



DENTON HILL STATE PARK

Photo by Curt Weinhold

MASTER PLAN

May 2018



pennsylvania

DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

LABELLA
Associates

Engineering
Architecture
Environmental
Planning

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PLANNING TEAM

- LaBella Associates
Jamestown, New York
Architecture
Mechanical/Electrical/Civil Engineering
- Moore Design Associates
Mars, PA
Site Design Connectivity Planning
- SE Group
Burlington, VT
Mountain Recreation Planning
- Stevens Engineering
New London, NH
Ski Lift Engineering
- Sno.Matic Controls
Lyme, NH
Snowmaking Engineering
- Crawford Consulting Services
Pittsburgh, PA
Cost Estimating

DCNR TEAM

- John Hallas Director, Bureau of State Parks
- Kevin Fazzini Assistant Director, Bureau of State Parks
- Matt Azeles Chief, Resources Management and Planning Division, BSP
- Paul Zeph Chief, Planning Section, Bureau of State Parks
- Rex Lord Chief, Park Operations and Maintenance Division, BSP
- Judy Deiter Chief, Program Services Section, BSP
- Alan Lichtenwalner Regional Park Manager, Region 1
- Jim Juran Assistant Regional Manager, Region 1
- Ben Stone Park Operations Manager, Denton Hill State Park

DCNR TEAM

- Scott Morgan Assistant Park Manager, Denton Hill State Park
- Tamara Pepper Communications Liaison, Bureau of State Parks
- Thomas Albert Chief, Division of Field Engineering and Contract Management
- Gene Strick FDC Regional Engineer, Northcentral Region
- Meredith Hill Director, Pennsylvania Wilds
- Ta Enos Executive Director, PA Wilds Center
- Chris Nicholas Susquehannock District Forester, Bureau of Forestry
- Josh Roth Director, PA Lumber Museum

We are grateful for the participation of stakeholders, skiers, area residents, elected officials, business owners and all who provided ideas which helped shape this Master Plan.

INITIAL PROJECT PARAMETERS

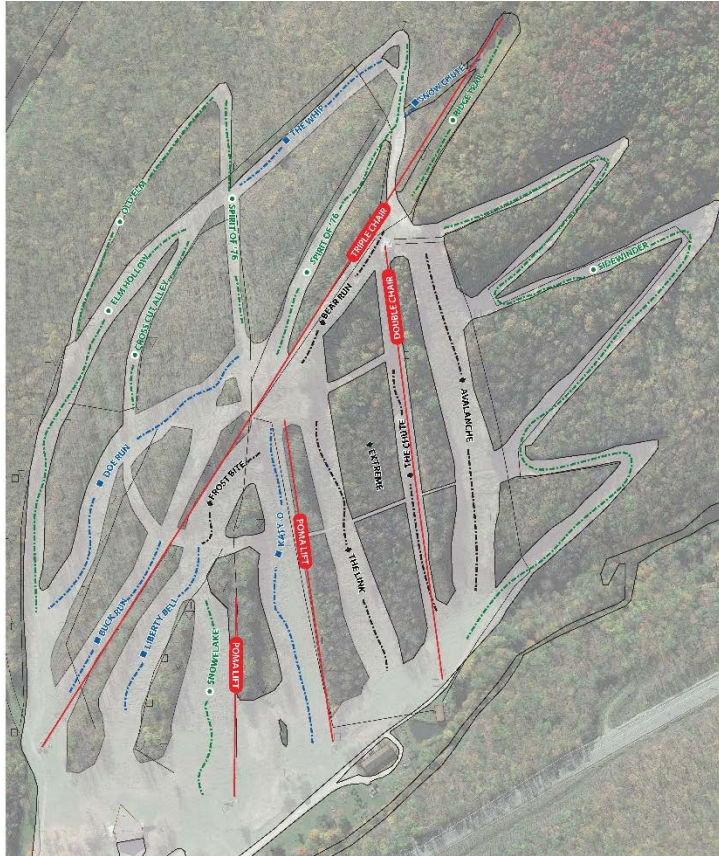
- Develop an efficient/sustainable infrastructure that will promote use and growth over generations
- Develop a viable operation for the Concessionaire
- Provide infrastructure for a four season destination and flexible open space for the Concessionaire to plan Summer Events, e.g. Archery Competition

INITIAL PROJECT PARAMETERS

- Provide improved sense of arrival at Site and Adventure Center emphasizing sustainability and maintainability
- Due to iconic visual character of Adventure Center rehabilitate/expand rather than replace
- Upgrade the Cabin Colony's site

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- 4 existing lifts: Triple Chair, Double Chair and two Poma surface lifts
- Use Triple Chair first to access western runs (or walk/skate to Double Chair)
- Base Lodge not easily accessible from outer runs
- Teaching lift difficult for first-timers

EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



REGIONAL CONNECTIVITY PLANNING

- Information and visitor orientation kiosk located near Adventure Center entrance to promote other local regional assets and events
- Interpretive signage may be incorporated into kiosk or as stand-alone feature

