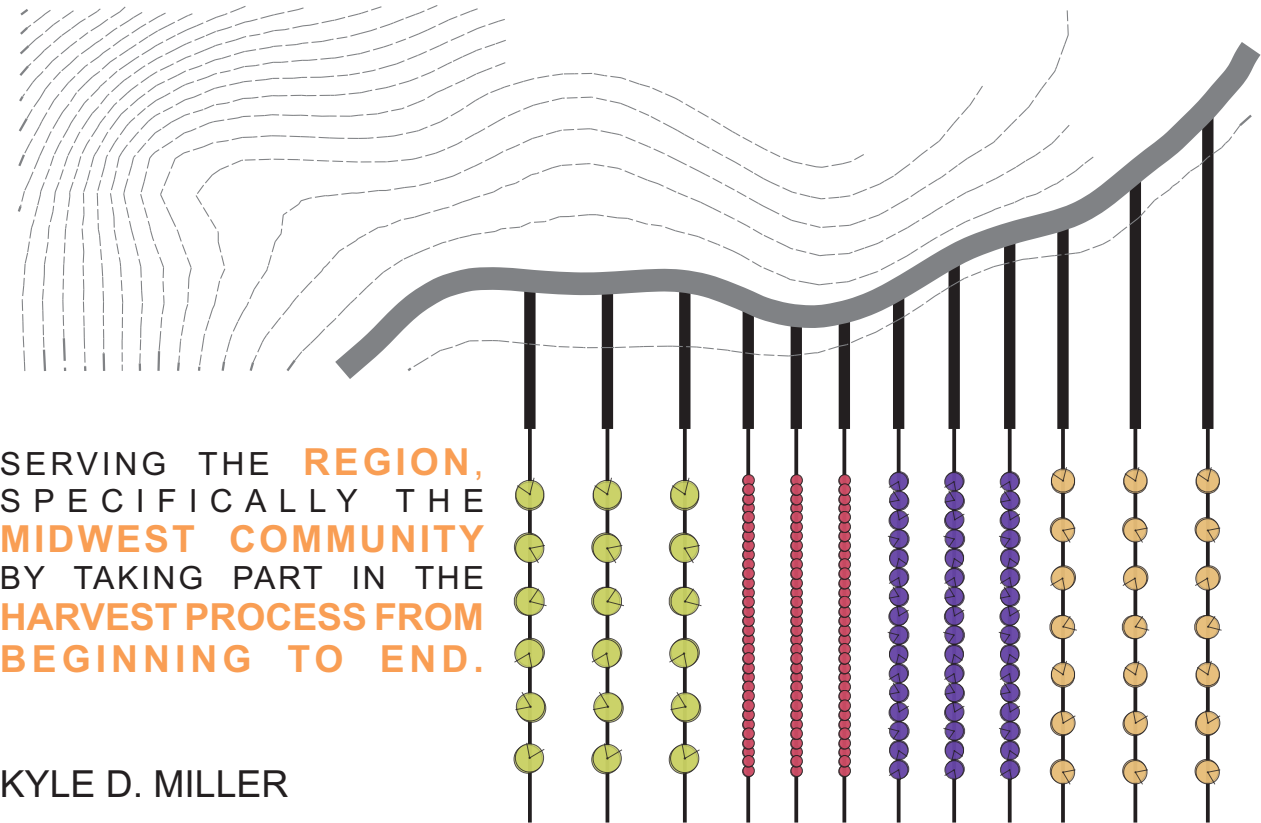


# SOUTHERN ILLINOIS ORCHARD TRAINING FACILITY



SERVING THE **REGION**,  
SPECIFICALLY THE  
**MIDWEST COMMUNITY**  
BY TAKING PART IN THE  
**HARVEST PROCESS FROM**  
**BEGINNING TO END.**

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## PROGRESSION OF EXPERIENCES

ARC550 Regional Graduate Architecture Studio | Summer 2012  
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Southern Illinois Orchard Training Facility | Progression Of Experiences

# RESEARCH

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## PROJECT DESCRIPTION

**SOUTHERN ILLINOIS ORCHARD TRAINING FACILITY** looks to create a training facility as a extension of the organization, **HOME ORCHARD SOCIETY**. This society “promotes the science, culture and pleasure of growing fruit at home via educational outreach and assistance. The H.O.S serves the Pacific NW community and beyond by providing accessible resources to and hosting learning events for fruit growers of all skill levels.” However, they do not extend outside this region. Southern Illinois Orchard will fill this void by serving the **MIDWEST COMMUNITY** and become the hub for training in the **REGION**. The trainees will learn the historical traditions and global culture of the works of an Orchard. After training, the trainees will be able to work first hand by being involved with the Orchard, taking part in the **PROCESS FROM BEGINNING TO END**.

## CONTEXTUAL ANALYSIS

The Southern Illinois Orchard Training Facility will consist of an orchard, farmers market, housing, production and educational center. This facility will provide **ENDLESS OPPORTUNITIES** for all the trainees where they will be able to get a **FULL BEHIND THE SCENES LOOK AT AN ORCHARD**.

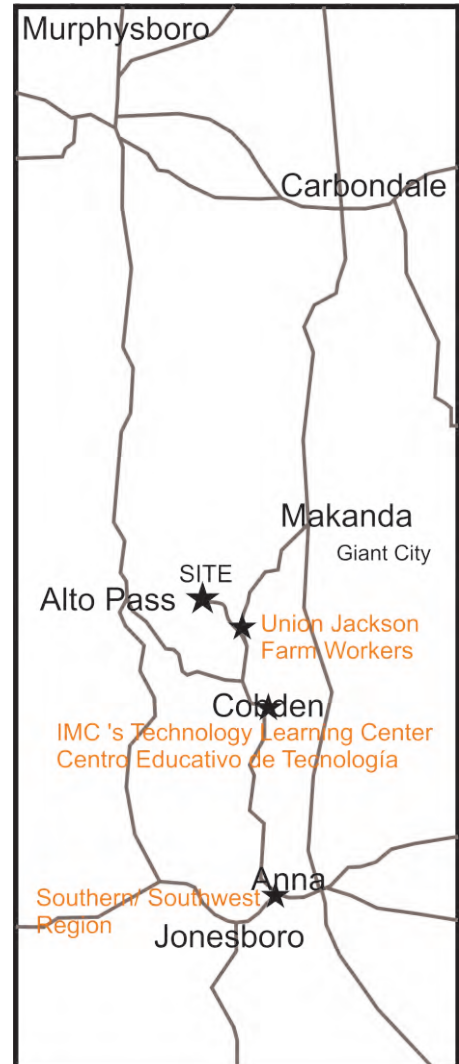
The new training facility will provide the following **BENEFITS** to the trainees of Southern Illinois Orchard:

