculture Plant Materials Center grew potatoes for this project.

• Shared-use Kitchen

One of the unique pieces of this project is the product development center. Although a small test kitchen is usually incorporated into a processing plant, the plan for this center is to expand the kitchen and make it serve double duty as a shared-use kitchen. This will provide small food business start-ups a certified kitchen to rent as they launch their new food related businesses.

• Economic Development

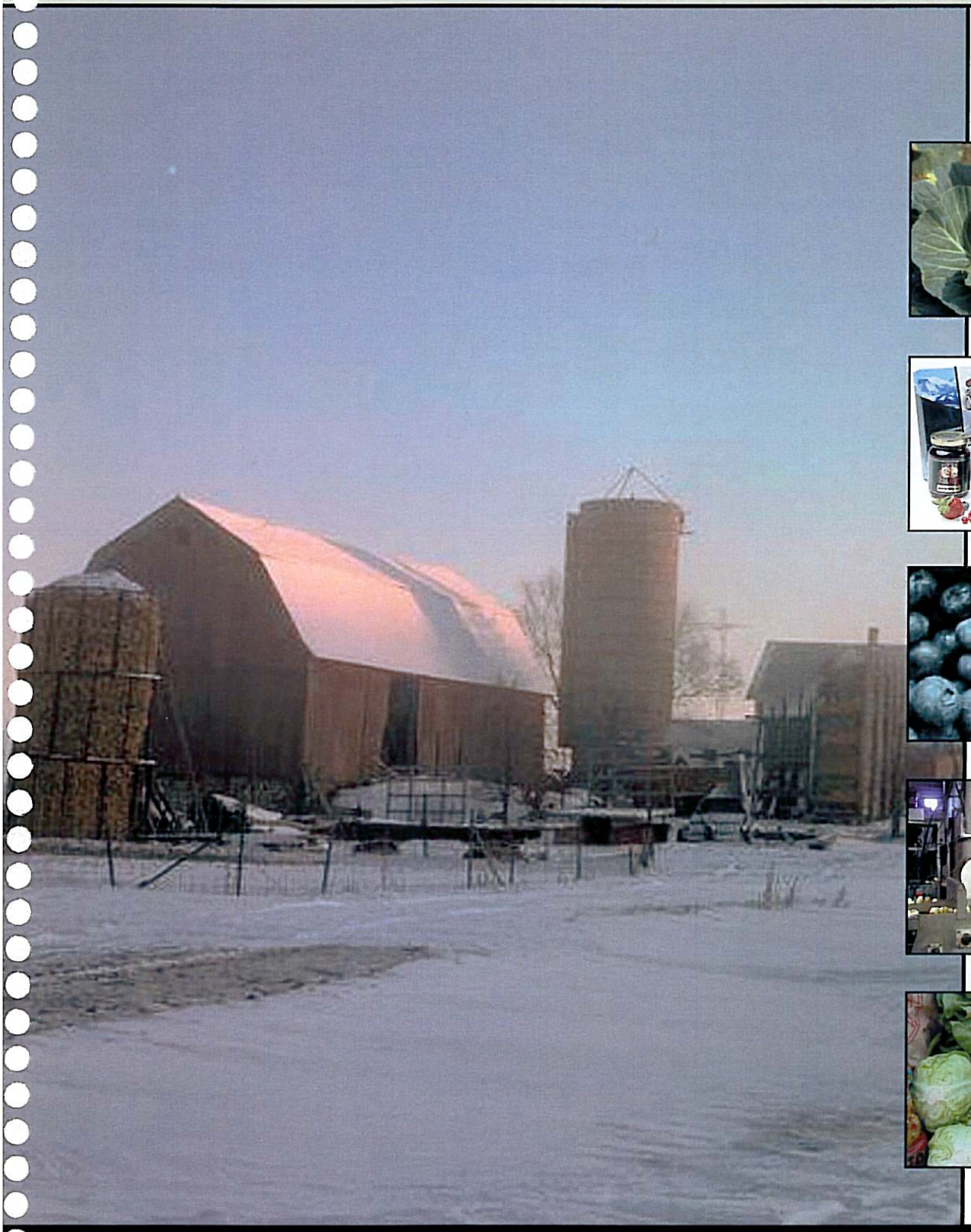
This economic development project serves the MSB and the state by creating a new industry which will help sustain and grow the agricultural industry, launch new businesses, create wealth and provide import substitution for frozen and processed vegetables.

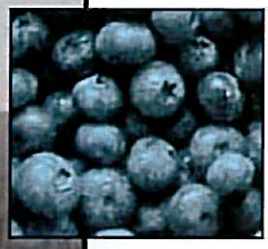
• Food Security

Post 9-11 considerations have caused us to look at the food supply available in Alaska in the event of a disaster. Alaska has approximately a week of provisions if it is severed from its outside sources. Currently no commodity food warehouses exist in Alaska. Producing our own food stocks and housing them in Alaska would be a step in the right direction of increasing the security of the state's food supply.

Agricultural Processing & Product Development Center

Project Summary





APPDC
Project Summary

- Markets
- Producer Issues
- Prospective Products
- Shared-Use Kitchen
- Site Layout
- Facility Layout

Alaskans love Alaskan products. They devour local fresh produce as fast as it reaches the supermarket shelves or farmers markets. Consumers gladly pay more for Alaskan produce because of its quality and freshness and because of our clean soils and minimal use of pesticides. The opportunity to buy Alaskan produce only exists for a few short weeks in the summertime.

