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EXCELLENCE



An Elite Performance Conference for USSA Clubs   

Snowmaking for Clubs

HKD Snowmakers
Charles Santry



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An Elite Performance Conference for USSA Clubs   

- HKD Intro
- Snowmaking 101
- Club/Ski Area Partnership
- HKD White to Gold Program
- Summary Thoughts



About HKD Snowmakers

- Founded in 1990, HKD Snowmakers has over 650 Customers worldwide.
- Our Mission is to remain the **industry leader** in energy efficient, user friendly snowmaking solutions.
- HKD Snowmakers has been the **Official Snowmaking Supplier** to the U.S. Ski Team since 2011.
- *We love to ski and ride on the product we make.*



How Snowmaking Benefits Clubs

- Athletes increase time on the snow particularly early season.
- Safer and more consistent training surface.
- Tremendous marketing value to bolster enrollment in club/academy.
- Revenue opportunity through rental of early season training space/lanes.
- Long term investment to be enjoyed by future generations.

Snowmaking 101

-Tools of the Trade-



Snowmaking 101

-Tools of the Trade-

Air/Water Technology



Snowmaking 101

-Tools of the Trade-

Electric /
Airless Technology



Snowmaking 101

Electric / Airless Technology



Snowmaking 101

Electric / Airless Technology



Snowmaking 101

Automation Technology



Race Trail Coverage

Snowmaking Checklist

- ✓ Amount of terrain being covered (acres).
- ✓ Depth of snow needed.
- ✓ Average temperatures.
- ✓ Resources available for terrain.
- ✓ Desired date for opening terrain.



Race Trail Example

Trail Length	2,000	Feet
Trail Width	150	Feet
Area	6.5	Acres
Snow cover	2	Depth (FT)
Total acre feet	13	Acre feet
Gallons needed	2,332,200	179,400 gallons per acre foot

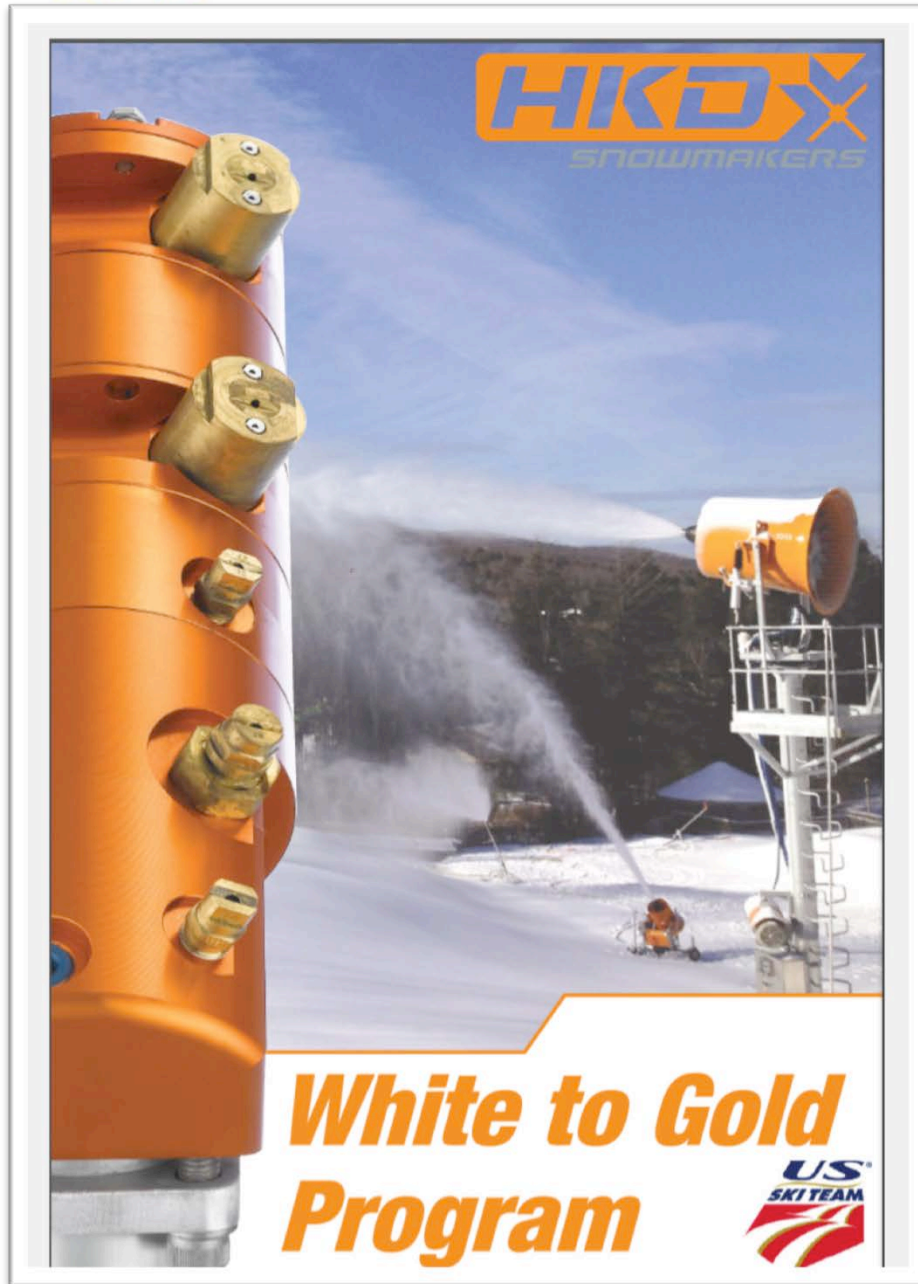
HKD Turbo Fan with 15' Tower Snow Quality 3 @ 435 PSI		
Temp (F)	26	14
Gun GPM	58	154
Gal/Hour	3,480	9,240
Number of guns	10	10
Total Gal/Hour	34,800	92,400
Total Needed GPM	580	1,540
Hours to Complete	67	25