- To become **knowledgeable** on how an orchard works
- **Understand** the business side of an orchard
- Provide the proper housing for staff and trainees
- Have **access to all learning material needed**
- An area for educational purposes with all the media possible

## MIGRANT FIELD WORKERS- REGIONAL CONNECTIONS

Southern Illinois Orchard Training Facility will establish a connection with the **REGION** by working with the Illinois Migrant Council in helping them **PROPERLY TRAIN** the migrant and seasonal farmworkers (MSFW). Housing will be on site for migrants to live. The Training Facility will also work with Union/ Jackson Farmworkers Housing Association by providing them a place to train new migrants. According to the Illinois Migrant Council, “many of Illinois’ migrant and seasonal farmworkers **SEEK ASSISTANCE** from the Illinois Migrant Council which has bilingual and/or culturally sensitive staff. Often, migrant and seasonal farmworkers need assistance in accessing Illinois’ traditional human services delivery system because of their rural isolation, language barriers, cultural differences and especially their mobility.” Southern Illinois Orchard Training Facility will follow the primary mission of the IMC by “promoting employment, education, health, housing and other **OPPORTUNITIES** for migrant and seasonal farmworkers (MSFW) and their families to achieve economic self-sufficiency and stability.”

Illinois Migrant Council Locations



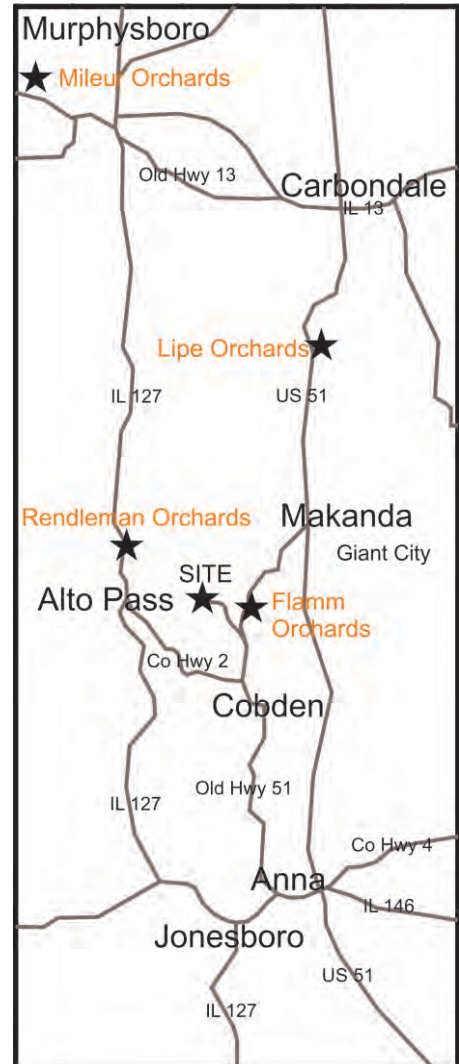
## CASE STUDY- REGIONAL CONNECTIONS

When **RESEARCHING** the orchards in the Southern Illinois region, it was apparent that there was a **LACK OF TRAINING** for the migrant workers. Additionally, the orchard owners reported that there are no seminars or classes that they can attend to educate themselves on the most current orchard information.

From this research, the Southern Illinois Orchard Training Facility was designed. To ensure the facility would serve the proper education needs, the surrounding orchards in the region were studied.

Each of the **PROCESSES** of the orchards were **STUDIED**. These processes, such as their production, housing, and farmer's market, were used in planning the program for the new facility.

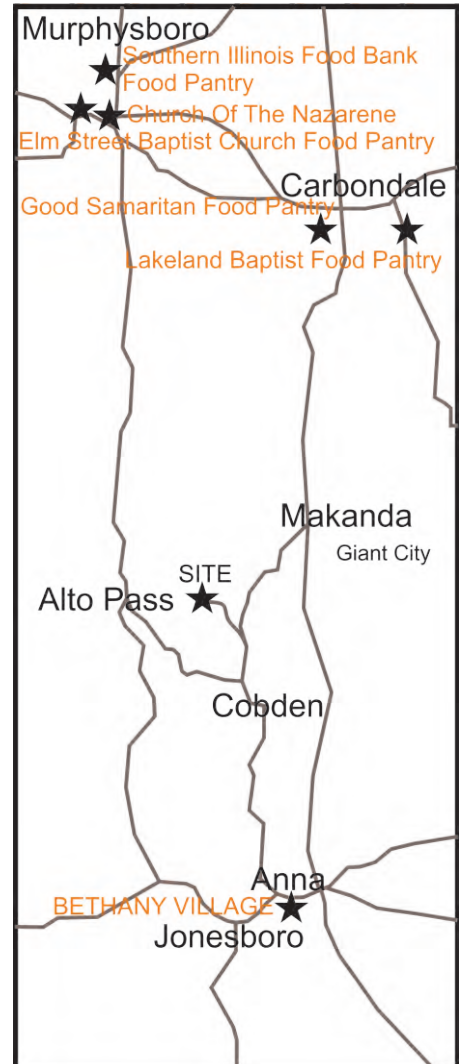
### Orchards in the Local Area



## FARMERS MARKET- REGIONAL CONNECTIONS

Southern Illinois Orchard Training Facility will tie in with the **REGION** by working with the Food Banks by **DONATING EXTRA PRODUCE** to serve the people in need as a way of giving back to the communities .Farmer's Market: There are several Farmer's Market in the area but Southern Illinois Orchard Training Facility will not participate in them because we want to create a **FUNCTIONAL WORKING ORCHARD** as well as an **AMAZING ENVIRONMENT** in the **REGION** to **DRAW TOURISTS AND VISITORS** to the area (and get them to spend their money here of course). Educational facility focused on agricultural food waste: Southern Illinois Orchard Training Facility will have a class at the **EDUCATIONAL FACILITY ON AGRICULTURE FOOD WASTE** and work with the other Orchards in a **REGION** on how they deal with the waste.

