SECTION 2 DESCRIPTION OF THE MODIFIED PROPOSED ACTION

2.1 Overall Project Design and Layout

See Figure 2-1, Project Masterplan, as well as Drawings L1.00 through L1.02 in the Site Plans that are part of this SDEIS.

The project consists of two development areas; Wildacres Resort (Wildacres) and Highmount Spa Resort (Highmount). Wildacres is planned to be a 3.5-4 star, 4-season resort with a focus on different types of outdoor recreation including golf, skiing, tennis, hiking, etc. The Wildacres Hotel is proposed across from the upper entrance to the Ski Center and the proposed new Belleayre West lift. Highmount is planned to be a 5-star, 4-season resort focused on spa and wellness center facilities and providing ski-in/ski-out access to Belleayre Mountain Ski Center trails. The western portion of the project site, known as the Adelstein parcel, has been put under a Conservation Easement granted to the City of New York and its use will be limited to passive recreational activities such as cross country skiing, snowshoeing, hiking, and horse riding.

The following table, "Project Development Summary", in conjunction with the project Master Plan on Figure 2-1, provides a general description of the different areas of the project site and the development proposed for the different areas.

Table 2-1
Project Development Summary

PROJECT AREA	**Hotel/ units**	**Detached Units**	**Other Improvements**	**Golf or Ski**
Wildacres				
NE Corner, Front 9 Village	0/0	84	Clubhouse, Pool, Tennis (2)	6 Holes
North of Gunnison	0/0	0	Golf Maintenance	2 Holes
Main Parcel	1/250	55	Golf Clubhouse with Hotel, Parking Garage, Marlowe Clubhouse, Tennis (2)	10 Holes, Lift nearby
Wilderness Activity Center	0/0	0	Wilderness Activity Center in Existing Buildings	Lift Nearby
Highmount				
Main Parcel	1/120	120*		3 Trails, Lift
North of CR 49A	0/0	0	None	None
West of CR 49A	0/0	0	Conference/Additional Space	None
Adelstein Cons. Easement.	0/0	0	None	None

* 80 of the 120 detached units at Highmount are actually housed within the multi-level hotel/spa and lodge buildings, only 40 units are truly detached, either in individual or duplex units.

2.2 Highmount Spa Resort

The lands that comprise Highmount Spa Resort part of the project were previously proposed as the location for a 20-lot single family home residential subdivision. This subdivision and development of single family homes is no longer proposed.

See Figure 2-2, "Highmount Layout Plan". Subsections "C" and "D" below list the full size plan sheets that show Highmount in greater detail.

A. Overall Description

The following are the development components proposed at Highmount. As discussed later in Section 2.8.1, all proposed building footprints are consistent with the sizes allocated in the AIP.

1. Main Hotel/Spa Building – located in the northwest portion of the parcel this building has a footprint of 299,117 square feet and has 6 horseshoe-shaped levels intersecting with the upward slope of the ground topography.
    a. 120 hotel rooms
    b. 53 fractional lodging units within the building (formerly East & West Lodge in the AIP)
    c. Café and sundry shop
    d. 125-seat restaurant
    e. 50-seat lounge
    f. Spa-30 treatment rooms, lap pool, cafe
    g. Fitness facilities
    h. Executive conference center with 3 conference rooms, one board room and one large meeting room

2. Adjacent Lodge Building – located to the southwest of the hotel/spa building and across the entrance driveway this building has a footprint of 51,887 square feet and has 4 levels.
    a. 27 fractional lodging units within one building (formerly individual detached units in the AIP)
    b. 1 common room for owners (card room, library or the like)

3. Detached Lodging Units – The Agreement in Principle allows for up to 120 detached lodging units. Eighty (80) of these are located within the hotel/spa and lodge building. Clustering at Highmount includes placing 53 of the detached lodging units within the multi-level main hotel/spa building and placing 27 of the detached lodging units within the multi-level lodge building next to the main hotel/spa building. Most of the remaining detached units are in two other clusters, one along the entrance drive and below the hotel/spa building that contains 8 duplex buildings, and a second cluster of 19 single units at the top of the old Highmount Ski Center. Unlike the Highmount plan in Exhibit C of the AIP, no detached lodging units are proposed across County Route 49A. The remaining 40 detached units at Highmount are located as follows.

a. 16 units below the hotel/spa in 8 duplexes (2,500 sf)
b. 5 single units along access road above the hotel/spa (2,750 sf) (The AIP allowed for up to 10 at this location if certain conditions could be met.)
c. 19 single units on a topographic bench near the top at the former Highmount Ski Area (2,750sf)

4. 12,000 square feet Auxiliary Conference/Clubhouse functions west of County Route 49A. This will be an adaptive reuse of some of the Leach Farm buildings within an overall footprint of approximately 7,300 square feet.

5. Skiing
   a. Lift from hotel/spa building to the top of old Highmount
   b. Trails – two down from the top of old Highmount, and one from the hotel/spa down to the bottom of old Highmount.

6. Driveway access off of County Route 49A to hotel/spa, lodge and detached units – 7,447 feet (1.4) miles long.

7. Parking
   a. 310 covered spaces within hotel/spa building
   b. 31 covered spaces within the Lodge building
   c. 2-car garages at each single detached unit
   d. 1-car garage and 1 surface parking space per unit at each detached duplex unit

8. Water Supply – central system, private supply

9. Wastewater-sewer collection system throughout and piped to Pine Hill WWTP.

10. Stormwater – stormwater management is achieved in a system that includes a wet extended detention pond, micropool extended detention basins, bioretention, dry swales, conveyance swales and closed pipe/catch basin conveyances.

B. Upper Access Driveway, Units and Stormwater Design

See plan sheets L4.00-L4.03, L5.04-L5.07 and RP7.05-L7.08.

The upper access driveway for Highmount is located at essentially the same location as shown in the AIP. The driveway location was the subject of extensive study (including field studies) involving many alternatives prior to agreement on this location in the AIP. The proposed route is the one that minimizes the length of driveway located on slopes >20%.

After siting the driveway and designing the stormwater management system for Highmount (see Section 2.2(B)(8) for more detail), a total of 5 of the possible 10 units are proposed along the road. As discussed above, the majority (80) of the units that were originally envisioned to be detached (120 total in singles or duplexes) have been consolidated within the main hotel and

lodge buildings. Two of the five units are located on a topographic bench approximately 600 feet uphill of the hotel building and to the east of the ski lift. The other three detached units along the entrance drive to the top of Highmount are located on another topographic bench that is approximately 400 feet below the top of the ski lift. All five units are located adjacent to the ski trails. As a result, the number of detached structures at Highmount has been reduced from the 52 allowed in the AIP to only the 32 that are proposed. This SDEIS also evaluates an alternative design that relocates these five units above the Highmount Hotel and Lodge, as well as the other 19 units proposed at the top of Highmount, to Wildacres as top floor units of existing, proposed structures. See Section 5.2 for details.

C. Site Plan and Utilities Mapping

See the following drawings in the Site Plan set that are Part of this SDEIS:

Master Plans, L1.00-L1.02
Site Grading and Drainage Plans, L4.00-L4.11
Phasing and Erosion Control Plans, L3.00-3.21
Slope Mapping and Final Stabilization Plans, L2.04-L2.05 and L6.00-L6.11
Site Layout, Materials and Planting Plan

Information on proposed water and sewer infrastructure can be found in the Sheets PN-1 through PN-19 drawings that are also part of this SDEIS.

D. Project Plans and Slope Mapping

The development plan for Highmount is shown in the context of slopes >20% in the aforementioned grading drawings in the Site Plan set.

E. Building Plans

Figure 2-3 is a photograph of a scale model of the Hotel and Lodge buildings at Highmount

For floor plans of the Hotel/Spa see Figure 2-4.

For floor plans of the Lodge see Figure 2-5.

For building plans of the detached lodging units see Figures2-6 through2-11.

See Figures 2-12 and 2-13 for the current concept for the additional conference/clubhouse space. Final design will be done in consultation with NYOPRHP.

2.3 Revised Wildacres Layout Including Highmount Golf Club

Figure 2-14, "Wildacres Layout Plan" and shows the proposed Wildacres layout, including the Highmount Golf Club. For more details see the site plan drawings listed in subsection B below.

A. Overall Description and Changes to DEIS Plan

Overall Description

The following are the development components proposed at Wildacres.

1. 250 unit hotel with a footprint of 4.0 acres with 8 levels that step down the hillside across County Route 49A from the upper Ski Center entrance. See subsection D for building information.
   a. Resort-related shops up to a total of 13,000 square feet
   b. Two restaurants one with 150 seats and one with 300 seats
   c. 100-seat beverage lounge
   d. Indoor Pool
   e. Two Tennis Courts
   f. Full Service Spa with 15 treatment rooms and a grotto pool
   g. Fitness Center
   h. Conference Center with 500-seat ballroom/auditorium
   i. 200-seat ballroom
   j. Eight meeting rooms

2. Existing Marlowe Mansion to be social club for detached lodging unit guests, and resort operational offices. The DEIS contains a photograph of the existing building.
   a. Library
   b. Meeting Rooms
   c. Game Rooms
   d. Reception, sales and operations office space

3. Highmount Golf Club – located on two areas north of Gunnison Road and on the main parcel south of Gunnison Road.
   a. 18-hole championship golf course
   b. Practice range and practice green
   c. Clubhouse connected to the Hotel (footprint size included with hotel size provided above)
      (1) 40-seat snack bar
      (2) Pro shop
      (3) Cart storage
      (4) Locker rooms with steam and sauna

   d. Maintenance Facility (for more details see SDEIS Appendix 15, Organic Golf Course Management Plan).
      (1) +/- 1,500 sf offices, restrooms, lockers, break room
      (2) +/- 4,800 sf maintenance area – garage bays, mechanic space, storage, etc.
      (3) +/- 1,000 sf organic fertilizer & pesticide storage area
      (4) covered wash down, rinse/recovery area
      (5) 2 +/- 1,000 gallons above ground fuel storage tanks
   e. Two on-course restroom buildings

4. 139 detached lodging units (2 and 3-bedrooms) in multiple-unit buildings clustered in the northeast portion of the site and near the hotel. Most of the units are housed in buildings that contain 8 units (octoplexes) and some are in buildings that contain 4 units (quadplexes). Five (5) octoplexes and 11 quadplexes (84 units) are clustered in the northeast portion of the site and are part of what is called the Front-9 Village. There are 7 octoplexes (56 units) located on the main parcel in the area of the hotel and are collectively referred to as the West Village. One of the units in the octoplex closest to the driving range will be for non-residential, resort-operations use. Units average 1,500 square feet and are on a single floor. There are upstairs and downstairs units in octoplexes and the quadplexes. See Subsection D for building information.

5. Clubhouse and recreation amenities for octoplex detached lodging unit occupants in the Front-9 Village. Footprint is 4,720 square feet. See subsection D for building information.
   a. 40-seat snack bar
   b. Outdoor swimming pool
   c. Health club
   d. Game rooms
   e. Reception, sales and operations office
   f. Two tennis courts

6. Wilderness Activity Center – adaptive re-use of old Highmount Ski Area buildings along County Route 49A.
   a. Existing main lodge building of Highmount Ski Area
      (1) Café with lounge and library
      (2) Locker rooms and weight training room
      (3) Jacuzzi, sauna and steam room
   b. 20-feet addition to existing main lodge
      (1) Inside rock climbing wall
      (2) Outdoor rock/ice climbing wall
      (3) Enlarged outdoor deck
   c. Existing ski rental shop – outdoor products sales and rental shop
   d. Staff to include guides to direct Resort guests to other off-site recreational uses including hiking, fishing, mountain biking, etc.
   e. Shuttle access for Resort guests (Wildacres and Highmount)

7. Roads (all roads are internal and will be privately maintained)
   a. Access connecting County Route 49A and Gunnison Road – 4,511 feet
   b. Connector to detached lodging units near 16th Fairway – 1,029 feet
   c. Front 9 Village Access off County Route 49A – 1,889 feet

8. Driveways
   a. Hotel driveway off of County Route 49A across from upper entrance to Ski Center
   b. Connection between hotel and parking garage

c. Golf maintenance access off of Gunnison Road
d. Wilderness Activity Center shuttle access off County Route 49A
e. Driveways to detached lodging units.

