While each blast plan is tailored to meet the specific needs of a particular project, they all contain certain elements. Typically the general information provided will include the blasting contractor; the project blaster; locations of blasting; the duration of blasting operations; locations of offsite receptors; location of any nearby utilities; the drill hole pattern; the explosives and detonation systems to be employed; the proposed loading of the holes; the maximum weight of explosives to be detonated in any delay period; measures to be taken to minimize the offsite impacts of blasting; traffic control and warning signs; the sequence and type of blasting warning signals; location of seismographs to monitor blast induced vibrations; what, if any local permits are required; will pre-blast surveys be performed, and if so where; and other information as necessary.

In addition, prior to the commencement of blasting, a pre-blast meeting will be held with the blaster, project manager, and other interested parties.

A record of each blast will be made by the blaster, and a copy provided to and retained by the project, which contains at a minimum the following information:

- Name of the operator and/or contractor conducting the blast.
- The location, date and time of the blast.
- Name, signature and identification number of the blaster (certificate of competency number, as issued by the Department of Labor).
- Type of material to be blasted.
- Diagram of shot including number of holes, depth of holes, diameter of holes, burden, spacing, and face orientation.
- Location and distance of nearest non-company owned structure.
- A record of the shot including amount of subdrilling, decking, stemming height and type, quantity and type of explosive, quantity and type of detonator, weather conditions (including wind speed and direction), type of initiation system and all delay periods progressively, in milliseconds. A drill log reviewed and signed by the licensed blaster and company supervisor including date, time, location, shot number, number of holes, hole depth, average face height, burden, spacing, diameter and any potential problem areas such as seams, cracks, voids and water.

The following techniques and control measures will be considered in blast design to reduce ground vibration:

- Adjusting the blast hole pattern
- Reducing the pounds of explosive per delay:
    - use of smaller diameter blast holes
    - reduce bench height
    - use of decking
- Avoiding overly confined charges (e.g. excessive burden).

- Avoiding excessive subdrilling.
- Strict control over spacing and orientation of blast holes.
- Borehole deviation monitoring.
- If possible, designing the blast sequence to direct vibration away from structures of concern.

A properly designed blast will give lower vibrations per pound of explosive. Close to the blast, the ground vibration character is affected by factors of blast design and geometry, particularly charge weight per delay, delay interval, and to some extent direction of initiation, burden, and spacing.

Additionally, to reduce the public's concern regarding ground vibrations:

- Blasts will be scheduled for the same time of day whenever possible.
- Blasts will be scheduled for periods of high local activity.
- Blasts will not be scheduled for quiet periods.
- Neighbors will be notified of the blast schedule in advance.

2. Soils

Potential Impacts

Erosion potentials for soils in the Intensive Use Area were provided previously in Section 2.A.1.b. Erosion potentials are slight, moderate or severe.

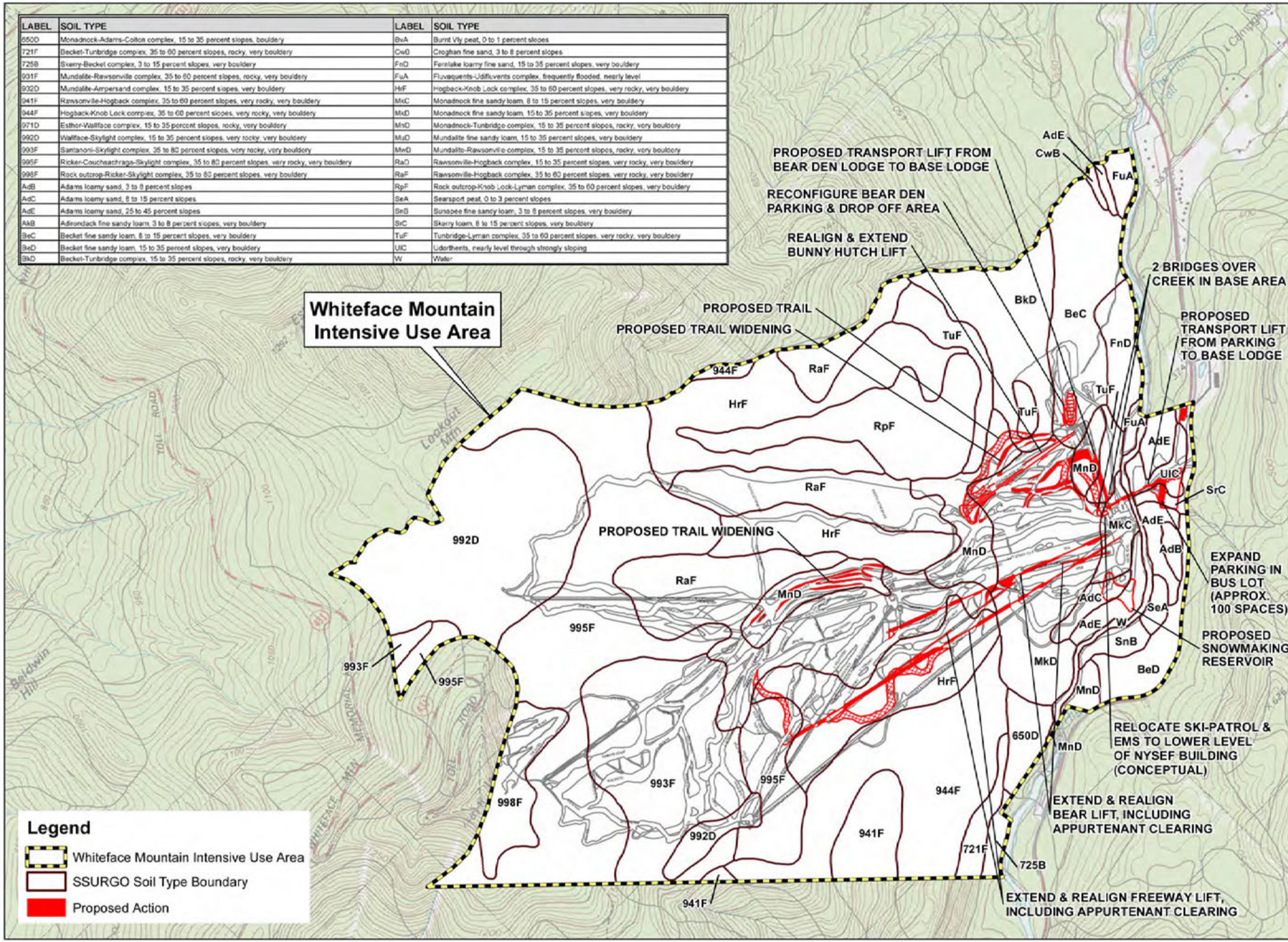
See **Figure 23**, Soils Map and Proposed Actions.

Activities in areas south of the FaceLift on the slopes of Little Whiteface are in soils with severe erosion potential. To the north of Freeway and in all lower elevation areas soils have mostly moderate erosion potentials. The 'C' soils at the lowest elevations such as Monadnock and Adams have slight erosion potentials.

Disturbance of areas of steep slopes during construction for ski trails, lifts, etc., can lead to an increased vulnerability of the soils to erosion. Suitable measures must be implemented to first prevent soil erosion and then, second, to make sure that any soils that are eroded are contained and prevented from causing sedimentation in receiving waters.

ORDA is familiar with implementing proper erosion and sediment control practices when undertaking construction practices at their venues that oftentimes involve construction on steep slopes. These proper practices are set forth in the *New York State Standards and Specifications for Erosion and Sediment Control* (last updated November 2016).

LABEL	SOIL TYPE	LABEL	SOIL TYPE
650D	Monadnock-Adams-Colton complex, 15 to 35 percent slopes, bouldery	BvA	Burnt Vly peat, 0 to 1 percent slopes
721F	Becket-Tunbridge complex, 35 to 60 percent slopes, rocky, very bouldery	CwB	Croghan fine sand, 3 to 8 percent slopes
725B	Skerry-Becket complex, 3 to 15 percent slopes, very bouldery	FnD	Fernlake loamy fine sand, 15 to 35 percent slopes, very bouldery
931F	Mundalite-Rawsonville complex, 35 to 60 percent slopes, rocky, very bouldery	FuA	Fluvaquents-Udifluvents complex, frequently flooded, nearly level
932D	Mundalite-Ampersand complex, 15 to 35 percent slopes, very bouldery	HrF	Hogback-Knob Lock complex, 35 to 60 percent slopes, very rocky, very bouldery
941F	Rawsonville-Hogback complex, 35 to 60 percent slopes, very rocky, very bouldery	MkC	Monadnock fine sandy loam, 8 to 15 percent slopes, very bouldery
944F	Hogback-Knob Lock complex, 35 to 60 percent slopes, very rocky, very bouldery	MkD	Monadnock fine sandy loam, 15 to 35 percent slopes, very bouldery
971D	Esther-Wallface complex, 15 to 35 percent slopes, rocky, very bouldery	MnD	Monadnock-Tunbridge complex, 15 to 35 percent slopes, rocky, very bouldery
992D	Wallface-Skylight complex, 15 to 35 percent slopes, very rocky, very bouldery	MuD	Mundalite fine sandy loam, 15 to 35 percent slopes, very bouldery
993F	Santanoni-Skylight complex, 35 to 80 percent slopes, very rocky, very bouldery	MwD	Mundalite-Rawsonville complex, 15 to 35 percent slopes, rocky, very bouldery
995F	Ricker-Couchsachraga-Skylight complex, 35 to 80 percent slopes, very rocky, very bouldery	RaD	Rawsonville-Hogback complex, 15 to 35 percent slopes, very rocky, very bouldery
998F	Rock outcrop-Ricker-Skylight complex, 35 to 80 percent slopes, very bouldery	RaF	Rawsonville-Hogback complex, 35 to 60 percent slopes, very rocky, very bouldery
AdB	Adams loamy sand, 3 to 8 percent slopes	RpF	Rock outcrop-Knob Lock-Lyman complex, 35 to 60 percent slopes, very bouldery
AdC	Adams loamy sand, 8 to 15 percent slopes	SeA	Searsport peat, 0 to 3 percent slopes
AdE	Adams loamy sand, 25 to 45 percent slopes	SnB	Sunapee fine sandy loam, 3 to 8 percent slopes, very bouldery
AkB	Adirondack fine sandy loam, 3 to 8 percent slopes, very bouldery	SrC	Skerry loam, 8 to 15 percent slopes, very bouldery
BeC	Becket fine sandy loam, 8 to 15 percent slopes, very bouldery	TuF	Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky, very bouldery
BeD	Becket fine sandy loam, 15 to 35 percent slopes, very bouldery	UIC	Udorthents, nearly level through strongly sloping
BkD	Becket-Tunbridge complex, 15 to 35 percent slopes, rocky, very bouldery	W	Water



