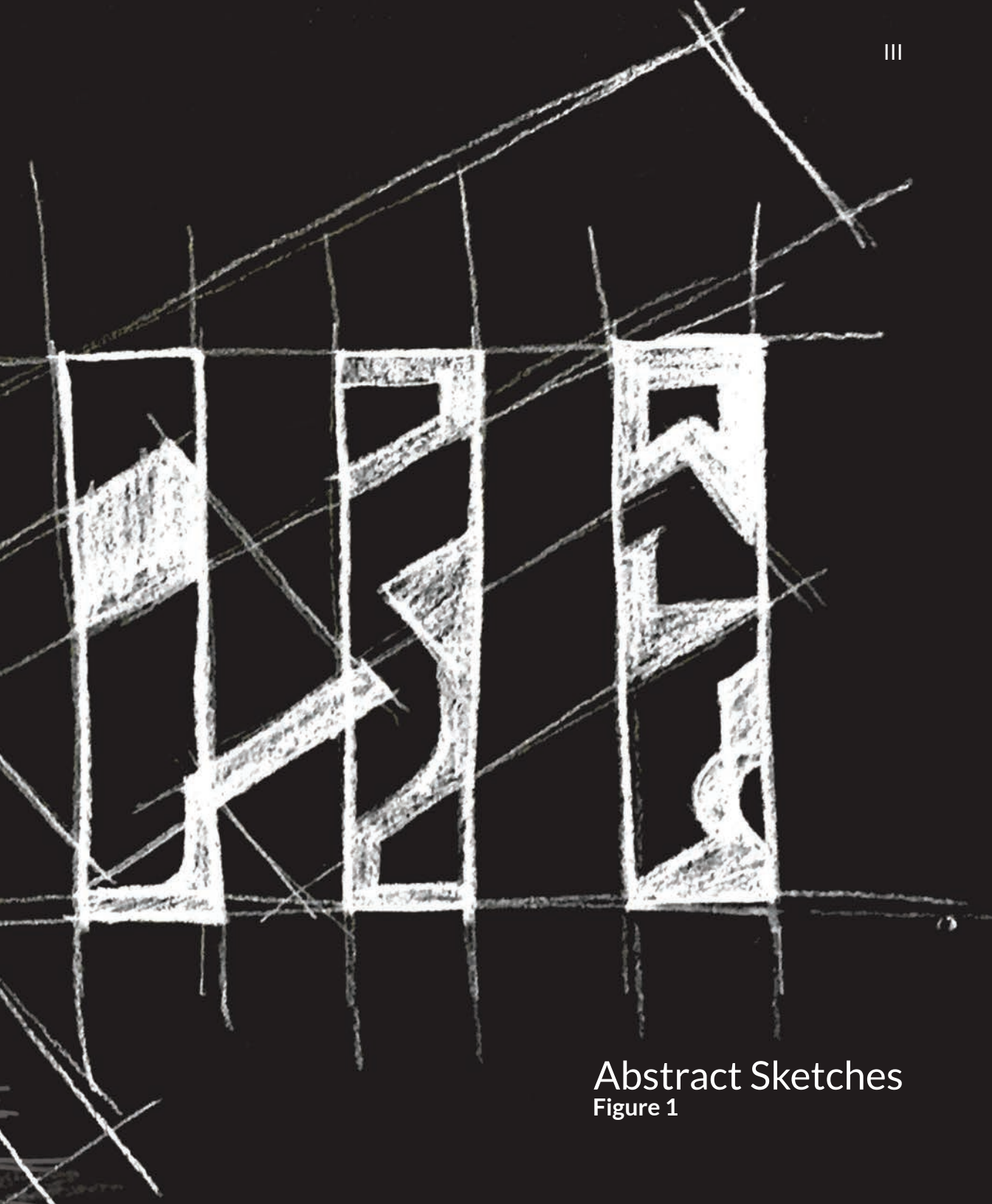




**CREATING COMMUNITY FOR
THE UNKNOWN TOMATO
PICKERS**

DANIEL MONTGOMERY
VOL. 1 - FIRST EDITION





Abstract Sketches
Figure 1

Abstract

Through many years of the United States have been dependent upon migrant and seasonal workers to maintain farms. As the years have advanced, the demographics of these workers have changed along with them. The workers have shifted from citizens to immigrants. At the same time, mechanization began to eliminate the need for as many workers in the past.

At the same time the demographics began to shift, mechanization also started in the agricultural industry. The combination of shrinking work force and increased use of machinery, knowledge about migrant farm workers began to decline. Later, with citizens being uneducated about the workers, conditions also began to decline.

The current state of migrant workers accommodations are inadequate and are unable to attract the needed work force to properly cultivate the fields in many states. In the past, many have tried to redesign and create new housing to replace the ones that had become deteriorated and irreparable. This solution has been approached from different angles many times but always have resulted in the same outcome. The homes do not get maintained and later become overcrowded and deteriorated to a point of disrepair.

The resolutions in the past have never faced or resolved the issues that cause many of the homes to fall into poor conditions. The issues that need to be resolved before additional



housing can resolve the overcrowding issues includes but is not limited to migrant workers being able to advocate for themselves, relieve major facilities within the overcrowded homes, accommodate all members of the work camps rather than just the workers and off the workers a place to be able to learn and better their own accommodations.

Although architecture can only be a building block to help resolve the many dilemmas that migrant workers deal with, it can begin to advocate and educate many. One way to achieve the beginning of resolution for the migrant workers is through the introduction of a community center into the current work camps. This opportunity allows for a place for the migrant workers to advocate, learn and begin to resolve the biggest issues that face a increasingly disappearing society.

Leitz Farm Field View
Figure 2

Acknowledgments

After many years of education I would like to thank everyone who has influenced me and helped me through my education. Though only 2 years, it has been a couple of the toughest years of my life but I grown more than I could have ever predicted. I would not trade a single experience or adversity for any other advancements that could have happened in place.

Thank you to all who were involved in the creation of the first Masters in Grand Rapids, MI. I know it has been a long evolution and desire for the community and It has been my pleasure to join the community with the support of everyone.

Thank you Ned Baxter for all of your influence and knowledge. I had a great time working with you and getting to learn a new style to further my knowledge. You pushed myself and my project further than it would have ever gone without your influence.

Thank you to my entire family! You have always been my greatest supporters and helpers through everything. I could not have gotten here without any of you. All the support, meals, and convincing that I was still doing the right thing is all I could ask of you and you would always continue to offer more.

Thank you Genna for all of your support. Through think and thin you continued to push me in the right direction. All of the late nights spent with you will be a memory to never forget and an experience I am glad to get to

share with you. You always made me strive for more than I though myself capable of and that is the greatest thing I could ask of anyone.

To all my friends that have supported me over the last few years. I know I have been distant and unable to spend time with you well in school but thank you for still making the effort to see me and talk to me. Although we may have been distant, I still cherish my friendship with all of you!

To anyone and everyone else who I did not mention or list below thank you. Everyone has had a great impact on my life and future and I hope to have the same impact on someone in the future. Never loose yourself and continue to teach and learn as it is the greatest thing that sets us apart!

Ned Baxter
Juli Brode
Brian Craig
John Montgomery
Denise Montgomery
Colleen Montgomery
Geena Pickering
Alicia Miller
Courtney Vallier
Anne Schnitzenbaumer
Dakota Lassett

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Submitting for a
Master of Architecture 2016
Kendall College of Art and Design

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Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

Introduction

Introducción

01

Polemic

Polémica

Problems Facing Migrant Farm Workers

Farms across the United States often depend upon migrant farm workers to help provide affordable fruits and vegetables. Although there is a high demand for workers, the industry is continually running into labor shortages due to the growing Mexican economy, low incomes, inadequate living conditions and many other factors. One state with a particularly high loss of workers is Michigan. Last year alone, around 1/3 rd of all crops were not harvested and therefore rotted in the fields due to a lack of ability to employ ample and talented workers.¹ Michigan current reasons for its inability to attract new talent to farming are due to the substandard conditions that are offered at work camps, lack to resources, and limited connectivity to community which leads to minimal access to public spaces.²

Farming work camps are also rapidly changing ownership in the 21st century from farmers and works to third party providers.³ This shift in ownership is occurring at the same time funding has been limited which has created an absence of maintenance and resources which caused disrepair and eventual demolition of the residences. This continual removal paired with limited replacing has created

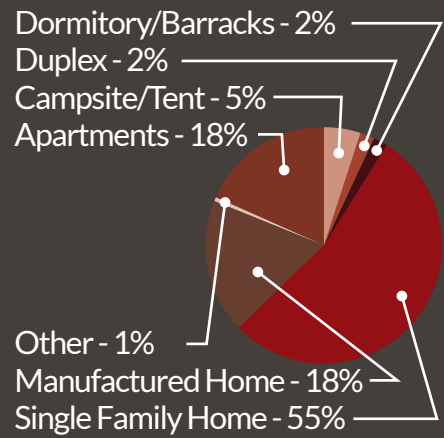


Figure 3 MFW Housing⁴

overcrowding in residences for the workers and their families. This overcrowding has also driven many workers to live in tents which has created different repercussions that have yet to be fulfilled. Two do the unaccommodated activities are cooking and bathing. On the work camps there are often no accommodations for these activities which therefore adds a strain to the already overcrowded kitchens and bathrooms of most work camp.

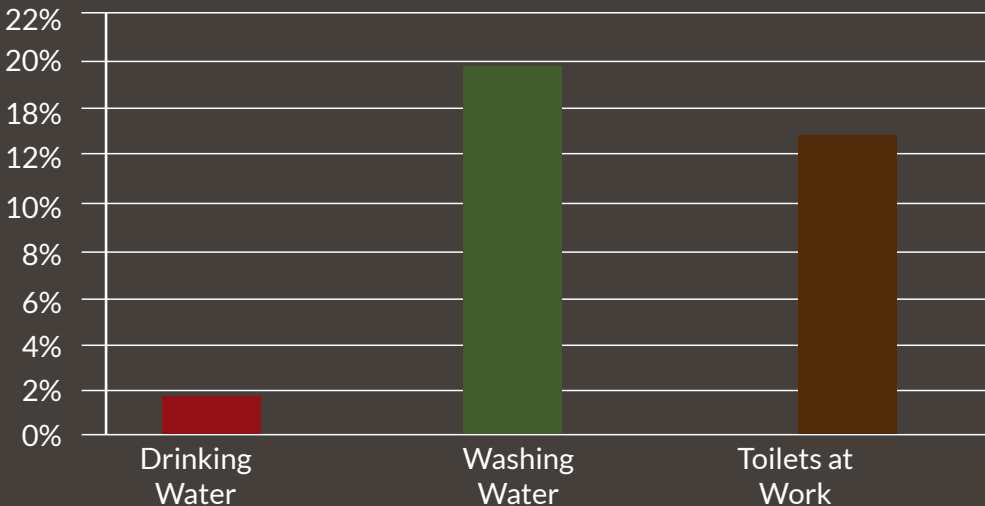


Figure 4 MFW Percent without Access to Amenities⁵

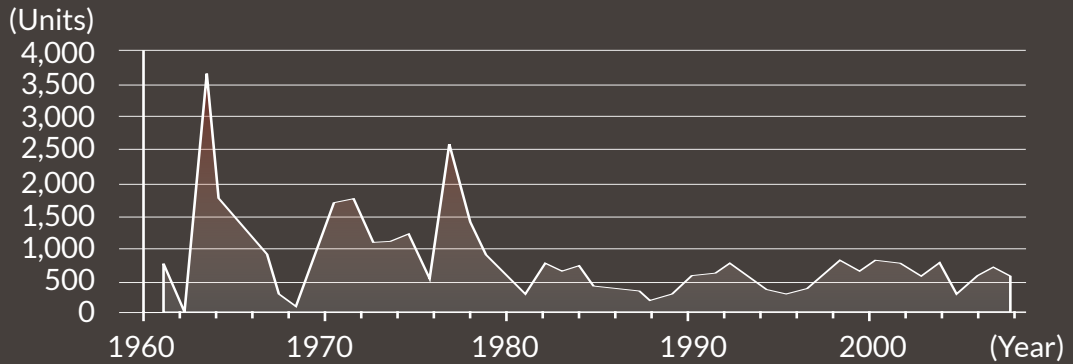


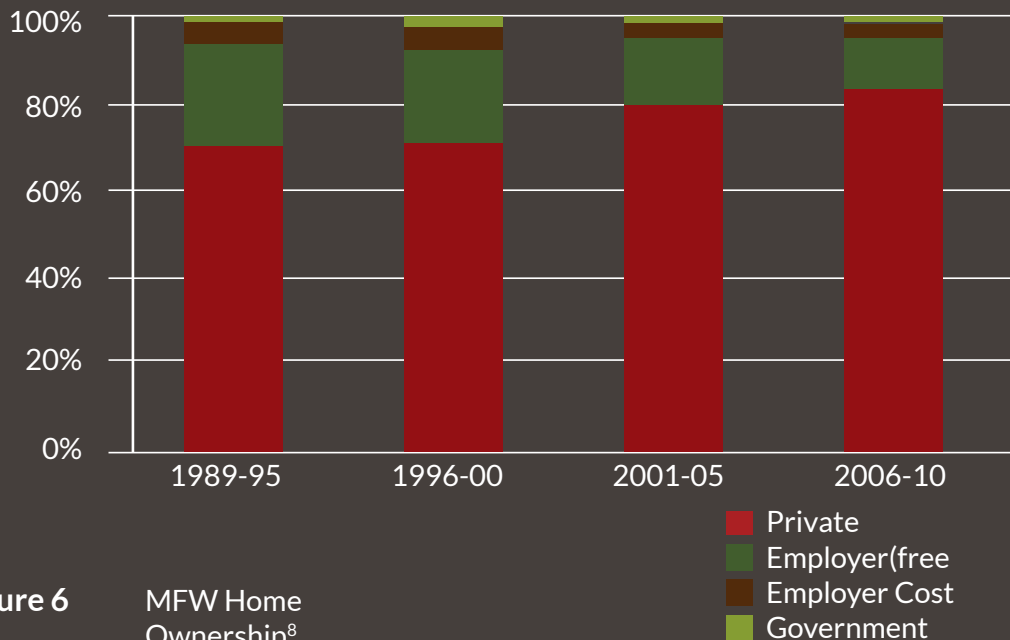
Figure 5 Federally Funded MFW Units⁶

Although 70 percent of workers often return to the same farm to work each year⁷; overcrowding, limited transportation, rural locations, and fluctuating populations limit the sense of place for the workers. These many factors make it difficult for the migrant workers to advocate for themselves and their current living conditions. One way to help solve many of these problems is to bolster community with architecture.

Through research, it was concluded that the current practice of replacing overcrowded or inadequate housing has not been effective in attracting new and young talent to migrant farming and does not create better living conditions in the long run, therefore a solution that can have the most impact for the current issues plaguing the migrant farm workers is the introduction of a community center that is independent from the systematic organization of current farm layouts. This public space will offer many functions to help relieve some of the pressures that reside on the current housing and also create new spaces to create opportunity for the workers to have access to resources to better their

own living conditions and advocate for themselves rather than depend upon others.

One challenge with this particular community center is that its community both fluctuates and moves annually. This creates an opportunity for the building to respond to this by both expanding for the fluctuating population and moving to a second location to offer an educational opportunity when there is no population at the work camp. The second site, along with the ability to inform those who are unaware of the current issue afflicting the workers, offers the ability for some workers to stay in the area to help run and manage the building.

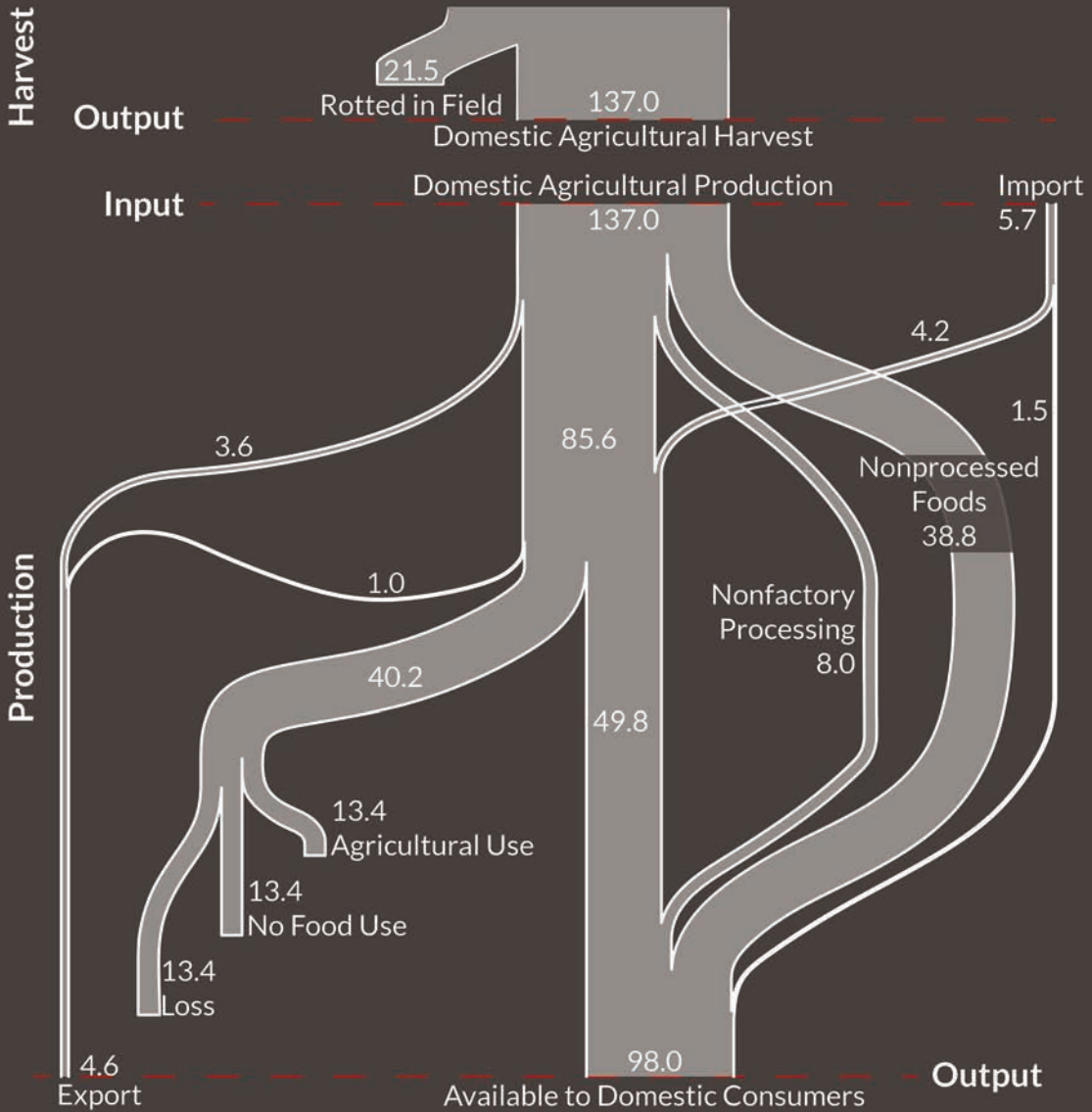


Domestic Agricultural Production

The United States produces over 90 percent of food in within its borders.⁹ One reason this factor needs to be considered by the current economic situation is because of who the labor force is to be able to produce this large portion. Due to increasing Mexican incomes, lack of desire for Americans to do this work, and other factors farmers end up hiring outside help from other countries who are willing to do the work.¹⁰

Although much of the work is becoming automated there are still many of the existing crops that still need to be cultivated, harvested and maintained by hand laborers. This means that we need to create better accommodations for the existing and future workers to help create an industry that is appealing to employees so an adequate and ample workforce can be found and maintained for the future of domestic agriculture.

Another reason it is important to maintaining a domestic industry in America is to help keep some costs down. Thus, removing the need for additional transportation costs and possible trade tariffs to be able to offer the lowest possible cost to the customer.



*All numbers represent 1,000 tons

Food Production in America¹¹
Figure 7

Stakeholders

Las Partes Interesadas

People Involved with the Community Center

To help develop the project and create the best outcome a person was create for all parties involved is both the creation and occupation of the final community center. This list of stakeholders includes a migrant worker, Migrant Resource Council Member, rural community member, local contractor, and the designer.

The creation of all six stakeholders introduced a unique function to the building that offers the strongest solution and therefore the best building that could be offered.

The migrant workers allowed for an introduction into the culture and demographics of the main users as well as an learning of desired activities that are under satisfied or nonexistent on current work camps.

The Migrant Resource Council Member allowed for a partnership who would desire to the same outcomes for the migrant workers and advocate to farmers and local community members the benefit of an additional non-production building in the rural areas. Including the MRC also created a parameter of where the disassemblable and movable building would be best used.

The rural community members opened a source to local culture of farming in America and specifically Michigan. It also created a possibility for integration of community members from outside the work camps to integrate with the migrant workers and create new relationships and support existing ones.

The local contractors helped to create an understanding for how the building would need to assemble and disassemble. And how it could be designed to move often without the need of an additional help for each move.

The Designer helped to introduce a design into the architecture to allow for the creating of the most usable and desirable spaces. In hopes to create a space with higher design that would be respected and maintained unlike the overcrowded manufactured and single family homes that most agricultural workers live in.



Santiago



Figure 8 Migrant Worker Santiago¹²

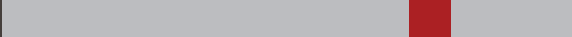
“A buen entendedor pocas palabras bastan.”

Dependable

Bio

Santiago was born in the southern Mexican state of Michoacan, but grew up in Maine on a blueberry farm. He and his family moved to Michigan to harvest crops because of the extended harvest season compared to his prior location. He travels from farm to farm with his wife and 3 children who are ten, eight and three. When Santiago and his family are not harvesting apples in Michigan they are in Texas helping out on cotton farms to earn extra money.

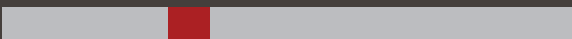
Introvert Extrovert



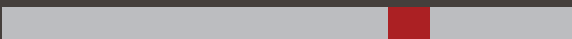
Analytical Creative



Conservative Liberal



Passive Active



Migrant Worker

Caring

Adventurous

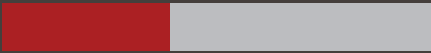
Quirky

Motivations

Incentive



Fear



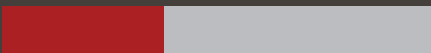
Achievement



Growth



Power



Social



Role

- Leitz Farm Seasonal worker.
- Leitz Farm contact and coordinator for transportation.
- Daily interaction with the community center and surrounding space

Benefits

- Would be provided with a place to do many activities that were not provided in the past.
- Has a place for his children to play safely.
- Opportunity to manage the community center so he does not have to change his children's schools in the winter.



Fred Leitz

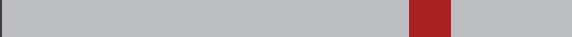


Figure 9 Farmer Fred Leitz¹³

“I’d rather be on my farm than emperor of the world.”

- George Washington

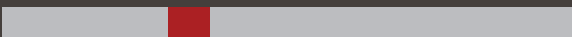
Introvert Extrovert



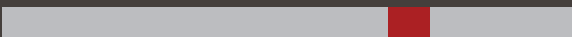
Analytical Creative



Conservative Liberal



Passive Active



Secretive

Bio

Fred Leitz is a busy man. Even in the off-season, his schedule is packed as he bounces between managing tasks on his family’s operation, Leitz Farms, based in Sodus, MI, and participating in multiple industry organizations.

The efforts of Leitz Farm have not gone unrecognized, as the operation received acclaim from the Michigan Vegetable Council, winning its Master Farmer Award in 2000. The award is presented to operations that are not only innovative, but are involved in the industry as well as their communities.

Fred now employs 177 migrant workers each season to help with his harvest because the laborers produce greater quantities of undamaged fruit.

Farmer

Restless

Shy

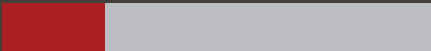
Eccentric

Motivations

Incentive



Fear



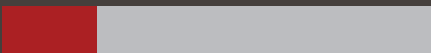
Achievement



Growth



Power



Social



Role

- Land to host the building.
- Michigan Vegetable Council Member.

Benefits

- Attract more and better quality workers.
- Provide workers with additional amenities to increase quality of life.
- Increase the productivity of hired labor.



Figure 10 MRC Member Jeffery¹⁴

“Many of life’s failures are people who did not realize how close they were to success when they gave up” - Thomas Edison

Courageous

Bio

Jeffery grew up working summers on his uncles potato farm in Idaho. Here he met many migrant workers that his family employed each year and grew up with many of the young adults and children working in the fields. Once Jeffery was old enough he went to college at Michigan State University and received his degree in Biosystems Engineering. He now works in southwest Michigan and also sits as a council member on the southwest Michigan Migrant Resource council to help represent migrants and better the conditions for migrant workers in Michigan.



Migrant Resource Council Member

Optimistic

Spontaneous

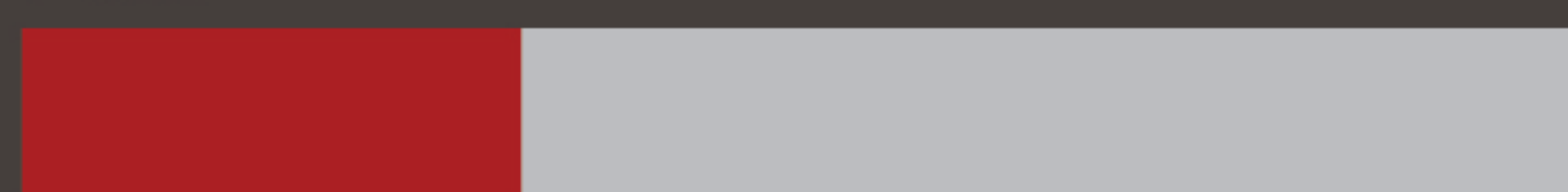
Independent

Motivations

Incentive



Fear



Achievement



Growth



Power



Social



Role

- Migrant Resource Council Officer
- Migrant resource council transportation coordinator for the mobile community center.

Benefits

- Adds community support for farms and workers.
- Gives an additional winter function to Berrien County.
- Provides a space close to workers to learn and advocate for them.

D Margret



Figure 11 Rural Community Member Margret¹⁵

Inspirational

Bio

Margret grew up in the rural city next to Sodus, Michigan. When growing up she had no plans to go to college but later decided to go for a communications degree. Upon graduation, Margret returned back to her rural town only four miles from where she grew up but commutes to St. Joseph for work every day.

“I didn’t get there by wishing it or hopping it, I got there by working for it.”
-Estee Lauder



Rural Community Member

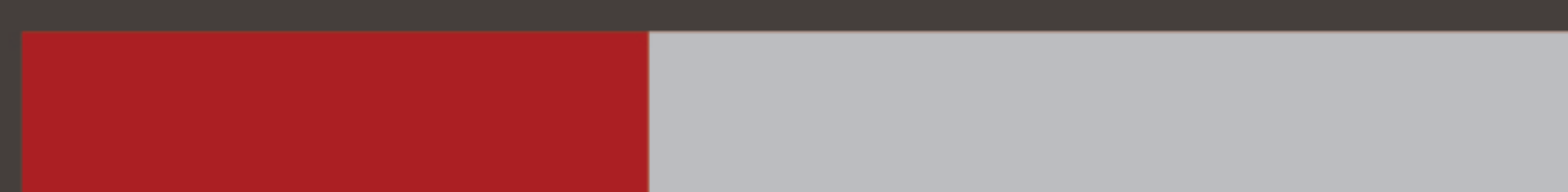
Carefree

Sensitive

Nurturing

Motivations

Incentive



Fear



Achievement



Growth



Power



Social



Role

- Teaches children and adults English in night classes.
- Engage the workers and families with community activities and county field trips.

Benefits

- Engagement through the Migrant Resource Council to practice her communications degree.
- Can work closer to home and workers.

Jim



Figure 12 Contractor Jim¹⁶

“Design is not just what it looks like and feels like. Design is how it works.”
-Steve Jobs

Handy

Bio

Jim went to school to become an Insurance Salesman. He graduated in 2004 during a bad economy and had to become a professional plumber to help pay his bills. He now has become a licensed contractor and works on many different jobs of scale and typology to help pay off his student loans.



Contractor

Mentor

Quite

Outgoing

Motivations

Incentive



Fear



Achievement



Growth



Power



Social



Role

- Plumber on call for any piping problems.
- Attach and detach mobile rooms.

Benefits

- Additional work for his company, that has multiple required jobs each year.
- Chance to learn a new and innovative system for plumbing.

Daniel Montgomery



Figure 13 Designer Daniel Montgomery

“Live as if you were to die tomorrow.
Learn as if you were to live forever.”
-Mahatma Gandhi

Kind

Bio

During a long adventurous education, Daniel has been involved with the creation and maintenance of a local food pantry. This experience has led him to his interest in architecture as a possibility to continue to better peoples lives. Through his aspirations to become an Architect, he believes that he can make the world a better place by returning design to the all rather than just the one percent.



Designer

Funny

Compassionate

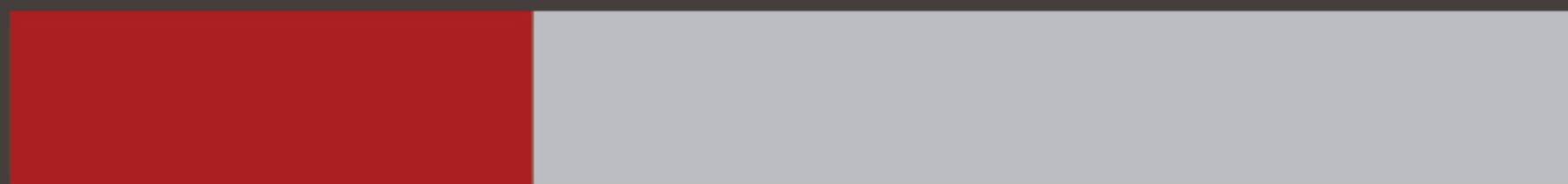
Athletic

Motivations

Incentive



Fear



Achievement



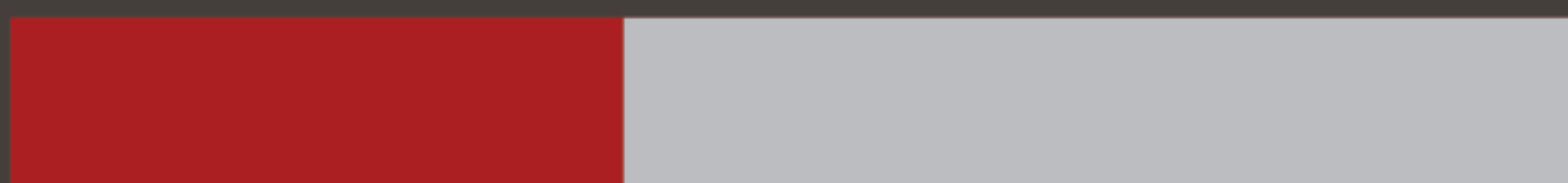
Growth



Power



Social



Role

- Engage community to develop the program.
- Create the best possible solution for a fluctuating migrant community.

Benefits

- Explore the design impacts of participatory design.
- Explore the benefit and challenges of a secondary use of a structure in the off peak usage time of architecture.
- Conduct experiments to test the feasibility of a mobile architecture.

Worker Information

Demografía de los Trabajadores

Changing Demographics of Migrant Workers

Through the years there have been a lot of many different ethnicities that have supplied the agriculture industry with workers. In the most recent years, the demographics of agricultural workers have shifted to immigrants to maintain enough workers.¹⁷

The total number of workers has also declined in recent years.¹⁸ This has been a result of increasing automation in agriculture but is not limited to the influences of modern machinery. The machinery is one factor that does increase productivity for many farms but not all farming is able to use such machinery. Many crops, including apples tomatoes and many other produce are limited to manual labor as machinery currently does not exist to harvest the produce without damage.

Paired with the loss of workers due to machinery; growing Mexican economies, limited funding, and inadequate work camps have influenced many young workers choose other careers.

The loss of manual laborers has impacted the final production totals for farms that have not been able to replace workers with machinery. This impact has resulted in approximately

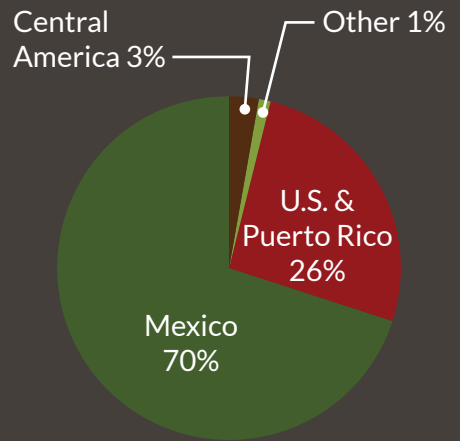


Figure 14 Farmworker Country of Origin¹⁹

one third of all crops rotting before workers have been able to harvest the crops.²⁰ This is a problem for consumers because if the trend continues, food prices will continue to increase and become unaffordable.

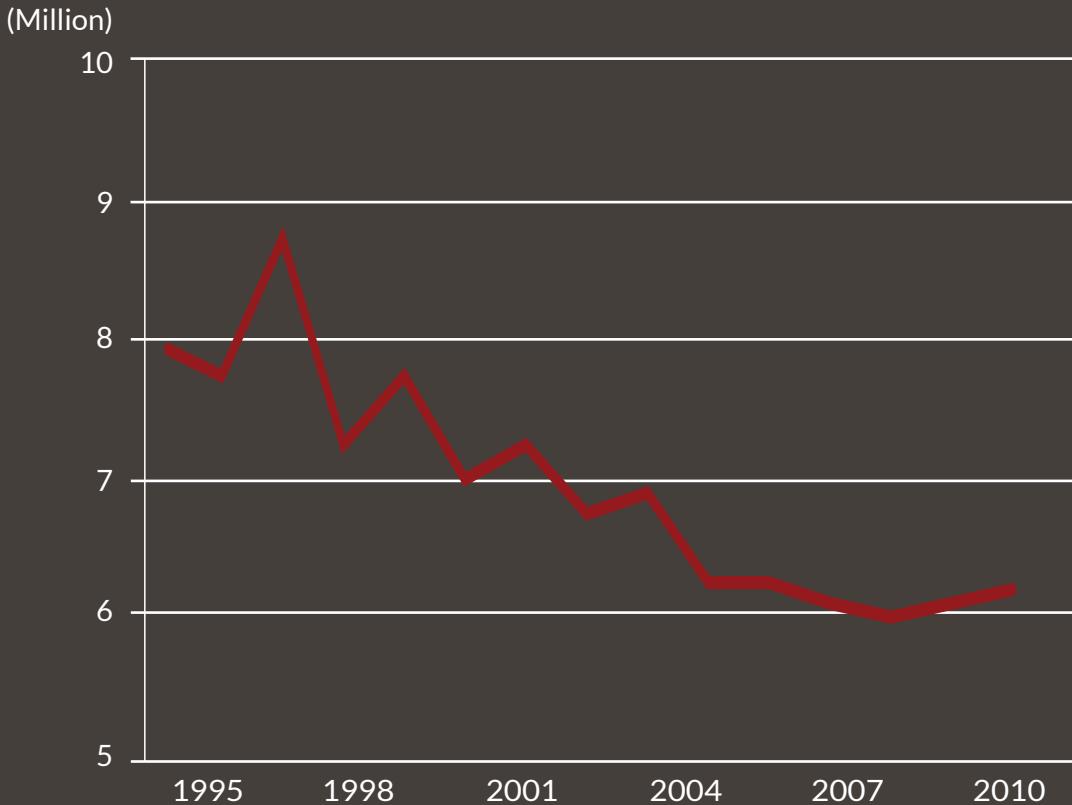


Figure 15

Shrinking MFW
Work Force²¹

Typologies of Migrant Workers

Over the long history of migrant workers there have been many classifications that have emerged. The three that have prevailed recently include Migrant, Transient, and Shuttled. Migrant are workers who are living on work camps and often stay in provided housing. Transient are workers who travel for peak harvest often staying in tents or on couches where space is offered. And shuttled are similar to migrant but live on work camps that are not on the farm that they work at.²²

Migrant workers are classified as workers that stay in a single location for 150 days or more.²³ This means that they are only moving 2 or 3 times a year and often return to the same camps that they had in the past. This group of workers often travels with their families (significant others and children) between farms and sometimes their home. These workers currently make up 22 percent of the migrant populations but are being offered positions by a greater percentage of farms.²⁴ This is unexpected as many think that farmers are unwilling to host additional people that might not be productive on the farms, but because payment is often based on production, many of the children and partners are also helping to provide for their families.

Transient workers are workers who travel many times for a year and stay in a single location for less than 150 days.²⁶ These workers are often traveling between farms during peak harvest when demand for labor is higher. Transient workers make up 78 percent of all migrant workers. These workers often

travel on their own but sometimes in groups. Transient workers also often stay on couches in the already overcrowded homes, or travel with tents to save on housing costs. The transient workers then need to use the cooking and washing facilities in the existing overpopulated housing.

Shuttled workers is a third classification but is something that can be referred to in combination of the migrant or transient workers. Shuttled workers are workers that do not live on the farm that they work. This group of workers is difficult to define a percentage of workers as it is ever fluctuating due to the lending and moving of workers between camps and farms. This categorization is most popular in states like California where workers are not allowed to live on farms but some do exist in all states.²⁷

Workers by Days Worked	Days Worked		Farms	
	Number	%	Number	%
Less than 150 Days (Transient)	74,869	78	13,069	68
150 Days or More (Migrant)	20,996	22	6,074	32
Total Hired Farm Labor	95,865	100		
Farms with Hired Farm Labor			19,143	100

Figure 16 Migrant Worker Typologies²⁸

MFW Legal Status

Only half of the agriculture industry is authorized to work in the United States. The authorized half is made out of thirty percent citizens and twenty percent authorized to work.²⁹

Like many other topics, there are many political and economic impacts both good and bad. Some of the positive impacts include low-cost labor for employers, filled unwanted jobs, additional tax revenue for local and other governments (that is later not withdrawn from, like social security), additional diversity and culture into local communities, and it is more expensive to remove them from the country than to let them stay and work.³⁰

As the former list is very positive, there are many negative that come in tandem with all benefits. This includes an increased threat of terrorism, possible outplacement of citizens jobs, governmental costs (border patrol, some medical cost, etc.), Additional population on existing infrastructure, and there presence in America is a law violation.³¹

The solution to these problems is not only architecture, but because it is a problem that does exist it can also be accommodated. With the ability to introduce a place to bolster community into the existing work camps, it could help to create a more appealing environment for citizens and authorized workers to work in the agricultural industry and begin to relieve some of the concerns of many citizens. This increase in community may also help to create a desirable place for

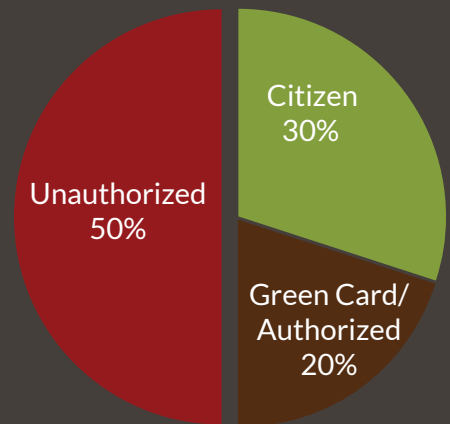


Figure 17 Legal Status of Farm Workers³²

workers to eventually become citizens and migrate their families with them permanently within the United States legally.

Migrant Farm Worker Mobility

During different eras there has been many different fluctuations of the migration patterns in the United States, many of which have been influenced by outside factors. The current trend has been for workers to less mobile and only move a few times a year.³³

Because more workers are staying in a single location for longer durations, two main factors have been occurring. Communities are beginning to grow and offered housing being used more due to less transient workers. These two things are contradictory to each other as one betters the environment and one is destroying it. The solution over time has been only to replace the existing housing repeatedly with the same outcome each time.

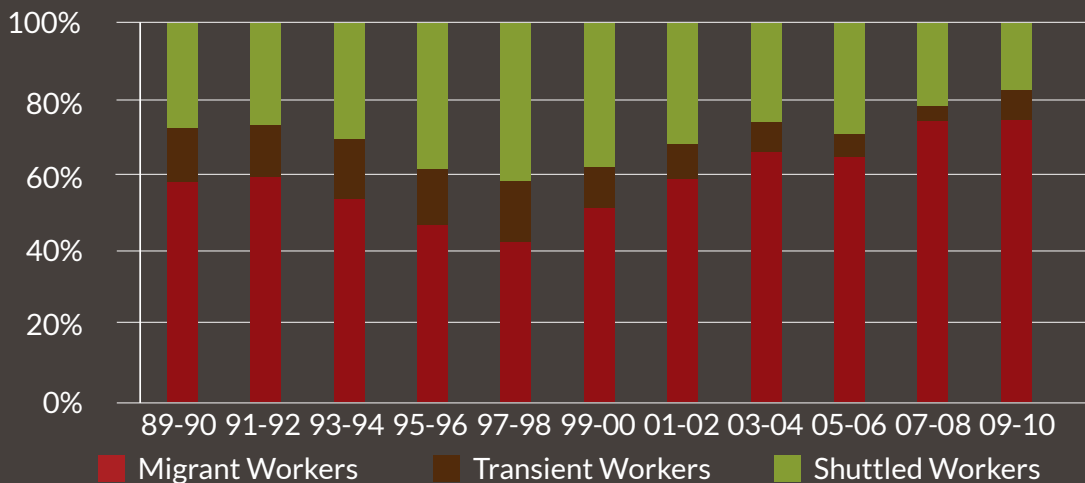


Figure 18 Migrant Farm Worker Mobility³⁴

Day in the Life of a Migrant Worker

Through research and conversation with residents of work camps it was determined that there were two very different age groups to accommodate, adults and children. The two age categories have similar time schedules which helps, but a few differences create an opportunity for additional activities.

The main difference between the adults and children are the adversities that each faces each day. Adults face many more problems, similar to most demographics.

Through this analysis, a few activities were identified that an architectural intervention could possibly help to alleviate or resolve. The activities that were chosen to be accommodated were gardening, bathing, cooking, dining, education, worship, meeting, socializing, and play.