9. Parking
   a. Under hotel-250 covered spaces
   b. Parking garage – 208 covered spaces
   c. Golf clubhouse – 72 surface spaces
   d. Golf maintenance-18 surface spaces
   e. Front-9 Village-45 surface spaces

10. Water Supply
   a. Potable – central water throughout, private system
   b. Irrigation – on-site wells and stormwater sources

11. Wastewater – sewer collection system throughout and piped to Pine Hill WWTP.

12. Stormwater- P-2 Wet Pond (irrigation pond), P-5 Pocket Ponds and O-1 Dry Swales

SDEIS Changes to DEIS Wildacres Plans

In general, the proposed layout of the Wildacres Resort has been revised from the DEIS layout in the following ways.

1. Modification of project layout to adjust to changes in lands that comprise the project site.

   - Figure 2-15, "Changes to Wildacres Project Site" illustrates lands that were not part of the project site for the DEIS but have been added to the site. This same figure shows lands that were under contract by the Applicant at the time of the DEIS, but are no longer part of the project site. Also shown on Figure 2-15 are lands that are part of the Wildacres/Highmount site that may be sold or leased to the State of New York.

2. Reduced number of detached lodging units

   - The number of proposed detached lodging units has been reduced from 168 to 139 in accordance with the Agreement in Principle.

3. Modification of building locations and golf course layout to avoid slopes >20% as provided for in the AIP

   - New site topography mapping at a 2-foot contour interval (as compared to a 5-foot interval in the DEIS) was generated for this SDEIS and was used to produce slope mapping that shows the parts of the site that are greater than 20% slope. Figure 2-16, SDEIS Wildacres Plan and Slopes >20%, shows the current grading plan relative to areas of >20% slope. (Project Grading Plans, Drawings L4.00-L4.11, shows this same information at a larger scale.) For comparison, Figure 2-17, DEIS Wildacres Plan and

Slopes >20%, show the DEIS grading plan and the >20% slope mapping. In the DEIS there were 5 Wildacres detached lodging unit buildings, a total of 40 units, proposed on slopes of 20% or more. In the SDEIS plans slopes of 20% have been avoided when siting the detached lodging units. The AIP acknowledges that building lodging units only on slopes less than or equal to 20% will provide significant stormwater benefits for the project. This commitment by Crossroads is an enhancement beyond current NYSDEC and NYCDEP regulatory standards for steep slope construction (AIP #15). Avoidance of 20% slopes when siting the detached units was accomplished without an appreciable increase in the amount of golf course sited on lands >20%. In the SDEIS there is a 1% increase in the amount of golf on lands >20% over the DEIS (24.7 vs. 24.5 acres). While the amount of golf proposed to be on lands >20% was not reduced the SDEIS now identifies areas of golf holes on slopes >20% where no earthwork is proposed, where no grubbing will be proposed, etc. See Section 3.3.2, Sediment and Erosion Control, for additional details.

- The applicant's modified project design also exceeds the requirements of the AIP by having the building locations in the SDEIS plans for Wildacres more clustered than those shown on the concept plan that was included as Exhibit A in the AIP. The 3 octoplexes that were shown on the AIP plan along the 15th fairway have been relocated as shown on the SDEIS plans. Instead there are detached lodging units in two locations, a cluster in the Front-9 Village in the northeast corner of the site and a cluster south and southwest of the Wildacres Hotel referred to collectively as the West Village. This clustering exceeds AIP requirements and achieves the overall goal of clustering and placing buildings on slopes less than 20% to the greatest extent practicable.

4. Modification of golf layout to reduce stream crossings and increase buffers along stream.

    - In Figure 2- 18, "SDEIS Stream Crossings" the streams on the site and their associated riparian wetlands are shown in blue along with the current layout plan. Figure 2-19 "DEIS Stream Crossings", is the DEIS project layout plan that also includes streams/wetlands. Overall, the number of stream crossings has been reduced from 20 in the DEIS plan to 14 in the current SDEIS. The following are the stream crossings under the two plans.

Golf Hole Stream Crossings (-1)

- SDEIS: (7 total): Hole 11(2), Hole 13 (2), Hole 16, Hole 7, Hole 3
- DEIS (8 total): Hole 11 (2), Hole 13 (2), Hole 16 (2), Hole 2, Hole 8

Golf Cart Path Stream Crossings (-4)

- SDEIS (6 total): #3 tees, between #8 green and #7 tees, #11 tees, #11 green, #13 tees, #16 tees
- DEIS (10 total): Hole 11(3), Hole 13 (2) Hole 16 (2), hole 16/17, Hole 2, Hole (8)

Road Crossings (-2)

- SDEIS (none new, replace 1 existing culverted crossing with bottomless steel arch)
- DEIS (2 total), to detached units along hole 16, entrance to NE units off Gunnison

5. Limiting Cuts and Fills

Cuts and fills are discussed in more detail in Section 2.8.8, Grading, Drainage and Earthwork. Excavation of the hotel produces the largest amount of cut on the site. Hotel excavation will occur primarily by blasting, including that part of the hotel located on slopes >20%, and these areas of exposed rock will not be susceptible to erosion. Using the material from the hotel on-site is the great majority of the fills needed to construct the project. Spoil from the hotel excavation will be used at a number of locations on the golf course (see Section 2.8.8), the great majority of which is on lands of <20%.

6. Allocating Areas for Stormwater

Proposed stormwater management is illustrated on Drawings L5.00-L5.15 in the Site Plan set. Stormwater controls for areas that have impervious surfaces (buildings, roads, parking, driveways) include the irrigation pond (P-2) and P-5 pocket ponds located near the Front-9 Village entrance off of County Route 49A, near hole 1 green/hole 2 tees, at the entrance off Gunnison Road, next to the driving range, between holes 13 and 16 and between holes 14 and 15. With the exception of a portion of this last pond, stormwater controls were graded out of lands of <20% slope.

B. Site Plans and Utilities Mapping

For more detail see the following drawings in the Site Plan set that are Part of this SDEIS:

Master Plans, L1.00-L1.02
Site Grading and Drainage Plans, L4.00-L4.11
Phasing and Erosion Control Plans, L3.00-3.21
Slope Mapping and Final Stabilization Plans, L2.04-L2.05 and L6.00-L6.11
Site Layout, Materials and Planting Plan

Information on proposed water and sewer infrastructure can be found in the Sheets PN-1 through PN-19 drawings that are also part of this SDEIS.

C. Project Plans and Slope Mapping

The development plan for Wildacres is shown in the context of slopes >20% in the aforementioned grading drawings in the Site Plan set.

D. Building Plans

For building plans of the Wildacres Hotel Figures 2-20 through2-23.

For building plans of the detached lodging units see Figures 2-24 through 2-26.

2.4 Wastewater Collection and Treatment – Pine Hills Wastewater Treatment Plant

Appendix 16 of this SDEIS contains the Wastewater Preliminary Design Report for the project. See this report for additional details.

A. Collection and Conveyance

In general, the wastewater at Highmount will be collected and pumped to Wildacres. The combined flow will be collected at Wildacres and pumped to the Pine Hill sewer system. After flowing by gravity through the Pine Hill sewer system, the wastewater will be treated at the Pine Hill WWTP that is owned and operated by NYCDEP. The WWTP discharges all its treated wastewater to Birch Creek pursuant to an existing SPDES permit.

The wastewater from the Highmount Hotel and the detached lodging units will be conveyed to a below-grade pump station with submersible pumps. With a maximum day flow rate of 60,000 gpd and a peaking factor of 4, the capacity of the pump station will be 165 gpm. The below grade pump station will have a wet well with two submersible pumps. Each pump will have a capacity of 165 gpm. The pump station will receive its power from the hotel on a circuit that is backed up with a back-up generator. The 4-inch forced main will be approximately 4,300 linear feet and will discharge at a gravity sewer within the Wildacres Resort.

The Wildacres Hotel, Club House and detached lodging units will be served by 8-inch gravity sewers with some buildings being served with individual grinder pumps. The detached lodging units in the Wildacres Front 9 Village area located in the northeastern portion of the Resort will be served by grinder pumps and a low pressure sewer system, where small diameter pipe connects the grinders and conveys the flow without the use of gravity sewers and manholes. The combined discharge from the low pressure sewer system will discharge to the pump station at Wildacres.

The wastewater flow is collected at a below-grade pump station that is 250 feet from the golf course's hole 1 green. This pump station will be the final point of collection for all the Resort's wastewater. With the total flow of 160,000 gpd and a peaking factor of 4, the design pumping rate of the pump station is 450 gpm.

All of the sewer infrastructure will be located on the Resort's private property with the exception of a few road crossings and the approximately 11,000 linear feet of 6-inch forced main that will carry the flow to Pine Hill. The forced main is proposed to be located within the State Highway Route 28 right-of-way. The discharge point would be an existing gravity manhole located on Academy Street in Pine Hill

The Pine Hill WWTP currently experiences high flows during wet weather events due to inflow and infiltration issues with the existing Pine Hill sewer system. To assist the WWTP in dealing with the high flows, the AIP requires Crossroads to pay for a flow equalization tank at the WWTP. See section 3.1.4 for additional information regarding the equalization tank.

B. Capacity of Pine Hill Wastewater Treatment Plant

The Pine Hill WWTP has a design flow of 500,000 gallons per day (gpd) and it provides advanced wastewater treatment including microfiltration of the final effluent per NYCDEP standards. The average day flows of the Pine Hill WWTP are reported at 130,000 gpd based on current operational reports.

The proposed 158,800 gpd wastewater flow rate is expected to have traditional load characteristics of sanitary wastewater, which are:

- BOD of 200 mg/l
- TSS of 200 mg/l
- Ammonia of 40 mg/l

Because of the lodging characteristic of the Resort, the loadings are expected to follow standard diurnal loadings typically seen in municipal wastewater.

The proposed project could more than double the average day flow (130,000 gpd to 290,000 gpd), however this higher flow rate would only be 58% of the design and permitted capacity of the WWTP. Since the Pine Hill WWTP has sufficient treatment capacity and the loadings from the Resort are similar to conventional residential wastewater, the proposed project will not adversely affect the treatment capacity of the WWTP, nor its ability to meet its SPDES discharge permit. The existing SPDES permit will not require any amendments to accept the effluent from the Resort. See Appendix 16 and section 3.1.4 for additional information.

C. Other Connections to Pine Hill Treatment Plant

The Wastewater Preliminary Design report in Appendix 16 includes a map showing the limits of the existing Pine Hill sewer system that is connected to the Pine Hill WWTP. The sewer system is limited to the former Village of Pine Hill with the exception of the connection to the Belleayre Mountain Ski Center which is the only current large user in the system (seasonally and on peak days up to 60,000 gpd).

The Resort will not connect properties outside of its property to its wastewater system, nor accept wastewater from other properties outside the former Village of Pine Hill as per AIP paragraph 23.

2.5 Substituted Lands Comprising the Project Site

Figure 1-2, "Site Location Map", previously illustrated the boundaries of the lands that constitute the project site for the Modified Project. The project site consists of the following lands totaling approximately 739 acres.

The K well parcel is 35 acres located near the intersection of Todd Mountain Road and NY Route 28 and is the location of the project's primary water supply wells. Approximately 22

acres of the K well parcel is located in the Village of Fleischmanns, and this includes the portion of the K-well site that contains the water supply wells.

The Quarry Parcel owned by Crossroads Ventures consists of 10 acres of land off Moran Road that is the site of a project backup water supply well and water pump building.

Wildacres Resort lands are a total of 254 acres with frontage on County Route 49A and Gunnison/Kraft Road. Included in this total are the following;

- 65 acres with frontage on CR 49A and Gunnison Road
- 22 acres to the west with frontage on Gunnison Road
- 164 acres south of Gunnison Road and north of CR 49A
- 3 acres at the bottom of Highmount ski area along CR 49A

The Highmount Spa and Resort site illustrated on Figure 1-3 contains a total of 237 acres.

The westernmost portion of the site, comprised of 203 acres, is the Adelstein parcel which is subject to a Conservation Easement held by New York City. The Adelstein parcel represents over 25% of all of the lands comprising the modified Project site. See Figure 1-3 showing the location of the Adelstein parcel.

The Conservation Easement conveyed to the City of New York on November 16, 2010 is found in Appendix 3.

2.6 Disposition of Former Big Indian Plateau Lands

A. Lands Previously Proposed to Be Developed

SDEIS Figures 2-2-27and 2-28 are reproductions of DEIS figures that show the location and previously proposed development plans for the former Big Indian Plateau that, in general, consisted of a hotel, spa and golf clubhouse, an 18-hole golf course and a number of detached units located on either side of Giggle Hollow.

