

OREGON COUNTRY FAIR COMMUNITY CENTER REPORT

Project: Oregon Country Fair Community Center

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Date: November 5, 2017

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SECTION 1: EXECUTIVE SUMMARY

Annual attendance at the Fair has been around 45,000 people, making it one of the largest gatherings in the Northwest. A multitude of volunteers prepare the site each spring and restore it after the event each summer. The Fair kitchen provides food for up to 1000 people per meal; to support this activity the Fair Board has identified the goal of constructing a permanent Kitchen to support volunteers. In addition, the Oregon Country Fair (OCF) would like to construct a Community Center, of which the kitchen is a part. The Community Center would accommodate year round activities such as fair related gatherings, retreats, and other events.

In February of 2011 the Fair Board of Directors heard a report from the OCF Community Center Committee (CCC). The following description was given: the Board affirmed support of the OCF CCC's current concept with the understanding that it will likely be modified and refined as additional research is conducted and design issues are addressed. The report envisioned a kitchen of 4,000 square feet with the total building size at 10,000 square feet, including a seating area able to accommodate 500 people. This option was estimated to be approximately \$200 per square foot. The OCF CCC recommendation passed by unanimous vote (10 to 0).

The Committee commissioned PIVOT Architecture to complete the Feasibility Study, a process that included workshops, community meetings, site investigations, and design charrettes. That process yielded a comprehensive report and space needs program, along with a cost estimate.

Subsequently, the Committee held a follow-up charrette to fine tune the size of the building, reducing some of the spaces with feedback from users and members.

During the course of the planning work, it became apparent that there was a wide range of expectations in the Fair community with regard to the type of building, materials used, and how those decisions related to the cost estimate. To clarify the issue, the Committee elected to study multiple building types to determine which type might fit best with the Country Fair project values and budget.

In addition, the Committee wished to have life cycle cost analysis created for the building types. This is a commonly used method to determine the total cost to own and operate a building over a given life span. This aids in the decisions about spending resources during the planning and construction phases. For example: If the Owner intends to keep the building for 50 years, is it more cost effective to buy a cheaper roof and replace it once or twice, or to buy a higher quality roof that lasts the entire building life? We will ask these questions about each of the three building types noted above, and the cost estimates will include the cost of each building type over a 50 year period.

To assist in the Board’s decision making and gain community consensus, the Community Center Committee requested that PIVOT Architecture provide clear examples, narrative descriptions, and cost estimates for three types of buildings:

Code Compliant Building. This building type is meant to provide a Code compliant building solution. This means the building will support the basic functions required in the Program, and will be constructed with the lowest cost materials that satisfy the Code and the building life span expectations. This is meant to be the lowest cost option.



25 year Code Compliant building image



50 year Code Compliant building image

25 year building type materials include wood framed walls, engineered wood trusses, vinyl siding, and asphaltic shingles. The floors are broom finished concrete, and the interiors are wood framed walls with painted gypsum board.

50 year building type materials include wood framed walls, engineered trusses, concrete block veneer siding, and sheet metal panel roofing. The interior floors are broom finished concrete, the lower walls are plywood wainscot with painted gypsum walls above.

Code Compliant building type costs:

- 25 year life span building: \$3,632,794
- 50 year life span building: \$4,782,137

Life Cycle Costs for Code Compliant Building types:

- 25 year life span building: \$6,497,169
- 50 year life span building: \$7,527,513

Durable Institutional Building. This building type is designed to be robust, low maintenance, and simple. Materials are commonly used and performance tested over long periods of time in a variety of projects. This building type is meant to last with a minimum of operational expenditures over the planned life of the facility.



Durable Institutional building images

25 year building type materials include steel structural members, metal stud walls, masonry, and metal wall panel siding, aluminum storefront windows, and metal panel roofing. The interiors are steel stud walls with painted gypsum board finishes.

50 year building type materials include steel structural members, metal stud walls, masonry, and metal wall panel siding, aluminum curtain wall windows, and metal panel roofing. The interior floors are broom finished concrete, the lower walls are plywood wainscot with painted gypsum walls above.

Durable Institutional building type costs:

- 25 year life span building: \$4,990,803
- 50 year life span building: \$5,576,767

Life Cycle Costs for Durable Institutional Building types:

- 25 year life span building: \$7,514,778
- 50 year life span building: \$8,072,242

Concept Building. This building type is meant to be constructed of traditional materials (wood, stone, steel, glass) configured in usual ways. Assume longer spans, curving forms, and less points of contact at the ground. This building type will incorporate more sustainable strategies, including use of local materials, high recycled content materials, and prohibition of Living Building Red List materials.



Concept building images

25 year building type materials include timber and steel framing, structural wood floors, and solid wood exterior siding over wood framed walls. The window systems are clad wood and aluminum storefront windows, the roofing is copper. The interiors are wood wainscot, solid wood trim and casework, and plaster walls.

50 year building type materials include timber and steel framing, structural wood floors, and solid wood exterior siding over wood framed walls. The window systems are clad wood and aluminum curtain wall windows, the roofing is copper. The interiors are wood wainscot, solid wood trim and casework, stone floors, stainless steel countertops, and plaster walls.