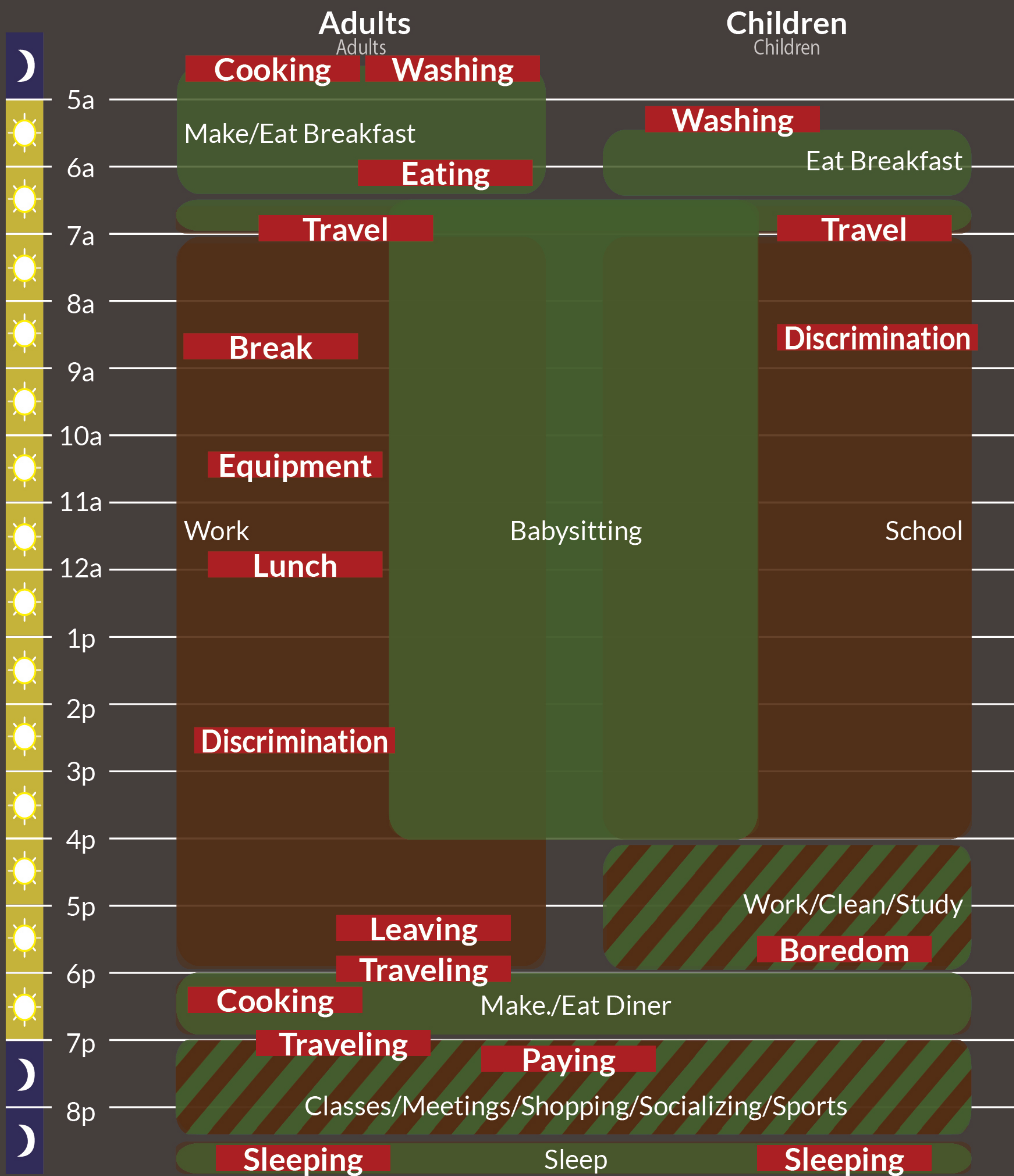
All of the above activities occurred on most work camps but often did not have an adequate space for them to happen in. With the introduction of a space to accommodate these functions, relief could be given to the homes of the workers and allow for the possibility for the homes to last longer.

Legend

Inside
Activity

Outside
Activity

Conflict
Activity



Day in the Life of a Migrant Worker
Figure 19

Michigan MRC

Michigan MRC

Migrant Resource Council

Michigan has established 9 Migrant Resource Councils (MRC) that includes 51 counties of the 68 in the lower peninsula. These 9 councils are separated by counties to encompass all but 2 of the top 10 migrant farm worker populations

The mission for the MRC is to “improve the quality of life of migrant and seasonal farmworkers and their families.”³⁵ Some of the ways that they achieve the improvements is by offering forums to create collaboration to resolve issues associated with working and living condition of farmworkers. These forums are open to anyone, including agency representatives, growers, farmworkers, and concerned local community members, to attend and raise issues that they are aware of or conditions that they could somehow better. The MRC meets monthly during the harvest season to swap information of available services for workers and farmers, minimizing the need to duplicate services, fulfill unmet needs of farms and farmers, establish networks, and coordinate the demand for migrant workers on farms without work camps.

The State office for the MRC offers logistical support to all nine councils during the year

and “releases a MRC Agency Resource Guide which lists local farmworker service providers within the MRCs’ service area.”³⁶ These lists contain the information of where work camps are in Michigan and also how many migrants are housed at each location. This lets farmers and workers know where available workers might come from or what farms will need additional workers for each season.

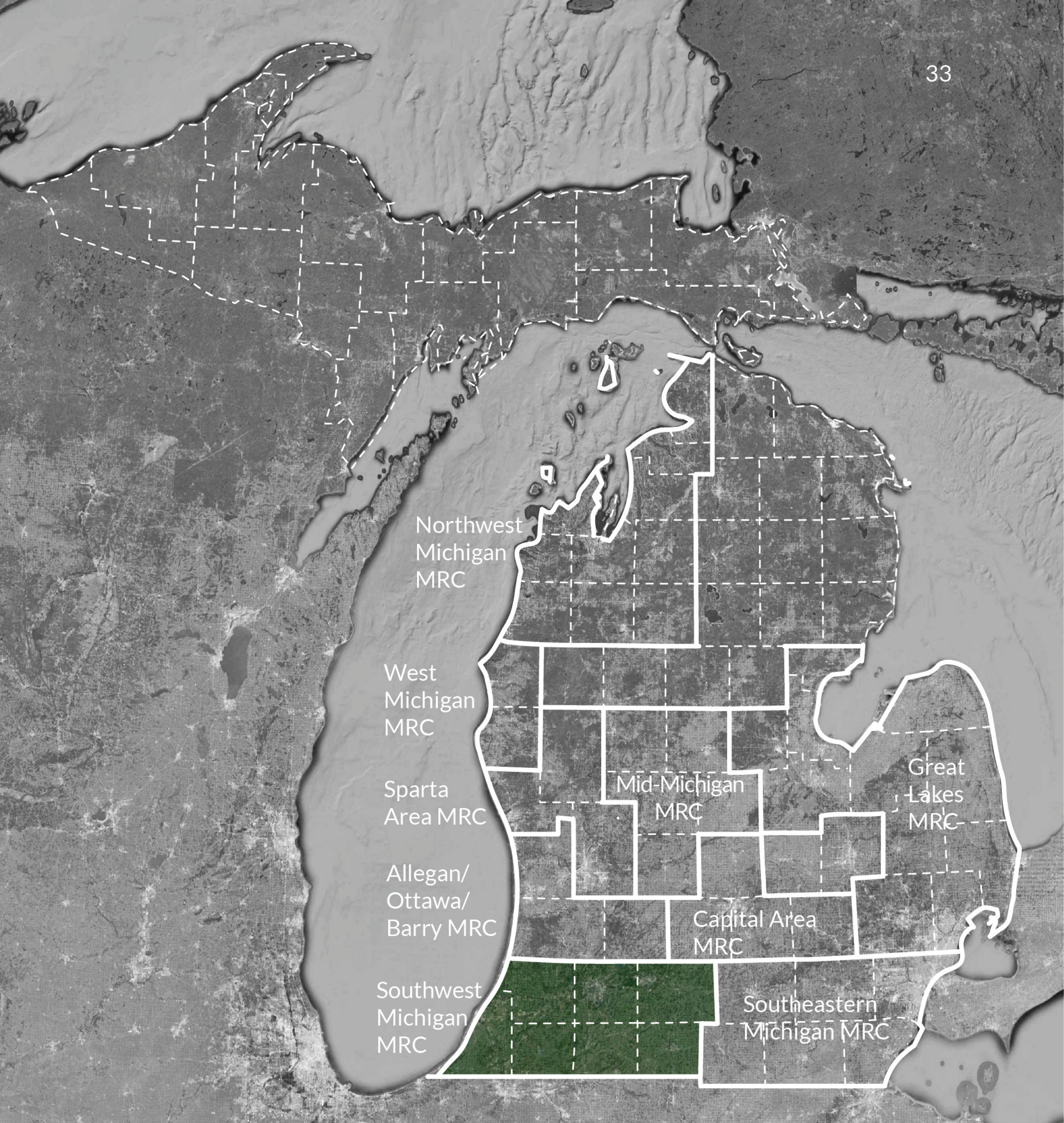
Community Center Client

The MRC was chosen as a perfect partner to help manage and maintain the community center because of all the aligned goals bot strive to obtain. The specific Migrant Resource Council that will manage the migrant community center in the Southwest Michigan MRC. This council advocates for the large worker community which is just one of the reasons that they were chosen. The Southwest Michigan MRC is comprised of seven counties which includes Berriean, Branch, Calhoun, Cass, Kalamazoo, St. Joesph and Van Buren.

Because the MRC will be managing the migrant community center, it was determined that the best solution for this mobile building was for the building to stay within the jurisdiction of the Southwest Michigan MRC. With the parameter of the MRC as owner, Benton Harbor was chosen as a second site that could be maintained without additional needed work such as travel costs.

1.Berrien	9,317
2.Van Buren	8,378
3.Kent	5,367
4.Oceana	3,804
5.Bay	2,038
6.Manistee	1,839
7.Ottawa	1,758
8.Allegan	1,674
9.leelanau	1,386
10.Ionia	1,062

Figure 20 Top 10 Counties by MFW Worker Population³⁷



Migrant Resource Council Coverage³⁸
Figure 21
Scale: Not To Scale

Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

Location

Ubicación

02

Why Michigan?

¿Por Michigan ?

Migrant Worker Populations

Michigan Currently ranks 5th for the most migrant farm workers by state with just over 100,000³⁹ workers. Although it is not the most, the state currently offers some of the worst conditions for the agricultural migrant workers.

Even with poor accommodations, migrant workers are considering staying longer and more often. One influence that has an impact on the workers staying is their families that many travel with. Including workers and their families, Michigan has an influx of around 100,000 people each year.⁴⁰ One reason they are deciding to stay when traveling with families to be able to keep the children in a single school and not uproot them for the winters.

Michigan Crop Influence

Many of the crops that Michigan grows are unable to be harvested by machinery and therefore creating a large demand for manual labor. One of the largest crops that requires manual labor instead of modern mechanization is apple picking.⁴¹ This is one of the biggest crops in Michigan that cannot use machinery yet. Other crops that cannot be mechanically harvested are many fruits and

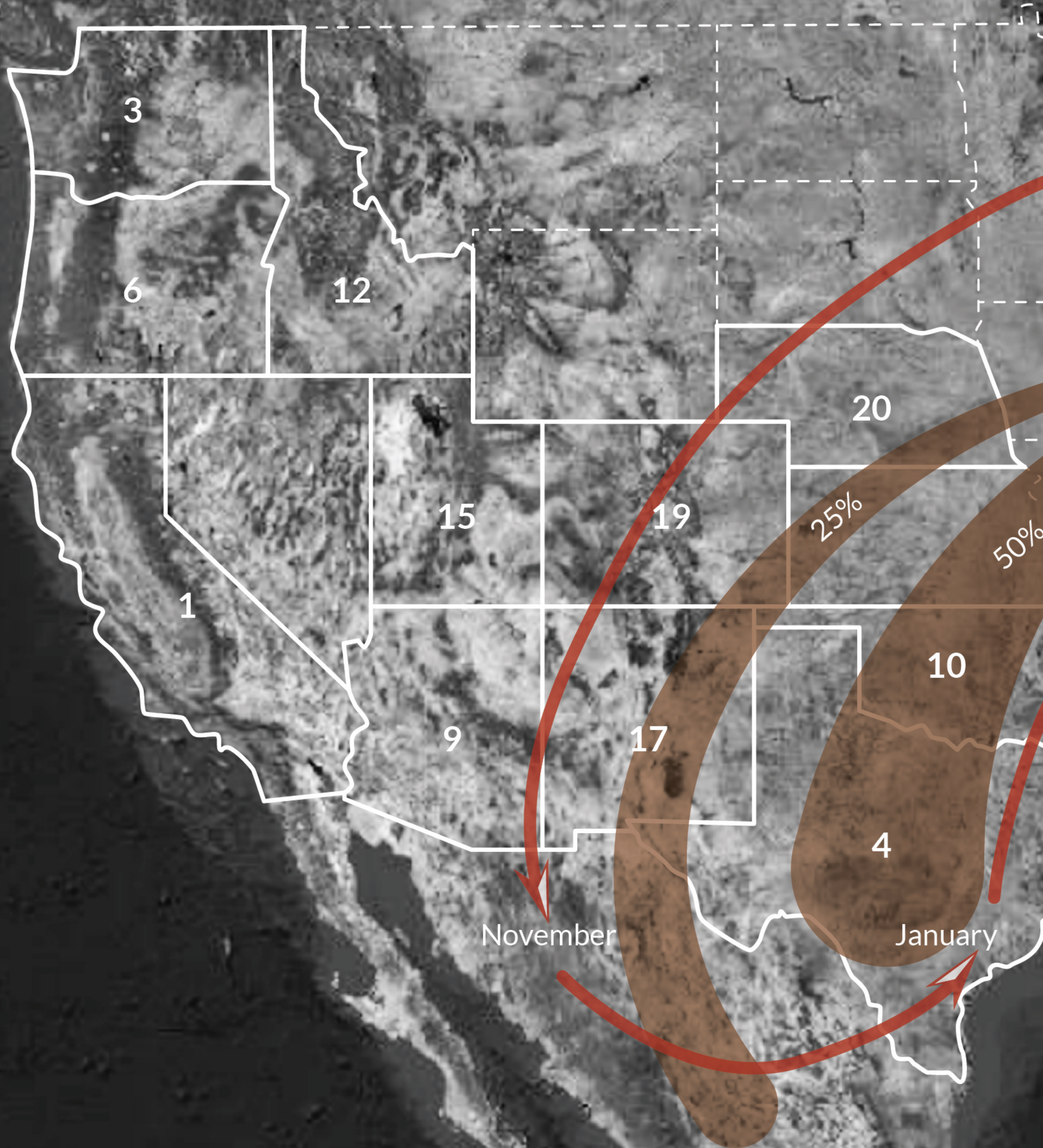
1. California	574,920
2. Florida	197,000
3. Washington	177,670
4. Texas	116,290
5. Michigan	105,030
6. Oregon	94,890
7. North Carolina	77,830
8. Iowa	48,710
9. Arizona	43,770
10. Georgia	26,780

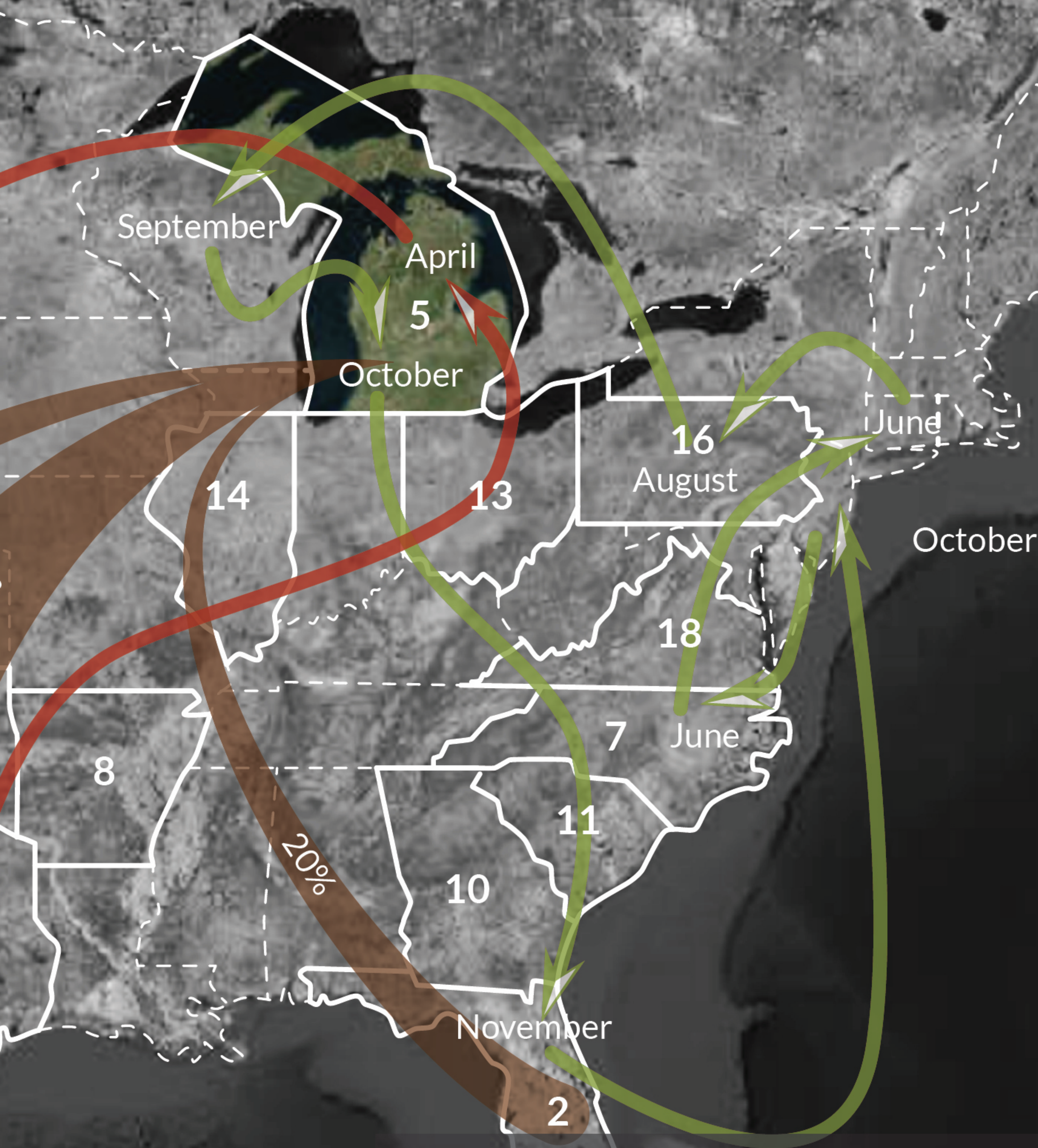
Figure 22 Top 10 States by MFW Worker Population⁴²

vegetable that can be damaged by the rugged and unforgivingness of machinery. Two reasons exist why many fruits and vegetables still require manual labor; varying growth/ripening and hope for limiting bruised/damaged products. This high demand for laborers makes Michigan a prime location for migrant farm workers.

Legend

- █ Migrant Workers
- █ Nomadic Workers
- # Top 10 Migrant worker population by State





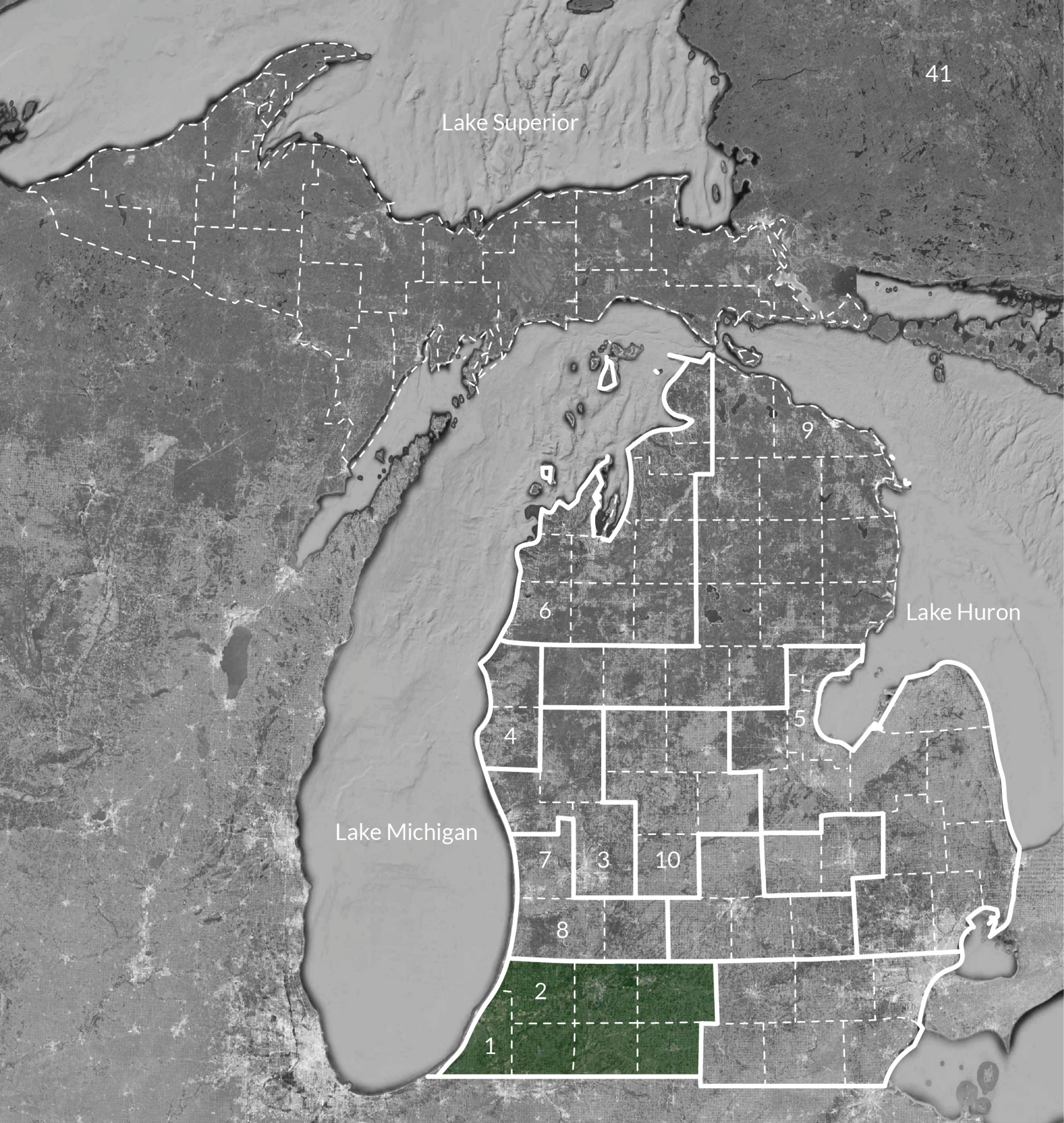
MFWs' Flow in the United States Map⁴³
Figure 23
Scale: Not to Scale

Michigan County Information

Most of the migrant workers in Michigan are located in the southwest. The number 1 and 2 counties both reside in the region that is overseen by the southwest Michigan Migrant Resource Council. This MRC alone covers about 20 percent of all migrant workers in Michigan. For this reason it was considered that any solution could have the largest impact on Michigan's current substandard conditions. It would also offer the best feedback on the successes and failures for future possibilities.

Berrien	9,317
Van Buren	8,378
Kent	5,367
Oceana	3,804
Bay	2,038
Manistee	1,839
Ottawa	1,758
Allegan	1,674
Ileelanau	1,386
Ionia	1,062

Figure 24 Top 10 Counties by MFW Worker Population⁴⁴



Michigan County Information⁴⁴

Figure 25

Scale: Not to Scale

Berrien County

Berrien County currently has over 9,000 workers each year. These 9,000 workers are divide out over 110 work camps varying from 2 to 177 workers. Most of the workers in this county are inland and in rural locations. This limits their ability to have access to many basic services due to lack of transportation.

Legend

- Registered Work Camp
- Leitz Farm

Lake Michigan

Michigan

Indiana



Berrien County Work Camps⁴⁵

Figure 26

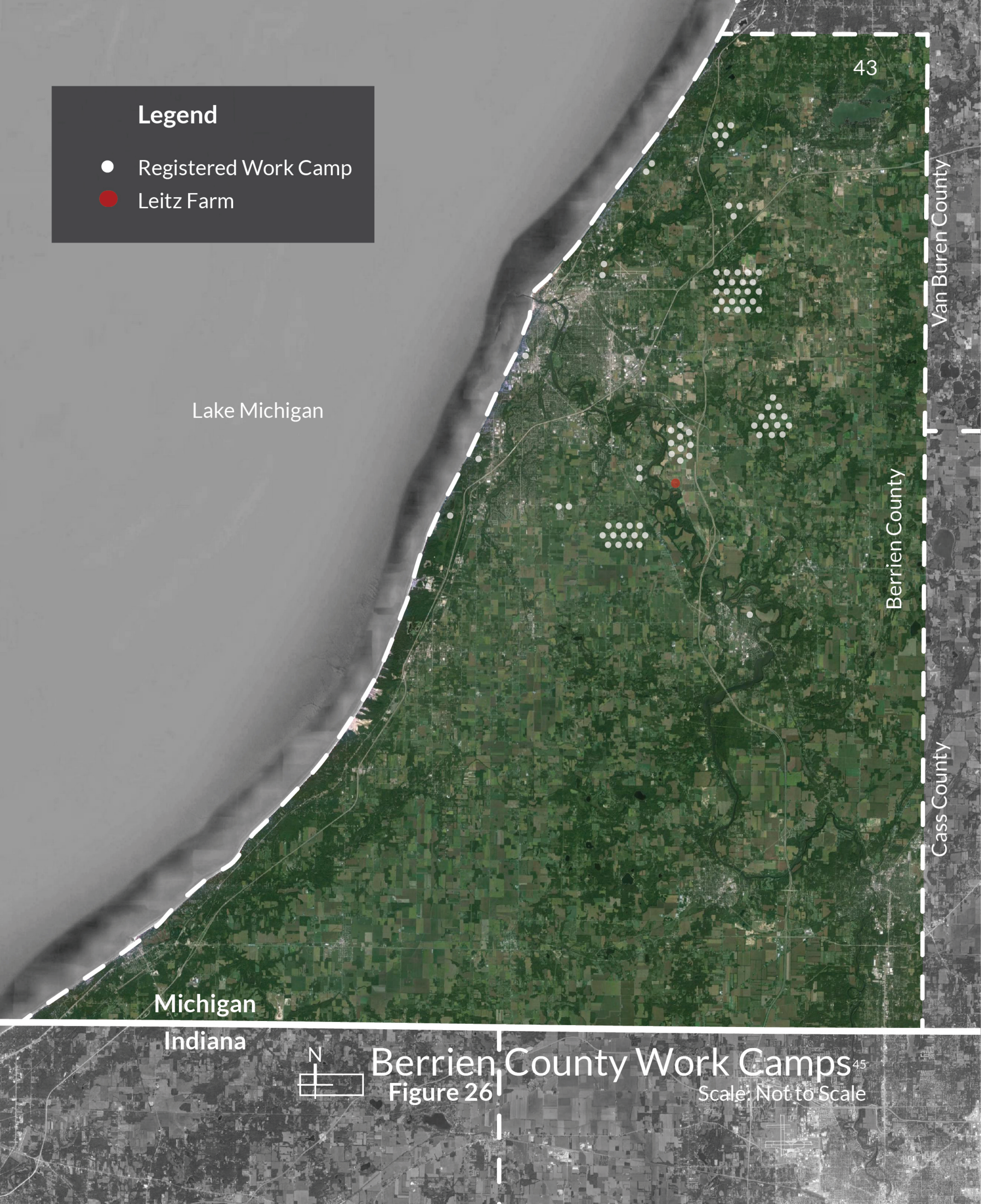
Scale: Not to Scale

43

Berrien County

Cass County

Van Buren County



Leitz Farm Site

Leitz Granja Sitio

Leitz Farm Information

Leitz Farm is located in southwest Michigan in the middle of Berrien County at 5109 River Rd, Sodus Twp., MI 49126. It is located approximately 1,000 feet northeast of St. Joseph river and 6.7 miles inland from Lake Michigan. It has been a family farm that has been owned by many generations and is currently owned by Fred Leitz and with help from his three brothers to run.⁴⁶

The farm currently grows 4 crops; tomatoes, blueberries, cucumbers and cantaloupe. Of the 4 crops, tomatoes are the most common and is the main reason for the large quantity of required labor.⁴⁷ Another reason for the large amount of laborers is due to the production facilities that exist on the farm. Unlike some other farms, Leitz farm has multiple production facilities to help package the harvest on site. This offers more jobs to migrant workers and is one reason that there are mostly families on this farm.

The farm is currently registered to host 177 workers each year.⁴⁸ This makes it the largest work camp work camp in Michigan, which means that any solution attempted on the farm could effect the largest percentage of workers. Of the 177 workers, 70 percent return annually.⁴⁹

Farm Analysis

In analyzing Leitz Farm, it was determined that it was designed and laid out systematically. This was purposeful and efficient as it was designed to make the farm as productive as possible. As this is good for the farmer and his produce production it does not make for a very hospitable environment. Through zoning the current farm layout, a residential zone flanks both sides of the industrial zone that contains the produce packaging facilities and equipment storage.

To create human opportunity and interaction the most desirable location was the furthest from the main circulation corridor and commotion of farm equipment. This therefore is a proposal for the farm to integrate a community space that is independent of the existing systematic organization. This meant that the community center could not be placed in the center of the residences, but allowed other visiting community members and other local migrant workers easy access from the public road.

Leitz Farm Historic Site Ariel's

Over the years the farm has grown. This has grown the farm to need the 177 workers to maintain the fields and package the produce. Besides the growth of the farm the surrounding areas have not changed a lot.

Location Justification

Currently on the farm there is space between the worker housing and northern most crops. This space has the potential to be used for crops in the future but is not the best use of the space. The best use of the space is to create a place that can help to allow the farmer to attract better talent and workers to be more productive. This is more productive than expanding the crops as 1/3rd of all crops currently rot in the field due to inability to harvest. This means that expanding ones crops would not fix this loss but would only create more loss. It could be more productive to hire suitable workers who are able to harvest more crops on the existing fields. One proposal to use the land better is by providing a community center and surrounding programing for the workers and their families.

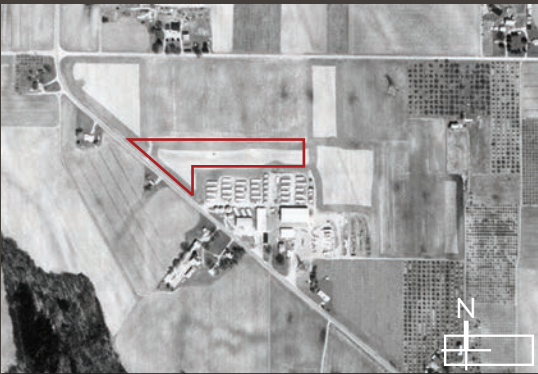


Figure 27 Leitz Farm Satellite Image
- 1997⁵⁰



Figure 28 Leitz Farm Satellite Image
- 2001⁵¹



Figure 29 Leitz Farm Satellite Image
- 2005⁵²



Figure 30 Leitz Farm Satellite Image
- 2006⁵³



Figure 31 Leitz Farm Satellite Image
- 2011⁵⁴



Figure 32 Leitz Farm Satellite Image
- 2015⁵⁵



Figure 33 Leitz Farm Industrial Entrance



Figure 34 Leitz Farm Industrial Entrance Road



Figure 35 Leitz Farm Industrial Storage



Figure 36 Leitz Farm Tomato Fields

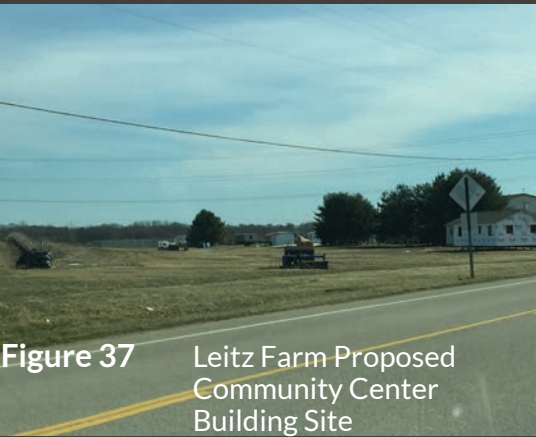


Figure 37 Leitz Farm Proposed Community Center Building Site



Figure 38 Leitz Farm Migrant Worker Housing Under Construction



Figure 39 Leitz Farm Migrant Worker Housing



Figure 40 Leitz Farm Farmer Housing

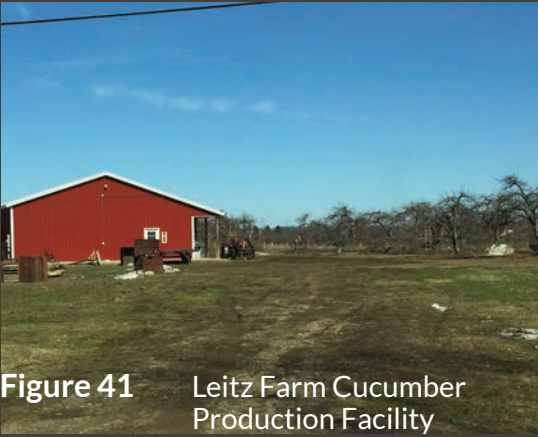


Figure 41 Leitz Farm Cucumber Production Facility



Figure 42 Leitz Farm Migrant Worker Housing 2



Figure 43 Leitz Farm Cucumber Fields



Figure 44 Leitz Farm Vegetable Quonset Huts

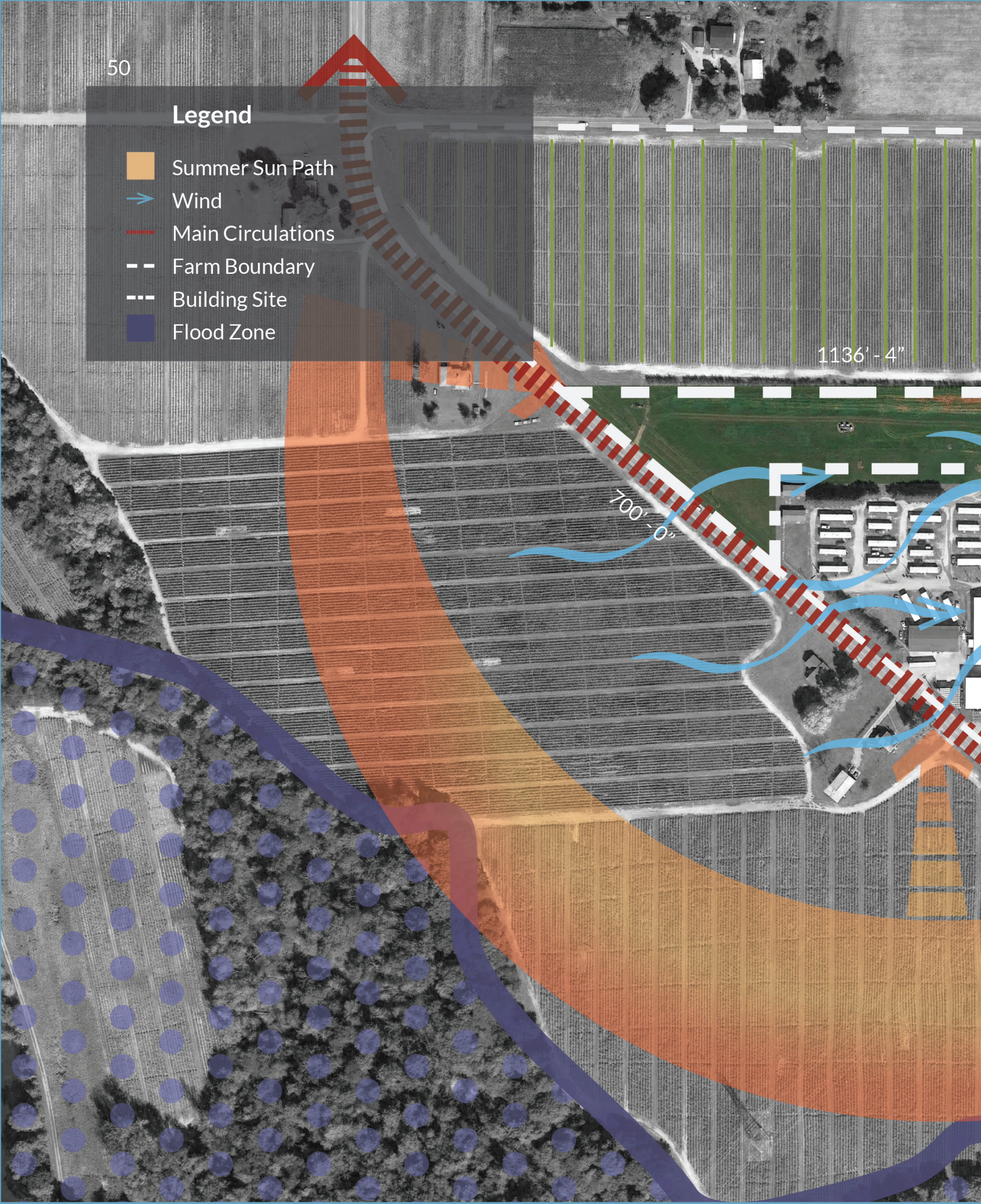
50

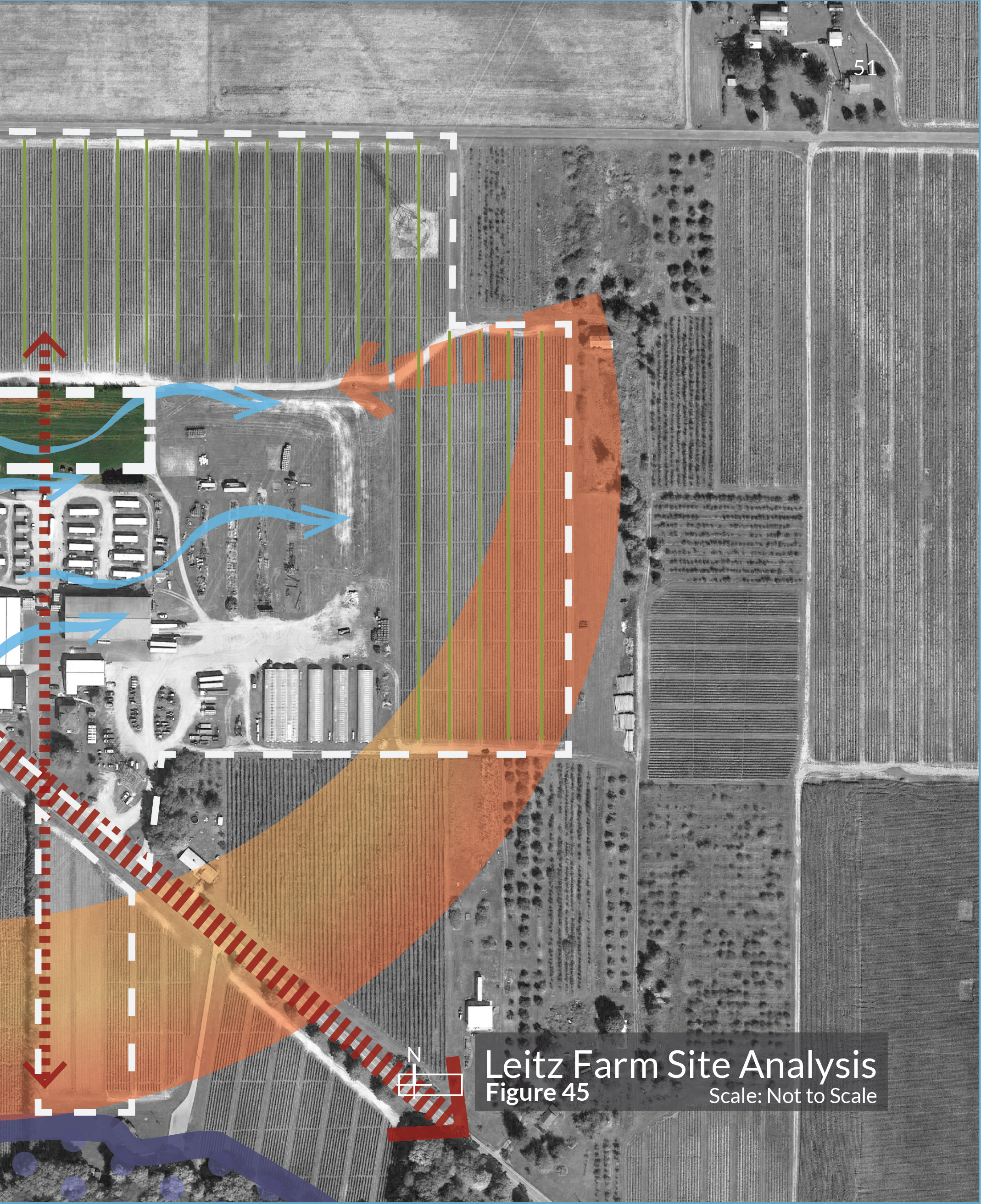
Legend

-  Summer Sun Path
-  Wind
-  Main Circulations
-  Farm Boundary
-  Building Site
-  Flood Zone

1136' - 4"



700' - 0"