B. Current Plans for These Lands

The AIP provides that the Applicant and the State of New York will use their best efforts to ensure that approximately 1,189 acres in fee of the Big Indian Plateau property will be acquired by a public entity so that is the property is preserved and used for public, open space and recreational purposes. The area to be acquired is shown on Figure 2-29.

Crossroads has subdivided out and sold that portion of the Big Indian Plateau property that contains the “Brisbane Mansion" and the +/- 30 acres of land around it. The Contract for that sale requires that a conservation easement restricting future development rights be given by the buyer to the public entity which takes ownership of the Big Indian Plateau properties. Since that land transaction has not closed as of April 1, 2011, the conservation easement has not yet been granted.

The Applicant will retain that portion of the Big Indian Plateau property known as "Rosenthal Well Parcel" which is the +/- 7.5 acres parcel near the Day Use Area ," and the "Lasher Road Parcel", +/- 5.5 Acres in the east end of the property near Route on Figure 2-29. No use has been planned for this property.

2.7 Relationship to BMSC

A. Current BMSC in Relation to the Modified Belleayre Resort Project Site

As shown on Figure 2-30, "Existing Ski Center Facilities & Project Site Lands", BMSC is located southeast of the substituted lands that comprise the modified Belleayre Resort at Catskill Park site. The upper entrance to the BMSC is located across County Route 49A from the main portion of the lands comprising Wildacres. Deer Run Trail, currently the westernmost trail at the BMSC, is very near the boundary between the upper portion of the old Highmount Ski area that will be retained by Crossroads and the lower portion of old Highmount Ski Area that may be leased or sold to New York state to be added to BMSC. The lower BMSC parking lots and the Discovery Lodge are located south, across County Route 49A from the northeastern portion of the Wildacres property.

B. Proposed Ski Center in Relation to Proposed Project

Under the proposed layout of the facilities as contained in the current draft UMP (See Part A) and shown on SDEIS Figure 2-3 , "Proposed Ski Center Facilities and Modified Project Layout", a new lift, Belleayre West, is proposed to be located near the intersection of County Route 49A and the upper entrance to the BMSC, across from the Wildacres hotel. The project's Front-9 Village is located across County Route 49A from the BMSC's lower parking lot

The Highmount lift on NYSDEC's proposed UMP plans has its loading terminal located near the resort's Wilderness Activity Center housed in the existing buildings at the base of Highmount. The Spa Village lift, which will be constructed by the Applicant and leased and operated by the BMSC, will connect the Highmount Hotel/Spa building with the ski trails at the top of Highmount. Trails associated with this lift provide options for resort patrons and the general public to access all of BMSC as well as the resort. See Section 2.8.3 below, Pedestrian and Vehicle Circulation.

2.8 Project Details

2.8.1 Buildings

A. Location, Number, Sizes, and Styles

Information was provided previously for both Highmount and Wildacres in Sections 2.2.1 and 2.3.1, respectively, including the figures and drawings referenced within those sections

B. Footprints

The AIP contains limitations regarding building footprints.

The AIP also stated that the configuration (shape and placement) of the Highmount Spa Hotel and East and West Lodges as shown on Exhibit C of the AIP is conceptual and is not intended to limit the final design, provided these structures remain within the development envelope identified on Exhibit C and the total unit count for the Highmount Spa Resort does not exceed 240 units. This requirement has been met. The total number of above ground structures within the development envelope will not exceed four and the total number of structures for individual lodging units (including units in duplex structures) will not exceed 60 and the total number of individual detached lodging structures will not exceed 52.

The following is a list of AIP building footprint sizes and the footprints of proposed buildings.

Wildacres Resort

- Hotel and Golf Clubhouse
  - AIP = 185,600± sf
  - Proposed = 176,284 sf
- Detached Octoplex Units
  - AIP = 7,900± sf per building
  - Proposed = 7,728 sf
- Parking Structure
  - AIP = 45,000± sf
  - Proposed = 40,800 sf (includes ramp)
- Fitness Structure/ Pool House
  - AIP = 10,000± sf
  - Proposed = 8,965 sf
- Maintenance Buildings
  - AIP = 9,500± sf
  - Proposed = 8,573 sf
- Driving Range Structure
  - AIP = 5,500± sf
  - Proposed = 5,000 sf
- Water Treatment Plant and other minor accessory structures
  - AIP = 2,500± sf
  - Proposed = 2,000 sf

Highmount Spa Resort

Figure 2-3is a photograph of a scale model of the Highmount Hotel/Spa building and the Lodge building. As shown in these photograph, as well as in the previously presented floor plans, the Hotel/Spa building is a series of 6 horseshoe shaped levels that are built into the existing hillside to mimic the existing topography and limit excavation. The Lodge building is four levels and its

configuration in regards to topography is similar to the Hotel/Spa building. As shown in these two figures the roofs for the levels in these two buildings are green roofs.

- AIP West Lodge = 32,000± square feet (sf)
- AIP East Lodge = 32,000± sf
- AIP Hotel = 60,000± sf
- AIP Spa(underground) = 30,000± sf

These four components from the AIP total 154,000 sf.

As discussed previously in section 2.2.1, the current proposal is for the Hotel/Spa building and the Lodge building to also contain a total of 80 single detached units, which, per below, are allowed to be up to 2,800 sf per unit. 80 units at 2,800 sf each is a total of 224,000 sf.

Thus the total amount allowed by the AIP would be the 154,000 plus the 224,000, or 378,000 sf.

The total amount proposed is 299,117 sf for the Hotel/Spa and 51,887 sf for the Lodge, or 351,004 sf, or about 27,000 sf less than what was allowed by the AIP. .

The proposed Conference Center, Detached Single Units and Detached Duplex Units are also smaller than what was allowed under the AIP as follows.

- Conference Center
  - AIP = 12,000± sf
  - Proposed = 7,300 sf

- Detached Single Units
  - AIP = 2,800± sf per building
  - Proposed = 2,750

- Detached Duplex Units
  - AIP = 4,500± sf per building
  - Proposed = 2,500 sf

C. Clustering

The applicant's modified project design also exceeds the requirements of the AIP by having the building locations in the SDEIS plans for Wildacres more clustered than those shown on the concept plan that was included as Exhibit A in the AIP. The 3 octoplexes that were shown on the AIP plan along the 15th fairway have been relocated as shown on the SDEIS plans. Instead there are detached lodging units in two locations, a cluster in the Front-9 Village in the northeast corner of the site and a cluster south and southwest of the Wildacres Hotel referred to collectively as the West Village. This clustering exceeds AIP requirements and achieves the overall goal of clustering and placing buildings on slopes less than 20% to the greatest extent practicable.

Clustering at Highmount includes placing 53 of the detached lodging units within the multi-level main hotel/spa building and placing 27 of the detached lodging units within the multi-level lodge building next to the main hotel/spa building. Most of the remaining detached units are in two other clusters, one along the entrance drive and below the hotel/spa building that contains 8 duplex buildings, and a second cluster of 19 single units at the top of the old Highmount Ski Center. Unlike the Highmount plan in Exhibit C of the AIP, no detached lodging units are proposed across County Route 49A. Moreover, an alternative plan is proposed that would take all of the 24 units that are located above the Lodge and Hotel and relocate them to existing, proposed structures at Wildacres, as a low profile top story of those buildings. See SDEIS section 5.2.

2.8.2 Roads and Parking

A. Components, Length/Sizes and Locations

See Sections 2.2.1 and 2.3.1 and Figures and Drawings referenced therein.

Highmount driveway access off of County Route 49A to hotel/spa, lodge and detached units – 7,447 feet long.

Highmount Parking

a. 310 covered spaces within hotel/spa building
b. 31 covered spaces within the lodge building
c. 2-car garages at each single detached unit
d. 1-car garage and 1 surface parking spaces at each detached duplex unit

Wildacres Roads

a. Access connecting County Route 49A and Gunnison Road – 4,511 feet
b. Connector to detached lodging units near 16th Fairway – 1,029 feet
c. Front 9 Village Access off County Route 49A – 1,889 feet

Wildacres Driveways

a. Hotel driveway off of County Route 49A across from upper entrance to Ski Center
b. Connection between hotel and parking garage
c. Golf maintenance access off of Gunnison Road
d. Wilderness Activity Center shuttle access off of County Route 49A
e. Driveways to detached lodging units.

Wildacres Parking

a. Under hotel-250 covered spaces
b. Parking garage – 208 covered spaces
c. Golf clubhouse – 72 surface spaces
d. Golf maintenance-18 surface spaces
e. Front-9 Village-45 surface spaces

B. Ownership and Maintenance

All project roads will be privately owned and will be maintained by Resort staff, including plowing and sanding/salting in the winter. Road widths are designed to Town standards and will accommodate snow plowing and emergency vehicle access.

C. Highmount Access Road

The Highmount Access Road in relation to slopes >20% are shown on Drawing L4.00-L4.03. Grading for the Highmount Access Road is also shown on DrawingsL4.00-L4.03 and applicable Detail Drawings called out on the grading plans. The vertical profile of the Highmount Access Road is shown on Drawings L7.05-L7.08.

The Highmount access road is located as set forth in the AIP. This alternative was chosen from the many alternative examined because it had the best combination of maximizing the use of lands <20%, minimizing road length and minimizing cuts and fills. Road curves were located on the flattest sections for both safety reasons and for the ability to design stormwater control measures at these locations. Approximately 55% of the Highmount access road, or approximately 4,200 feet, is located on slopes less than 20% with approximately 3,200 feet located on slopes greater than 20%. By comparison, the access road for the Big Indian portion of the project proposed in the DEIS had nearly 23,000 feet of road proposed on slopes >20%.

Road grades do not exceed 15% anywhere along the proposed road alignment. The alternative proposal discussed in Section 5.3 eliminates the portion of the Highmount access road above the hotel and lodge building. This alternative reduces the amount of development proposed on slopes greater than 20%, reduces the amount of proposed impervious surfaces and reduces the amount of total disturbance. See section 5.3 for details. The alternative proposal still includes the proposed ski slopes and ski lift as well as the driveway access to the water tank at Highmount.

Extensive test pit data collected along the road centerline show that most of the upper portion of the access road will be built through rock. See Figure 2-32, “Highmount Access Test Pits” for test pit locations and Table 2-2, “Test Pit Data”. With the presence of shallow bedrock it will be possible to construct the up-slopes with a 1:1 slope. Excavated rock will be used to construct gabion walls that will be placed on the down-slopes, allowing for 2:1 down-slope construction to minimize the disturbance footprint of the Highmount Access Road.

Along the proposed driveway from County Route 49A to the upper Highmount units, stormwater is primarily collected in catch basins and conveyed through a closed pipe system to the detention ponds north of the proposed hotel. There is one bioretention area that treats runoff from two of the buildings on the upper section of the driveway, and one dry swale north of the hotel that treats runoff from the three buildings west of the Hotel and adjacent paved surfaces. Treated runoff from both areas is returned to the storm drain system in the roadway. Uphill runoff from undisturbed areas directly uphill of the driveway is collected in roadside swales and also conveyed to the detention ponds north of the Hotel.

2.8.3 Vehicular and Pedestrian Access and Circulation

A. Traffic

Traffic is discussed in Detail in Section 3.5, Traffic, as well as in Appendix 11 that includes the entire Traffic Impact Study.

B. Access

See the Project Master Plans, sheets L1.00-L1.02 in the plan set that accompanies this SDEIS.

Access to the project will be provided by County Route 49A and Gunnison Road. Figure 2-1 previously illustrated the locations where project access will be provided.

Wildacres' Front-9 Village is accessed on the north side of County Route 49A approximately half way between Van Loan Road and Old Schoolhouse Road.

People coming just to play golf at the Highmount Golf Club are likely to access the parking by the golf clubhouse by turning right off County Route 49A and onto Gunnison Road and then turning left off Gunnison Road into the Resort and then continuing north to the clubhouse parking.

The main entrance to Wildacres Resort is at the hotel, across County Route 49A from the upper entrance to BMSC. A little further along County Route 49A is the other end of the internal project road that connects County Route 49A to Gunnison Road.

Resort shuttle access to the Wilderness Activity Center in the old Highmount Ski Area base buildings will make use of the existing access drive.

Access into Highmount Spa Resort will be off of County Route 49A just past the existing Leach Farm on the other side of County Route 49A.

The conference center/clubhouse facility at the adaptively reused Leach farm buildings will be accessed by resort vehicles by a "U"-shaped driveway that connects with County Route 49A at two points.