Concept building type costs:

- 25 year life span building: \$7,506,295
- 50 year life span building: \$8,089,100

Life Cycle Costs for Concept Building types:

- 25 year life span building: \$9,775,295
- 50 year life span building: \$10,192,624

SECTION 2: SUMMARY OF PREVIOUS WORK

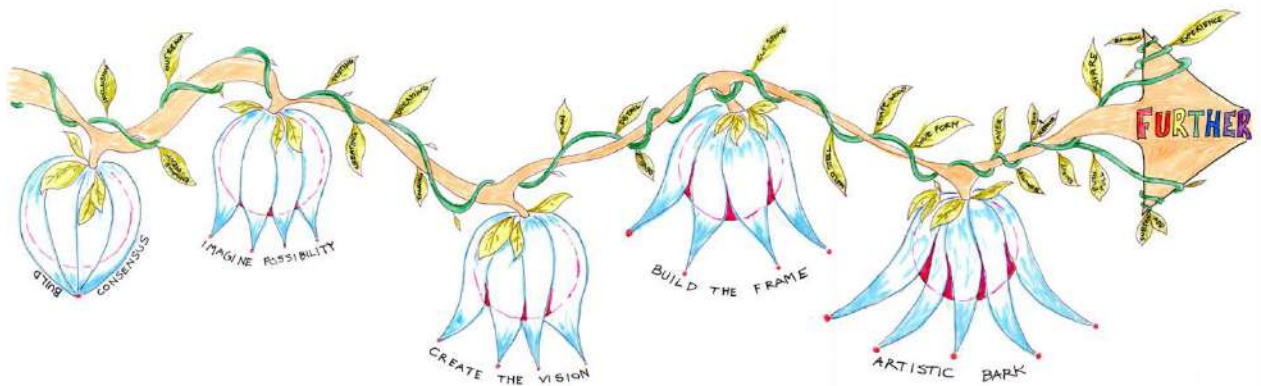
This section will recap some of the highlights of the previous work done by the Board, the Community Center Committee, and the OCF Membership.

We'll begin with the Project Goals:

- Support our Volunteers
 - Create a new hearth and community gathering space
 - Make a safe and fun place for the Kitchen crew
- Support the Oregon Country Fair organization
 - Bring the Kitchen operation into lasting compliance with regulations
 - Support a variety of OCF programs

Project process: To reach the goal of creating a new kitchen and community center, the project will follow these general steps:

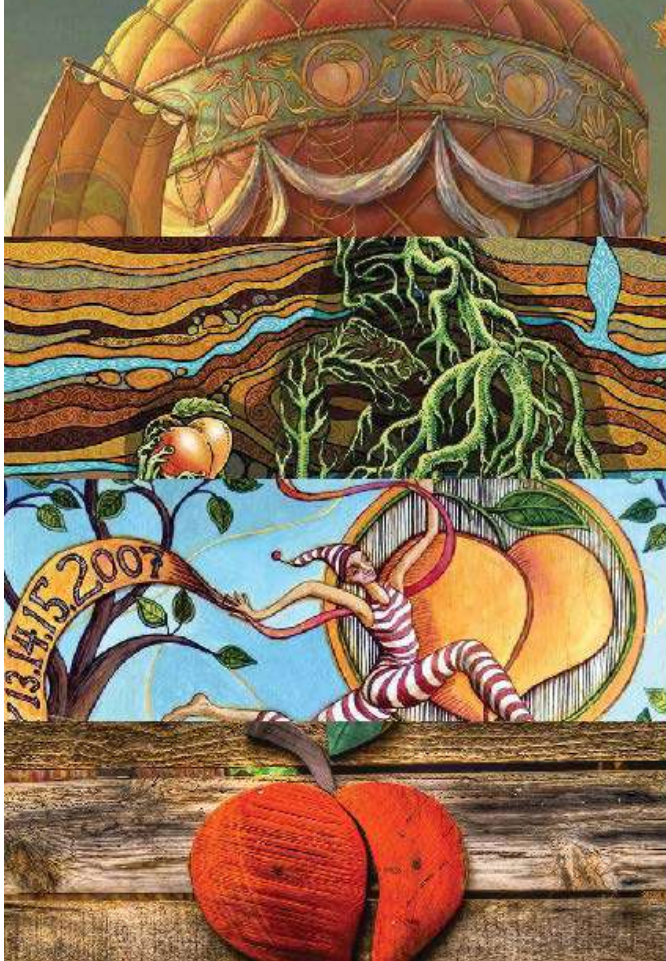
- Planning. Create a detailed work plan that includes the size, cost and location of the project. This step should also include enough building design work to allow the resourcing team to clearly communicate the project to the community.
- Resourcing. Once the project budget is determined, the next step will be to gather resources.
- Design and permitting. This step will include the detailed architectural and engineering design work, and the permitting of the project.
- Build. In this phase the bulk of the building will be constructed and begin function as its intended purpose.
- Layering. As the building matures, the Country Fair artistic spirit will express itself in layers of artistic “bark” that covers the structure and makes the project unique.



OCF Community Center timeline diagram

2013 Board of Directors Report

The Community Center Committee prepared a report for the Board of Directors outlining the steps taken during the first part of the planning stage. Below are the primary elements of that report, outlining those steps.



community
center
project

Board Presentation
3.18.13



Step One

Gathering ideas. To help visualize how the Community Center might express the values of the organization, the group found a series of images that helped communicate the look and feel of the project.



We looked at buildings that were inspired by natural forms.



PIVOT ARCHITECTURE

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We looked at interesting examples of integrated art and architecture.



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PIVOT ARCHITECTURE

Step Two

Mind Mapping. To help understand how all the pieces fit together around the current kitchen operation, we brought together a large group of OCF volunteers to map out the way the Fair operations works.