Farmers and community leaders believe it is time for Alaskans to be able to enjoy Alaskan produce all year long. Potatoes and carrots store well and can be processed throughout the year. All other vegetables and fruits are too perishable for storage and would require processing following harvest in order to reach the school lunch menus and tables of Alaskans.

The State of Alaska Division of Agriculture (DoAG), together with the Alaska Farm Bureau Mat-Su Chapter, applied for and received grant funds from the United States Department of Agriculture (USDA) Value-Added Development Grant Program. With those funds a market study was completed indicating an interest and willingness among Alaskans to buy Alaskan processed vegetables. Encouraged by this information, the DoAG carried out an additional study, examining the interest in local and nearby school districts for Alaskan processed vegetables and producer capabilities and capacity.

As reports continued to point to potential success, the MSB decided to take the lead in securing funds to complete a more in-depth feasibility study. With the assistance of Senator Stevens, $447,075 was made available through the U.S. Department of Housing and Urban Development. The focus of the study was to determine the feasibility of processing locally grown vegetables for use in the Mat-Su School District's student lunch program as well as other school districts along the railbelt and state institutions. Borough residents recently approved general obligation bonds of $11,998,356 to construct a new nutrition center that will provide meals for the District's students; the bond serves as matching funds for the vegetable processing facility project. The APPDC will be co-located with the recently bonded school Nutrition Center, providing cost efficiencies in site acquisition and preparation, utility installation, design services, proximate loading docks and reduced transportation costs. The analysis also includes investigating the potential for a food business incubator that would provide local entrepreneurs with the ability to develop food products for commercial purposes in a shared-use kitchen.

The MSB hired a research team to complete an investigation of potential markets, consumer trends, identification of equipment needs and construction costs. They were to also identify community stakeholders in this industry, discover producer concerns and identify appropriate products for development that could be produced both competitively and profitably in the Alaskan market.

Markets

- School Nutrition Programs
- State Institution and Military Bases
- Retail and Speciality Markets
- Export Markets

• School Nutrition Programs

Alaskan school children do not have access to Alaskan grown vegetables in the School Nutrition Program with the single exception of fresh carrots. This sad circumstance is due to the fact that although Alaskan farmers have the capacity to grow the vegetables there is no processing facility in the state that can freeze them for storage and use throughout the school term.

Local school districts use frozen peas, carrots, potatoes, and mixed peas and carrots; all of these vegetables grow well in Alaska. Alaskans like Alaskan products, as is evidenced by the fact that Matanuska Maid milk enjoys 45% of the state's fresh milk market and local farmers own over 60% of the fresh potato market instate. If processed Alaskan vegetables were available for year-round consumption, a recent study indicated a significant interest in purchasing them. Alaskan grown products typically command a 20% premium in the retail market.

A specific product, FreshFries, is of particular interest to local school districts. This new technology fry provides fresher flavor, less fat and no preservatives. Although it will not be available through the commodity food system it should be competitive with similar products purchased by school districts. It is discussed in greater detail later in the report.

• State Institutions and Military Bases

Entering into the State's institutional purchasing system is challenging but will be assisted by the legislatively mandated 7% bid preference. The local processing facility will have none of the operating efficiencies enjoyed by giant competitors such as Simplot, BirdsEye and Green Giant but will benefit from a transportation advantage, particularly with the FreshFries product.

Currently, a mandate from Senator Stevens for military bases in the state to buy Alaskan produce when available has had a significant positive impact on the agricultural community. Including processed vegetables to this mandate program would insure that Alaskan farmers would have the opportunity to provide Alaska's military bases with processed produce, further supporting Alaskan agriculture.

A Memorandum of Agreement with the Department of Corrections (DOC) to utilize the plant in a fee-for-service arrangement has been drawn up. The DOC currently operates the Point MacKenzie Correctional Farm where livestock and vegetables are raised. The Director of that facility has a keen interest in producing more vegetables and being able to distribute them to other prisons within the system but their current processing capacity limits their production. The processing plant will provide the needed capacity and generate dollars in the borough that are now going to Lower 48 processors. This may also open the door to a sales relationship with DOC for other products produced by local farmers.

• Retail and Specialty Markets

Although the initial focus was exclusively schools and institutions there is an undeniable retail market for Alaskan grown processed produce. It is the retail consumer who is willing to pay a premium price for Alaska Grown and low pesticide residue products. The retail consumer is already supporting local agriculture through grocery stores and farmer markets paying higher than market prices for products of higher quality. Focusing some attention on the higher value consumer market allows the APPDC to pay a higher price to growers. Including the retail market also opens the tourism market to certain specialty products such as Matanuska Red, a rhubarb juice product that has been very well received.