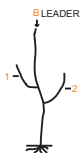
### Food Bank Locations



# PROCESS

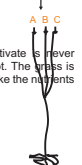
1

## CORRECT PRUNING



Mowing the orchard floor is never done, grasses and fescue are kept. The trees are mowed down, but yet it does not take the nutrients in the water away from the trees.

## INCORRECT PRUNING



Prune the trees: Start pruning in the spring to allow the trees to get air and have good vigor to grow.

2



Fertilize the trees: Give the trees a very short and light fertilizer.

3



Spraying Cycle: Start the spraying cycle as soon as the trees start budding because when the budding starts, the diseases start.

4



IPM: As soon as the trees bloom you have a variety of pest to look for and monitor.

5



Thinning the tree: One peach per 4 inches is the common rule to ensure a good crop. Excess fruit will impact the size of the fruit and the health of the tree.

6



"We use an integrated pest management program. We work with beneficial insects. We use certain chemicals at certain times. We

"There are good insects like a certain kind of beetle that eat mites, you know, they're more vulnerable to an insecticide. I have even

The learning process of how to prepare the harvest before it is ready to be harvested is key in teaching the migrant workers. If the crop is not prepared correctly the harvest will not be successful.

before harvest

# PROCESS



# PROCESS

1



**Harvest the crop:** Hand picked with a ladder and a picking sack around their neck.

2



**Transported from orchard:** A tractor brings the hand picked crop to the packaging/ cleaning facility.

3



**Hydro-cooling:** Cold water is pumped over the crop that comes in from the orchard to remove the field heat in order to get more shelf life or shipping time. The crop is then put into refrigeration storage.

4



**Hydro-dumping:** The bins are brought from the refrigerator and are dumped them into a water system to help clean the crop and get them on top of the main line without bruising or damaging the it.

5



**Straining:** Leaves are removed from the water and any crop that is damaged is removed.

6



**Grating:** the crop goes through a grating system to dump the smaller ones because they are not marketable.

7



**Washing:** The crop then goes into a washing system that has various brushes and gets a small coat of wax.

8



**Drying:** The crop travels through a drier to ensure the wax is dry.

9



**Inspection:** The crop travels on a 360 degree roller to allow for a full inspection and then is separated by a certain grade.

10



**Weighing:** Computerized weight sizer is used to separate the crop. The weight is determined by what the customer orders.

11



**Packaging:** The boxing process includes a final inspection and then are put into waxed boxes either by hand or mechanically by weight

12



**Stacking:** The boxes are then stacked and stored in a cooler until a order comes through.

The process of how to treat the harvest after it has been harvested is just as important and key in teaching the migrant workers. If the crop is not cared for properly the business will suffer and customers will be lost.

after harvest

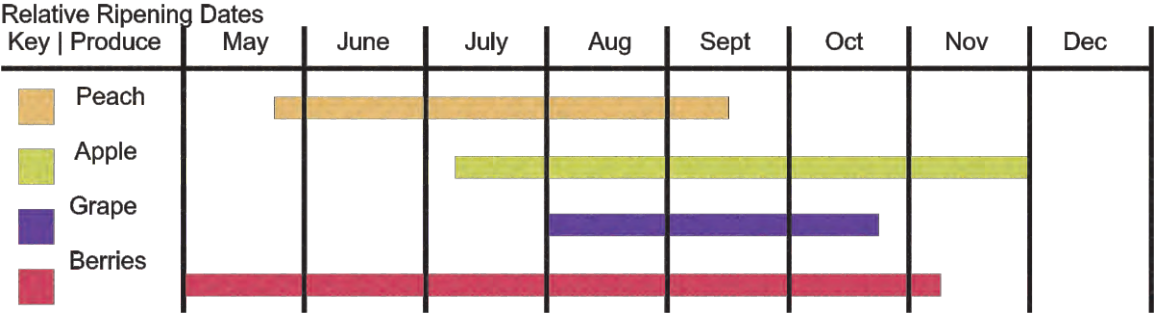
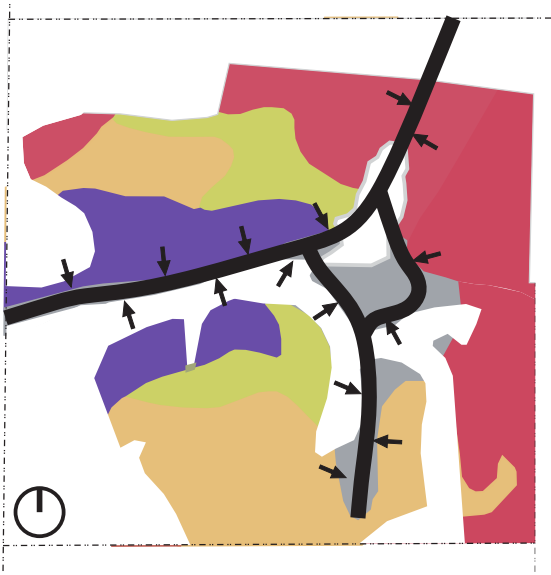
# PROCESS



# SITE ANALYSIS

## Geological Analysis:

The crops areas given below are based of the soil report of where they will grow best

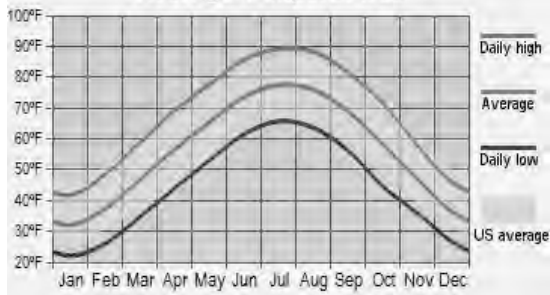


## Site:

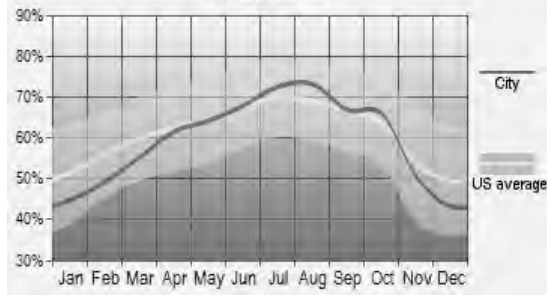
A 45.61 acre piece of privately owned land in rural Union County, IL north of Cobden, IL and east of Alto Pass, IL.

