



# Power Point Presentation to GPC 7/4/2019 “Reason for Snowmaking”

# Reasons for SNOWMAKING

- To control and minimize the financial risk of our winter operations
- To ensure reliable conditions for our members at our popular winter amenities.

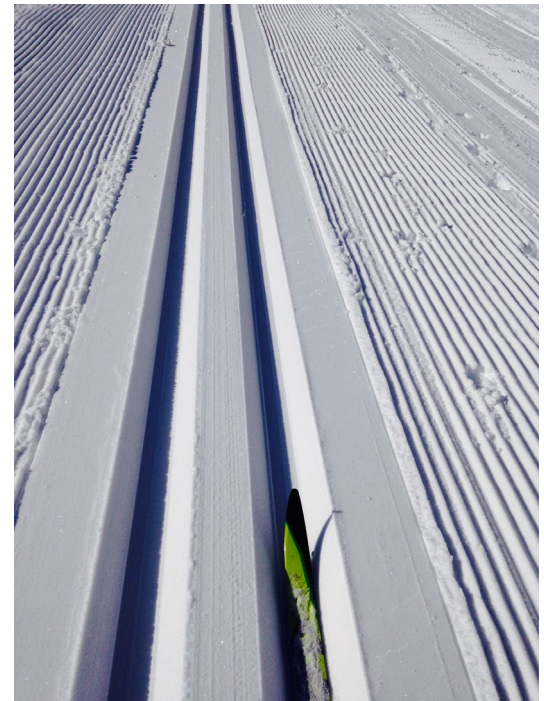


Of the 1590 members responding in the 2019 survey :  
36% used the XC Center  
30% used Snowplay

# The uncertainty of natural snowfall

## Cross Country Season length:

- 2012-13 113 days open
- 2013-14 80 days open
- 2014-15 **31 days open**
- 2015-16 108 days open
- 2016-17 **136 days open**
- 2017-18 **65 days open**
- 2018-19 **137 days open**



# TD Kids afterschool program

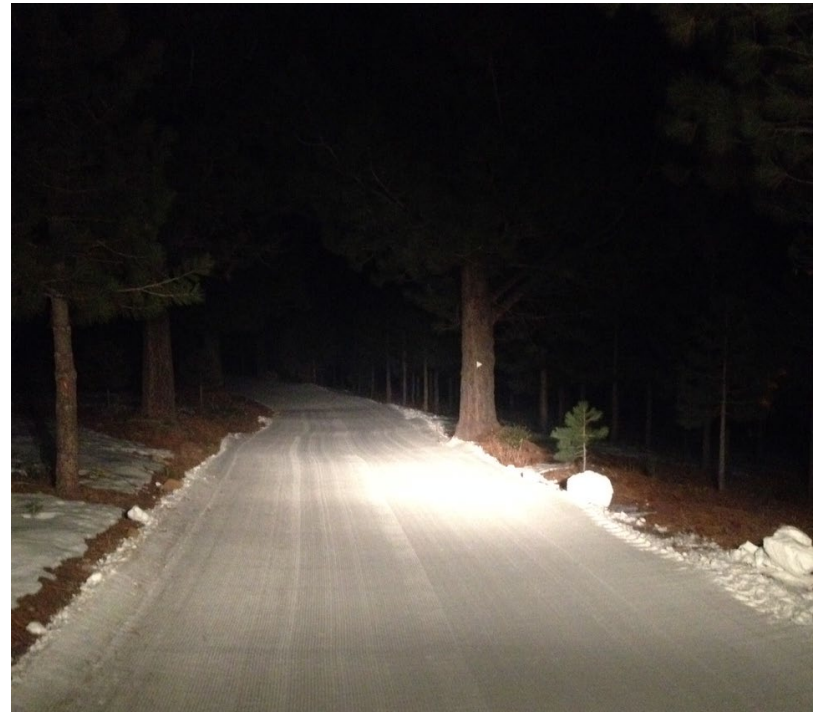
– less than ideal conditions Feb 2015!