• Export Markets

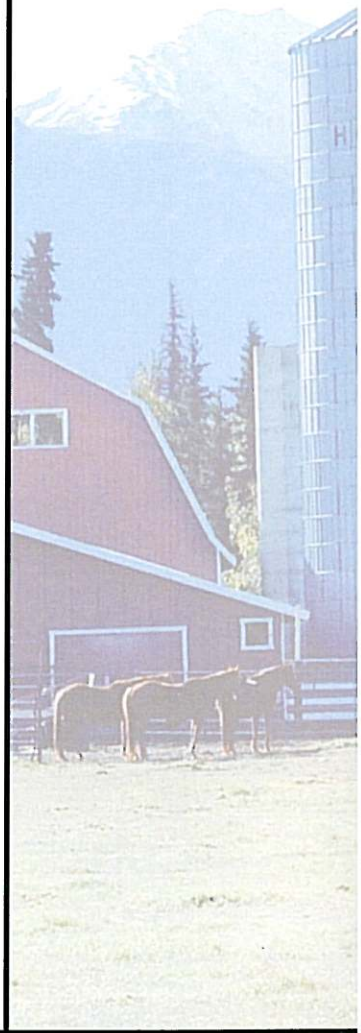
When exploring the market trends in functional foods and natural food products then comparing them to the extraordinary qualities of Alaskan peas, carrots, berries and rhubarb it is impossible to ignore the potential for product export. Interest in rhubarb for its medicinal qualities is well developed in Asia. Alaskan peas possess high production capabilities, extraordinary color and excellent tenderometer reading coupled with large size and should attract upscale consumers in European and domestic markets with high disposable incomes.

Producer Issues

Produce has been one of the consistently successful agricultural products in Alaska and Alaskan farmers would like to increase their production. However, the expansion of sales in the fresh market is restricted because of the limited timeframe that most Alaskan produce is available. Major expansion of production, and therefore sales, would require processing of vegetables. Two-thirds of farmers surveyed indicated that their farms are not currently at capacity and they would be interested in increasing production for value-added processing. In order to supply the projected 5% of the Alaskan railbelt market, farmers would only need to increase production by approximately 10%. Currently, 26% of Alaskan cropland is not in production.

Although the processing industry will be new to Alaskan producers they recognize that growing vegetables for processing differs from growing for the fresh market. Conversations with producers indicate they are willing to grow the varieties specific to processing and to modify post-harvest handling techniques in order to provide quality produce for processing.

It is important to farmers growing for processing that there will be a guarantee for the produce they are asked to grow. Production contracts will be negotiated in which specifications, price, quantity, quality, grade, and variety are agreed upon in advance. Contracting for production is considered standard operating procedure in all states where processing occurs.



Prospective Products

- Potatoes
- Individual Quick Frozen Vegetables
- Value-added Seasoned Roasted
- Alaska Specialty Crops
  - Rhubarb
  - Berries
  - Birch Sap

• Potatoes

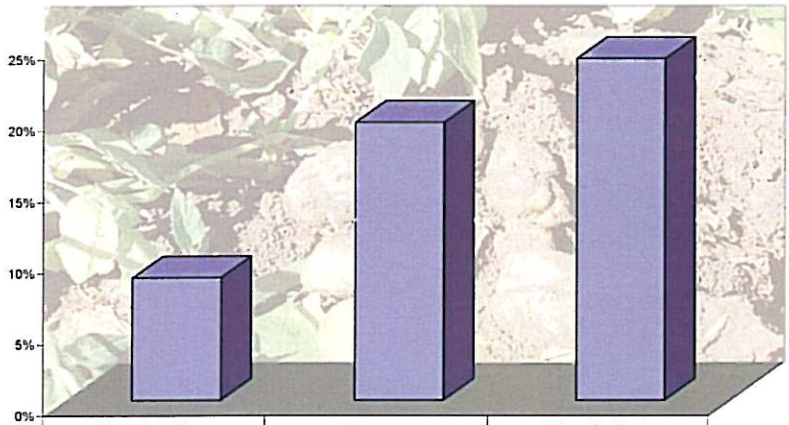
Potatoes represent 73% of all frozen vegetables consumed in the United States according to the USDA Economic Research Service. Potatoes are not only popular, but their storage capabilities provide an opportunity to utilize the processing plant year-round. Given the market share french fries enjoy and the ability of local farmers to produce potatoes, it was the first product considered for production. Research into the chemical composition of Alaskan potatoes revealed a low solid, high moisture product with considerably high sugar content, the opposite of the characteristics desired for fry processing. Some of those characteristics may be mitigated through storage, handling and processing techniques. Additionally, margins are wafer thin in this globally competitive frozen french fry industry, requiring massive plants in order to achieve profitability. Moreover, school nutrition programs are reducing high fat foods due to health concerns for children.

The search for a competitive and marketable product yielded fresh-cooked potatoes. This is a washed, peeled, cut (sliced, diced, shredded, or french fry cut), blanched and packaged potato product. Cooking is adequate to deactivate enzymes and kill microorganisms but leaves the product crisp-tender with a preservative-free shelf life of about 30 days. Using this process, a refrigerated, partially cooked product called FreshFries can be produced, which offers 43-64% less fat than the typical frozen french fry. The transportation advantage of an Alaskan product would provide a third more shelf life than its Lower 48 competitors and it responds to the recent trends in "speed-scratch" cooking following the lead of bagged salads and pre-cut fruits. Reduced transportation costs would help overcome the economy of scale advantage enjoyed by competing firms.