Date: 12/28/2017
Project No: 2012613.02

Drawing No: 23

Drawing Title: Soils Map and Proposed Actions

1 inch = 1,500 feet
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WHITEFACE LAKE PLACID

Project Title: Whiteface Mountain: 2018 Unit Management Plan Amendment & Final Generic Environmental Impact Statement

Prepared for: Olympic Regional Development Authority
2634 Main Street
Lake Placid, New York 12946

The LA GROUP
Landscape Architecture & Engineering P.C.
Prepared / Prepared / Prepared
40 Long Alley
Saratoga Springs
NY 12866
P: 518/587-8100
F: 518/587-0180
www.thelagroup.com

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These standards and specifications will be used to develop Stormwater Pollution Prevention Plans (SWPPPs) for construction activities at Whiteface in accordance with NYSDEC's *SPDES General Permit for Stormwater Discharge from Construction Activity, GP-0-15-002.*

SWPPPS will detail those measures that will be implemented during construction to mitigate potential soil erosion and surface water sedimentation. SWPPP content will include such things as construction sequencing and phasing, temporary and permanent stabilization, structural erosion control practices and vegetative control practices. SWPPS will include provisions for monitoring, inspections, data collection, and compliance documentation.

Mitigation measures that ORDA commonly and successfully employs during ski area construction activities include the following that will be incorporated into Whiteface pre-construction SWPPP plans and specifications.

<u>Mitigation Measures</u>

Construction Road Stabilization – site access will be achieved using existing work roads, ski trails, driveways and parking areas. At this time, no new disturbance is anticipated for site access, material storage areas or other construction uses.

Concrete Washout – Concrete truck washouts will be provided in existing parking areas located in proximity to the base area.

Protecting Vegetation to Remain – clearing limits will be marked with flagging tape, paint or other suitable means prior to the felling of trees for lift line and ski trail construction. ORDA is particularly sensitive to adhering to clearing limits on the Forest Preserve lands on which they operate their venues.

Runoff Control

- **Water Bars** – Water bars shall be installed during construction of the ski slopes and lift lines. They are to be placed across the slope to reduce the potential for erosion, with diversion into stable vegetated areas or other stabilized outlet. All water bars shall be installed at a 2% slope and particular attention shall be paid to proper spacing specifications as follows:

Slope (%)	Water Bar Spacing (ft.)
<5	125
5 to 10	100
10 to 20	75
20 to 35	50
>35	25

(Source: New York State Standards and Specifications for Erosion and Sediment Control, 2016)

Rock outlet protection using construction-generated rock will be installed at the ends of water bars when natural areas appear not to be adequate.

- **Trench Plugs** – Sand bags or gravel bags will be employed in open utility trenches longer than 300 feet. Compost filter socks of suitable size are an acceptable alternative to sand bags or gravel bags.

Soil Stabilization

- **Temporary Seeding** - Seed and mulch inactive areas with bare soil within 3 days of disturbance unless construction will resume in that area within 2 days. Seed with annual rye mixture at 30 pounds per acre**.** For late fall or early winter seeding seed with winter rye at a rate of 100 pounds per acre. Mulch areas with straw at a rate of 2 tons per acre.

- **Permanent Seeding and Mulching** - Maintain existing vegetation outside of marked limits of disturbance. Soils disturbed for construction of ski trails and lifts shall be permanently stabilized by successfully establishing an herbaceous ground cover.

  Seeding – A commercially available native seed mixture appropriate to the climate shall be used to stabilize disturbed areas to be re-vegetated. Seed may be applied by a number of suitable means including broadcasting, hydro-seeding, or incorporated as part of a geotextile (i.e. Green & Bio Tech SureTurf 1000 and 4000 Seeded Mat System ®, BIOMAT ® seeded mats).

  Mulching – Broadcast seeded areas shall also be mulched. Broadcast seeded areas shall be mulched with invasive species free hay or straw at a rate of 2 to 3 bales per thousand square feet (100-120 bales per acre). Mulch shall be secured in place by either driving over the mulched area with a tracked vehicle or by applying a non-asphaltic tackifier.

  Hydro-seeded areas shall contain a mix of wood cellulose mulch applied during the hydro-seeding process. Wood cellulose mulch shall be applied at a rate of 35 pounds per thousand square feet (2,000 pounds per acre). A non-asphaltic tackifier will be included with the hydro-mulch application.

Soil Restoration

As directed by the Qualified Inspector, areas of compacted soils that are to be seeded should be restored to improve the quality of the seed bed. The top four (4) to six (6) inches of soil shall be loosened using hand or mechanical means prior to applying seed. Also, as directed by the Qualified Inspector, finished grades consisting of exposed subsoils may require soil amendment or topsoil in order to provide a suitable seed bed.

Sediment Control

- **Silt Fence** – Where appropriate, silt fence (standard or reinforced) shall be installed along topographic contours. Use of silt fence is appropriate where there is no concentration of water flowing to the barrier and where the drainage area for overland flow does not exceed ½ acre per 100 feet of fence. Additionally, maximum allowable slope lengths contributing runoff to a silt fence shall be as follows:

Slope Steepness	Standard Maximum Slope Length (ft.)	Reinforced Maximum Slope Length (ft.)
<50:1	300	N/A
50:1 to 10:1	125	250
10:1 to 5:1	100	150
5:1 to 3:1	60	80
3:1 to 2:1	40	70
>2:1	20	30

(Source: New York State Standards and Specifications for Erosion and Sediment Control, 2016)

  - Silt fence structures should be installed anywhere sediment retention is needed in and around a construction site.
  - Perpendicular to slopes or parallel to contour.
  - At the toe of highly erodible slopes.
  - Around culverts and storm water drainage systems.
  - Adjacent to lakes, streams or creeks.

  Maintenance – Silt fences should be inspected periodically for damages such as tearing by equipment, animals, or wind and for the amount of sediment which has accumulated. Removal of the sediment is generally necessary when it reaches 1/3 the height of the silt fence. In situations where access is available, machinery can be used; otherwise, it must be removed manually. The key elements to remember are:

  - The sediment deposits should be removed when heavy rain or high water is anticipated.

- The sediment removed should be placed in an area where there is no danger of erosion.
- The silt fence should not be removed until adequate vegetation ensures no further erosion of the disturbed slopes. Generally, the fabric is cut at ground level, the wire and posts removed, the sediment spread, and seeding and mulch is applied immediately.

Reinforced silt fence should be installed at the base of temporary stockpiles. The reinforced silt fence is designed to hold heavier loads. Falling debris from stockpiles may be caught by the reinforced silt fence where standard silt fence could fail.

- **Straw Bale Dikes** – Straw bale dikes may be used as a substitute for silt fence ONLY where shallow depth to rock precludes the proper installation of silt fence. Straw bale dikes shall NOT be used where there is concentrated flow. Straw bale dikes shall NOT be used where more than 3 months of erosion and sediment control is required unless bales are replaced or an additional parallel row of bales is installed prior to the original straw bales being in place for 3 months. Length of slope above the straw bale dike shall not exceed the following:

Slope Steepness	Maximum Slope Length (ft.)
2:1	25
3:1	50
4:1	75

(Source: New York State Standards and Specifications for Erosion and Sediment Control, 2016)

Straw bale dikes require more maintenance and degrade much more rapidly. Straw bale dikes offer a more standalone practice that may be less dependent on the require staking. Staking is required for both silt fence and straw bale dikes. Both practices are required to be buried in the ground, although silt fence is required a six inch burial as opposed to a four inch burial trench for straw bale dikes. If neither application is applicable, sediment may be captured by using aproned Triangular Silt Dikes.

Installation specifications:

- Each bale shall be embedded in the soil a minimum of 4 inches.
- Bales shall be placed in a row with ends tightly abutting the adjacent bales.
- Bales shall be securely anchored in place by stakes driven through the bales. The first stake in each bale shall be driven toward the previously laid bale to force bales together.
- Inspection shall be frequent and repair or replacement shall be made promptly as needed.

Ski Trail Construction

Erosion and sediment control practices for trail construction will be conducted similarly as it has been done in previous trail construction projects with much success. ORDA staff is experienced in ski trail and lift construction including erosion control techniques. They will use the following measures to mitigate the potential impacts of trail construction.

- Limit individual disturbance areas to less or equal to 1 acre at any time.
- Tree trunks will be removed and used on site either as part of trail construction or cut up and used for firewood.
- Logs will be used on constructed trails to create cribbing to help stabilize the down gradient slope.
- Where possible, tree stumps will be cut flush to the ground to minimize the impact to the existing root systems and to allow the quick establishment of vegetation. Emphasis to minimize cutting, filling and grubbing operations on slopes over 25 percent will be made.
- Grubbed stumps will be buried within the trail as part of trail construction (filling low spots, etc.)
- Branches and tops will be chipped with chips broadcast into adjoining wooded areas. Chip piles shall not be created in wooded areas.
- Install sediment and erosion control practices.
- On constructed trails, which involved cut/fill operations, exposed earth areas will be contained by diverting clean runoff from the uphill side with water bars as much as practicable.
- Silt fence and/or chip berms on the downhill side will be utilized to filter the runoff from the raw site.
- During final grading, all water bars will be repaired in order to effectively intercept and divert water from new trails and lift areas.
- Areas where finish grade has been established will be seeded and mulched within 3 days. No areas shall be left with raw earth exposed for more than 7 days.