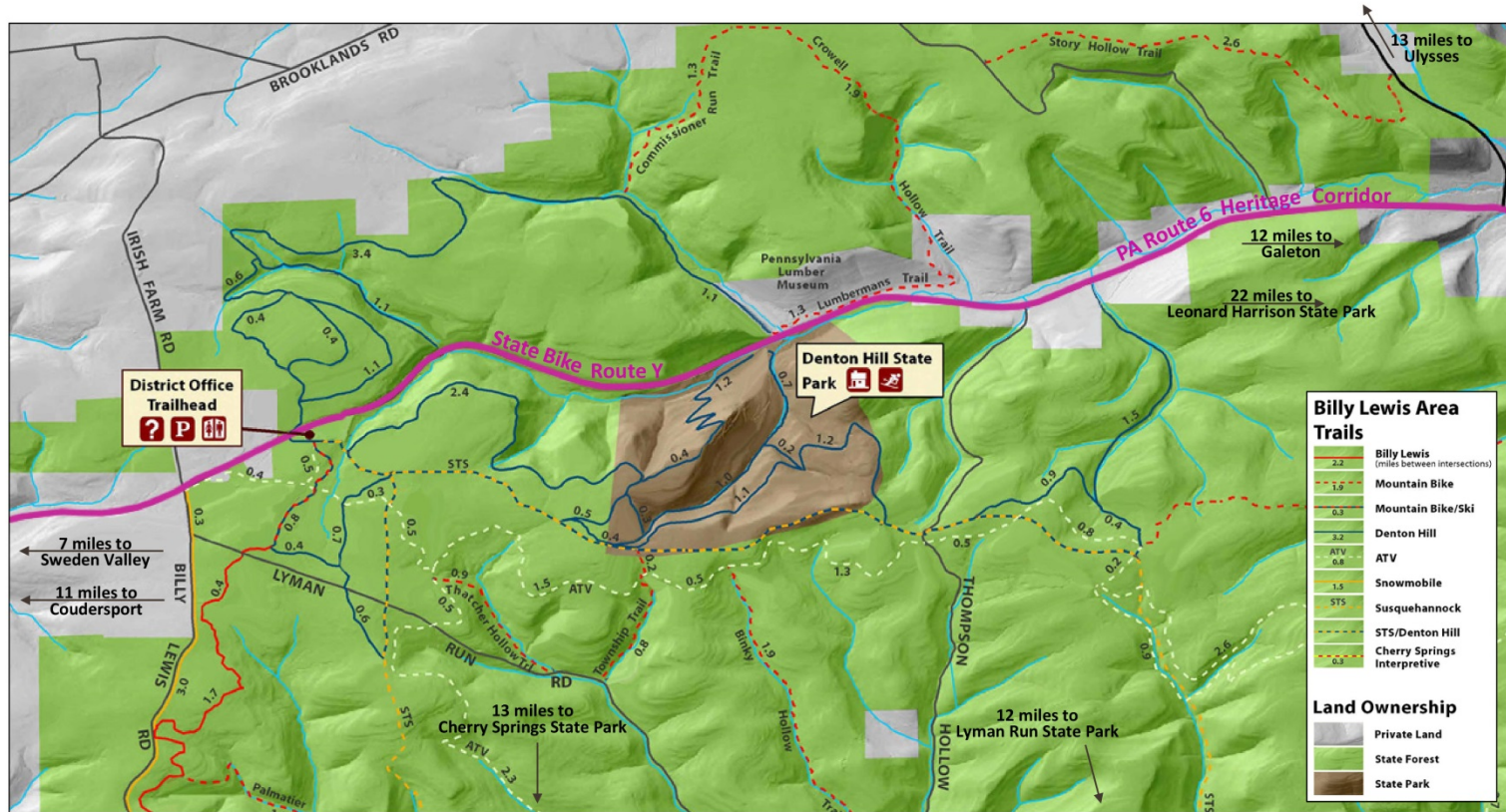


Example of information and visitor orientation kiosk



Example of stand-alone interpretive sign

REGIONAL CONNECTIVITY PLANNING

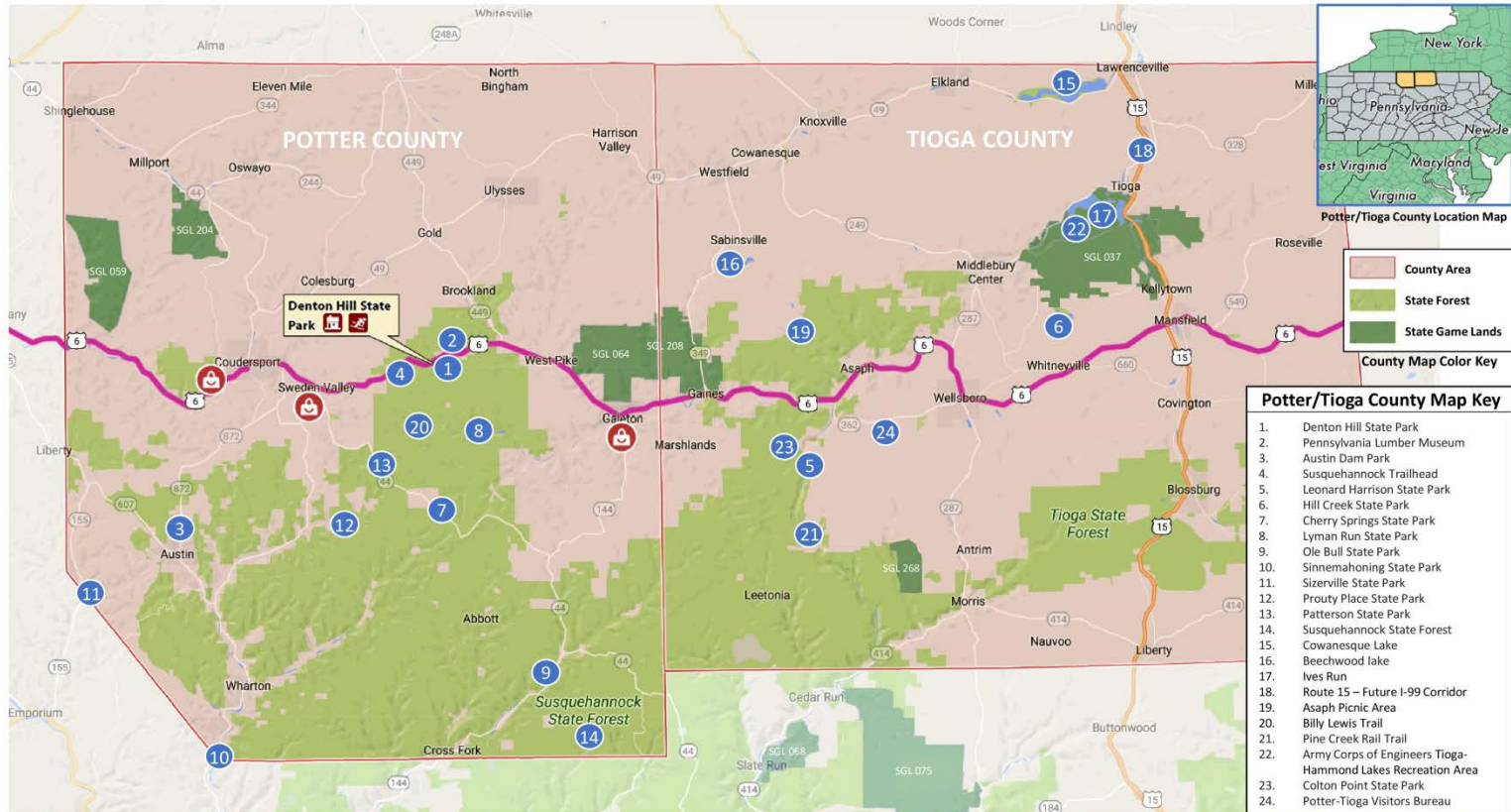


* Approximate mileages shown are from Denton Hill State Park
* Facilities shown are Public Assets

DENTON HILL STATE PARK – ADJACENCIES MAP

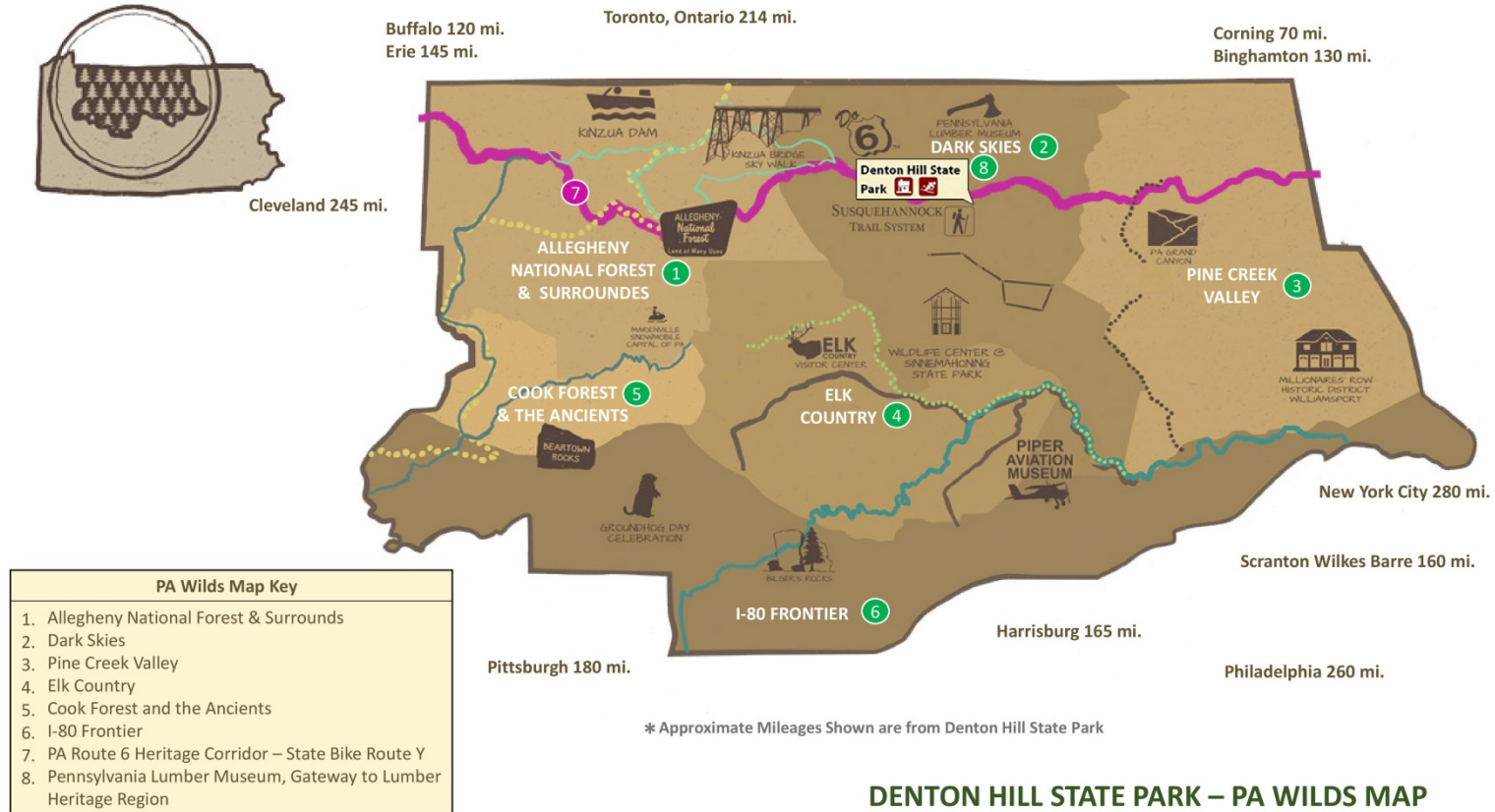
The complete Billy Lewis Trail Map and Susquehannock Trail Map can be found in the Appendices

REGIONAL CONNECTIVITY PLANNING

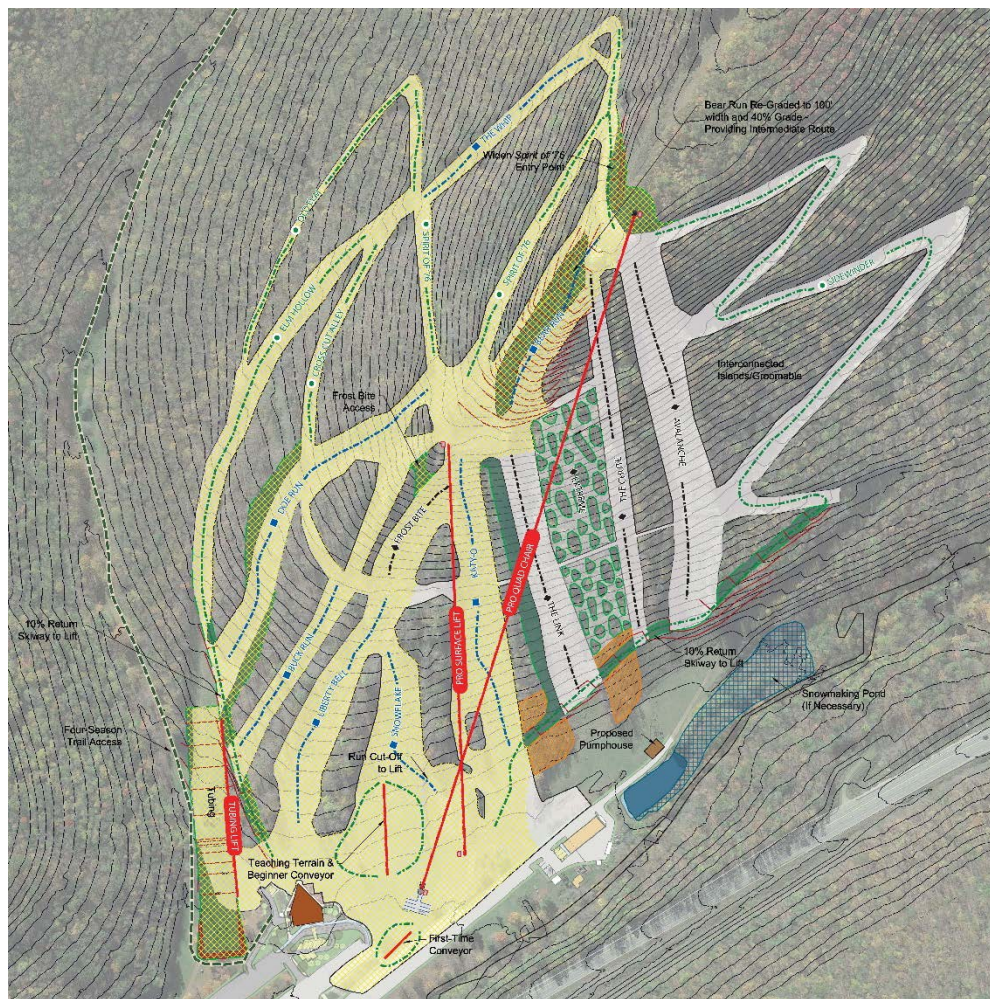


DENTON HILL STATE PARK – POTTER/TIOGA COUNTY MAP

REGIONAL CONNECTIVITY PLANNING





100



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LEGEND

-  **Proposed Lift**
-  **Run w\Proposed Night Skiing**
-  **Proposed Run Improvements/Clearing**
-  **Potential Aerial Adventure Course**

NOTE:
Tubing location is preliminary, and must be confirmed by a tubing specialist prior to implementation. Specifics of the tubing hill design will be developed by a tubing specialist as part of a subsequent design exercise.



