



## **Board Committee Report**

MEETING DATE: SEPTEMBER 24, 2020 ITEM NO: 10A(viii)

**SUBJECT:** Facilities Committee  
**DATE:** September 18, 2020  
**FROM:** Directors Aitken and Pham  
**PRESENTATION BY:** Directors Aitken and Pham

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### **SUMMARY OF COMMITTEE MEETING – SEPTEMBER 8, 2020**

#### **Oversite Projects:**

**Infrastructure Audit project** next steps were discussed:

- Staff will work with CCA, EMG and the committee to set up a public Zoom meeting
  - Currently targeting late September early October for an evening meeting.
- This item may then be agendized for the October Board of Directors meeting for discussion and direction
- Additionally the committee discussed how this tool can be used:
  - Assist in development of annual Cap X budgets
  - Assist with development and decisions related to any future Master Site Planning

**The Storm Water Management** projects are moving forward:

- Facilities Director, Jerry Eldridge is working with CCA and the contractors for both projects
  - Schedules are being developed and work will be commencing ASAP
  - Full communication/meeting with all stakeholders in the Equestrian Center will be carried out

#### **Cap X Projects:**

Staff updated the Cap X project spreadsheet which was reviewed by the committee. (see attached)

#### **New Items**

Staff and the committee discussed the “Berm Solution” proposal:

- Additional discussion and possibly having staff give a power point presentation (see attached)

#### **FOLLOW-UP**

The next meeting of the Facilities Committee is scheduled for 10/06/2020.

2020 Capital Expenditures & Major Projects

PROJECT	Project Completed	PROJECT NOTES
<b>2019 Carry-forward</b>		
Storm Water Infrastructure (camp ground)		09/03 - KSE still having difficulty getting labor from the Operators union however they are looking to start project on Sept. 14th with a completion date of early October. (*It is noted due to the recent power outages and the current hurricane; concrete is very difficult to get anywhere) This shortage may cause a few days of creep in schedule if it continues to be an issue
Property Signage		7/27 - Currently working on planning
Emergency back-up generator	6/10/2020	Complete.
Awning - Box Office		4/28 - Architect has come back with design proposal however this project will be cancelled do to revenue saving needs

Capital Expenditure		
Office Improvements - Admin Building		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Light Pole Replacement - Pac Amp	8/1/2020	Complete
Fire Sprinkler Repair - Costa Mesa Building	5/1/2020	Complete
Fire Sprinkler Repair - Huntington Beach Building	5/1/2020	Complete
Fire Sprinkler Repair - OC Promenade	5/1/2020	Complete
Fire Sprinkler Repair - Santa Ana Pavilion	5/1/2020	Complete
Fire Alarm Panel - Costa Mesa Building		09/03 - In process of developing installation schedule. Looking to be complete by end of September
Roof Replacement - Box Office		09/03 - After further review of roof condition and our current financial situation we have decided to perform repairs to roof instead of replacing. This will yield us a savings of about \$35,000. Will assess the condition as we begin generating more revenue
Roof Replacement - Education & Exhibits	6/1/2020	Complete
HVAC (2) - Huntington Beach Building	6/12/2020	Complete
HVAC (1) - Costa Mesa Building	6/12/2020	Complete
Utilities - Lot G		09/03 - Developing scope of work and new project protocol
Electrical Upgrade - Administration Building		7/27 - Once everyone comes back to work we can shut the power off to Admin to make the conversion final. If we turn power off now we will knock all users off "Anydesk" which would require IT to come back in and set all users up again
Electrical Upgrade - Judging Area	6/1/2020	Complete.
Electrical Upgrade - ASA		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Transformer Replacement - Gate 1		09/03 - Project scheduled to start Sept 14th with a projected completion date of Sept. 25th
Storm Water Pumps - Pac Amp		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Landscape - Business Development Area	6/11/2020	Complete
Seal & Stripe - Parking Lot Maintenance		09/03 - Staff determining areas of priority
Parking Lot Repairs - Exterior		09/03 - Currently working in lot B and C with asphalt repairs
Parking Lot Repairs - Interior		09/03 - Currently on hold for review
Back Flow Valve Replacement - All Grounds	7/1/2020	Complete
Resurface Exterior Walls - Administration		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Storm Water Mgmt. - Desilting Basin		09/03 - JRH has confirmed delivery dates for the Desilting Basin. They are currently working on a construction schedule that we then can provide the equestrian patrons. (*Due to concrete being at a shortage the plan is not giving exact delivery dates of the basin.)