Leitz Farm Site Analysis
Figure 45
Scale: Not to Scale

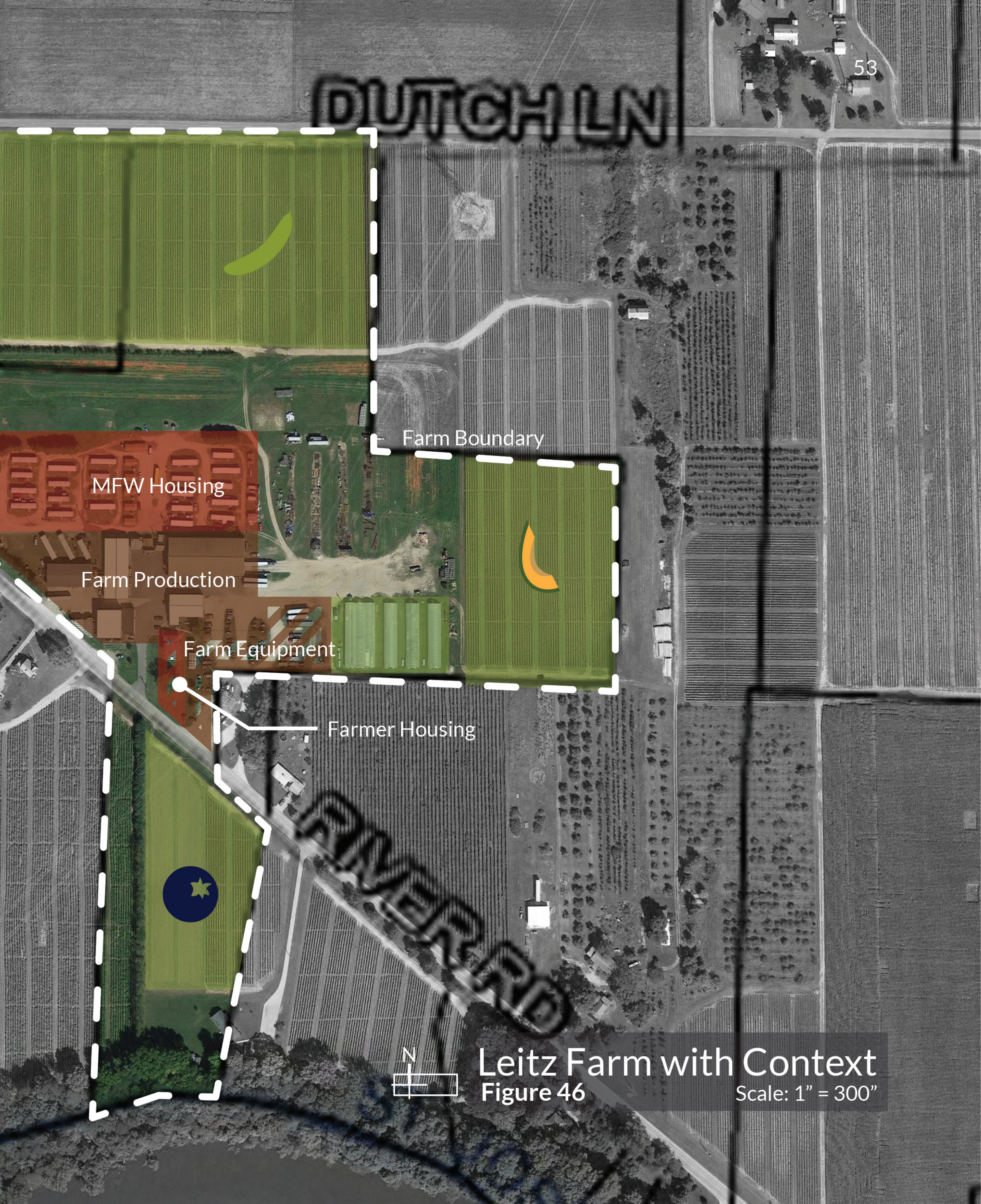
Legend

-  Residential
-  Industrial
-  Agricultural
-  Tomato Crops
-  Cucumber Crops
-  Cantaloupe Crops
-  Blueberry Crops



St. Joseph River





53

DUTCH LN

Farm Boundary

MFW Housing

Farm Production

Farm Equipment

Farmer Housing



Leitz Farm with Context
Figure 46
Scale: 1" = 300"

54

Community Garden

Cistern

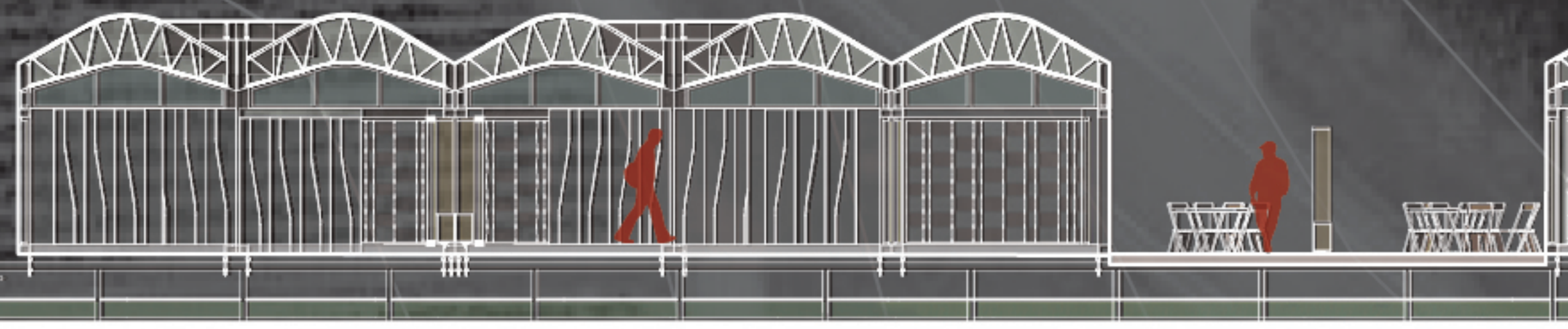
700" - 0"

170" - 0"

Parking

0' 100' 200' 400'

0' 32' 64' 128'





1136' - 4"

55

Soccer Field

Camp Sites for
Nomadic Workers

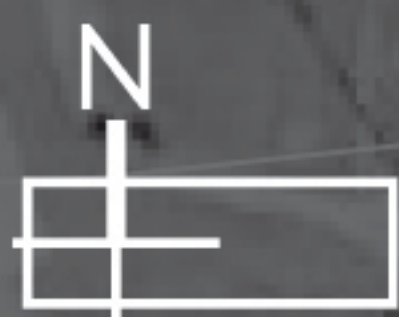
200' - 0"

700' - 0"

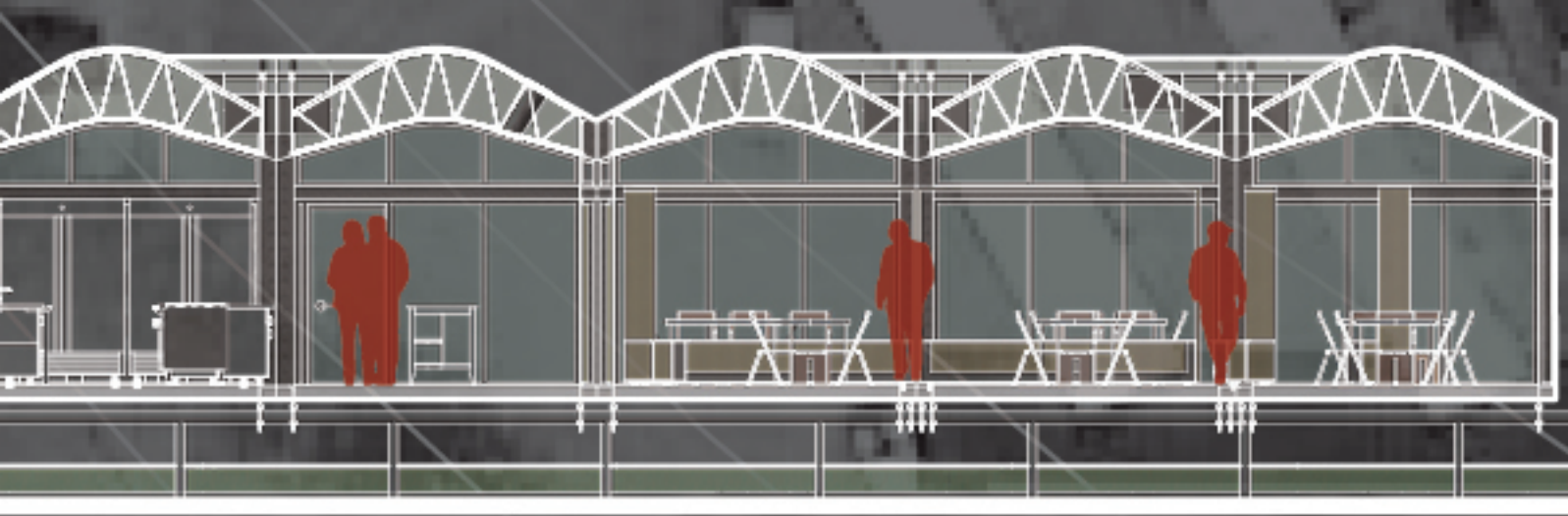
Leitz Farm Site Plan - Summer

Figure 47

Scale: 1" = 100'



Semi-Truck for Transportation



Leitz Farm Summer Building Section

Figure 48

Scale: 1/32" = 1' - 0"

Benton Harbor Site

Benton Harbor Sitio

Winter Site Reasoning

Because of fluctuating population it was determined that a second function was desirable for the building. This function is intended to outreach to new demographics that are unaware of the migrant workers poor conditions and inform them of an invisible population that we depend upon each year. This informational intention is then paired with a winter activity to attract anyone to the community center instead of just those who want to learn more about migrant workers.

Jean Klock Park

On the shores of Benton Harbor, Michigan the newly renovated Jean Klock Park located at Jean Dr, Benton Harbor. Jean Klock Park contains 2,950 feet of shoreline, tall sand dunes, a golf course and more.⁵⁶ The land deed was donated to Benton Harbor by the Klock family in honor of their daughter Jean who died in her childhood. The deed was donated with stipulation that the property was to be used as a public beach, park, and other public purposes.

In this park and the surrounding lake front and cities there are a lot of summer events scheduled but not very many winter. Benton

Harbor has tried to take advantage of this and create many activities and program to attract visitors and locals to be outdoors in the colder months.

Benton Harbor Programing

Well looking for a winter opportunity for the community center in Berrien County, Benton Harbor's dedication to winter activities seemed fitting. Because the city had dedicated itself to winter activities, most function had already been accommodated. One activity that did not have a home near the beach was cross country skiing (likely because this sporting event is already being performed without any additional incentive).

To resolve the lack of a formal place for the skiers to be able to pause and warm, the community center is to be used as a ski lodge from November through March. The ski lodge offers a place for beach front skiers, snow shoe'ers and hikers to start, rest, or end well using the beach in the winter.

The community center also offers an opportunity for some migrant workers to stay in Michigan in the winter and run a concession stand in the ski lodge. This fulfills the need for many workers that desire to stay in a single location year round for their families.

Including programing that creates interaction between both migrant workers and community members.

Beach front Positioning

The building is position in such a way that allows for the easy transportation of each module to be loaded and unloaded without any additional storage. This positions the main multi-purpose room closest to the water and therefore with the best view. This also places the most active interior space (multi-purposes room) nearest the most active exterior space (the beach front).

This reorientation also allowed for additional sustainable conditions to be bettered. Through rotating the buildings orientation 90 degrees clockwise, it allow the for passive heating in the afternoon as this is the most common time for beach front activities in the winter (as it is the warmer part of the day). In this orientation the community center also creates a protected area between the building and pavilion that is shielded from the wind.

Transportation Between Leitz Farm and Benton Harbor

In order to be able to transport each module between locations, a route has to be established to receive proper permits and tell drivers where to go. The chosen route must be a balance of shortest distance and roads that can accommodate the height and weight of transportation.

The route selected currently meets all height regulations of a minimum overpasses and street lights. This create the restriction of a 14 foot tall module so no overhead lines need to be dropped (taken down) in order to move each module. This was an important parameter as the modules are designed to move twice a year and would otherwise create an unmaintainable cost of transportation.

This route also selects roads that meet the minimum 12 foot lane width for arterial roads where possible. This dimension then restricted each module to 12 feet wide to eliminate a need to apply for an additional extra wide load permit. This was another design feature that helped to lower the cost of mobility as it already is an additional cost of moving a building to 2 locations each year.⁵⁷

The limitations for the length of each modules currently 80 feet.⁵⁸ As a single module of 12 feet by 80 feet seemed unproportional, each module was designed to 40 feet. This allows 2 modules to be transported on a single truck. This reduces the number of trips needed to just 6 trips and therefore enabling the transportation to be completed in a single day.

Winter



Suggested Route
10.1 Miles - 22 Minuets

Summer

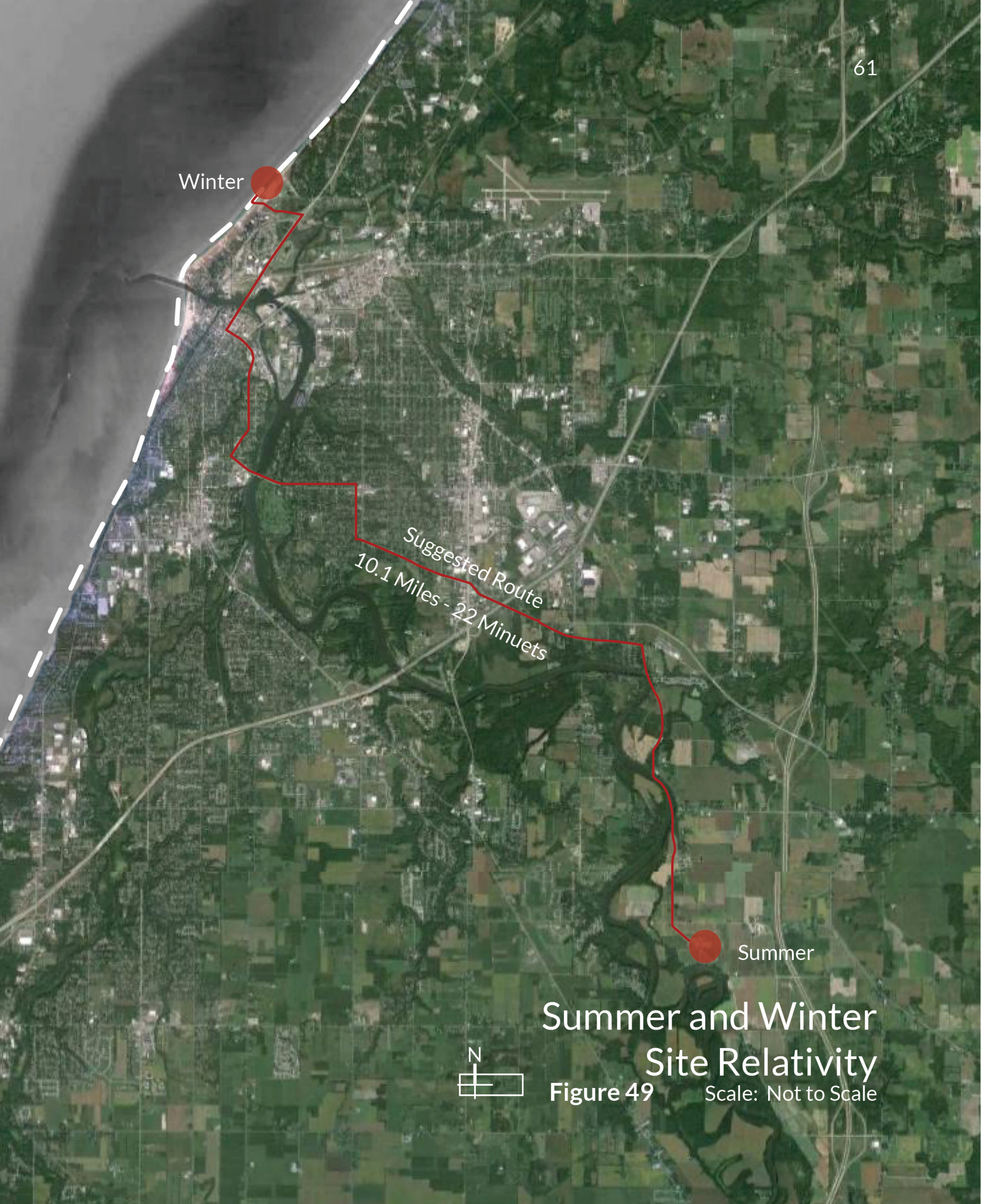


Summer and Winter Site Relativity



Figure 49

Scale: Not to Scale



Benton Harbor Historic Site Ariel's

This land has had many developments through recent times. As it began as an much more industrial use with many roads it has recently developed into more public use. This recent redevelopment has increased the use of the park and attracted more visitors due to its easy access.

Over the years, the shore line has shifted. Currently we have seen low tides which has created larger beaches and allowed buildings to move relatively with tide levels. This has caused problems for many buildings recently as tides begin to rise to historic average levels.

Through the consideration of historic lake levels, the building was located in a position paired with a raised elevation so that the building will not be in harm of site flooding.

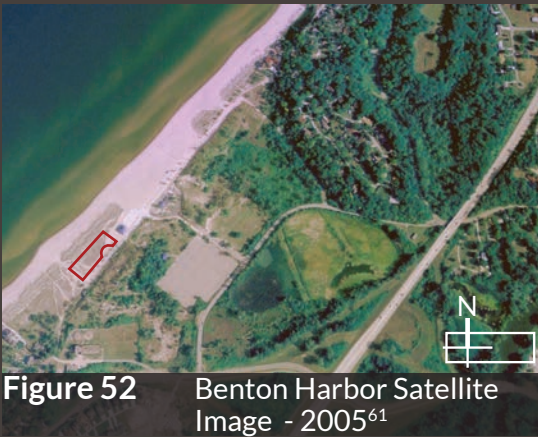




Figure 56 Benton Harbor Proposed Building Site



Figure 57 Migrant Resource Adjacent Pavilion



Figure 58 Migrant Resource Drop-off Roundabout



Figure 59 Benton Harbor Proposed Site View



Figure 60 Benton Harbor Proposed Site from Dunes



Figure 61 Benton Harbor View of Parking



Figure 62 Benton Harbor Lake Michigan Shore Glacier



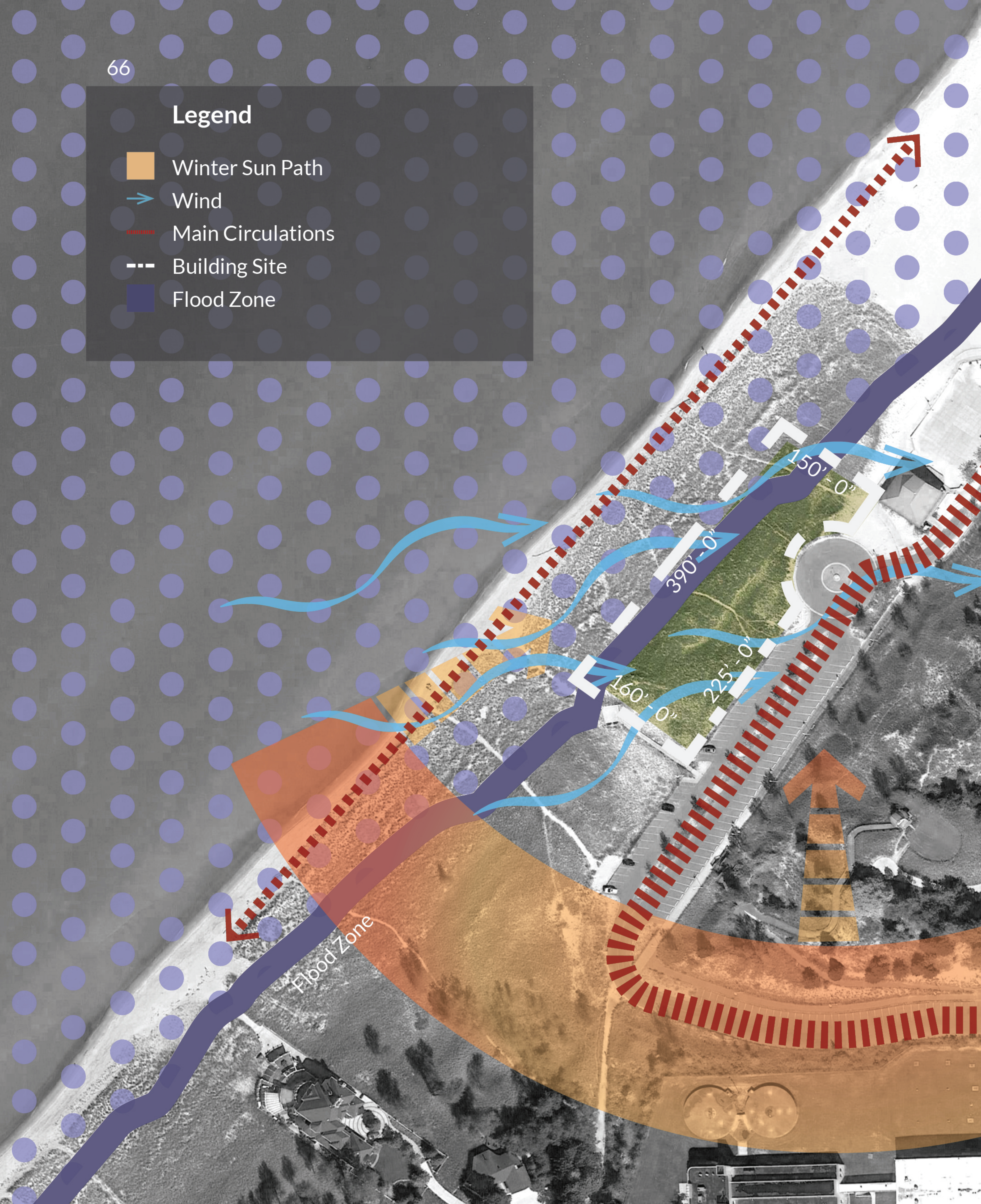
Figure 63 Benton Harbor View of Site from Lake Michigan

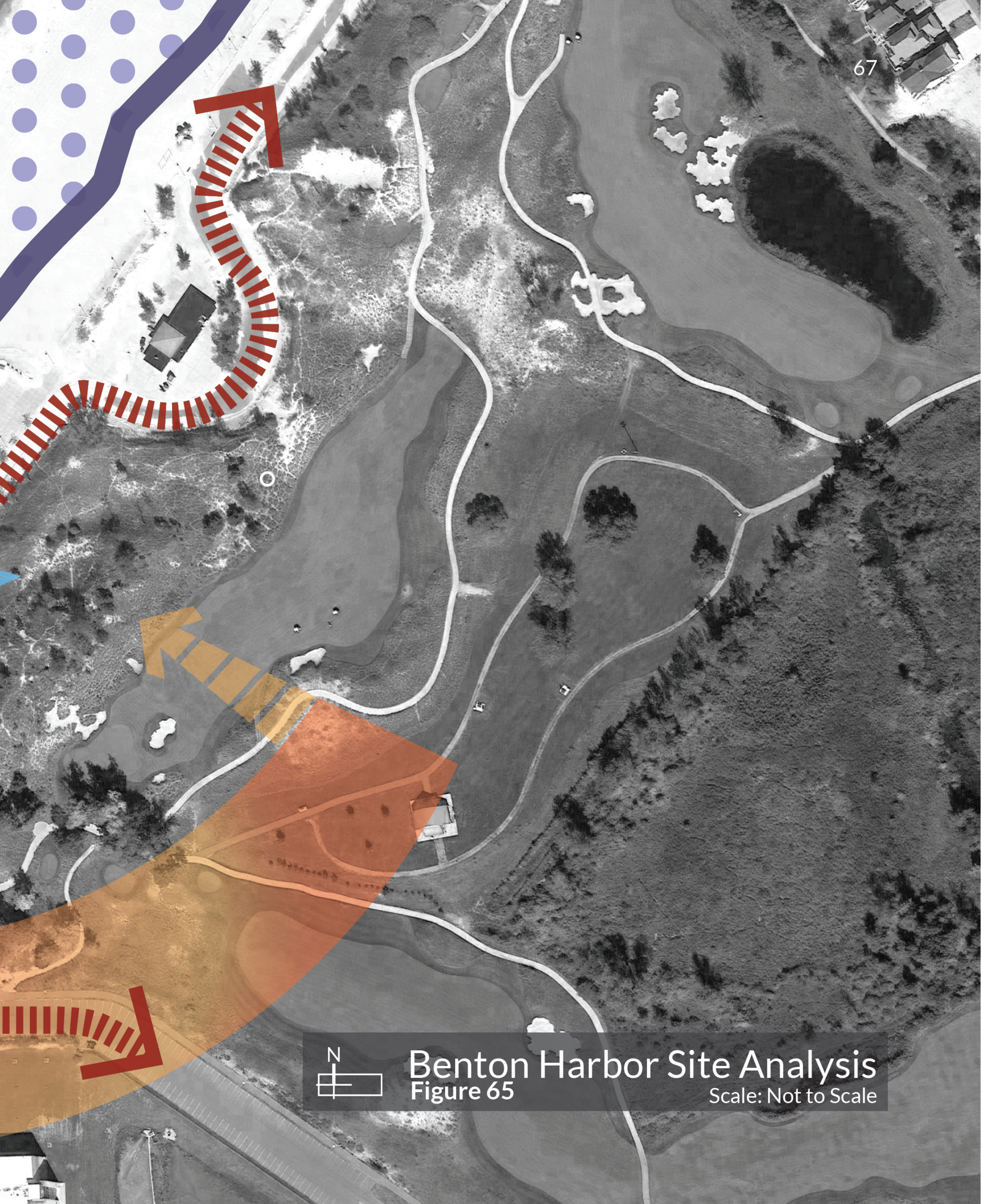


Figure 64 Benton Harbor View Inland from Proposed Site

Legend

- Winter Sun Path
- Wind
- Main Circulations
- Building Site
- Flood Zone





67



Benton Harbor Site Analysis

Figure 65

Scale: Not to Scale

68

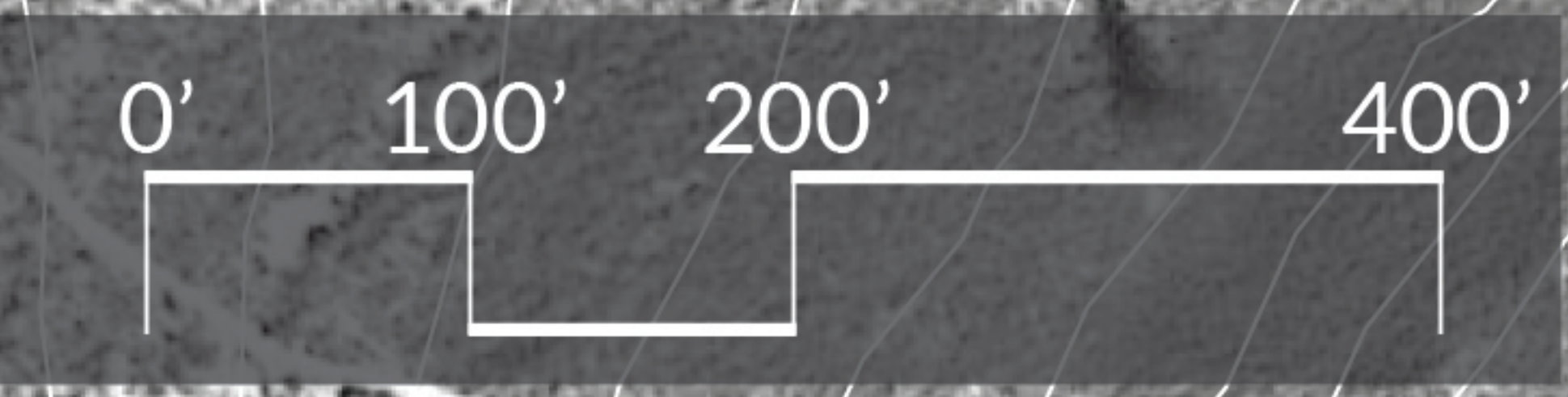
Lake Michigan

15

390'-0"

160'-0"

225'-0"





0'-0"



Benton Harbor Site - Winter
Figure 66

Scale: 1" = 100'

Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

Migrant Center

Centro de Migrante

03

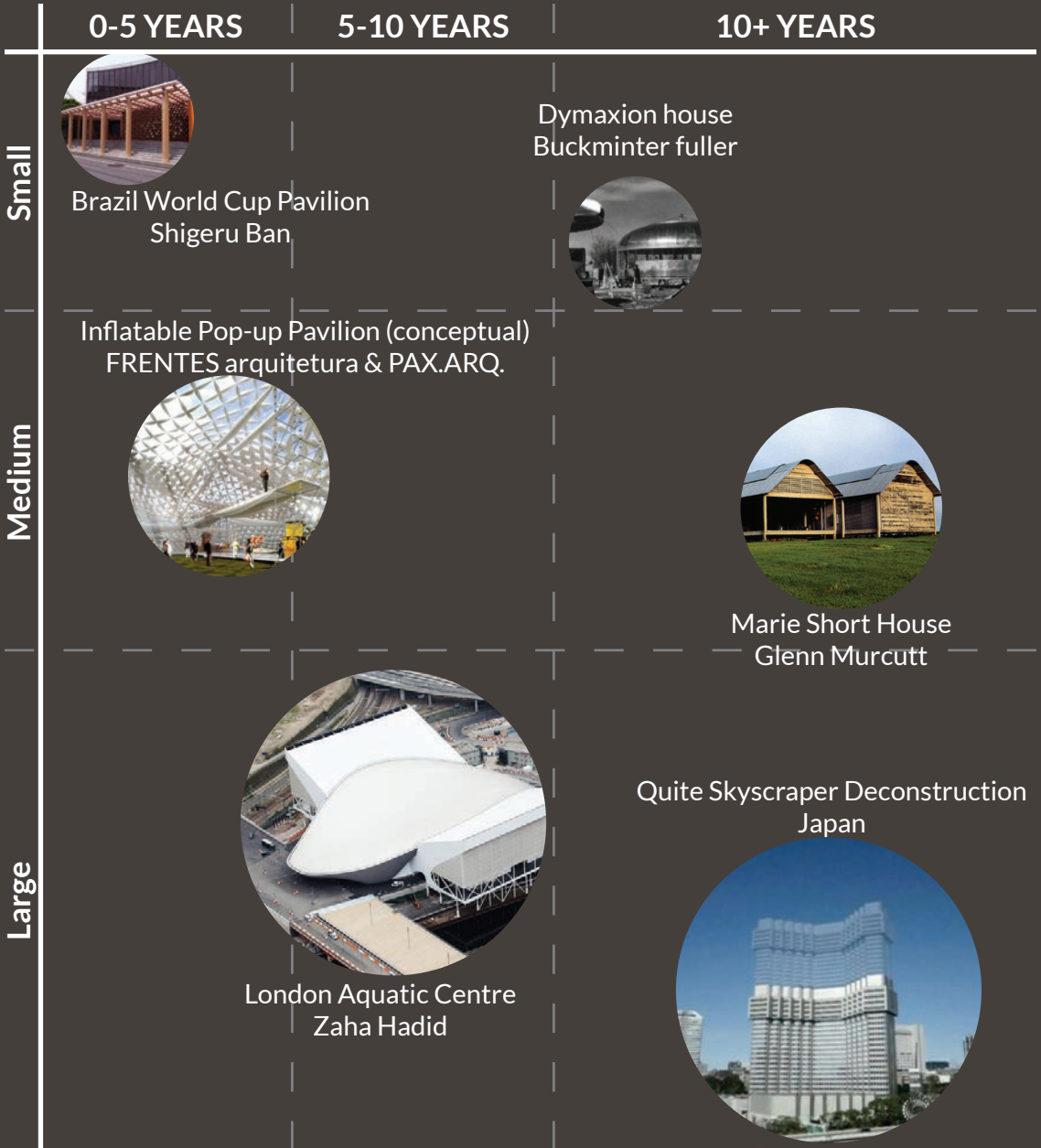
Preliminary Design

Diseño Preliminar

First Works

To properly figure out the design of the building, many features had to be considered and displayed to inform everyone of the proper decision and allow for references to reassure each choice made. The pieces that were considered and drawn before the building was designed included but were not limited to research, precedent, programming, spatial layouts and farm population investigations which lead to early phasing of the building.

Through the investigation and design of each of these task more was learned and compared to layer existing knowledge with new ideas. This merging of everything allowed for unique solutions to create an experience for migrant workers and more.



● 1 Use
 ● Multiple Uses/Multiple Locations
 ● Partially Permanent

Architectural DfD Precedent

Figure 67

Program Diagram

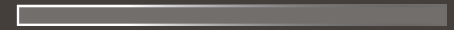
To be able to compare many different interactions that occur on the farm at one time, one drawing was designed. This program diagram is intended to compare existing functions versus proposed activities, spatial adjacencies, systematic organizations versus human oriented organization, populations relatively to other activities and durations of activities. Doing this all in a single drawing rather than 5 separate diagrams allow the viewer to be able to create and see new relationships that might not be exploited if drawn separately.

When comparing existing activities to new activities there are multiple activities that exist in both (bathe, cook and dine) and some that are only one or the other (work, sleep, garden, meet/socialize, worship and play). The reason that the activities exist as both current and new activities is to show the functions that are offered but are currently inadequate. These activities therefore exist as a new activity in the community center to create an adequate place to help relieve the inadequate spaces.

When looking to see how the two separate areas of the farm (the living areas and the working areas) could be connected by a single building to offer support during both the daytime during work and nighttime/weekends during downtimes. This connection was made by diagonally connecting the two existing spaces that were separated. Through the organization it allowed to show the spatial

Legend

Indoors Outdoors



Less People More People



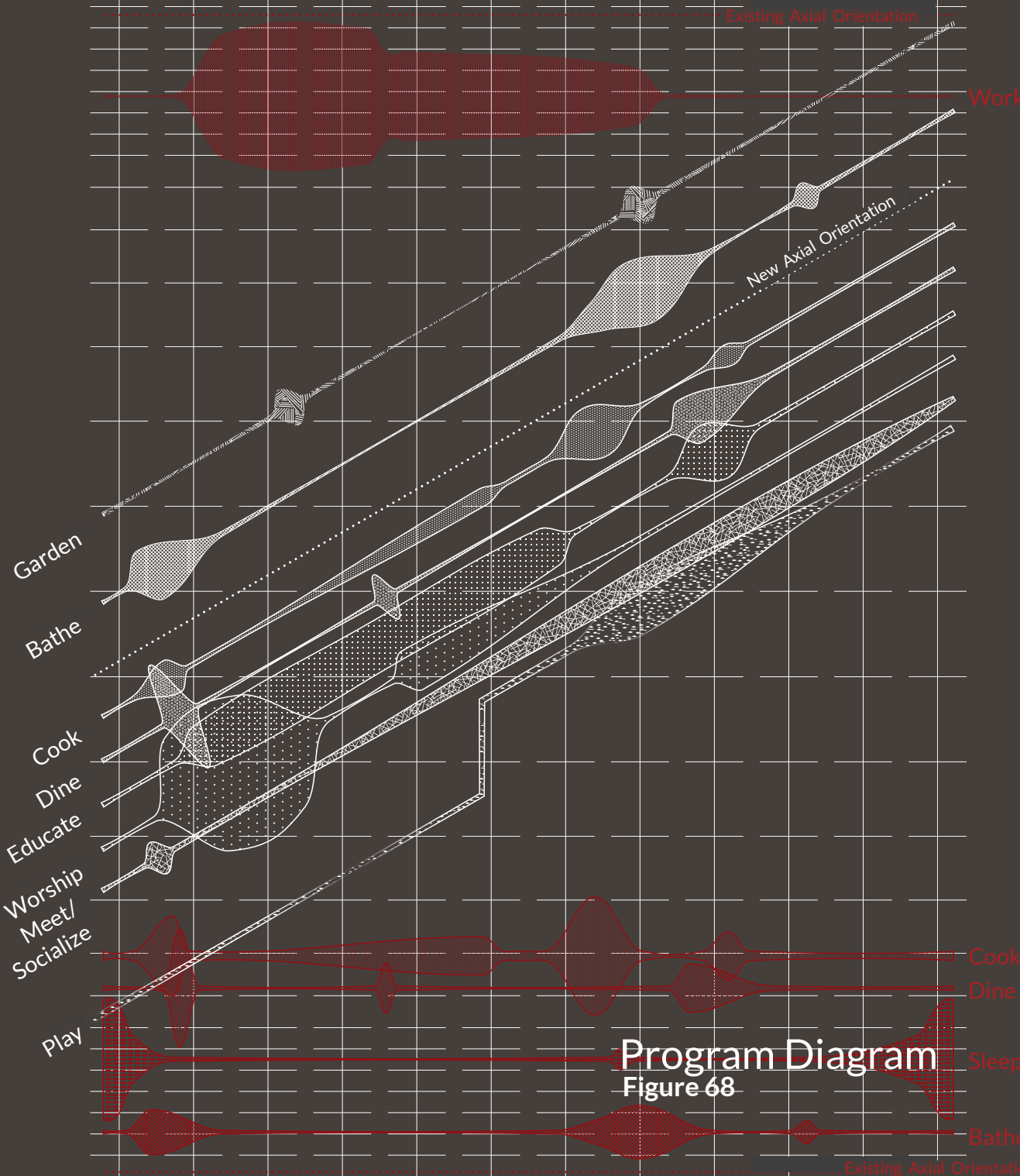
0 Days 7 Days



Activity = Proposed Activity

Activity = Existing Activity

4A 6A 8A 10A 12P 2P 4P 6P 8P 10P 12P 75



Program Diagram
Figure 68

organization for the community center by activity. But also allowed to show what activated could be fulfilled with a single space when the lines overlapped. This showed how extremely dynamic the multi-purpose room needed to be in able to accommodate so many activities.



Rotating the new activities to create a new adjacencies with both the farm and the houses created a distinct new axial organization. This new axis shows the difference that is needed to achieve a cognitive separation for users from the systematic organization that is the current farm. With this separation from the systematic approach the farm has, it allows for a new human oriented space that allows the workers and visitors to not feel required to be productive to be able to use the space.

Once the spaces were organized it was possible to look at what activities would happen when and with how many people. Having both of these integrated into the single drawing allows for it to be seen what activities can happen at the same time or need separate times to allow for activities to be properly accommodated. With this, it is shown what functions can be accomplished in a single space with proper programing. By creating activities for everyone on the farm, the community center can become activated 18 hours a day, rather than only a few hours when only the workers are not working.

Program

To determine what spaces were needed, the desired activities were determined.

Legend

	Enclosed Space
	Dine
	Educate
	Worship
	Meet/Socialize
	Play
	Cook
	Bathe

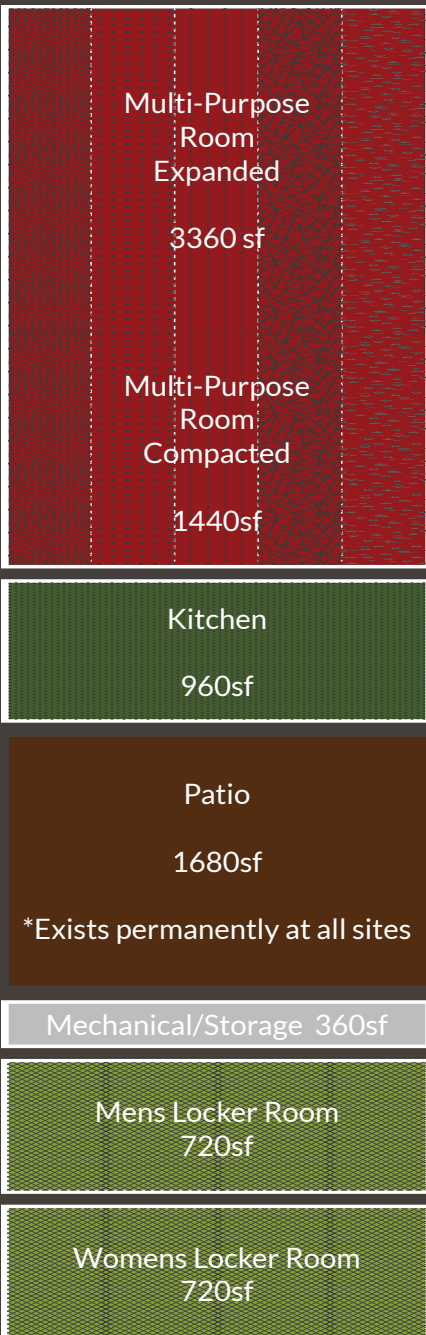


Figure 69 Spatial Diagram

The activities that are currently offered but are inadequate included bathing, cooking and dining. Although these are offered the workers accommodations it is difficult for the workers to be host events or maintain their families. To be able to attract enough workers and skilled workers these functions need to be accommodated properly. If done correctly it gives the farmers an advantage over others locally and nationally. There were many activities and functions that are currently missing from migrant work camps and unfortunately not all of them could be resolved architecturally. The activities that could be solved with architecture that are not currently being accommodated include gardening, educating, meeting/socializing, and playing. These activities were determined as missing through research and interviews with workers and their families that live on a work camp in Michigan.

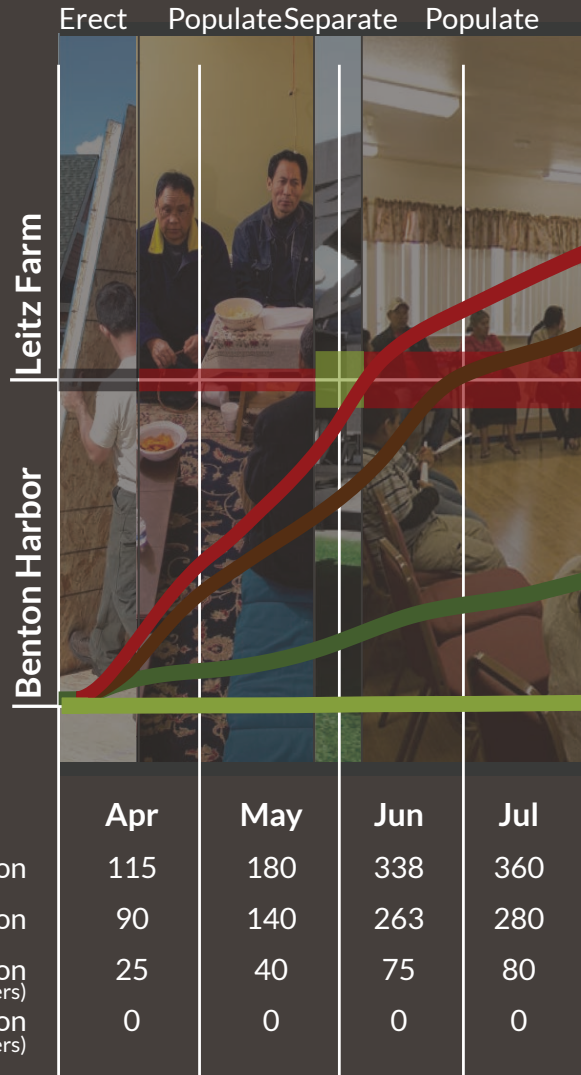
In order to accommodate all the activities only six spaces were required; a multi-purpose room, kitchen, patio, mechanical/storage room and a mens and womens locker rooms. The multi-purpose room needed to be adaptable to accommodate the most activities and expandable to be able to adjust to the fluctuating populations.