10 ft. contour interval
Graphic Scale



A horizontal graphic scale bar with tick marks at 0, 50, 100, 200, and 300 feet.

MOUNTAIN RECREATION PLAN

PROPOSED CONCEPT

EXISTING (PREVIOUS OPERATION)

HOURLY CAPACITY

5,400

4,120

COMFORTABLE CARRYING CAPACITY (CCC)

±1,000 (980)

±800

LIFT EXPERIENCE

New fixed-grip Quad Chair
Proposed Surface Lift
New First Timer Conveyor
Beginner Conveyor

Triple Chair (with mid-unload)
Double Chair
Poma Lift (mid-mountain)
Poma Lift (beginner area)

LIFE EXPECTANCY OF LIFTS

35 Years (new lift)

25 Years (refurbished lifts)

OPERATIONAL EFFICIENCY

Significantly better than previous operation

Higher labor + maintenance costs (two chairlifts)

MOUNTAIN RECREATION PLAN

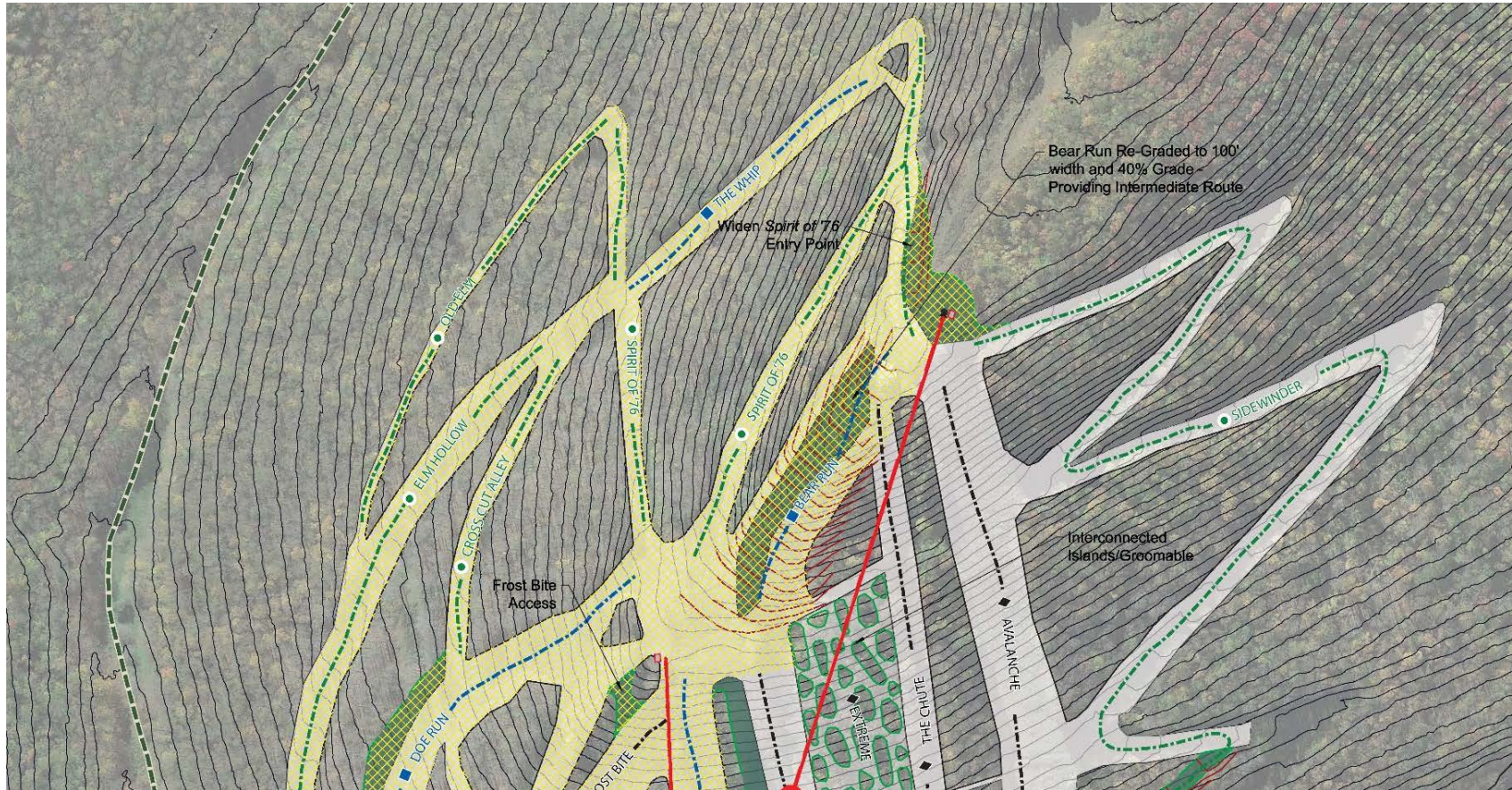
PROPOSED CONCEPT

EXISTING (PREVIOUS OPERATION)

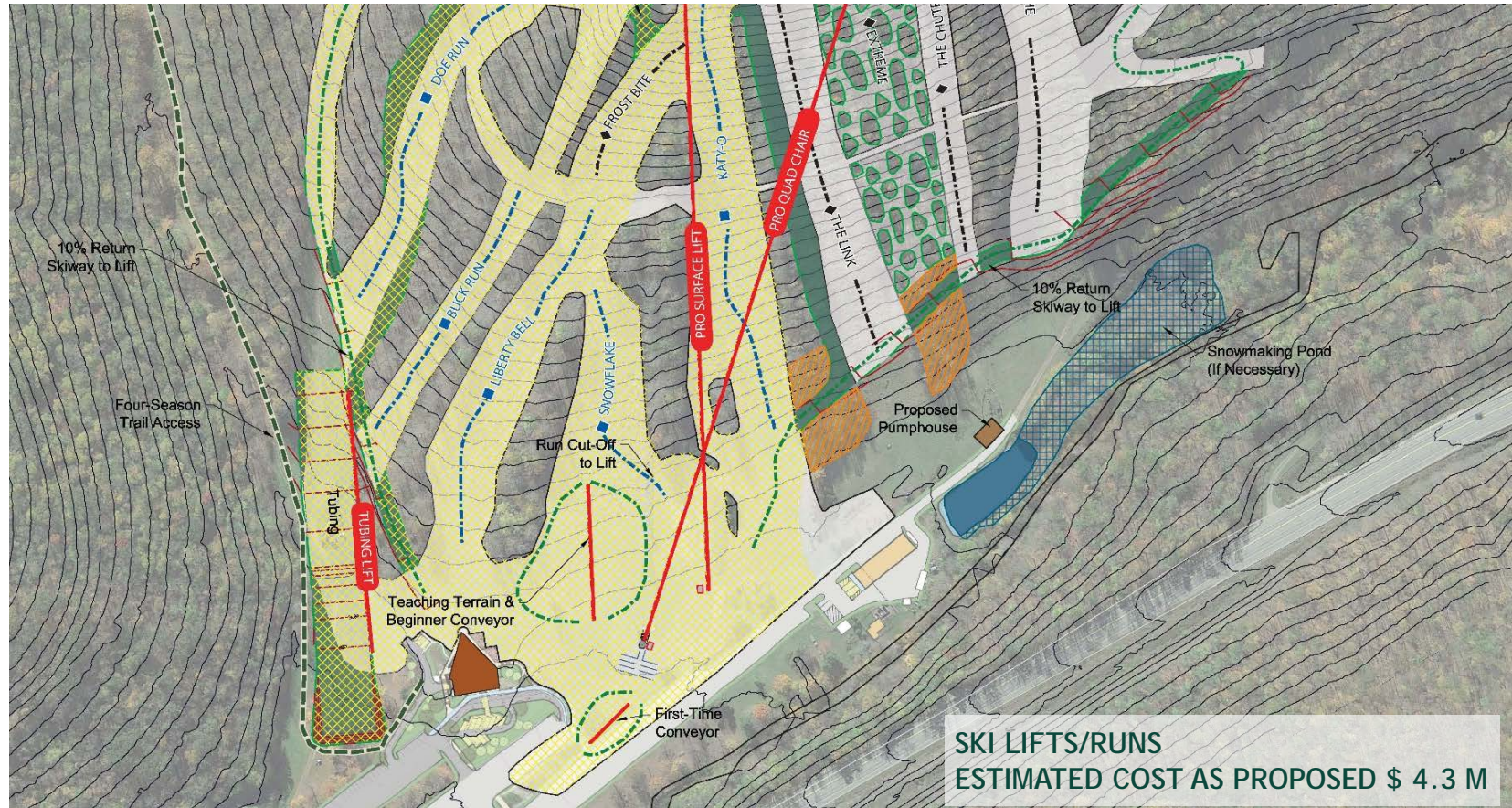
SKI EXPERIENCE

- | | |
|--|--|
| <ul style="list-style-type: none">• One lift access to all terrain and “top-to-bottom” skiing• Easy ski back to lodge• Variety of teaching terrain• Tubing is adjacent to lodge | <ul style="list-style-type: none">• Two lift access to all terrain and “top-to-bottom” skiing• Long flat snow front• Variety of teaching terrain - Poma lift challenging for first timers• Tubing without lift access |
|--|--|