Equipment		
Portable Rolling Bleachers (4)		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Utility Cart - Heroes Hall		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Wi Fi - All Grounds		7/27 - Staff working on project
40-Yard Storage containers (3)		09/03 - Containers to be used for archives. Staff evaluating appropriate equipment for conditioning space
Handwashing Station - Centennial Farms	8/1/2020	Complete
Large Format Printer	3/17/2020	Complete
Generator - Costa Mesa Building	6/15/2020	Complete
CAD Plotter	3/17/2020	Complete
Surveillance System	7/27/2020	Complete
PA Sound System - All Grounds		Complete
Utility Cart - Maintenance	6/2/2020	Complete
Exhibit Equipment		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Temporary Gallery Walls - Heroes Hall		7/17 - This project may still have expense in the exhibit coming in August

Major Expenditures		
Curb Painting - Fire Lanes		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Fumigation - Millennium Barn		09/03 - Coordination to begin in September
Landscape Exterior Parking Perimeter		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Retrofit Tower Lights - Main Mall		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Resurface Floor - Heroes Hall	6/1/2020	Complete.
Berm Renovation (Landscape) Pac Amp		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Replace In-ground Electrical Boxes		09/03 - We have the boxes, we will combine labor efforts to complete this project with the CFSA asphalt repair in "exterior asphalt" Cap-X
Replace AC Units - Ticket Booths	4/28/2020	Complete
IT Upgrades - Ticket Booths		7/27 - Work has been started.
Portable Handwashing Station	3/1/2020	Complete
Umbrellas		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Cable Ramps	4/17/2020	Complete
Picnic Tables		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Aluminum Barricades		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Storage Containers - Electrical	4/7/2020	Complete
2-Yard Dumpsters	5/1/2020	Complete
Stanchions		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Portable Electric Panels	7/1/2020	Complete
Fair Materials		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Exhibit Equipment		4/28 - This project has been determined to not be essential and will be cancelled do to revenue saving needs
Infrastructure Audit - All Grounds		09/03 - Facility Committee reported out Aug 24th, drafts posted, proceeding with next steps