Minimizing the program to only six rooms allows the community center to make a minimal impact on the farm. This small footprint also allows for the building to stay mobile so it can be transported in the winter when the farm goes dormant due to no workers.

Leitz Farm Population

Population on work camps maintains a yearly cyclical pattern. This pattern begins in April at the same time that the harvest begins in Michigan. As the season goes on there are 2 large influxes of workers due to demand for Leitz Farm’s crops and lack of need for labor on other farms. At these two large influxes of populations, the building responds. The way the building responds is with the ability for the community center to transform and increase its square footage to therefore increase its occupancy.

The four stages the community center has to accommodate the different workers include patio, compact, separate and expand. These four phases allows the building to work with all populations of Leitz Farm ranging from 0 to 550.



Legend

- Erect
- Populate
- Expand
- Disassemble
- Transport



Legend

- Compacted Floor Plan
- Separated Floor Plan
- Expanded Floor Plan

Population of Leitz Farm by Month with Building Phases
Figure 70

Erect

The community center is designed to be constructed with portions happening both in prefabrication and partially with help of the community and migrant workers. Combining both methods offers an opportunity for participatory design to continue into the construction phase of the structure. Prefabrication and construction would account for approximately 75 percent of the total construction. The parts of the building that will be done in a factory and by professional contractors include structure, mechanical systems and finishes.

Through participation of migrant workers, rural population and urban population, 25 percent of the project would be constructed. Their abilities would be integrated with facade, interior construction, and finishes. Participatory design was chosen to engage the residents of the design process but also continue the interaction through construction to maintain the users investment and dedication to the building and offer the greatest possibility for success. During the initial construction, functions are to be installed to be permanent at the rural farm location and portions are designed and constructed with mobility as a prime consideration. Functions that will be permanent to Leitz Farm include bathing facilities, portions of cooking facilities, the community garden and more.

Stakeholder Engaged



Stakeholders Story

On the first Saturday of *Santiago's* stay at Leitz Farm he wakes up at sunrise to help the community erect the soccer nets for his daughter. His involvement is vastly important to him as he is unable to spend any time outdoor with his daughter due to his work schedule. The community center allows for this opportunity through the lighting of the play space.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Stakeholders Story

Santiago is the first worker of the season to use the kitchen. He is cooking dinner for his and two other families. He was unable to invite both families into his house because of the spacial constraint and sharing condition that is currently available but wanted to be able to catch up with both families after they parted ways for the winter.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

Populate

During the first phase of population of the community center the structure is be designed to accommodate forty occupants for most functions. The functions that are exceptions to this occupancy are the baths and kitchen. Both the baths and the kitchen are to be designed to accommodate 60 occupants though multiple shifts. This is because these two areas are portions of the program that are not expandable due to there function.

Well populating the community center at Leitz Farms, the structure can be used for many different functions. These functions include but are not limited to dining, educating, worship, meetings and playing. The common space will be adaptable to all functions for daily and weekly accommodations.

During this fraction of the year, March through June, Michigan offers some of its best outdoor weather. This drives a desire for outside engagement. A portion of the structure responds to these conditions with engagement of an outside patio for the workers and families to have a formal outdoor space that the current migrant housing does not offer.

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Separate

In early June the farms worker population sees an influx of workers as more crops need tending and picking to maintain the fields. This creates a need for more space in the building, but can be accommodated with exterior space to take advantage of the seasonal weather.

The rooms are separated between the kitchen and mechanical room to reveal additional hidden deck to allow for larger gatherings. This also begins to separate functions of the building between the public gathering areas and the more private bathing and mechanical facilities. This offers a separation of possible chemicals, pesticides and dirt from the cleaner facilities.

Stakeholder Engaged



Stakeholders Story

As Margret passes by the farm she sees the commotion of the workers gathering to begin the separation of the modules. Out of curiosity she sees one of her students and stops to ask what is happening. Once informed, she is intrigued by how the build might move and decides to stay and help the workers.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Stakeholders Story

On July 4th **Fred** decides to host fireworks to celebrate and thank his workers for their hard work. This celebration is open to the local community members to enjoy and interact with community members. He also uses this event to help advocate for the workers and the agriculture industry together.

Populate

During June, the building exists to accommodate both interior and exterior spaces. This balance fulfills the need due to the weather of late spring rain showers but warm weather when clear.

This separation also creates an opportunity for lunch to be served to workers on the patio directly from the kitchen so that the workers do not need to enter the preparation areas.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Expand

In early August sections of the community center are expanded to accommodate the expanding population of the migrant worker camp.

One space that expands to accommodate the larger population of the camp is the multi-purpose room. This area accommodates worship, eating, educating, playing and meeting/socializing. The room expands by 233 percent in size and capacity to accommodate 300 occupants. This space also offers multiple operable exterior walls that can open to integrate exterior and interior space for the best use of all areas.

In the expanded positions, the locker rooms will also separate to allow for additional patio between them to accommodate a waiting area for workers well the bathrooms, showers and lockers are in use.

Stakeholder Engaged



Stakeholders Story

Margret offers her assistance to expand the structure during the day to help expand the community center. Most of the men and women are working the fields and not able to help while there is day light.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Stakeholders Story

Fred celebrates Mexican Independence day on September 16th with the migrant workers on his camp to help build a relationship with his workers and learn their traditions.

Populate

During the second population of the community center the outdoor space is not as desired or used. The two reasons that this space is no longer as desirable is because the temperatures are not as temperate, and the harvesting is at the peak so there is no longer as much time for leisure activities.

Interior spaces also become more required because of the types of migrant that are involved in the harvest. During the peak harvest there are nomadic farmers that travel with less permanent housing accommodations (tents and similar). With lack of a place to bathe and cook, the kitchen and bathing facilities become an essential amenity for many workers.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Disassemble

After the harvest has completed the community center must be disassembled and packaged to relocate to Jean Klock park in Benton Harbor. Packaging of the structure will happen within and on the flatbed frame that consists of the substructure of the mobile building.

A separation of the two sections of the structure will be made to allow for the transportation for the mobile functions (commons area). Once the transportable section is detached from the permanent building, the permanent functions must be winterized to help consume little energy and allow for little degradation off the space over the lifespan of the building.

Disassembly will happen in tandem with the seasons weather predictions, as workers need to arrive and leave on different dates each year. This will accommodate the communities needs and allow for the proper space to be present at the work camp on Leitz Farm.

Stakeholder Engaged



Stakeholders Story

[[m]] comes to the community center to help the crews disassemble the structure and winterize the piping and permanent structure for winter.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Stakeholders Story

Santiago conducts the transportation of the mobile community center in coordination with **Jeffery** and the local migrant resource council.

Transport

Once the mobile portion is packaged within itself, it then can be transported to Jean Klock Park in Benton Harbor. The move should happen before the first snowfall (occurs November 15th on average) for the season so the structure can be situated with a stable temporary footing.

When the structure is being transported from location to location it shall meet federal road size limitations so that additional funding is not required to move between each location. This helps to allow the process to be done as quick as possible so minimal labor is required.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Erect

The secondary erection of the mobile structure is at its winter site location in Benton Harbor. When the commons area is constructed, it will be expanded to its compacted envelop to accommodate both storage and fifty occupants.

Stakeholder Engaged



Stakeholders Story

Jeffery directs and is involved in the placement of the mobile community center in Jean Klock Park.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Stakeholders Story

Margret visits Benton Harbor about once a month to go cross country skiing. She rents her skis from the community center because she does not currently have the capability to transport hers.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

Populate

The second function of the mobile community center houses a cross country ski rental and ski lodge on lake Michigan. The commons space will be divided with the temporary wall to allow for storage of the rental skis but also create a separate space for visitors to pause in a warm space.

The ski lodge is located at the intersection of two new formal cross country skiing trails. The first is the beach in Benton Harbor. Lake Michigan is currently used for cross country skiing in the winter but does not offer any lodges for the skiers to pause and warm in. The second trail that will be established is in conjunction with the golf course that shares land with Jean Klock Park. This activates the course in both extreme seasons and offers an additional path for skiers to be pulled nearer to downtown Benton Harbor.

During the winter the building will be managed by the Southwest Michigan Migrant Resource Center. Through management the ski lodge will act as a place to educate the local communities about migrant workers. The ski lodge will also act as a nonprofit fundraiser to help pay for annual maintenance and transportation of the building.

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Disassemble

The space will be evacuated of all furniture and storage to be collapsed to allow for the return to its original location. The structure will once again be packaged within its boundaries to accommodate transportation.

Disassembly will happen in tandem with the seasons weather predictions to accommodate the need for community space when workers are present at Leitz farm work camp.

Stakeholder Engaged



Stakeholders Story

Jeffery assembles the team before the final move of the year. He sets and leads a remove meeting so that everyone knows there participation and what they need to do to make the move go as smoothly as possible.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Stakeholder Engaged



Transport

Transportation of the structure will happen from Benton Harbor Michigan back to Sodus Michigan to return to the farm. This date shall be coordinated with weather and farm owner so all parties will be satisfied.

Stakeholders Story

Daniel was contacted by Santiago because one of the walls was damaged in transportation. When reviewing images sent to him he determined that the wall was repairable on site by a contractor and could be done when the building was being erected.

Phase

01	02	03	04	05	06
07	08	09	10	11	12

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

Migrant Community Center

Migrante Centro de la Comunidad

Community Center Design

Through a great deal of research and design iterations, the community center was successfully developed for 2 locations. These two locations are Leitz Farm and Benton Harbor. In both of these locations there is are some components that exist year round. This lets the presence be known even when the community center is not there. This also can inform and intrigue those who use the spaces when the community center isn't there.

Leitz Farm

Leitz Farm is the community centers primary location. It is located and occupied here 7 month of the year from April until November. During this time of the year the main users are the migrant workers in Michigan and the families of those who travel with them.

Benton Harbor

For the duration of 5 months, the community center is located at Benton Harbors beach front park, Jean Klock Park. This location offers both winter and summer opportunity to engage the parker users and educate them on a commonly unknown issue.

Leitz Farm Building

Edificio Leitz Granja

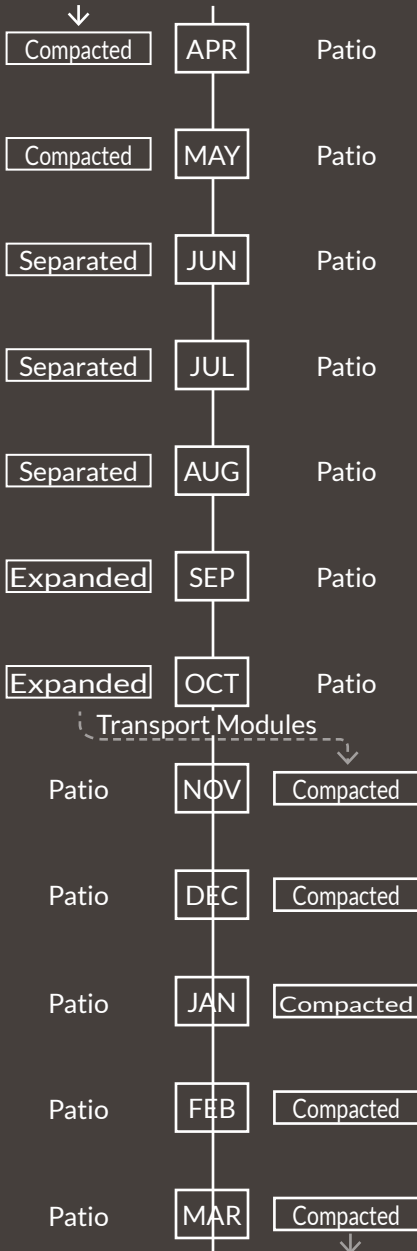
Phases

On Leitz farm 4 different phases exist. These 4 phases include patio, compacted, separated and expanded. Each one of these reacts to a populations change, both growth and decline. This ability to continually expand and shift by simple labor from the farm population allows for a 'barn raising' multiple times a year to include all additional workers. This inclusion helps to integrate new workers as early as possible to help induce the growth of community (which is important because of the short time that some are on the farm).

Beginning in April the building exist in its smallest phase, compacted. This phase of the building responds to the population and weather at the farm. The building optimizes the internal spaces to offer the best experience well the weather is not as cooperative.

In June the building separates and creates a balance of interior and exterior spaces. This allows for additional workers to use the community center but does not increase the internal space as the weather offers nice outdoor experiences.

Leitz Farm Benton Harbor



The final occupied phase is its expanded form. At this time, the building grows an additional 133 percent to maximize the exterior space. When the spaces are expanded, the building offers many different scales of spaces so all activities can still properly be achieved.

When the harvest is finished in late October or November the building is then moved to Benton Harbor. At this time the Patio is the only piece left and can be used if needed.

Figure 71
Community Center Floor Plan Phase by Month

Architectural Tectonics

Though many restrictions created to achieve mobility the building was designed in 12' modules. This gives the building a sense of rhythm and elongated layout similar to the surrounding crops organizations. This 12 foot bay is expressed through exposed structure and the roof form that was design to resemble a quonset hut without directly being the same shape. This reference influenced the lightweight and semi-translucent roofing material.

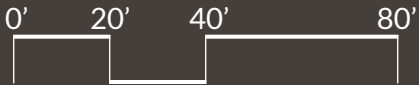
A tensioned PVC membrane roofing material was stretched across the steel structure to create the extruded barrel vaults. This strait extrusion resembles both crop organization and quonset huts that existed on the farm without being directly correlated.

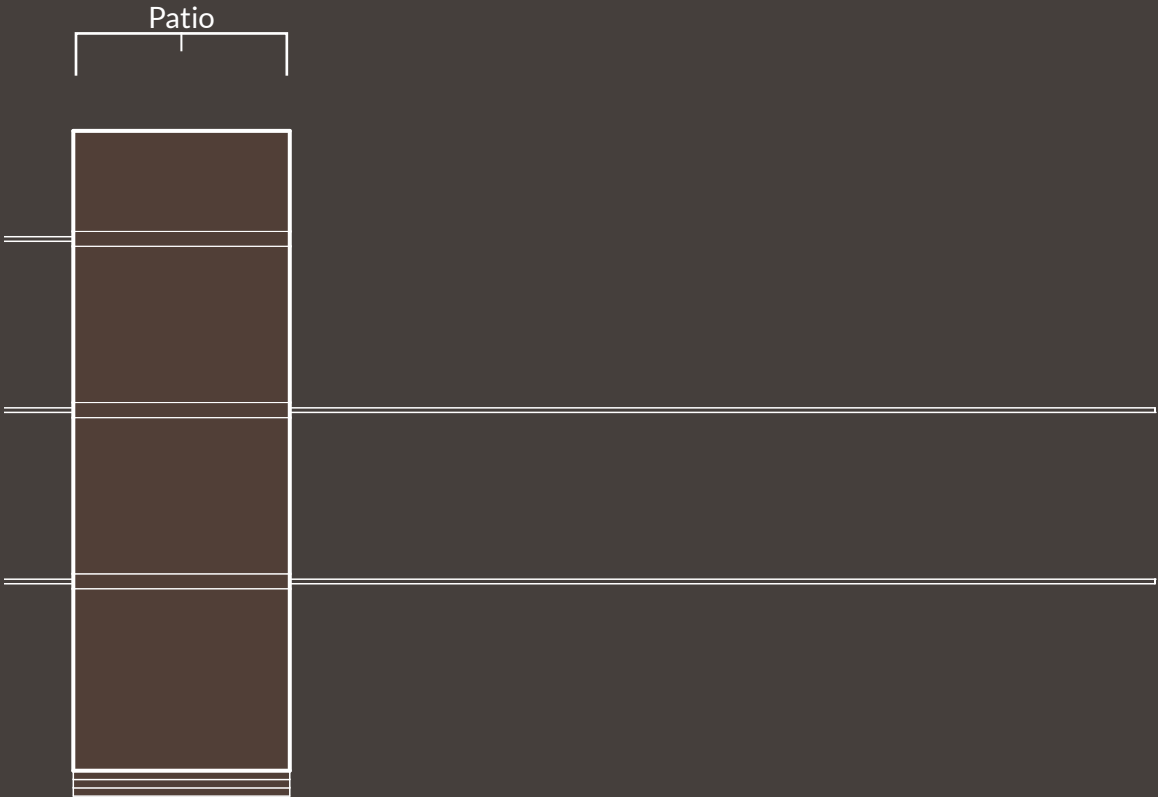
Within the rooms smaller mobile partitions were designed. These were created with the intent to store and perform as furniture for the rooms, as there was little space to include storage due to the mobility of the building. The partitions also become key contributors to sun shading and natural ventilation of rooms in the community center and patio spaces. Having the furniture and partition movable, allowed each space to shift as needed and create daily adaptations.

Along with rooms adapting to daily needs, the exterior of the building also adapted. The walls of the multi-purpose room could open and close when occupants desired for different needs. Above each wall panel a clerestory exists that also is operable and can allow

for natural ventilation without large winds blowing through the rooms. The operability of each facade of the modules helps to create a depth to the facade that otherwise is flat because of its designs for transportation.

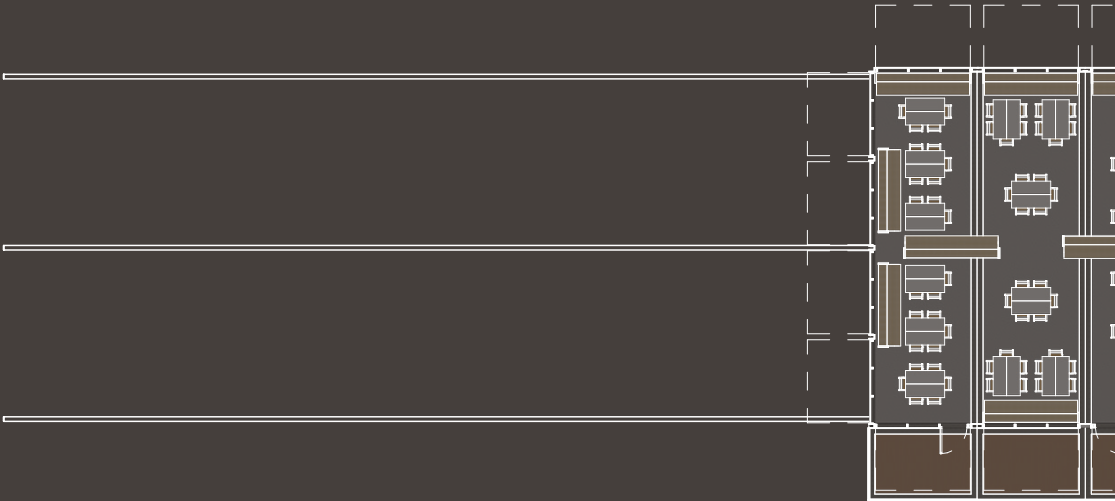
Lastly, each module was able to roll on a permanent rail system to grow its square footage and accommodate more occupants. This shifting and sliding allows the building to grow to the needs of each population as it goes through ebbs and flows.

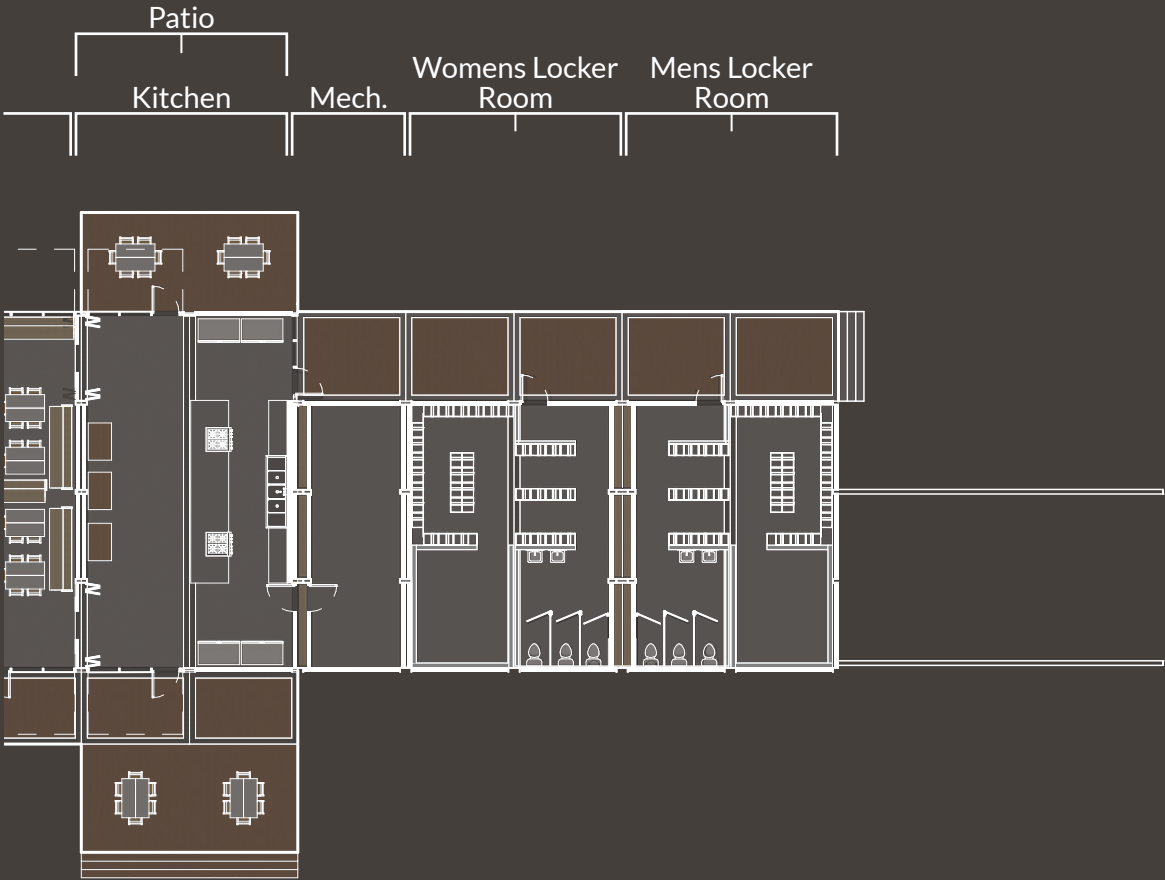




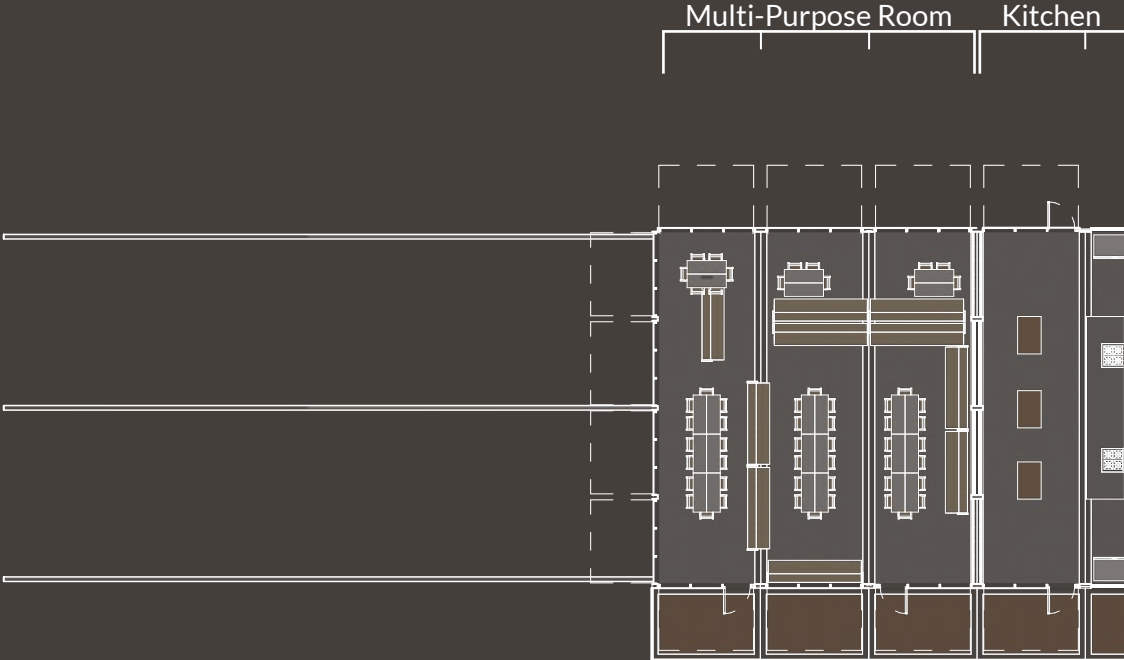
Floor Plan - Patio
Figure 72 Scale: 1" = 20'

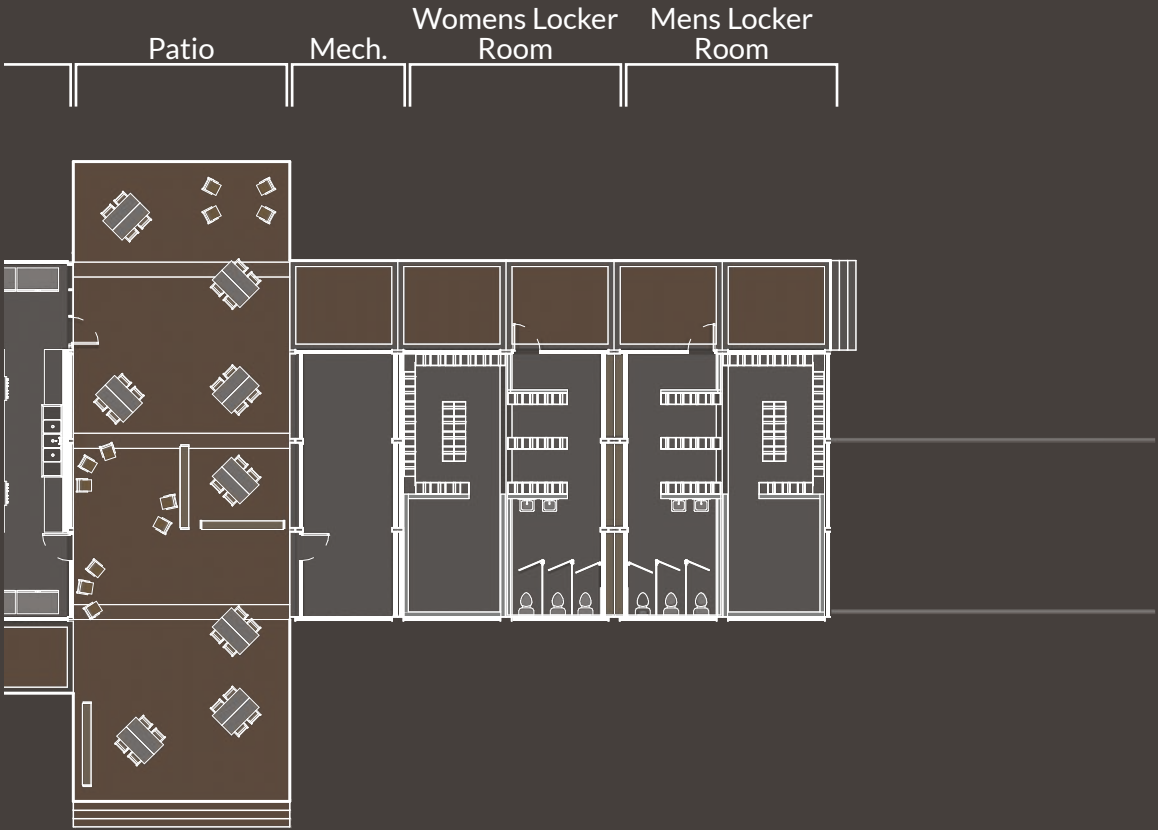
Multi-Purpose Room



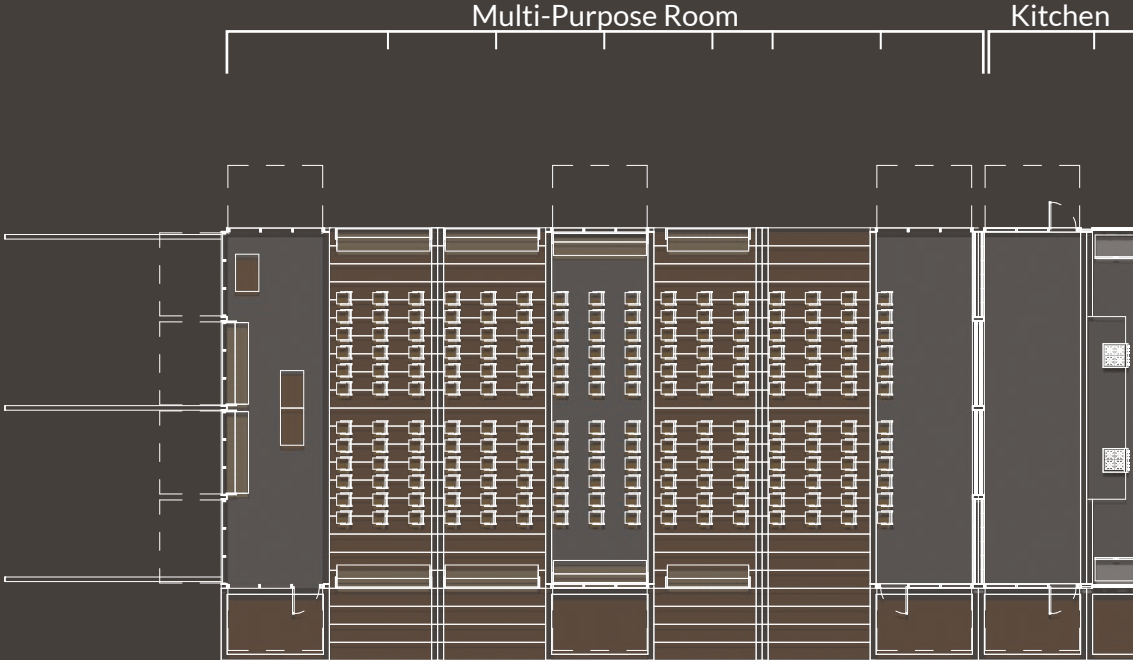


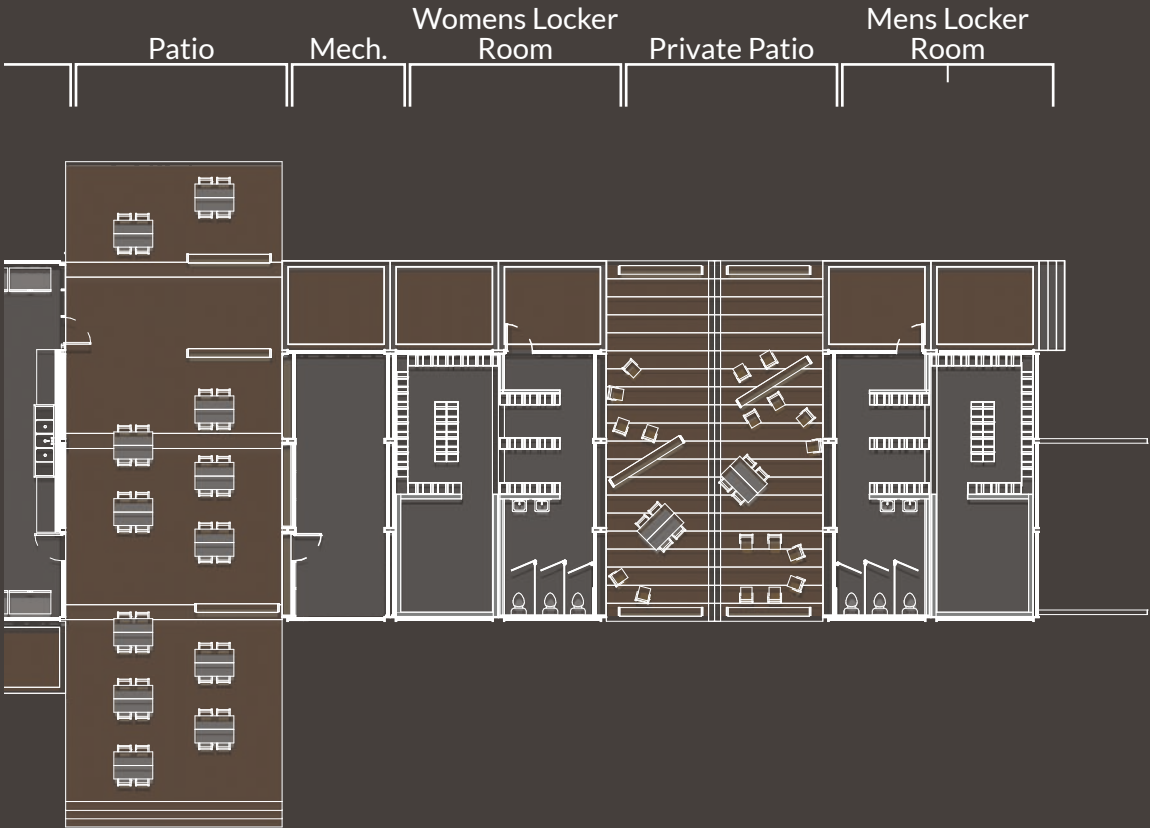
Floor Plan - Compacted
Figure 73
Scale: 1" = 20'





Floor Plan - Separated
Figure 74
Scale: 1" = 20'





Floor Plan - Expanded
Figure 75
Scale: 1" = 20'





Community Center seen from the
Tomato Fields - Compacted Plan in April
Figure 76



Community Center seen from the Tomato
Fields - Separated Plan in October
Figure 77





Community Center seen from Drop off -
Separated Plan in September
Figure 78



Community Center Approach
from Fields - Compacted Plan
Figure 79

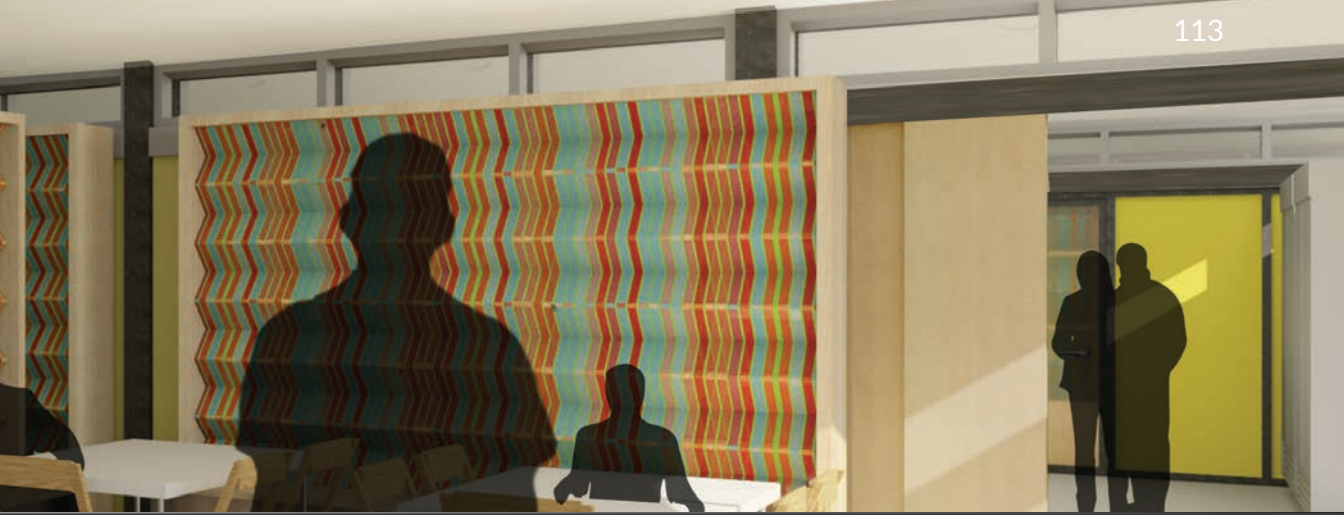


Community Center Patio -
Separated Plan During Lunch
Figure 80



Community Center Multi-Purpose Room
- Separated Plan During Education
Figure 81





Community Center Multi-Purpose Room
- Expanded Plan During Worship Service
Figure 82





Community Center Approach From Housing
at Night - Compacted Plan During Play
Figure 83

Building at Benton Harbor

Edificio en Benton Harbor

Beach front Ski Lodge

During the winter seasons when the community center is located at Jean Klock Park, Its purpose is to act as a ski lodge for cross country skiers, snow shoe'ers and hikers who use the beach front as a scenic trail. This function creates a use that invites new users into the community center. Through this invitation, users of the lodge can see vestige from the migrant workers and later become involved and informed about them.

To achieve a ski lodge the community center uses the phase that was designed to create the most internal space as a response to the cold weather. The layout that is used is the compacted layout. This design allows for movement between most spaces such as the concession stand (kitchen) and the multi-purpose room without the need to exit the building. Directly outside the multi-purpose room, the patio is located on both sides. The larger, southern, patio is intended for the main circulation and can be used for equipment storage and guests as a place to sit in the sun.

Every room in the community center will continue to be used for the same purpose

as designed for on Leitz Farm, except for the kitchen. The Kitchen is converted into a concession stand to supply the users with sustenance before, during, or after their use of the trails. The second opportunity the concession stand brings to the community center is tailored to the benefit of the migrant workers. The concession stand is run and maintained by a few migrant workers who decide to stay in the area year round to allow their families not have to continually move during school years. Employing the agriculture workers in the concession stand also creates an interaction between the locals and the workers that otherwise might never happen.

Summer Uses

Exactly like at Leitz Farm, a permanent patio and rails exists. This allows for an opportunity of a remnant to be seen at the beach during peak usage of the park. The patio at this time can also be used by visitors as an elevated deck to get out of the sand. The patio is positioned to be parallel with the beach as to optimize the number of users with the best possible view of the water. Its position then begins to create a layering effect when seen with the low beach in front of it and the high dunes behind it, allowing the building to be elevated

without impeding views of other users in the park during any season.

If the elevated platform became popular enough that it was constantly filled with beach goers, additional platforms could be added to the rails that are unused in the summer. The additional use would have to be weighed against the covering of the rails as the exposed rails helps to create the intrigue of how else the space is used.