MOUNTAIN RECREATION PLAN

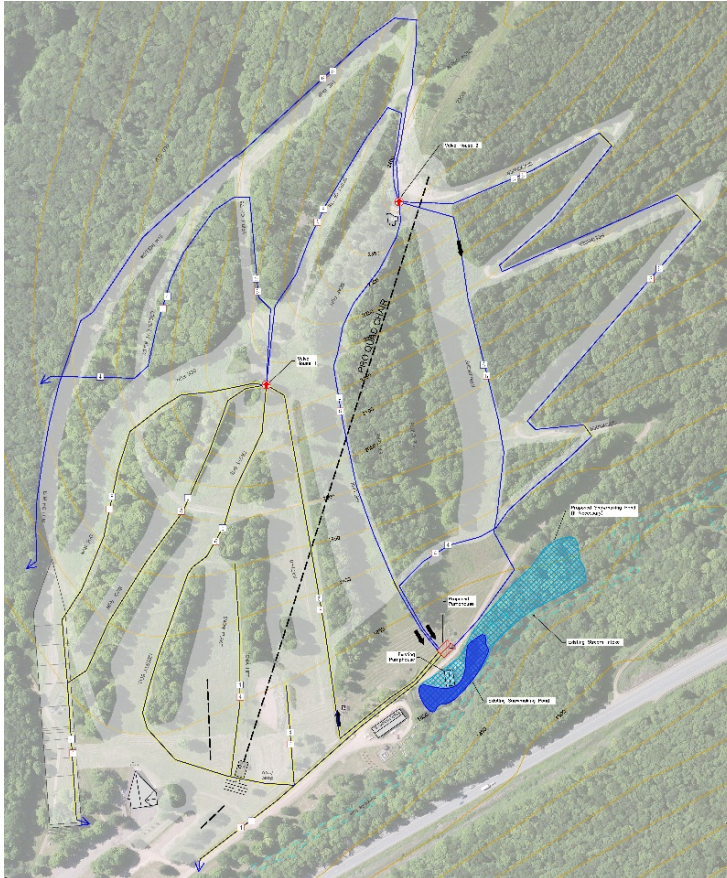


MOUNTAIN RECREATION PLAN



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- NOTES / LEGEND

 Proposed Surface Snowmaking Pipe
 Proposed Frost Free Snowmaking Pipe

SKI SNOWMAKING
ESTIMATED COST AS PROPOSED \$ 7.8 M



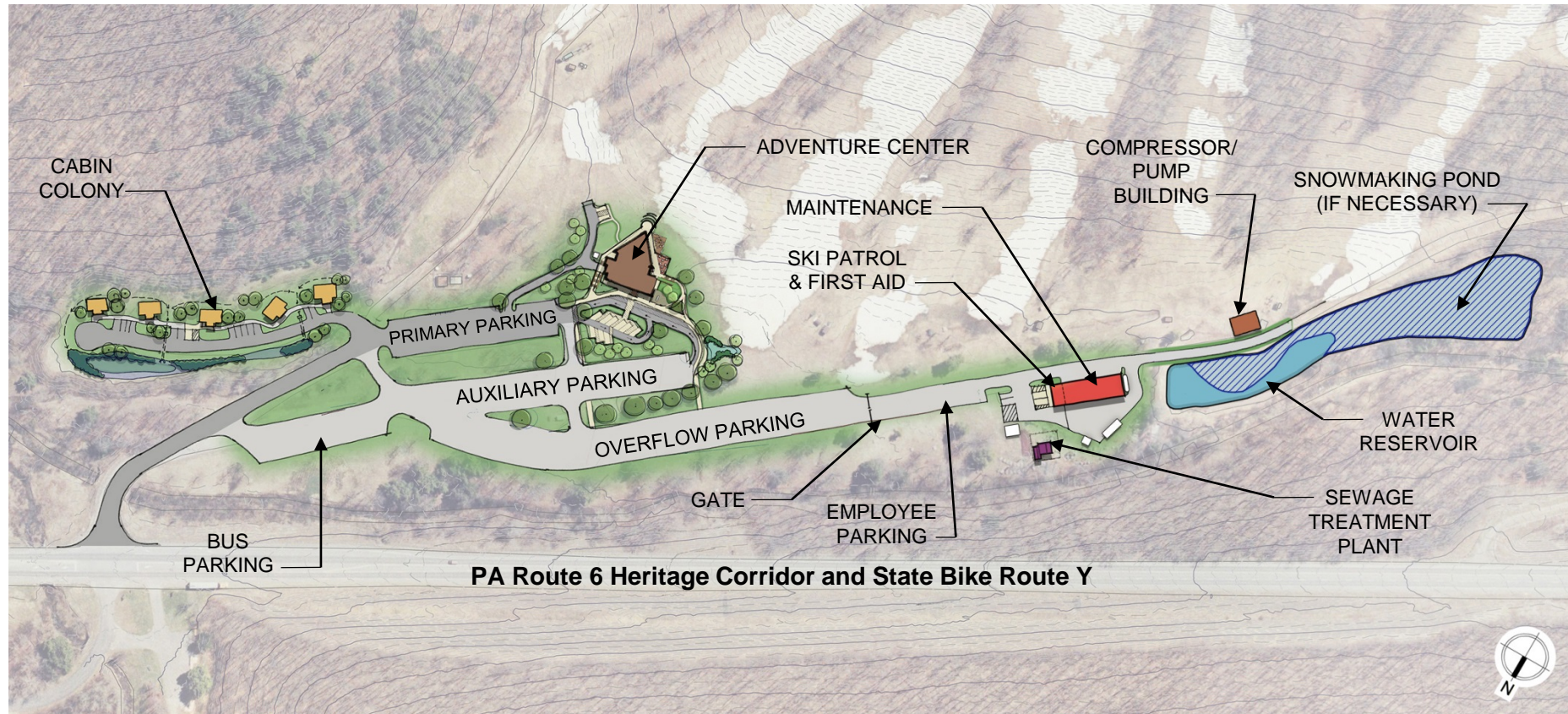
MOUNTAIN RECREATION PLAN

4 SEASON ACTIVITIES

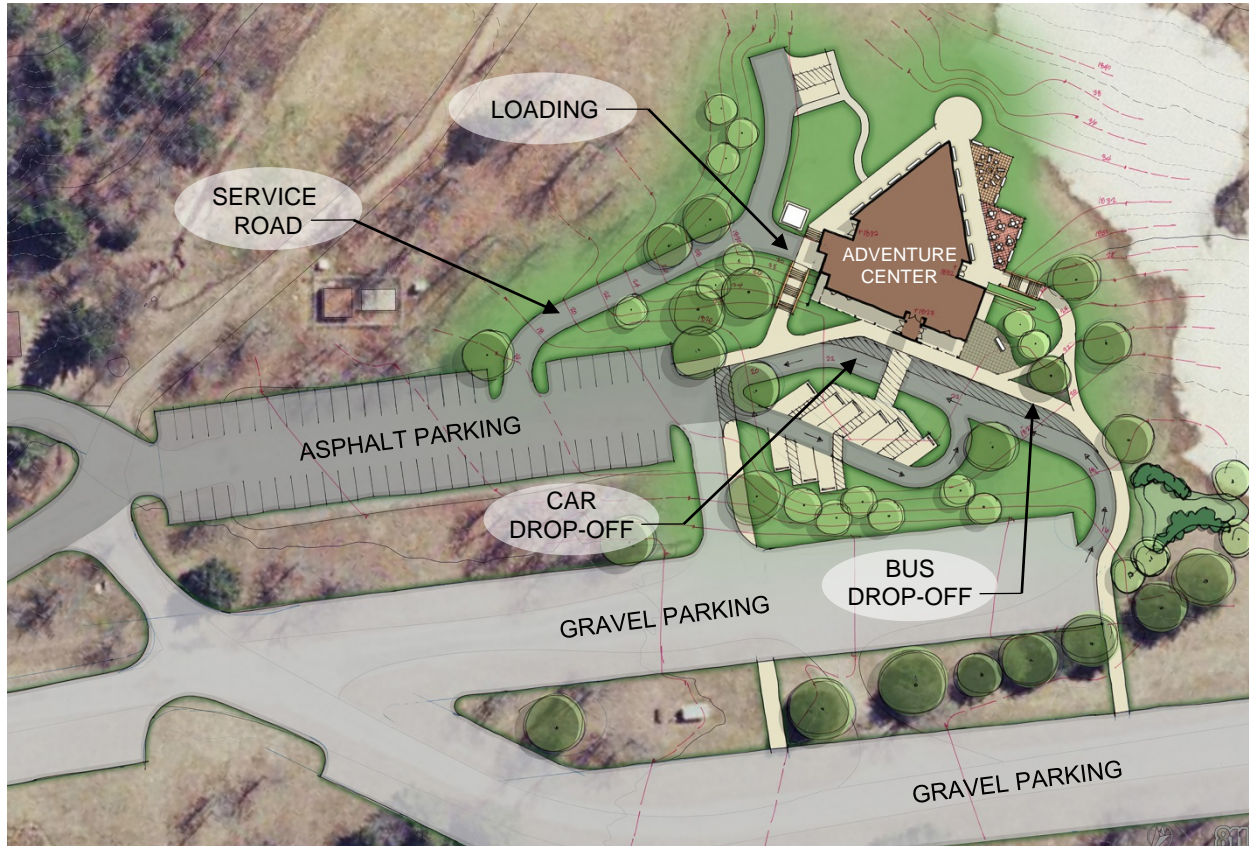
- Events and festivals
- Aerial adventure course
- Multi-use trail connectivity