A collaborative agreement was designed between Department of Natural Resources, Division of Agriculture and the University of Alaska Fairbanks to provide the needed research on potato varieties best suited for fresh-cooked potatoes used in sliced and diced applications. This research will be conducted at the University test kitchen in Fairbanks while the potatoes are being grown at the Plant Material Center in Palmer.

A model plant was identified that uses the same licensed process, is similar in size and production capabilities to the proposed APPDC and has been in profitable operation for ten years. This Montana plant serves a market area of 600,000, slightly larger than the Alaska railbelt market of 454,000. The profit margins and finished products were both excellent. This plant has also agreed to conduct a field test of the selected Alaskan potato variety under consideration for use in FreshFries production.

French Fry Fat Content Comparison



	FreshFries	Frozen	Fresh Cut
Percent of Fat	8.6%	19.5%	24%

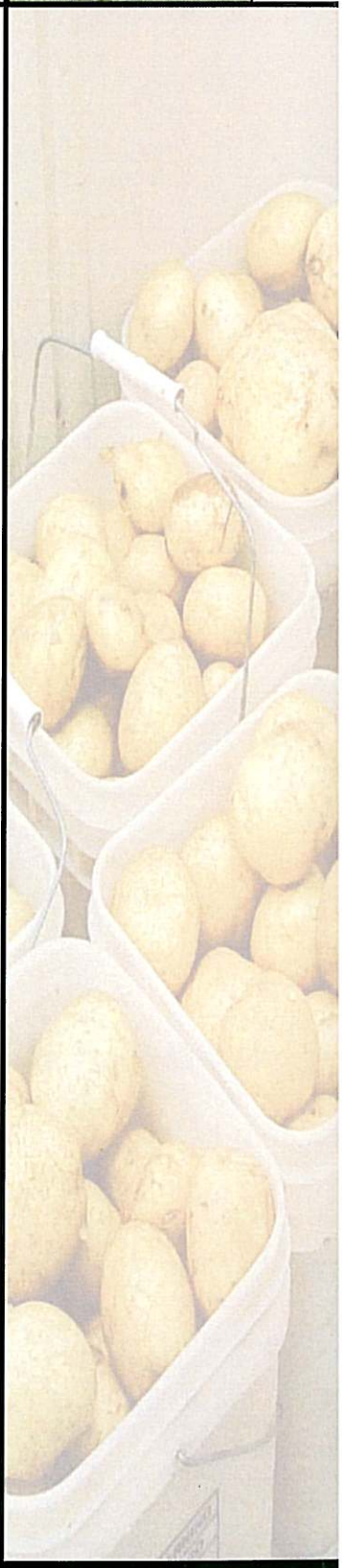
Source: FreshFries Factsheet, Eagle Rocks Foods, Idaho Falls, Idaho

• Individually Quick Frozen vegetables

Carrots, broccoli, cauliflower, zucchini and peas will be included in the initial production line in the Individually Quick Frozen (IQF) format, the most common way to process these products today. It is anticipated that the operator will package vegetable items separately and also in combinations. The expansion of pea production is contingent on the availability of a harvester, a piece of equipment that could be purchased by the APPDC. Having the equipment available for harvesting allows farmers to expand production to peas fairly easily and with limited financial investment. Peas have the added benefit of adding nitrogen to the soil, whereas potatoes remove it, thereby making it an excellent rotation crop for potato growers. With a limited fresh market and no way to process peas for year-round distribution, this crop has not been able to flourish even though a University research study completed in 1970 indicated excellent potential for Alaskan grown peas.

• Value-added, seasoned, roasted

The equipment used for the fresh-cooked FreshFries can be utilized for roasting as well and Alaskan-sized zucchini will lend themselves nicely to roasted and individually quick frozen slices. Carrots and potatoes may also be roasted and onions, which are currently being developed for the commodity market by one of the most successful vegetable growers in the state. The addition of seasonings, sauces or locally grow herbs will enhance the finished product and remove it from a strictly commodity status where it would have to compete intensely on price. These value-added options are also in keeping with decades of consumer trends toward convenience and flavor.