Club / Ski Resort Partnership:

Points to Remember

- Early season Temperatures / Snowmaking conditions.
- Preparing for different disciplines requires different approaches for Snowmaking and Grooming. Moguls, Park or Pipe vs Race Course.
- Changing the snow surfaces between club needs and general public makes maintaining snow quality difficult.
- Costs/Resources are significant – Energy, Labor, Grooming and Snowmaking (Air and Water). Snowmaking comprises 67% of overall energy budget.
- Snowmaking equipment is capital intensive.
- Operating agreement between ski area and club can help set expectations and commitments for both sides. Can outline terrain, delivery and operating dates, cat time, man hours, etc.



The advertisement features a large orange HKD snowmaking gun in the foreground on the left, with several brass nozzles. In the background, a snowmaking rig is spraying snow onto a ski slope under a clear blue sky. The HKD Snowmakers logo is in the top right of the image area. At the bottom, the text 'White to Gold Program' is written in a large, bold, orange font, with the US Ski Team logo to its right.

HKD
SNOWMAKERS

**White to Gold
Program**

US[®]
SKI TEAM

HKD

White to Gold Program

Is designed to help USSA member clubs improve the reliability of their training conditions through improved snowmaking.

HKD will help USSA member Clubs interested in Investing in Snowmaking by offering a **20% Discount on all HKD Technology.**

Additionally HKD will donate 2% of all USSA related sales back to USSA, to help support their athletes and clubs achieve their goal of Best in the World.

USSA Recent Projects

- Cochran's, VT
- Copper Mountain, CO
- Burke, VT
- Sugarbush, VT
- Abenaki, NH
- Rikert, VT – Nordic
- Quarry Road, ME - Nordic
- Proctor, NH – Alpine & Nordic