Lift Terminals Construction

Lift terminal construction will be located in relatively flat to low slope areas and are limited to approximately ¼ acre in size. E&SC practices include silt fence, upgradient water bars, and vegetative stabilization. RECP will be installed on the graded outruns of upper lift terminals.

Lift Line Construction

The scope of lift line construction operations is similar, but less intense, than most trail

construction operations. Construction of the lift line corridors will involve:

- Cutting trees to provide a 60 feet wide area with sufficient clearance.
- Stumps are cut flush to the ground.
- Grading operations are limited to the areas immediately around lift tower footings and where vehicle access is required. In these locations E&SC practices include silt fence, upgradient water bars, and vegetative stabilization.
- Ground cover vegetation will be undisturbed to the extent possible.
- Areas requiring site disturbance will be stabilized using practices described above.
- Wooded areas which are cut will be allowed to naturally fill in with brushy type growth where no ski trails or service driveways are to be created.

Linear Utilities

Linear utilities include underground water pipe, air lines, and electric lines. Erosion from pipeline construction will be minimized by limiting the length of the open trench to 1200' for a period not to exceed 10 days. Sand or gravel bags trench plugs will be placed in sloped trenches at a minimum of 300' intervals to slow the velocity of stormwater runoff that may enter the trench.

Areas where finish grade has been established will be seeded and mulched within 3 days. No areas shall be left with raw earth exposed for more than 7 days.

3. Topography and Slope

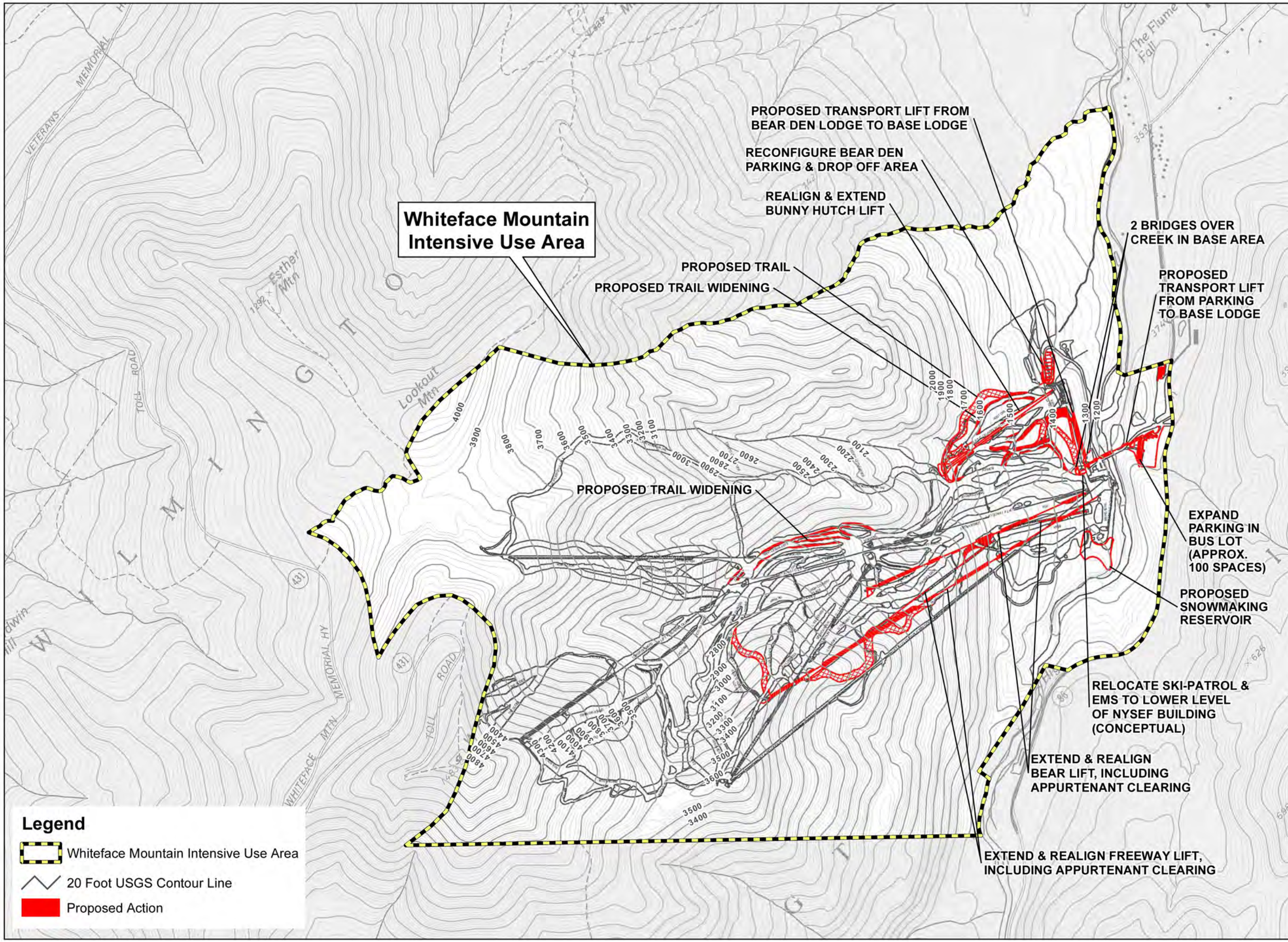
<u>Potential Impacts</u>
See **Figure 24**, Topography and Proposed Actions.

Limited grading is required for new ski trails, trail widening or ski lifts. Trails are laid out to follow natural fall lines. Lift line grading is limited to the upper and lower terminals and at the tower foundations.

More significant grading will be required to create the additional 100 car parking spaces in the bus parking lot. See **Figure 21**, Master Plan Enlargement (Parking Area). Up to 15 feet of fill will be required to create the additional parking spaces on the west side of the lot. All of the graded area that is not actual parking lot surface will be revegetated.

Significant grading (excavation) would be required if the conceptual snowmaking reservoir is pursued as a management action in a future UMP orUMP amendment. Under the current concept, approximately 90,000 cubic yards of material would be excavated.

Impacts associated with grading involve erosion and sediment control (see the previous section) and protection of water resources (see the following section).



Date: 12/26/2017
Project No: 201283.02

Drawing No: 24

Drawing Title
Topography and Proposed Actions

1 inch = 1,500 feet
0 750 1,500 Feet

WHITEFACE LAKE PLACID

Project Title:
Whiteface Mountain: 2018 Unit Management Plan Amendment & Final Generic Environmental Impact Statement

Prepared for
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2634 Main Street
Lake Placid, New York 12946

The LA GROUP
Landscape Architecture & Engineering P.C.
40 Long Alley
Saratoga Springs
NY 12866
p 518/587-8100
f 518/587-0180
www.thelagroup.com

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Mitigation Measures

No mitigation measures beyond those described in the previous section and in the following section are required.

4. Water Resources

Potential Impacts

See **Figure 25**, Surface Water and Wetlands and Proposed Actions, and **Figure 20**, Master Plan Enlargement (Base Area).

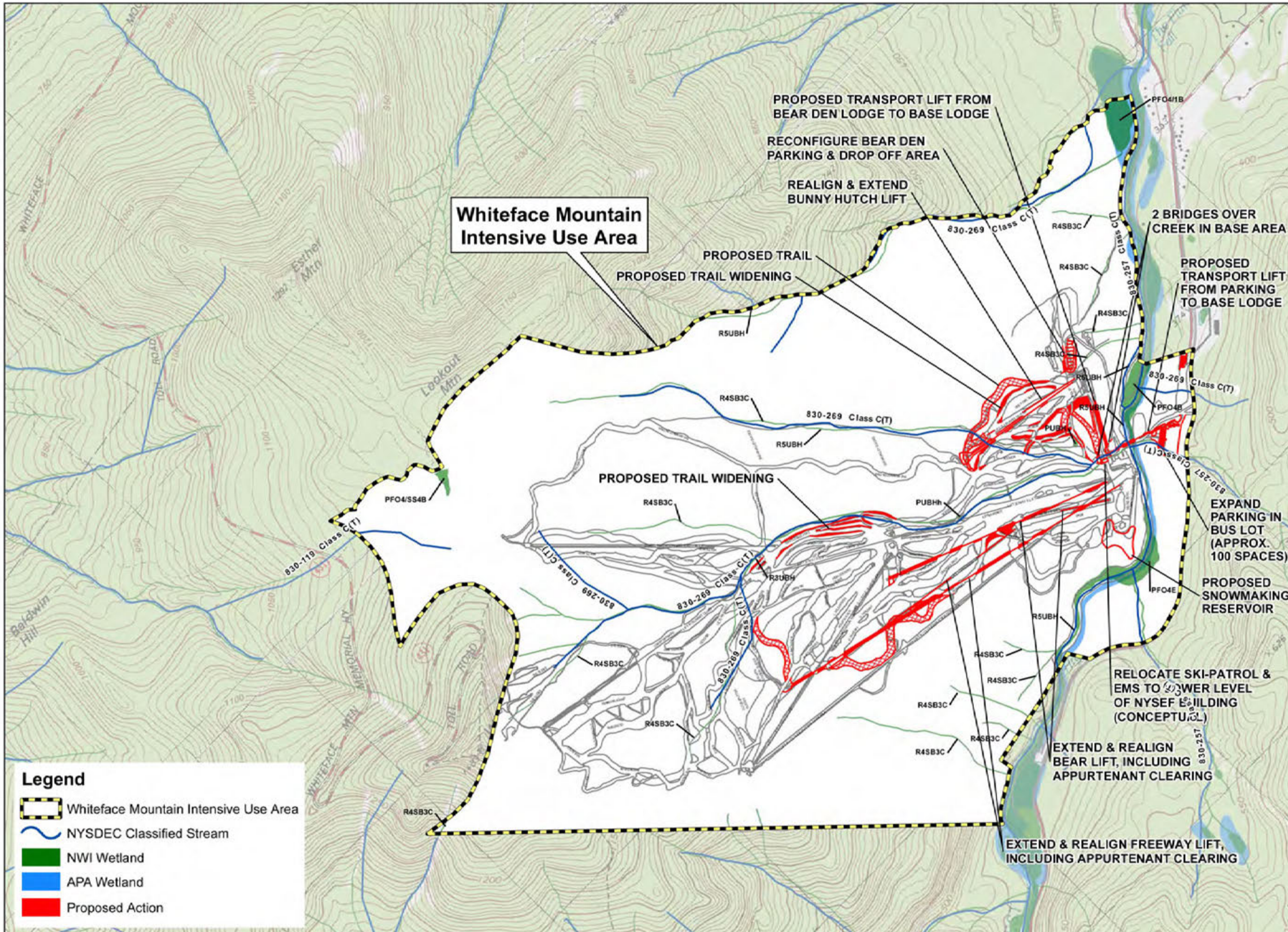
The stream crossing for Trail 89 will require installation of a bottomless arch culvert. Previously there was a culverted crossing at this location, but those culverts were removed when the former trail was abandoned.