C. Internal Circulation

At Wildacres internal circulation consists of the internal roadway within the Front-9 Village, the internal roadway that connects County Route 49A with Gunnison Road, and a side road off this connection that provides access to the 24 detached lodging units located along hole 16.

D. Pedestrian Access

A cross walk will be installed across County Route 49 to allow skier pedestrians to walk back and forth between the Wildacres Hotel and the Belleayre West lift.

Resort guests from the Front-9 Village that wish to walk to the Wildacres hotel will do so via the golf cart path that runs along Hole 9 and crosses Gunnison Road. As per the DEIS this cart path crossing (and the one between holes 13 and 14) will be marked and signs warning of the crossings will be posted on Gunnison Road. It is not envisioned that Resort guests at the Front-9 Village will walk to BMSC. Resort shuttle service will be provided to bring these guests to BMSC.

Likewise, no pedestrian connection will be provided between either of the Resort Hotels and the Wilderness Activity Center, Resort guests will have shuttle service to and from the Wilderness Activity Center. Previously a pedestrian crossing of CR49A was proposed south of the tees of golf hole 11. However, because of steep slopes on both sides of CR 49A in this area, it was determined that this pedestrian access could not be designed to be in compliance with the Americans with Disabilities Act.

All other pedestrian circulation at Wildacres will be internal within both the Front-9 Village and the Hotel parcel.

E. Shuttle Service

The Resort will operate a shuttle system to move guests within the Resort and back and forth from BMSC. The shuttle buses will reduce the number of vehicular trips between the Resort and BMSC. See the Traffic Impact Study in Appendix 11 for a description of the shuttle system.

In accordance with the AIP, Crossroads commits to utilizing hybrid vans or similar clean-air vehicles to transport guests and visitors traveling between Crossroads hotels and lodging units and nearby recreational facilities, including BMSC.

F. ATVs and Snowmobiles

Use of ATV's and snowmobiles by Resort guests will be prohibited. It is anticipated that these types of vehicles may be used as part of the operations and maintenance of the ski trails and lifts at Highmount by the BMSC staff.

2.8.4 Golf Course and Golf Course Management

A. Golf Course and Facilities

Golf-related facilities are shown on the Site Plans that accompany the SDEIS, including project master plans and layout plans (Drawings L1.00-L1.02 and L6.00-L6.11) The Project includes the 18-hole, +/- 7,000yard, par 71 Highmount Golf Club located within Wildacres. A practice fairway (range) with a number of target greens is also included, along with short game practice space that shares tee space with the practice fairway.

The golf course amenity is very similar to that proposed in the DEIS. One significant and environmentally beneficial change agreed upon in the AIP, the golf course will be managed as an

organic golf course. This represents a major departure for typical golf course facilities in New York State. Although the integrated pest management plan proposed in the DEIS will continue to be relevant in the event that issues arise with respect to organic management, Crossroads fully intends that the golf course will be a model facility in terms of its management as an organic course and its quality of play. The quality of the golf course is of paramount importance to enable the Modified Project to achieve its goal of bringing tourism and recreational amenities to the spring, summer and fall months.

The golf clubhouse is the same as proposed in the DEIS. The clubhouse for the Highmount Golf Club will be attached to the Wildacres Resort Hotel and will include a pro shop, a 40-seat snack bar, locker rooms with steam and sauna and golf cart storage and maintenance. There will be limited public access to the clubhouse, with access being limited to members of the public with reserved tee times on the golf course or hotel guests.

The golf course maintenance facilities have been relocated from the northeast portion of the site off County Route 49A to a location off Gunnison Road near hole 15. The facility consists of employee parking, a +/- 1,500 sf staff/office space building, +/- 4,800 sf maintenance and storage garage building and components designed to protect water quality.

An equipment washdown area will include a containment system that captures rinse water, grass clippings, sand, spray residues, grease/oil, etc. Captured rinse water and clean backwash from this system (i.e. a Carbtrol® system) will be delivered to the lined irrigation pond via the irrigation water supply line that passes the maintenance facility on its way from the Z well to the lined irrigation pond.

Access to the building will be by the golf course superintendent, assistant superintendent and trained applicators under the direct supervision of the superintendent. The temperature-controlled building will contain heat detectors, fire extinguisher, first aid kit, two stage ventilation (low level at all times and three times ventilation volume increase when someone enters the building), explosion proof fixtures, emergency shower/eyewash station, and personal protection gear. Hazard communication signage will be placed inside and outside the building. Material Safety Data Sheets on all pest controls stored in the building will be readily available. All personnel using the facility will be trained in safe handling and operation of application equipment and emergency response procedures and contacts.

Any release in the building will be readily contained by dry sorbent materials and safely stored until properly disposed of. Only the amount needed will be loaded in the application equipment. All rinsate material from containers and from the spray equipment will be captured in the system, recycled and reused in the next spray. Any pest controls will be stored, handled and applied according to their label instructions. All personal protective measures will be followed.

It is anticipated that only small quantities of pest controls will be stored in the building. Any empty pest control containers will be handled and properly disposed of in accordance with label directions.

The irrigation pond continues to be proposed in the northeast portion of the Wildacres site. The pond will be excavated (no dam structure) and lined with an impervious liner, and the storage volume of the irrigation pond is approximately 3.7 million gallons. Wherever feasible, stormwater runoff is being directed to the irrigation pond. This includes site runoff from as far away as the Wildacres Resort hotel.

Two small bathroom buildings are proposed along the golf course, one near the 13th green and the second near the 7th tees. These restrooms will connect with the Resort's central sewage collection system.

B. Organic Management Plan

In accordance with the AIP, an organic golf coursed turfgrass management plan has been developed for the Highmount Golf Club, and a copy of the plan is included in Appendix 15 of this SDEIS. The Management Plan consists of two main parts. The first part (sections 1 through 7) contains the actual Management Plan that describes how the Highmount Golf Club will be managed without the use of synthetic pesticides. The second part (sections 8 through 14) will be used for record keeping on the Plan implementation throughout the year, as well as a year-end certification of compliant implementation of the plan by the Technical Review Committee. The Technical Review Committee overseeing the implementation of the plan will include representatives from NYSDEC, NYCDEP and the non-governmental organizations that signed the AIP. See Appendix 15 for details.

2.8.5 Areas of Disturbance, Lands to Remain Undeveloped, and Impervious Areas

A. Areas of Disturbance and Lands to Remain Undisturbed

Area take-offs from the project grading plans produced the following amounts of site disturbance in acres and as percentages.

Site-wide
- Total = 739
- Disturbed = 235 (32%)
- Undisturbed = 504 (68%)

Wildacres
- Total = 254 ac.
- Disturbed = 175 ac. (69%)
- Undisturbed = 79 ac. (31%)

Highmount
- Total = 237 ac.
- Disturbed = 59 ac. (25%)
- Undisturbed = 178 ac (75%)

Adelstein

Total = 203 ac.
Disturbed = 0 (0%)
Undisturbed = 203 ac. (100%)

K-Well

Total = 35 ac
Disturbed = <1 ac. (3%)
Undisturbed = 34+ ac. (97%)

Q-Well

Total = 10
Disturbed = <0.1 ac. (1%)
Undisturbed = 10 (99%)

Conformance with the project plan limits of disturbance will be accomplished through pre-construction stake out and installation of tree protection and wetland protection fence as per notes 2 and 3 on the sediment and erosion control plans in the plan set that is part of the SDEIS.

B. Impervious Areas

See Tables 2-3 and 2-4 for an accounting of impervious areas at Wildacres and Highmount, respectively.

A total of 18 acres of impervious surfaces is proposed at Wildacres. The percentage of proposed impervious area at Wildacres is 7.3%, which, according to Table 4.2 of the New York State Stormwater Management Design Manual, falls somewhere between the impervious cover for agricultural lands and open urban land (i.e. park land, recreation areas and cemeteries). Approximately 30% of the impervious area is associated with the hotel and the parking garage.

A total of 8 acres of impervious surfaces is proposed at Highmount, with nearly all impervious coming from the detached units and roadways. The 3.6% impervious cover at Highmount puts it in the same impervious cover category per the Stormwater Management Design Manual as Wildacres (between agriculture and open urban land).

2.8.6 Water Supply, Potable and Irrigation

A./B. Potable Water

The preliminary engineering design report for the potable water supply and distribution system for the project is in Appendix 13. The report contains the testing report for the water supply wells for the project.

Pumping tests on new wells were performed in 2007 and 2008 as part of developing a potable water supply for the Modified Project. The impetus for installing and testing the new wells was to avoid the use of the Rosenthal wells, which are located in the Birch Creek valley in Pine Hill.

Concerns had been raised regarding the use of the Rosenthal wells and the potential effect on the flow in Birch Creek. The preference of the environmental parties which were signatories to the AIP, was to prioritize the use of other potable water sources rather than the Rosenthal wells. In keeping with this preference, the new wells are located outside of the Birch Creek drainage system and near the Village of Fleischmanns (the Village).

Two, three-day duration, constant rate pumping tests were conducted in autumn 2007 at the K well field, which consists of three production wells (K2, K3 and K4) that are located near the west end of the Village. Another three-day constant rate pumping test was conducted in autumn 2008 at the Q1 well, which is located near the east end of the Village. The two pumping tests at the K well field were conducted according to the September 14, 2007 Pumping Test Protocol (2007 Protocol) that was submitted to, and approved by, the New York State Department of Environmental Conservation, the New York State Department of Health, and the environmental parties to the AIP. The pumping test at the Q1 well was conducted according to the October 9, 2008 Pumping Test Protocol (2008 protocol) that was submitted to, and approved by, these same entities.

K Wellfield Pumping Tests

The K wells were installed to provide the primary sources of potable water for the Resort. The objectives of the two pumping tests were to determine the sustainable yield from various two-well combinations of wells K2, K3, and K4; to assess the potential effects of pumping those wells on nearby water supplies, surface waters and springs; and to evaluate the quality of the water from the wells.

The first test was a simultaneous pumping test that involved pumping wells K2 and K4 at average rates of 65 gpm each for 76 hours beginning on September 25, 2007 (130 gpm). Total drawdowns of 99.1 and 98.3 feet were measured during this test at wells K2 and K4, respectively. Long term projections based on 180 days of continuous pumping of both wells at 65 gpm each, with no aquifer recharge, resulted in projected total drawdowns of 102 and 101 feet at wells K2 and K4, respectively. The available drawdowns projected in K2 and K4 at the end of the 180-day hypothetical pumping period are 119 feet and 91 feet, respectively. The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K2 and K4 (130 gpm total) show stabilized water levels were achieved according to the NYSDOH criteria. Water levels in the two pumping wells achieved 90% recovery within 1½ hours after the test was ended.

The second test at the K well field was a simultaneous pumping test that involved pumping wells K3 and K4 at average rates of 75 gpm and 82 gpm, respectively, for 73.25 hours beginning on October 2, 2007 (157 gpm total). Total drawdowns of 132.2 feet and 125.9 feet were measured during this test at wells K3 and K4, respectively. Long term projections based on 180 days of continuous pumping of K3 at 75 gpm and K4 at 82 gpm, with no aquifer recharge, resulted in projected total drawdowns of 137 and 128 feet, respectively. The available drawdowns projected in K3 and K4 at the end of the 180-day hypothetical pumping period are 55 feet and 64 feet, respectively. The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K3 and K4 (157 gpm total) show stabilized water levels were achieved

according to the NYSDOH criteria. Water levels in the two pumping wells achieved 90% recovery within 1½ hours after the tests were ended.

Water level and water quality data show that neither of the pumping tests impacted any surface water body or spring. Two residential wells (the Mansion Well and Trailer Well) experienced drawdowns resulting from the pumping tests conducted at the K well field. The Mansion Well and the Trailer Well experienced drawdowns of 19.2 and 13.5 feet, respectively, during the K2-K4 test, and 23.8 and 17.4 feet, respectively, during the K3-K4 test. These drawdowns are minimal and will not diminish the availability of water from these domestic wells. No drawdown was experienced at the Village of Fleischmanns water supply wells, which are much further away from the K well field than the Mansion Well or the Trailer Well.

The results of water quality analyses show that arsenic was the only parameter where the NYSDOH Part 5 MCL was exceeded. The arsenic levels exceeded the MCL in all three pumping wells; consequently, water from the K well field will need treatment to reduce arsenic concentrations to acceptable levels. The results of a ground water under the direct influence of surface water (GWUDI) determination, which included microscopic particulate analyses on all three wells, indicate there is a low risk (EPA risk factors = 0) of contamination by surface water.