DISCOVER

The Project Kick-off

Program Workshop

The OCF OCC, consultants, and a group of stakeholders gathered to start the process of imagining what kinds of activities the Fair might like their new facility to support. The starting point was the larger goal of the project: to create a new kitchen and community hall. We hoped to discover how this project could be configured for the best and highest use. Additionally, the stakeholders were asked to think about how this project would integrate into the current Fair operations. The project was divided into six topics.

The larger group divided out into six working groups, each tasked with thinking about one of the following subjects:

- / Site Improvements
- / Meetings—Indoor & Out
- / Events
- / Dining—Indoor & Out
- / Kitchen
- / Storage, recycling, and waste



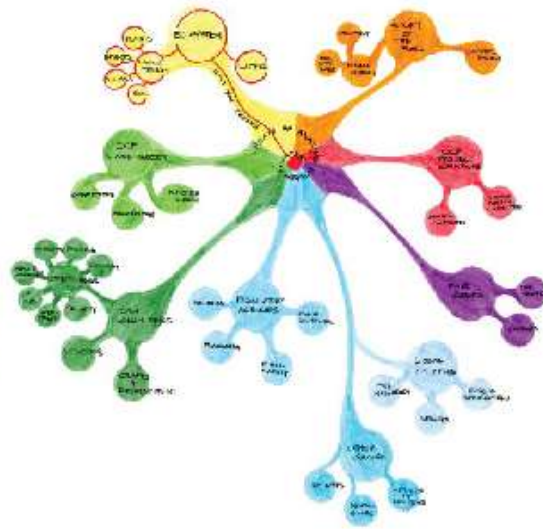
Workshop Images of the six groups creating Mind Maps.

The OCF work groups were asked to use a tool called a "Mind Map" that was developed specifically for doing creative planning exercises.

Using Mind Maps

What's a Mind Map?

A mind map is a diagram that helps visually organize related information. The central idea or concept is stated in the center, and the related information is connected to that central node. This allows for the free flow of thinking, while keeping the group on-topic. The information should be colorful, and the relationships defined by graphics or text as the process proceeds. The image below is an example of a mind map created by PIVOT to demonstrate the look and purpose of the tool.



The image above depicts a Mind Map, created by the PIVOT team.

Step Three.

Kitchen Study. The design team observed the kitchen crew at work to document the way the operation functions. This will allow the new space to support current operations, while also helping to continue and expand their amazing work in the new building.

Kitchen Programming Workshop

November 24, 2012

The kitchen is the most complex and resource intensive part of the project, so it was decided that an additional work session was warranted to look at kitchen requirements in depth. The goal of this session was to bring together the kitchen crew and the OCF CCC to develop a comprehensive list of spaces, activities, and equipment that are required to make the operation function efficiently.

While the existing kitchen has many drawbacks, the crew felt that it had a great spirit of bringing hard work and fun together in a way that made everyone feel like their time was spent meaningfully, and for the most part, joyfully. These qualities, along with the way the kitchen is connected to the outside, were listed as “must have” features that should be brought from the old facility.

The functionality of the new kitchen was discussed in depth. This kitchen is much different than a typical commercial or institutional facility, mostly because of the large number of volunteers that work in the space. These folks need a safe and sanitary place to do their work, with plenty of flexibility to move projects around, accommodating the complex nature of the operation.

The general idea was that the hot line would be center of the kitchen, with preparation, baking, storage and support areas arrayed around the periphery. The Crew also felt strongly that some kind of outdoor cooking area would be a great benefit. All of these elements would need to be scalable – from the Fair peak of 2,200 meals per day (at seatings of up to 1,250) to smaller groups of just a few people.

The service part of the kitchen follows an institutional model, which means that most of the food can be prepared ahead of time, with the servers delivering the pre-planned meal to the customers from large platters or chafing pans. This arrangement allows for a smaller, more efficient hot line, and a more flexible use of the kitchen throughout the work day.

Once the general layout and relationships of the kitchen were determined, a detailed equipment list was created to support the operations. The design team was tasked with distilling the information and generating a more detailed program diagram.



Step Four.

Sustainability Forum. The group convened to discuss the kinds of sustainable measures that should be considered for the project. The consensus of the group was to focus on key strategies that had meaningful impacts on the OCF operations. The chart below shows the rankings of each sustainable strategy.

DISCOVER

Prioritized Sustainability Measures & Strategies

The following list of sustainable strategies were developed through group discussion. They were prioritized by the workshop group and are listed below in order from highest to lowest.

HEALTH	SITE	ENERGY	WATER	MATERIALS
Sanitation—hand wash stations 4	Minimal ground disturbance 6	Net Zero Energy—Adopted goal of OCF 11	Treat water on site, obtain water on site 6	Durable materials 6
Daylight available to all 2	Minimize impacts to neighbors 2	Ground water heat exchange 4	Net Zero water use for project—Not for Fair event 5	Use healthy building materials 5
Kitchen permeable—air and light 1	Use lumber from site—Douglas Fir 2	PV, solar hot water, wind, passive solar 4	Manage wastewater sustainably 3	Reuse materials—existing materials, shop at BRING 4
First Aid—Design for safety 1	Protect habitat and access 2	Natural light 3	Reclaim water 2	Simplicity 4
Openable walls 1	Treat sewage on site—completely clean all waste before release 1	Wood heat = bio fuels - renewable 2	Discharge only clean water 1	Seek materials that are Pre-recycled 3
Natural Materials 1	Preserve wet lands 1	Building as educational tool 2	Stored water as thermal mass—heat sink 1	No carpet 2
	Bicycle connections—bike route (Long Tom bridge) 1	Consider all realms—heat, light, transportation, etc. 1	Conserve Water 1	Reuse trees on site and reuse lumber 1
	Solar access 1	Easy to use and understand measurement system 1	Collect rainwater 1	Source locally 1
	Off-site parking 1	Need to manage energy (manage behavior) 1		
	Use light touch—fit into landscape 1			
	Protect habitat and access 1			
	Pervious Surfaces 1			

Items with 3 or more votes

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Step Five.