Trail 88 will require the removal of the existing culverted stream crossing and the installation of a longer bottomless arch culvert.

A skier bridge designed to pass flows from a 500-year storm event will be constructed for Trail 92 just above the NYSEF building. See **Figure 20**, Master Plan Enlargement (Base Area) and Figure **26**, Trail 92 Stream Crossing Bridge. Stormwater calculations were performed utilizing widely accepted engineering methodologies, including TR-55, and the stormwater modeling computer program HydroCAD (version 10.00) produced by HydroCAD Software Solutions, LLC. The goal of the stormwater analysis was to determine the total flow through the existing drainage channel at the proposed Trail 92 ski bridge location. The existing channel has an estimated total watershed of 1,141 acres and is a combination of woods and grass. The curve numbers utilized in the modeling were assigned based on cover type and HSG soil classification. The design storm used for the channel flow analysis was 500-year, 24-hour duration, SCS Type II events. The rainfall amounts for this storm is 7.50 inches. Runoff from the mountain flows through two distinct channels prior to combining at the location of the proposed ski bridge. The design storm (500 year, 24 Hour Type II) produced an average flow depth at peak storage of 3.91 feet. Therefore, all abutments, bridge supports and bridge decking is to be placed outside of this flow depth to allow the design flow to pass without obstruction.

The existing “culvert 2” in the base area, which is actually 3 individual culverts next to each other, will be removed and replaced with a bridge crossing.

Expansion of the Bus Lot may require a slight re-route of the diversion ditch previously constructed by NYSDOT.



Date: 12/29/2017
Project No: 2012163.02

Drawing No: 25

Drawing Title: Surface Water, Wetland Resources, and Proposed Actions

1 inch = 1,500 feet
0 750 1,500 Feet

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Lake Placid, New York 12946

The LA GROUP
Landscape Architecture & Engineering P.C.
40 Long Alley
Saratoga Springs
NY 12866
Public Purpose Voice:
P. 518-587-8100
F. 518-587-0180
www.thelagroup.com

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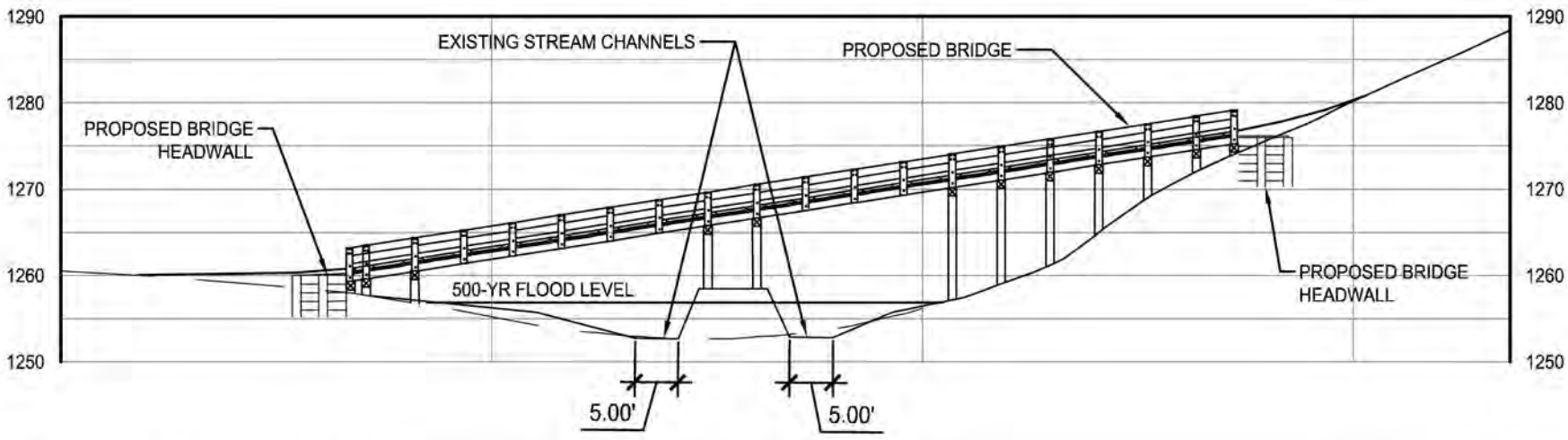
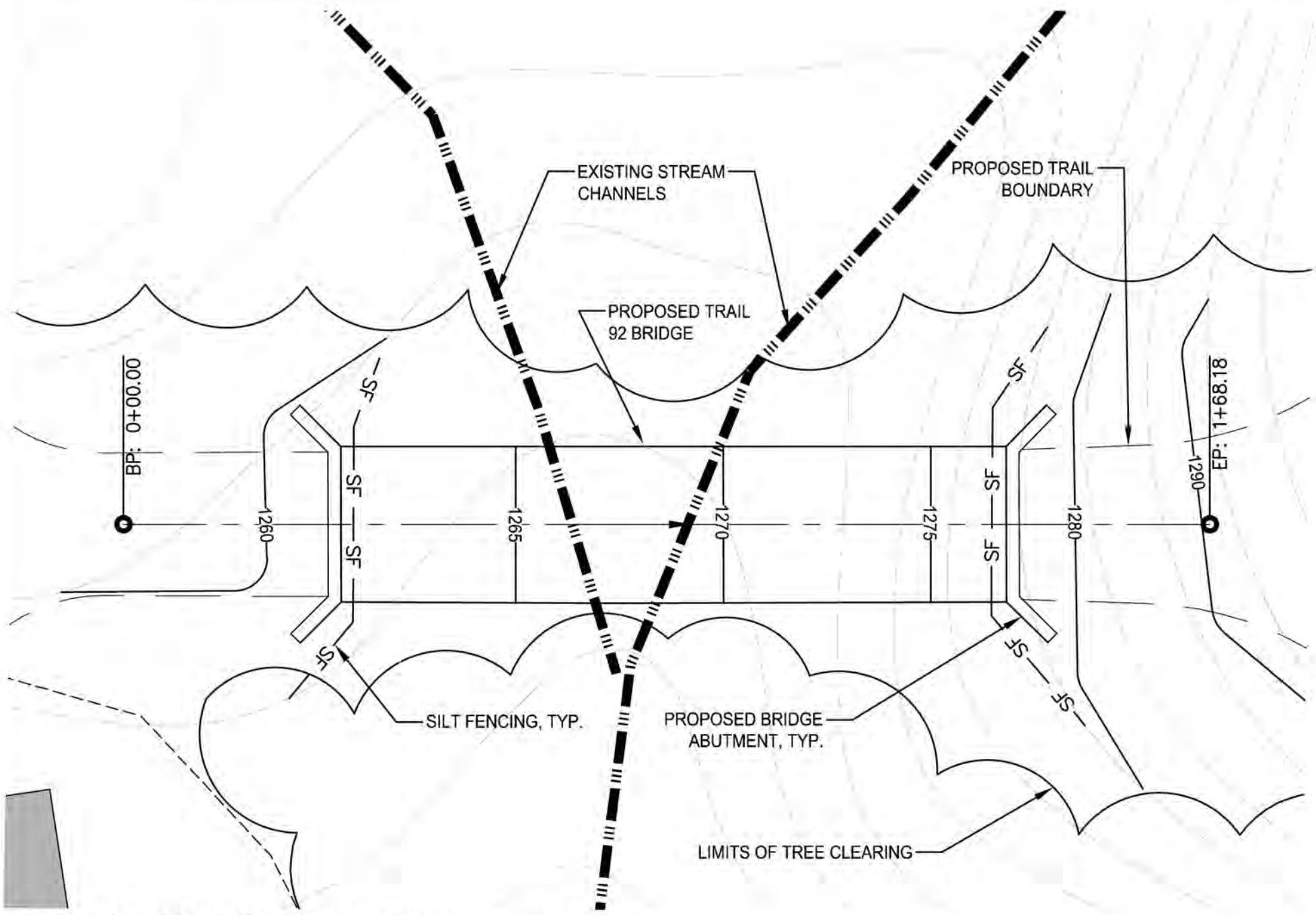


1 TRAIL 92 BRIDGE PROFILE 0+00 TO 1+68.18

VERTICAL: 1" = 20', HORIZONTAL: 1" = 20'



2 TRAIL 92 BRIDGE PLAN VIEW 0+00 TO 1+68.18

SCALE: 1" = 20'

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WHITEFACE
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Project Title:
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Drawing Title
TRAIL 92 STREAM CROSSING BRIDGE

0 10 20
SCALE: 1" = 20 AT 11x17

Date:	November 29, 2017
Scale:	1"=20'
Design:	MJT
Drawn:	KMK
Ch'k'd:	KIF
Project No.:	201263

Drawing No.
26

Mitigation Measures

(1.) All efforts should be made to construct/reconstruct the Trail 88 and Trail 89 stream crossings when streams are not flowing.

(2.) If natural streamflows don't allow for dry construction/reconstruction for Trails 88 and 89, then the crossings should be installed in the dry using temporary upstream damming (i.e. sandbags or similar) and a pump around.