# Moving snow - Christmas 2013

## Before and after!



# Low snow conditions at Moondance Hut Jan 2018

In the Sun



Same day in the shade





# Upper Corral – Icy conditions caused closure Jan 2015



Safety Hazard on road into Euer Valley



Pallet & carpet technique on way back from Moondance Hut



Fixable with 1 trailer load of snow



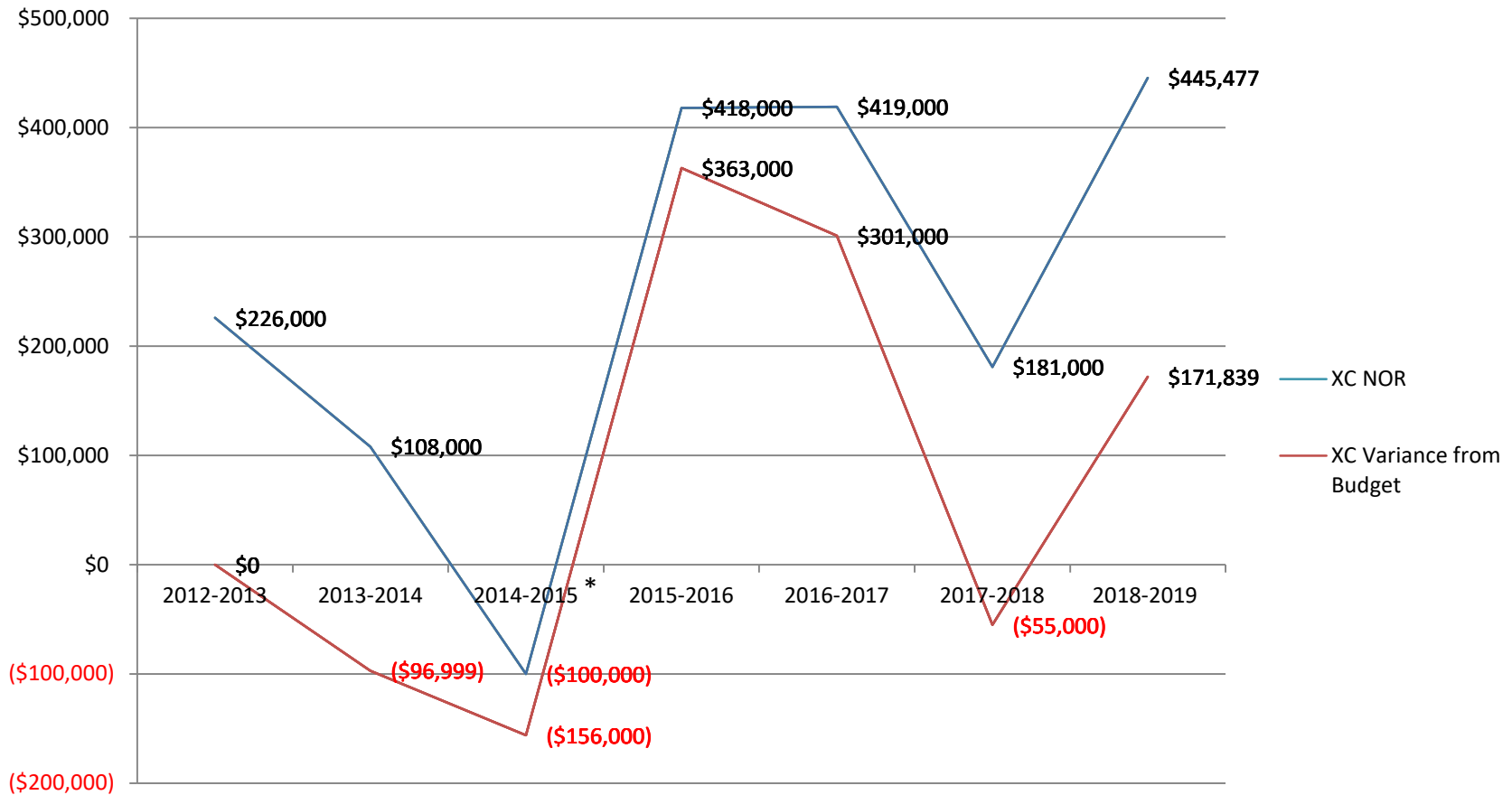


Current “snowmaking” system – Staff,volunteers, shovels & sleds!