The review and analysis of data collected during the two simultaneous, constant rate, pumping tests demonstrate that the K well field is capable of sustaining a long term, average pumping rate of 157 gpm. The well field is capable of sustaining this rate without adversely impacting existing water supplies, streams, or springs.

Q1 Well Pumping Test

The Q1 well was installed and the pumping test was conducted to seek approval to use the well as a backup source of potable water for the Resort. The objectives of the pumping test were to determine the sustainable yield from well Q1; to assess the potential effects of well Q1 pumping on nearby water supply wells, surface waters and springs; and to evaluate well Q1 water quality. Particular attention was placed on the Village's water sources, which include nearby springs and water supply wells.

The pumping test involved pumping well Q1 at an average rate of 45 gpm for 75 hours beginning on November 7, 2008. A total drawdown of approximately 124 feet was measured at well Q1 during the test. The drawdown in the well is projected to be approximately 138 feet after 180 days of continuous pumping at 45 gpm, with approximately 173 feet of available drawdown remaining. The final six hours or more of water level data from the constant rate pumping test of well Q1 show stabilized water levels were achieved according to the NYSDOH criteria. The water level in well Q1 achieved 90% recovery within 3 hours after the test was ended.

The results of laboratory water quality analysis for well Q1 indicate that none of the NYSDOH Part 5 Maximum Contaminant Levels were exceeded. The results of a GWUDI determination, which included a microscopic particulate analysis, indicate there is a low risk (EPA risk factors = 0) of contamination by surface water.

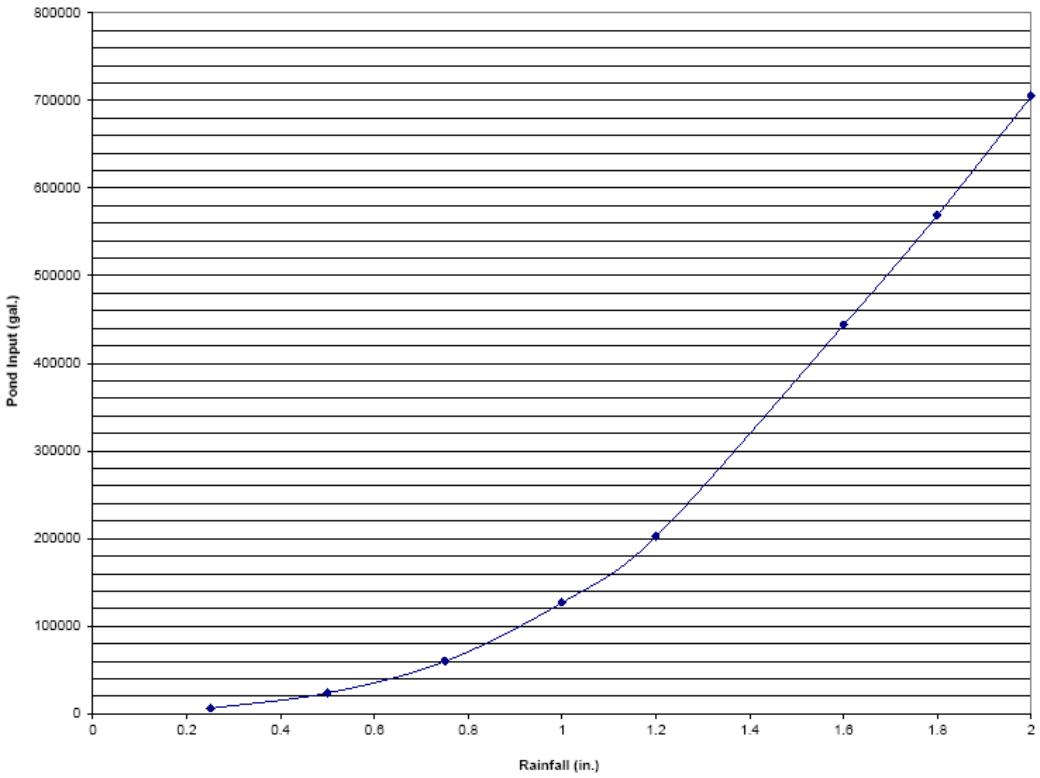
The review and analysis of data collected during the constant rate pumping test demonstrates that well Q1 is capable of sustaining a long term, average pumping rate of 45 gpm. The evaluation of well Q1 pumping influence on existing wells, and the evaluation of spring flow and water quality data during the test, indicates that the well is capable of sustaining the 45 gpm rate without adversely impacting existing water supplies, streams, or springs. The analyses further indicate that the Q1 well and Village well 2 can sustain their pumping rates together without adversely impacting each other, or the Village's backup well 4.

C. Irrigation Water

Supply

Three existing on-site wells known as "the pool well", "the Janis well" and "the Z well" together produce 36 gpm (51,840 gpd) and will be a source of irrigation water. Appendix 17 contains the testing report for the irrigation wells. In addition to irrigation water supply from these wells, stormwater runoff from a substantial portion of the site is captured and directed to the irrigation pond. Using a series of Hydro-CAD runs of different storm event amounts, the curve below was produced which correlates the amount of rainfall in a 24-hour type II storm and the amount of water reaching the irrigation pond.

Figure 2-33
Rainfall Events and Stormwater Input to the Irrigation Pond



Rainfall data collected at on-site NYCDEP monitoring station Belle 5 for the years 2002, 2003 and 2004 were used to determine how much stormwater input would occur in the months of June, July and August, the months of heaviest irrigation demand. These data are presented below.

Table 2-5
Stormwater (gals.) to Irrigation Pond

	2002	2003	2004	Average	Minimum
June	337,000	207,000	56,000	200,000	56,000
July	112,000	227,000	820,000	386,333	112,000
August	543,000	1,012,000	1,243,000	932,667	543,000
TOTAL	992,000	1,446,000	2,119,000	1,519,000	711,000

Storage

The irrigation pond located in the Front-9 Village portion of Wildacres has a storage capacity of 3,725,300 gallons.

Demand

Irrigation demand for the months of June, July and August was calculated using average rainfall data collected at the Belleayre monitoring station and average pan evaporation data collected in Downsville for these months. For the approximately 65 acres of tees, greens and fairways to be irrigated, the total irrigation demand for the three months was calculated to be 7,793,640 gallons.

Balance

Using the 3 wells, average stormwater input, pond storage volume and projected demand, the following is a summary of irrigation water supply for the 13-week period of June through August.

Wells 4,848,480 + Avg. Storm 1,519,000 – Demand 7,793,640 = -1,426,160 gals.

The lined irrigation pond would be 60%+ full at the end of August, and could be refilled in about 27 days with just well supply, faster with significant stormwater inputs.

Since the demand numbers used above are based on average rainfall and pan evaporation data, there will be years when demand will be higher. The golf course irrigation system will be set up so that it will be possible to reduce the area to be irrigated, for example tees and greens only (approximately 6 acres total), if and when it becomes necessary to conserve irrigation water during drier conditions.

For drier conditions, a similar assessment as above was done for irrigating the full 65 acres, but using the minimum stormwater input for the three months from the 2002-2004 rainfall data.

Wells 4,848,480 gals. + Min. Storm 711,000 gals. – Demand 7,793,640 gals = -2,234,160 gals

Under this scenario the +/- 3.7 million gallon lined irrigation pond would be approximately 40% full at the end of August, and could be refilled in about 42 days with just well supply, faster with significant stormwater inputs.

The Project's potable water supply sources could be used during the grow-in of the golf course, and prior to any of the Resort facilities opening.

D. Plans and Design Report

The plans for water supply are sheets PN-1 through PN-19 in the plan set that accompanies this SDEIS.

The preliminary water supply design report is in Appendix 13 of this SDEIS.

E. Water Saving with Green Building Design

The U.S. Green Building Council has created a set of Green Building Design Elements that cover many aspects of a project and typically emphasizes Sustainable Sites, Water Savings, Energy Efficiency, Materials & Resources, and Indoor Environmental Quality. Although not all of the elements have been defined in their final state at this time, the Project is committed to obtaining Silver status or higher in the LEED rating program and several of the elements that have been or will be incorporated into the project that would have a definite influence on reducing water consumption are as follows:

1. Water Efficient Landscaping,
   - Design the project site to maintain natural storm water flows by promoting infiltration where possible. Specify vegetated roofs, pervious paving, and other measures to minimize impervious surfaces. Reuse storm water volumes generated for non-potable uses such as landscape irrigation, toilet and urinal flushing and custodial uses.
   - Determine appropriate plant material and design the landscape with native or adapted plants to reduce or eliminate irrigation requirements. Where irrigation is required, use high-efficiency equipment and/or climate-based controllers.
   - Determine appropriate landscape types and design the landscape with indigenous plants to reduce or eliminate irrigation requirements. Consider using storm water, grey water, and/or condensate water for irrigation.

2. Innovative Wastewater Technologies
   - Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled grey water, and on-site or municipally treated wastewater).

3. Water Use Reduction

- Maximize water efficiency within buildings to reduce the burden on water supply and wastewater systems. Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.

2.8.7 Wastewater

Wastewater generated from the project will be collected and conveyed to the wastewater treatment plant in Pine Hill. See previous section 2.4 for details. The project plan set that accompanies the SDEIS includes the plans for the project wastewater collection system and the conveyance along NYS Route 28 into Pine Hill. The preliminary design report for the wastewater infrastructure is in SDEIS Appendix 16.

2.8.8 Grading, Drainage, and Earthwork

A. General Drainage Patterns

Existing drainage patterns on the site are illustrated on the Existing Subcatchment Plans that are Drawings L5.00-L5.01 in the Site Plans that accompany this SDEIS. The watershed divide between the Ashokan and Pepacton watersheds (source: NYSDEC) is shown on Drawing L5.01as well as Figure 2-34, "Watershed Divide". As shown on Drawing L5.01 and Figure 2-34, essentially all of the site is within the Pepacton watershed, with only a very small portion of the Wildacres site along the lower section of County Route 49A being within the Ashokan watershed.

Overall, the site drains from south to north including Todd Mountain Brook that runs through the Adelstein property, and two unnamed tributaries of the Bush Kill that run through Wildacres. Another small stream runs northwest through the southwest corner of the Front-9 Village portion of Wildacres. Drainage from Highmount currently runs overland and is collected in drainage swales on the uphill side of County Route 49A. This drainage passes underneath County Route 49A via a number of culverts shown on DrawingsL5.00, including a 52-inch concrete culvert near the base of the Highmount Ski Area (culvert/design point 6 on Drawing L5.00). Drainage from Wildacres currently exits the site via a number of culverts that pass under the railroad to the north (culverts/design points 7, 8, 9, 10 & 11 on Drawing L5.01),

B. Grading Plans

Proposed grading for the project is shown on Drawings L4.00 through L4.11 (1"=50', 2' contour interval) in the Site Plans that accompany this SDEIS.

Existing and proposed drainage patterns for the project site are shown on the existing and proposed subcatchment maps Drawings L5.00 through L5.15 in the Site Plans that accompany this SDEIS. Changes in drainage patterns as a result of site grading and from the capturing and

routing of stormwater under the proposed conditions can be assessed by comparing the amount of areas draining to the stormwater management design under the existing and proposed conditions.

The portion of the site that is part of the Ashokan Reservoir watershed (subcatchments 12 and 16) decreases by 1.78 acres as a result of the proposed grading. Site grading results in 1.78 acres that previously drained east into the Ashokan watershed to now draining to the west into the Pepacton watershed. This decrease represents 0.001% of the 164,000 acre Ashokan Reservoir watershed.

C. Earthwork

Earthwork (cuts and fills) is balanced within Wildacres and earthwork is balanced within Highmount. See section 3.3(H) for details.

D. Proposed Stormwater Control Measures

The AIP specified that the Applicant, the regulatory agencies and the environmental party signatories shall be in contact throughout the process of designing the stormwater management for the modified project. Specifically, item 20(c) of the AIP states the following.

"Prior to completing the analyses and modeling that will support the conclusions in the SDEIS concerning stormwater management (including, but not limited to, pre- and post-development pollutant loadings, and pre- and post-development stormwater quantities, and peak rates of runoff), Crossroads' consultant will meet with technical representatives of the City, the State, and a technical representative acting on behalf of the NGO to review and seek to agree upon the model assumptions and inputs."