# ENVIRONMENTAL

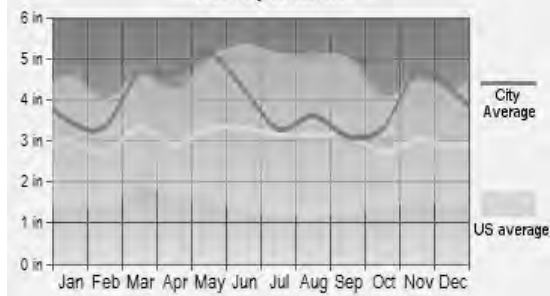
## Average Temperatures



## Sunshine



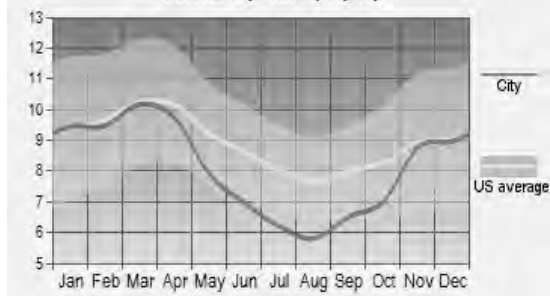
## Precipitation



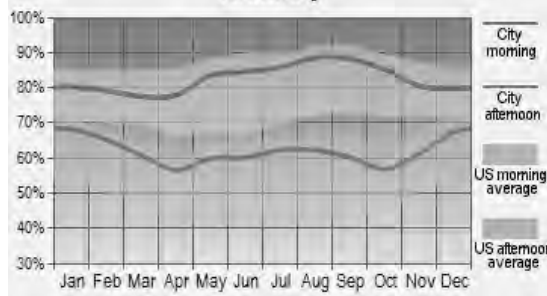
## Cloudy Days



## Wind Speed (mph)

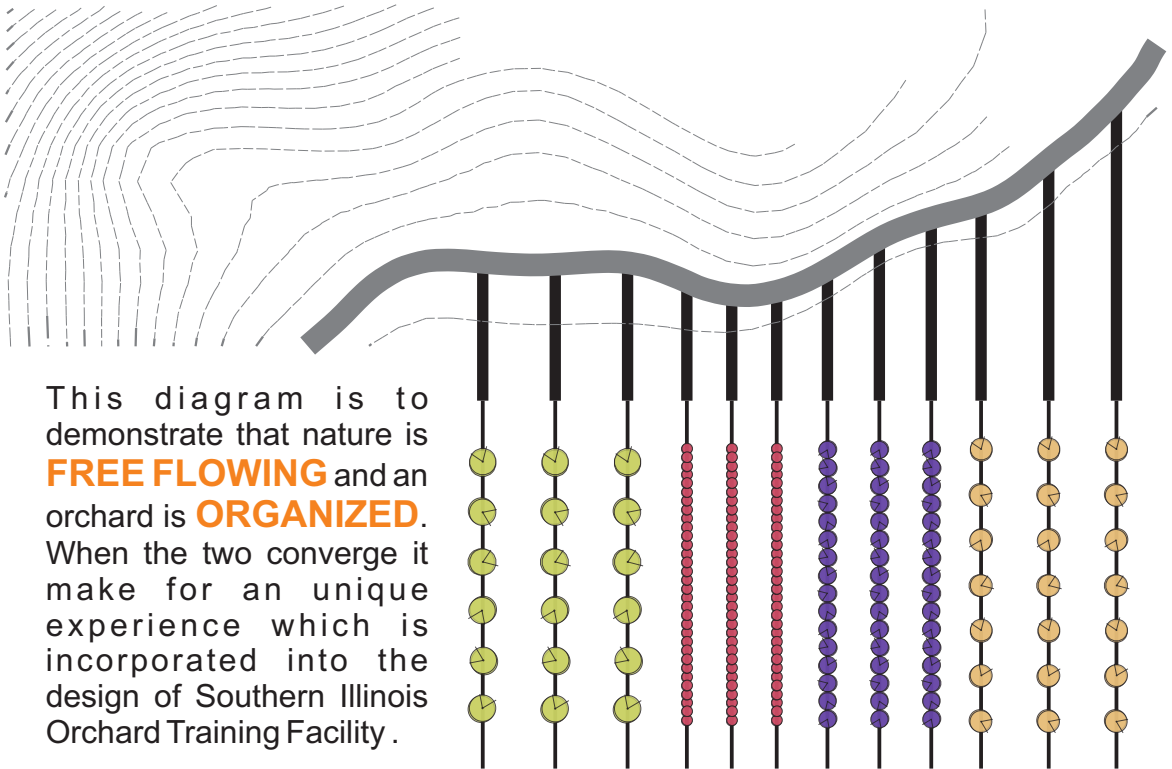


## Humidity



# CONCEPTUAL STATEMENT

The concept of the Southern Illinois Orchard Training Facility is the overall **PROGRESSION OF EXPERIENCES** throughout the whole site and in each facility. It is a place where the trainee will learn the process of harvesting with the design of the buildings mimicking the orchard characteristics.