# 7 year seasonal XC financials

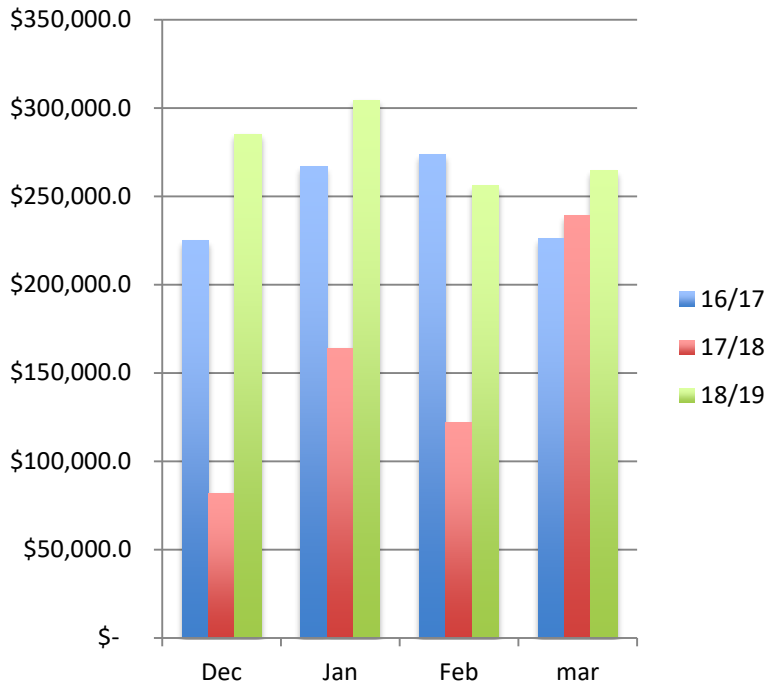
## NOR & NOR vs Budget variance



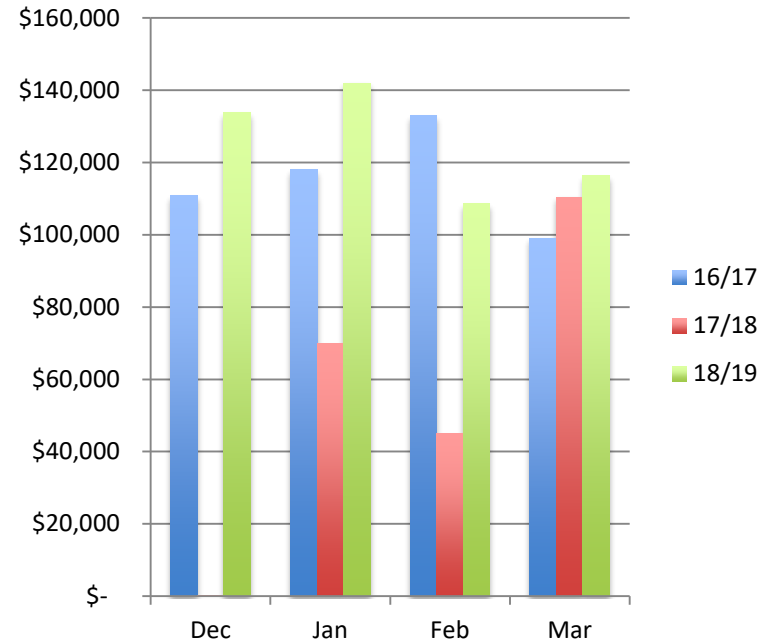
\* 2014-15 Adjusted for season pass roll over

# Revenue variances at XC Ski due to lack of early season snow

## Revenue



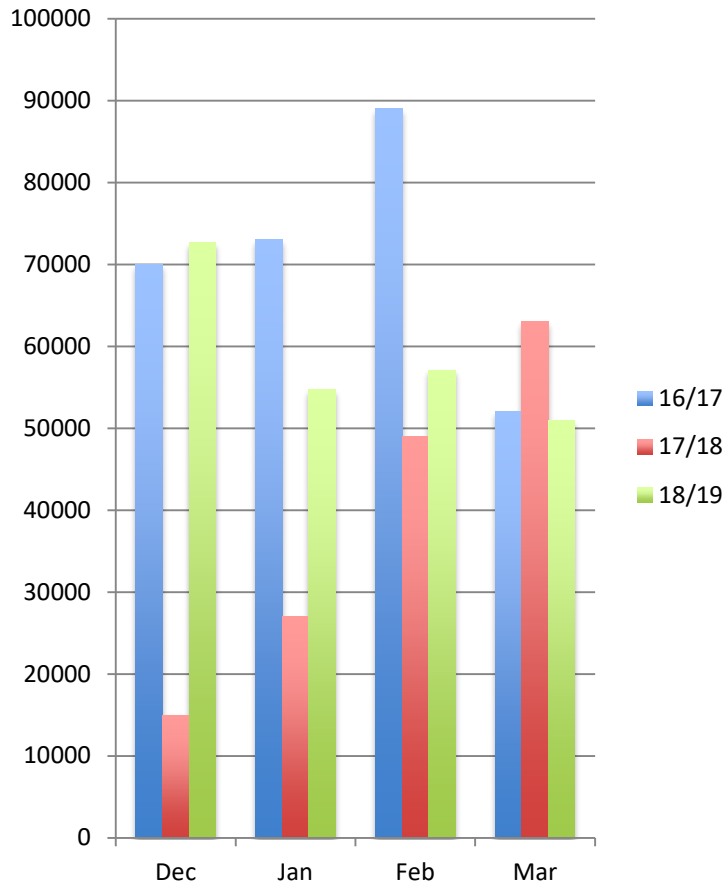
## NOR



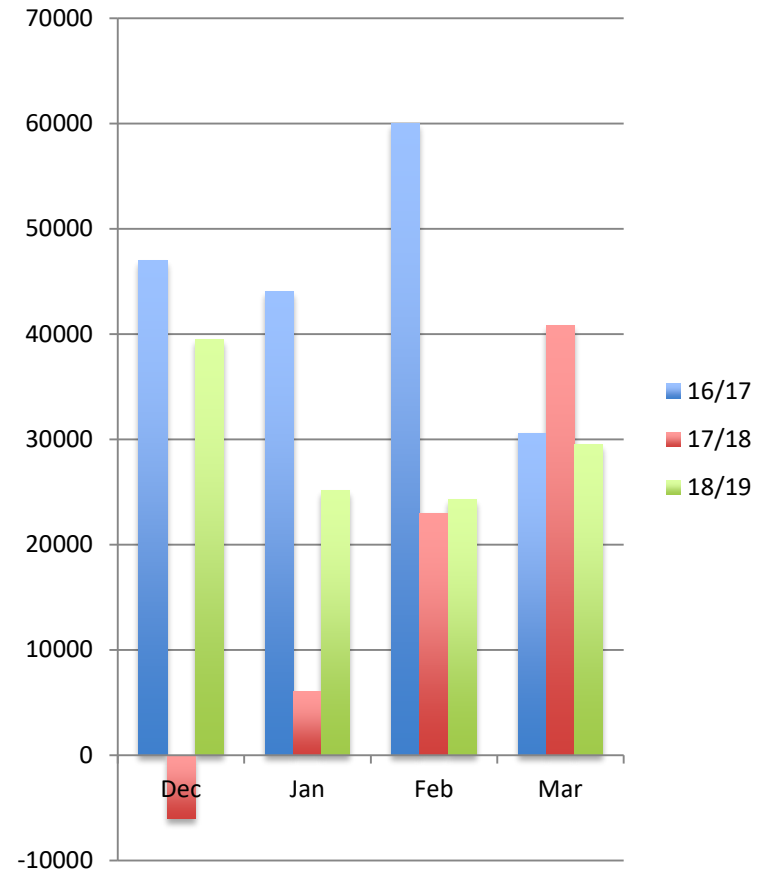


# Revenue variances at Snowplay due to lack of early season snow

## Gross Revenue



## NOR



# Snowplay

Capital investment for Snowmaking \$82,500



Includes:

- Tap into Driving Range's irrigation water pipes & draw water from TDA well
- Sleeve new pipe in disused PUD pipe to the Snowplay entrance
- Hydrant to power two Kid Polecat fan guns with built in pumps.





# Snowplay Summary

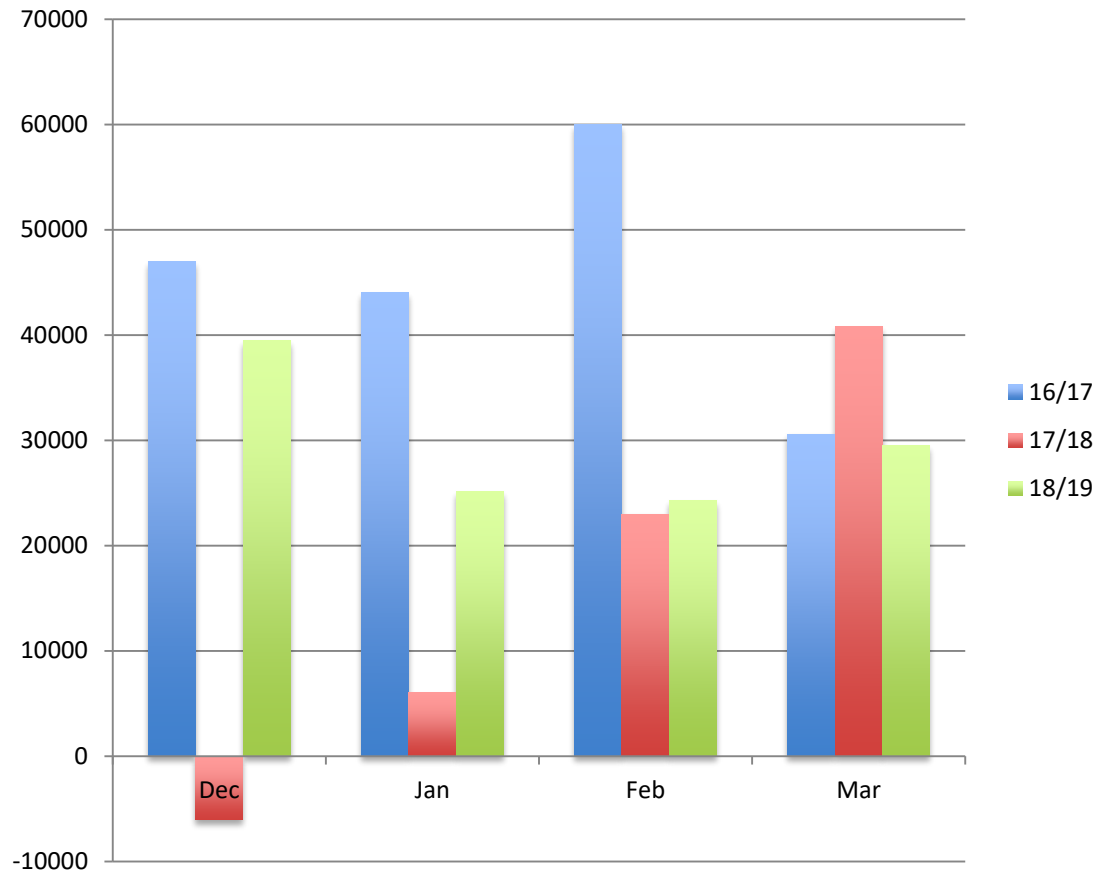
Capital Investment: \$82,500

Operating costs:

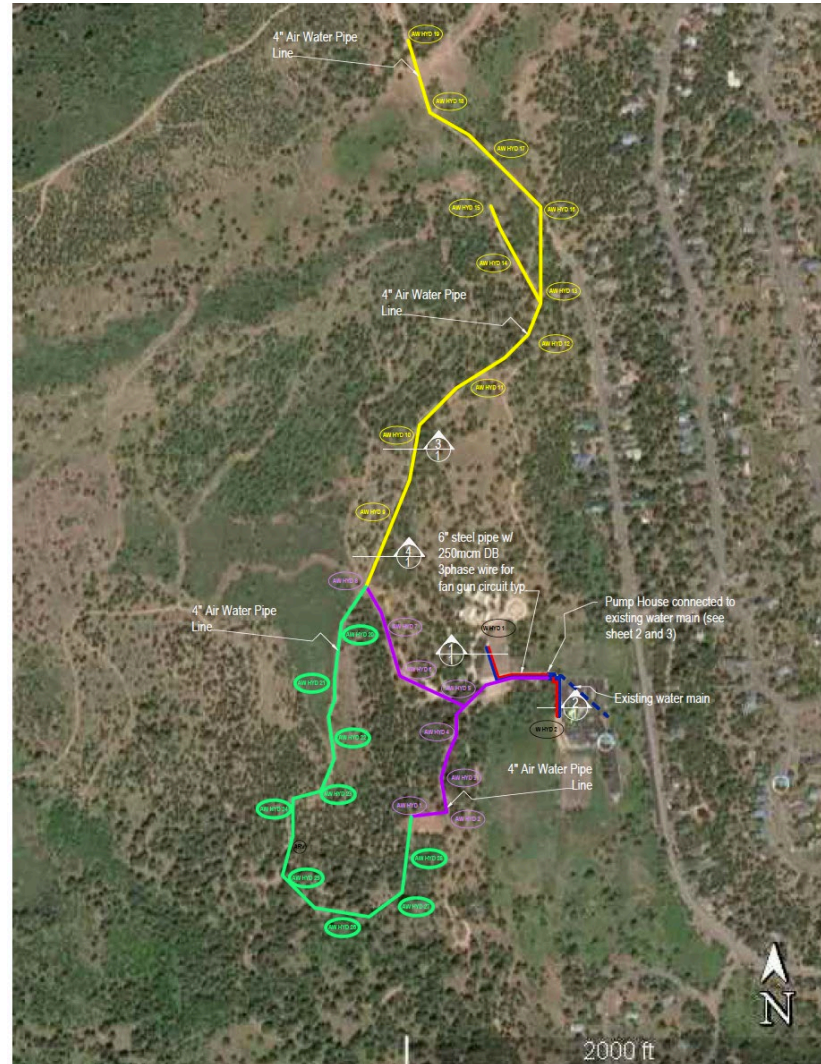
Generator rental \$6,800.