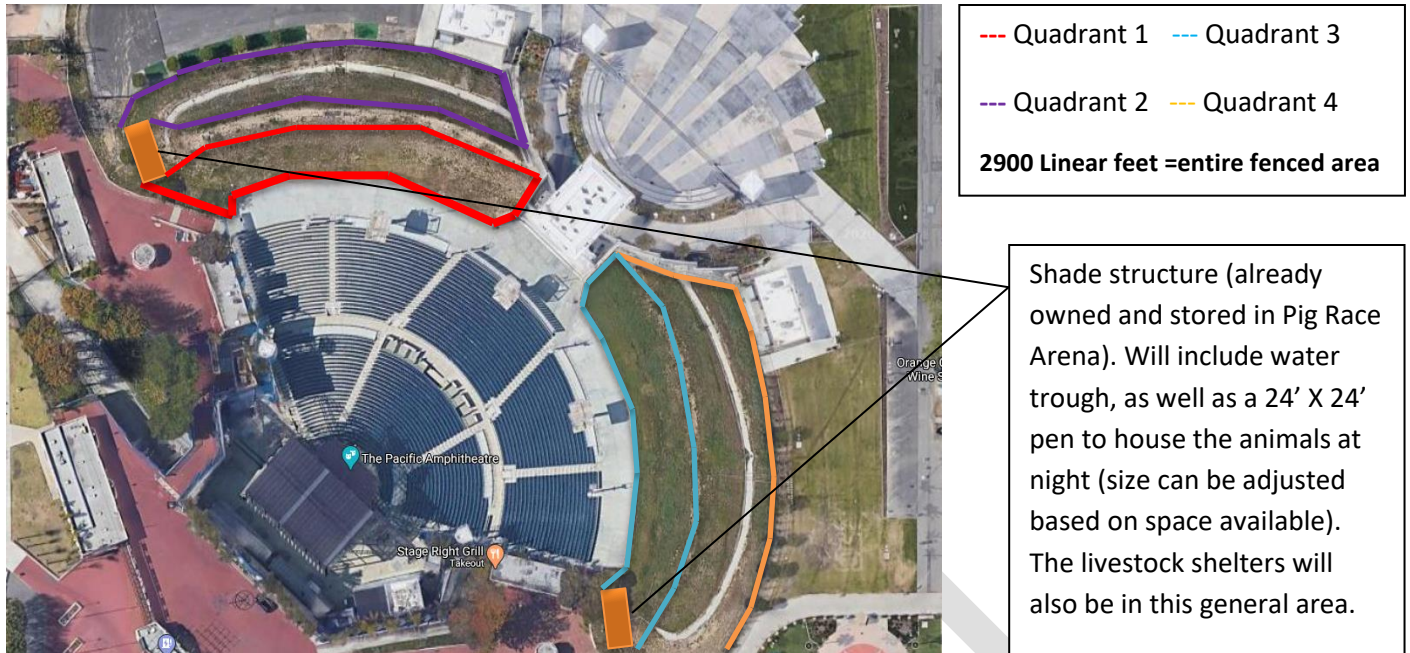
## Berm Solution

**Purpose:** Improve the health of the soil on the berm to create a functional, productive and sustainable ecosystem where diverse plant life, soil microorganisms, insects, and animals can thrive. This is a multi-phase, multi-year project that will result in reducing erosion, maximize water infiltration, improve nutrient cycling and improve the resiliency of the soil.

### **Phase 1, September 2020 – December 2020: Weed Abatement**

Currently the berm is covered in various types of weeds and grasses. In order to prepare the ground to be hydroseeded with a pasture blend seed, the weeds and grasses need to be removed. Phase 1 will consist of using the goats and sheep currently owned by Centennial Farm to graze the berm and eat the vegetation down. This is not only effective, but efficient and without herbicides.

- Goats and sheep, when used in tandem, will complement each other in their eating patterns. Goats are better at foraging and eating brush and twigs, while sheep are better grazers and will eat the grass down. The action of the animals roaming the berm will break up the hard, compacted soil and their droppings will help as fertilizer.
- With the property currently closed to the public, it is the perfect time to use the animals already housed at Centennial Farm for this project. By having the animals housed on the berm it will alleviate a large amount of work for the CF operations staff as they will not need to conduct the daily cleaning of the pens where the animals are currently housed. Supplemental feeding and penning the animals in the afternoon will be done by the Project Manager (Barbara) and coworkers (Nik, Teresa and assistance as needed from Juan, James, and Hector).
- It will be necessary to provide a shade structure as well as fencing around the perimeter of the berm for the animals. A pen will be built within the perimeter of the berm where the animals can be housed at night for safety. Livestock shelters will be purchased to provide better protection for the animals during months where there is the possibility of rain.  
([https://www.portablelivestockshelters.com/mini\\_economy\\_sheds.html](https://www.portablelivestockshelters.com/mini_economy_sheds.html)).
- Construction fencing <https://www.homedepot.com/p/Mutual-Industries-4-ft-x-50-ft-Preposted-Orange-Safety-Fence-with-5-ft-Posts-14989-0-50/306534387>
- See the diagram below for the berm layout:



- Although the animals will be grazing from the berm, they will need supplemental feed and minerals to make sure they have a balanced diet. The animals will need to be trained on a new feeding schedule to come back to their evening pen in the afternoon each day.
- The Technology Department has been consulted. The top of the berm will be fenced off inaccessible to the goats and sheep away from the extension cords for the repeaters.
- If needed, straw wattles will be staked at intervals tiered down the berm to help with animal footing.
- Purchase a llama to be used as a guard animal for protection against coyotes (approx. \$700).

The berm will be broken up into quadrants, once the animals have eaten the vegetation down enough to make the area ready for seeding, they will be moved to the next quadrant and the process will repeat for each quadrant.

Phase 1 will take place September 2020 – mid-December 2020. One week to set up the fencing, then three months of grazing. This amount of time will allow the goats and sheep to become accustomed to the berm, learn to return to the pens each afternoon, and eat the majority, if not all, of the grasses and weeds to the ground. It also allows the goats and sheep to break up the soil to prepare it for hydroseeding. The goats will then return to Centennial Farm.