HKD Volt – Cochran's, VT



U.S. Ski Team Speed Center

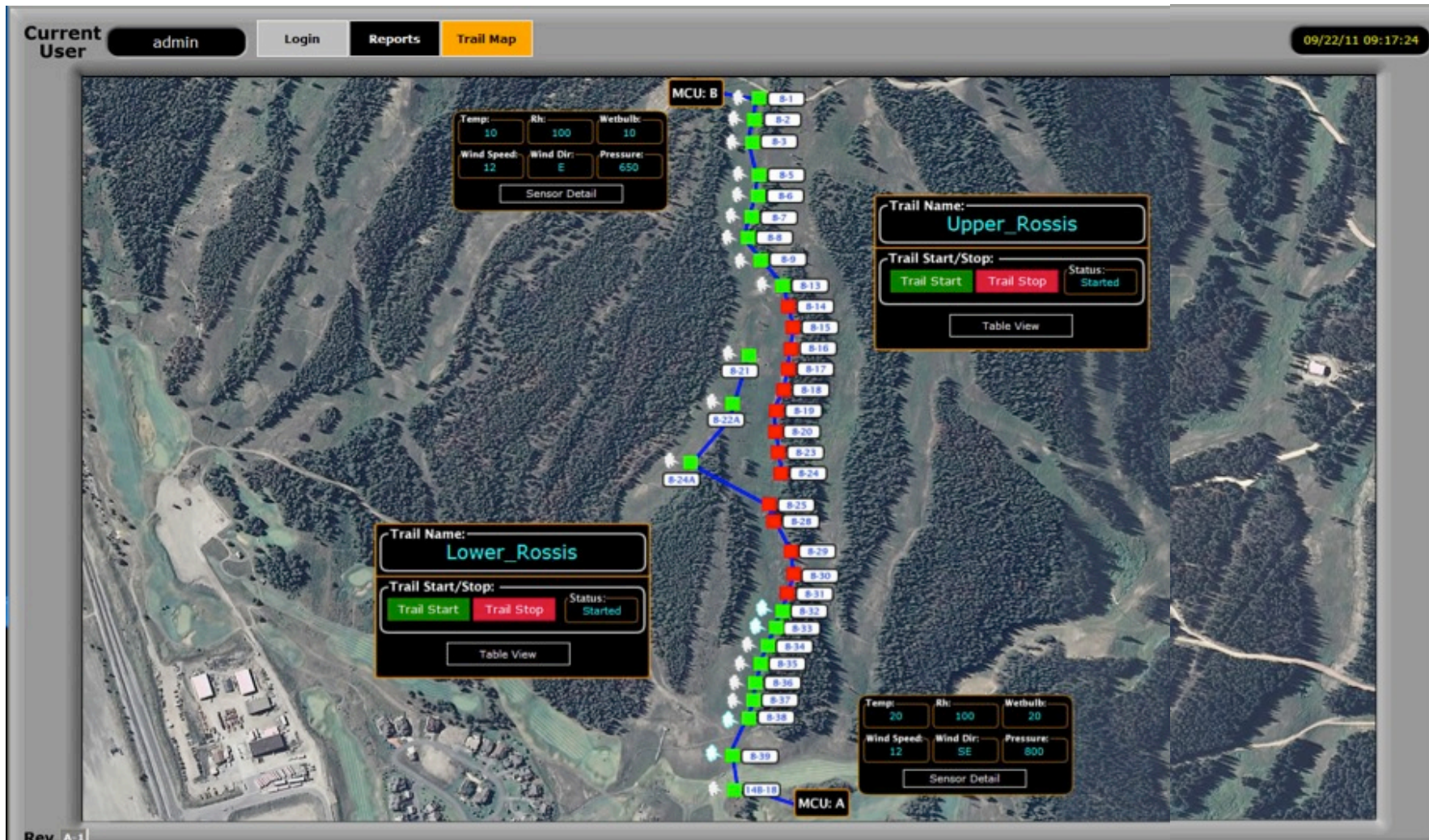
Copper Mountain

- Only early season, full length downhill training run in the world.
- Nearly 2 miles long with 2,500' of vertical drop.
- 100 acre feet of snow needed.
 - *40 football fields covered with 2 feet of snow*
 - *18 Million gallons of water*
- Limited snowmaking temps before Thanksgiving.
- Annual opening date of November 1st.