# SCHEDULE DIAGRAM

## USERS OF THE ORCHARD:

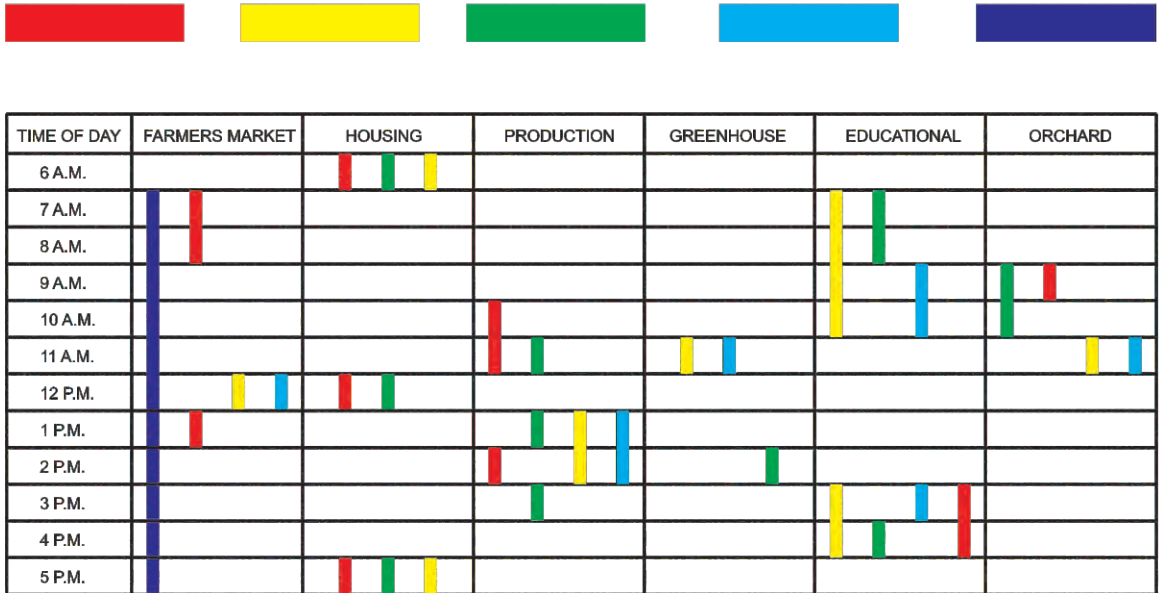
OWNERS

FACULTY

MIGRANTS

STUDENTS

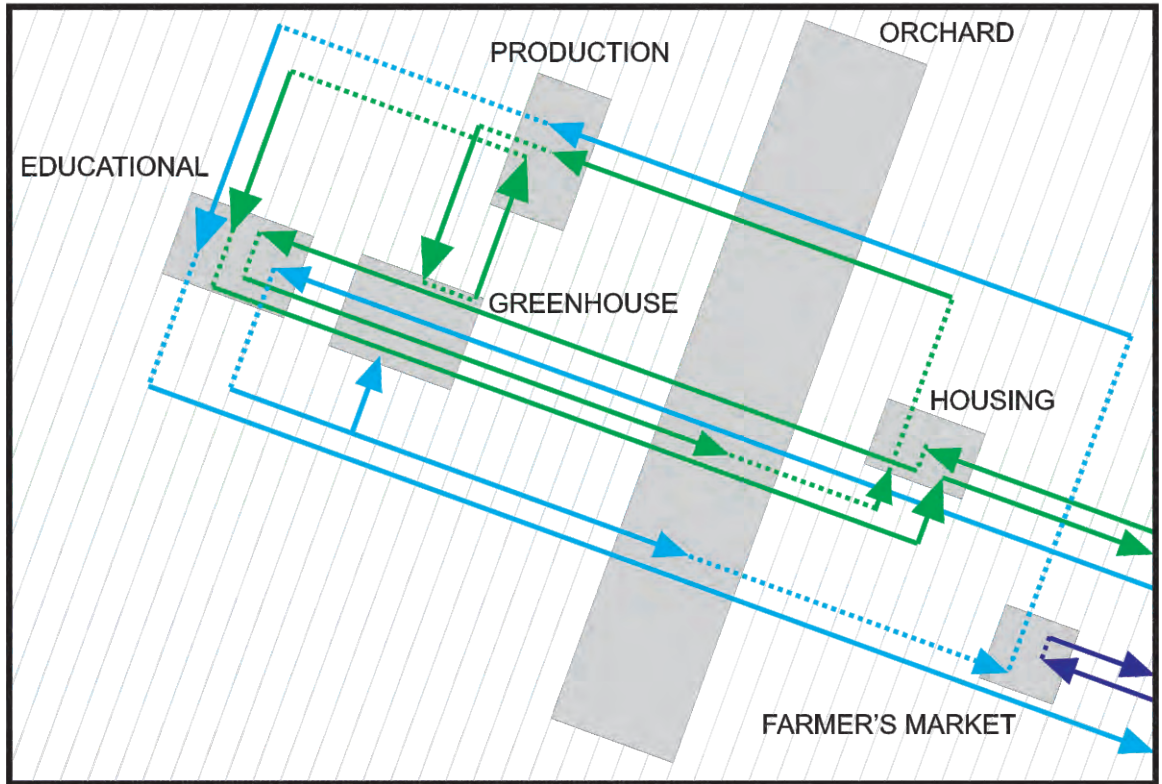
VISITORS



The diagram is the **SCHEDULE** of the Owners, Faculty, Migrants, Students and Visitors on a typical day at the Southern Illinois Orchard Training Facility. The day starts at 6 A.M. and ends at 5 P.M. The facilities at the Orchard include the Farmer's Market, Housing, Production, Greenhouse and Educational. All of these places make the **PROGRESSION OF EXPERIENCES**.