**Phase 2, January 2021:** Hydroseed the Berm

Hydroseed the berm with the following seed mixture (<https://www.naturesseed.com/pasture-seed/goat-pastures/pacific-southwest-goat-forage-blend/>):

- 20% Tall Fescue (endophyte free)
- 20% Orchardgrass
- 15% Forage Chicory
- 15% Birdsfoot Trefoil
- 10% Sainfoin
- 10% Red Clover
- 10% Alfalfa

This mixture will have good nutritional value for the animals to graze on as well as add nutrients into the soil. The berm should be ready to be seeded by December 2020.

Ideally, hydroseeding would be the most efficient way to apply the seed mix along with soil amendments and stabilizer to hold the seed in place and give it a chance to actually sprout.

The benefit of seeding the berm at this time of year is that the rainy season is right around the corner. Rainwater is more beneficial to the soil and the new seed because it has a neutral pH, contains oxygen and doesn't contain the chemicals found in tap water.

Phase 1 and 2 will allow us to test out how the goats will react on the berm, how quickly they become accustomed to the new environment and how well they clear the weeds and grasses.

Phase 1 and 2	Cost
Llama	\$700
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Centennial Farm goats and sheep	\$0
Construction fencing	\$2030
Wattles – about 300 ft per quadrant	\$360
2 - Portable Livestock Shelter	\$1150
Pen structures (in house)	\$0
Shade structure (in house)	\$0
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250
<b>Total Cost for Phases 1 and 2</b>	<b>\$14,690</b>

### Phase 3, March 2021: Animal grazing

A herd of animals designated for grazing the berm will need to be purchased so the animals borrowed from Centennial Farm can move back to the farm for educational purposes. We would continue to use a mixture of goats and sheep so that they can complement each other in their eating patterns. These are the two types of goats and sheep that would be best fit for the project:

- Boer goats: meat breed of goat originating from Africa. Build good muscle tone, do well at withstanding heat and are shorter and stockier.



- Dorper sheep: meat breed also originated from Africa. Possess many of the same qualities of Boer goats, but in addition they are a hair breed of sheep which mean they naturally shed their wool and do not require shearing making them more low maintenance than other breeds of sheep. We also don't display any hair sheep at CF which would be a good educational opportunity.



Grazing will occur March through May. There may be a possibility of grazing as early as February, depending on weather and germination rate of the pasture mix. The berm will be hydroseeded again the last week of May to prepare for the annual OC Fair.

During fair-time, the animals can be moved offsite to be bred for that year. Breeding and selling of the offspring will help to cover some of the costs of maintaining the animals and berm. This cycle will take place over a 3 year period. Since this phase of the project will be taking place

This would also be an educational opportunity to expand on what we have at Centennial Farm. Signage can be created explaining the following:

- Livestock protection animals. Explain the use of guard llamas as well as donkeys and dogs.
- Basic hair sheep information.
- Info on pasture raising animals as well as improvements to soil health.

In November, soil samples will be taken from each quadrant to determine if the soil has in fact the soil health and quality is improving. The results will determine if the cycle should repeat or if changes to the landscape need to be made.



**Phases 1-3 will repeat for three years (2021-2023)**

<b>Month</b>	<b>Grazing Schedule</b>	<b>Fertilizing and Hydroseeding Schedule</b>
January	x	Apply liquid fertilizers and soil amendments
February	x?	grazing may begin this month, dependent on weather and growth rate
March	graze	
April	graze	
May	graze	hydroseed last week of May - work around Pac Amp and HH events
June	x	Apply liquid fertilizers and soil amendments
July	x	Apply liquid fertilizers and soil amendments
August	x	Apply liquid fertilizers and soil amendments
September	graze	
October	graze	
November	graze	Soil tests at the end of the month
December	x	hydroseed first week of December, apply liquid fertilizers and soil amendments

<b>Years 1 – 3</b>	<b>Cost</b>
<b>Year 1 only</b>	
Boer Goats (4 or 5)	\$1000
Dorper Sheep (4 or 5)	\$1000
<b>Total cost for goats and sheep</b>	<b>\$2000</b>
<b>Each Year 1 – 3 (2021 – 2023)</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Year 3 – Add CA native wildflower mix to Pasture Mix	
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>\$21,250</b>

#### **Phase 4, January 2024 – December 2024: Soil Quality, Continued Animal Grazing, Pollinating Plants**

Phase 4 will occur in the fourth year of this project. The grazing/hydroseeding/fertilizing will occur for the year 2024, but the hydroseeding will include California native wildflowers.