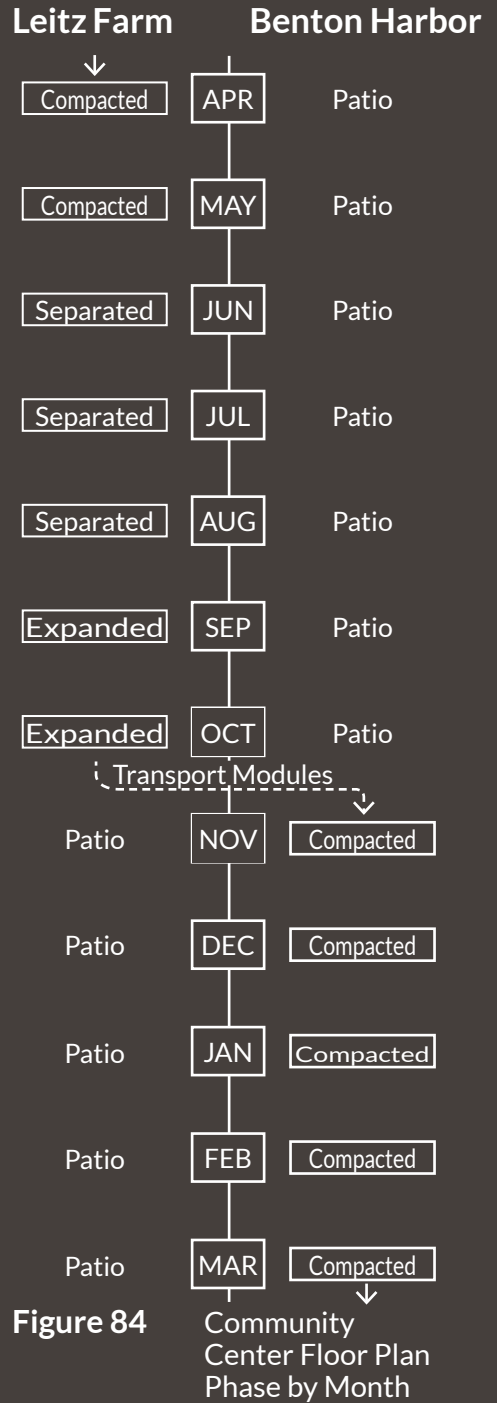
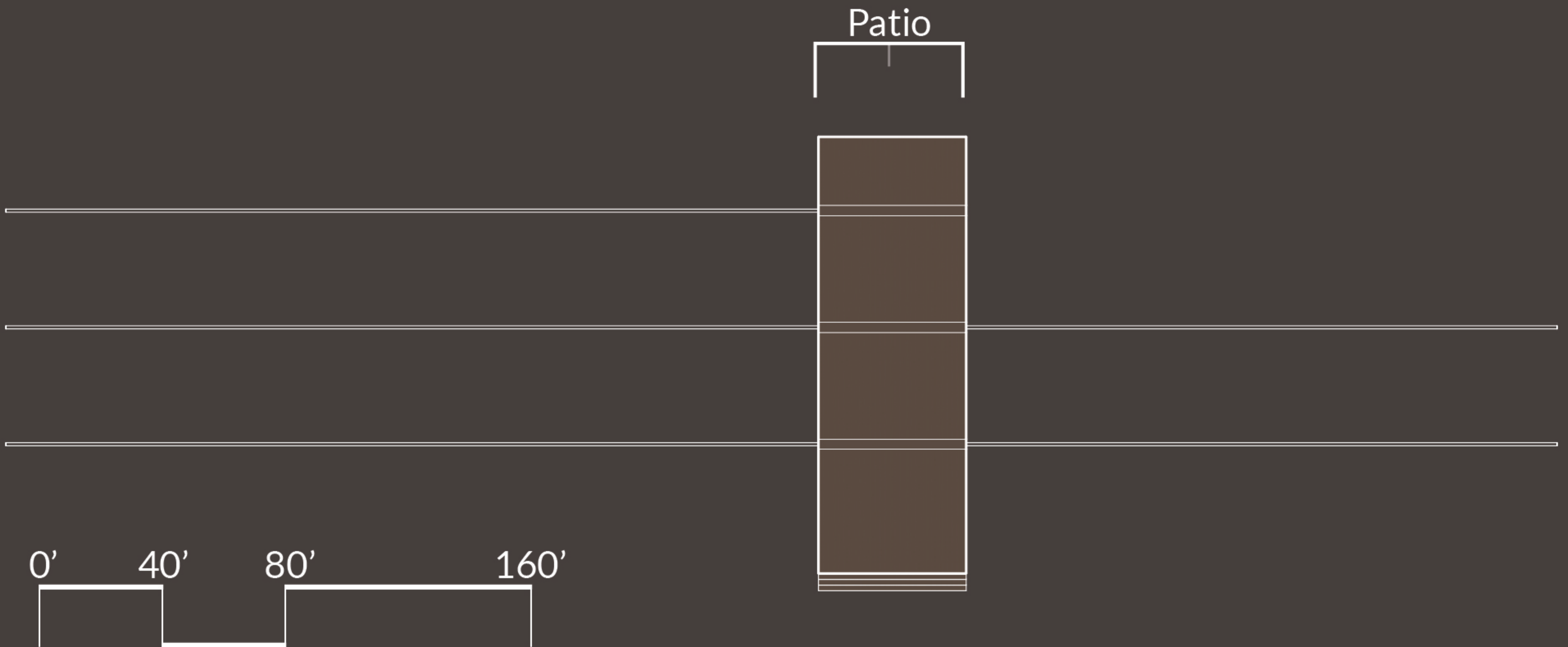
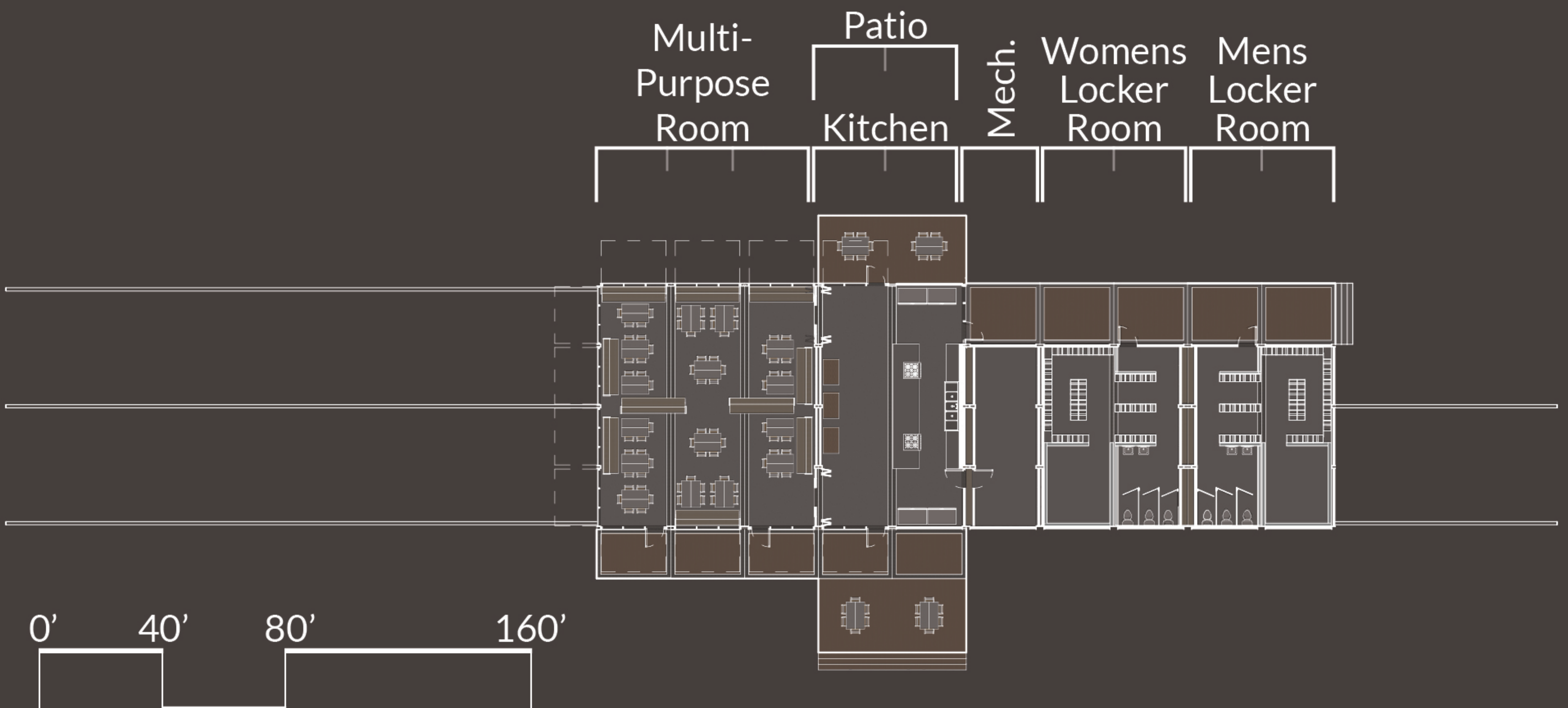


Figure 84



Floor Plan April through October- Patio
Figure 85

Scale: 1" = 40'



Floor Plan November through March- Patio
Figure 86

Scale: 1" = 40'





Community Center in Benton Harbor
Approach - Compacted Plan in January
Figure 87

Building Details

Detalles de Construcción

The Small Moments

To accomplish a building that is designed for disassembly, many small details were required. Because of this necessity the project was approached in a nontraditional way by looking at the details first and accommodating them into the concepts later.

These details then began to set up some of the design attributes, like the facade pattern being defined in 12 foot sections. This approach also helped to create many more intimate moments in the building which was important. This intimacy in the details, such as the rain collection downspout, allowed for the building to be designed for the users.

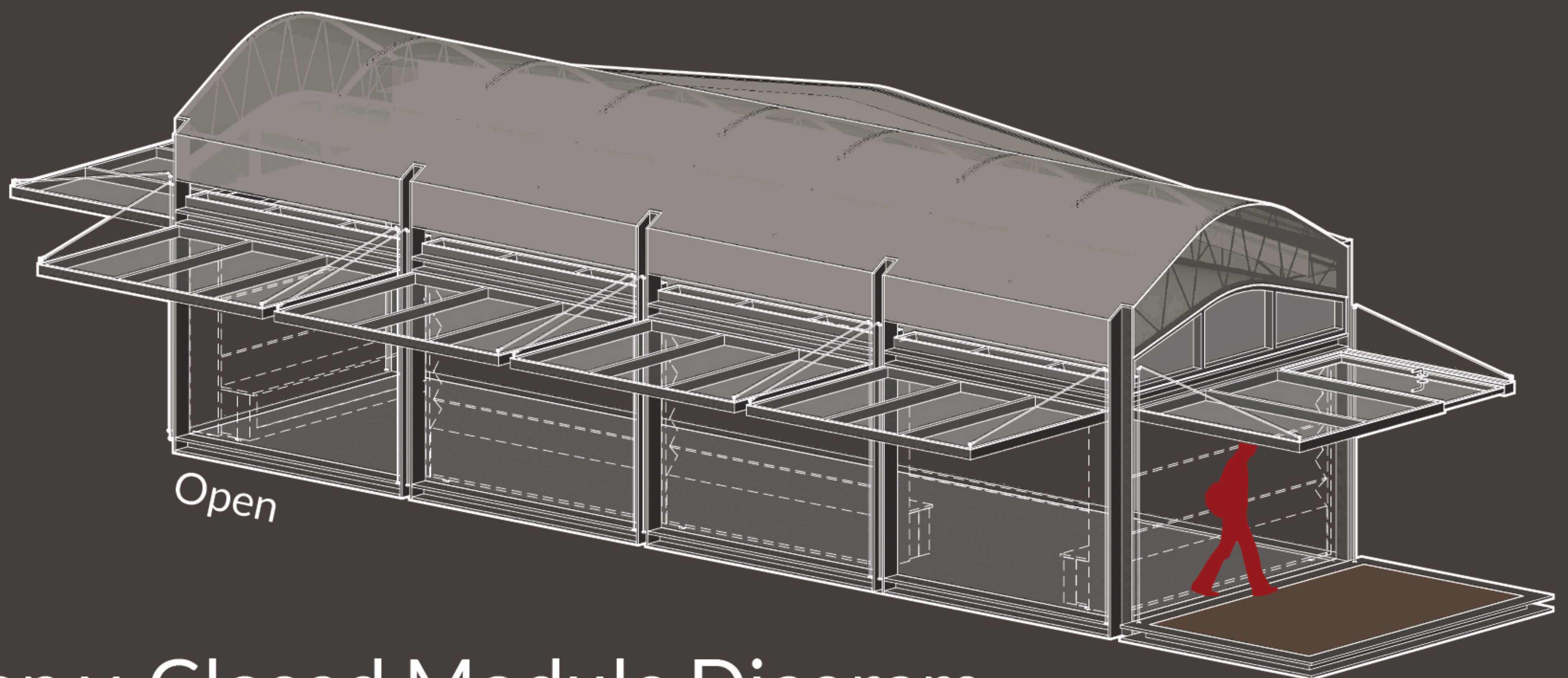
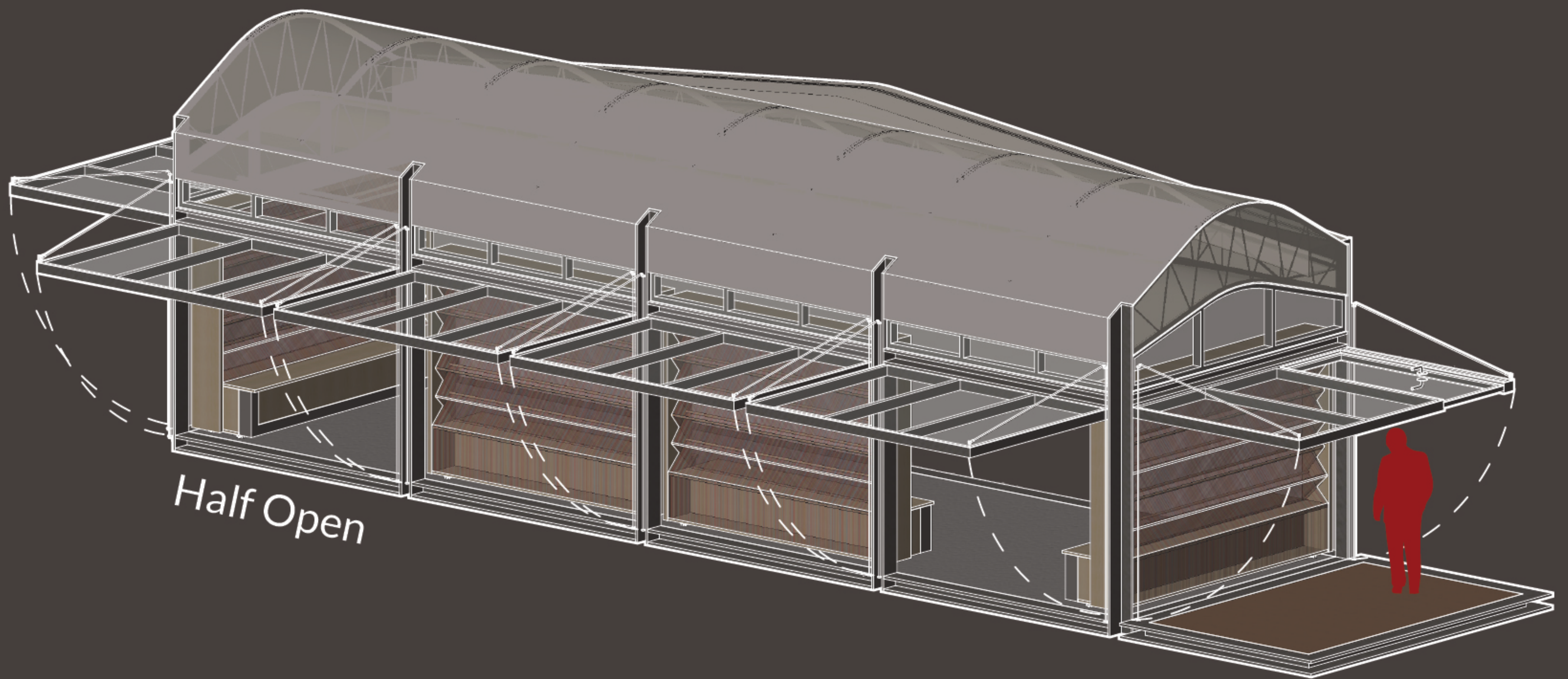
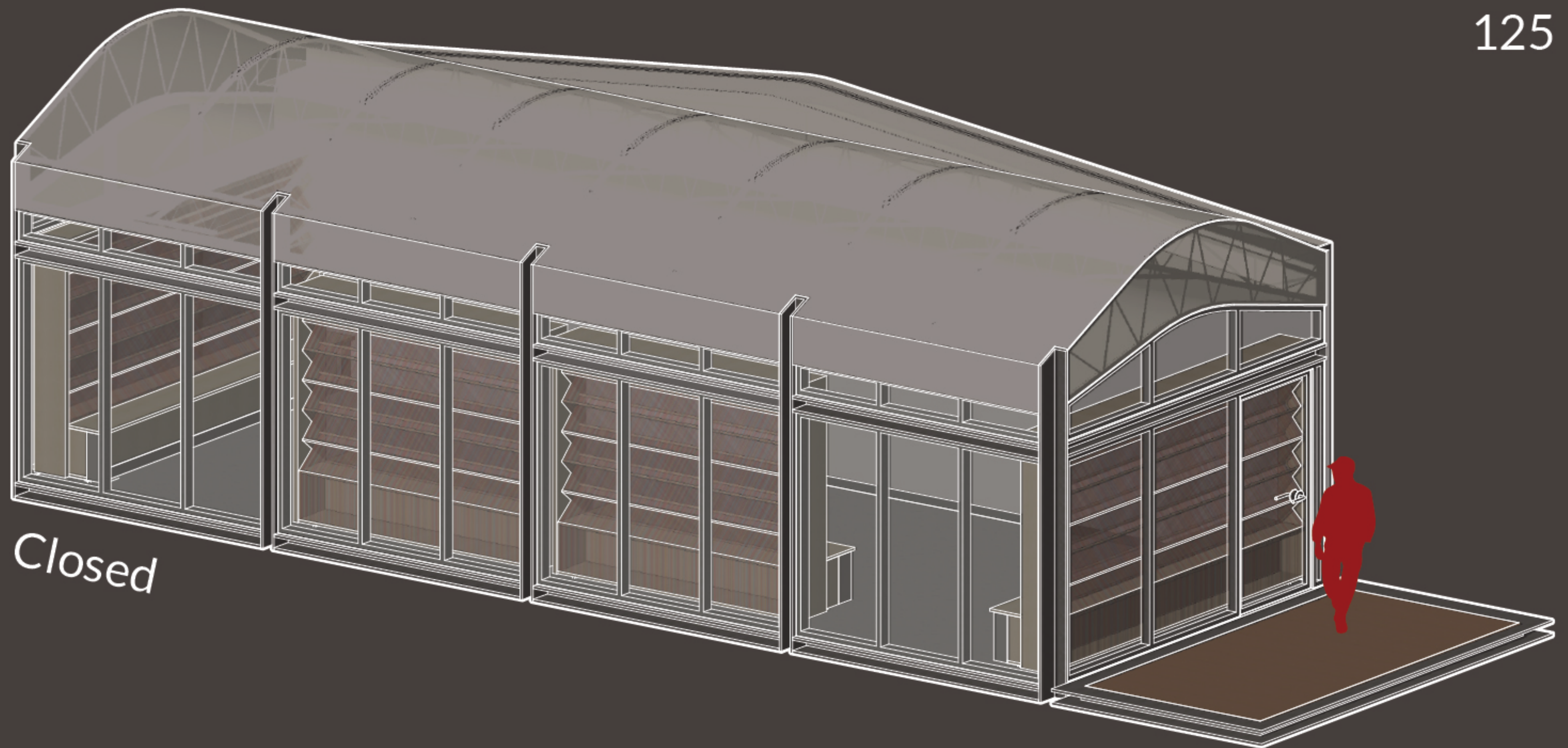
Wall Operability

Although the building is designed to accommodate large changes like the population shifts, it is also designed for daily and user adaptations. With this ability, it allows each user to adapt each space to the desirable conditions depending on weather and need. The three adaptations are closed, half open and open.

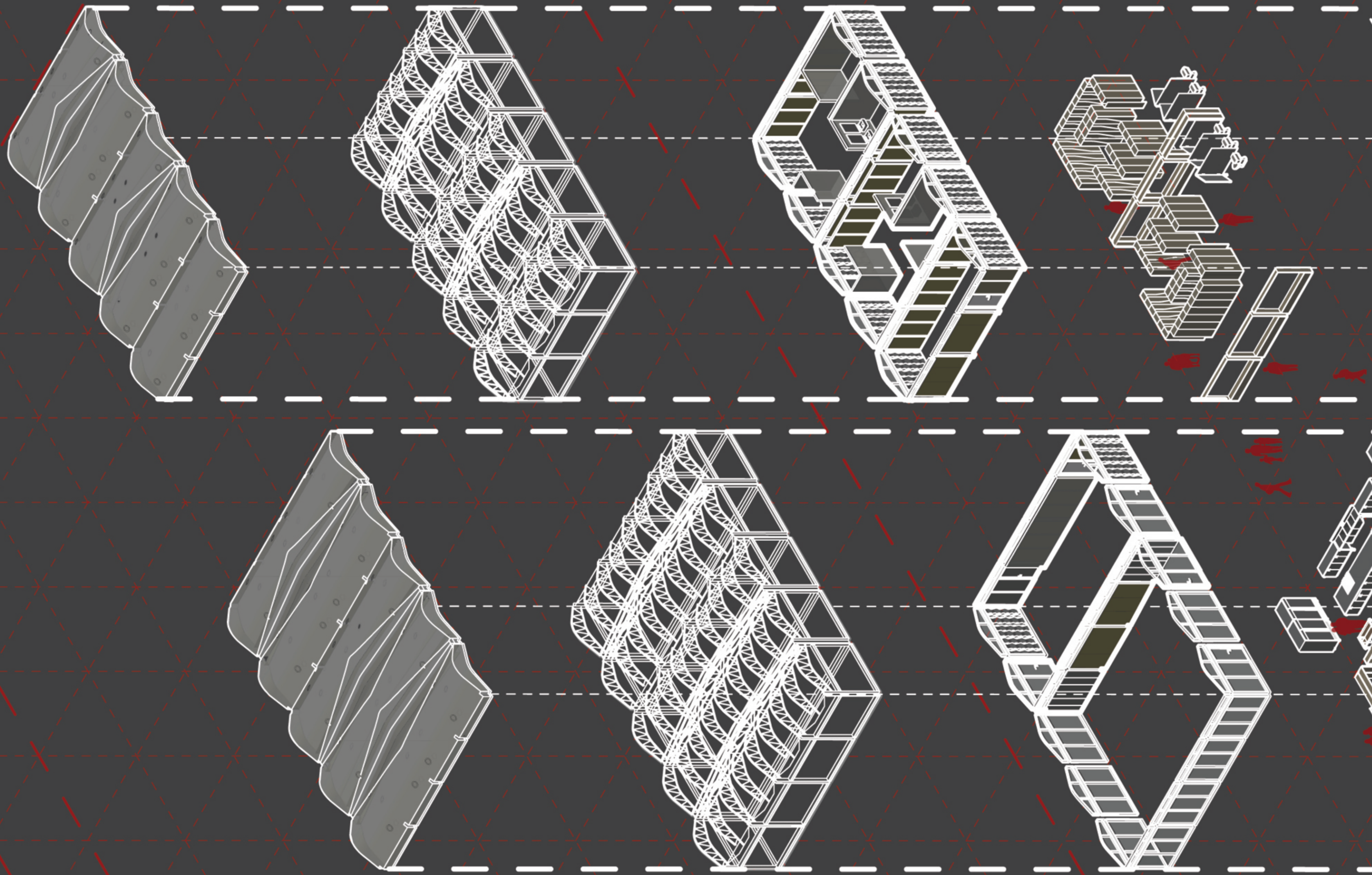
When closed the walls offer shading from the sun and the ability to stop breezes. This enclosure is best suited for the winter and shoulder seasons when weather is less predictable. This can also be desirable for certain activities if a quieter space is needed.

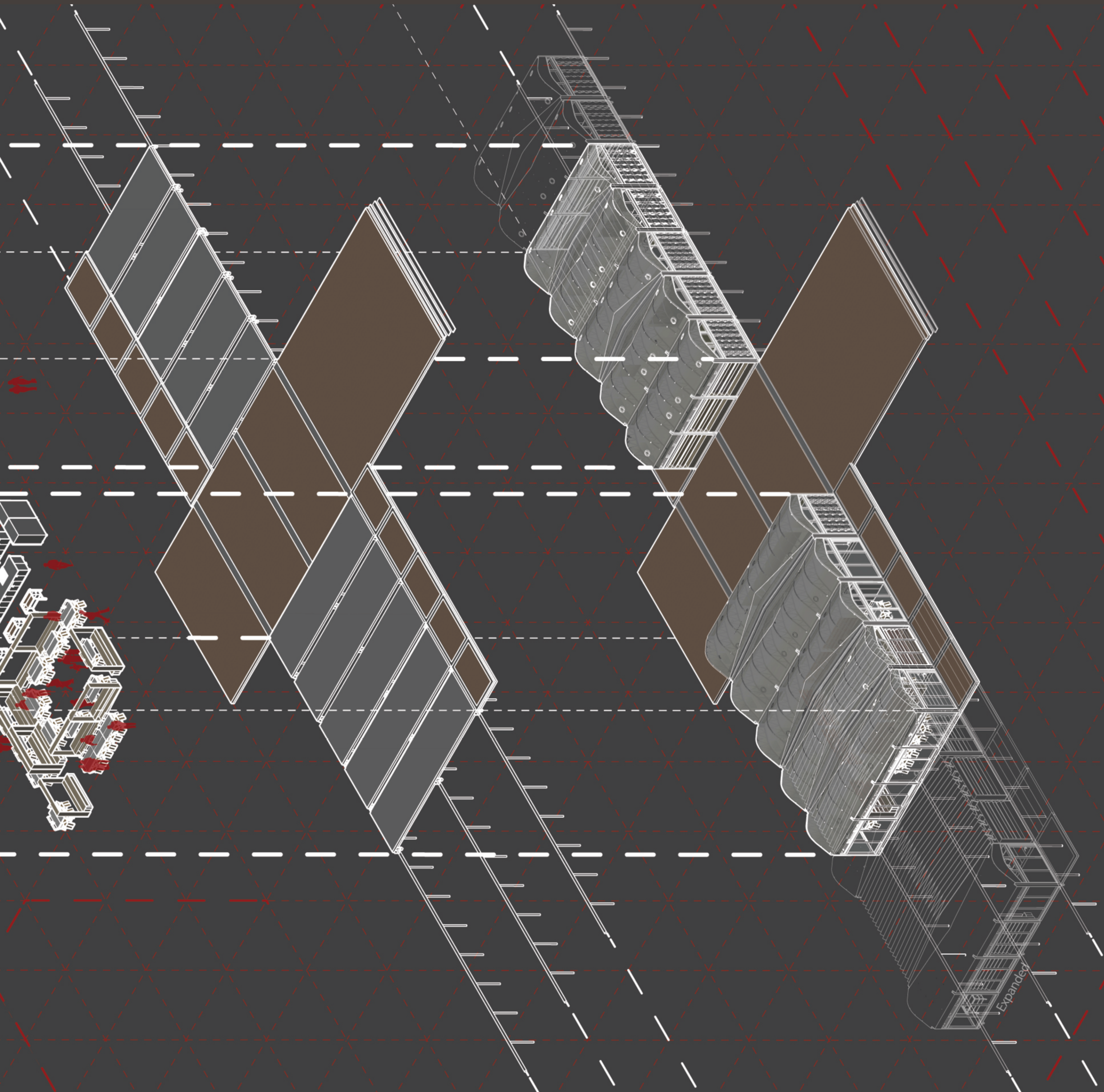
Half open allows for the ability to stop either sun or breezes. The walls can be opened with partitions left in place to allow breezes and stop sun for natural cooling for spaces, or the walls can be closed with the partitions moved to allow sun in and limit breezes which can create heat gain if desired. These options lets the user passively adjust the climate of the space and accommodate each activity.

The last adaptation is to open the walls completely. This removes the partitions to allow both light and wind into the space and create a pavilion environment for desired activities.

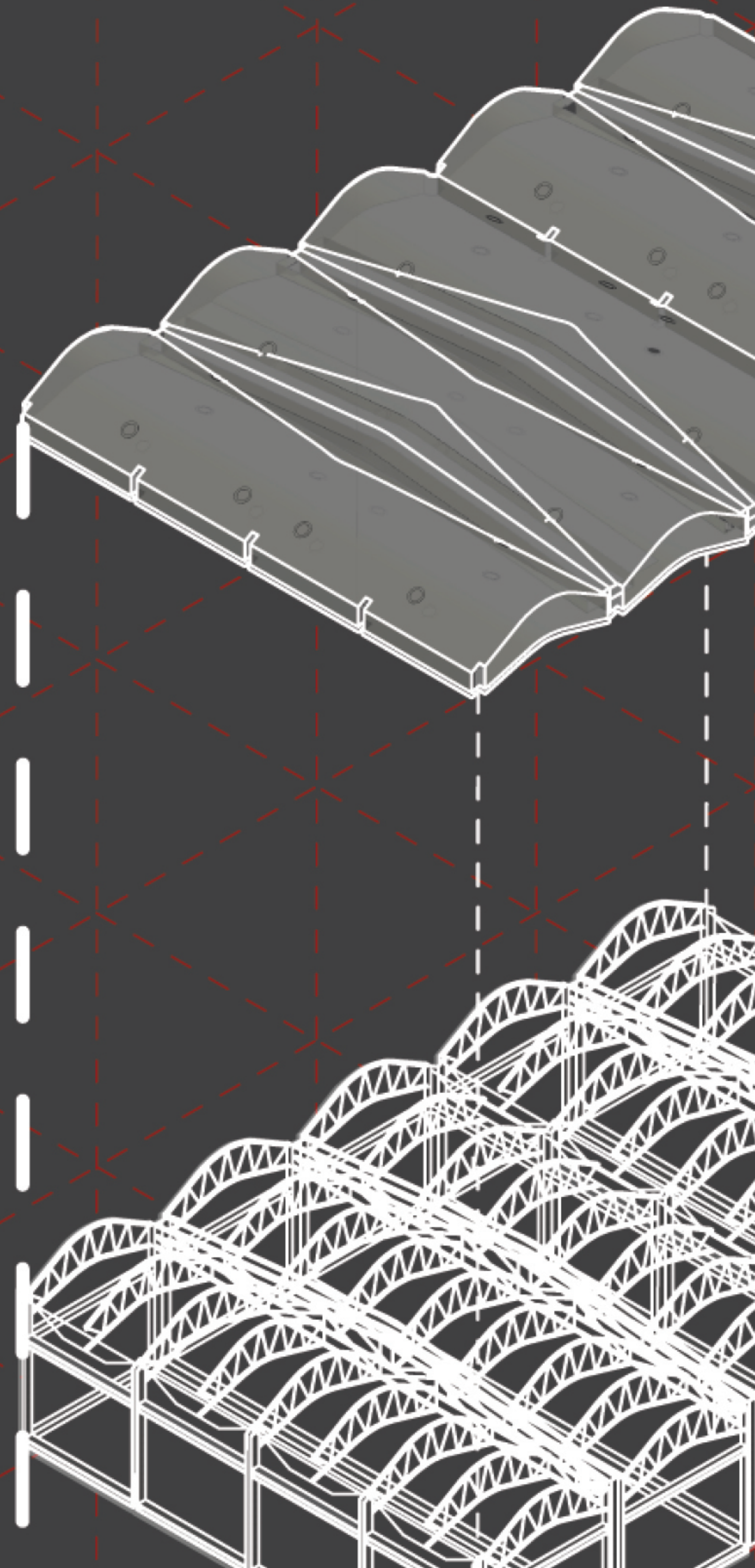


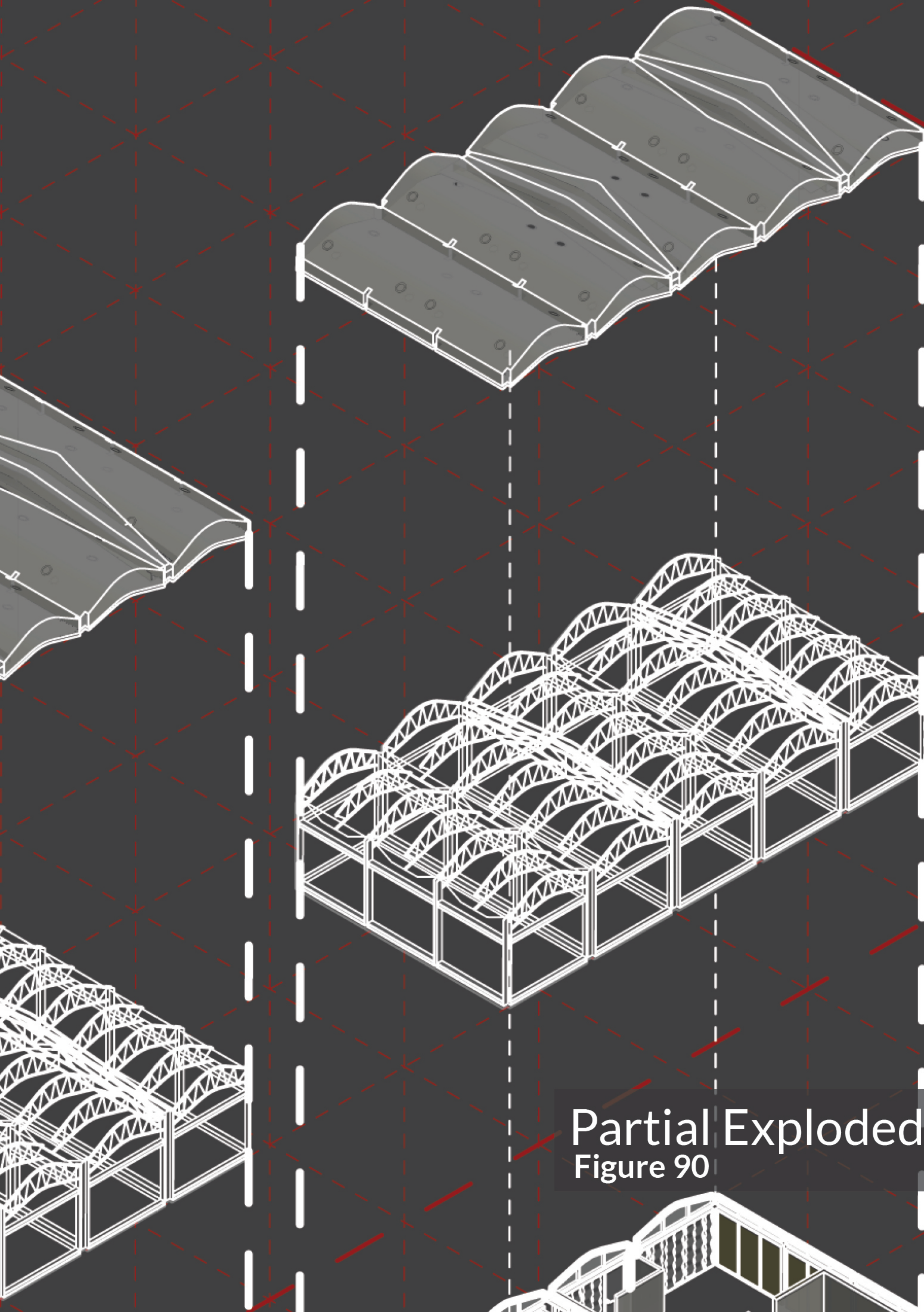
Open v. Closed Module Diagram
Scale: Not to Scale
Figure 88



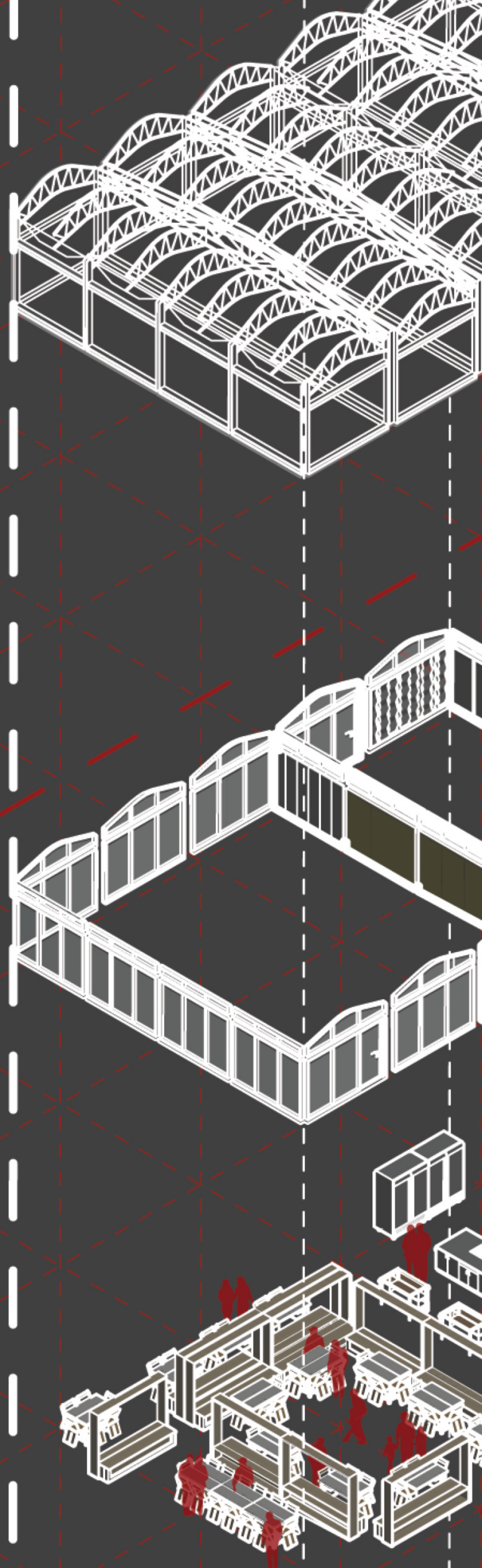


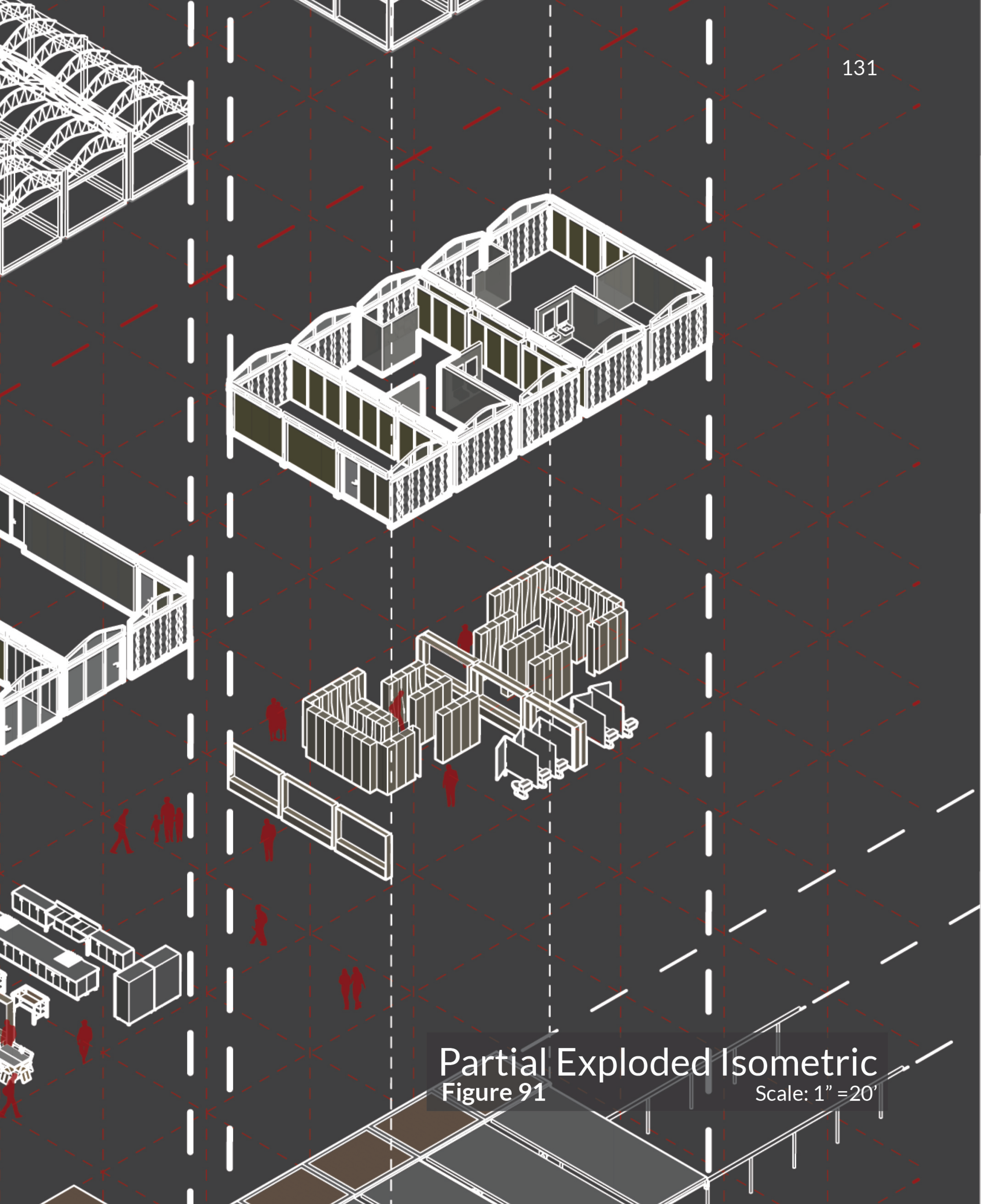
Exploded Isometric Diagram
Figure 89
Scale: 1" = 20'