\$16,515 for a 3 foot deep acre  
of snow

3 year NOR comparison

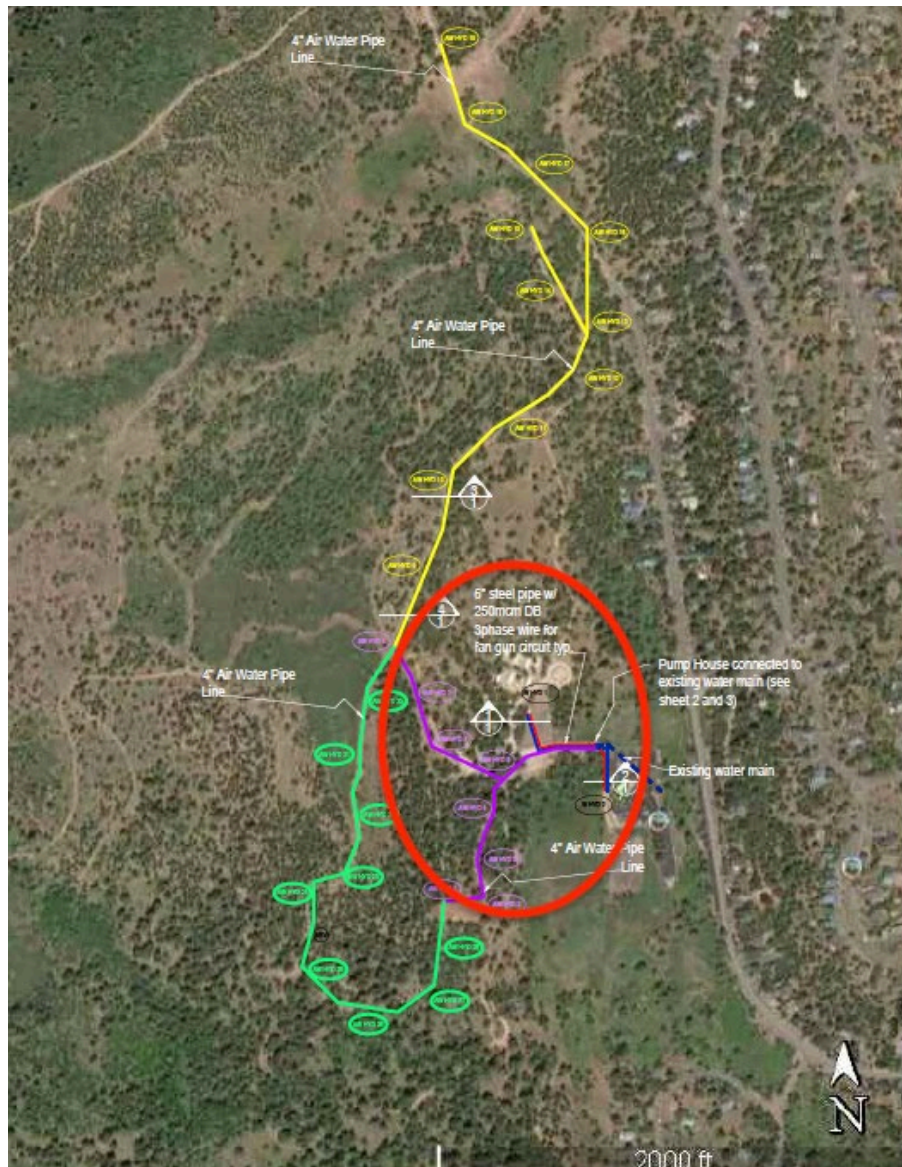


# XC Ski Phased approach



# Recommendation phase 1 & 2 in year 1

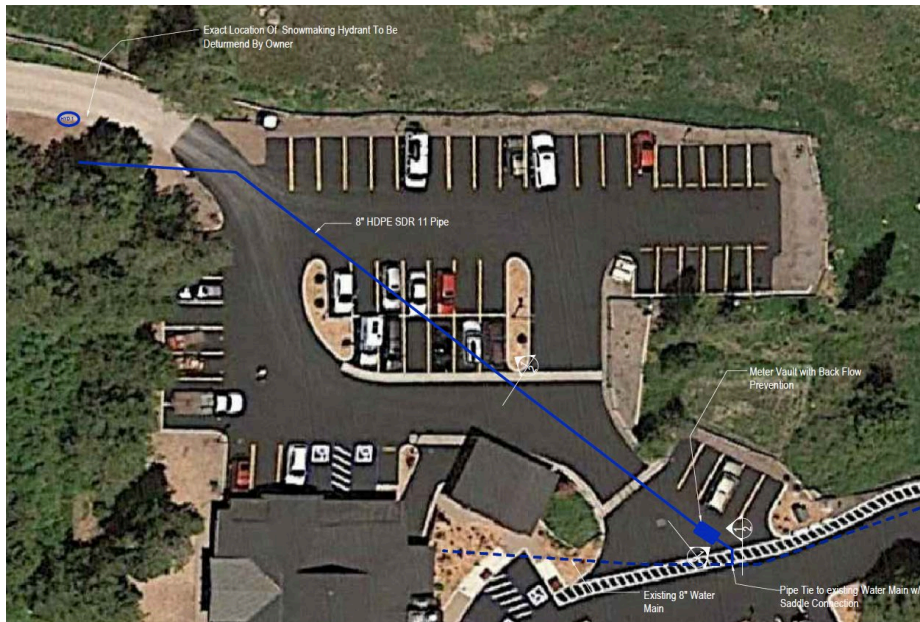
Utility installation + .75km loop \$483,000



- Skiing from ACAC to a lesson area, practice hill and .75km – 1km of trail;
- A snow supply that can be pushed to expand loops / transported to patch natural snowfall on trail system;
- Infrastructure in place for future expansion.



# XC Ski Phase 1 only – Utilities + 2 Fan Guns: \$237,000



## Phase 1 allows us to:

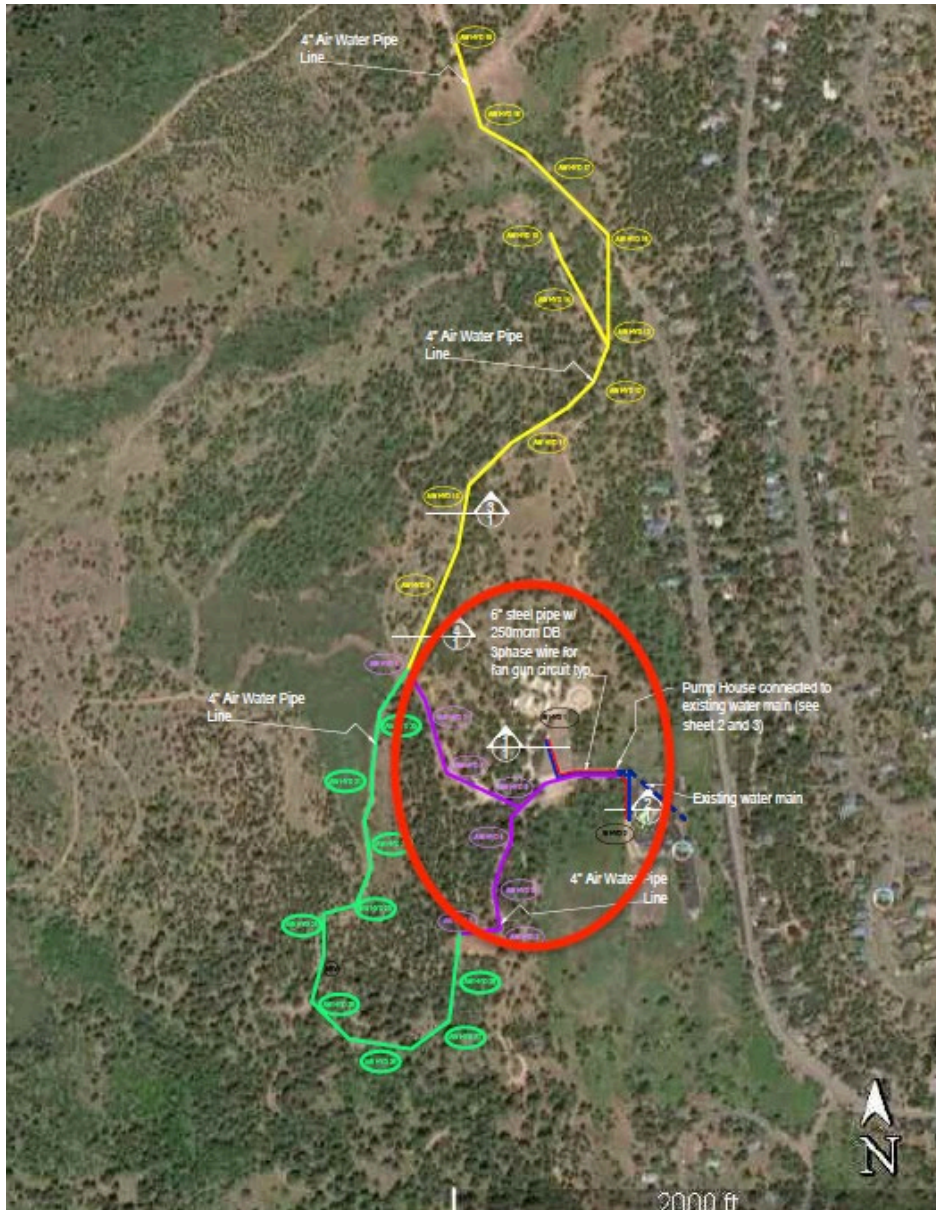
- Provide skiing from the parking lot trailhead to a lesson / practice area;
- Transport snow to patch natural snowfall on trail system;
- Expand to phase 2,3 and 4 in the future