At this point, there should be significant changes to the soil health, i.e. decreased salts, increased infiltration rates, balanced fertility levels and it will be ready to be seeded and planted with California native plants that will include pollinator plants and still allow the same grazing cycle.

#### **Beyond Year 4**

Continue grazing cycle indefinitely. The grazing cycle will naturally remove the vegetation each year and continue to improve the quality of the soil. The pasture seed blend and the California native wildflower blend should self-sow, so hydroseeding will no longer be needed. Liquid fertilizer and liquid soil amendments will continue to be applied during off grazing periods to continue to rebuild the soil health. Larger California native plants will be added to the berm as needed to improve the plant diversity for pollinating insects.

#### **Benefits of berm remediation**

##### Educational benefits

- Expansion of OCFEC agricultural educational programming
  - Highlight the varieties of goats and sheep
  - Benefits of grazing land
  - Hydroseeding
  - Seed blends
  - Highlight the diversity of plant, insect and animal life

##### Aesthetic Benefits

- Prairie meadow appearance
- Grazing livestock
- Fewer weeds over time
- Healthier soil
- Pollinating insects, hummingbirds, and birds will inhabit the berm plants

##### Environmental Benefits

- Pasture seed mix will produce more nitrogen-fixing plants
- Grazing livestock produces natural fertilizer
- Goat and sheep hooves break up the hard soil
- Grazing livestock provide weed control without herbicides
- Manure and soil amendments will improve the soil over time and help establish a healthy soil ecosystem
- Pollinating insects, such as butterflies, will have a place to live



## Cost by year

Year 2020: Phase 1 and 2	Cost
Llama	\$700
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Centennial Farm goats and sheep	\$0
Construction fencing	\$2030
Wattles – about 300 ft per quadrant	\$360
2 - Portable Livestock Shelter	\$1150
Pen structures (in house)	\$0
Shade structure (in house)	\$0
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250
<b>Total Cost for Pre-Phase</b>	<b>\$14,690</b>
Year 2021: Year 1	Cost
Boer Goats (4 or 5)	\$1000
Dorper Sheep (4 or 5)	\$1000
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>\$23,250</b>
Year 2022: Year 2	Cost
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250

<b>Total Cost each year</b>	<b>\$21,250</b>
<b>Years 2023: Year 3</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Year 3 – Add CA native wildflower mix to Pasture Mix	
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>\$21,250</b>
<b>Year 2024: Year 4</b>	<b>Cost</b>
<b>Each Year 1 – 3 (2021 – 2023)</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Year 4 – Add CA native wildflower mix to Pasture Mix	
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Year 4 – Add CA native wildflower mix to Pasture Mix	
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>\$21,250</b>
<b>Beyond Year 4</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Plant larger CA natives in December	TBD
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>TBD</b>

Barbara Gregerson  
Landscape Supervisor  
OC Fair & Event Center

# Pacific Amphitheater Berm Project

The Solution

Barbara Gregerson  
OCFEC Landscape Supervisor

# Purpose

- Improve the soil health
  - Improve nutrient cycling
  - Reduce erosion
  - Maximize water infiltration
  - Improve resiliency of soil
- Create a functional, productive, sustainable habitat
  - Diverse plant life
  - Soil microorganisms
  - Pollinating insects
  - Animals