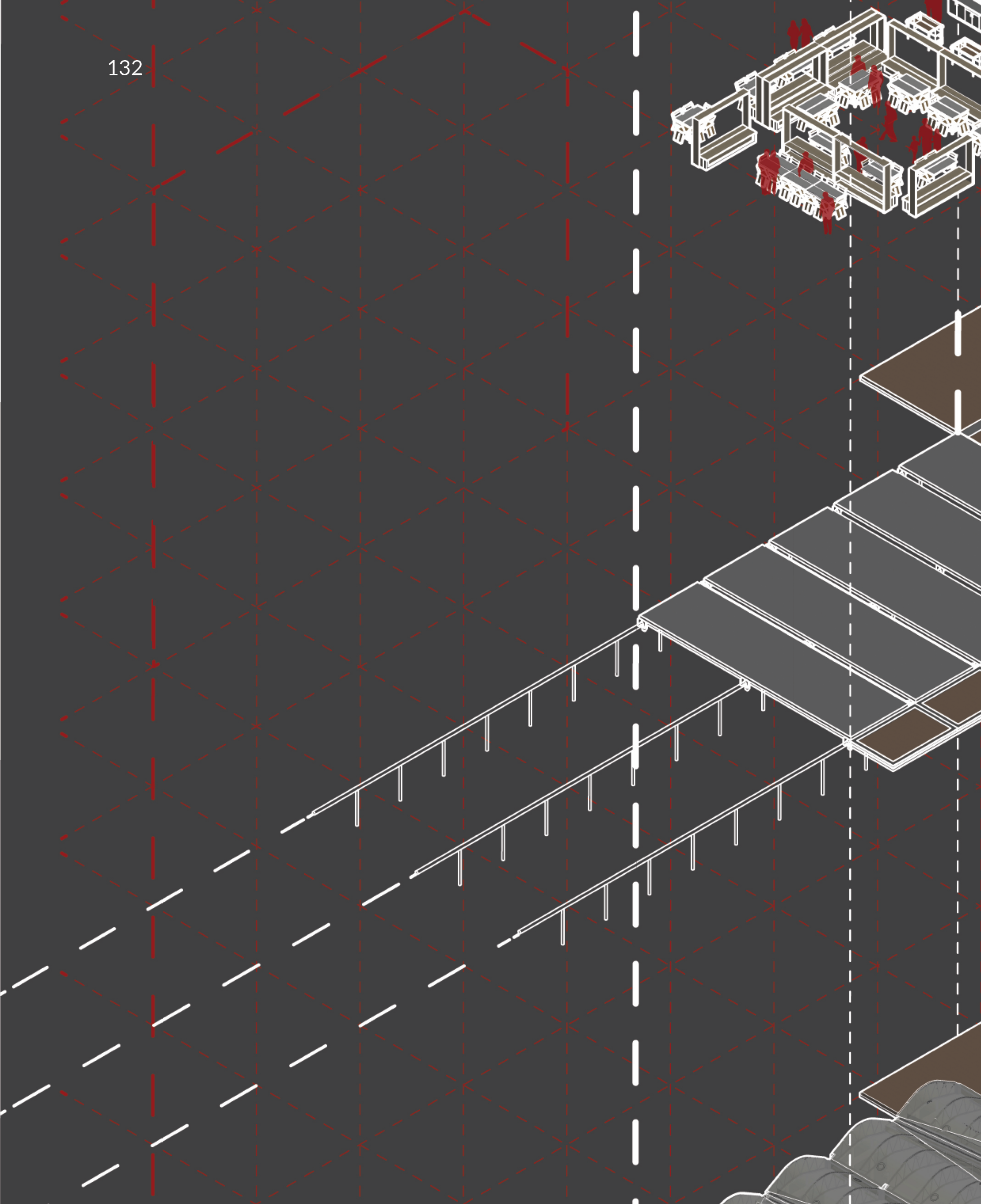


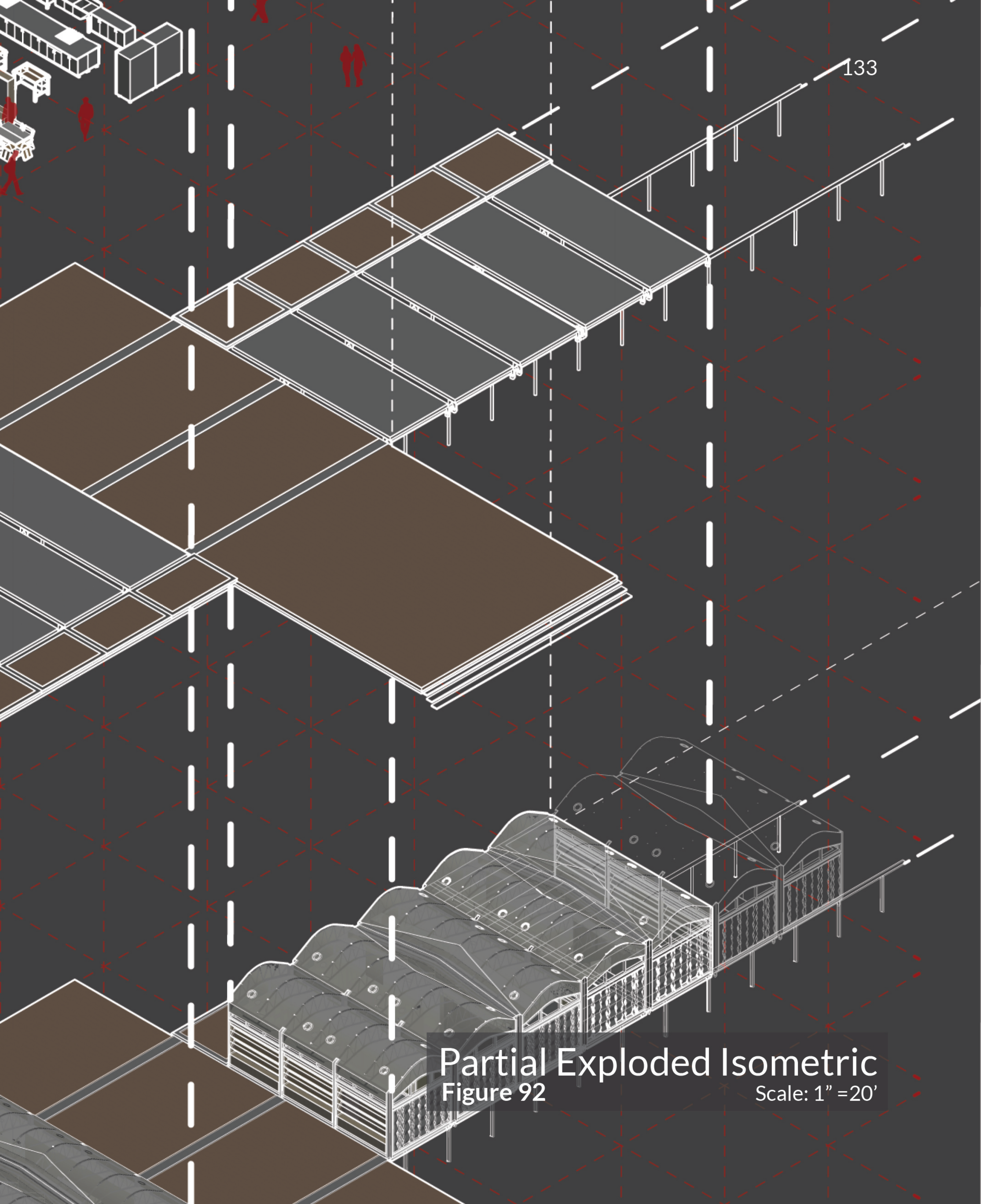
Partial Exploded Isometric
Figure 90
Scale: 1" = 20'



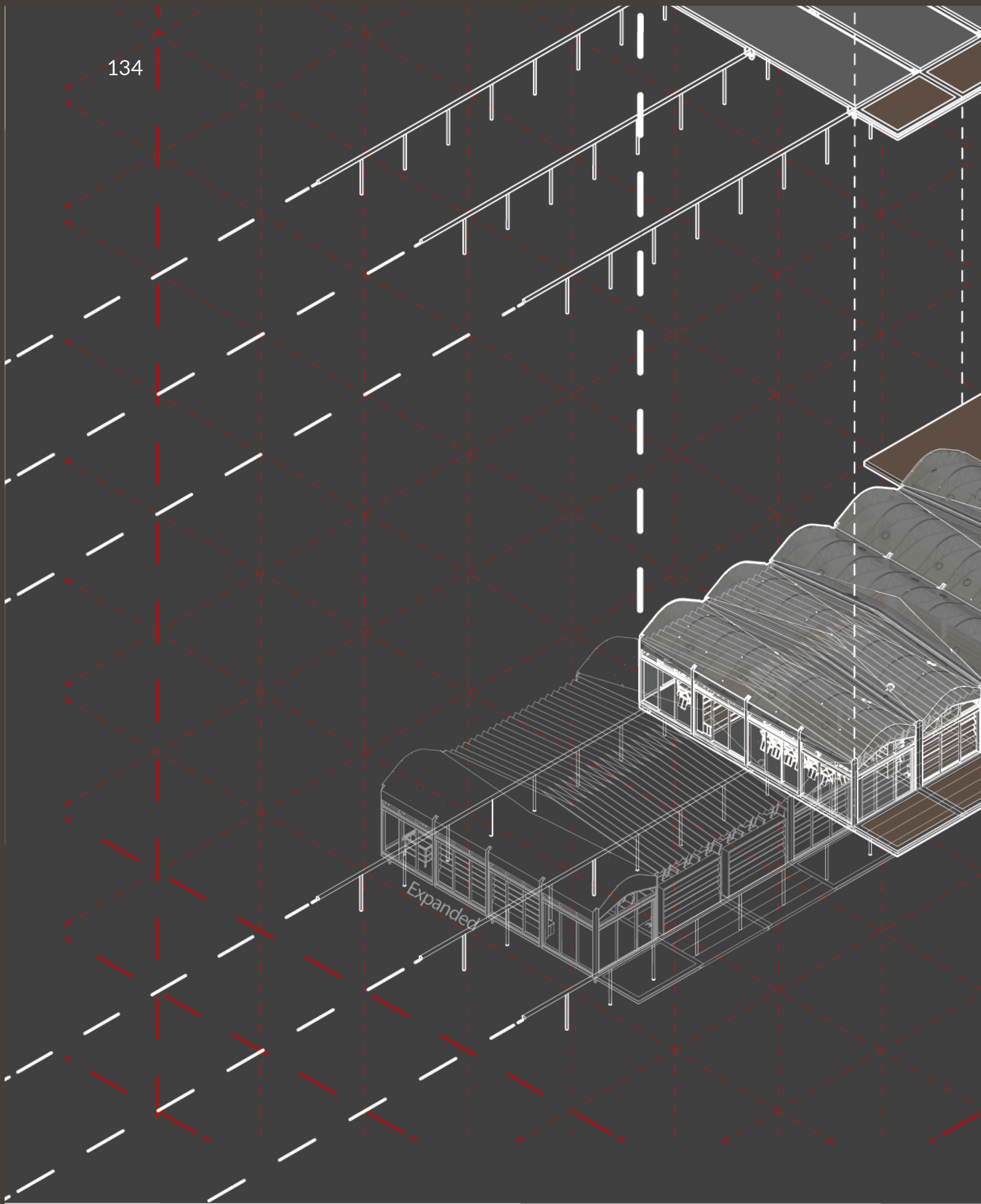


Partial Exploded Isometric
Figure 91
Scale: 1" = 20'

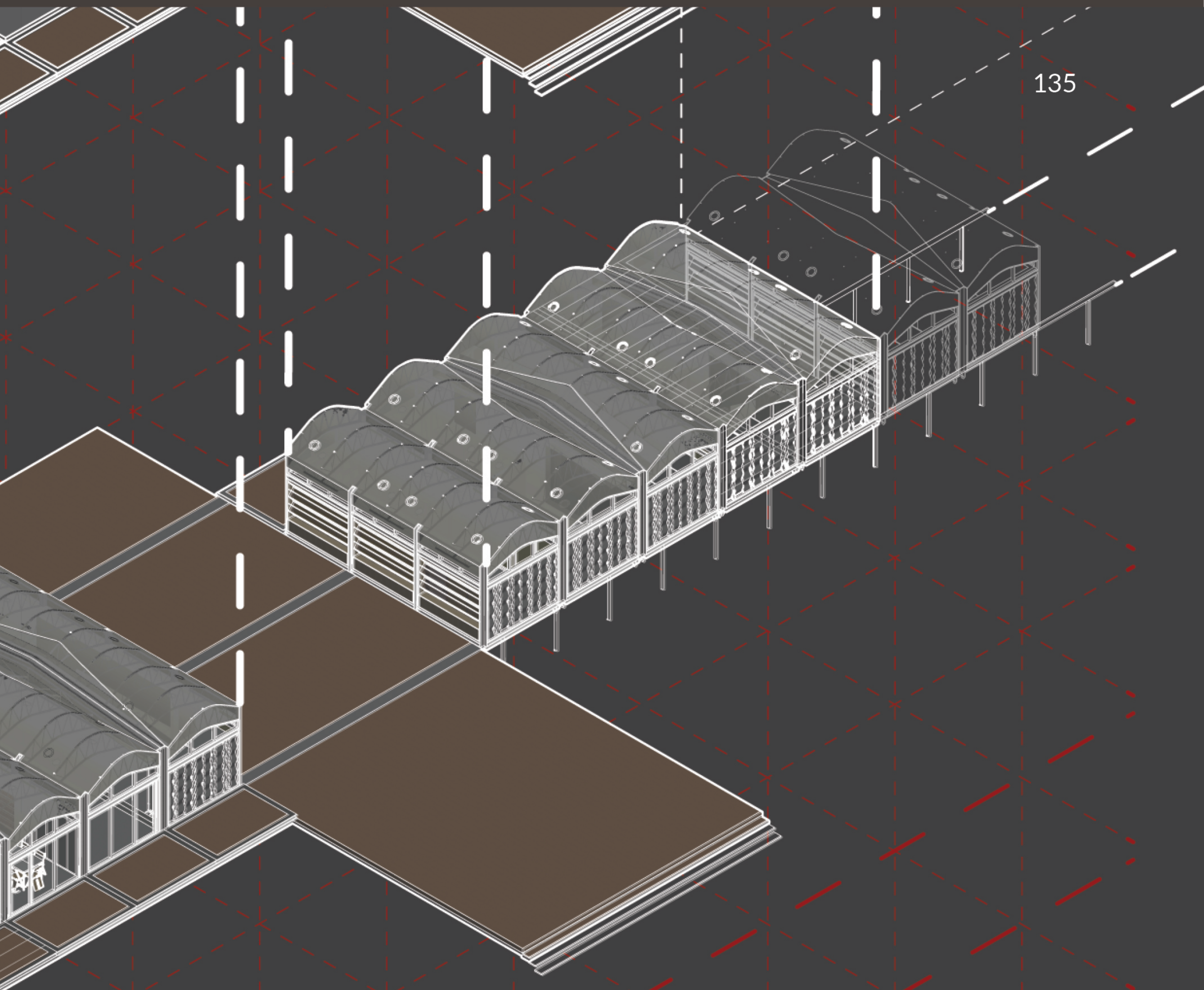




Partial Exploded Isometric
Figure 92
Scale: 1" = 20'



Expanded



Partial Exploded Isometric
Figure 93
Scale: 1" = 20'

Mobile Partitions

The furniture was designed to serve many different functions and be as flexible and adaptive as the entire building was. Each partition served 6 functions. The 6 functions include chair storage, table storage, personal lockers, sun shading, mobile benches and represent the culture of the main users of the buildings. Through many iterations with different combinations of storage, seating, shelving, shading and functions it was determined that the best solution included all of them except for shelving. This attribute would make the partition too thick and there was already storage in the base.

The partitions are used in three places in the community center, the multi-purpose room and 2 patios. These areas are shifted often and changed to accommodate the different populations and activities that are happening

The base of the partition contains storage areas for the chairs and tables along with lockers on the back to create a space that workers can store and protect belongings in a location outside of the overcrowded homes. The lockers also serve a second function in the winter as storage for those who do not need to use the locker room but wish to not bring all belonging with them while skiing or hiking. Each partition contain room to be able to store 18 chairs and 2 tables. The multi-purpose space hosts 14 partitions; 8 that are 5' - 6" long and 6 that are 10' - 8" long. Without additional storage, this allows the Multi-purpose room to store 252 chairs and 28 tables. This quantity matches the rooms

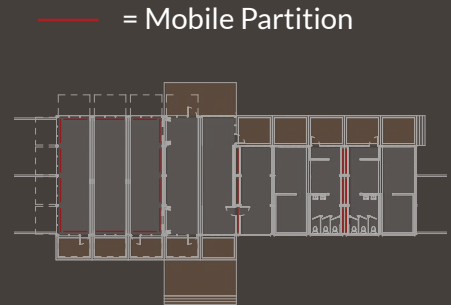


Figure 94 Mobile Partition Storage Locations in Compact Plan

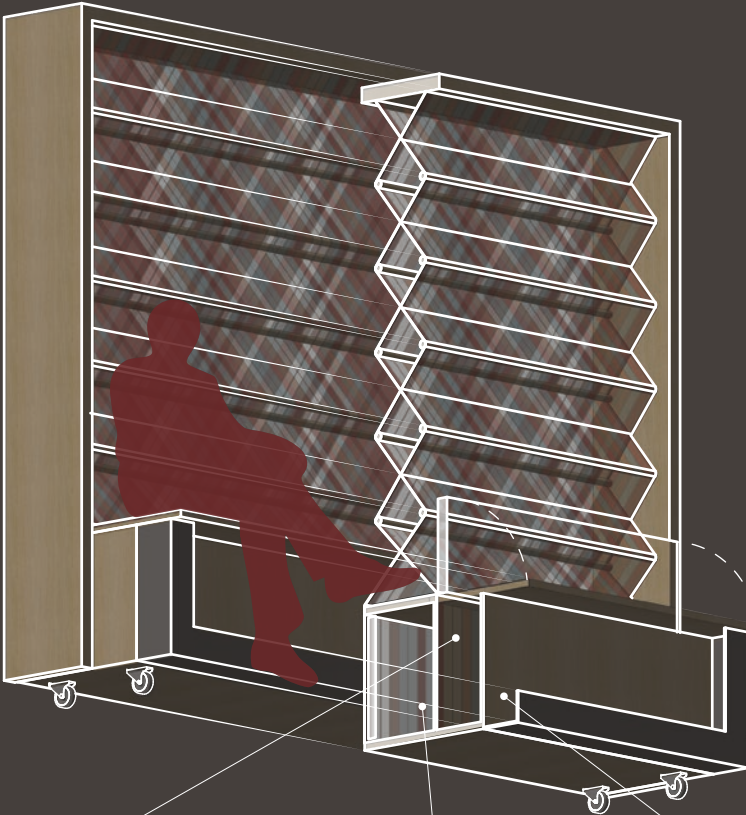
18 Chairs
per Partition



Chair
Isometric



Chair
Side Open



2 Tables
per Partition

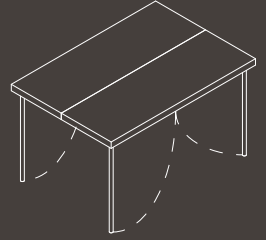


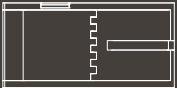
Table
Isometric



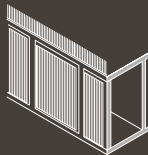
Table
Front - Open



Table
Front - Closed

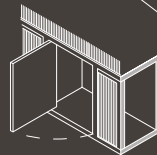


Chair
Front Closed



6 Lockers
per Partition

Locked
Closed



Locked
Open

Mobile Partition Diagram
Figure 95
Scale: Not to Scale

occupancy of 300 people, which is roughly two thirds of the farm worker population, and which is what the space was designed to accommodate.

The fabric weaving on the partition to accommodate sun shading for the multipurpose room and patio spaces. This is desirable because there is no surrounding trees to offer shading to the building or spaces. The loose weaving also creates opportunity for wind to blow through and cool rooms and occupants when walls are opened or being used on the patio.

This pattern is also a reflection of the solid panels on the exterior of the building. This allows for a consistent representation of all exterior walls around the entire building.

Migrant Farm Worker Representation

One main purpose for the partitions was to help represent the migrant workers and their culture to the second occupants in the offseason in Benton Harbor. The way that was determined to best represent the migrant workers was through the same design concept as the building; weaving. The representation of weaving represented a cultural piece known as a serape and their work of the farming of tomatoes that weave through a vegetable trellis. It was also determined that to properly represent the workers, that the create or weaving should be completed by the workers. This allows for the best representation rather than a designed idea of what represents a culture that is not one owns.

To accomplish the weaving without needing additional work from the already busy workers a framework was provided. The framework contains horizontal dowels that allow the workers, their families and children to lace colorful fabrics through and around them. This allows for a night class or daycare to create an activity for people on the farm that has a purpose and will stay with the building for a long time.



Mobile Partition Model⁶⁵
Figure 96

Expansion

Expansion is achieved through a coordination of expansion in the roof and ceiling. The roof is expanded with a folded pattern. The folding roof is stored in a cricket between the two roofs of each module. This allows the roof to expand by either 12' or 24' without the introduction any addition of components. The floor is expanded with 2' wide by 12' long components that are easily installed by the workers. This allows them to have multiple 'barn raising' per season to include additional workers in the production of the community center. The expansion all happens with the caster and rail system that the community center is housed on. This let the community center expand with man power or small equipment so additional equipment is not needed to be rented or purchased.

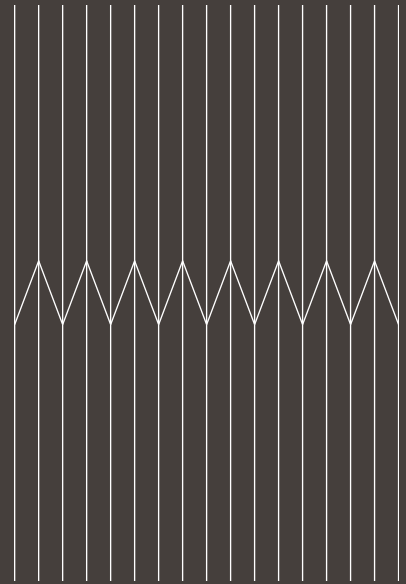
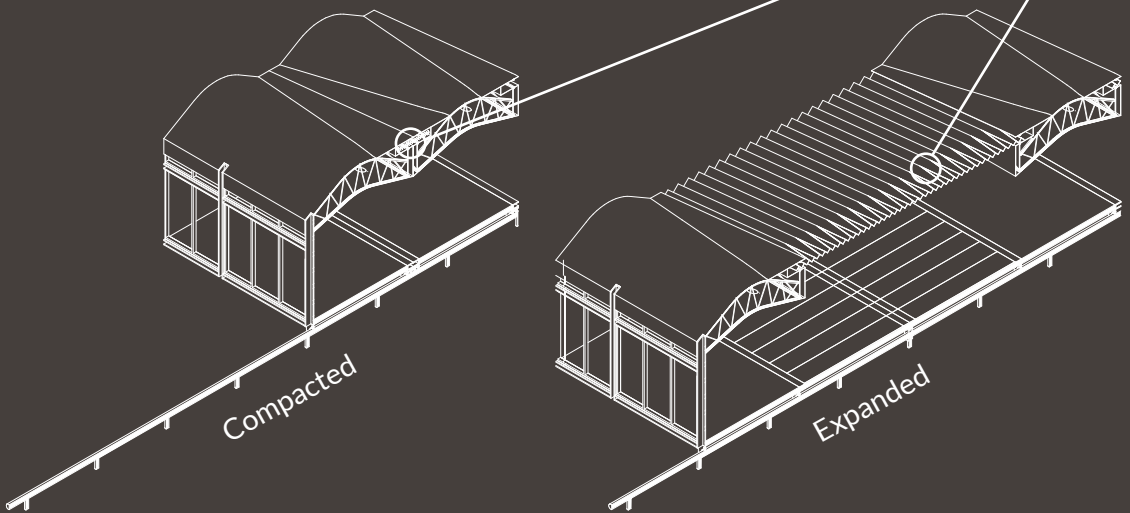


Figure 97

Expansion
Roof Folding
Pattern⁶⁶

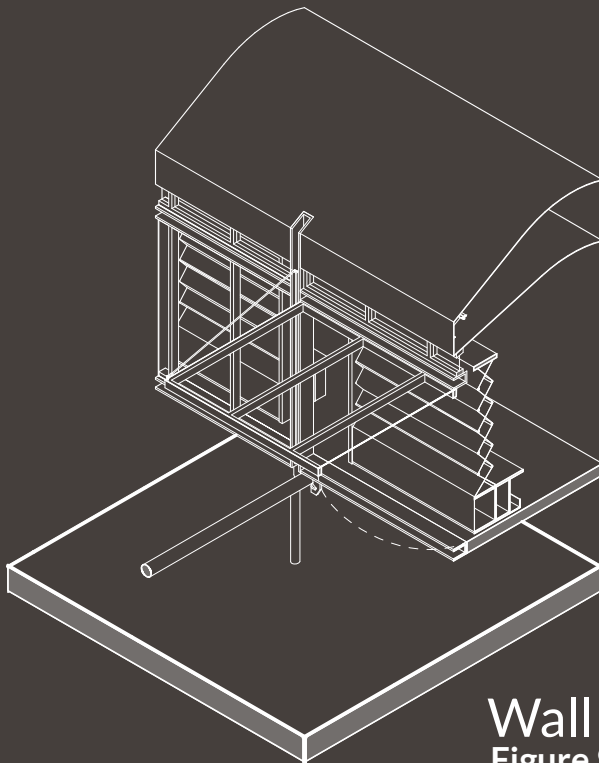


Compacted v. Expanded Diagram
Figure 98

Scale: Not to Scale

Operability

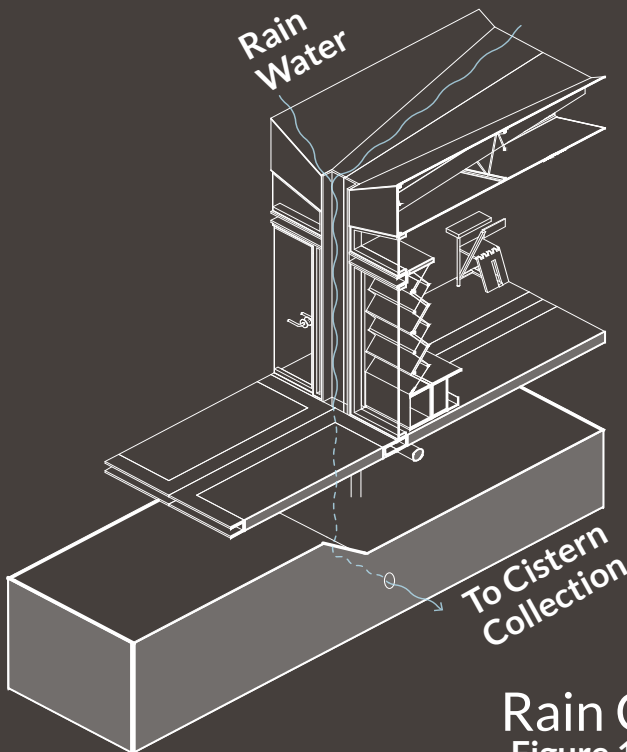
Each glass infill panel is operable to give the users a choice for their environment. The glass panels operate in an awning style. The windows are connected to a tension wire on each side to allow the windows to stay open at any desirable angle to allow different amounts of air through the rooms. Above the panels on the east and west walls, a 2' tall operable clerestory window exists. This window allows for natural ventilation between rooms and through the entire building without the need for the large panels to be open. When paired with the mobile partition the exterior wall configuration can allow the room to be shaded but allow breezes through to cool the space. This creates a space that can be easily adjusted each day to accommodate each activity and occupant naturally without the need for additional mechanical cooling systems.



Wall Operability Diagram
Figure 99
Scale: Not to Scale

Rain Water

To help the building be as sustainable as possible a rain water collection system was integrated into the design. This was desirable for 2 main reasons. First, because of the rural location the buildings are unable to connect to city water. And second, water is an important resource to a farm which creates a need to lower the consumption of the water supply from the farm. The design that collects the water was paired between the roof and structure. The roof is designed to direct the water to a relief that is created structure on the perimeter of the building. This relief brings the water down and into a tube in the ground that is connected to a cistern near the community garden. This allows the water to be used for both the building and the communities watering to create the lowest demand of water from the farmers supply. This system is only active in the summer months on Leitz farm. When in Benton Harbor the building can be connected to city water to supply the building an not have to worry about freezing pipes.

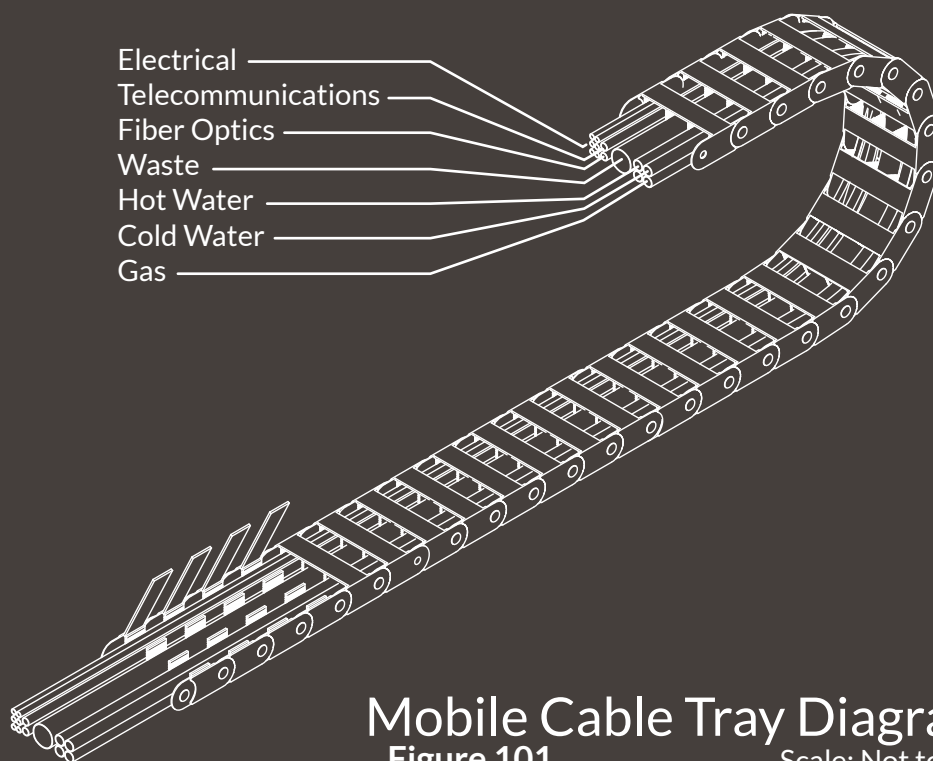


Rain Collection Diagram
Figure 100

Scale: Not to Scale

Mobile Utilities

In able to achieve connection to utilities in each modules a flexible cable tray had to be implemented to allow each unit to move independently. An industrial mobile cable tray was used to contain all utilities in an orderly way and allow them to connect into independently. This system works because each module only moves on a single axis along the rails which is what this cable tray system was designed to achieve. All utility lines (electric, water, telecommunications, and sewage) would use flexible piping and wiring.



Mobile Cable Tray Diagram⁶⁷
Figure 101
Scale: Not to Scale

Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

Appendix

Apéndice

Process Work

Proceso de Trabajo

Through the process I wanted to find a form of representation that could help embody the idea and feeling of the topic of migrant workers. Through my research many articles I read were very somber and dark when telling their working and living conditions. After multiple different processes the one that I found to most accurately and quickly represent my intentions and learnings was through sketching on black paper with white pens, pencils, and paint. This approach was new to me and an interest that I had seen for many years but never found a correct purpose.

I began to ideate to help get through the early ideas of a project and determine what was the correct solutions for the problems at hand. These ideation sheets allowed for the opportunity to organize different ideas onto sheets to reference back to and add new ideas from beginning to end. This helps to maintain consistency and proper trajectory for this community center.