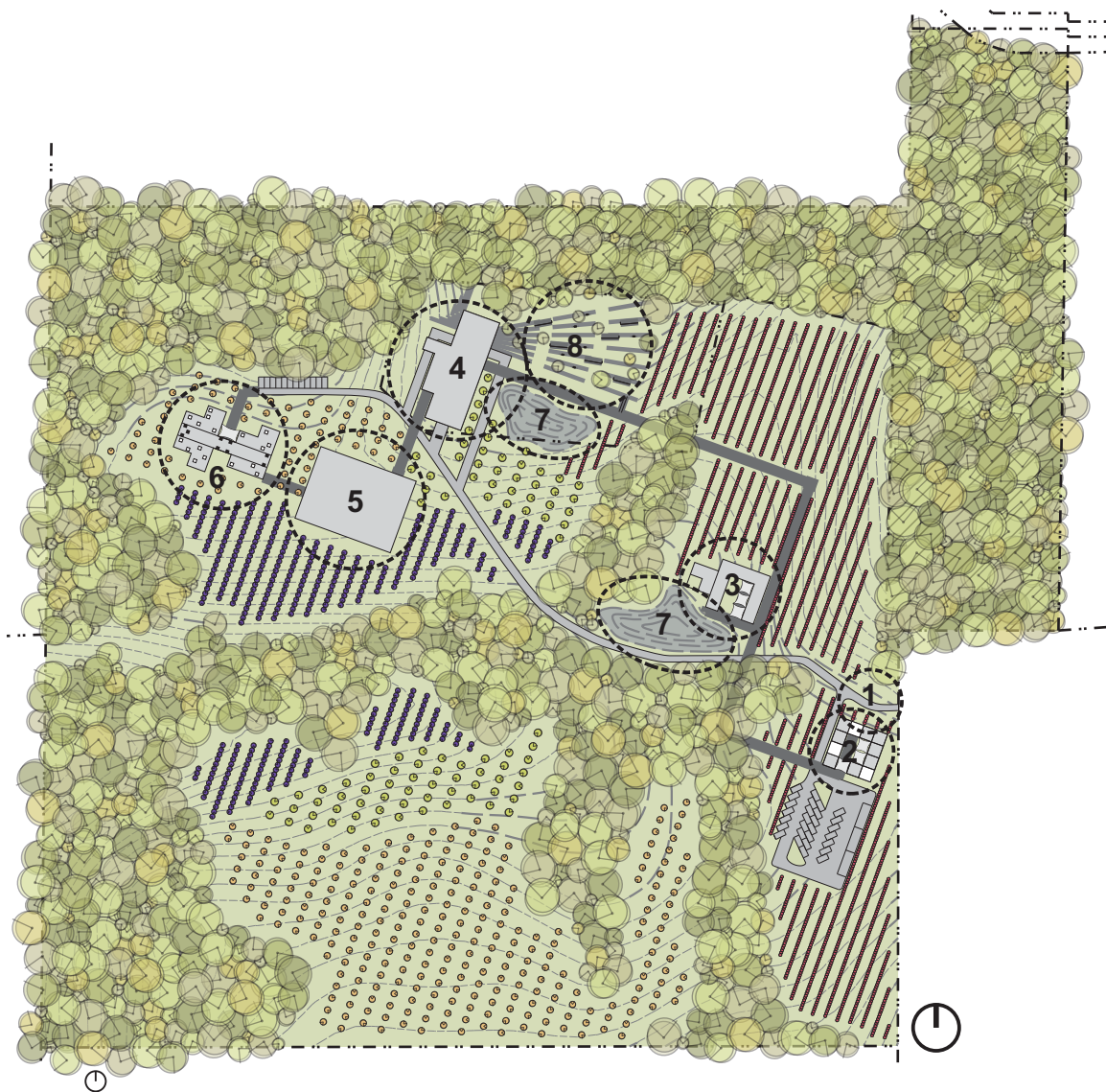
# MOVEMENT DIAGRAM

MIGRANTS ■ STUDENTS ■ VISITORS ■



The diagram shows the **CIRCULATION** of the Migrants, Students and Visitors throughout the day at the different facilities and how they will have the **PROGRESSION OF EXPERIENCES**.

# SITE PLAN





# SITE PLAN EXPLANATION

## ENTRY

1

At the entry, the progression of the multiple experiences a individual will have will start here by seeing the Orchard and Farmers Market.

## GREENHOUSE

5

The greenhouse is an additional facility that offers a more broader style of learning for the trainees.

## FARMER'S MARKET

2

The farmer's market is a place where produce is sold. It will provide the trainees an opportunity to learn the business side of the orchard.

## EDUCATIONAL

6

Is a place where the trainees learn about the techniques and process in the classroom setting. It will serve the trainees and staff members.

## HOUSING

3

Housing is provided for trainees to help further their progression through the program and provide them close proximity to the orchard. This is a place for all trainees to interact with one another.

## RETENTION PONDS

7

The retention ponds are used for irrigation when in drought. Also it will serve as a place for gathering.

## PRODUCTION

4

This is where the hands on learning takes place and the production for the fruit to be processed.

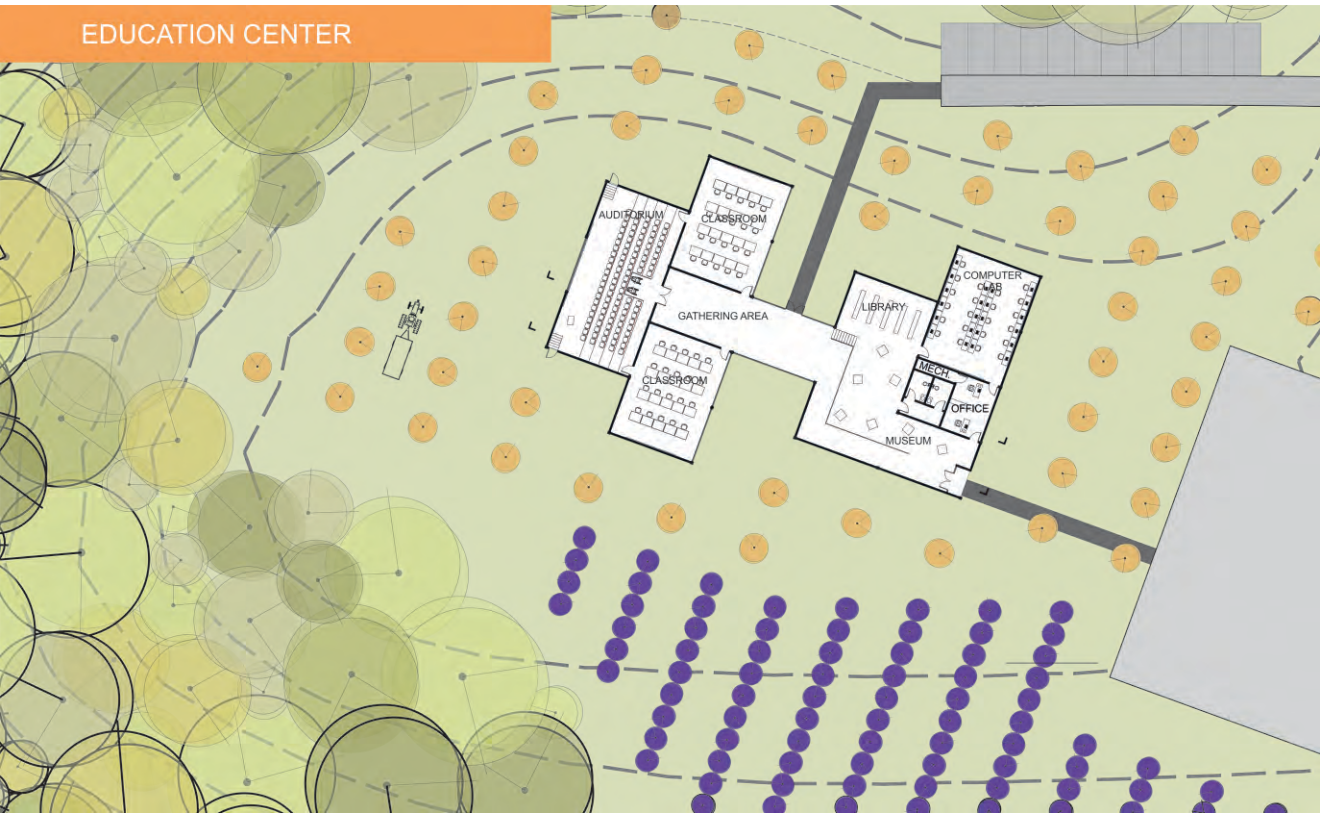
## ORCHARD OUTLOOK

8

The orchard outlook is a place where trainees can go and see the layout of the orchard and have a place to gather outside to learn.