## **Pre-Phase**

September 2020 – December 2020

# Pre-phase

## September 2020 – December 2020

### Weed Abatement

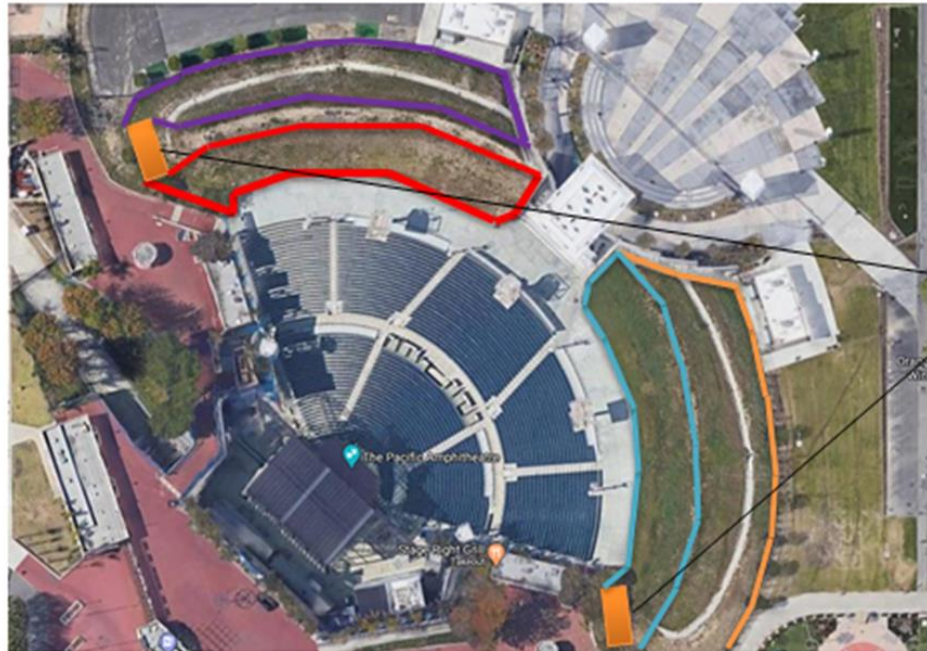
- Use goats from Centennial Farm
  - Graze the berm
  - Eat the vegetation
  - Begin to break up hard, compacted soil
  - Natural fertilizer from goat poop
    - Unlike other manure, goat poop doesn't smell, does not attract insects, and won't burn plants like other manure

# Initial Set Up

- Purchase a llama to guard goats
- Spilt berm into 4 quadrants
  - The goats and llama will work one quadrant at a time
- Install pens and fences
  - Shade structure – ours
  - Pen – ours
  - Purchase 2 portable livestock structures
  - Purchase construction fencing
  - Purchase wattles (if needed)



# Berm Quadrants



- Quadrant 1    --- Quadrant 3
  - Quadrant 2    --- Quadrant 4
- 2900 Linear feet =entire fenced area**

Shade structure (already own and stored in Pig Race Arena). Will include water trough, as well as a 24' X 24' pen to house the animals at night (size can be adjusted based on space available).

# Livestock Shelter



# Construction Fencing



# Wattles





# Pre-Phase Animal Maintenance

Month	Grazing Schedule	Animal Maintenance
September	graze	<p>*Centennial Farm Animals Animal Maintenance Items:</p> <ul style="list-style-type: none"><li>• Hoof Trimming</li><li>• Monthly Animal Health Check</li><li>• Coordinate breeding schedule with CF programming for the year (TBD) – can be done on the berm</li><li>• Deworm</li></ul>
October	graze	<p>*Centennial Farm Animals Animal Maintenance Items:</p> <ul style="list-style-type: none"><li>• Hoof Trimming</li><li>• Monthly Animal Health Check</li><li>• Selenium supplement for goats</li></ul>
November	graze	<p>*Centennial Farm Animals Animal Maintenance Items:</p> <ul style="list-style-type: none"><li>• Hoof Trimming</li><li>• Monthly Animal Health Check</li><li>• Copper bolus supplement for goats</li></ul>
December	No grazing	<p>Animal Maintenance Items:</p> <ul style="list-style-type: none"><li>• Animals return to Centennial Farm</li></ul>

# Animal Health Check Form

Date: \_\_\_\_\_

Person Conducting Health Check: \_\_\_\_\_

Tag ID:	Sex:
Specie:	Temperature:
General Appearance: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>	Respiratory: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>
Digestive: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>	Dental: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>
Eyes: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>	Ears: <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>
Mammary System (Females in milk only): <ul style="list-style-type: none"><li>• Normal</li><li>• Abnormal</li><li>• No Exam</li></ul>	Presence of Mastitis: Yes or No
Physical Exam Notes:	
Maintenance Procedures Performed:	