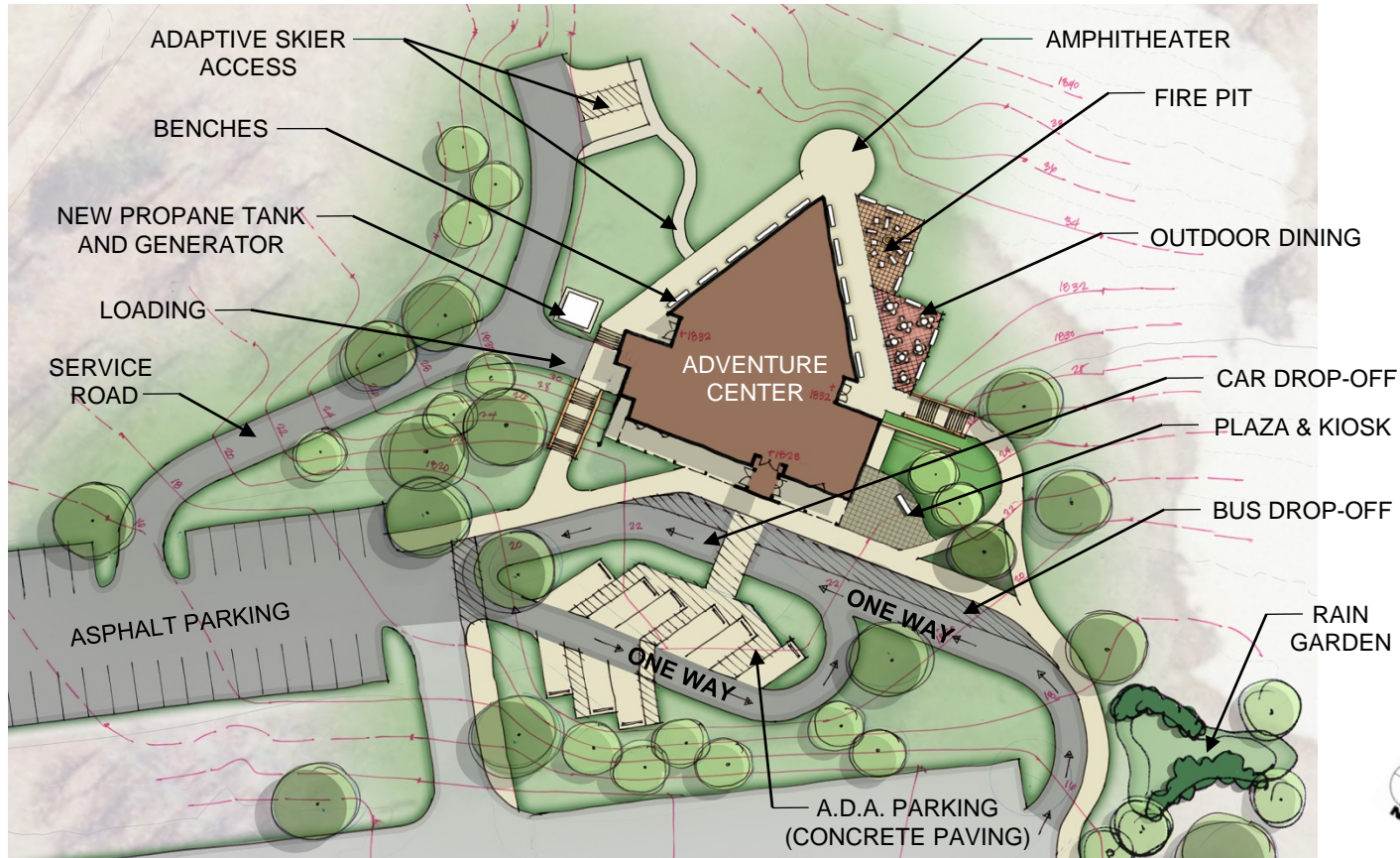
SITE - MASTER PLAN



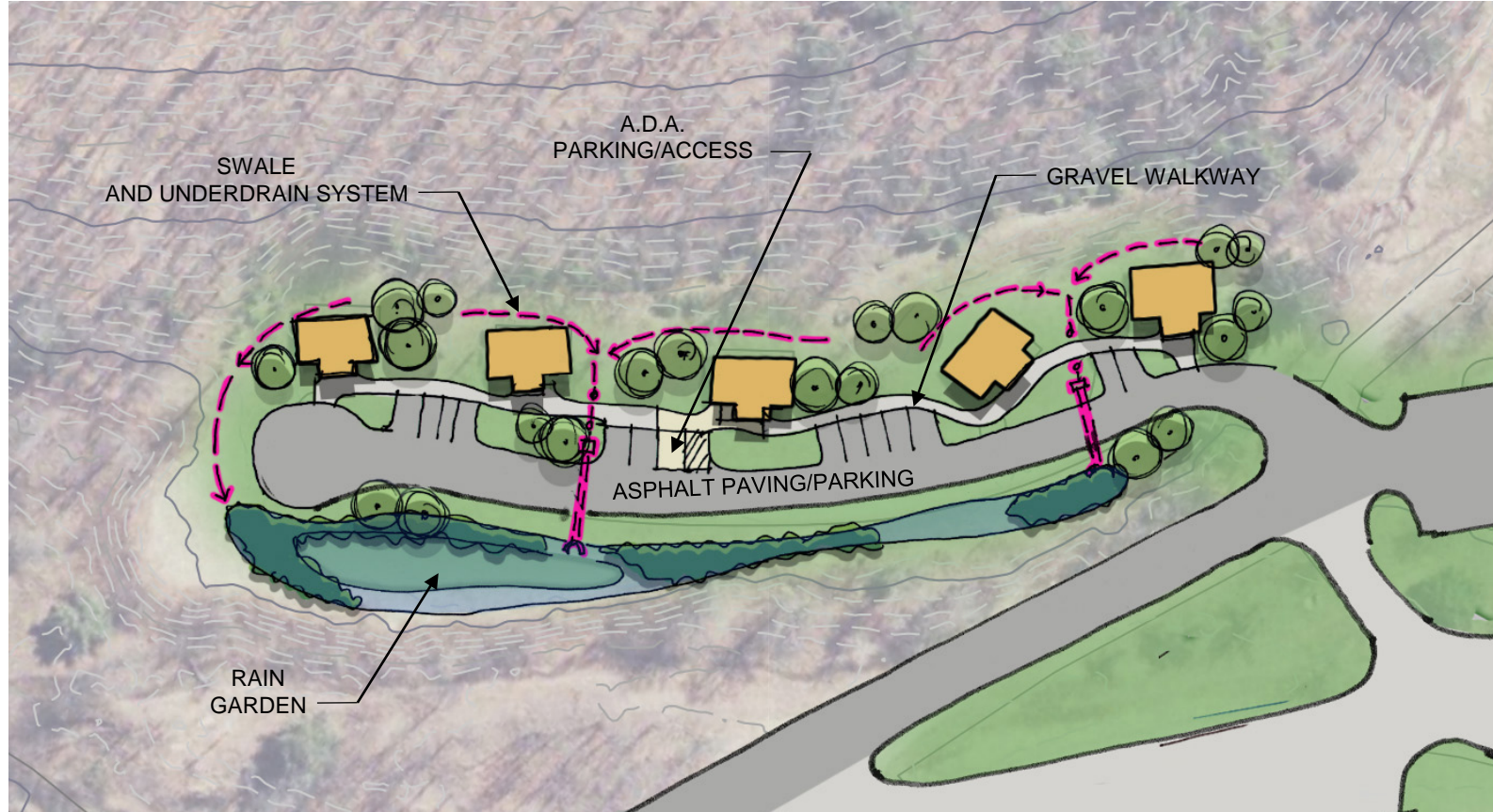
SITE - MASTER PLAN



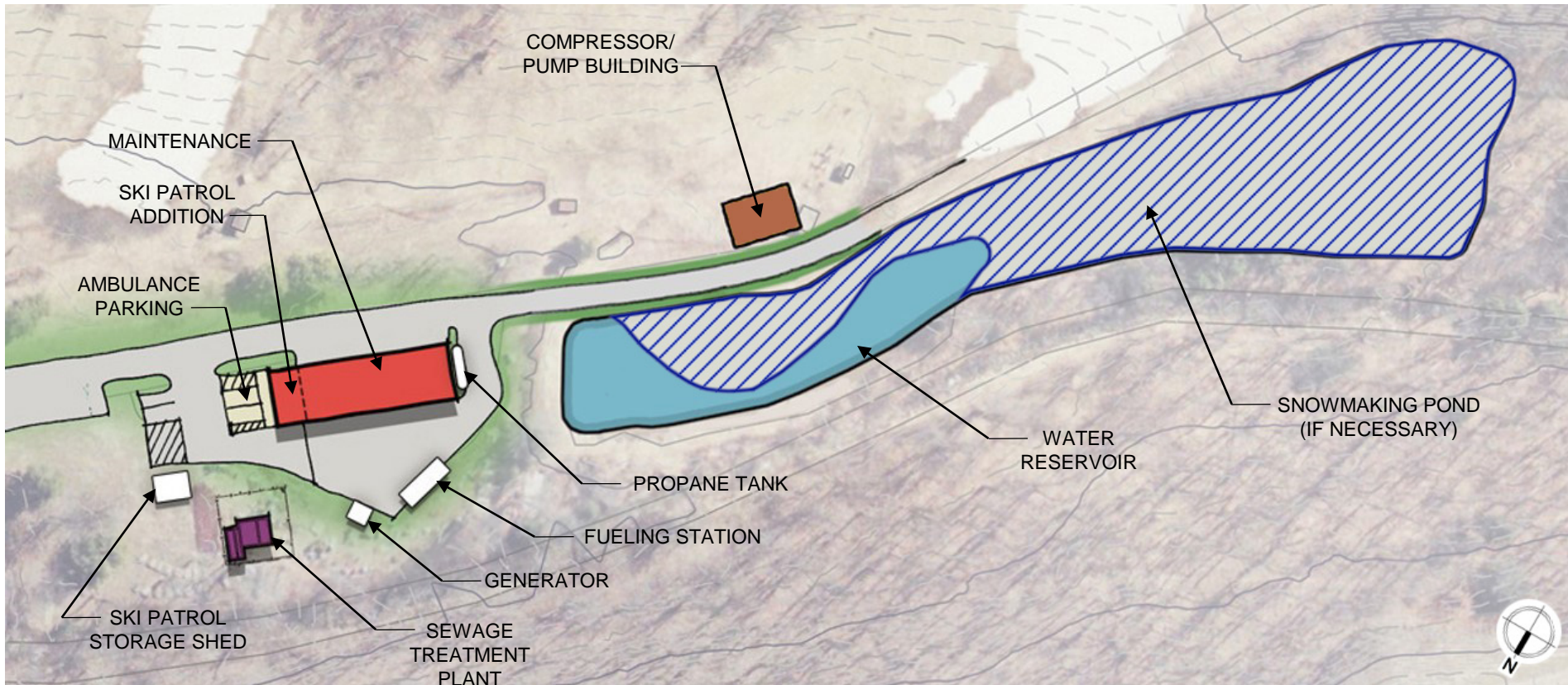
SITE - ADVENTURE CENTER FUNCTIONALITY



SITE - CABIN COLONY



SITE - SUPPORT AREA



SITE- WAYFINDING MAP

WAYFINDING LEGEND

- ① Denton Hill Ski Area Monument Sign
 - ② → Bus Drop off , Ski Patrol, First Aid ↑ Main Parking + Ski Drop Off
 - ③ ↑ Bus Drop off
 - ④ ← Bus Parking
 - ⑤ ↑ Adaptive Skier Access
 - ⑥ ← Cabin Colony ↑ Adventure Center
 - ⑦ → First Aid → Ski Patrol
 - ⑧ No Public Access Beyond This point
- A Do Not Enter
 - B Stop
 - C Busses Only



SITE- ENLARGED WAYFINDING MAP

WAYFINDING LEGEND

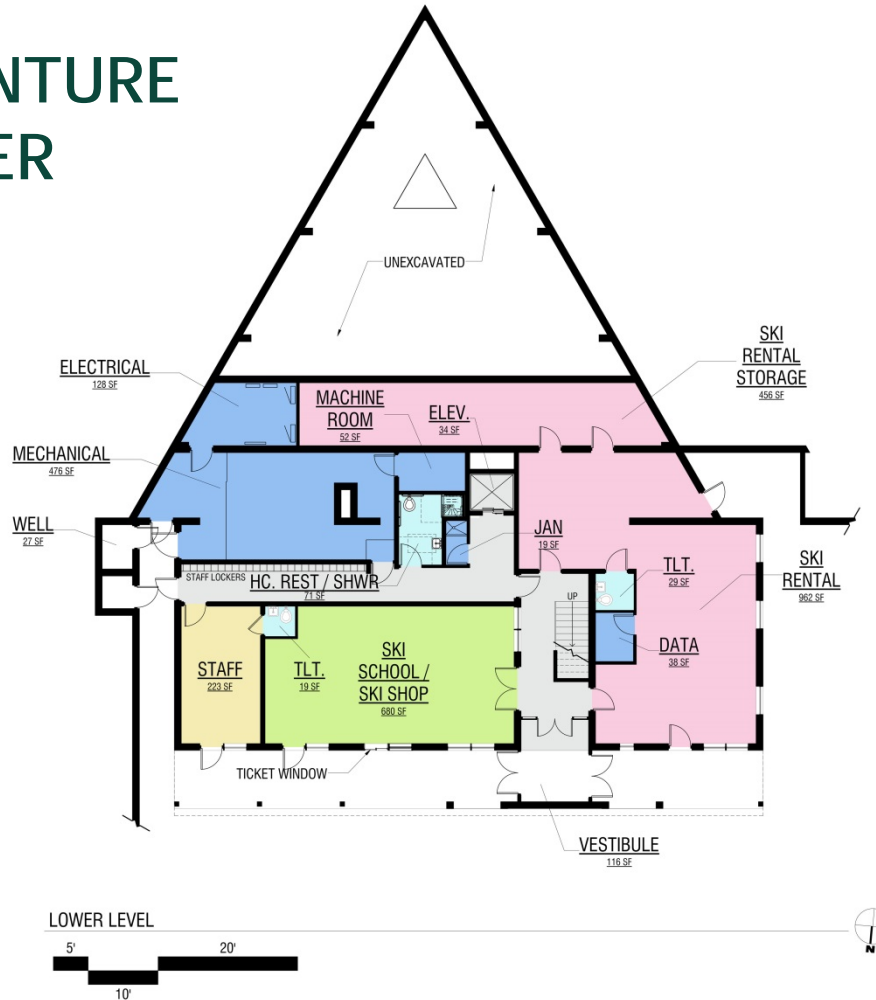
- ③ ↑ Bus Drop off
- ⑤ ↑ Adaptive Skier Access
- ⑥ ← Cabin Colony ↑ Adventure Center
- ⑨ Information and Visitor Orientation Kiosk
- ⑩ ADA Parking Signage
- ⑪ Slope Access
- Ⓐ Do Not Enter
- Ⓑ Stop
- Ⓒ Busses Only



Example of Information and Visitor Orientation Kiosk



ADVENTURE CENTER



LOWER LEVEL SCOPE OF WORK:

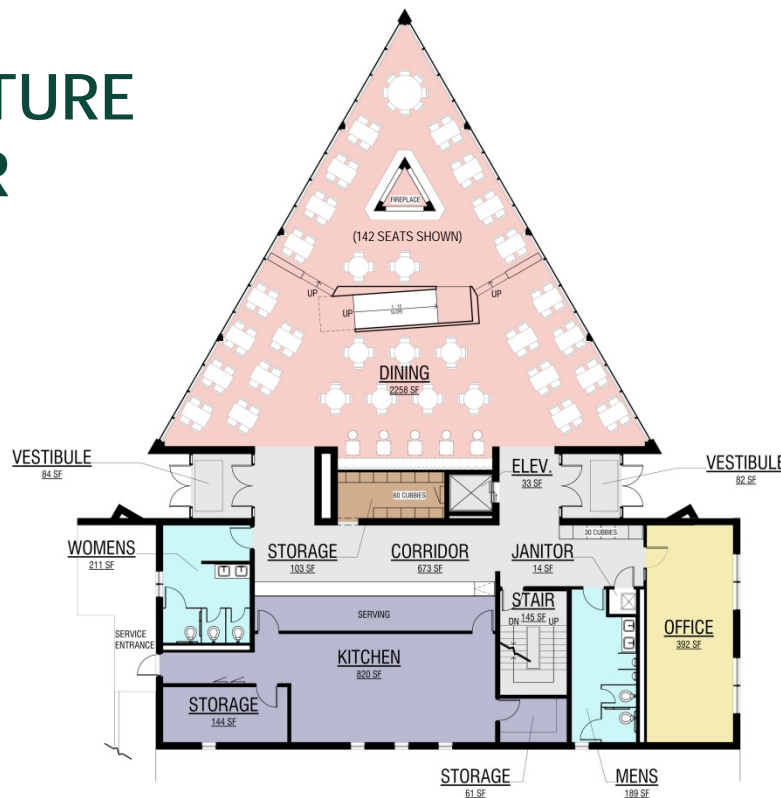