(3.) Any pump arounds shall be discharged to a stable streambed reach with minimal amounts of material that could become dislodged.

(4.) If a mid-span abutment is still proposed in the construction drawings for the Trail 92 bridge, efforts shall be made to keep this (and all other bridge abutments) outside of the stream channels. Use of pre-cast abutments for bridges and arch culverts is preferred.

(4.) No machinery shall operate from within the stream channel.

(5.) Machinery should be regularly maintained and checked frequently for fluid leaks. Any machine found to have even a minor fluid leak shall be removed to a remote area for repairs.

(6.) Machinery operating in the vicinity of streams shall be equipped with spill control materials including absorbent pads.

(7.) Any concrete forms in proximity to surface waters shall be tightly sealed.

(8.) Structural erosion controls shall be installed, inspected and maintained until areas of disturbance become fully stabilized with vegetation, stone or other materials.

5. Wetlands

Potential Impacts
No impacts to wetlands have been identified.

Mitigation Measures
No mitigation measures are necessary.

6. Climate and Air Quality

Potential Impacts
No new permanent sources of air emissions are proposed as part of this UMP.

Construction activities may result in localized increases in dust levels. However, areas of

proposed construction are located within the interior of the Intensive Use Areas, so no offsite areas are expected to be affected.

Many ORDA venues exist within the boundaries of State protected lands and the impact of climate change on our environment is recognized. ORDA will be a leader in environmental stewardship with consistent commitment to sustainability, responsible development practices, and continuous communication with DEC, APA, and other regulatory agencies to ensure we are taking the appropriate measures.

Mitigation Measures
No significant adverse impacts have been identified, therefore, no mitigative measures are necessary.

B. Biological Resources

1. Vegetation

Potential Impacts

As shown on **Figure 27**, Vegetation and Proposed Actions, essentially all of the new management actions proposed in this UMP will occur in the Northern Hardwood community. No management actions are proposed in areas of spruce-fir communities.

Table 13, Whiteface Mountain Tree Cutting by New Management Action Types, presents the amounts of currently wooded area that will be impacted by each of the new management actions in this UMP Amendment.

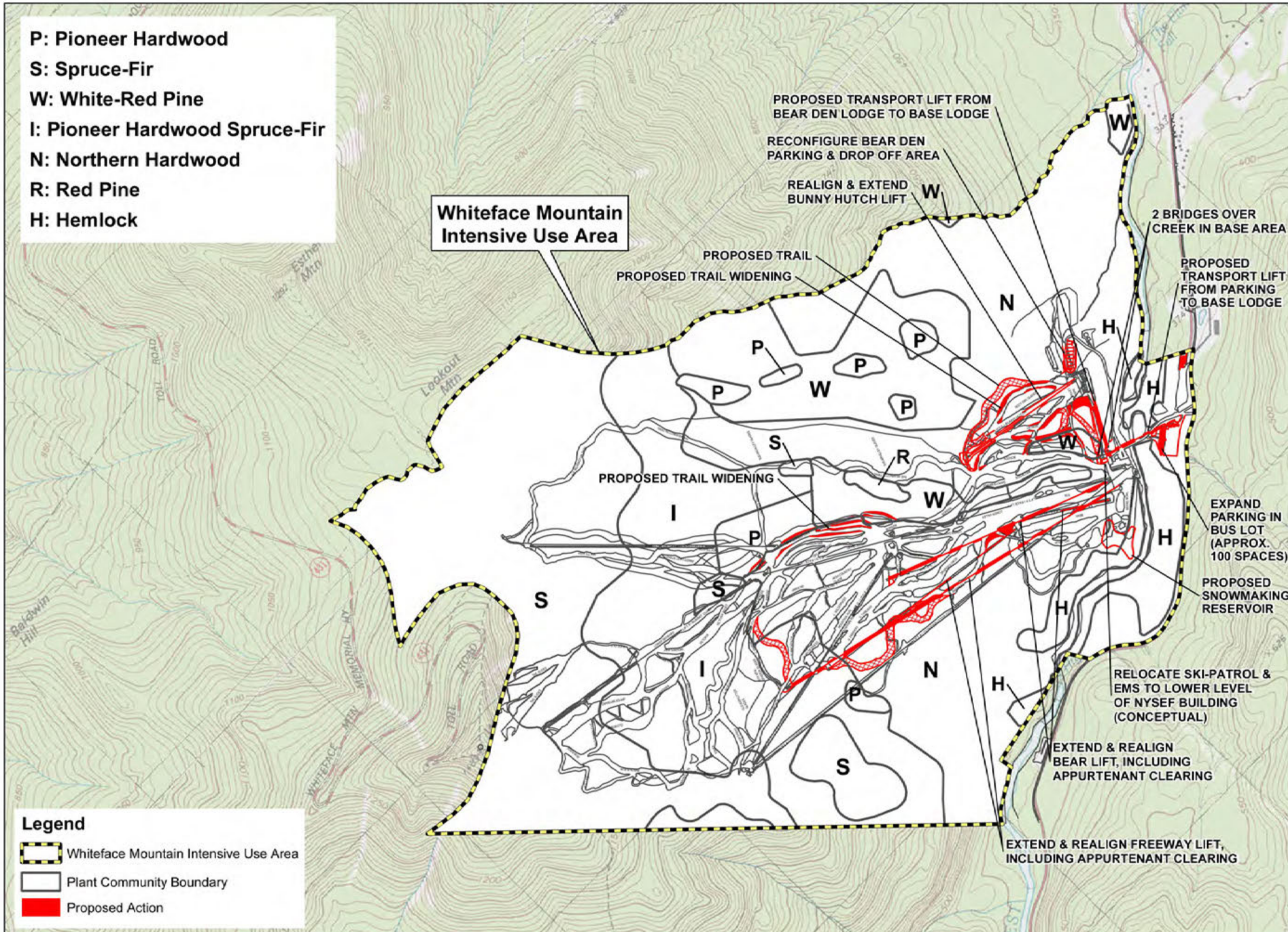
In summary, the following acreages of wooded areas will be affected:

- New Downhill Trails: 10.6 acres
- Widen Existing Trails: 9.2 acres
- Realign/Extend Lifts: 6.4 acres

Total: 26.2 acres

The numbers of trees that are proposed to be cut are accounted for in detail in **Appendix 6**, Whiteface Mountain 2018 UMP Amendment Tree Cutting. A total of 22,049 trees will be cut. Of this total, 9,466 will be between 3 and 4 inches dbh, and 12,583 will be greater than 4 inches dbh. (Numbers of trees to be cut has been reported with the breakdown of 3-4” and >4” dbh in Whiteface UMP documents going back to the 2004 Update.)

Tree cutting is proposed on 26.2 acres of the approximately 2,910 acres of intensive use area. Because this is about 1% of the intensive use area, there is sufficient capacity to absorb the impact to vegetation resources.



Date: 12/29/2017
Project No: 2012/63.02

Drawing No: 27

Drawing Title: Vegetation and Proposed Actions

1 inch = 1,500 feet
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The LA GROUP
Landscape Architecture & Engineering P.C.
Prime Partner: Hilus
40 Long Alley
Saratoga Springs
NY 12866
p 518-587-8100
f 518-587-0180
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All tree cutting will be done in compliance with the DEC tree cutting policy LF-91-2.

No rare, threatened or endangered plant species will be impacted.

Mitigation Measures

Only areas absolutely necessary for construction of ski trails, ski lifts, and other proposed improvements will be cleared of vegetation. All other areas will be maintained in a natural state.

Erosion control measures will be used on cleared areas with disturbed soils to avoid affecting adjacent vegetation by erosion or siltation. Erosion-control devices to be used will include filter fabric fences and staked straw bale filters.

Upon the completion of clearing of new ski trails and ski lift corridors, they will be seeded with grass mixtures to promote rapid revegetation. Areas disturbed for any other improvements will also be landscaped and revegetated as soon as practicable.

Plants used to revegetate disturbed areas and planted as part of landscaping will be species indigenous to the region.

No clear-cutting of trees to develop panoramic views is proposed. Views will be framed or filtered by existing vegetation.

Continue to train staff working at Whiteface Mountain unit to identify and document the location of key invasive plant species.

Work toward a complete comprehensive inventory of the presence and extent of invasive plants in the unit.

Eliminate any identified populations of invasive plant species that are discovered in the unit. These actions may be carried out by DEC personnel or by members of APIPP or other volunteers under supervision of DEC through an Adopt-a-Natural Resource Agreement.

All equipment brought onto the site for earth moving, grading or excavating shall be washed off-site with high pressure hoses and hot water prior to being brought onto the site. The contractor shall provide Certifications of Washing to the SWPPP Qualified Inspector before such equipment can be used on site. The SWPPP Qualified Inspector will have the authority to refuse the off-loading of any earthwork equipment brought onto the site that they determine to be not sufficiently cleaned.

2. Wildlife

Potential Impacts

The actions proposed in this UMP are expected to have minimal impacts on wildlife. Proposed management actions are interspersed within the landscape of the existing developed ski trails and lifts. For the most part, new management actions are proposed at low elevations on the mountain. (See subsection 5, Critical Habitat, below for a discussion of activities above 2,800 feet elevation and Bicknell's thrush).

As shown on **Figure 27**, Vegetation and Proposed Actions, almost all of the actions proposed in this UMP will occur in the Northern Hardwood community.

Trail widening projects, including the green trails in the Bear Den area, involve existing trails. This will result in the loss of some currently treed areas along the edge of existing ski trails and will move the forest edge slightly inward.

New Trails 88 and 89 are in areas that were previously disturbed with a lift and trail before the upper terminal for the Bunny Hutch lift was moved down the mountain.

The relocation/realignment of the Bear and Freeway lifts will take place in the area that is north of the gondola line and south of the Face Lift, an area already highly dissected by existing ski trails and lift lines.

Additional parking at the bus parking lot is an expansion of the current parking lot.

The creation of the formal drop-off at Bear Den does not involve any impacts to wildlife habitat.

Mitigation Measures

No significant adverse impacts have been identified, therefore, no mitigation measures are required.