Site Planning. The project needs to be located in uplands areas to protect the sensitive flood areas and keep the building dry. There are only a few areas available on the OCF property that fit this requirement. The group studied each of three prospective sites.

DISCOVER

Site Planning Workshop

Site Selection Criteria December 16, 2012

Once the general size of the building was determined, along with the estimated parking requirements, a group was convened to find the optimal location for the major project elements on the site. A set of site selection criteria and a narrative were developed to help the group understand the issues and make informed decisions.

The top location criteria were listed as follows:

1. **Locate on Uplands.** Must be out of the flood plain and wetlands. Identify and avoid "pocket wetlands" located in uplands south of Chickadee Rd.
2. **Locate in non-native fir forest** for ability to clear trees for building and solar access. Need about 100 ft. clear area south. Do no harm to native plant and animal communities.
3. Vehicle access to building for delivery using large trucks and emergency vehicle access. Where possible minimize road and parking footprint. Connect to Chickadee lane and Aero Road. Need road with loop turn around.
4. Reasonable walk and bike distance along pathway to main camp.
5. Community Center is an opportunity to restore natural systems and a portion of site which is currently in need of rejuvenation. Build where it's ugly to make it beautiful.
6. Do not disturb artifacts; work with Archeology Group to evaluate selected location. Be prepared to adjust location if significant artifacts are found. Building and site design to minimize disruption to ground.
7. Must provide accessible parking adjacent to building (or alternative means). Estimate 4% of required parking spaces. Required parking spaces to be dispersed and constructed on pervious ground (not paved).

8. Building not visible from Suttle Road or from Public areas of the fair. Current Fair building groups are each isolated to reduce size of largest developed areas.

9. Provide space for water treatment using natural biology to cleanse water. Discharge only clean water to natural drainage ways.

10. Provide for as many activities as possible outdoors or under covering (but not fully enclosed).

11. Create joyful entrances and exits; build anticipation along the route of arrival.

12. Orient buildings with long dimension east to west. Maximum north and south elevations for solar exposure and orientation to summer breezes.

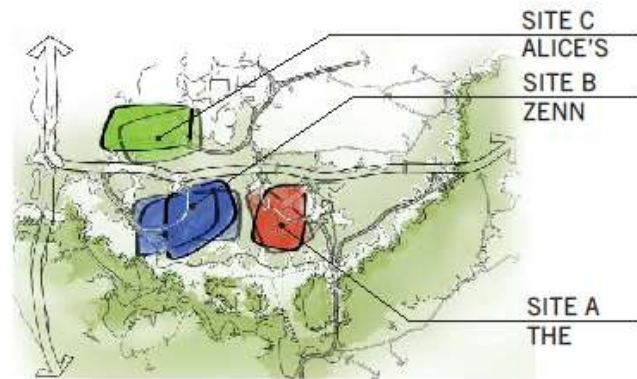
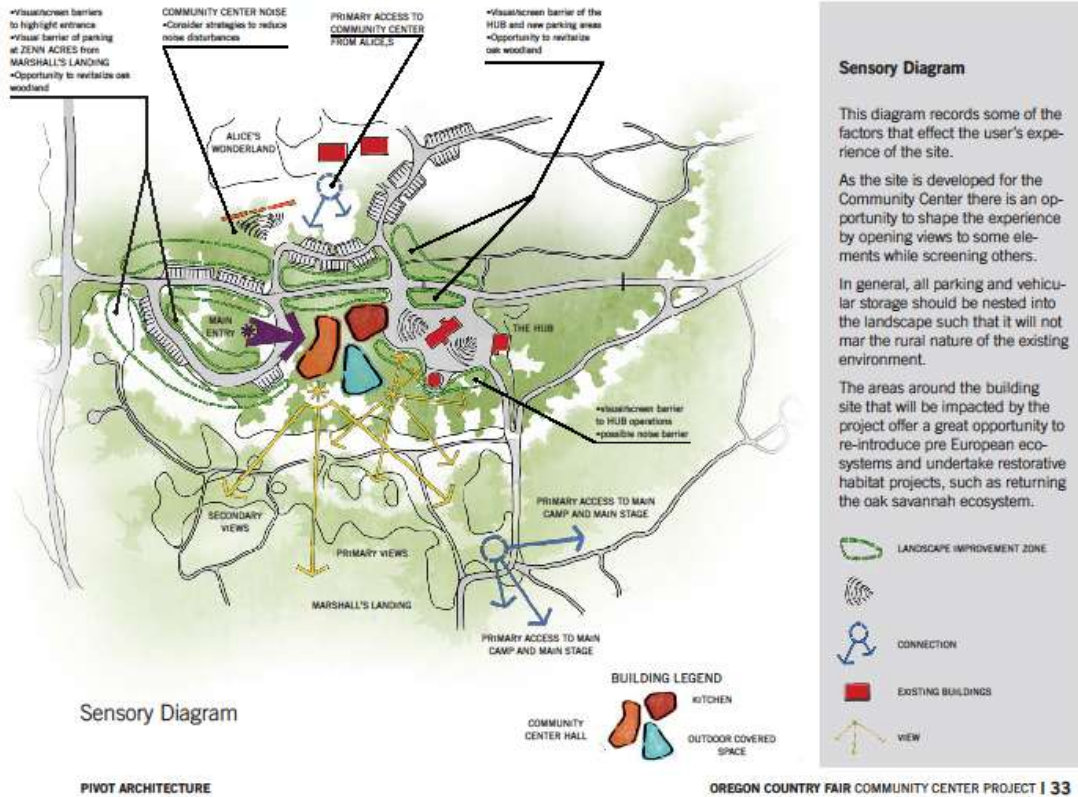