- NEW WINDOWS AND DOORS
- NEW FLOOR, CEILING AND WALL FINISHES
- NEW LIGHTING/POWER/FIRE ALARM SYSTEM AND HVAC
- NEW BOILERS, ELECTRIC SERVICE AND GENERATOR
- NEW FURNISHINGS AND CASEWORK
- NEW ELEVATOR MACHINE, DATA & ELECTRICAL ROOMS
- ADA COMPLIANT RESTROOM AND SHOWER
- NEW ENTRY VESTIBULE/CANOPY ADDITION
- NEW STAFF BREAKROOM AND LOCKERS
- RAISE FLOOR OF MECHANICAL ROOM

ADVENTURE CENTER - MECH/ELEC

- Electrical systems are antiquated; Total replacement required
 - New service with capacity to handle A/C & additional load
 - New outdoor generator for emergency & building stand-by loads
 - Full coverage smoke detection & fire alarm to meet FP exemption
 - New electrical devices & LED lighting; high-abuse devices where prudent
- Mechanical / Plumbing / Fire Protection
 - Replace oil-fired boilers and domestic hot water heaters with new propane-fired equipment
 - New Propane tanks to building replacing heating oil
 - Provide outdoor air ventilation with an energy recovery unit
 - Replace terminal units, ductwork and pipe distribution systems
 - New plumbing flush and flow fixtures