Meetings and communications between the Applicant's consultants, NYSDEC, NYCDEP, and the NGOs were initiated in July of 2008 and have continued throughout the course of the preparation of the stormwater management plans, including communications going through February 2011. Topics that were discussed and resolved included the following;

- models to be used-HydroCAD and the Modified Simple Method,
- the establishment modeling protocols including the storm distribution type to be
- used and the return interval storms to be modeled,
- establishment of acceptable design points and the subcatchment areas contributing
- to the design points,
- establishment of appropriate runoff curve numbers for pre-construction and post-
- construction modeling,
- management practices pollutant removal efficiencies,
- amounts of concurrent land disturbance,
- use and sizing of sediment basins,
- basin dewatering including the continued proposal to utilize Chitosan®, and
- the use of locally-collected NYCDEP water quality data.

The consensus building that occurred as described above in response to the directive of the AIP also served to address issues contained in the NYSDEC Deputy Commissioner's December 29, 2006 Interim Decision that included storm water issues related to the adequacy of the HydroCAD model and its assumed inputs and design points, the identification of the storm water flow paths on the project site, the level of pre- and post-development storm water flows, and the basis for the waiver of the requirement to have no more than five-acres exposed during construction at any one time.

The most recent discussions with the regulatory agencies have focused on plan compliance with the new NYCDEP regulations issued in April 2010 that include use of the 1-year storm for water quality volume and providing redundant treatment in areas of greater than 20% impervious surfaces, as well as the updates to the New York State Stormwater Management Design Manual (effective in March 2011) and the Manual's focus on reducing stormwater generation at its source by the inclusion of green infrastructure practices to produce acceptable runoff reduction volumes.

The Stormwater Management Design Report is in Appendix 18. Also see drawings L5.00-L5.15 that accompany the SDEIS.

Wildacres

For Wildacres south of Gunnison Road runoff is either directed to the design points along the railroad tracks or to the irrigation pond located in the Front-9 Village portion of Wildacres. On the western side of this part of the site sheet flow over the proposed golf course is directed to dry swales using grading and shaping of the landform. Runoff is treated in the dry swales and discharged via standard conveyance swales to existing adjacent drainage courses. In these areas, existing wooded areas, including the existing riparian corridor, are preserved to the maximum extent practicable.

Runoff from the first portion of the access road, (County Route 49A to the first lodging building), is collected in a series of catch basins and roadside swales, treated in a bioretention area adjacent to the 18th tee, and released into a proposed roadside swale leading eventually to an existing drainage channel. Runoff from the central portion of the access road (first lodging building to the clubhouse), the lodging buildings, the golf course clubhouse and a portion of the clubhouse entry drive are also collected in catch basins and pipes, and conveyed in a closed system to Micropool extended detention ponds adjacent to the driving range and the 16th fairway. Stormwater is treated and released from the ponds into conveyance swales, leading directly to an existing drainage course running through the center of the site. Golf course runoff from the central portion of the site is directed via sheet flow to dry swales using grading and shaping of the landform. Runoff is treated in the dry swales and discharged via standard conveyance swales to existing adjacent drainage courses. Runoff from the eastern portion of the access road, (clubhouse to Gunnison Road), the clubhouse parking lot and the 1st hole are also collected in catch basins and roadside swales, and primarily conveyed to a micropool extended detention pond east of the 1st green. Runoff from the rooftop terraces of the Hotel is collected and treated in a series of built in, flow-through stormwater planters, and conveyed to the drainage system leading to the same pond east of the 1st green. Treated water is then released to an existing ditch

on Gunnison Road that drains off site towards one of the design points, Design Point 9. The lower portion of the access road is treated in a dry swale behind the 1st green, and released to the same ditch on Gunnison Road.

With the exception of the rooftop terraces, runoff from the Hotel roof, the adjacent parking garage, areas south and east of the Hotel and the 9th hole, is conveyed to the irrigation pond at in the Front-9 Village portion of Wildacres. Runoff is collected in piping systems and directed to a conveyance swale east of the 9th hole, then under Gunnison Rd. and the adjacent drainage course in a closed pipe, before being discharged to another surface swale that drains to the irrigation pond.

At the Front-9 village portion of Wildacres, a majority of the drainage area, along with the portions of Wildacres south of Gunnison Road noted above, are treated in the irrigation pond. Runoff from the Front-9 Village is directed via sheet flow to two bioretention areas in the boulevard of the access driveway, treated, and released through a pipe to the irrigation pond for additional treatment and attenuation. Runoff from the Front-9 Clubhouse and adjacent paved areas is collected in catch basins and also conveyed to the irrigation pond. Softscape areas adjacent to the pond and a portion of the 5th, 6th and 7th holes also drain to the pond. Runoff collected in the pond is stored for re-use as irrigation for the golf course. The pond is designed with sufficient freeboard to treat the required WQv, and provide the necessary attenuation for the 1, 10, 25 and 100-year storm events. Overflow from the pond in severe storm events is conveyed as sheet flow and shallow concentrated flow to a conveyance swale west of the 3rd green, where is it discharged into the existing drainage channel along the railroad bed at the north end of the property, and eventually drains to Design Point 11. Golf course runoff from the 3rd hole and areas north of the irrigation pond is directed via sheet flow to dry swales using grading and shaping of the landform. Runoff is treated in the dry swales and discharged via standard conveyance swales to existing drainage courses along the northern property boundary.

The southern portion of Wildacres east, composed primarily of 7th and 8th holes is the only part of the proposed project within the Ashokan Watershed. Runoff from the golf course is directed via sheet flow to a bioretention area adjacent to the 8th tee using grading and shaping of the landform. Runoff is treated in the bioretention area and discharged in a pipe to the existing drainage ditch along Route 49A. Overflow from larger storm events will be released over a weir into an adjacent detention basin where it will be attenuated and released at a controlled rate through a pipe into the same drainage ditch along Route 49A.

Highmount

On the upper portion of Highmount, runoff from proposed buildings and roads is collected as sheet flow in a series of bioretention areas, treated, and conveyed to a Micropool Extended Detention Pond west of the development area. The detention pond provides additional treatment, and also collects and treats runoff from adjacent areas that do not go through the bioretention areas. Conveyance to the treatment devices is via sheet flow, conveyance swales and a closed pipe and catch basin system. Stormwater collected in the detention pond is released through a controlled release structure with staged orifices to control flow rate, and an overflow weir, to a

conveyance swale/pipe system, and eventually to an existing drainage channel that runs along the existing Highmount Ski Area access road.

Along the proposed driveway from County Route 49A to the upper Highmount units, stormwater is primarily collected in catch basins and conveyed through a closed pipe system to the detention ponds north of the proposed hotel. There is one bioretention area that treats runoff from two of the buildings on the upper section of the driveway, and one dry swale north of the hotel that treats runoff from the three buildings west of the Hotel and adjacent paved surfaces. Treated runoff from both areas is returned to the storm drain system in the roadway. Uphill runoff from undisturbed areas directly uphill of the driveway is collected in roadside swales and also conveyed to the detention ponds north of the Hotel. Any potential overflow or drainage from the green roofs constructed as part of the Hotel and Lodge buildings will also be routed through the detention ponds to the north. The two detention ponds to the north are a combination of a Wet Extended Detention Pond (P-3) and a Micropool Extended Detention (P-1) pond designed in series. Runoff is directed first to the Wet Extended detention pond, which will function both as an aesthetic pond and a treatment and attenuation device. The pond is designed with a static water elevation and adequate freeboard to pass the 100-year storm event. The pond will also function as a forebay for the adjacent Micropool Extended Detention Pond. Runoff flows over a broad crested weir from the P-3 to the P-1, where additional treatment and attenuation is achieved, and discharged to the adjacent roadside ditch on County Route 49A.

The Leach Farm north of Route 49A utilizes a single bioretention area for treatment and attenuation. Flows are conveyed through a piping system from the building roof and paved areas to a stable outlet before it enters the bioretention area via surface flow. Once treated, stormwater is discharged to a drainage ditch along an existing woods road.

2.8.9 Construction Activities and Phasing

A. Sequence of Activities & On-site Processing

<u>Sequence of Activities</u>

The overall phasing plan for project construction is illustrated on Figure 1-4 and Drawing CP-1 both entitled Phasing Plan.

The following is a synopsis of the overall construction sequence. More detailed information on sequencing of construction steps can be found in the project SWPPP in Appendix 19 and in section 3.1.2 that describes the proposed sediment and erosion control measures.

<u>Wildacres</u>

1. Wildacres Resort
   a. Install erosion control measures, grub, bury stumps, rough grade, install irrigation and drainage, final grade, temporarily stabilize (where necessary), and final stabilize golf holes 3 through 8, 10, 11 and the driving range.
   b. Construct main access road through site, install binder course as soon as possible.

c. Cut 20 foot wide centerlines on internal roads and parking. Stabilize haul roads and other disturbed areas with ryegrass.
d. Blast rock for hotel, begin construction of hotel and golf clubhouse, golf maintenance building, potable water treatment facility, and off-site water and sewer lines. These components will all be completed by the summer of the third year. Set up and operate rock crusher and concrete batch plant at the practice range. These will operate for the first 18 to 24 months of construction.
e. Install utility infrastructure (water, wastewater, power and communications) in vicinity and along all roads.
f. In the first winter clear, but do not grub, remaining golf hole centerlines for remaining golf course construction.

2. Wildacres Resort
   a. Continue hotel construction.
   b. Install erosion control measures grub, bury stumps, rough grade, install irrigation and drainage, final grade, temporarily stabilize (where necessary) and final stabilize remaining golf holes.
   c. Grub and bury stumps, grade, gravel, and install binder course on all internal roads and parking except the Front-9 Village.
   d. Install utility infrastructure in vicinity and connect to all buildings under construction.

3. Wildacres Resort
   a. Install top coat of asphalt on all roads and parking with binder course, landscape all completed buildings.
   b. Open full golf course and hotel, golf clubhouse, and all associated buildings/amenities mid to late summer.
   c. Construct access road and recreational amenities for the Front-9 nine Village
   d. Rehabilitate existing Highmount Ski Area buildings as Wilderness Activity Center.

4. Wildacres Resort
   a. Rehabilitate Marlowe Mansion
   b. Build detached lodging units as they are sold.

Highmount

1. Highmount Spa Resort
   a. Install erosion control measures, begin construction of entrance drive, and construct stormwater basins near County Route 49A.
   b. Construct haul road along proposed access road location up to Hotel location, clear approximately 1/3 acre within hotel footprint to use as stockpile area for first work area excess cut material. Install erosion control around stockpile area.
   c. Construct main access road to the vicinity of the entrances to the Hotel building and Lodge building install binder course as soon as possible.

d. Clear additional portion of Hotel footprint and Lodge footprint (no earthwork) for use as stockpile and staging areas, install erosion controls in stockpile areas.
e. Continue road construction up to first switchback stockpiling excess cut material.
f. Construct remainder of upper access road in +/- ½ acre increments.
g. Commence Hotel and Lodge site preparation, including blasting. Set up and operate rock crusher near the north end of the Lodge building footprint. This will operate for the first 12 to 18 months of construction.
h. Commence Hotel building construction and stabilize prepared Lodge site.
i. Install utility infrastructure (water, wastewater, power and communications) in vicinity of Phase 1 and along all roads.
j. Continue and complete Hotel building construction.

2. Highmount Spa Resort
   a. Construct Lodge building.

3. Highmount Spa Resort
   a. Construct 19 detached units at the top of Highmount.

4. Highmount Spa Resort Years
   a. Construct the remaining detached lodging units.
   b. Rehabilitate Leach Farm buildings into additional conference/clubhouse space.

On-Site Processing

Like the original DEIS proposal, the modified project that is the subject of this SDEIS includes use of a portable rock crusher and a concrete batch plant in the vicinity of the Wildacres hotel. A rock crusher will also be operated in the vicinity of the Highmount lodge building. The Noise Impact Study in Appendix 20 identifies the locations of the rock crushers.

The feasibility of establishing an on-site mobile batch asphalt plant was evaluated. Consideration was given to the site's proximity to existing asphalt plants and their ability to provide suitably hot asphalt, as well as an economic feasibility assessment of producing asphalt on site. This analysis determined that an on-site plant was not necessary or economically advantageous. An on-site mobile batch asphalt plant is not proposed as part of the project. A nearby existing asphalt plant is available to meet the project's asphalt needs.