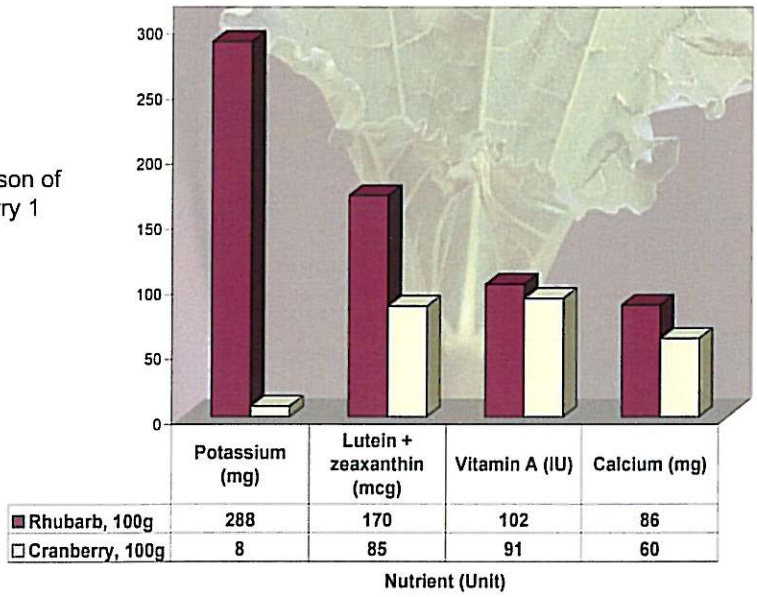


Alaska Specialty Crops

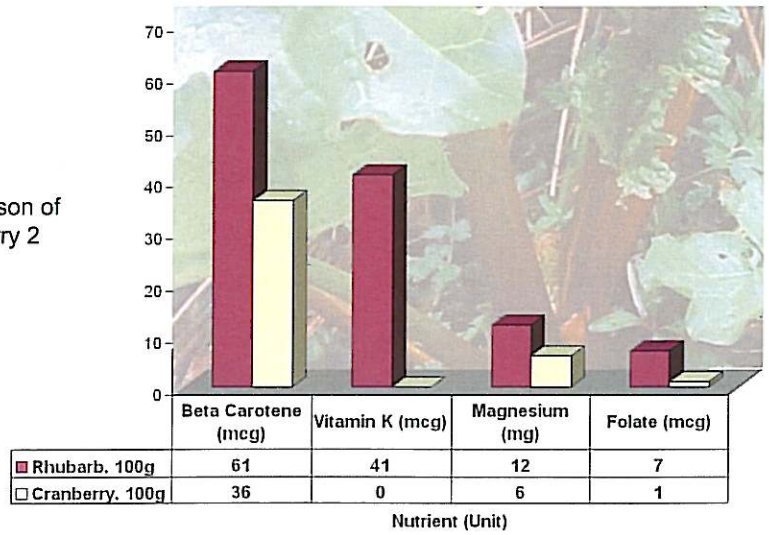
• Rhubarb

Observing the market growth of cranberries in a few short decades the research team looked to rhubarb as a potential alternative crop for Alaskan growers. Rhubarb is nutritionally equal or superior to cranberries and needs far less sophisticated equipment to harvest. It grows extremely well in Alaska and can be harvested up to three times per season, compared with two harvests in the Lower 48. When cultivated and fertilized it produces individual stalks weighing up to two pounds with leaves exceeding three feet in diameter. Alaska has been designated the repository for rhubarb seed as part of the USDA Agricultural Research Service (ARS) National Plant Germplasm System (NPGS). The NPGS curator provided the research team with rhubarb for testing.