Diagram depicting the three proposed sites.

The group selected Site B as the best location for the new kitchen and community center. This site has the best solar access, impacts the fewest trees, is well situated for utility and roadway connections, and fits well into the Country Fair operation.

QUANTIFY



OCF Community Center site selection diagram

Step Six.

Space Needs Program. In order to create building spaces and estimate costs, there needs to be list of the required spaces and their sizes. These are built from an understanding of the activities that the spaces will support - the numbers of people in the space, the types of equipment, and the way the inhabitants work in the space. A program matrix was created to document this information.

The program has three sections – enclosed building space, covered outdoor space, and site development areas.

Building - Enclosed (Conditioned)

Program Element	Total Area NSF	Supported Activities
Kitchen		
Space Description		
Service Line	300	
Prep Area	700	Main Camp Kitchen, Culture Jam kitchen, community kitchen, revenue event kitchen, staff events kitchen.
Hot Line	500	
Bakery	500	
Admin Office	150	
Storage/Washing	300	
Support/Recycling/Compost/Waste	550	
Total Square footage	3000	
Community Center Common Room		
Space Description		
Multipurpose Room	3500	Dining for 250 people, large meetings and presentations, classrooms, performances
Total Square footage	3500	
Support Spaces		
Space Description		
Office Area	150	Administrative use to support the facility.
Men's Restroom	250	OSSC 2010 Code requires (3) water closets & (3) lavatories
Women's Restroom	250	
Table & chair storage	450	Space for 24 folding tables w/ integral benches
Janitor/Maintenance Closet	100	
IT/AV Closet	60	
Mechanical/Electrical Rooms	300	
Total Square footage	1560	
Total Enclosed Building Space	8500	Includes 10% increase for circulation and structure

Building - Covered (Unconditioned)

Program Element	Total Area NSF	Supported Activities
Kitchen		
Space Description		
Outdoor Kitchen	1500	Cooking and smoking food, prep areas
Total Square Footage	1500	
Community Space		
Space Description		
Covered area for 200 occupants	3000	Dining for 200 people, large meetings and presentations, outdoor classes, performances
Total Square Footage	3000	
Total Covered Building Space	4500	

Outdoor Spaces - Uncovered / Site Improvements

Program Element	Total Area NSF	
Infrastructure		
Description		
Utilities	19000	Utility connections to on and off site utilities
Water Storage System	5500	Water storage for building fire suppression systems
Waste Handling System	5500	Septic and storm water on site treatment facilities
Total Square Footage	30000	
Parking & Roadways		
Description		
Parking and access roadway for 100 parking spaces	30000	Parking for 100, service vehicle circulation
Total Square Footage	30000	
Landscaping		
Description		
Repairative and Code required landscaping	15000	Light overflow usage, repair/restoration of indigenous plants
Total Square Footage	15000	
Total Site Development Space	75000	