# Berm Remediation

- Hydroseed with Pasture Mix
  - Nature's Seed Pacific Southwest Goat Forage Blend
    - 20% Tall Fescue (endophyte free)
    - 20% Orchardgrass
    - 15% Forage Chicory
    - 15% Birdsfoot Trefoil
    - 10% Sainfoin
    - 10% Red Clover
    - 10% Alfalfa
- Fertilize
  - Liquid fertilizers
  - Liquid Soil Amendments



# Cost of Pre-Phase

Pre-Phase	Cost
Llama	\$700
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Centennial Farm goats and sheep	\$0
Construction fencing	\$2030
Wattles – about 300 ft per quadrant	\$360
2 - Portable Livestock Shelter	\$1150
Pen structures (in house)	\$0
Shade structure (in house)	\$0
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250
<b>Total Cost for Pre-Phase</b>	<b>\$14,690</b>



**Years 1 – 3, Phases 1 - 3**  
January 2021 – December 2023

# Year 1 – Purchase Goats and Sheep

Boer goats: meat breed of goat originating from Africa. Build good muscle tone, do well at withstanding heat and are shorter and stockier.



Dorper sheep: meat breed also originated from Africa. Possess many of the same qualities of Boer goats, but in addition they are a hair breed of sheep which mean they naturally shed their wool and do not require shearing making them more low maintenance than other breeds of sheep.



# Year 1 – 3, Phases 1 – 3

## January 2021 – December 2023

### **Grazing Schedule**

- January – February
  - No Grazing
- March – May
  - Grazing
- June – August
  - No Grazing
- September – November
  - Grazing
- December
  - No Grazing

# Year 1 – 3, Phases 1 – 3

## January 2021 – December 2023

### Animal Maintenance

#### o January – March

- o Hoof Trimming
- o Monthly Animal Health Check
- o CD&T vaccination – tentative on when animals are bred
- o Kidding/Lambing Season:
- o CD&T vaccination
- o Nutridrench
- o Castrate/tail band
- o Disbud
- o Deworm
- o Selenium supplement for goats

#### o April

- o Hoof Trimming
- o Monthly Animal Health Check
- o Shear llama during IO

#### o May

- o Hoof Trimming
- o Monthly Animal Health Check
- o Copper bolus supplement for goats
- o Deworm prior to moving offsite

#### o June

- o Weigh animals at OCF livestock scale prior to breeding
- o Animals moved offsite for fair
- o Begin animal breeding (if able to schedule during time offsite)

#### o July

- o Animal breeding

#### o August

- o Animal breeding
- o Animals return at the end of the month to fairgrounds

#### o September

- o Hoof Trimming
- o Monthly Animal Health Check
- o If unable to breed offsite, breed animals while they are on the berm
- o Deworm

#### o October

- o Hoof Trimming
- o Monthly Animal Health Check
- o Finish breeding on the berm.
- o Selenium supplement for goats

#### o November

- o Hoof Trimming
- o Monthly Animal Health Check
- o Copper bolus supplement for goats

#### o December

- o Hoof Trimming
- o Monthly Animal Health Check

# Year 1 – 3, Phases 1 – 3

January 2021 – December 2023

## **Berm Remediation**

- January and February
  - Apply liquid fertilizers and soil amendments
- March – May
  - Animals return to graze
- May (end of month)
  - Hydroseed with Pasture Mix
  - Apply liquid Humic Acid through fertilizer system
- June – August
  - Apply liquid fertilizers and soil amendments
- September – November
  - Animals return to graze
- November (end of month)
  - Soil tests from each quadrant
- December
  - Hydroseed with Pasture Mix
  - Apply liquid fertilizers and soil amendments
  - In Year 3, add CA Wildflower Seed Mix to Pasture Mix

# Year 1 – 3, Phases 1 – 3

## January 2021 – December 2023

### Cost per year

<b>Years 1 – 3</b>	<b>Cost</b>
<b>Year 1 only</b>	
Boer Goats (4 or 5)	\$1000
Dorper Sheep (4 or 5)	\$1000
<b>Total cost</b>	<b>\$2000</b>
<b>Each Year 1 – 3 (2021 – 2023)</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Year 3 – Add CA native wildflower mix to Pasture Mix	
Fertilizers and soil amendments	\$250
<b>Total Cost each year</b>	<b>\$21,250</b>