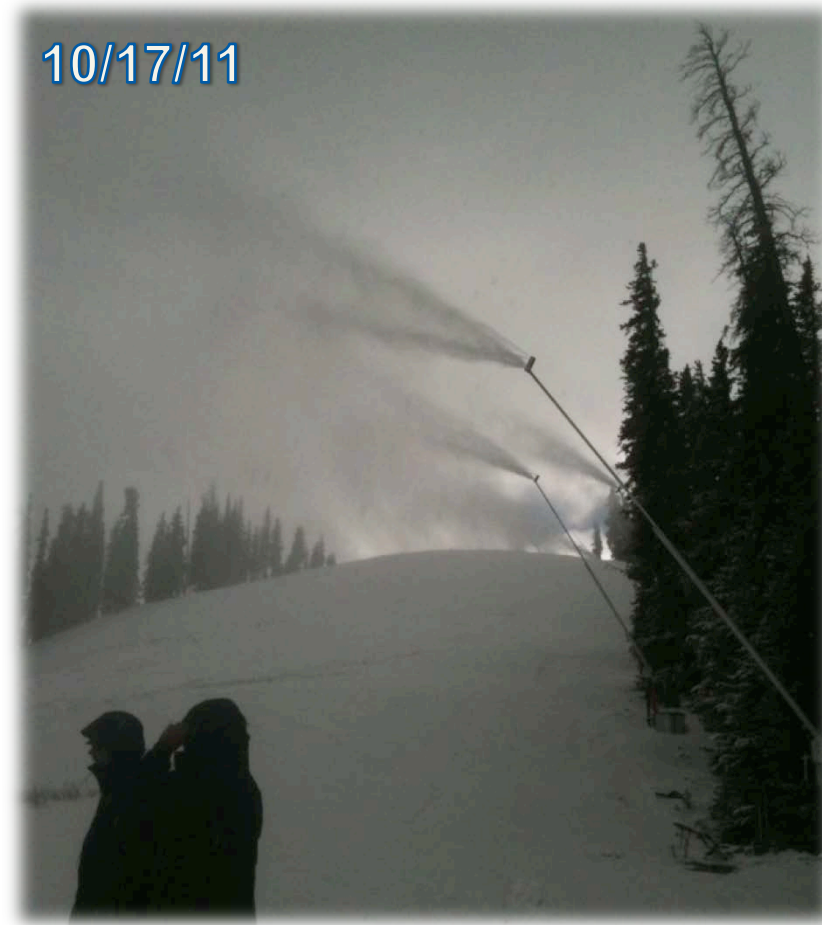
Copper Mountain, CO

Trail Stats:

2,500' Vertical – Top elevation 12,100' (87) Automated Snowguns
(4) Weather Stations Opening Date: Early November