Nutrient Value Comparison of Rhubarb and Cranberry 1



Nutrient Value Comparison of Rhubarb and Cranberry 2

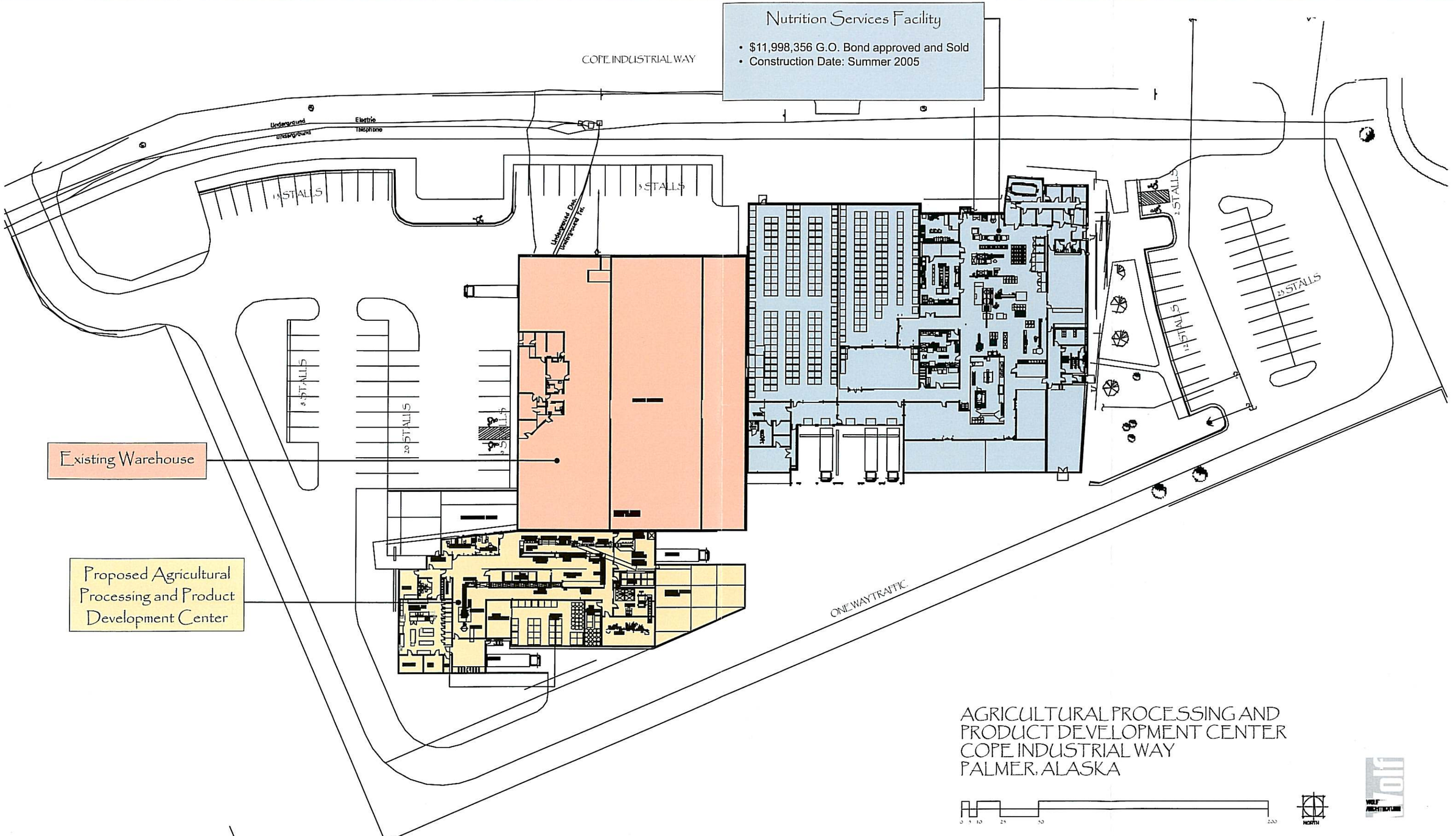


Source: USDA, ARS, Nutrient Laboratory, USDA National Nutrient Database for Standard Reference, http://www.nal.usda.gov/fnic/foodcomp/search/

Site Layout

Nutrition Services Facility

- $11,998,356 G.O. Bond approved and Sold
- Construction Date: Summer 2005



AGRICULTURAL PROCESSING AND
PRODUCT DEVELOPMENT CENTER
COPE INDUSTRIAL WAY
PALMER, ALASKA

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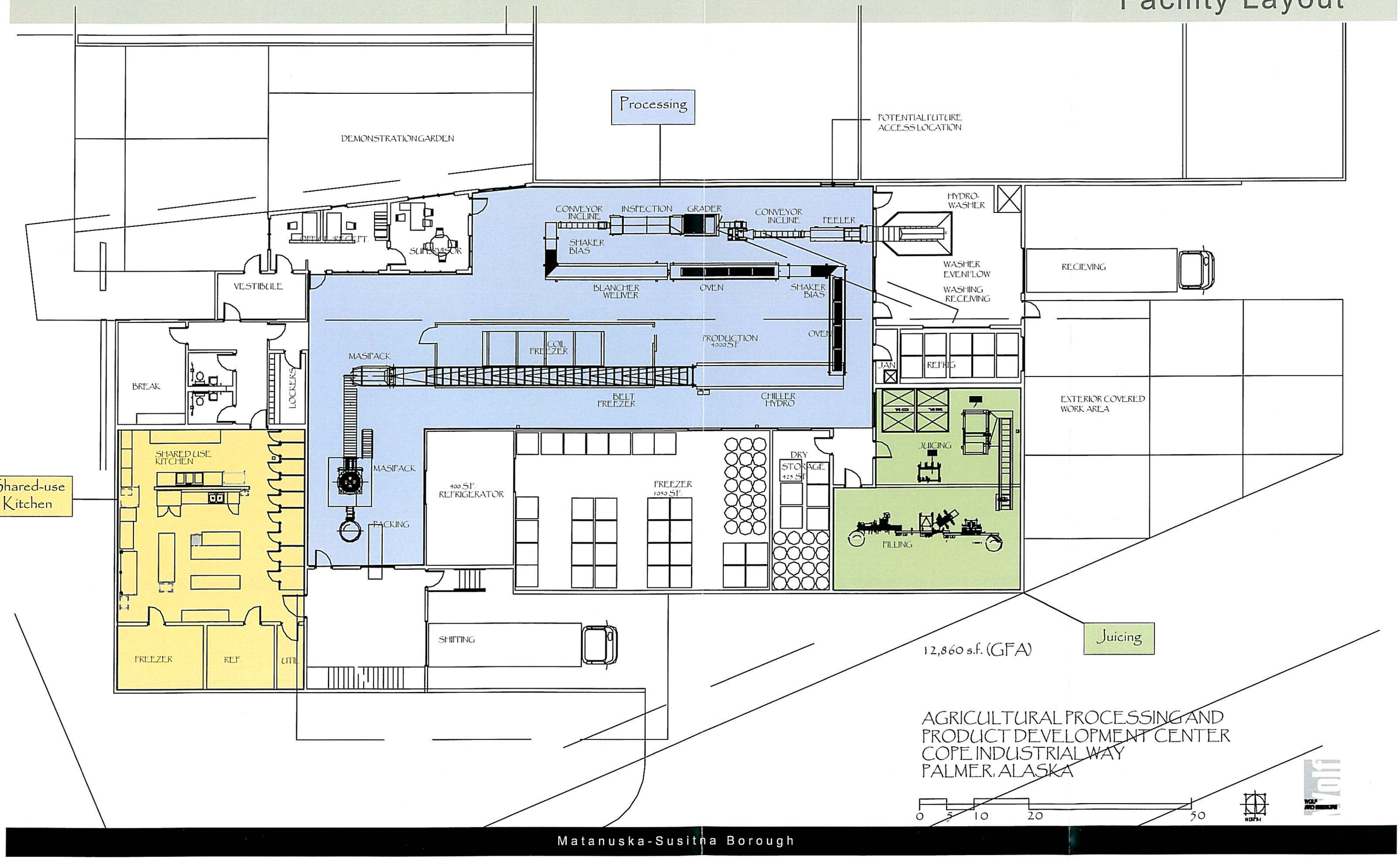
NORTH