## Includes:

- New 3" water meter; 6" waterline to the upper Corral area; snowmaking hydrants for 2 fan guns.
- 2 SMI Kid Polecat fan guns modified for existing single phase power supply

*(includes electrical conduit, + gas line in trench - to save costs of re trenching if we were to invest in a gas powered generator in the future (to power snowmaking + back up power for the building), or upgrading to 3 phase power).*

# XC Ski Phase 2 \$246,000



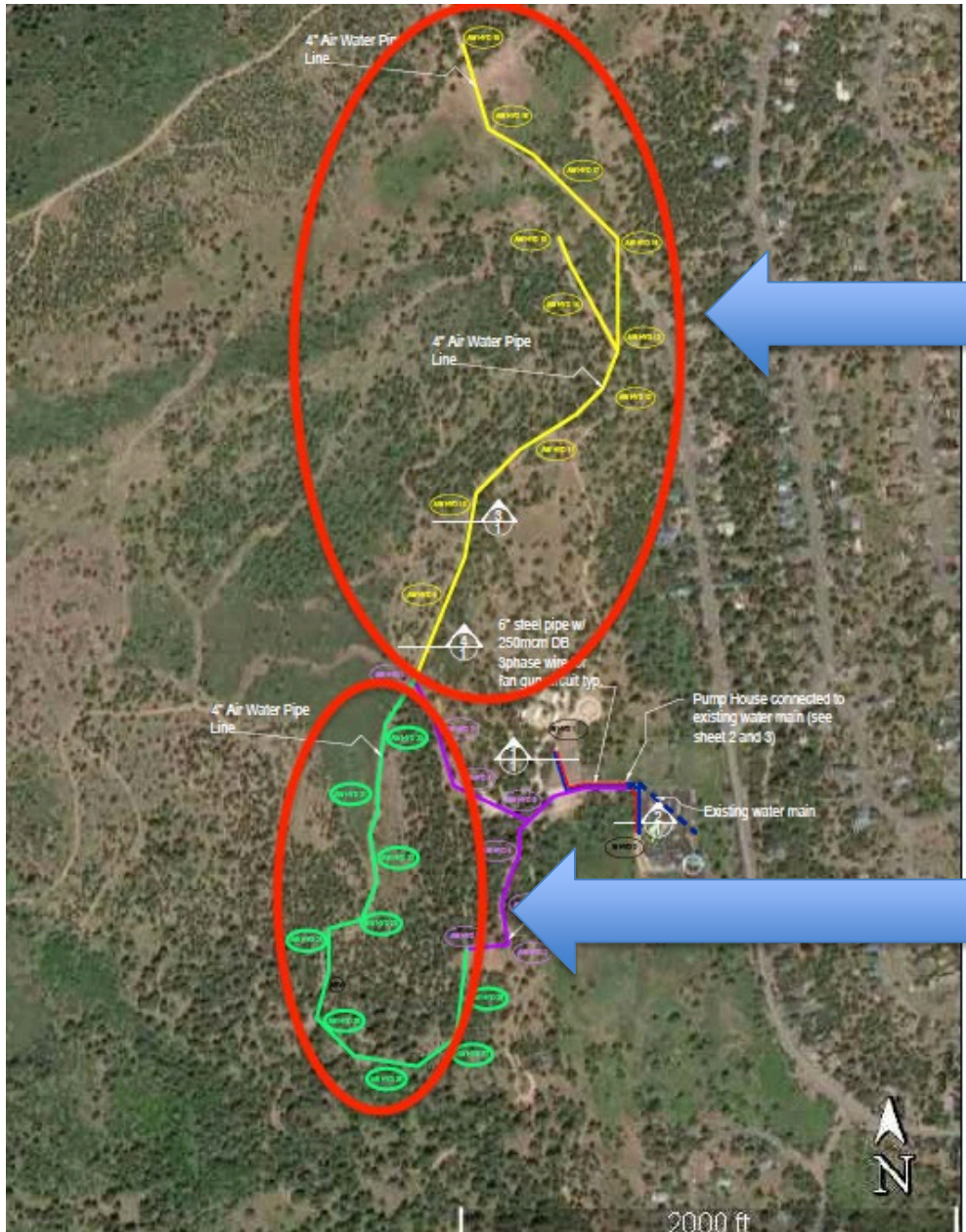
## Adding phase 2 allows us to:

- Create and additional  $\frac{3}{4}$ km - 1km skiable loops for early season skiing
- Increase efficiency – making snow on the trails where needed. Reduces costs of transporting snow
- Expand to phase 3 and 4 in the future

## Includes

- Pumphouse.
- Power & water to pedestals in upper corral & in front of ACAC for more efficient use of phase 1's fan guns.
- Air and water lines & pedestals on Night Hawk to practice and Northfork to junction 2 for stick guns





**FUTURE EXPANSION**

**1km - Access to Moondance \$228,688**

- Allows us to provide skiing to Moondance Hut to access trails that typically hold natural snow in a low snow years.

**1.1km Rough Rider Loop \$153,360**

- Allows us to increase skiable terrain if there is no or minimal natural snow early season

Estimated \$800,000 - \$900,000 total cost for installation of all phases at today's pricing



# XC Ski operational costs

## Phase 1 only

### Fixed Costs

Rental of equipment to load + transport snow if needed

### Variable costs

Water – 200,000 galls/ acre	\$1,030
Power (existing 220 mains power)	\$ 336
Labor - 2 snowmakers (8 shifts) inc load	\$2,100
40hrs Set up / breakdown inc load	<u>\$1,200</u>
	<b>\$4,666</b> per acre

### Assumptions

*200,000 gallons per acre foot of snow*

*2 Kid Polecat fan guns modified for existing 220 single phase power - averaging 25 Galls / min (max is 60galls/ min)*

# XC Ski operating costs

## Phase 1+2 and beyond

### Fixed Costs

Generator (250 kw) rental (1.8 months)	\$6,800.00
Compressor rental (1.8 months)	\$6,500.00

### Variable costs (per 2 acres)

Generator fuel (70 hrs @ 7gal/hr)	\$2,205
Compressor fuel 35 hrs @ 15 gal/hr)	\$2,400
Water @ \$1030 *2 acre foot	\$2,060
Labor 8 nights & set up hrs	<u>\$3,300</u>
	<b>\$9,965</b> for 2 acre feet

### Assumptions

*200,000 gallons per acre foot.*

*2 Kid Polecat fan guns averaging 25 Galls/min. 9 stick guns averaging 15 Galls/min*

*70 hrs to make 2 acres*

# XC Ski Summary

## Capital Investment:

Utilities+2 guns: \$237,000

Phase 2: \$246,000

**\$483,000**

Phase 3: \$228,688

Phase 4: \$153,360

**Grand total \$865,000 + contingency**

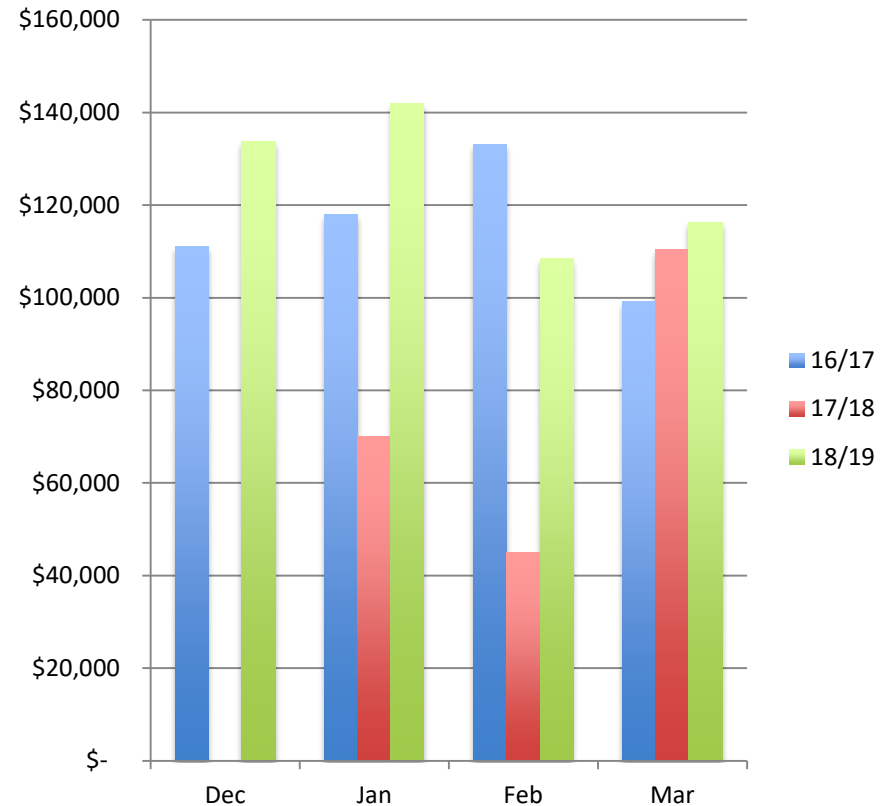
## Operating budget:

\$4,000-\$5,000 per acre of snow (12" deep)

+ cost of moving snow

+ \$13,300 generator & compressor rental for phase 2/3/4.

## 3 year NOR comparison



1 acre snow = 1km @13' wide trail