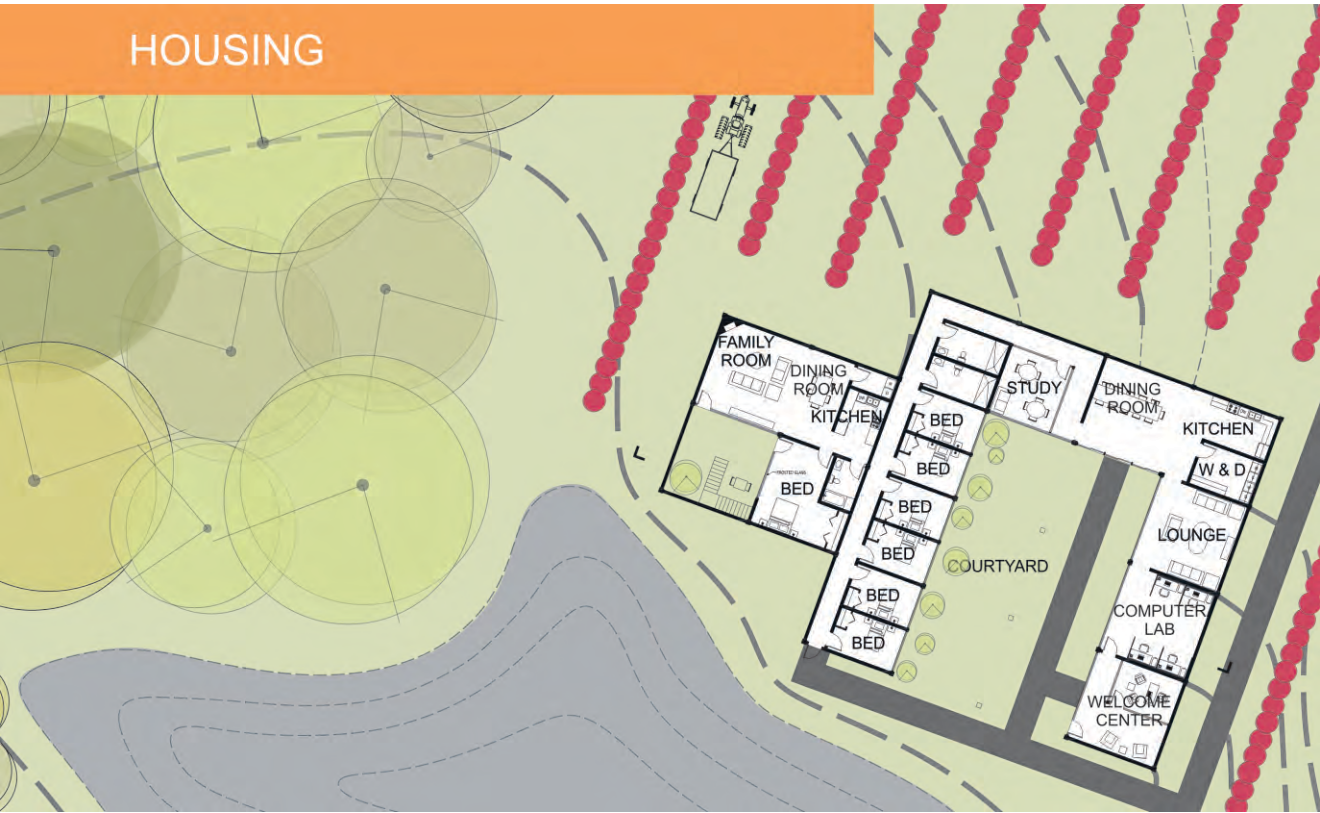


## EDUCATION CENTER



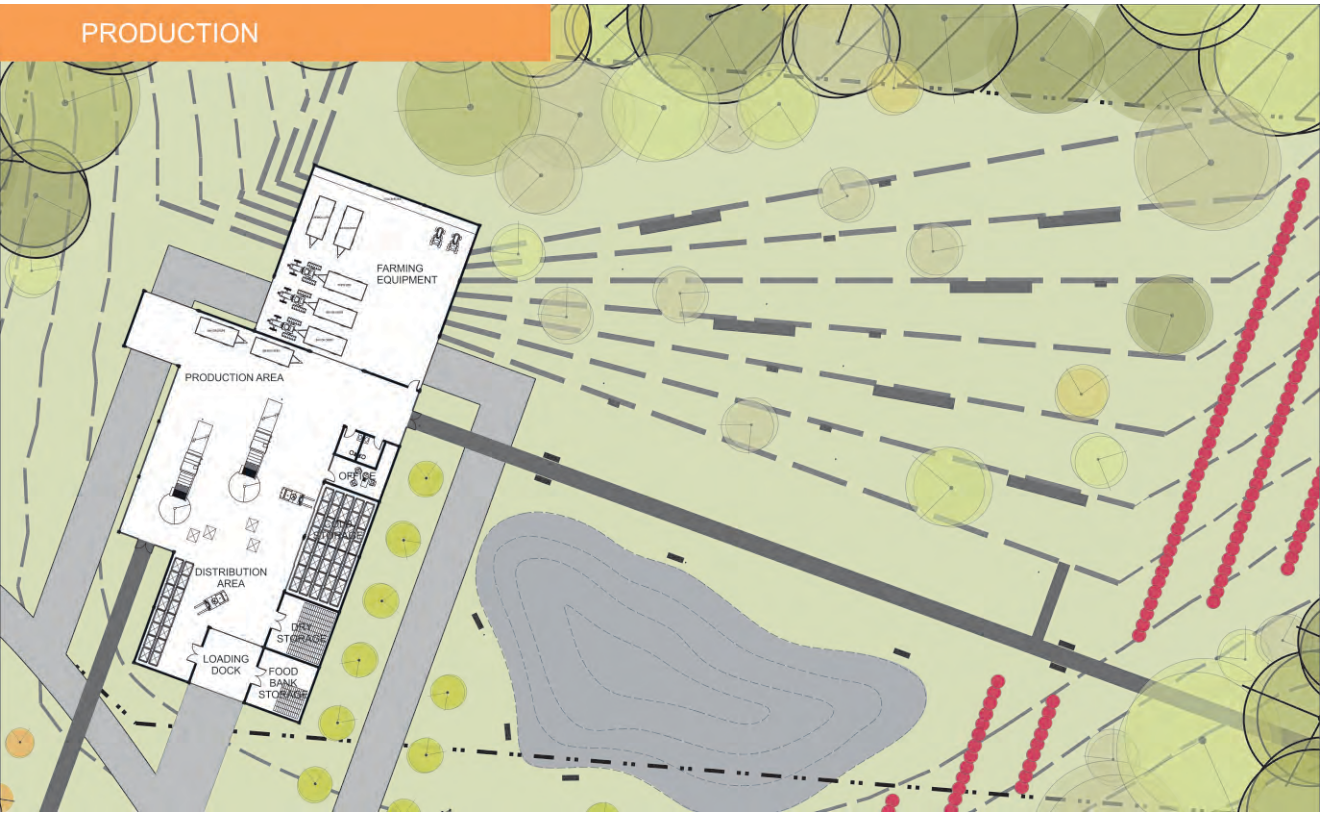
This is a new facility and be **9,600 SQUARE FEET** for the **STUDENTS, MIGRANTS, FACULTY, AND OWNERS**. In the Education Center, they will learn the **HISTORICAL CONTENT** on a orchard and **EXPLANATION OF THE PROCESS**. This is where the gathering place is in the orchard to talk about their experiences at the orchard. There will be a museum, library, computer lab, gathering area, 2 classrooms and an auditorium.

## HOUSING



Housing is for the staff and trainees. The **SINGLE FAMILY** homes will be for a **COUPLE** that own Southern Illinois Orchard and be **1485 SQUARE FEET**. The **APARTMENTS** will be for **STAFF AND TRAINEES** and be **5300 SQUARE FEET** and have a welcome center, computer lab, lounge, laundry, kitchen, dining, study, 2 restrooms and 6 bedrooms. Also it will have a 2,300 square foot courtyard.