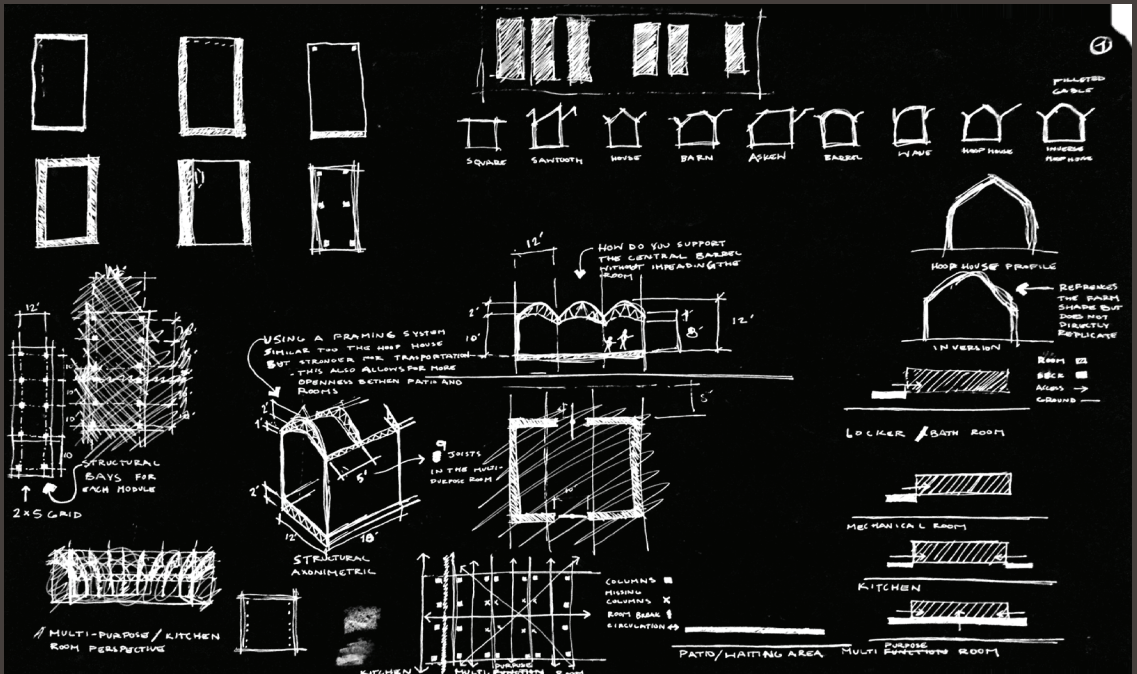


Figure 102 Ideation Sketches #1

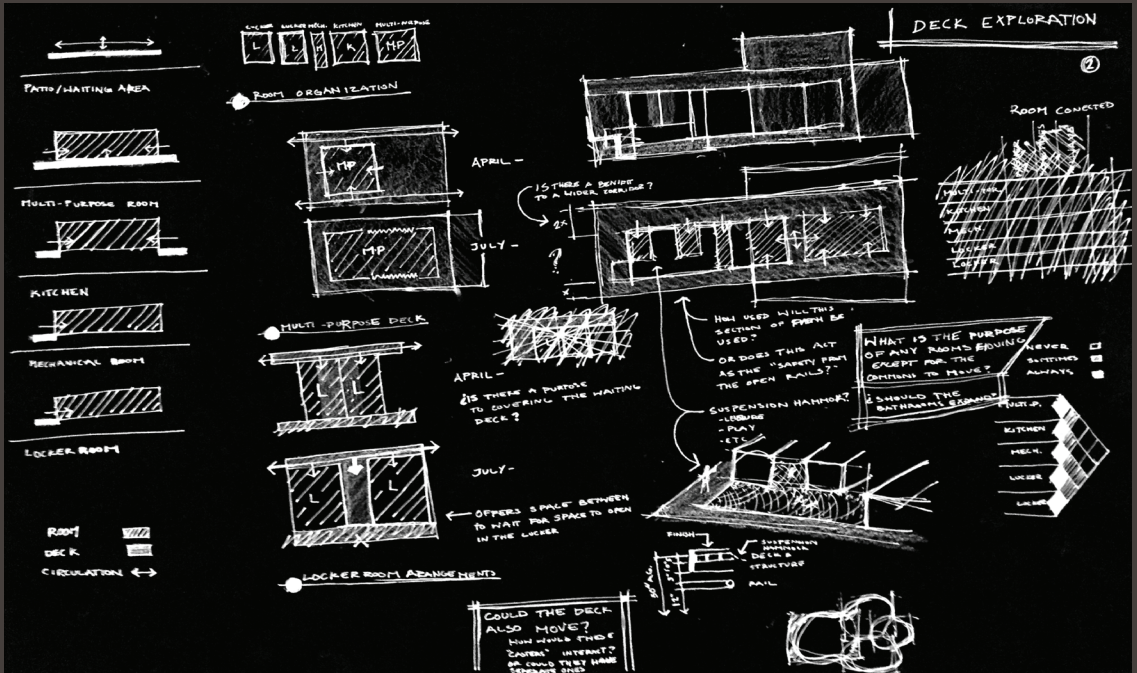


Figure 103 Ideation Sketches #2

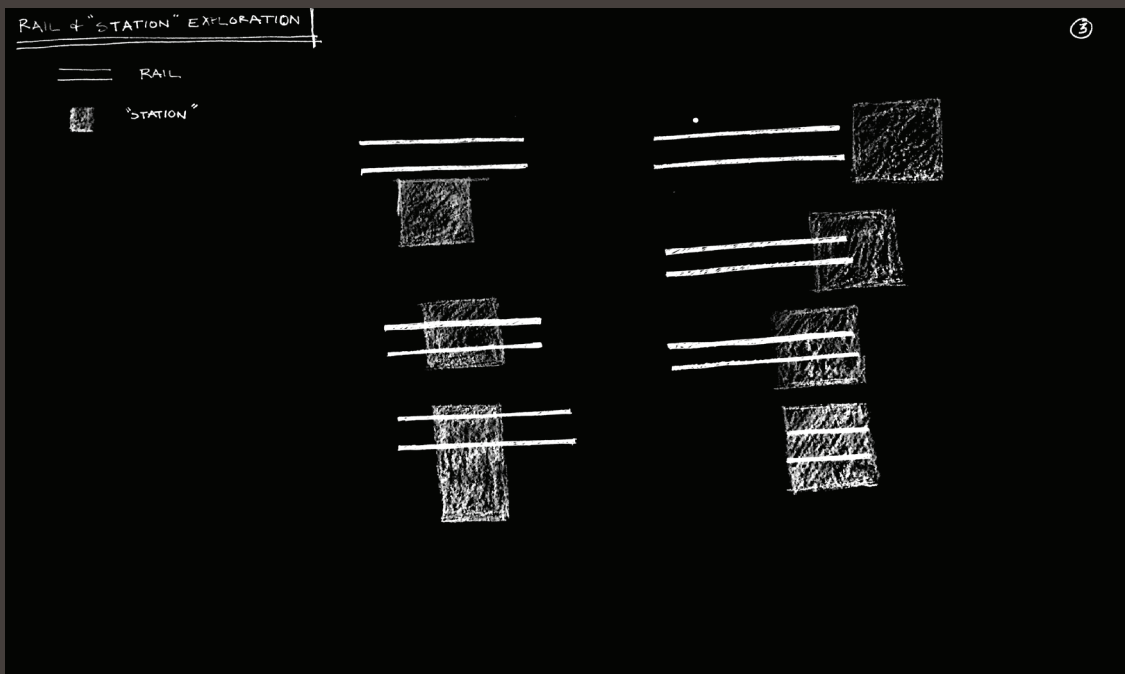


Figure 104 Ideation Sketches #3

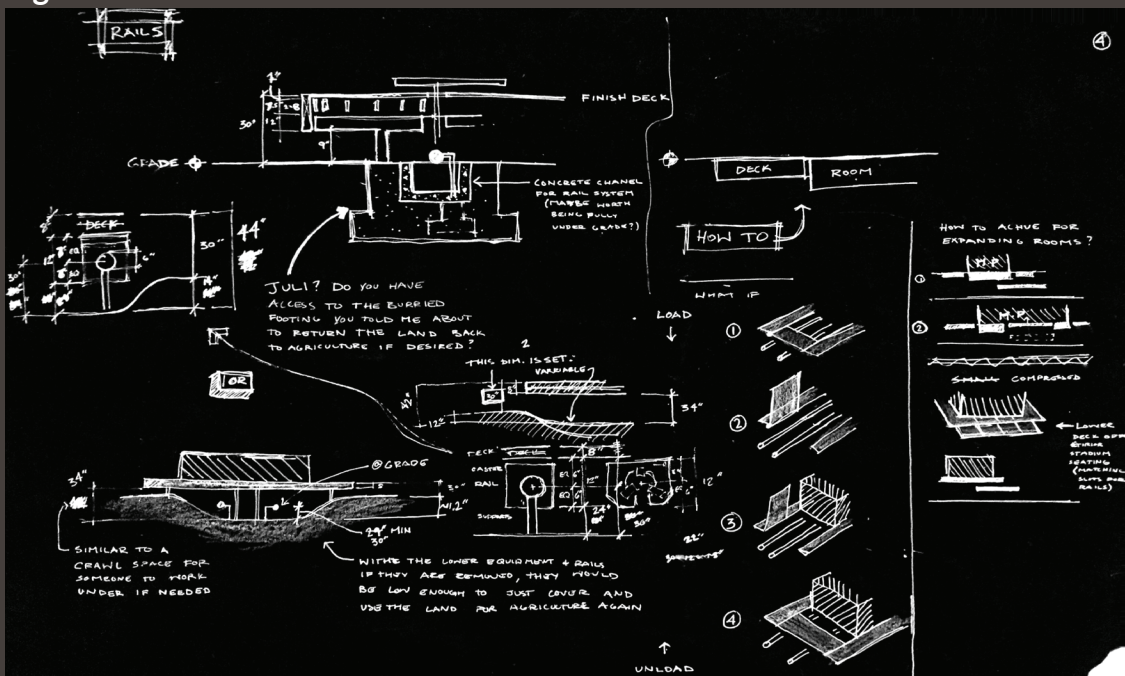


Figure 105 Ideation Sketches #4

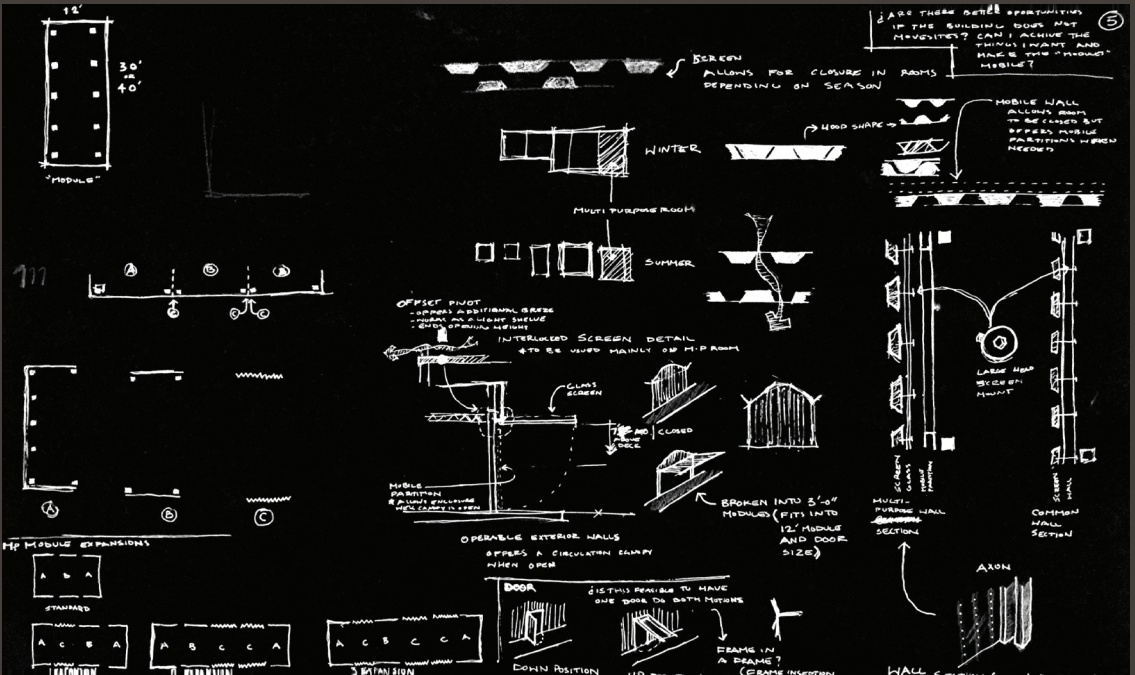


Figure 106 Ideation Sketches #5

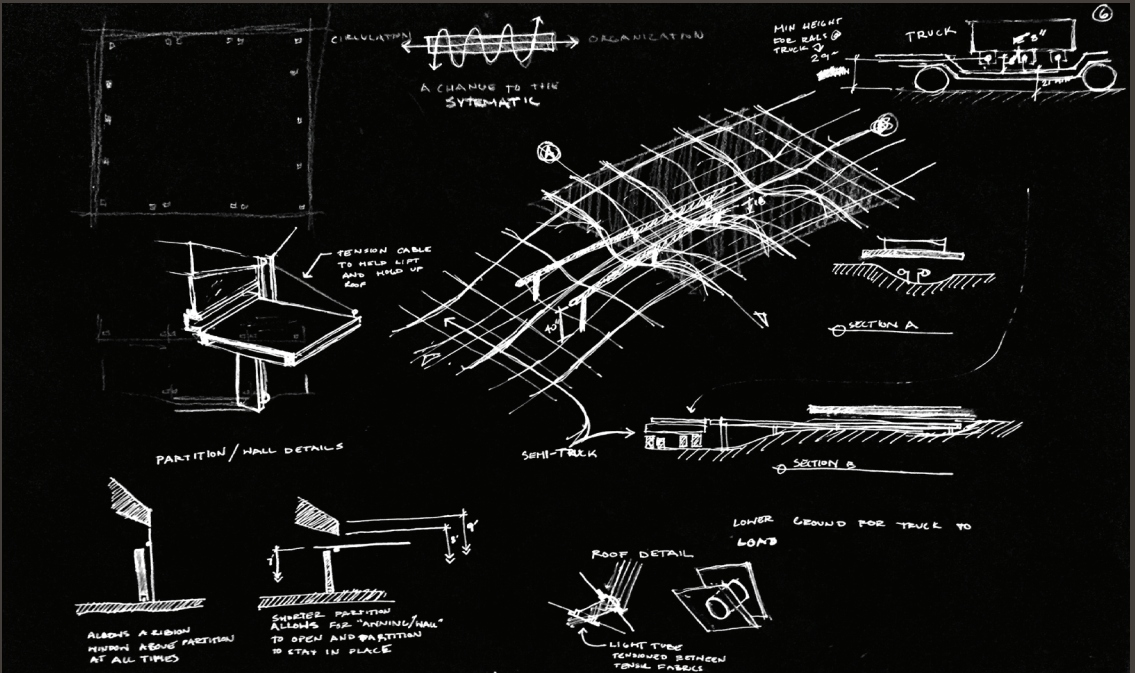


Figure 107 Ideation Sketches #6

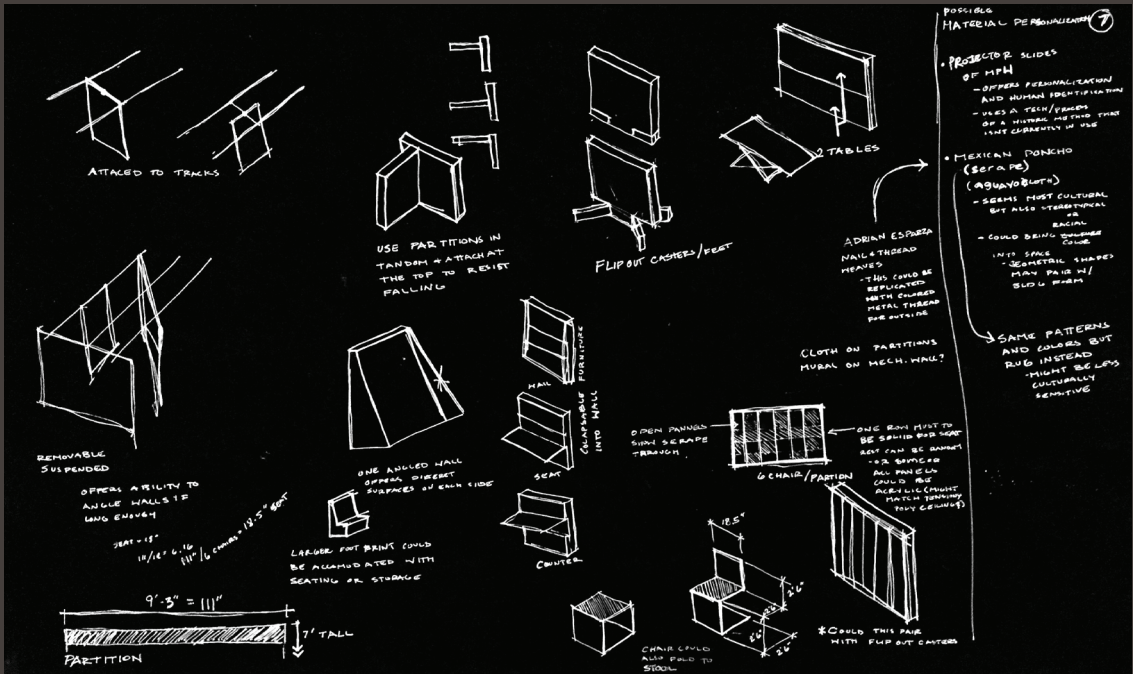


Figure 108 Ideation Sketches #7

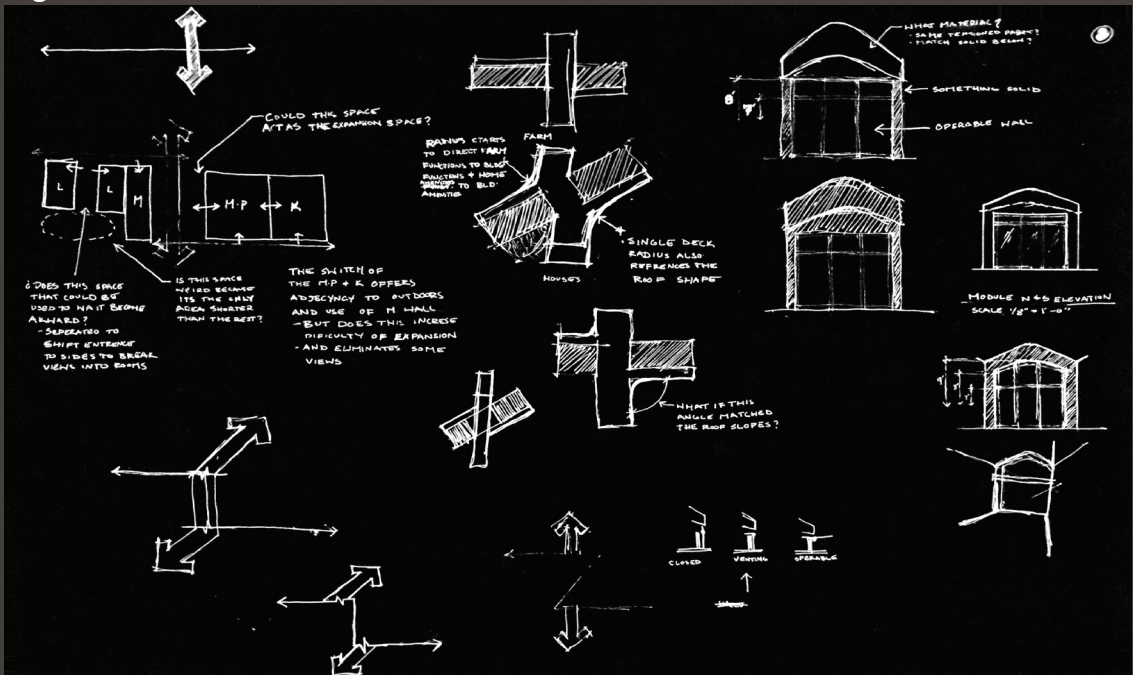


Figure 109 Ideation Sketches #8

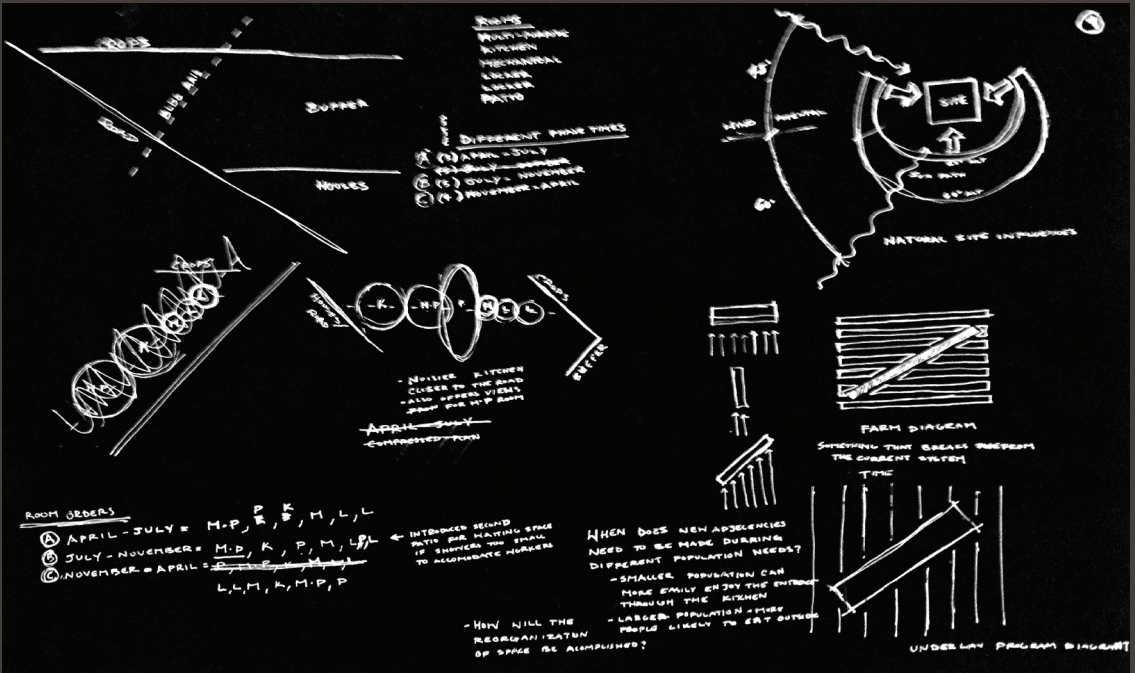


Figure 110 Ideation Sketches #9

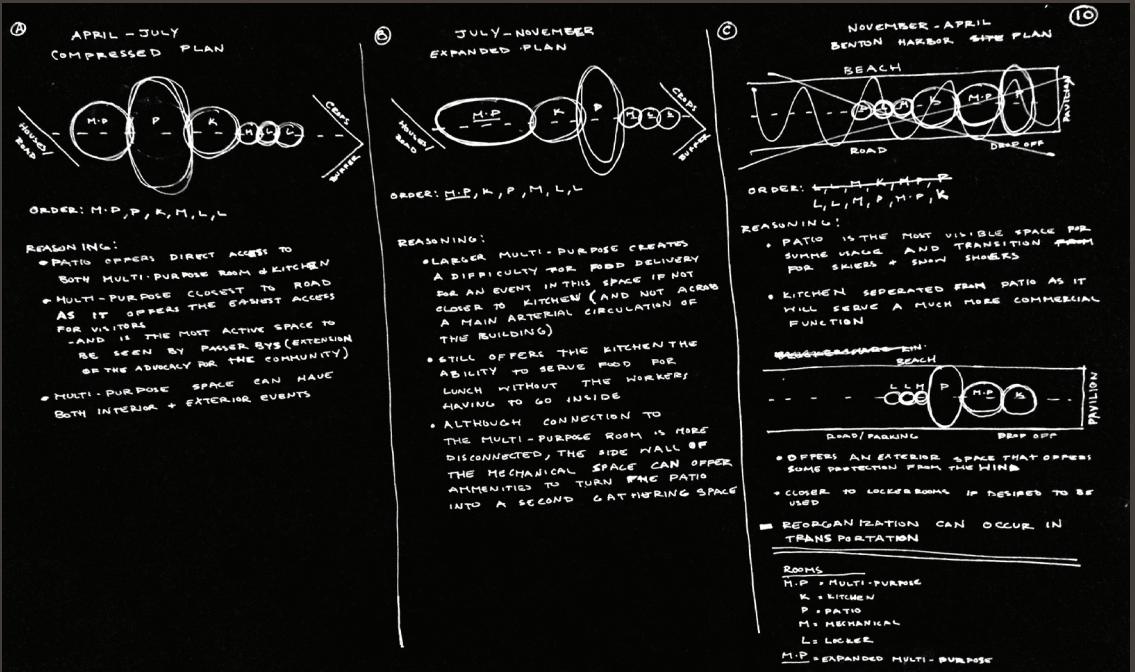


Figure 111 Ideation Sketches #10

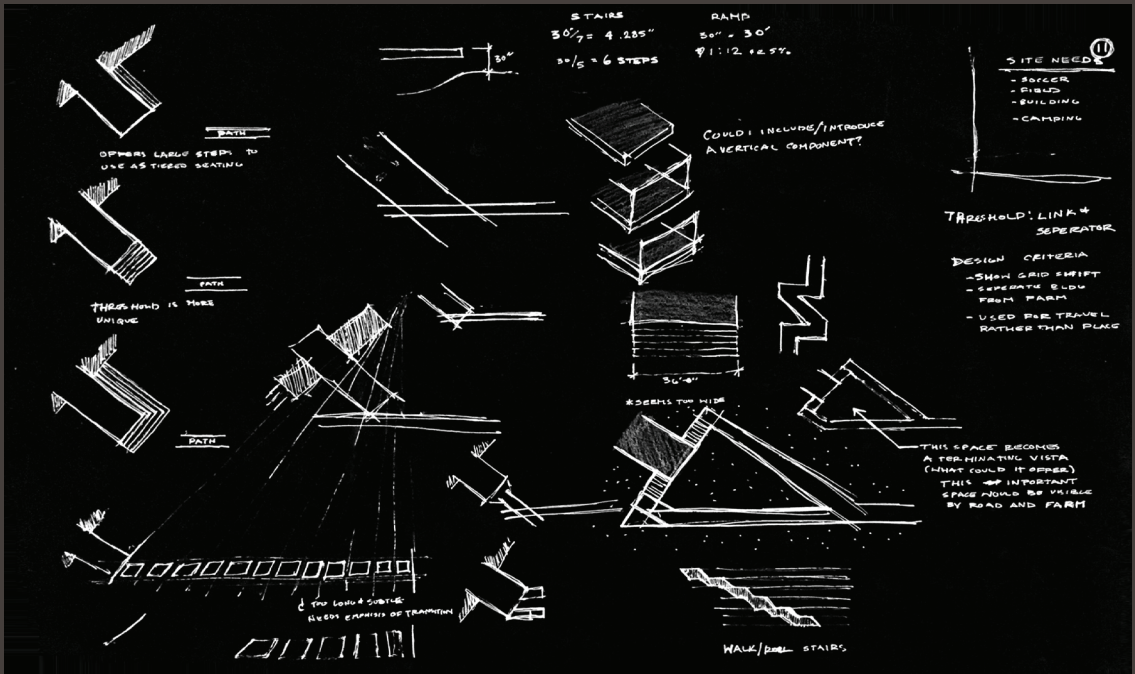


Figure 112 Ideation Sketches #11

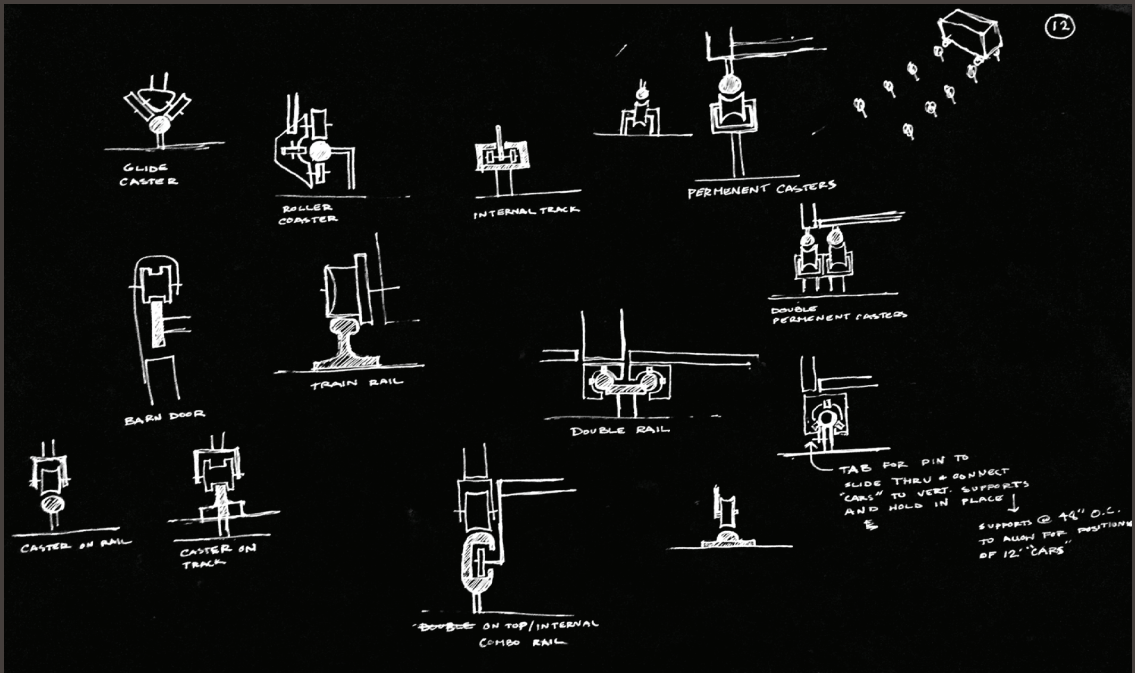


Figure 113 Ideation Sketches #12

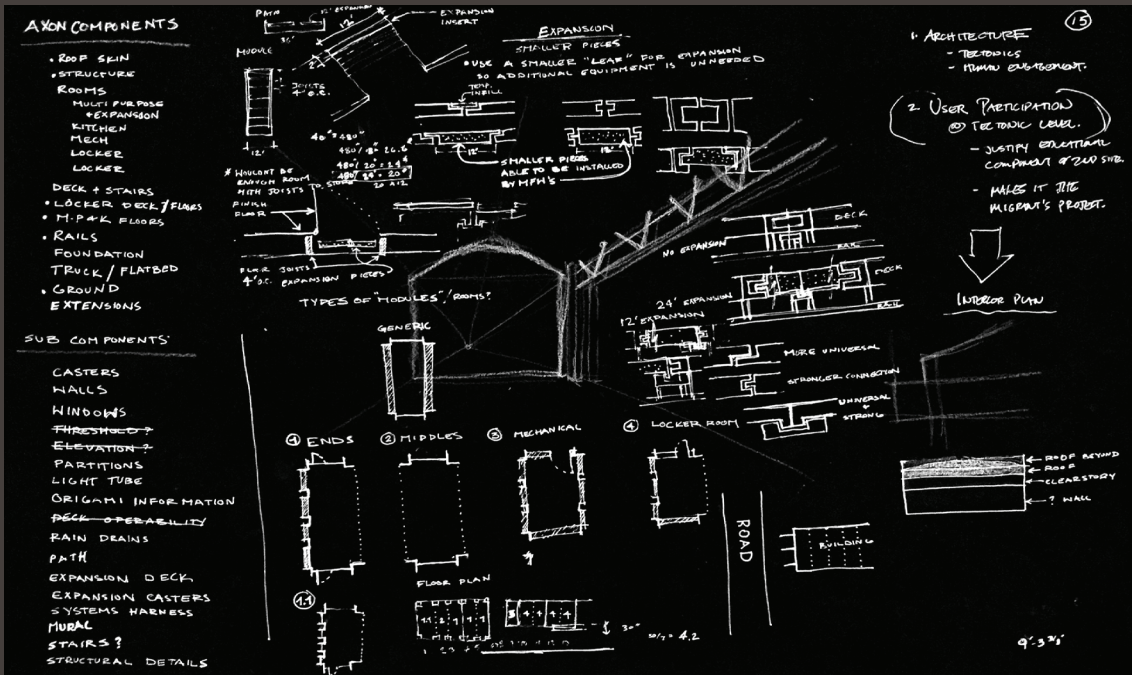


Figure 116 Ideation Sketches #15

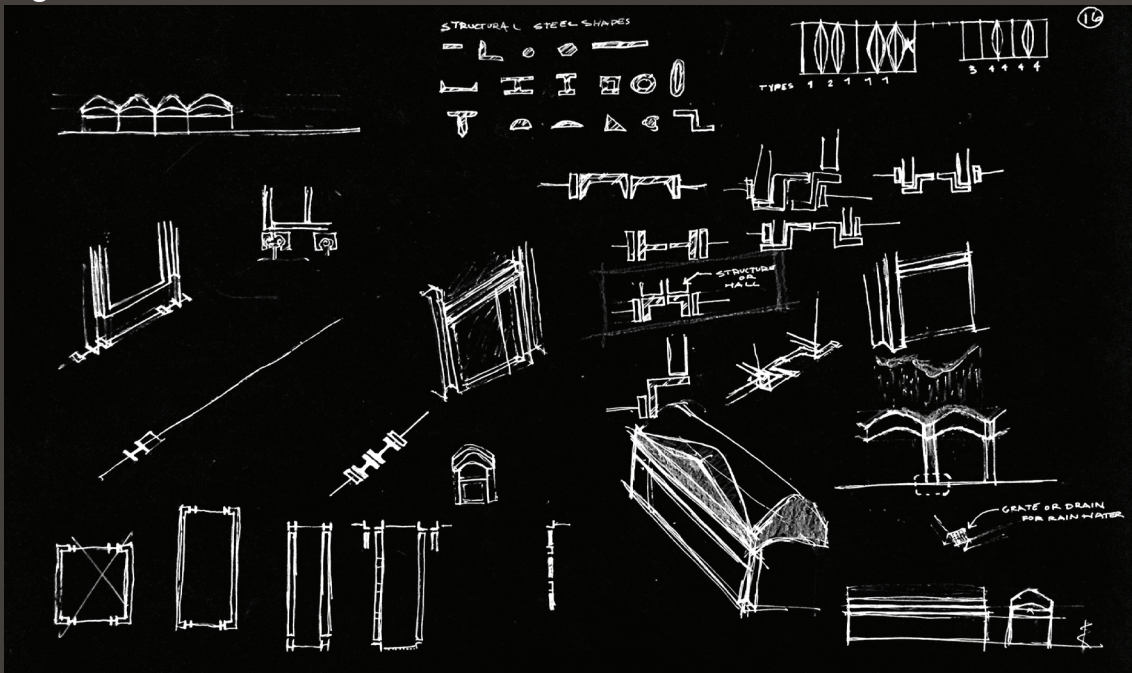


Figure 117 Ideation Sketches #16

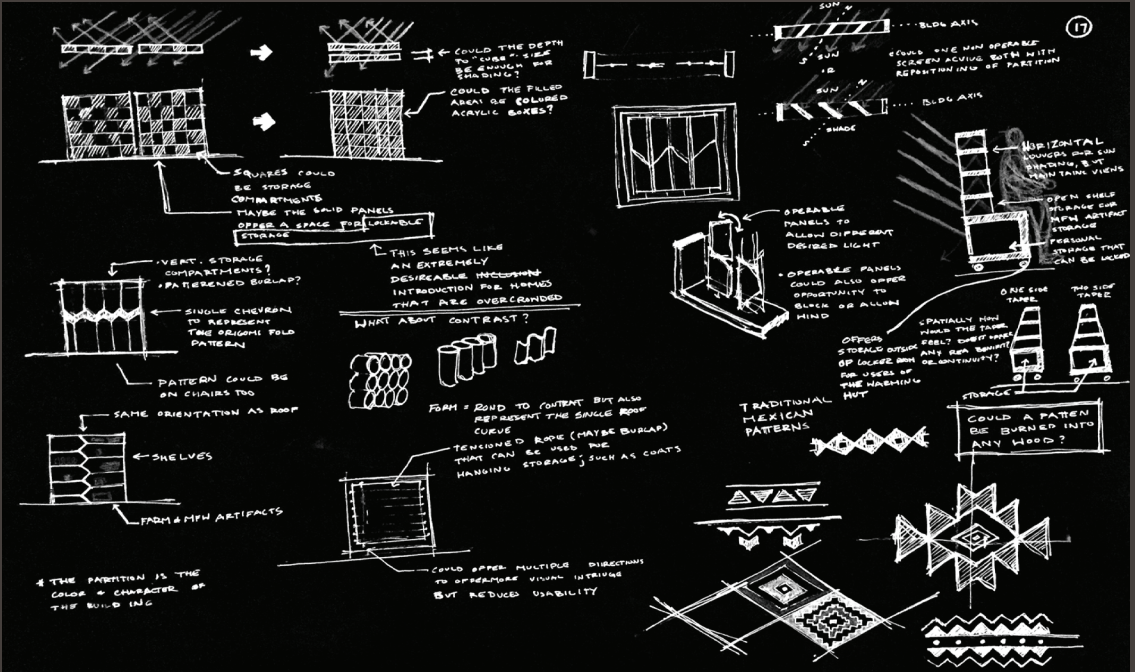


Figure 118 Ideation Sketches #17

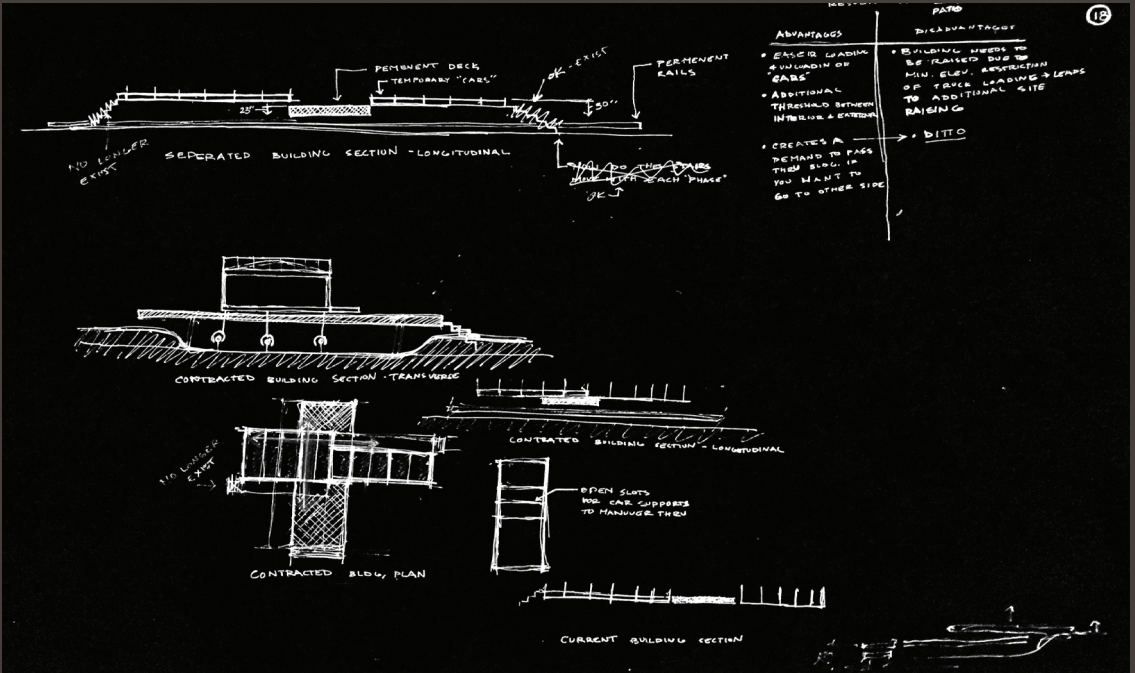


Figure 119 Ideation Sketches #18

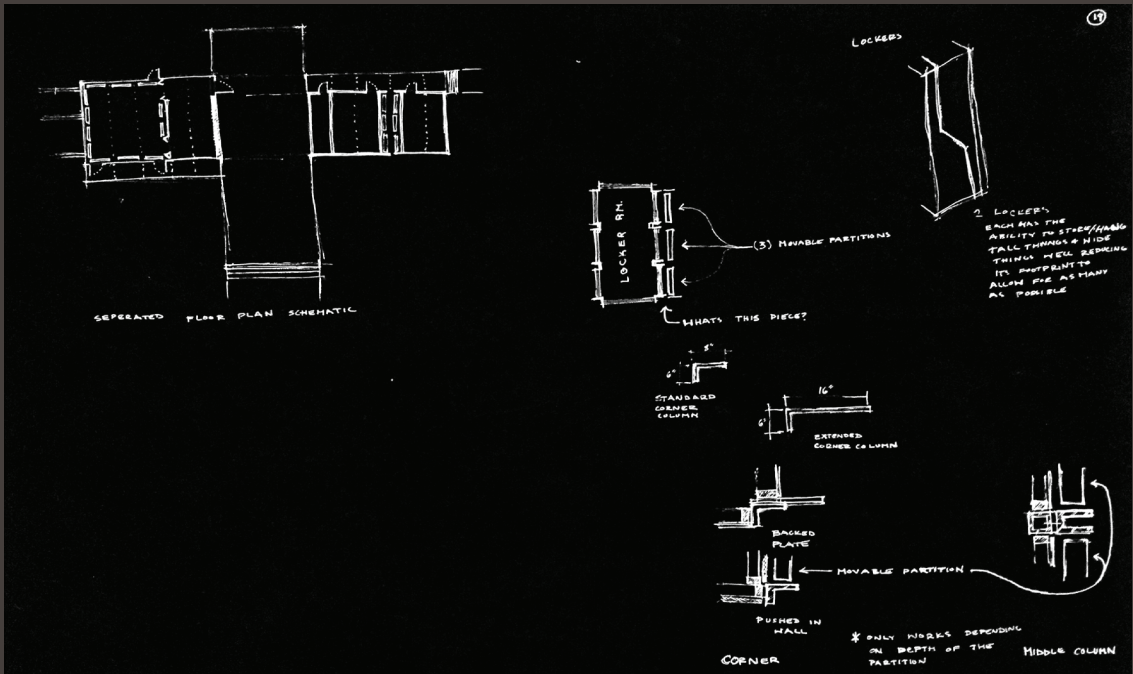


Figure 120 Ideation Sketches #19

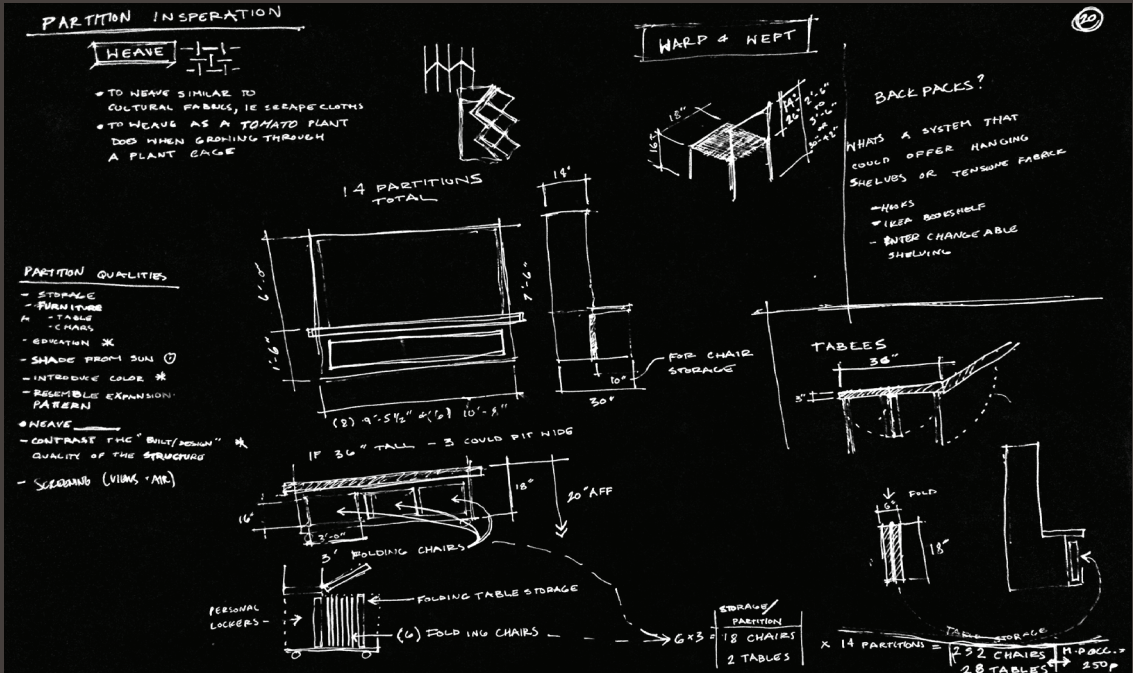
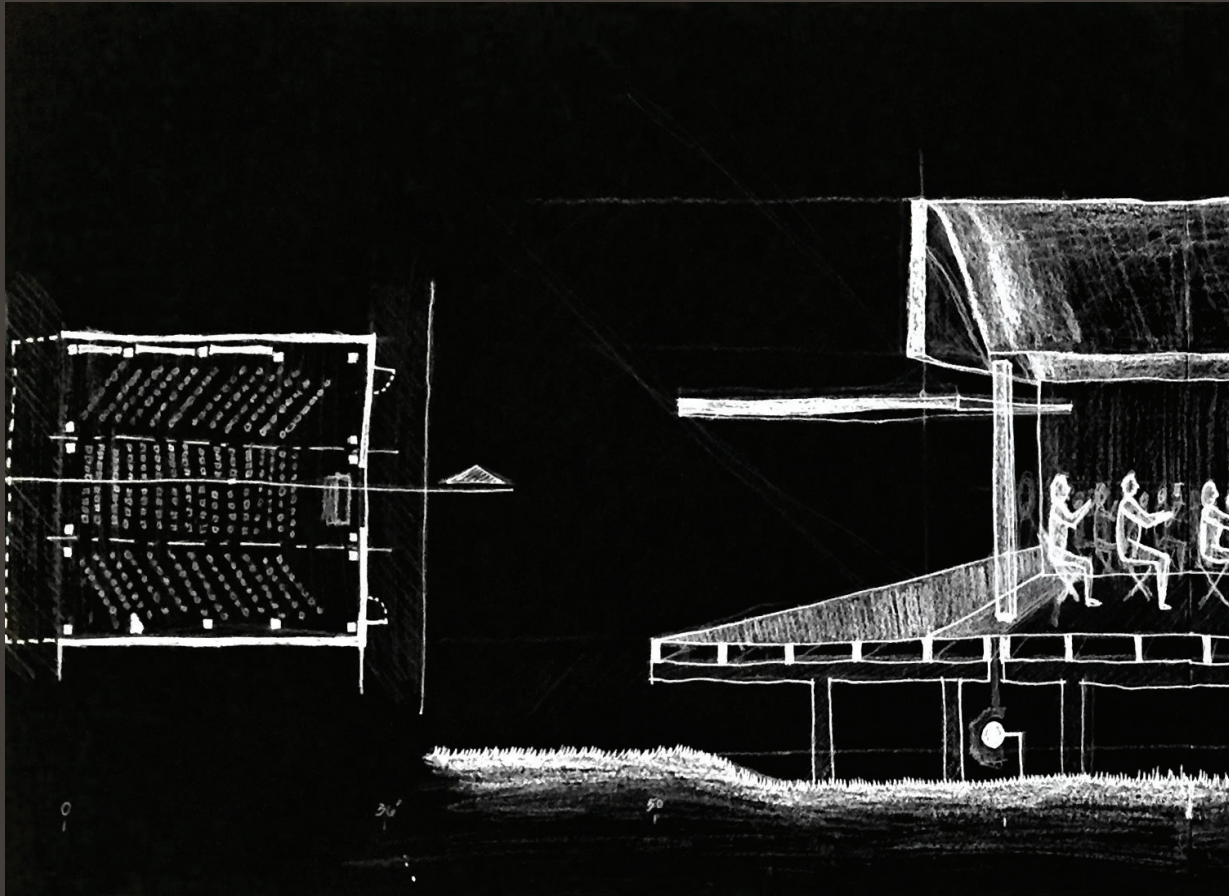
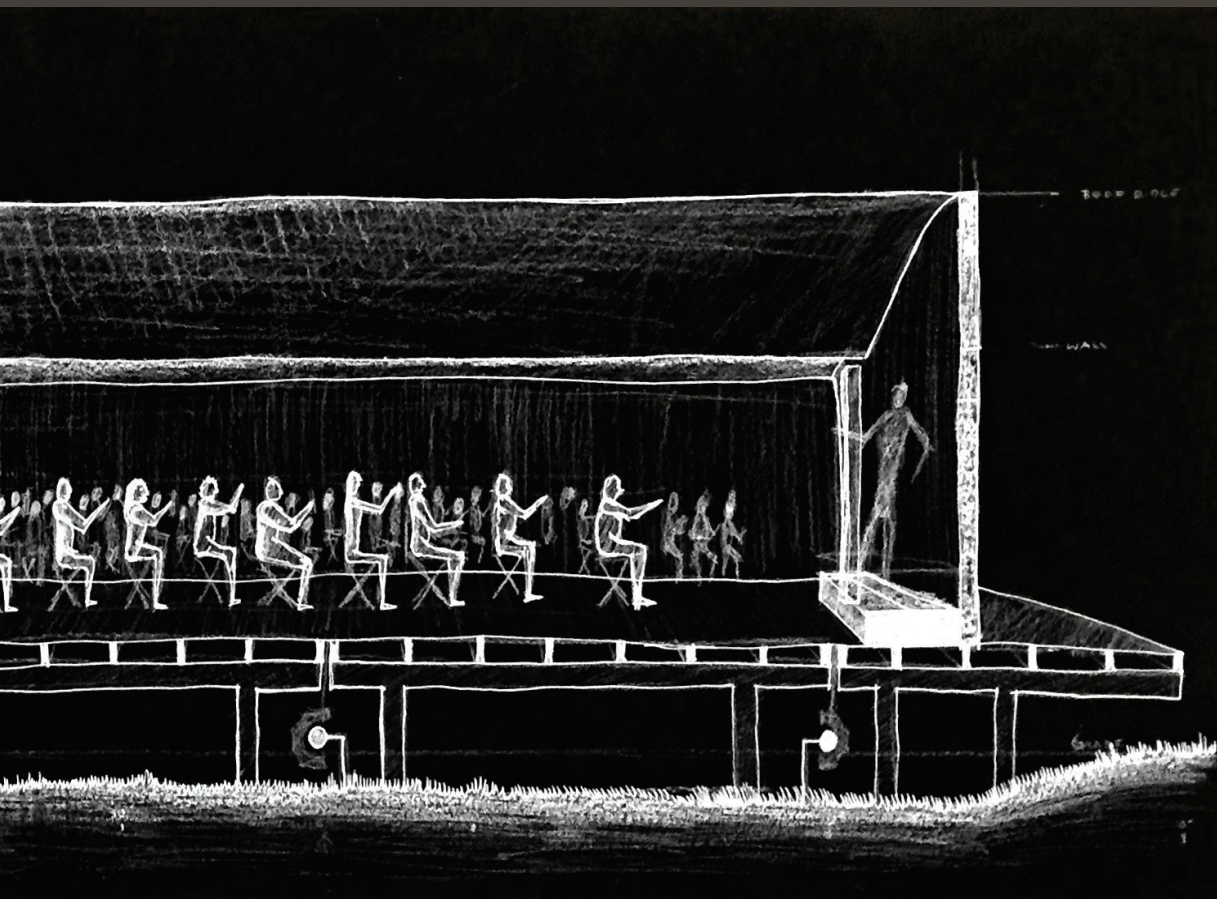
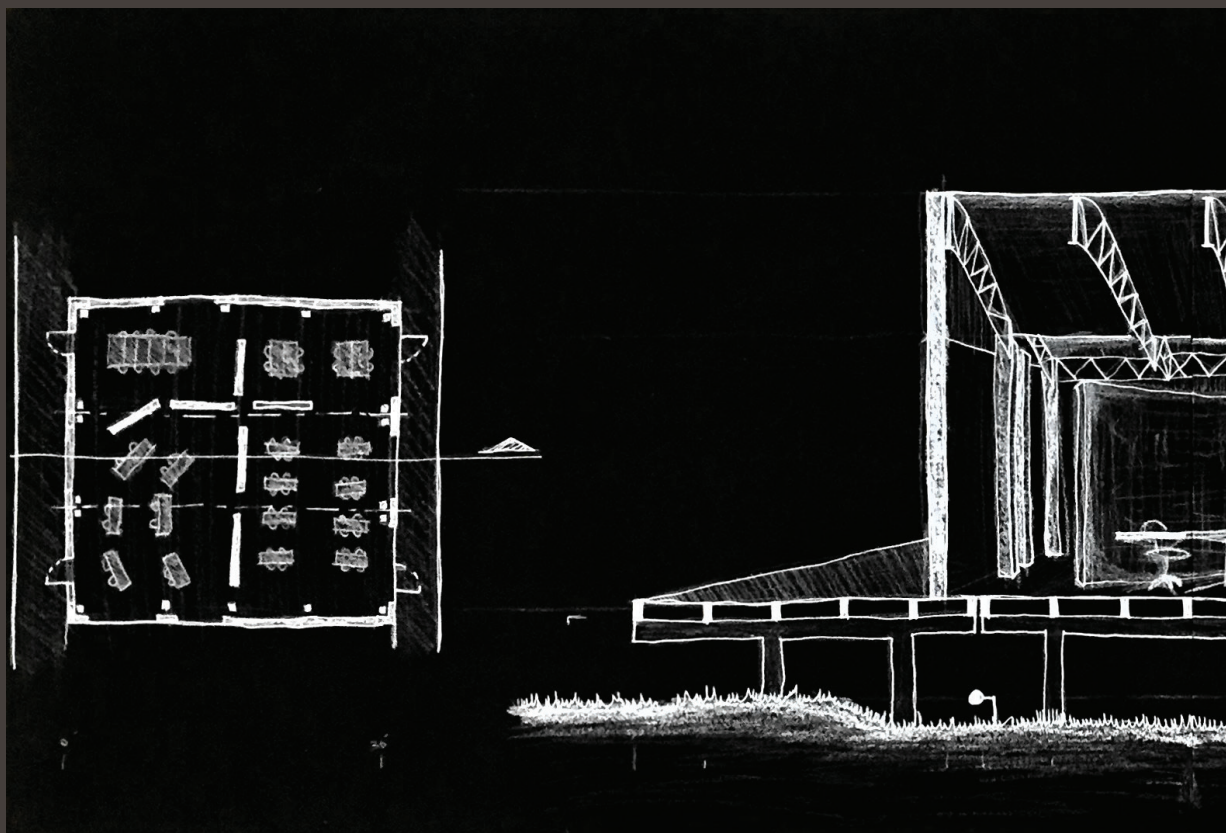