3. Fisheries

Potential Impacts

ORDA will continue to comply with its MOU with DEC that regulates water withdrawals from the West Branch AuSable River that was developed to be protective of fisheries resources.

Protection of water quality (fisheries habitat) was addressed in the earlier Water Resources section.

Mitigation Measures

No significant adverse impacts have been identified, so no mitigation measures are needed.

4. Unique Areas

Potential Impacts
No such areas exist in the Intensive Use Area.

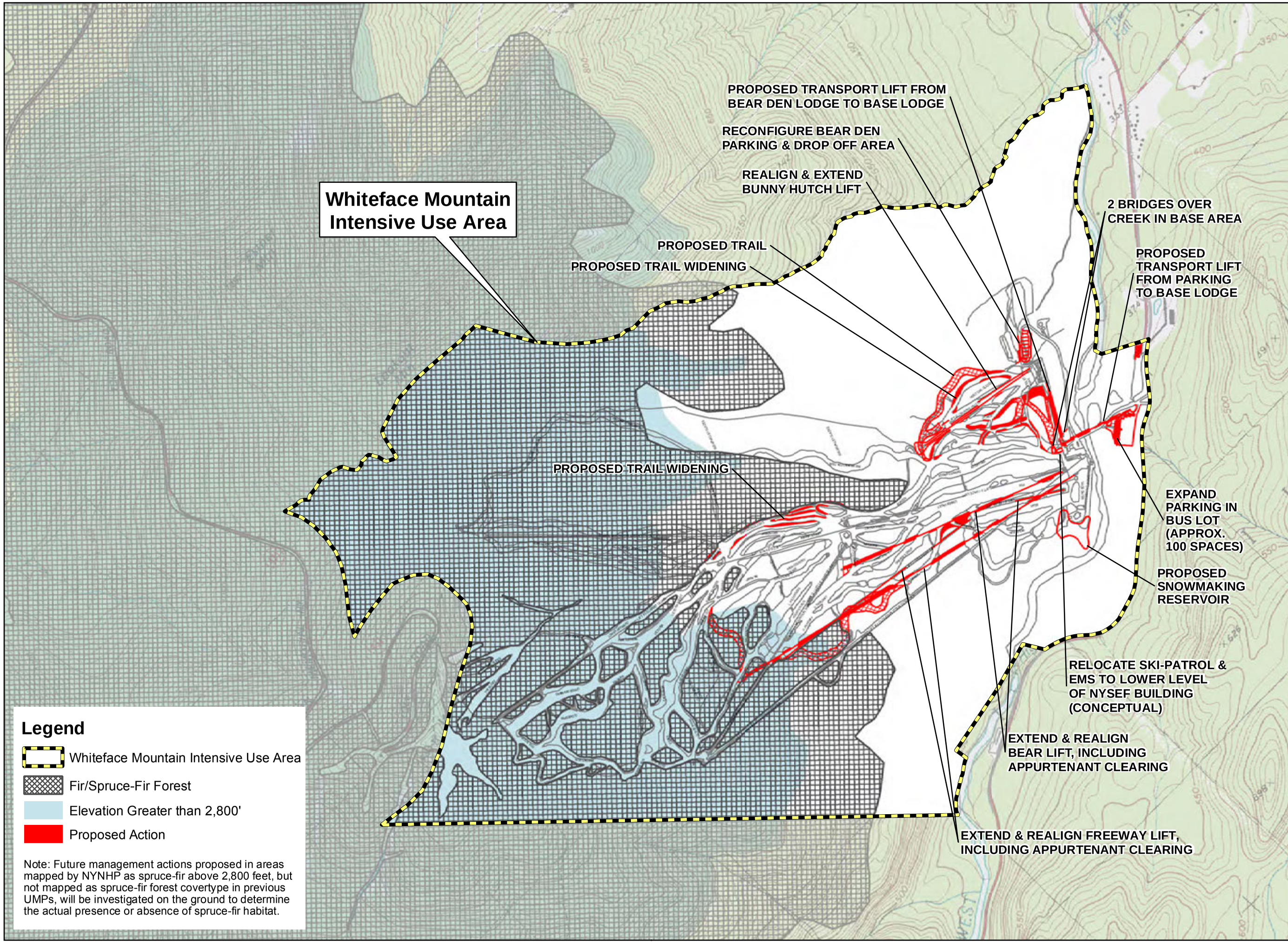
Mitigation Measures
No impacts have been identified, and no mitigation measures are needed.

5. Critical Habitat

Potential Impacts
See **Figure 28**, Potential Bicknell's Thrush Habitat and Proposed Actions. The upper portion of the relocated Freeway Lift and the new trail 12a are proposed on lands 2,800 feet in elevation or higher. The upper portion of the previously approved, but not yet constructed, trail 73 is also located above 2,800 feet. Most of these proposed improvements or related structures are not located in spruce-fir habitat.

Mitigation Measures
ORDA will continue to implement the comprehensive set of measures designed to mitigate impacts to Bicknell's thrush contained in section II.B of the 2006 UMP amendment.

These mitigation measures include, but are not limited to, prohibiting tree cutting above elevation 2,800 feet between May 15 and August 1, limiting the width of new trails above 2,800 feet to 115 to 131 feet (35-40m), and maintaining trails and lifts with feathered vegetation on wind exposed sides. Also, proposed tree cutting and construction that will take place above 2,800-foot elevation in areas of suitable Bicknell's thrush habitat should follow the Operations and Management Considerations established for the Adirondack Sub-Alpine Bird Conservation Area (See Copy in Appendix 7A). This includes avoiding construction activities at Whiteface during the Bicknell's thrush nesting period (May 15 – August 1) whenever possible. Proposed tree cutting and other construction activities above 2,800 feet in terrain identified as suitable Bicknell's thrush habitat that are being considered for the period between the dates of 15 May and 01 August shall be reviewed with the Department for potential impact. Activities that may cause negative impact to Bicknell's thrush will be scheduled for other times. As well as, future proposed widening of existing ski trails above 2,800 feet should avoid widening those trails to more than 40 meters (131 feet). If widening to more than 40 meters is unavoidable for safety, homologation or other reasons, then the length of the trail that is wider than 40 meters above 2,800 feet should be minimized to the amount practicable.



Date: 04/02/2018
Project No: 201263.02

Drawing No: 28

Drawing Title
Potential Bicknell's Thrush Habitat and Proposed Actions

1 inch = 1,500 feet
0 750 1,500 Feet

WHITEFACE LAKE PLACID

Project Title:
Whiteface Mountain: 2018 Unit Management Plan Amendment & Final Generic Environmental Impact Statement

Prepared for:
Olympic Regional Development Authority
2634 Main Street
Lake Placid, New York 12946

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.
40 Long Alley
Saratoga Springs
NY 12866
p. 518/587-8100
f. 518/587-0180
www.thelagroup.com

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C. Human Resources

1. Visual Resources

Potential Impacts

None of the activities in the Bear Den area will be visible from the nine locations from which the photos in section II.A.3 were taken. The Bear Den portion of Whiteface is blocked from view from these nine vantage points by intervening landforms.

Higher elevation activities that include the realignments of the Bear and Freeway lifts, construction of the approved, but not yet constructed, Trail 73 and possibly the new Trail 12a may be visible from three locations. These three locations are: VP2, NY Route 86 overlooking Beaver Brook Meadow; VP5, Fox Farm Road; and VP6 NY Route 86 at the entrance to Whiteface.

Figure 29 is the existing conditions photo of Whiteface as seen from the entrance road on NYS Route 86. **Figure 30** is a simulation of the built condition from the same viewpoint. The Freeway Lift and the previously approved, but not yet constructed trail 73 are visible in the simulation. A small are of cut for the Bear Den Lift is also visible. Trail 12a is blocked by topography. Overall, the character of the view is not significantly different than the existing view since the new actions are located within the context of the existing view, including existing ridgeline breaks for the top of the gondola and the "castle" building on top of Whiteface Mountain.

Figures 31 and 32 show the areas on the mountain where the new higher elevation actions may be visible based upon the simulation in Figure 28. **Figure 31** is from VP2 and **Figure 32** is from VP5. Components in the view will be visible but not nearly as discernable as the view from NYS Route 86 entrance because of distances and angles of the view.

Mitigation Measures

No significant impacts have been identified, and no mitigation measures are needed.

2. Transportation

Potential Impacts

None of the proposed new management actions are intended to significantly increase the carrying capacity of Whiteface. The addition of 100 spaces to the bus lot only represents a 7% increase in the amount of available parking. The new proposed management actions will not result in significantly higher traffic generation over what currently exists.

From an internal circulation standpoint, the conceptual transport lifts under consideration have the potential to increase transportation efficiency within the facility.