## PRODUCTION



The production and after harvest will take place here and will be **12,800 SQUARE FEET**. This is where the hands on **EXPERIENCE OF PROCESSING THE PRODUCE HAPPENS**. It will have an area for the bins of crops, hydro-cooling, hydro-dumping, straining, grating, washing, drying, inspection, weighting, packaging, stacking, distribution area and loading area.

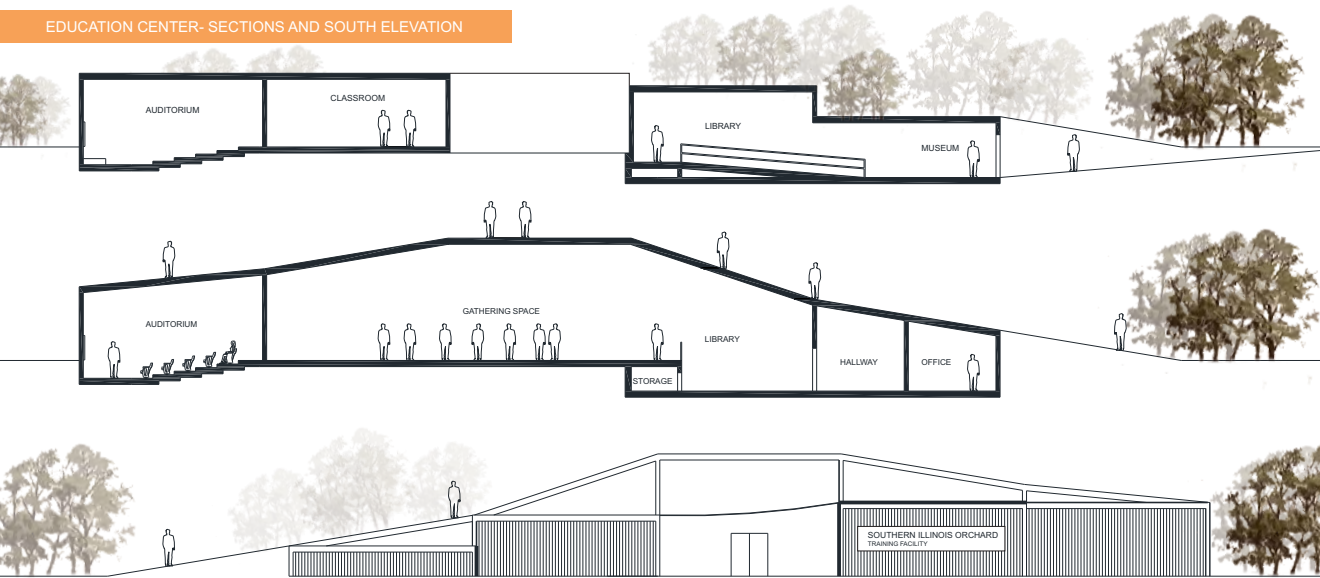


## FARMER'S MARKET



The Farmers Market is **4,230 SQUARE FEET** and here the **PRODUCE WILL BE SOLD**. It serves as the sales, café, office, kitchen, storage, restrooms, parking and outdoor seating. The new facility will have an area to sell the produce to the surrounding communities. On the walls, it will have the history of Southern Illinois Orchard Training Facility and the process of harvesting. The design elements of the space will include natural light and local material.

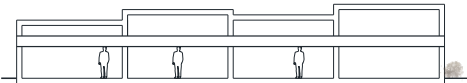
EDUCATION CENTER- SECTIONS AND SOUTH ELEVATION



HOUSING- SECTION



FARMER'S MARKET- WEST ELEVATION



PRODUCTION- WEST ELEVATION