WOLF ARCHITECTURE

Facility Layout



Matanuska-Susitna Borough

APPDC
Project Summary

This local rhubarb was shipped to an extraction equipment manufacturer for juicing. Yields exceeded 80%, significantly higher than apple and without the need for press aids. The team has experimented with juice production and the final product requires only 14% added sugar with a flavor of mild rhubarb and a lemonade feel and finish. It has been very well received by those who have sampled it, including Senator Lisa Murkowski and Congressman Don Young, who promoted it so successfully that J. Webb, Safeway Alaska Manager, reported customer requests for the product as a result.

Preliminary shelf life testing is being conducted in Kodiak at the Fishery Industrial Technology Center. Microbiological tests are also being conducted to insure product safety. No data is currently available on the ARS research database on this product since it is not apparently commercially produced anywhere in the United States.

With ever increasing interest in functional foods and the health benefits of natural products the phytonutrient value of rhubarb may be a valuable marketing asset. Identification of antioxidants, bioflavinoids and other phytonutrients present in rhubarb is being sought through University of Alaska and ARS. The findings will be used as marketing tools for the all-natural product currently going under the name of Matanuska Red.

• Berries

The facility will provide the same window of opportunity for the freeze processing or juicing of berries. Where Pacific Northwest blueberries rate a 29 or 30 on the Oxygen Radical Absorbance Capacity (ORAC) scale, a measure of antioxidant levels, Alaskan blueberries garner a 93 on the same scale. Alaskan lingonberries rated 206 in initial studies conducted by University of Alaska Fairbanks; a score over 40 on the ORAC scale is considered a high level. Although berries have never been commercially cultivated on a large scale in Alaska, part of the reason may be due to the lack of any processing facility to manage the year-round availability of these products. The construction of the APPDC will provide the infrastructure for a whole new industry.

• Birch sap

The birch syrup industry is already well developed in Alaska, particularly in Mat-Su, Fairbanks and the southeast. The tourism market has driven sales and expansion of product lines to include candy, seasonings, sauces, and nut brittles. One of the largest producers in the state has expressed interest in filtering, pasteurizing, and bottling the sap. This sap already has established markets in Japan and the Scandinavian countries and is consumed as a health product. Syrup makers are already tapping trees but bottling the sap allows new tappers to enter the market without making an investment in expensive sap reduction equipment.

Shared-Use Kitchen

One of the unique features of this project is the product development center/shared-use kitchen. Although a small product development center of test kitchen is generally incorporated into a processing plant, the plan for this center is to expand the kitchen to serve double duty as a shared-use kitchen.

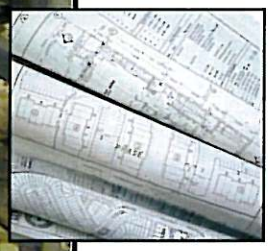
The establishment of the shared-use kitchen is a part of the MSB economic development strategy, providing a launch pad for new business growth. A healthy Alaska speciality food industry already exists; the shared-use kitchen will provide an opportunity for this industry to flourish. At this facility small producers of specialty or gourmet foods, bakers, and caterers can prepare their food products in a fully licensed and certified kitchen. Additional clients such as drop-in and occasional users, churches, civic organizations will also have access to the facility. Without access to a Department of Environmental Conservation approved kitchen an individual may create a delicious salsa, jam, or barbeque sauce but be unable to market it in the full arena. This is a significant barrier to entry into the lucrative and growing specialty food marketplace. This facility would provide a place to get started, establish a market, and refine products before moving to a facility of their own. A new, successful business is formed with a sound foundation that may also support the agricultural and forest products industries.

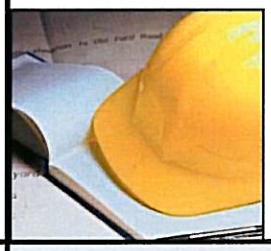
Planning and design of the kitchen will address needs regarding flexibility to accommodate a varied number of users and suitable layout of equipment to optimize production flow. Equipment that can support baking, jam, jelly and syrup making, product cooking, water bath processing, and inline filling and packaging are designed into this facility. The full processing center will also be available to entrepreneurs through a fee-for-service arrangement. This would allow an entrepreneur to have the products they produce in the kitchen labeled or frozen in the processing center.

In a 1997 shared-use kitchen feasibility study survey funded by the State of Alaska and conducted by K. Slack and M. Hanrahan, all of the 67 respondents indicated a desire for a shared-use kitchen. Of these, there were 5 non-profit organizations, 6 caterers, and 56 individuals or businesses who intended to produce a unique food product. The total minimum hours of usage per year was calculated to be 9,912. It is expected that demand has grown with the population and with increased interest in Alaskan grown food products. This is confirmed by the fact that several entrepreneurs anxious to have access to the kitchen have contacted the research team even before the study has been officially released.