The project will require a large volume of concrete, some of which will be produced on-site using stone materials excavated on-site. Additional concrete will be brought in from outside plants. One such plant, at Wadler Brothers Home Center, exists within 3 miles of the project site on NY Route 28. Mason sand and cement will have to be brought to the site. A portable ready mix concrete plant, a mobile source, will be located near the golf clubhouse at Wildacres and will produce concrete for the Wildacres portion of the project during the first two years of construction. The concrete batch plant near the golf clubhouse will have an associated rock crusher mill. Co-locating the concrete batch plant near the crusher mill will minimize sound impacts and reduce the number of truck trips required to move the raw stone material to the batch plants. These plants will operate for the first 18 to 24 months of the project. The concrete

batch plant will operate continuously during the work day when the large monolithic pours are necessary. Therefore, the plants may operate for prolonged periods of time followed by periods of shut down while concrete sets or forms are being removed and moved.

The mobile concrete batch plant and the two rock crushers will have their own mobile source air permits for these facilities.

B. Blasting

Blasting will be required to build certain buildings and sections of road. The locations where blasting is expected to be needed were identified using the project grading plans and project depth to bedrock information generated from the site soils maps. It can be expected that blasting will be needed in those location where the depth of earthwork cut exceeds the depth to bedrock.

Figure 2-35, "Blasting Locations-Wildacres" identifies where blasting is expected to be needed at Wildacres. The largest area is at the Wildacres hotel and its immediate surroundings. Other locations are smaller areas at various locations on the site including some areas on the golf course and some short sections of access road.

Figure 2-36, "Blasting Locations – Highmount", shows blasting being needed for portions of the Hotel and Lodge buildings, near the entrance off 49A for road and stormwater management, along the roadway to the top of Highmount, and some small area on the top of Highmount including for stormwater management.

C. Blasting Best Management Practices

Impacts and mitigation measures related to blasting are discussed in detail section 3.3, and additional discussions of potential blasting impacts and mitigation measures for other topics can be found in the following subsections in Section 3. This includes the implementation of pre-blast surveys, a well inspection program, the operation of a noise complaint telephone line, and actual blasting practices to be implemented to avoid off-site impacts.

- Nearby Structures and Water Supplies, 3.2
- Wildlife, 3.4
- Traffic, 3.5
- Noise, 3.7
- Air Quality, 3.12

D. Outside Construction Inspections

Construction inspection methods and procedures by local municipalities and other regulatory agencies will follow normal and typical inspection procedures. Construction documents will be reviewed and followed. Building construction inspections are typically performed by:

- The local building inspector or code enforcement officer.

For example, Section 116-63 of the Shandaken Zoning Ordinance states that the Zoning Enforcement Officer shall have the right to enter upon, examine, and inspect, or cause to be entered, examined and expected any building or property at any reasonable time for the purpose of carrying out his duties and to determine compliance with the provisions of this chapter. A written report of each such examination and inspection shall be prepared on an appropriate form and kept on file by the Zoning Enforcement Officer.

- County Health Department.
- The electrical underwriter.
- The insurance underwriter, at completion of the building.
- The local fire department, at completion of the building.

Building construction inspections are typically performed at critical construction stages.

Site construction inspections will likely be performed by the NYSDEC and NYCDEP at stages critical to the installation of sedimentation and erosion control systems. These inspections will be carried out in conjunction with the project Independent Monitor and Erosion Control Superintendent overseeing the proper implementation of the project SWPPPs as described in Section 3.1.2. The Project Independent Monitor and Stormwater Superintendent will be available to assist in these inspections.

Water and wastewater infrastructure installation may be inspected by the Ulster County Health Department, NYSDOH, NYSDEC and/or NYCDEP at intervals appropriate to the stage of construction.

All site facilities and infrastructure will be available for inspections at intervals as requested by the regulatory agency(s) as will be the records of the dedicated erosion control crews.

E. Construction Sequencing and Land Disturbance

Sheet 3.00 in the plan set that accompanies this SDEIS and Figure 2-37 show the progression of work for Phase 1 construction. See Section 3.1.2 for details.

The overall project is broken up into three physically separate construction projects, the main part of Wildacres south of Gunnison Road, the northeast corner of Wildacres north of Gunnison Road and Highmount. Each of these areas has a Phase 1, a Phase 2 and a Phase 3-8. Within each of these phases work areas have been established. Generally speaking, work areas are +/- 5 acres or less in size and one work area will be actively disturbed at any one given time in each of the 3 construction areas. The exceptions to the +/- 5 acre work area size cap are the site areas of the two hotels.

F. Schedule As It Relates To Project Effects

Projected project buildout has 73% of the units becoming available by year 3. By year 8, 97% of the units will be available, and 100% buildout is projected at year 11.

For operational phase activities such as traffic generation, water use, wastewater generation, and solid waste management, levels of these activities will increase at the same pace as the units becoming available. For example, the wastewater design report in Appendix 16 calculates maximum daily wastewater flows of 160,000 gpd at full buildout and at 100% occupancy. Using the buildout percentages from above, maximum daily flows (assuming 100% occupancy) would be about 117,000 gpd in year 3, 155,000 gpd in year 8 and would reach the full 160,000 gpd in year 11.

G. Construction Traffic

Construction traffic is discussed in section 3.5(F).

H. Earthwork Transport

Excess cut will not be generated by construction site work, so there will be no need to truck material off of the project site. Likewise, bulk fill is not required to be imported. There are no mining activities associated with the project that would require a NYSDEC Mined Land Reclamation Permit. This was confirmed during the Issues Conference held in 2004.

I. Handling and Storing Construction Materials

Handling and storage of materials is discussed in the project stormwater pollution prevention plan (SWPPP) that is SDEIS Appendix 19. Included in the SWPPP are the following topics regarding construction materials.

- Good housekeeping and material management practices,
- Inventory of materials and substances expected to be on-site during construction,
- Practices to be used to reduce the risks associated with hazardous materials,
- General spill control practices, and
- Product-specific spill prevention practices.

2.8.10 General Erosion Control Activities

A. Approach Overview

The overall approach to enhanced erosion control during construction of the project is very similar to the approach described in the DEIS.

Project construction will be phased over many years eliminating the need to have larger areas of active construction in order to meet a shorter construction schedule. Sections 2.8.9(E) and 2.8.9(F) previously described the project phasing and extended buildout anticipated for the

project. See the Phasing Plan (L3.00) and construction phasing plans for Phase 1 construction (L3.01) in the plan set that is part of this SDEIS. Each phase of construction will have their own SWPPP that will require NYSDEC and NYCDEP review and approval before construction of phases can start.

Likewise, section 2.8.9(E) previously described how each construction phase is divided into smaller work areas that are 5 acres or less in size with a few minor exceptions. The proposed construction sequencing requires that a work area must be stabilized before work can begin on the next work area in the sequence. See the erosion control plans (L3.03-L3.21) that are in the plan set that is part of this SDEIS. These sediment and erosion control plans also contain the erosion and sediment control sequencing previously provided in section 2.8.9(A) above.

The sediment and erosion control plans illustrate the sediment basins that are proposed to be constructed to serve all of the work areas. Similar to the design in the DEIS, these sediment basins have been designed to capture and hold runoff from the 10-year storm, six inches of rain in 24 hours, and assuming that all of the area contributing the sediment basins have a runoff coefficient equivalent to bare ground. The drainage area, storage volume required for the 10-year storm, and the storage volume provided is included for each of the sediment basins shown on the sediment and erosion control plans. In almost all instances, the storage volume provided is more than what is required for the 10-year storm.

The DEIS describes in detail how an organic flocculant, chitosan or liquid-floc®, will be used to reduce turbidity in the sediment basins. The use of chitosan (a food grade material) was approved by the NYSDEC staff and upheld in the NYSDEC Commissioner's Interim Decision. This same approach to chitosan flocculent use will be used for the SDEIS project. As described in the DEIS, chitosan has proven effective for the soils on the project site through bench tests performed on soil samples collected from the property. Laboratory tests were also performed at the time of the issues conference to demonstrate that chitosan is not toxic to aquatic organisms when used at the rates proposed to be used for this project.

Diversion swales have been designed where there are undisturbed (natural areas) contributing runoff towards the active work areas. These diversion swales keep the uphill runoff from reaching the exposed soils in the active work area, greatly reducing the potential for erosion.

Other erosion control practices that will be utilized during construction and that are illustrated on the EC plans include perimeter silt fencing, bio logs or wattles, catch basin inlet protection, storm pipe outlet protection, check dams, water bars, rolled erosion control products, turf reinforcement mats, stabilized construction entrances, temporary and permanent seedings, wood fiber mulch and sod. Typical details for erosion control practices are shown on sheets L8.00-L8.02 in the drawing set.

Section 3.1.2 contains details regarding sediment and erosion control, including plan implementation, site monitoring, and bonding to insure compliance with NYSDEC and NYCDEP permits.

2.8.11 Lighting, Landscaping and Signage

A. Lighting

Lighting, Landscaping and Signage are illustrated on the Site Plans that accompany this SDEIS, including Drawings L6.00-L6.11, Site Layout, Materials and Planting Plan and Drawings L8.00-L8.02, Site Details. These plans show where the following types of site lighting is proposed; bollard light (Type A) roadway light (Type E), driveway light (Type F), tennis light (Type G), sign light (Type H), and uplight (Type I).

The goal of the lighting plan is to create a cohesive and uniform lit environment throughout the Resort which focuses on safety, minimizing unwanted glare and light trespass to protect the night sky, and providing a high quality of light that creates a feeling of excitement and security in high activity areas. There are generally three different "lighting areas" within the project: Road Corridors, Resort Activity Areas and Residential Areas. Specific guidelines for each are below. In general, all light fixture colors and types shall compliment architectural and natural landscape elements, and fit within the character of the Resort.

Road Corridors: Road corridors include the Highmount access road between County Route 49A and the entrance to the Hotel and Lodge, the entrance to the Wildacres Hotel off of County Route 49A, the entrance to the Wildacres Hotel off Gunnison Road and the short entrance drive to the Front-9 Village recreation center off of County Route 49A. (See Landscape and Lighting plans.) These are the Type E fixtures shown on the plans, specified as the Stockholm Series by Antique Street Lamps lighting company. This fixture is a sharp cut-off fixture, with a pole height between 18' and 22'. The Light source (lamp) will be 100-200 watt pulse start Metal Halide. All fixtures will be fit with appropriate optics and shields to control the dispersion pattern and direction of light and protect against unwanted light migration.

Resort Activity Areas: Resort Activity Areas include most areas with recreational amenities and parking, including the Hotels, exterior gathering areas, the Rec Center and Pool, Tennis Courts and Golf Clubhouse.

Generally, indirect/concealed lighting will be used so that the light source is not visible. Whenever possible, lighting will be incorporated within architectural facades, soffit, site walls and steps. Exterior lighting such as flood lighting or other similar sources whose direct source is visible from a neighboring building or which produces excessive glare for pedestrian or vehicular traffic will not be used. Wall mounted sharp cut-off fixtures or fixtures fitted with shields and directed downward will be utilized to direct light and prevent unwanted glare and migration. All light sources will be white light, such as metal halide, LED, incandescent or halogen. In critical areas, some small ground mounted lights, (Type I), will be used to light key landscape features and provide added aesthetic. Important signage will typically be lit with fixtures mounted to the signs and directed downward (Type H).

In the parking areas, the light fixtures will be the same as the fixtures used along the road corridors. Pedestrian lighting along walks and paths will be Bollard Lights, Type A. The maximum height will be 48", and the light source will be indirect/concealed, or fitted with

louvers and/or a translucent lens and directed downward. The lamp will be 50-100 watt Metal Halide. At the tennis courts, the fixture utilized is a full cutoff fixture specifically designed for lighting tennis courts. It will be approximately 20' tall, with a square box top. The lamp is a 750 watt pulse start metal halide. This high wattage is standard for lighting for sporting activities. Tennis court lighting will only be used up until 30 minutes after sunset.

Residential Areas: Light fixtures associated with the Residential buildings will typically be post mounted driveway lights (Type F) and building mounted fixtures. All light fixture colors and types will compliment architectural and landscape elements, and fit within the character of the Resort. In these areas lighting is minimized and used only to meet the requirements of safety and easy identification of building entrances, driveways and walkways, located at key arrival or entry points. Residential lighting will be incorporated with features such as site walls, architectural facades, and soffits when possible. Light types vary, but will be white lighting such as Metal-halide, LED, incandescent, and halogen to match the rest of the Resort. All fixtures will be indirect, sharp cut-off fixtures, fitted with shields as necessary to direct light and prevent unwanted glare and migration. The maximum wattage will be 100 watts. Light posts adjacent to driveways and parking areas will be 6'-8' in height above finished grade.