The LA GROUP
Landscape Architecture & Engineering P.C.
Regale Anyone Alive
40 Long Alley
Saratoga Springs
NY 12866
p: 518/587-8100
f: 518/587-0180
www.thelagroup.com

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Project Title:
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Drawing Title:
Existing View
NYS Route 86 at
Whiteface Entrance

Date:	12/26/2017
Project No:	201263.02

Drawing No.
29

The LA GROUP
Landscape Architecture & Engineering P.C.
Regale Forgeus Alius
40 Long Alley
Saratoga Springs
NY 12866
p: 518/587-8100
f: 518/587-0180
www.thelagroup.com

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Project Title:
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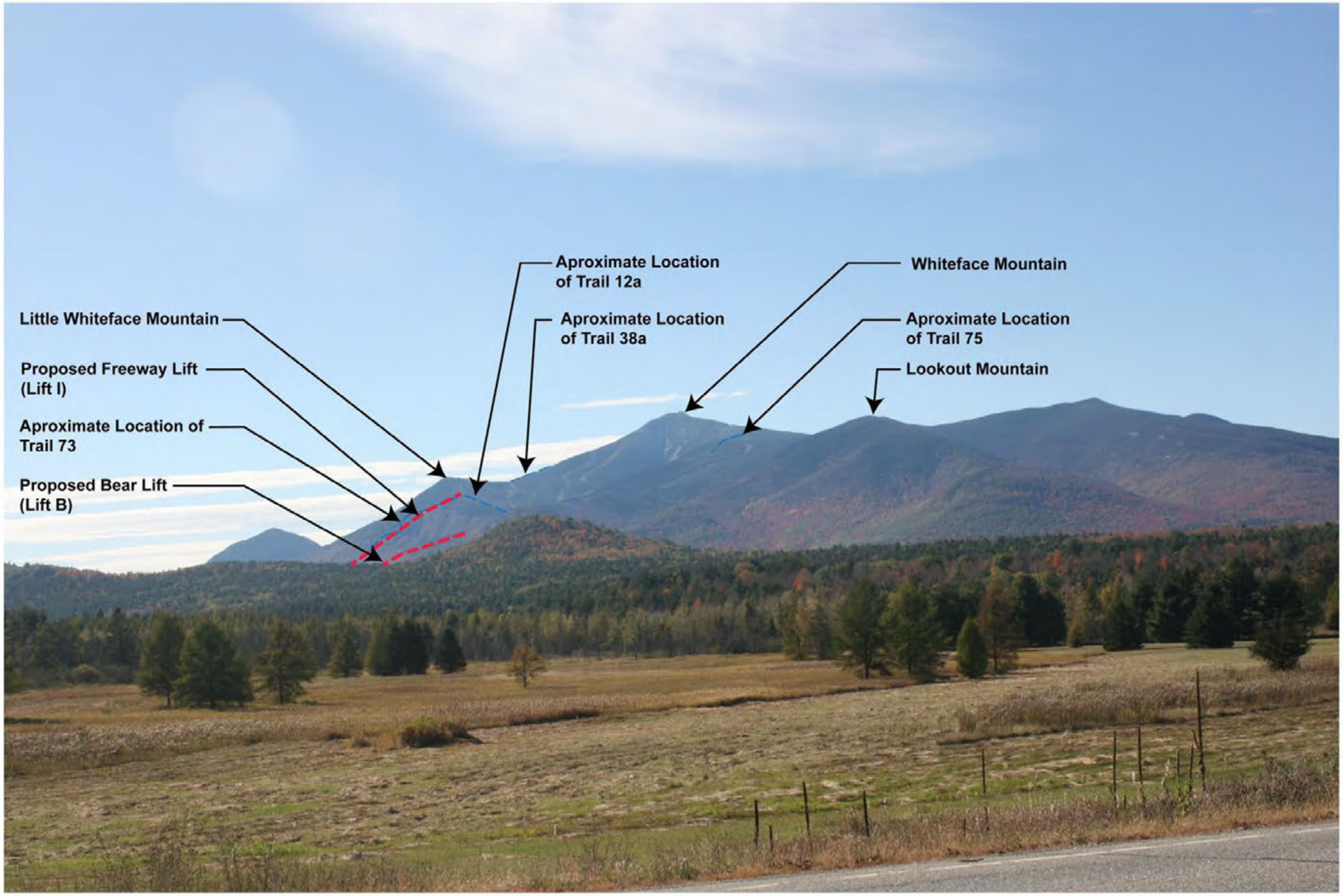
Drawing Title:
Built Conditions Simulation
NYS Route 86 at
Whiteface Entrance

Date:	12/26/2017
Project No:	201263.02

Drawing No:
30



Date: 11/20/2017
Project No: 201293.32

Drawing No: 31

Drawing Title: View from NYS Route 86 in Jay

WHITEFACE LAKE PLACID

Project Title: Whiteface Mountain: 2018 Unit Management Plan Amendment & Final Generic Environmental Impact Statement

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2634 Main Street
Lake Placid, New York 12946

The LA GROUP
Landscape Architecture | Engineering | PC.
40 Long Alley
Saratoga Springs
NY 12866
p 518/587-8100
f 518/587-0180
www.thelagroup.com

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Landscape Architecture & Engineering P.C.
Regale Jerome Allen
40 Long Alley
Saratoga Springs
NY 12866
p: 518/587-8100
f: 518/587-0180
www.thelagroup.com

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WHITEFACE LAKE PLACID

Project Title:
Whiteface Mountain: 2018 Unit Management Plan Amendment & Final Generic Environmental Impact Statement

Drawing Title
View from Fox Farm Road

Date: 11/20/2017
Project No: 201263.02

Drawing No.
32

Mitigation Measures
No mitigation measures are need since no significant impacts have been identified.

3. Community Services

Potential Impacts
There will be some increase in demand for community services such as fire, EMS, police, rescue, solid waste and health care. However, Whiteface Ski Center presently makes very little demand on such services and the increase in such demand is anticipated to be minimal.

Mitigation Measures
No mitigation measures are needed since no potential impacts have been identified.

4. Local Land Use Plans

Potential Impacts
The actions in this UMP Amendment are consistent with local, regional and ORDA efforts to enhance an attractive year-round day use recreation area.

Mitigation Measures
No mitigation measures are needed since no potential impacts have been identified.

5. Historical and Archaeological Resources

Potential Impacts
There is a November 9, 2017 letter from NYS Office of Parks Recreation and Historic Preservation in **Appendix 7** stating that the project will not impact historical or archeological resources.

Mitigation Measures
No mitigation measures are needed since no potential impacts have been identified.

SECTION VI ALTERNATIVES

A. Alternative Trail Improvements

The following alternatives were considered when developing plans for trail improvements that would meet the management goals and objective for Whiteface.

Trail 88

Upon extending the top of Bunny Hutch Lift (C) to its proposed location (see subsection below on Alternative Lifts), it was critical to provide a suitable beginner trail connection to the existing beginner trail network. An alternative was explored that extended down the currently proposed trail 89, then turned south to tie into the area where the existing top terminal of Lift C is currently located. This alignment would have required extensive earthwork, and was restricted by the existing elevations at the stream crossing on Trail 89.

Trail 89

This trail utilizes a portion of a former trail that was previously abandoned. This is currently the only feasible alternative for a new trail to the north of the existing beginner trail network. Terrain further to the north is not suitable for beginner or low intermediate terrain and would not provide access back to the Bear Den Lodge.

Trail 90

This is a short section of trail connecting the bottom of Moose back to the Bear Den base area. The exiting connection is very flat and difficult for beginner skiers, as well as instructors with classes in tow, to traverse. An alternative was explored that instead of turning North on Moose to head back to the base area, continued further east before turning north to get back to the Bear Den Lodge. The terrain in this area offers a similar pitch to the existing connection and would have conflicted with the proposed learn-to-ski area expansion and surface lifts. The proposed alternative alignment provides better pitch and therefore an easier and better connection, and works well with existing skier traffic patterns.

Trail 91

This trail is an alternative beginner connection from the Bear Den Area to the main Base Lodge area. Porcupine Pass is a current connection between these areas, but is a narrow and steep section of trail that is intimidating and difficult for a beginner skier to traverse. This trail is proposed to provide terrain more suitable and comfortable for a beginner skier. An alternative explored was a no-action alternative that instead, utilized proposed trail 92. However, this alternative is not desirable, as it would force skier traffic through the proposed learn-to-ski area. There is no other area or terrain available that allows for additional trail alignments to be explored.

Trail 92

This trail provides a 'last resort' connection back to the main Base Lodge area. It utilizes an existing cleared power line corridor to the extent possible. The goal of this trail is to provide a suitable beginner connection from the Bear Den Lodge to the Base Lodge, without having to ride a lift up the mountain, and offers better flexibility for family members trying to re-connect at the end of the day. An alternative was explored that followed the current alignment halfway, then turned west to connect back to Porcupine Pass and make use of the existing culverted stream crossing. This alternative alignment was too flat to provide sufficient pitch for beginner skiers, and was undesirable due to the connection back to Porcupine Pass which can be difficult for beginner skiers.

Trail 12a

As a previous conceptual action, this trail alignment was reviewed against the current trail network and existing terrain and deemed to be an appropriate alternative for an intermediate trail.

B. Alternative Lift Configurations

Bunny Hutch (C) Lift

The alternatives examined as part of the replacement and re-alignment of Lift C looked to improve the beginner skiing experience, improve beginner connectivity from the Bear Den area to the 'main' part of the mountain, provide more flexibility when accessing beginner terrain, and offer potential access to additional beginner terrain. The first alternative was a simple replace-in-kind, which did not address the aforementioned goals. The second alternative replaced the existing lift in its current location, then added a second lift from the Bear Den Lodge (close to the existing lift C bottom terminal), extending to the Mid-Station Lodge at the top of Boreen. This option restricted the space and circulation within the base area at the Bear Den Lodge and was not pursued. Another option explored replacement in kind along with adding a new lift from the Main Base area north of the Face Lift to the bottom of the Wilmington Trail. This lift, along with trail improvements between the Bear Den Lodge and the main Base Area improved connectivity but was not determined to be cost efficient. The proposed alternative closely follows the existing alignment but extends the lift farther up the hill and closer to the bottom of the Wilmington Trail. This was the option that addressed most of the goals and resulted in minimal additional cost over an in-kind replacement.