Conclusions to 2013 Board report

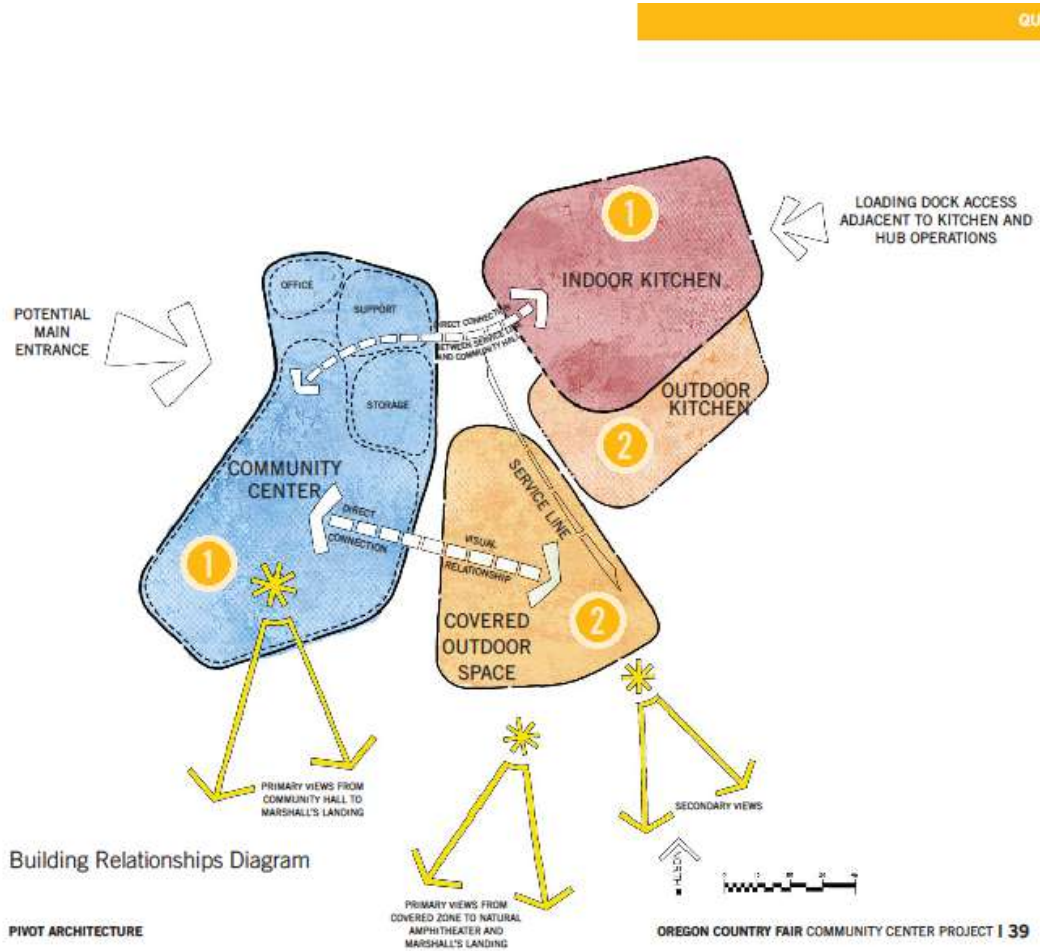
At the close of the 2013 report, there were three key pieces of information: the building program, the building space diagram, and the conceptual estimate.

The Community Center Committee held a subsequent program exercise, and the space program was reduced as shown below.

Table A: OCF				
Community Center Committee Report				
Comparing recommendation out of Charrette to Pivot report sizes				
	Pivot	Charrette	Difference	% decrease
Indoor meeting size	3500	2600	900	26%
Indoor aux (mechanical/service)	1560	1400	160	10%
subtotal	5060	4000	1060	21%
Indoor kitchen	3000	3000	0	0%
Outdoor kitchen	1500	1250	250	17%
total	4500	4250	250	6%
Outdoor, covered	3000	3000	0	
Totals	12560	11250	1310	10%
Indoor	8060	7000	1060	13%
Outdoor	4500	4250	250	6%

OCF Community Center current Space Program

The Space diagram shows the relationships of the various spaces in the project and the relative sizes. Note that the shapes are for scale only; the actual shape of the building will be determined in the design phase.



OCF Community Center Space Diagram

The last piece of information from the previous report was the Cost Estimate. Based on the feedback we heard from the groups, this cost estimate is representative of the kind of building that is in alignment with Country Fair values - utilizing sustainable, local materials to make creative but simple forms. The building is meant to be sturdy, long lasting, and serve as a canvas for the creative artists that would decorate its walls and spaces. NOTE: this estimate was not reconciled with the reduced program.

SUMMARIES AND STRATEGIES

Oregon Country Fair Community Center- Cost Estimate
 Date of Construction Start: 8/1/2013
 Date of Estimate 3/14/2013

Item	Non Direct Cost Estimate	% of Construction	Cost	Remarks
19	Construction Cost Amount:		\$2,913,880.00	From prior work sheet
20	Design Services			
21	AE Team			
22	Architectural	5.75%	\$168,000	AE Team
23	Mechanical, Electrical, Kitchen, Engineer	3.15%	\$92,000	AE Team
24	Structural Engineer	1.50%	\$44,000	AE Team
25	Civil Engineer	1.50%	\$44,000	AE Team
26	Landscape Architect	1.00%	\$29,000	AE Team
27	Other Consultants - Cost Estimator	0.50%	\$15,000	AE Team
28	Traffic Engineer	0.50%	\$15,000	By Owner
29	Environmental Consultant	0.50%	\$15,000	By Owner
30	Archaeologist	1.00%	\$29,000	Fair family
31	Geotechnical Engineer	0.50%	\$15,000	By Owner
32	Surveyor	0.50%	\$15,000	By Owner
33	Sustainable Design premium	4.00%	\$117,000	Allowance - Scope will be refined.
34	Regulatory Agencies			
35	Building Permit	1.30%	\$37,880	
36	Conditional Use Permit Fees	Allow	5,000	
37	Septic/Waste fees	Allow	10,000	
38	SDC Charges		\$0	
39	Msc Expenses			
40	Printing of Bid and Construction Documents	0.10%	\$2,914	
41	Owner moving costs	0.00%	\$0	by owner
42	Quality Control			
43	Materials testing & Special Inspection	1.00%	\$29,139	
44	Project Management			
45	Management	2.00%	\$58,278	Provided by Owner
46	Legal & Insurance	0.00%	\$0	Fair family
47	Furniture Fixtures & Equipment			
48	Computers and IT	1.00%	\$29,139	Server rack, wireless set up
49	AV Equipment	1.00%	\$29,139	Projectors, screens, PA
50	Security	0.00%	\$0	Included in construction
51	Phone	0.00%	\$0	Included in construction
52	Furniture	1.00%	\$29,139	Allowance
53	Signage	0.00%	\$0	Included in construction
54	Food Service Equipment	8.58%	\$250,000	Per OCF equipment list
55	Contingencies			
56	Change order allowance	5.00%	\$145,694	Should be 5% min for new construction, 10% for renovation
57	Overall project contingency	7.50%	\$218,541	
58	Total Soft Costs	48.88%	\$1,442,862	
59	Total Construction Cost and Non Direct Cost		\$4,356,742	

OCF Community Center conceptual budget

SECTION 3: BUILDING TYPE DESCRIPTION AND IMAGES

At the end of the first planning phase, two important issues had arisen. The first was related to the building materials and types; there was some confusion in the membership about what kind of building was being modelled in the study estimate. It was clear that more information needed to be developed in order to bring consensus about the building types. The second issue was simpler, but related to the first: What was the cost of the project? How does that cost relate to the materials and form of the building?