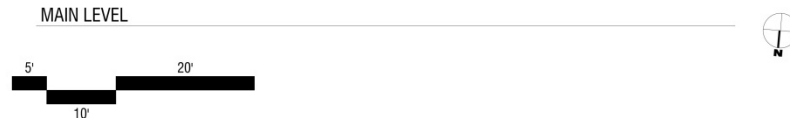


ADVENTURE CENTER

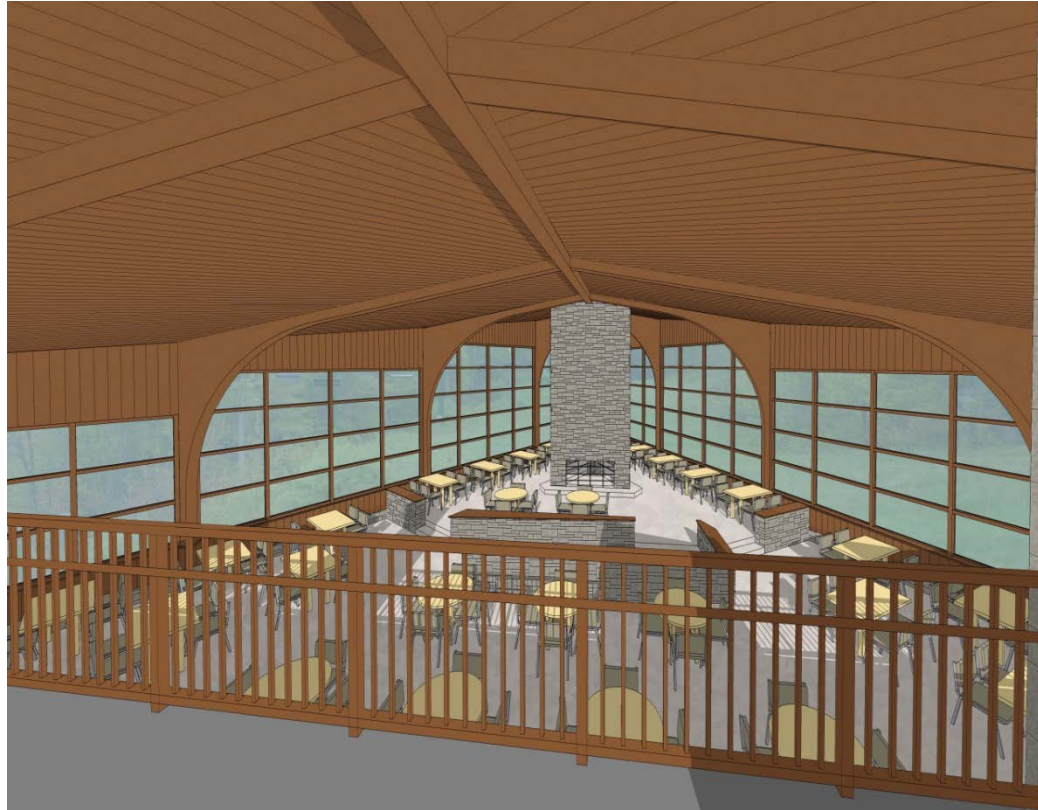


MAIN LEVEL SCOPE OF WORK:

- NEW WINDOWS AND DOORS
- NEW FLOOR, CEILING AND WALL FINISHES
- (EXISTING MAIN DINING FINISHES TO REMAIN)
- NEW LIGHTING/POWER/FIRE ALARM SYSTEM AND HVAC
- NEW FURNISHINGS AND CASEWORK
- NEW ADA RAMP BETWEEN DINING LEVELS
- RECONSTRUCTED ADA COMPLIANT RESTROOMS
- NEW OFFICE SPACE
- NEW ELEVATOR
- NEW STORAGE/CUBBY ROOM
- NEW CONCRETE PATIO
- NEW KITCHEN EQUIPMENT AND LAYOUT
- NEW KITCHEN HOOD WITH EXHAUST AND VENTILATION
- NEW STANDING SEAM METAL ROOF WITH INSULATION, FASCIA AND SOFFIT
- NEW EXTERIOR CLADDING AT MAIN DINING AREA

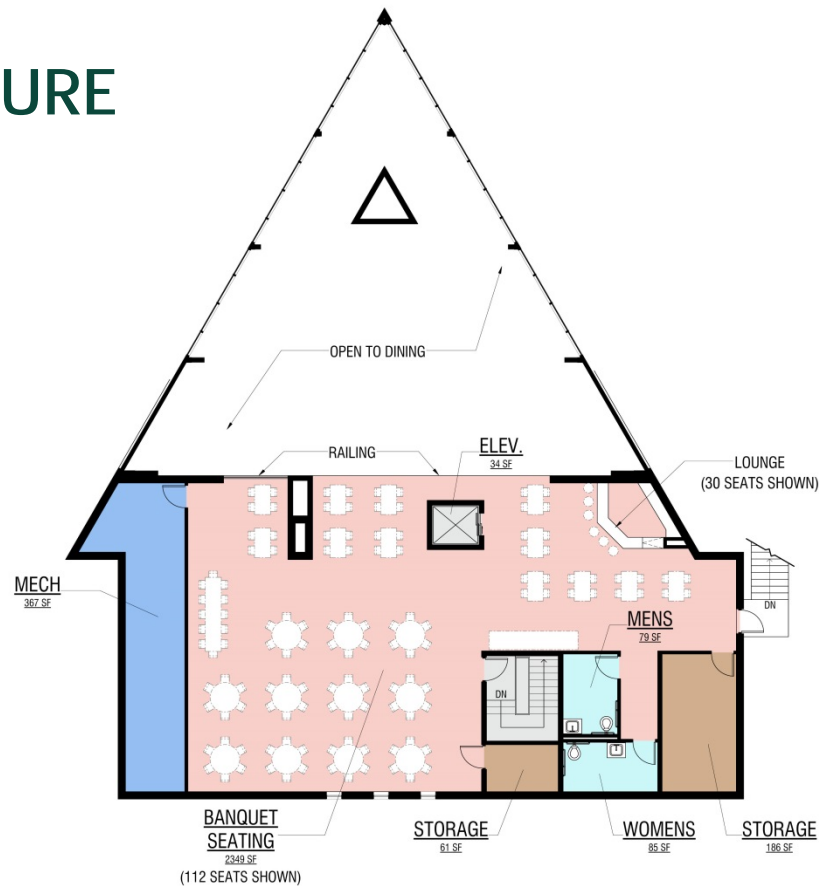


ADVENTURE CENTER



View from Upper Level overlooking Main Level

ADVENTURE CENTER



UPPER LEVEL

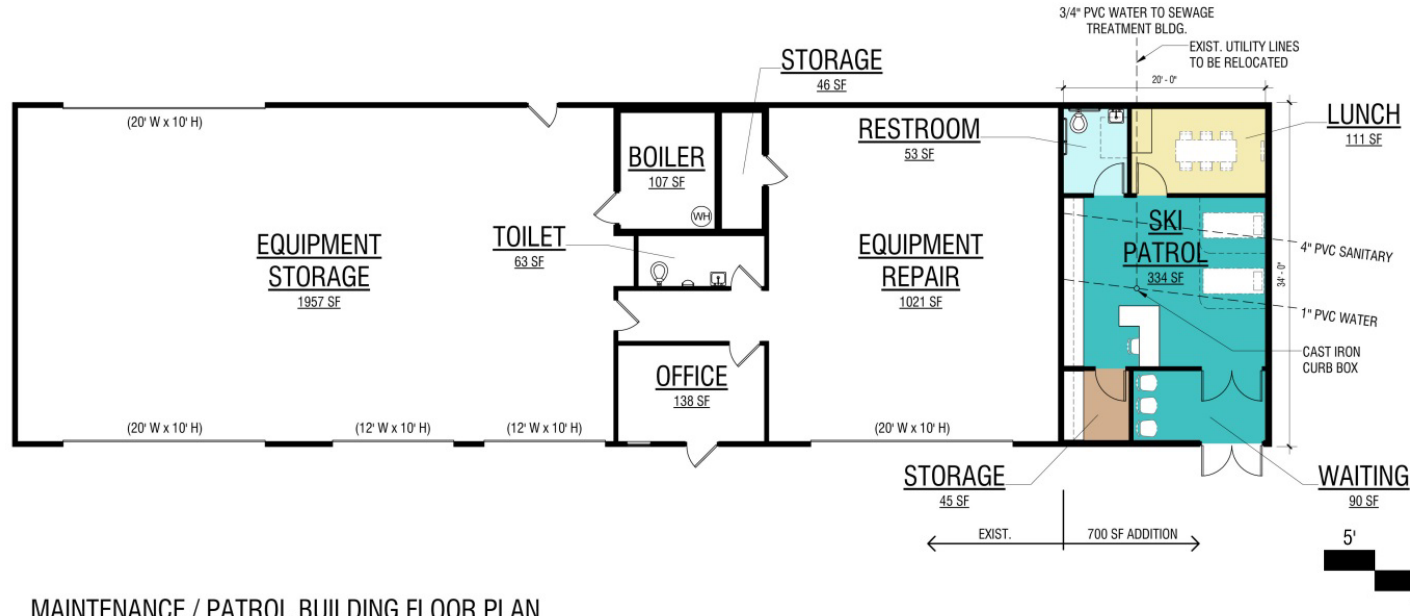


UPPER LEVEL SCOPE OF WORK:

- NEW WINDOWS AND DOORS
- NEW FLOOR, CEILING AND WALL FINISHES
- NEW LIGHTING/POWER/FIRE ALARM SYSTEM AND HVAC
- NEW FURNISHINGS AND CASEWORK
- NEW ADA COMPLIANT RESTROOMS
- NEW STORAGE AND MECHANICAL ROOMS
- NEW LOUNGE AREA
- OPENED VIEW TO MAIN DINING
- NEW ELEVATOR

ADVENTURE CENTER
ESTIMATED COST AS PROPOSED \$ 2.6 M

MAINTENANCE/PATROL BUILDING



MAINTENANCE / PATROL BUILDING FLOOR PLAN

MAINTENANCE/PATROL BUILDING SCOPE OF WORK:

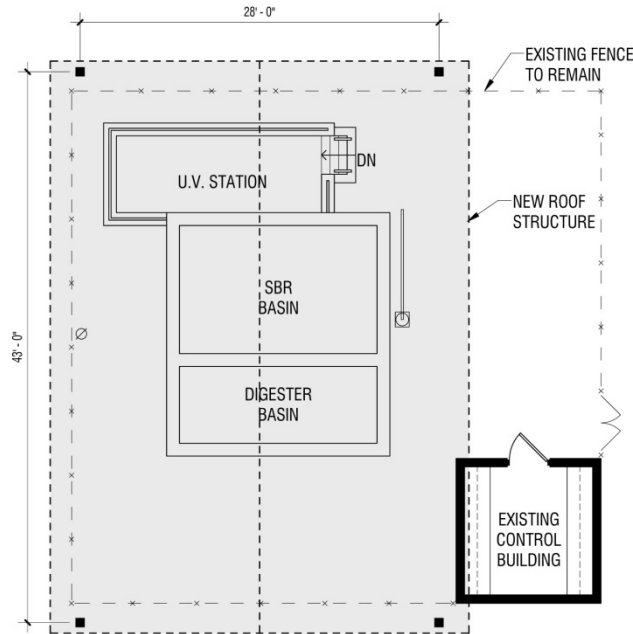
- NEW 700 S.F. SKI PATROL ADDITION WITH ADA COMPLIANT RESTROOM
- REPLACE LIGHTING WITH LED VAPORTIGHT FIXTURES
- REPLACE ELECTRICAL DEVICES
- REPLACE EXISTING FURNACE, DUCTWORK TO BE CLEANED
- REPLACE ORIGINAL PLUMBING FIXTURES
- REPLACE EXISTING SIDING THAT IS DAMAGED AND RE-STAIN/PAINT ALL EXISTING SIDING
- REPLACE ROOF WITH STANDING SEAM METAL ROOF
- NEW OUTDOOR GENERATOR TO SERVE MAINTENANCE/PATROL BUILDING AND WASTEWATER TREATMENT PLANT

MAINTENANCE/PATROL BUILDING- MECH/ELEC

- Electrical service & distribution in good condition; devices & lighting antiquated and in need of replacement
 - New electrical devices & LED lighting
 - New Generator
- Mechanical / Plumbing / Fire Protection
 - New furnace to heat building including new controls, flue venting, and fuel delivery
 - Ductwork distribution is in good condition
 - New plumbing, fixtures, and instantaneous water heater
 - New Fueling Station
 - New Propane service to building replacing heating oil



SEWAGE TREATMENT BUILDING



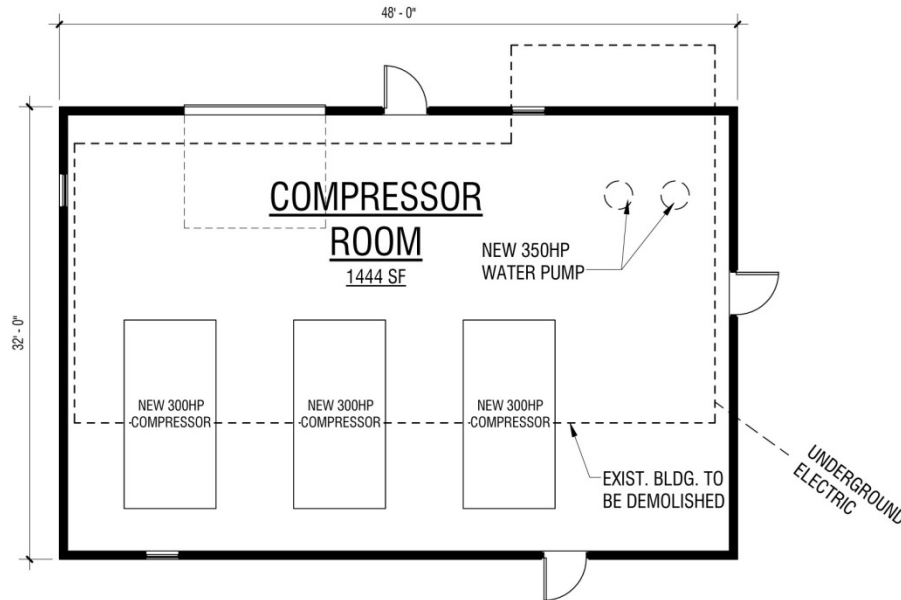
SEWAGE TREATMENT SCOPE OF WORK:

- NEW COVERED ROOF STRUCTURE WITH CONCRETE FOUNDATION, STEEL COLUMNS, WOOD TRUSSES, STANDING SEAM METAL ROOF AND VAPOR TIGHT LED LIGHTING.
- REMOVE EXISTING WOOD POWER POLE AND LIGHT
- ELECTRICAL SYSTEMS IN EXCELLENT CONDITION
 - ADD LED LIGHTING IN ENCLOSURE; UTILIZE FULL-CUTOFF WHERE SPILL LIGHT IS POSSIBLE
 - ADD OUTDOOR GENERATOR & TRANSFER SWITCH WITH CAPACITY TO RUN BUILDING

SEWAGE TREATMENT FLOOR PLAN



COMPRESSOR/PUMP BUILDING



COMPRESSOR / PUMP BUILDING FLOOR PLAN



COMPRESSOR/PUMP BUILDING SCOPE OF WORK:

- EXISTING BUILDING TO BE DEMOLISHED
- NEW 1,500 S.F. SLAB-ON-GRADE, CMU BLOCK BUILDING WITH INSULATION AND WOOD SIDING, WOOD TRUSSES AND STANDING SEAM METAL ROOF WITH INSULATION.
- NEW COMPRESSORS AND WATER PUMPS FOR SNOW MAKING EQUIPMENT
- NEW 480 VOLT, 3000 AMP ELECTRIC SERVICE
- NEW LED VAPOR TIGHT LIGHTING
- MINIMAL ELECTRIC HEAT TO PROTECT BUILDING
- VENTILATION TO REJECT HEAT FROM EQUIPMENT

SITE UTILITIES - WATER, SANITARY, DRAINAGE

LEGEND

- EXISTING SANITARY
- EXISTING STORM
- EXISTING WATER
- EXISTING FORCEMAIN

WATER SYSTEM IMPROVEMENTS
REPLACE EXISTING PIPING
NETWORK THROUGHOUT PARK
AND WATER STORAGE TANK

**PROPOSED TRENCH
DRAIN TO INTERCEPT
GROUNDWATER PRIOR
TO ADVENTURE CENTER**

**NEW PUMP STATION
CONTROL PANEL**

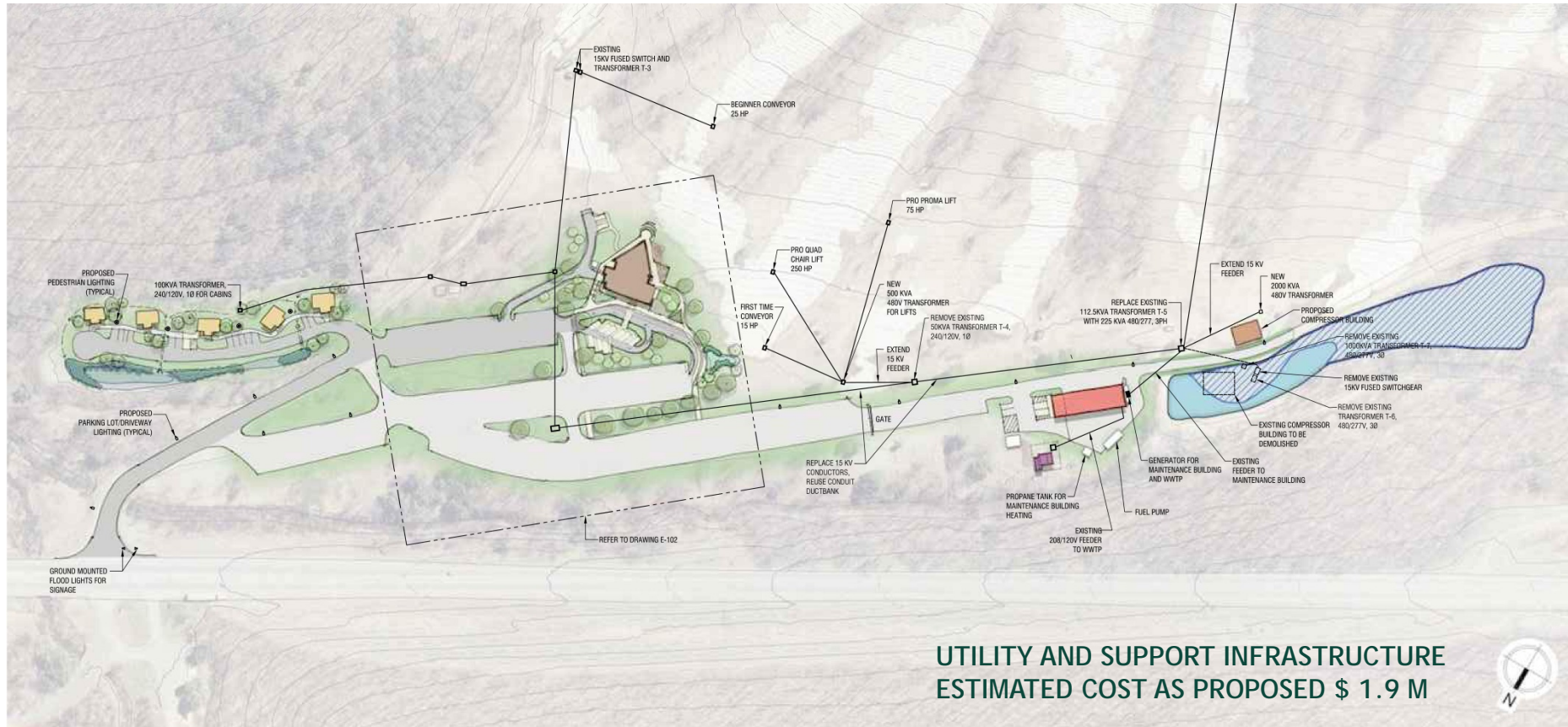
**ADJUST WATER SERVICE TO
MAINTENANCE BUILDING
FOR FUTURE ADDITION**

**CONNECT MAINTENANCE SEWER
DIRECTLY TO TREATMENT PLANT
INCLUDES PIPE ABANDONMENT AND
MANHOLE AT LODGE SANITARY SEWER**

FORCEMAIN FROM MUSEUM



SITE UTILITIES - ELECTRIC





DENTON HILL STATE PARK

Photo by Curt Weinhold

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