Freeway (I) Lift and Bear (B) Lift

Improvement of these lifts were ultimately planned together to address different needs, as well as support the goals established for the Lift C improvement. One of the primary goals of the Freeway Lift replacement was to provide redundant access to a large part of the mountain in the event that the Face Lift and/or the Gondola were unable to operate due to windy conditions. The initial alternative for the Freeway Lift replacement extended from a location immediately adjacent to the Face Lift terminal in the base area to the existing location of the

Freeway upper terminal. This provided direct access out of the base area but was limited in the terrain that could be accessed, especially during ski race training that requires closure of many of the trails accessed by the Freeway Lift. The second alternative started at the same location adjacent to the Face Lift in the base area, and extended to the currently proposed upper terminal location near the top of Upper Empire. While this option increased direct access out of the base area to intermediate and expert terrain and provided alternative access to the Summit Quad, it resulted in two lift line crossings (Gondola and Bear Lift) and did not maintain convenient access to ski racing terrain for the racing programs. Another alternative was to retain the existing alignment of the Freeway Lift, add a mid-point unloading station on the Face Lift at Mid-Station Lodge, and replace the Mountain Run lift and extend the upper terminal to an area adjacent to Upper Empire. While providing more flexibility out of the Mid-Station and additional access to beginner terrain, and maintaining convenient racing terrain access and it did not provide direct access out of the base area and did not seem cost effective relative to the benefit provided. Finally, the proposed alternative combined the replacement and realignment of both the Freeway Lift and the Bear Lift to achieve desired goals. Setting the Freeway lift to extend out of the base area south of the Gondola lift line, as well as relocating the bottom terminal of the Bear Lift to the location immediately adjacent to the lower Face Lift terminal resulted in only one lift line crossing (Freeway and Gondola) which is the same number that currently exists (Bear and Gondola). Extending Freeway to the top of Empire provides redundant, direct access out of the base area, and access to racing terrain and the Summit Quad. Extending the Bear Lift to a location near the Mid-Station Lodge provides flexibility out of the Mid-Station Area, access to beginner terrain as well as secondary access to racing terrain. A mid-point unloading terminal on the Bear Lift, in the location of the existing Bear Lift upper terminal maintains access to beginner terrain near the base area.

<u>Surface Lifts (J and L) at Bear Den</u>
With the construction of the addition to the Bear Den Lodge and the desire to expand and improve the learn-to-ski area, a new surface conveyor lift (L) was required along with a reconfiguration of the existing surface conveyor (J). One alternative explored was to locate both surface lifts to the north, in the area where the existing Lift C terminal is. This option was not pursued as it resulted in undesirable skier and user circulation patterns, and it did not have suitable terrain. A second alternative kept the existing surface lift in its current location, and added a second surface lift extending from the top of the existing lift to the intersection of the bottom of Moose and Bobcat. The provided a longer stretch of learn-to-ski area, but was still limiting with regards to space given its proximity to the base terminal of Lift C. The current alternative is sufficiently separated from the Lift C terminal, makes use of existing terrain with a more suitable fall line and is proximate (horizontally and vertically) to access from the Bean Den Lodge addition.

C. Alternative Parking/Circulation Improvements

An alternative means of alleviating vehicular congestion and pedestrian/vehicular conflicts in the Base Lodge area would be to replace the existing bridge over the West Branch Ausable with

a wider bridge or to construct a second bridge over the river further to the north. A wider bridge could provide for additional vehicle lanes, including possible dedicated lanes for shuttle buses, as well as providing pedestrian walks that are wider than the current narrow walks over the bridge. A second bridge to the north could provide the opportunity for flow through traffic in the base lodge area. These alternatives could be given further consideration in future UMP documents. Currently, the conceptual transport lifts, could prove a viable alternative to what would be a costly construction project involving the environmentally sensitive river and some steep riverside slopes.

Consideration was given to improving access and circulation in and around the Bear Den area by using all or parts of the new upper driveway access to the mountain's maintenance area. Topographically, no desirable options were identified, and there is a strong desire to keep patron and mountain maintenance vehicular circulation segregated as much as feasible.

D. Alternative Appurtenances

Earlier planning efforts for Whiteface have included improvements to appurtenances. The new management actions in this UMP Amendment complement those previously approved actions.

There are no appurtenant buildings proposed in the UMP Amendment. Planning for building improvements, including the Base Lodge, Bear Den Lodge and Porcupine Lodge were approved in earlier UMP Amendments and are currently at various stages of completion.

There are no significant changes to the snowmaking system proposed in this UMP Amendment. Recent upgrades to pumphouse number 1 have been taking place under previously approved UMP amendment.

E. The No-Action Alternative

If the no-action alternative were pursued, none of the new management actions proposed in this UMP would be given consideration. Any management actions approved in earlier adopted UMPs, but not yet constructed/implemented, could remain in effect and can continue to be implemented.

The last significant UMP Amendment for Whiteface was in 2006, more than 10 years ago. The no-action alternative would defer new planning for the facility, and could mean that the following goals set by ORDA for Whiteface Mountain may not be attainable:

Whiteface recognizes the need to offer more intermediate terrain, specifically on Little Whiteface, and overall increase the number of family friendly trails accessed by the Gondola. A new lift is also part of this consideration to better manage the funnel effect which has occurred from the top of the gondola.

Whiteface will continue the on-going improvement and modernization of parking lots, lodges and guest service facilities, ski trails, snowmaking and lift facilities at Whiteface that will add to the public accessibility, increase user safety, and enhance recreational pursuits.

Whiteface will continue the maintenance and operation of Whiteface Mountain at a constant level over the ensuing five-year management period that will contribute to a stabilizing effect on Olympic region employment, economics, public recreation and governmental administration.

Whiteface will seek to improve infrastructure reliability in order to reduce the high frequency of breakdown, excessive staffing requirements and consequent financial drain.

Whiteface will seek to reduce its operations and maintenance costs by replacing outdated and aged equipment.

SECTION VII SUMMARY OF UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Some of the potential environmental impacts of the new management actions cannot be prevented or reasonably avoided. This section describes the unavoidable impacts that might occur as a result of the implementation of management actions set forth in this UMP which provide for further modernization, improvement and expansion of the Whiteface facility.

7.1 Construction Phase

Construction activities inevitably result in temporary impacts including: visual, noise, vibrations, dust, fumes and odors.

During construction, while vegetation is disturbed there is an increased risk of erosion during stormwater events and a resulting adverse impact in surface water quality. As a result, the water quality in nearby receiving waters may be impacted during the course of construction due to possible erosion of excavated areas. Preparation of project-specific Stormwater Pollution Prevention Plan (SWPPP) for construction activities using the mitigation measures described in Section V.A.2 will minimize these impacts.

Construction will involve clearing of vegetation for the construction of trails, buildings, shuttle lanes and other proposed facilities. Clearing results in habitat loss that could increase runoff and adversely impact wildlife. (See Section 2 for an explanation of the Environmental Setting, and Section 5 for Potential Impacts and Mitigation Measures) While there will be tree cutting required for ski trails, tree cutting is minimized to the extent feasible and the footprint of the proposed trails are within State constitutional limits.

There may be a localized impact to air quality from dust during construction, however, this potential impact will be temporary and will not extend outside of the Intensive Use Area.

7.2 Operational Phase

There will be an incremental increased use of surface water resources for snowmaking water supply. ORDA will continue to withdraw water from the West Branch Ausable River in accordance with its MOU with DEC in order to minimize potential impacts.

Wildlife may be impacted as a result of permanent removal of vegetation. As previously stated, tree cutting required for the construction of new ski trails and for trail widening is within constitutional limits.

Slightly increased attendance and operational activities as a result of the project will cause a corresponding slight increase in traffic levels, but peak hour traffic is not expected to significantly increase.

SECTION VIII IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The extent to which a proposed action may cause permanent loss of one or more environmental resources should be identified as specifically as possible based upon available information. Resources which should be considered include natural and man-made resources that would be consumed, converted or made unavailable for further uses due to construction, operation, or use of the proposed project, whether those losses would occur in the immediate future, or over the long term.

The management actions contained in this UMP Amendment do not involve any significant, irreversible or irretrievable commitment of natural resources under the footprint of the proposed new or widened ski trails or the new or relocated ski lifts. The footprint of the additional parking at the bus lot represents a small commitment of these natural resources to built conditions.

Many of the management actions would involve the removal of existing vegetation and would disturb on- site soils. It is not believed that such impacts are significant. No rare, threatened or endangered species are known to inhabit the site.

There would be a commitment of raw materials for construction of the bridges, including concrete, steel, gravel, and wood. Energy resources would be required for the construction, operation and maintenance of the expanded facility.

SECTION IX GROWTH INDUCING, SECONDARY AND CUMULATIVE IMPACTS

This section identifies the potential off-site impacts that may occur following improvements to the Whiteface Mountain facility. Growth inducing and secondary impacts relate to changes in population, land use patterns, and the creation of new businesses. Cumulative impacts relate to changes from the project plus changes from other projects in the region.

A review of the period since the 1996 UMP gives an excellent idea of what kind of economic impacts have occurred in the local region as a result of the recent improvements at Whiteface Mountain. The total number of visitors per year has increased, as has the number of season passes sold each year. The increase has had an entirely positive impact on the local business community and outlying communities.

The additional business realized from more skiers translates into jobs for residents and compounds its value as it moves through the local economy. The salaries from this employment help stabilize the local economy by offsetting the summer seasonal employment then layoff syndrome that dominates the service industry in the North Country area.

Cumulative impacts are also considered a positive factor for the economy. Several new housing developments are under construction to meet the demand for second homes. Much of the demand for new housing can be attributed to new people being exposed to the area through skiing at Whiteface Mountain. The impacts from residential growth versus tourism growth tend to be more subjective in that they can be perceived as positive changes for some and negative changes from other points of view. For example, an overall increase in downtown business revenue most likely also means more traffic on local roads. Most roads in the North Country, however, are designed to handle the level generated by the high volume summer seasonal traffic. Winter business is always welcome and the increased traffic is generally accepted as a necessary side effect.

SECTION X EFFECTS ON THE USE AND CONSERVATION OF ENERGY

Fuels will be used to power construction equipment and tools. Deliveries of lift components and other construction materials will also require fuel. Outside contractors will use fuel for traveling to and from the job site at Whiteface.

Development of new trails and widening existing of new trails will result in an incremental increase in energy needed for the increased areas of snowmaking. Better circulation at the Bear Den drop off may conserve some energy by decreasing the duration of vehicle idling.

The three New York-owned ski resorts, Belleayre Ski Resort, Gore Mountain and Whiteface Mountain, have pledged to be powered by 100 percent renewable energy by 2030, joining The Climate Reality Project I AM PRO SNOW *100% Committed* campaign. The initiative corresponds with Governor Cuomo's Clean Energy Standard, which requires that half of all electricity used in New York come from renewable sources by 2030.

Whiteface currently obtains approximately 100% of its electrical supply through renewable sources provided by Direct Energy, including energy provided at its wind farm in Altona.