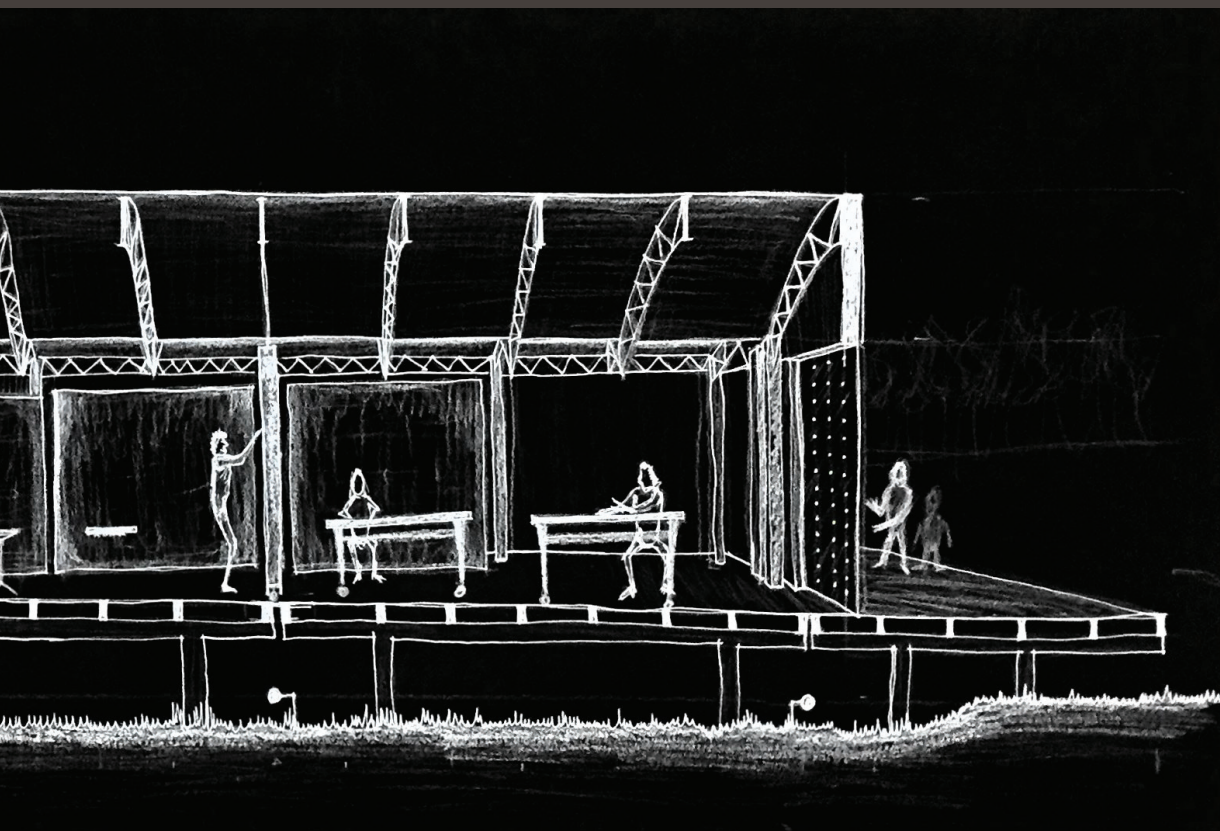
Figure 121 Ideation Sketches #20



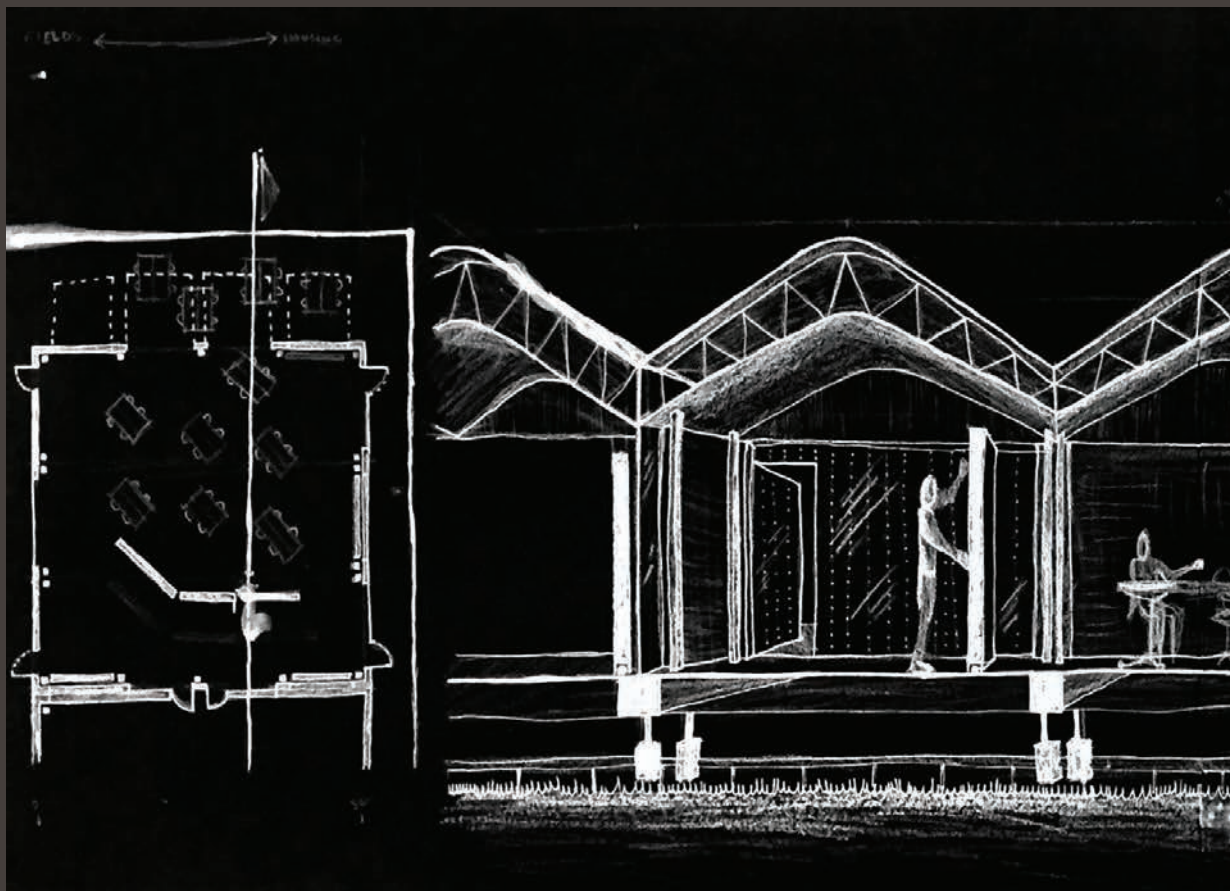


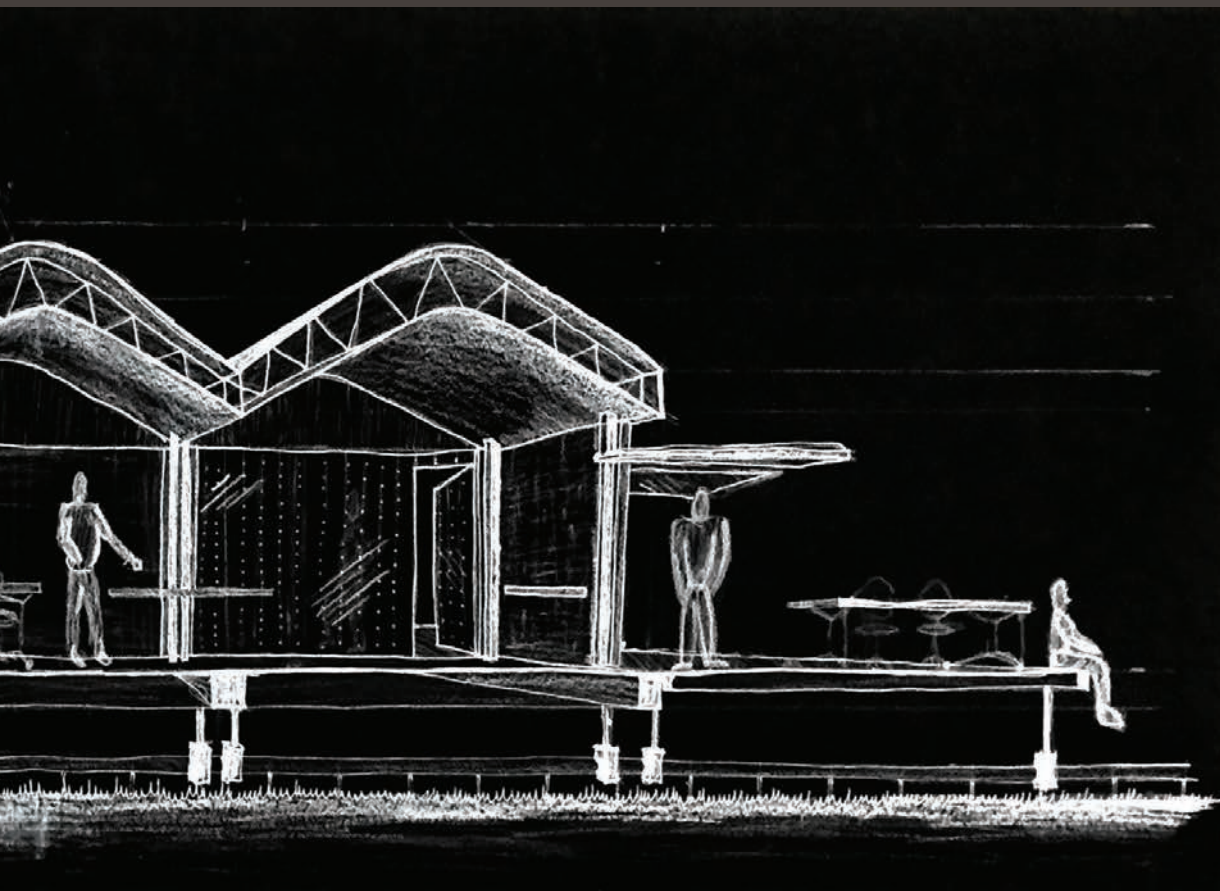
Conceptual Section Perspective Sketch #1
Figure 122





Conceptual Section Perspective Sketch #2
Figure 123





Conceptual Section Perspective Sketch #3
Figure 124

Final Presentation

Presentación Final

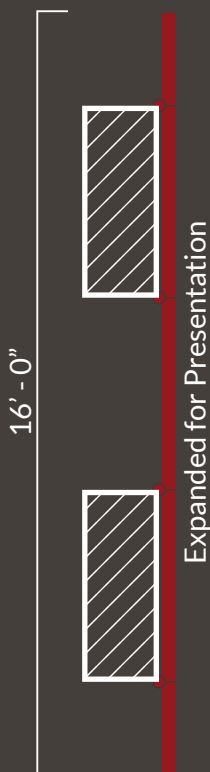
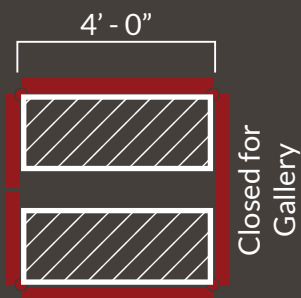
Display Location

The final thesis presentation and display were done in the Fed Gallery on KCAD campus in Grand Rapids, MI. The presentation was curated and designed to be read by all levels of knowledge because of its integration with Master of Fine Arts student thesis submissions and fellow Master of Architecture presentations.

Presentation Feeling

Through much of the research that was conducted a similar feeling was given. The depressing, dark, and mysterious feeling was given in many writings and images for the current state and situation for migrant workers and their accommodations.

For this reason, it was decided to be able to pass this same feeling onto the next reader. Although this might not be the feeling that is desired to be correlated with migrant workers, it felt like the most applicable to emphasize the need for change and education about the workers.



Expanding Presentation

As the building had to serve 2 separate purposes, so did the presentation. It needed to be able to be presented for a thesis defense and be viewed by patrons of the gallery.

The presentation was designed to embody as many ideas of the building as possible. The first, and simplest, was to achieve the same floating in a field idea. The display was designed and mounted to 2 mobile walls on casters.

The mobile walls also gave the display the ability to expand and compact similar to the design of the building. Through the use of the casters and a few hinges, the display would unfold to create a single wall. This allowed for the best ability to present to a sitting panel. Well the compact form allowed for the best viewing for visitors of the gallery. This allowed the display to alternate between a 4 foot square or a 16 foot long wall depending on the circumstance.

Figure 125 Final Presentation Operability



Figure 128 Presentation Board Close Up #170

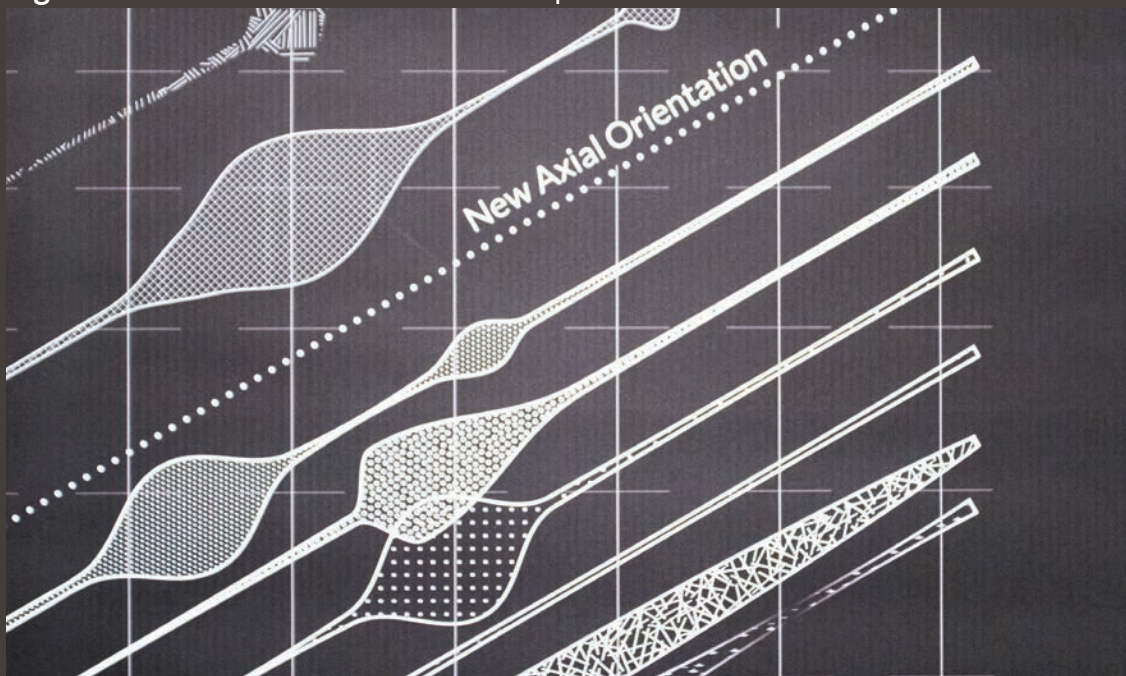


Figure 129 Presentation Board Close Up #271

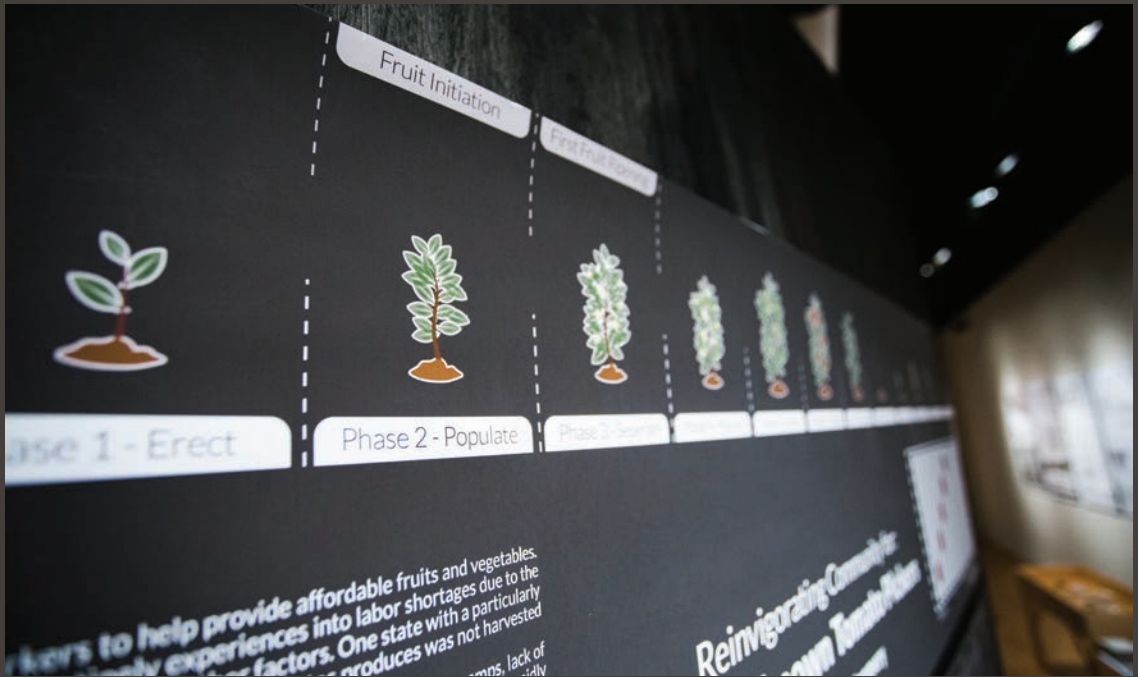


Figure 130 Presentation Image - Tomato Phases⁷²



Figure 131 Gallery Display #2⁷³



Figure 132 Presentation Close Up #374



Figure 133 Gallery Display #375

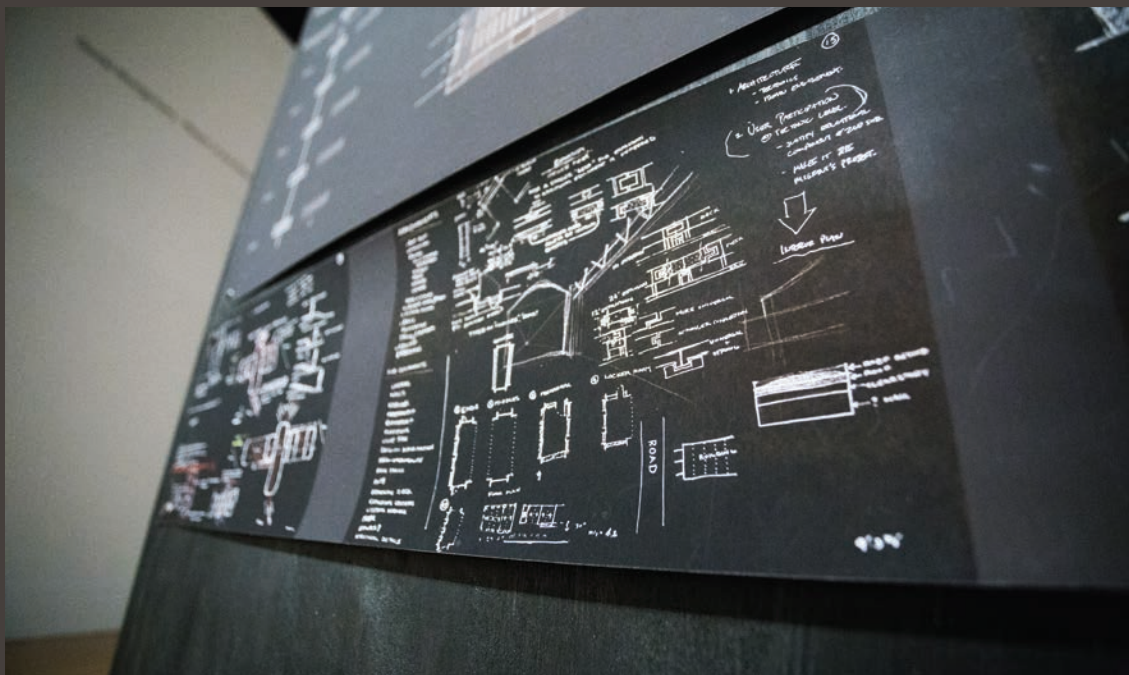


Figure 136 Presentation Close Up #5⁷⁸



Figure 137 Gallery Display #5⁷⁹



Figure 139 Gallery Display #6⁸⁰



Figure 138 Gallery Display #7⁸¹



Figure 140 Expanded During Final Thesis Defense



Figure 141 Expanded During for Thesis Defense

Background Information

Información de Antecedentes

Relative Information

Through the process a lot of research was required to achieve a correct conclusion. Of this research there was some works that were more relative than others but all were helpful to create a unique solution. Later in this section there is information for quick reference. This information includes any information that would be applicable directly to any decision that were made about the design of the community center and could be questioned without sources. This is helpful for both the readers and the creator as a reference to agree with the proposed solution or disagree in hopes to create a dialogue about the ongoing issues that many are unaware about.

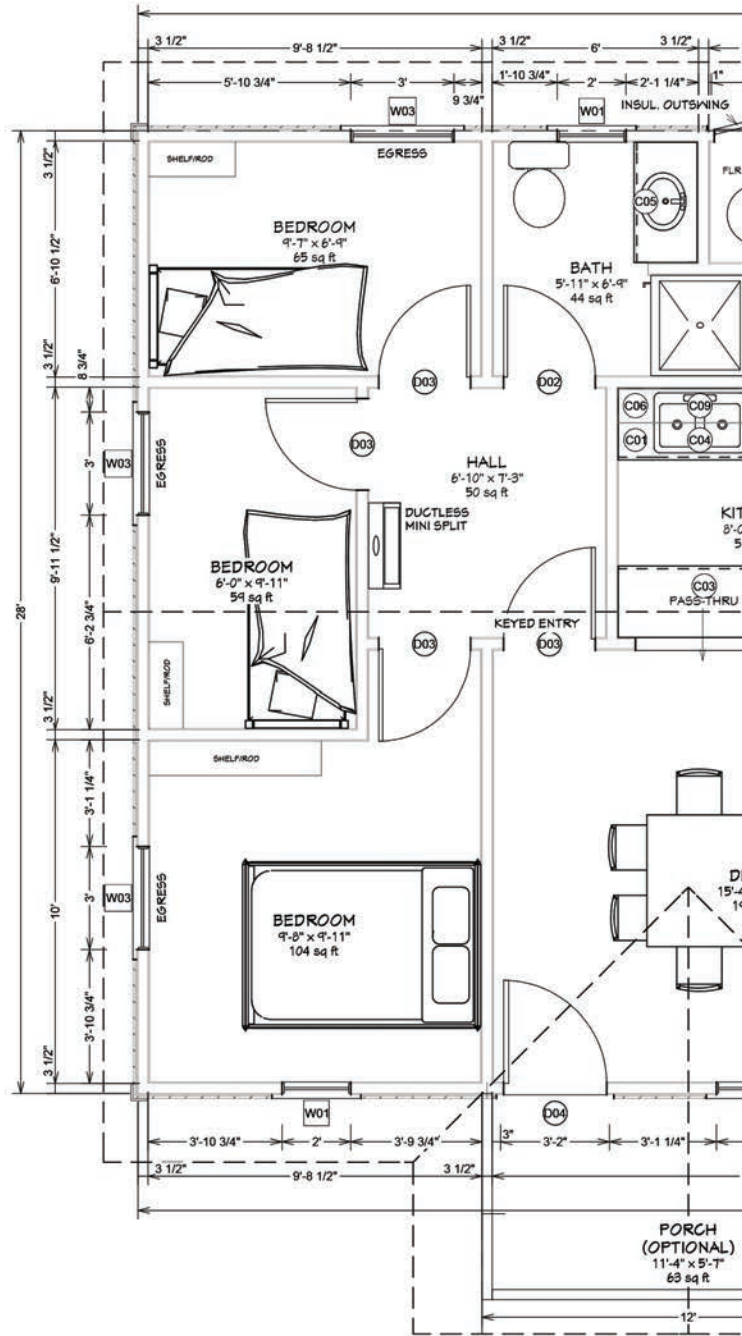
Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

Camp_ID	Camp Name	County	Township
11-0078	CNL Apartments	Berrien	Sodus
11-0085	Eisen Farms, LLC	Berrien	Watervliet
11-0087	Andres Biastock Camp	Berrien	Bainbridge
11-0089	W Prillwitz (Higgs Hollow)	Berrien	Berrien
11-0090	Home Camp	Berrien	Berrien
11-0092	Molter Farm	Berrien	Bainbridge
11-0095	Koenig Camp West	Berrien	Berrien
11-0099	Trailer Camp	Berrien	Benton
11-0101	R. Pagel Jr. Camp	Berrien	Oronoko
11-0102	Thelen #2	Berrien	Oronoko
11-0104	Baiers Orchards #2 (Don's)	Berrien	Bainbridge
11-0106	Thelen # 1	Berrien	Oronoko
11-0108	Silverstone Farms	Berrien	Pipestone
11-0109	Czuba Farms	Berrien	Bainbridge
11-0110	Michael Klug Camp	Berrien	Royalton
11-0111	Morlock Camp	Berrien	Watervliet
11-0112	City Camp	Berrien	Berrien
11-0113	Calderwood Hinchman Camp	Berrien	Oronoko
11-0114	Disterheft Farms	Berrien	Berrien
11-0117	Barbott Farms	Berrien	Lincoln
11-0118	Grajauskis 1	Berrien	Sodus
11-0120	Hartline's Camp	Berrien	Lake
11-0124	Ferry Camp #2	Berrien	Pipestone
11-0125	Russell Costanza Farms	Berrien	Sodus
11-0126	Kolosowsky Camp	Berrien	Royalton
11-0127	W. Leitz Camp	Berrien	Sodus
11-0129	Skibbe Camp #2	Berrien	Benton
11-0131	Liberty School Camp	Berrien	Berrien
11-0135	North Camp	Berrien	Sodus
11-0136	Shafer Orchard	Berrien	Baroda
11-0138	Fruit Acres Farms #1 (South)	Berrien	Coloma
11-0139	Lemon Creek Rd.	Berrien	Oronoko
11-0153	Bahm Camp	Berrien	Bainbridge
11-0156	Dominion Bros., Inc.	Berrien	Bainbridge
11-0164	Skibbe Farms	Berrien	Benton
11-0168	K & K North Camp	Berrien	Hagar
11-0169	Breinling Camp	Berrien	Berrien
11-0170	K & K Farms South Camp	Berrien	Hagar
11-0179	Disneyland Camp	Berrien	Oronoko
11-0181	Tidey Camp	Berrien	Berrien
11-0183	Home Camp	Berrien	Bainbridge
11-0187	Kerlikowske Farms	Berrien	Oronoko
11-0191	Teichman Camp	Berrien	Pipestone
11-0193	Camp #1 East	Berrien	Pipestone
11-0194	Camp #2	Berrien	Pipestone

Section	CampStreet	CampCity	Units	Capacity
13	4777 Hillandale	Sodus	5	30
1	9082 48th Ave	Watervliet	5	24
17	728 Biastok	Benton Harbor	4	24
5	6434 Hipps Hollow	Eau Claire	3	10
3	7641 Maple Grove	Berrien Center	7	24
3	2137 Bainbridge Center Rd	Coloma	3	22
8	8257 Laberdy	Eau Claire	4	24
35	1710 Hillandale	Benton Harbor	16	127
17	8972 Burgoyne Rd	Berrien Springs	1	6
8	768 E Hinchman	Berrien Springs	1	7
22	7980 Territorial	Watervliet	5	20
7	8198 Fleisher Lane	Berrien Springs	1	7
12	9178 Black Lake Rd	Eau Claire	7	15
4	2350 Bainbridge Center Rd	Coloma	2	16
29	5795 Scottdale Rd	St. Joseph	4	24
12	9000 Hagar Shore Rd	Watervliet	4	24
5	6449 Hipps Hollow	Eau Claire	6	20
10	2898 E. Hinchman	Berrien Springs	5	16
7	8204 Laberdy Rd	Eau Claire	6	21
35	7153 Cleveland Ave	Stevensville	1	5
10	3011 Naomi Rd	Sodus	3	20
4	2884 Linco Rd	Stevensville	2	14
24	9070 Cushing Rd	Eau Claire	2	14
22	4964 Westside Drive	Sodus	18	103
29	1404 E John Beers	St. Joseph	3	20
22	5109 River Rd	Sodus	31	184
12	4733 Maner Rd	Benton Harbor	3	24
15	7551 Smith	Berrien Center	4	25
15	3065 Dutch Lane	Sodus	1	9
24	207 Shafer Rd	Baroda	1	5
32	2559 Friday	Coloma	6	24
	Lemon Creek	Berrien Springs	4	24
28	1760 S Bainbridge Ctr Rd.	Benton Harbor	6	16
33	6585 Meadowbrook	Benton Harbor	9	18
12	4550 Maner Rd	Benton Harbor	4	14
26	4050 Kerlikowske	Coloma	12	62
16	9124 M-140	Berrien Center	6	24
26	4050 Kerlikowske Rd	Coloma	3	14
18	789 E Shawnee Rd	Baroda	8	22
1	9233 Lake Rd	Berrien Center	6	24
9	6629 N Branch Rd	Benton Harbor	4	24
10	2098 E Hinchman	Berrien Springs	4	24
26	6137 N M-140	Eau Claire	9	20
21	7700 Town Hall	Eau Claire	10	42
8	6511 Naomi & 6401 Naomi	Eau Claire	2	10

Figure 142 Approved MFW Camps in Michigan - Page 7 of 31⁸²



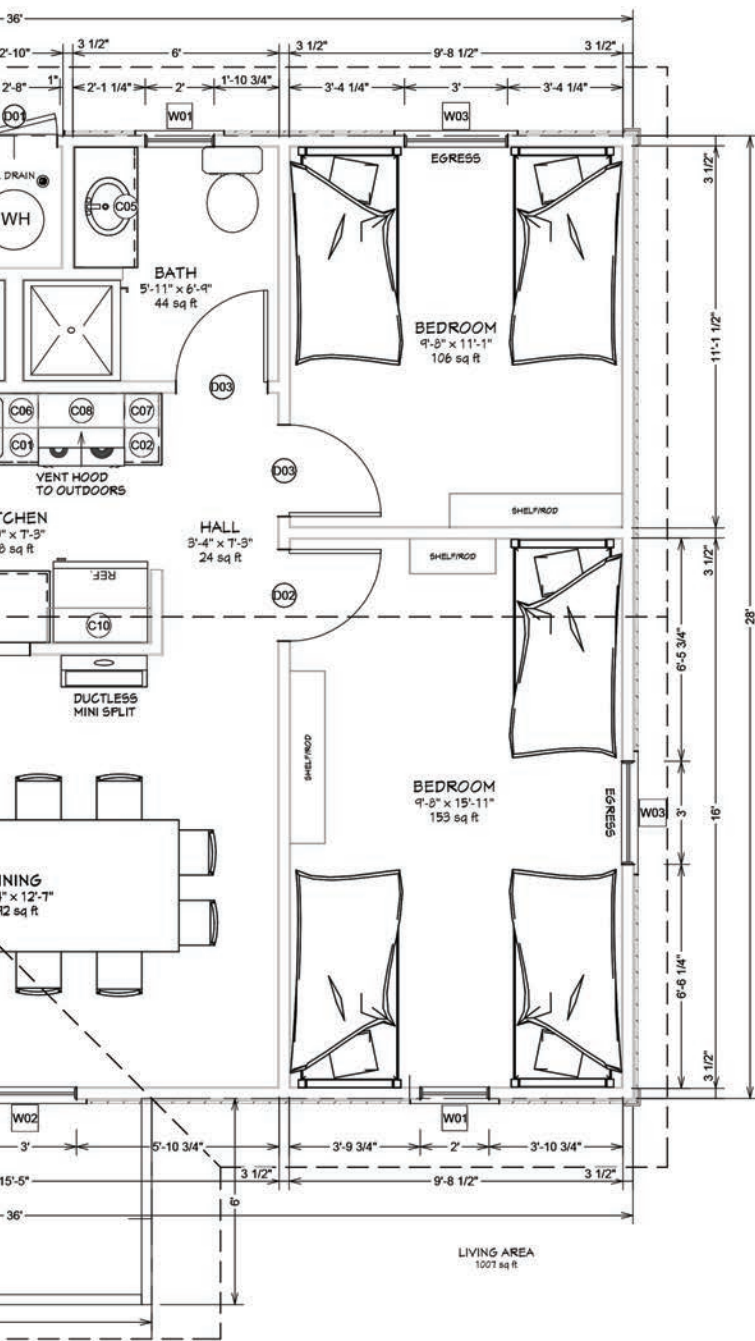
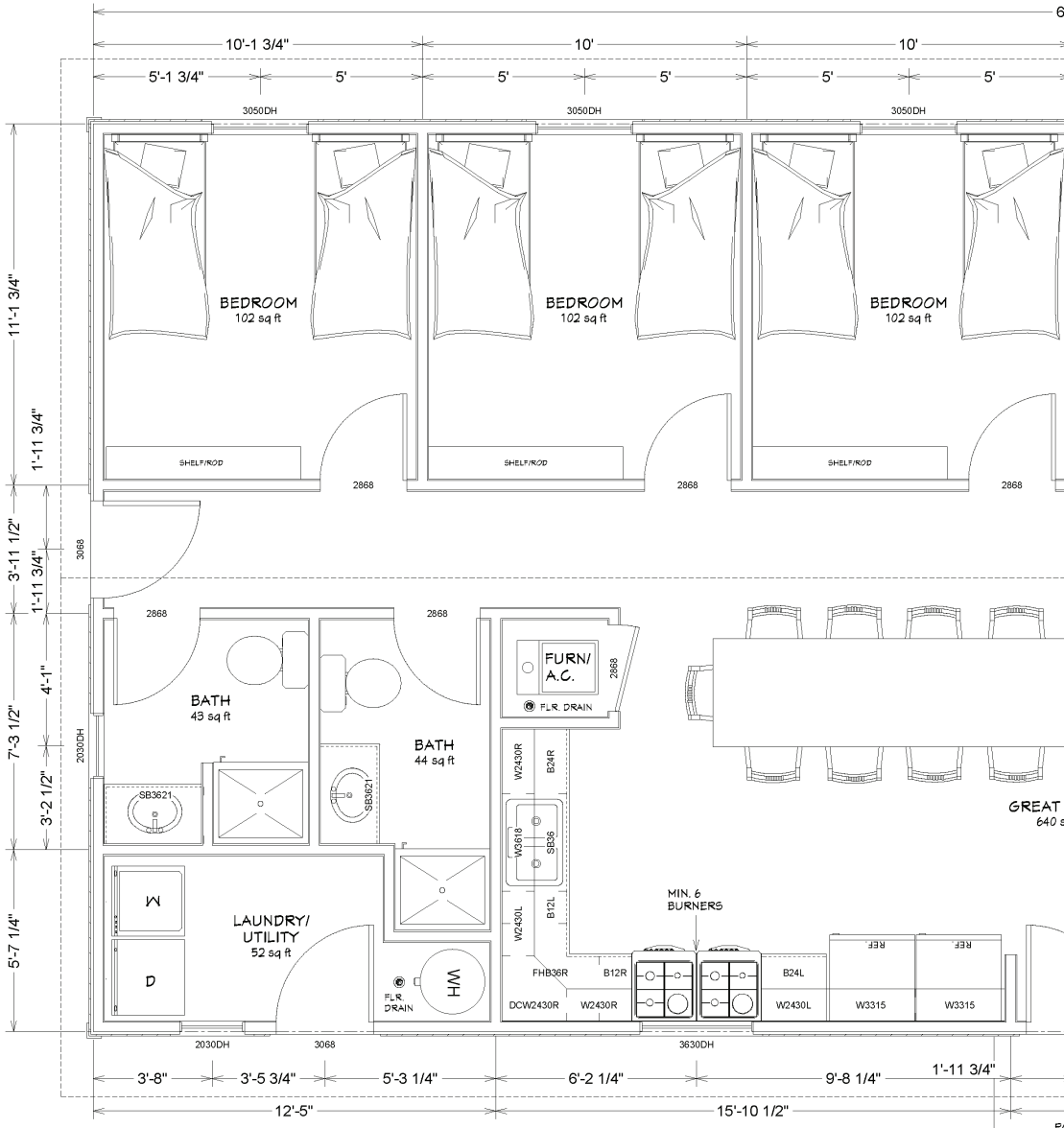


Figure 143 9 Person Family Home Plan - Provided by MDARD⁸⁵



GREAT
640 S

Pg
2

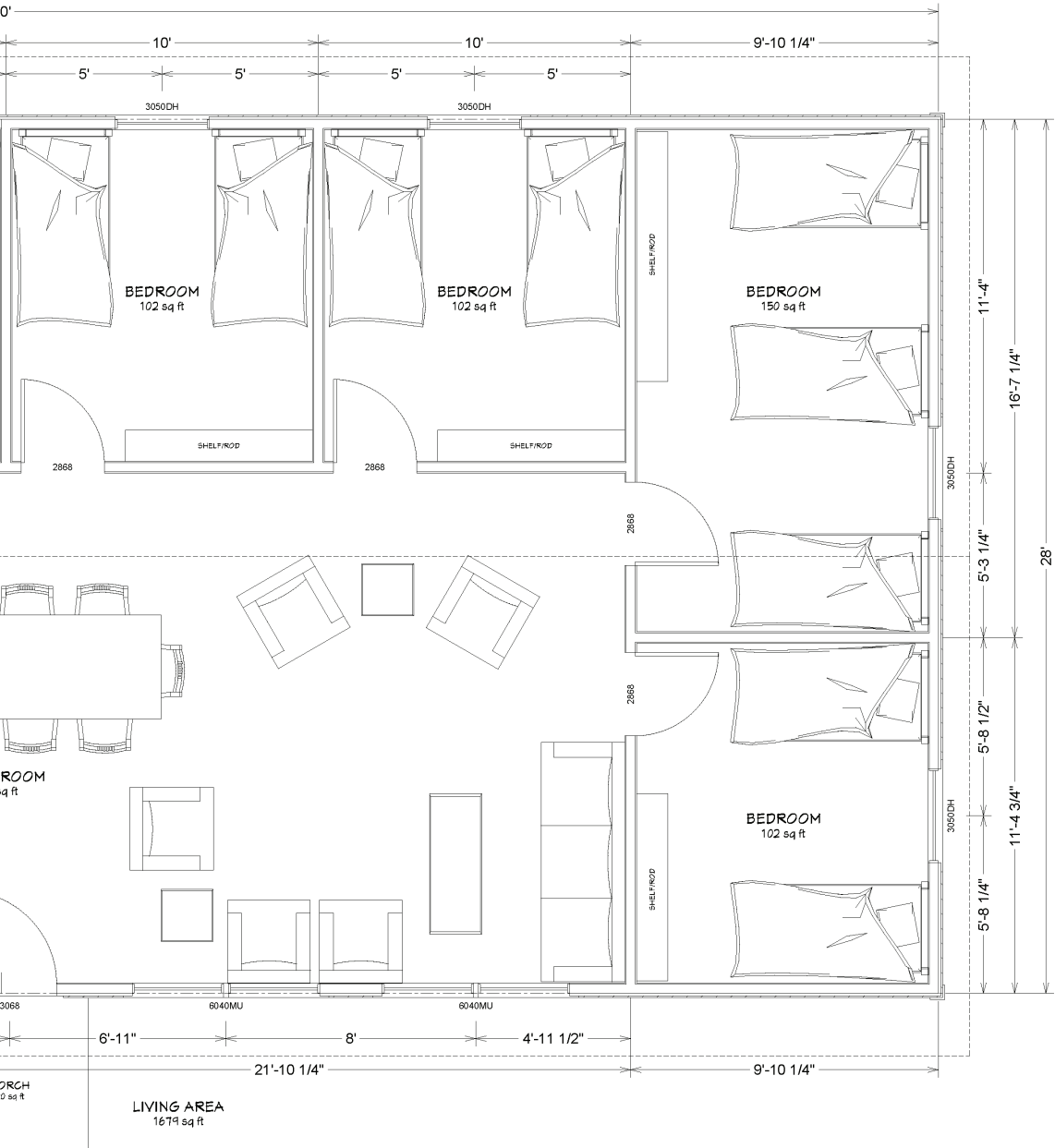


Figure 144 15 Person Bunk Home - Provided by MDARD⁸⁶

- D. **Vehicle Gauge** - The measurement across the vehicle from outside of tire to outside of the self-propelled equipment or the trailer or semi-trailer or other towed equipment. This information is required for overweight loads only.
- E. **Weight** - A request for an overweight permit will not be approved for a load consisting of more than one object, and in no event, shall any wheel load exceed 700 pounds per inch of tire width.
However, Permits will be approved for empty self-propelled earth moving equipment provided it does not exceed 850 pounds per inch of tire width.
- No overweight permits will be issued during the spring weight restriction period except in case of public emergency.
- F. **Width** - Permits will not be issued for width in excess of 14 feet during the spring weight restriction period, except in a case of public emergency.
- G. **Height** - Careful consideration must be given to any application requesting movement where the overall height exceeds 13 feet 6 inches because of possible overhead obstructions on proposed routes.
- All applications for this permit in excess of 13 feet 6 inches shall certify that the proposed route has been traveled to assure vertical clearance.
- H. **Escort Vehicles** - an escort vehicle must be a passenger car or pickup truck with at least one flashing or rotating light on top of the cab. There shall be displayed on the roof of the escort vehicle, an Oversized Load sign 5 feet long by 12 inches high with 8 inch high black letters on yellow background. All flashing or rotating amber lights shall be visible for a distance of 500 feet.
- I. **Permits are issued for daylight hours only**, Monday through Friday. In some instances, other time limitations may be applied.

*Under no condition will a permit be issued for a movement to take place from 12:00 noon on the day preceding the holiday and continuing until daylight of the first day after the holidays listed.

Mobile Homes, Sectional Buildings, Pre-Fab or Pre-Built Buildings, Building Modules

Single Trip Permits

Limited to a maximum of:

- 16 feet in width (not including 6" eaves)
- 15 feet in height
- 80 feet in actual body length
- 105 feet in overall length, including towing vehicle

Extended Permits

Limited to a maximum of:

- 12 feet width plus normal appurtenances no to exceed 3 inches on each side
- 14 feet in height
- 80 feet in body length
- 95 feet in overall combination length

Abbreviations

DfD	Design for Disassembly
MDARD	Michigan Department of Agriculture & Rural Development
MFW	Migrant Farm Worker
MI	Michigan
MRC	Migrant Resource Council
PVC	Polyvinyl chloride

References

Referencias

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