U.S. Ski Team Speed Center -Copper Mountain-



Mission Accomplished



Burke, VT



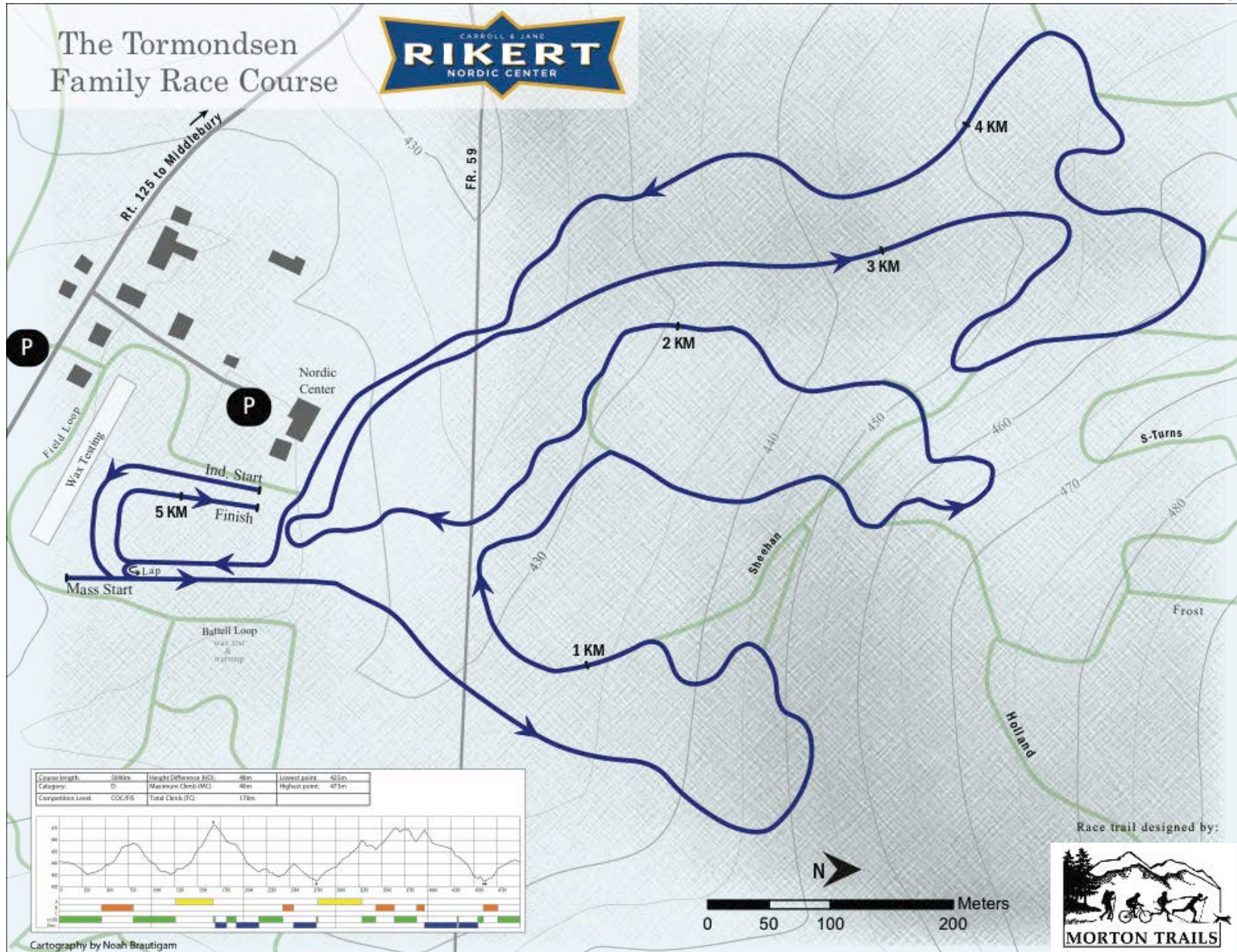
(25) Impulse Towers
(1) Fan gun

Nordic Solutions

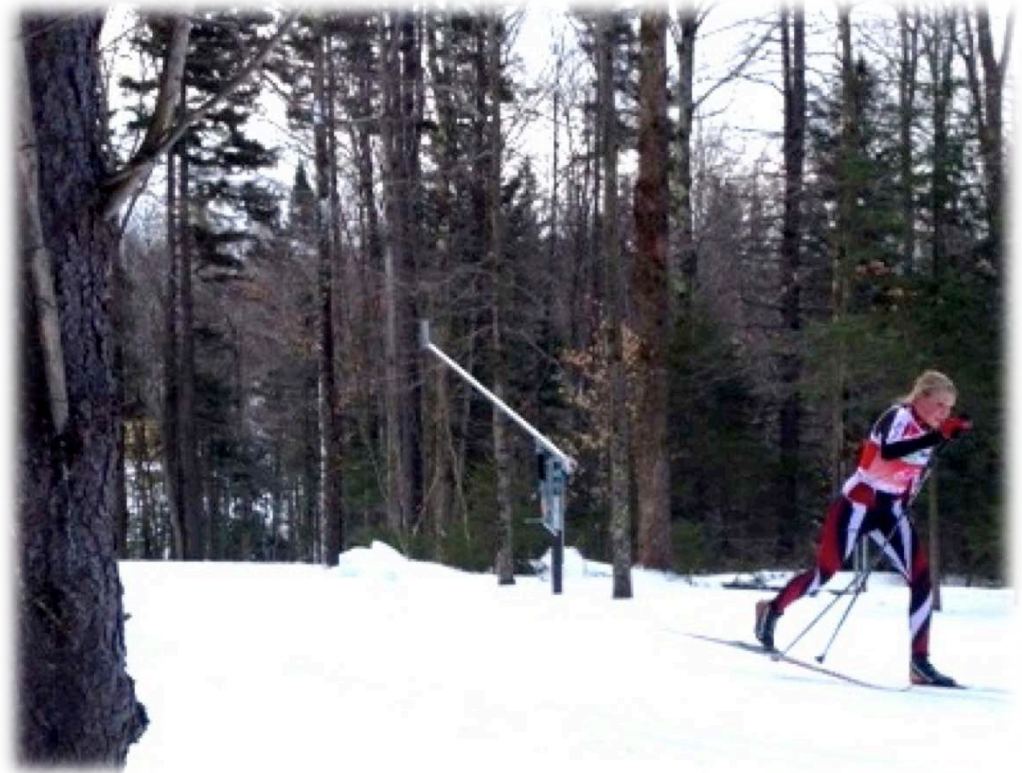
- Top 3 Priorities: “Water, water, water”
- The majority of your capital cost is in pumping, compressors, electric, and pipe.
- Strategic pipe placement is key to effect maximum terrain.



Rikert, VT



Rikert, VT



Summary Comments

- Work in Partnership with Ski Area; open communication
- Understand their available resources and need to serve the general public
- If possible structure agreement with clear expectations and goals for training location and timing
- Add value wherever possible – Capital (snowmaking equipment), Labor, Marketing, Promote home ski area, etc.

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