## **Year 4, Phases 1 - 4**

January 2024 – December 2024

Introduction of California Native Plants

# Year 4, Phase 1

January 2024 – December 2024

## **Grazing schedule**

- January – February
  - No Grazing
- March – May
  - Grazing
- June – August
  - No Grazing
- September – November
  - Grazing
- December
  - No Grazing

# Year 4

## January 2024 – December 2024

### Animal Maintenance

#### ○ January – March

- Hoof Trimming
- Monthly Animal Health Check
- CD&T vaccination – tentative on when animals are bred
- Kidding/Lambing Season:
- CD&T vaccination
- Nutridrench
- Castrate/tail band
- Disbud
- Deworm
- Selenium supplement for goats

#### ○ April

- Hoof Trimming
- Monthly Animal Health Check
- Shear llama during IO

#### ○ May

- Hoof Trimming
- Monthly Animal Health Check
- Copper bolus supplement for goats
- Deworm prior to moving offsite

#### ○ June

- Weigh animals at OCF livestock scale prior to breeding
- Animals moved offsite for fair
- Begin animal breeding (if able to schedule during time offsite)

#### ○ July

- Animal breeding

#### ○ August

- Animal breeding
- Animals return at the end of the month to fairgrounds

#### ○ September

- Hoof Trimming
- Monthly Animal Health Check
- If unable to breed offsite, breed animals while they are on the berm
- Deworm

#### ○ October

- Hoof Trimming
- Monthly Animal Health Check
- Finish breeding on the berm.
- Selenium supplement for goats

#### ○ November

- Hoof Trimming
- Monthly Animal Health Check
- Copper bolus supplement for goats

#### ○ December

- Hoof Trimming
- Monthly Animal Health Check

# Year 4, Phase 4

January 2024 – December 2024

## **Berm Remediation and addition of California Native Plants**

- January and February
  - Apply liquid fertilizers and soil amendments
- March – May
  - Animals return to graze
- May (end of month)
  - Hydroseed with California native seed mix and Pasture Mix
  - Apply liquid Humic Acid through fertilizer system
- June – August
  - Apply liquid fertilizers and soil amendments
- September – November
  - Animals return to graze
- November (end of month)
  - Soil tests from each quadrant
- December
  - Hydroseed with California native seed mix and Pasture Mix
  - Apply liquid fertilizers and soil amendments
  - Addition of larger California native plants

# Cost per year

<b>Year 4 and Beyond</b>	<b>Cost</b>
<b>Year 4 (2024)</b>	<b>Cost</b>
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
Hydroseeding in May	\$10,000
Soil samples in November	\$800
Hydroseeding in December	\$10,000
Fertilizers and soil amendments	\$250
<b>Total Cost Year 4</b>	<b>\$21,250</b>
<b>Beyond Year 4</b>	
CA Wildflowers self seed	\$0
Additional CA Native plants, as needed	<b>TBD</b>
Fertilizers and soil amendments	\$250
Supplemental nutrients and supplies	\$200
Additional hay and grain from CF	\$0
<b>Total Cost each year beyond Year 4</b>	

## Beyond Year 4

- Continue grazing cycle indefinitely
- Pasture blend and CA wildflowers should self-sow
  - Hydroseeding will no longer be needed
- Continue adding liquid fertilizer and liquid soil amendments during off grazing periods to continue to rebuild the soil health
- Continue adding larger CA native plants, as needed to improve the plant diversity for pollinating insects



# Benefits



# Educational Benefits

- Signage
  - Highlight the varieties of goats and sheep
  - Benefits of grazing land
  - Hydroseeding
  - Seed blends
  - Highlight the diversity of plant and animal life

# Cost Analysis

- Weeding the berm quarterly
  - \$5,000 per quarter = \$20,000 per year
- Berm Solution
  - \$21,000 - \$23,000 per year

# Aesthetic Benefits

- Prairie meadow appearance
- Grazing livestock
- Fewer weeds over time
- Healthier soil
- Pollinating insects, hummingbirds, and birds will inhabit the berm plants

# Environmental Benefits

- Pasture seed mix will produce more nitrogen-fixing plants
- Grazing livestock produces natural fertilizer
- Goat and sheep hooves break up the hard soil
- Grazing livestock provide weed control without herbicides
- Manure and soil amendments will improve the soil over time and help establish a healthy soil ecosystem
- Pollinating insects, such as butterflies, will have a place to live