The MSB funds a local branch of the Small Business Development Center (SBDC), created through a partnership between the U.S. Small Business Administration and the University of Alaska. The SBDC will be available to provide business development, marketing, tax information and industry research opportunities to entrepreneurs using the kitchen.

Statewide Benefits





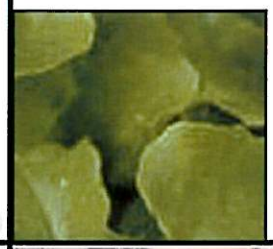
Economic Benefits

The Matanuska-Susitna Borough, as part of its economic development strategy, is pursuing this project, however the implications for economic impact go far beyond the borders of the MSB. Growers throughout the state will have access to the APPDC for co-packing or sale of their produce. Berry harvesters in rural Alaska can harvest for resale and birch sap gatherers will have access to existing markets, both domestic and European. All of these opportunities help sustain the most successful component of the agricultural industry in Alaska, produce.

With small farms disappearing all across the United States and in danger of succumbing to urban sprawl in Alaska as well, opening new markets, expanding existing ones to year-round, diversifying profit centers, and increasing production as a result will help keep agriculture a viable industry in the state.

This center will create several year-round and seasonal jobs directly but many more jobs in agriculture, support services and the wholesale and retail distribution chain. It will also support import substitution of frozen vegetables, fresh cooked products, and juices currently coming from both the Lower 48 and foreign markets. This import substitution creates additional local jobs and local wealth.

Small manufacture is one more way to diversify an economy that is today heavily dependent on oil revenues, housing construction, and labor export to the adjacent Anchorage market. The diverse production lines that are designed into this facility plus the shared-use kitchen as a launch pad for small businesses combine to provide multiple and varied business opportunities to the budding food processing industry in Alaska.



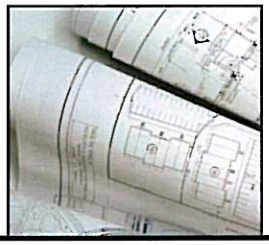
Food Security

Just a few short years ago not many people thought seriously about the security of the food supply in Alaska. There was always a ship coming in or a truck rolling over the highway with fresh or frozen produce and meat. In today's less secure atmosphere governments are planning for contingencies that previously carried little urgency. However, Alaska has perhaps a week's supply of food and in the event of severed access to the Port of Seattle or closure of the Alaskan Highway, Alaskans would benefit from the comfort of knowing there is a considerable stockpile of food within her borders.

The United States has 3,000 commodity food warehouses; there are none in Alaska. The major food manufacturers here are Matanuska Maid, Taco Loco and two sausage factories. Although these items would constitute a reasonable diet for emergency situations the truth is that the raw materials do not come exclusively from Alaska. Reindeer sausage is only 10% reindeer with the balance coming from Outside beef and pork suppliers. Matanuska Maid milk is only about 25% Alaskan product and Taco Loco imports the flour, shortening and even the salt for their tortillas, only the water comes from Alaska. Our biggest manufacturers would run out of supplies almost simultaneously with our retail outlets.

Growing, processing and storing vegetables for a year-round supply would also guarantee a source of nutritious food in times of crisis that would be in Alaska when it is needed.

The placement of a Commodity Food Warehouse in Alaska and its companion Terminal Market Designation would change the entire landscape of agricultural security in our state, in both the produce and dairy industries. The APPDC would fill a critical void basic to food security for Alaskans.



Cost Estimate

Agricultural Processing and Product Development Center

Palmer, Alaska 99645

APPDC		Estimated Cost	Division	Estimated Cost plus Contingency & Escalation
01 - General Requirements		$ 543,624.51	1	$ 597,986.97
02- Site Work		$ 289,635.21	2	$ 318,598.73
03 - Concrete		$ 166,719.61	3	$ 183,391.57
04 - Masonry		$ 16,966.71	4	$ 18,663.38
05 - Metals		$ 301,387.31	5	$ 331,526.04
06 - Wood & Plastic		$ 2,086.77	6	$ 2,295.45
07 - Thermal & Moisture Protection		$ 217,791.81	7	$ 239,570.99
08 - Doors and Windows		$ 33,696.81	8	$ 37,066.49
09 - Finishes		$ 416,768.60	9	$ 458,445.46
10 - Specialties		$ 10,876.33	10	$ 11,963.96
11 - Equipment			11	
Processing Center		$ 1,770,000.00		$ 1,947,000.00
Shared Use Kitchen		$ 150,000		$ 165,000.00
12 - Furnishings		$ -	12	$ -
13 - Special Construction		$ -	13	$ -
14 - Conveying		$ 75,000.00	14	$ 82,500.00
15 - Mechanical		$ 449,581.05	15	$ 494,539.15
16 - Electrical		$ 250,944.42	16	$ 276,038.86
Construction Estimate				$ 4,695,079.14
Estimating Contingency	10%			$ 469,507.91
Escalation (12%)				$ 619,750.45
Total Construction Cost				**$ 5,784,337.50**
Product Development & Implementation				$ 434,147.00
Maintenance, Materials & Supplies, Training				$ 818,700.00
Project Management/Costs				$ 2,140,204.87
Total Project Cost				**$ 9,177,389.37**