To get clarity on this issue without the expense of a complete building design (or multiple building designs), it was decided that some research should be done to demonstrate the building types with images and narratives, and attach costs to those types. The building types fall into three categories: Code Compliant Building, Durable Building, and Concept Buildings.

Building Type One: Code Compliant Building. This building type is meant to provide a Code compliant building solution. This means the building will support the basic functions required in the Program, and will be constructed with the lowest cost materials that satisfy the Code and the building life span expectations.



25 year Code Compliant building image



50 year Code Compliant building image

Building Materials. Each building type will be created from materials appropriate to the quality and anticipated life span. Each material category is meant to convey the look and feel of the building elements that will be constructed from that material.

Structural materials:

- Concrete Slab
- Wood Trusses
- Stick framed wood walls



Siding materials:

- 25 Year Building – Vinyl Siding
- 50 Year Building – Concrete Block



Window systems:

- 25 Year Building – Vinyl Window
- 50 Year Building – Aluminum Clad Wood Windows



Roofing materials:

- 25 Year Building – Asphaltic Shingles
- 50 Year Building – Metal Roof Panels



Interior materials:

- 25 Year Building – Gypsum board walls, plastic countertops, rubber base, concrete floor.



Interior materials:

- 50 Year Building – Gypsum board walls, plywood wainscot, solid countertops, wood base, concrete floor.



Building Type Two: Durable Institutional Building Type. This building type is designed to be robust, low maintenance, and simple. Materials are commonly used and performance tested over long periods of time in a variety of projects. This building type is meant to last with a minimum of operational expenditures over the planned life of the facility.



Durable Institutional Building Type

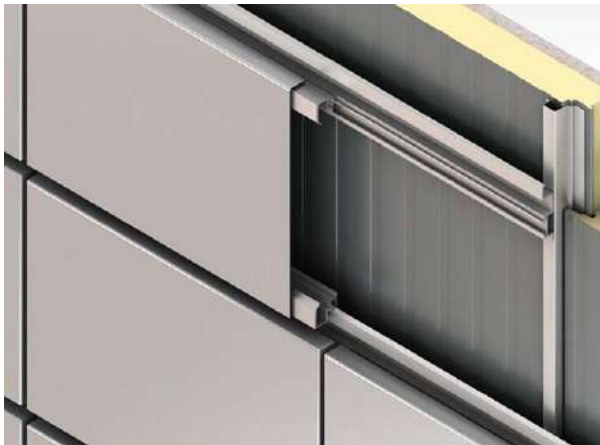
Structural materials:

- Concrete Slab
- Steel Frames
- Metal or wood stud walls



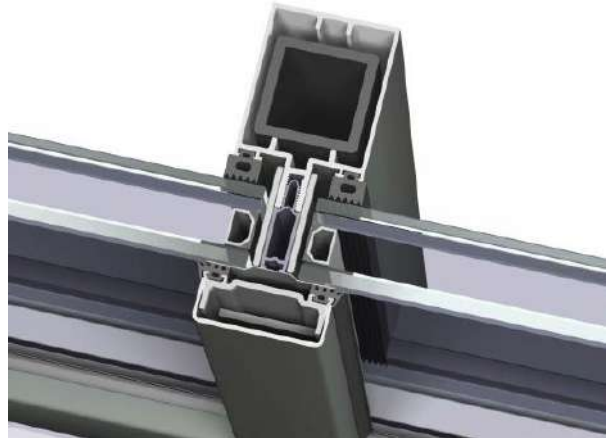
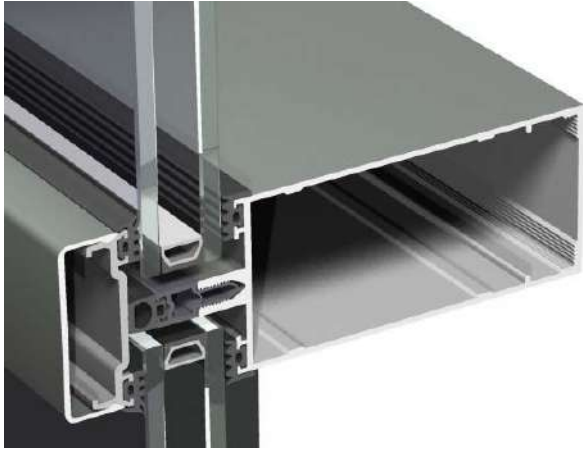
Siding materials:

- Masonry veneer
- Steel panels



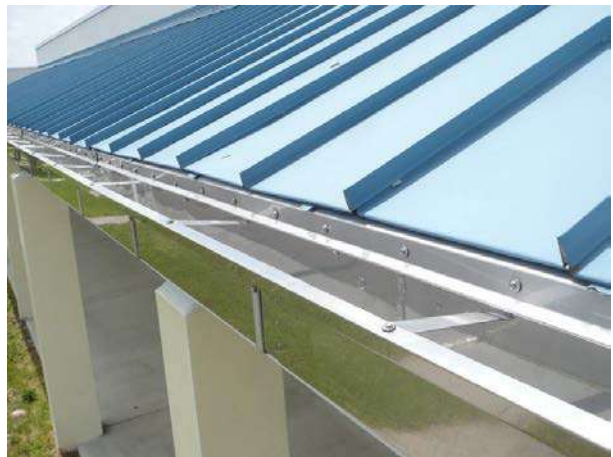
Window systems:

- 25 Year Building – Aluminum Storefront System
- 50 Year Building – Aluminum Curtain Wall System



Roofing materials:

- 25 Year Building – Asphaltic Shingles
- 50 Year Building – Metal Roof Panels



Interior materials:

- 25 Year Building – Gypsum board walls, plastic countertops, rubber base, concrete floor.



Interior materials:

- 50 Year Building – Gypsum board walls, plywood wainscot, solid countertops, wood base, concrete floor.



Building Type Three: Concept Building Type. This building type is meant to be constructed of traditional materials (wood, stone, steel, glass) configured in usual ways. Assume longer spans, curving forms, and less points of contact at the ground. This building type will incorporate more sustainable strategies, including use of local materials, high recycled content materials, and prohibition of Living Building Red List materials.



Structural materials:

- Timber Framing
- Steel Reinforcing
- Engineered Wood Panels



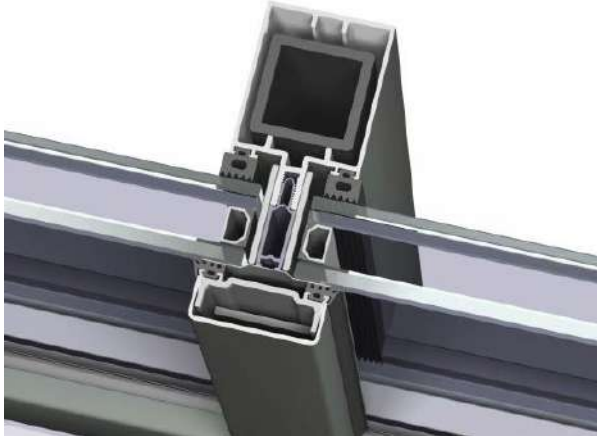
Siding materials:

- Solid Wood, Masonry
- Art Frames



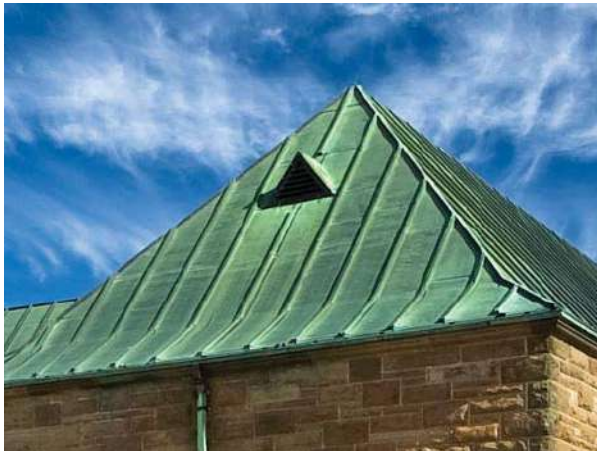
Window systems:

- Clad Wood Window Systems
- Aluminum Curtain Wall Systems



Roofing materials:

- Copper or Slate Tile
- Copper Flashings and Gutters



Interior materials:

- Wood wainscot, plaster wall, solid wood casework and trim, integrated artwork
- Stone or stainless steel countertops, wood or stone floors.



SECTION 4: PROJECT COST MATRIX

This matrix summarizes the costs for each building type. These cost include direct building costs and project soft costs. Also included are the life cycle costs for each category.

Life cycle costing is a planning tool that helps an organization make decisions about how to invest in a capital facility. There are a number of factors that should be considered:

- **Capital Costs:** The cost to design, permit, and construct the facility.
- **Operating Costs:** All cost associated with the operation of the facility over the planning study period. This includes cost of failures, repairs, spares, and downtime costs. For example, if the building needs to have the HVAC system replaced during the planning interval, there is a cost for the equipment replacement plus the cost of the facility down time during the work.
- **Maintenance Costs:** All the costs associated with maintaining the facility. This should include the cost of corrective maintenance, preventative maintenance, and predictive maintenance.
- **Renewal Costs:** Cost of anticipated major repairs. For example, if a building is anticipated to have a 50 year operational life, but a 25 year roofing system is installed to reduce initial costs, then we would anticipate a replacement of that major system one time during the life the life of the building.
- **Disposal Costs:** The cost to safely demolish the building at the end of its operational life.

This matrix shows the cost for the three options, with the two sub categories for each option. This study will use the planning period of 50 years. All costs will be indexed to that period.

Project Type		Project Capital Cost	50 Year Life Cycle Cost
Code Compliant Building			
	25 Year	\$3,632,794	\$6,497,169
	50 Year	\$4,782,137	\$7,527,513
Durable Building			
	25 Year	\$4,990,803	\$7,514,778
	50 Year	\$5,576,767	\$8,072,242
Concept Building			
	25 Year	\$7,506,295	\$9,775,295
	50 Year	\$8,089,100	\$10,192,624

END OF REPORT