B. Landscaping

See the Site Layout, Materials and Planting Plans that are in the plan set that accompanies this SDEIS. The concept for the planting plan focuses on creating a naturalistic setting for the various project components. The plant palette incorporates mostly native plant materials with some ornamental species to provide added aesthetic qualities in key areas. In the activity areas and near the hotels the planting is more dense and is used to compliment the architecture, soften the building corners and reduce the perceived scale and height of the buildings. At the edges of the developed areas, plantings will be less dense and are designed to blend the resort property with the surrounding wooded areas. Existing woodland vegetation is preserved as much as possible throughout the resort in order to further this concept and minimize disturbance.

The golf course maintenance staff under the oversight of the Organic Golf Course Technical Committee will be responsible for implementing the organic golf course maintenance plan (see Appendix 15). It is anticipated that the golf course superintendent or one of their immediate subordinates will also be responsible for managing the Resorts' grounds maintenance department. Since this manager will already be familiar with the organic requirements of the golf course, this knowledge should extend to maintenance of the other landscaped areas of the Resorts in accordance with paragraph 43 of the AIP. Should the need for pesticide applications arise, records will be maintained in accordance with NYSDEC Program Policy OGC-3 and ECL 33.1205(1). The following information will be included in the application records, USEPA registration number, project name, quantity applied, application method, target organism, and place(s) of application. Records are required to be maintained on an annual basis and retained for a minimum of three years. Annual reports derived from these records are required to be submitted to the central office of the NYSDEC. If requested, copies of annual records will also be sent to the Regional Office in New Paltz. Access to pesticide application records can also be available to the Towns of Shandaken and Middletown personnel, such as the Code Enforcement Officer.

C. Native Versus Non-native Plant Materials

The plant palettes developed for site landscaping and the green roof plantings for the lodge/spa buildings at Highmount were developed by giving preference to native plant species. In those instances where non-native plant species are proposed for use for ornamental purposes, the species and cultivars proposed are non-invasive (non-spreading) by all propagative means. The proposed plant palettes are included in the Invasive Species Control Plan in Appendix 21 of this SDEIS.

D. Invasive Species Control Plan

As per the requirements of the AIP, the Invasive Species Control Plan in Appendix 21 was prepared in consultation with the NYSDEC and the Catskill Regional Invasive Species Project (CRISP). The Invasive Species Control Plan in Appendix 21 also contains specific control measures for construction and operations for the prevention and control of invasive species including purple loosestrife, common reed, garlic mustard, Japanese, giant and bohemian knotweed, Japanese honeysuckle, bush honeysuckles, yellow iris, wild chervil and Japanese barberry.

E. Signage

On-site primary entry signage is proposed at the entry road to Highmount of CR 49A, at the entrance to the Wildacres Hotel off CR 49A, at the entry to Wildacres off Gunnison Road, and at the entrance to the Front-9 Village off CR 49A. Typical entry sign design is illustrated on detail 3 on Sheet L8.03. The primary sign structure will be approximately 10 feet tall by 17 feet wide and will be constructed of wood and stone. The actual sign panel will be approximately 4.5 high by 9 feet wide hung approximately 6 feet off the ground. Entrance signs will be lit with external lighting. The location of entry signs are shown on site plan drawings L-3.4, L-3.9, L-3.8, and L-3.12.

Interior directional signage is proposed to direct Resort visitors to the different resort components. Typical interior directional signage will be of the same material as the primary entrance signs and in the same theme.

Typical, standard vehicular signage such as stop signs, no parking signs, handicapped parking stall signs, crosswalk signs, etc., will be installed as appropriate within the site.

Proposed off-site signage will include pedestrian crossing/crosswalk signs located at the crosswalk from the Wildacres Hotel to BMSC, at the golf cart crossing of Gunnison Road between holes 2 and 3, and at the golf cart crossing of Gunnison Road between holes 15 and 16. An intersection warning sign will be installed CR 49A alerting drivers to the project driveway for the Front 9 Village at Wildacres.

2.8.12 Energy and Materials Management

A. Energy

All buildings will, at a minimum, comply with the Energy Conservation Construction Code of New York State, USEPA and US Department of Energy Energy Star Program, or American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) 90.1 Energy Standard for Buildings, whichever is more stringent.

All heating, ventilation and air conditioning (HVAC) equipment will be chlorofluorocarbon (CFC) free.

Wherever possible, the energy performance of buildings will exceed the minimum standards set forth above. A variety of energy saving and optimizing steps will be studied and may be implemented such as:

1. Demand reduction by improving the building shell including insulation and air infiltration control, improved lighting design and fixture selection, using occupancy lighting controls, providing ventilation cooling, the selection of the most efficient HVAC equipment, etc.

2. Harvesting free energy such as the maximal use of day lighting, using cool outside air for ventilation / cooling loads whenever possible, geothermal / ground source heat pump heating and cooling systems, etc.

3. Selection of maximally efficient fixtures and equipment such as compact fluorescent lighting, exterior metal halide, LED exit signage, high performance chillers, high performance motors.

4. Instituting an energy management and control system for larger buildings for good energy management.

B. Water Use and Conservation

Wherever possible the following water use and conservation measures may be implemented.

1. Utilizing native landscape species.

2. Utilizing high efficiency irrigation systems. Irrigation efficiency will be maximized through the use of a computer controlled delivery system calibrated for the varied conditions found throughout the golf courses.

3. Capturing roof drain water for use in irrigation.

4. Capturing storm-water run-off from the area around the Wildacres Hotel and associated impervious areas for irrigation use.

5. Utilizing high efficiency plumbing fixtures wherever possible.

6. Utilizing high efficiency equipment.

7. Utilizing dry fixtures, such as a composting toilet at the warming hut at the Wilderness Activity Center.

C. Recycling

The following steps will be taken to maximize the efforts to recycle at the Belleayre Resort.

A Resort-wide recyclable materials management plan will be established. Facilities will be provided in each building for the collection, sorting and storage of recyclable materials.

Wherever possible, building materials which contain post-consumer or post-industrial recycled material will be specified. Wherever possible, building materials that are recyclable will be specified.

The Marlowe Mansion and Leach Farm buildings will be adaptively reused as Resort buildings.

D. Product Purchasing

Wherever possible the following systems may be implemented.

1. Use condiments and cleaners in bulk instead of portion controlled disposable packaging.

2. Utilizing dispensers instead of throwaway amenities in bathrooms.

3. Purchasing recycled content products wherever possible throughout Hotel and facilities operations.

4. Utilizing chlorine free printing paper and toilet paper.

5. Utilizing toxic free cleaners.

E. Green Building Design Elements

U.S. Green Building Council created the LEED (Leadership in Energy and Environmental Design) rating program to spur the development of high-performance, sustainable buildings. A building is awarded a LEED rating of Certified, Silver, Gold or Platinum based on the number of points it accumulates for its site, design and construction. The Belleayre Resort at Catskill Park is committed to obtaining Silver Certification or higher for the Wildacres Resort Hotel, the Highmount Spa Resort Hotel and Highmount Lodge building. In doing so two eminent Architectural Firms, Hart/Howerton and Emilio Ambasz & Associates, leaders in the field of green building design, have been employed to conceptualize and design those buildings. These

designers have and will continue to take into consideration that buildings qualify for LEED Certification in part for the projects':

- Innovative design;
- Low levels of light pollution;
- Use of regionally produced construction materials;
- Use of recycled materials in the construction process;
- Use of paints, carpets, and composite building materials with low levels of chemical emissions;
- Recycling of construction debris to keep it out of landfills;
- Energy efficiency; and,
- Providing daylight and views for the vast majority of space inside the building.

Buildings are awarded points toward LEED certification on a scale that emphasizes Sustainable Site, Water Saving, Energy Efficiency, Materials & Resources, and Indoor Environmental Quality. The following are guidelines that will be used by the design professionals during the design development of the project, and the construction management team during construction, to garner the necessary points for achieving Silver Certification or higher.

SUSTAINABLE SITES

In order to obtain any credits for Sustainable Sites (SS) it is required that a Construction Activity Pollution Prevention plan be implemented which would address the following:

- Prevent loss of soil during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams.
- Prevent polluting the air with dust and particulate matter.
- Create an Erosion and Sedimentation Control Plan during the design phase of the project. Consider employing strategies such as temporary and permanent seeding, mulching, earth dikes, silt fencing, sediment traps and sediment basins.

Credits for Sustainable Sites are also available by addressing:

1. Alternative Transportation Issues in one or more of the following methods:
    - Public Transportation Access; Locate project within 1/4 mile of one or more stops for two or more public bus lines usable by building occupants / employees.
    - Low Emitting & Fuel Efficient Vehicles; Provide low-emitting and fuel-efficient vehicles for 3% of Full-Time Equivalent (FTE) occupants AND provide preferred parking for these vehicles.
    - Parking Capacity; Reduce pollution and land development impacts from single occupancy vehicle use. Size parking capacity to meet, but not exceed, minimum local zoning requirements, AND, provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces.

2. Site Development through:
    - Protecting or Restoring Habitat: Restore or protect a minimum of 50% of the site area (excluding the building footprint) with native or adapted vegetation.

Native/adapted plants are plants indigenous to a locality or cultivars of native plants that are adapted to the local climate and are not considered invasive species or noxious weeds. Projects earning SS Credit 2 and using vegetated roof surfaces may apply the vegetated roof surface to this calculation if the plants meet the definition of native/adapted. Carefully site the building to minimize disruption to existing ecosystems and design the building to minimize its footprint. Strategies include stacking the building program, tuck-under parking and sharing facilities with neighbors. Establish clearly marked construction boundaries to minimize disturbance of the existing site and restore previously degraded areas to their natural state. Prohibit plant materials listed as invasive or noxious weed species. Native/adapted plants require minimal or no irrigation following establishment, do not require active maintenance such as mowing or chemical inputs such as fertilizers, pesticides or herbicides, and provide habitat value and promote biodiversity through avoidance of monoculture plantings.

- Maximizing Open Space: Select a suitable building location and design the building with a minimal footprint to minimize site disruption. Strategies include stacking the building program, tuck-under parking and sharing facilities with neighbors to maximize open space on the site.

3. Storm Water Design:
   - Quantity Control; Design the project site to maintain natural storm water flows by promoting infiltration. Specify vegetated roofs, pervious paving, and other measures to minimize impervious surfaces. Reuse storm water volumes generated for non-potable uses such as landscape irrigation, toilet and urinal flushing and custodial uses.
   - Quality Control; Use alternative surfaces (e.g., vegetated roofs, pervious pavement or grid pavers) and nonstructural techniques (e.g., rain gardens, vegetated swales, disconnection of imperviousness, rainwater recycling) to reduce imperviousness and promote infiltration thereby reducing pollutant loadings. Use sustainable design strategies (e.g., Low Impact Development, Environmentally Sensitive Design) to design integrated natural and mechanical treatment systems such as constructed wetlands, vegetated filters, and open channels to treat storm water runoff.

4. Heat Island Effect:
   - Non-Roof; Place a minimum of 50% of parking spaces under cover (defined as underground, under deck, under roof, or under a building). Shade constructed surfaces on the site with landscape features and utilize high-reflectance materials for hardscape. Consider replacing constructed surfaces (i.e. roof, roads, sidewalks, etc.) with vegetated surfaces such as vegetated roofs and open grid paving or specify high-albedo materials to reduce the heat absorption.
   - Roof; installing high-albedo and vegetated roofs to reduce heat absorption

5. Light Pollution Reduction:
   - Adopt site lighting criteria to maintain safe light levels while avoiding off-site lighting and night sky pollution. Minimize site lighting where possible and model the site lighting using a computer model. Technologies to reduce light pollution include full cutoff luminaires, low-reflectance surfaces and low-angle spotlights.

WATER EFFICIENCY

1. Water Efficient Landscaping,
    - Reduce by 50%; Determine appropriate plant material and design the landscape with native or adapted plants to reduce or eliminate irrigation requirements. Where irrigation is required, use high-efficiency equipment and/or climate-based controllers.
    - No Potable Use or No Irrigation; Determine appropriate landscape types and design the landscape with indigenous plants to reduce or eliminate irrigation requirements. Consider using storm water, grey water, and/or condensate water for irrigation.

2. Innovative Wastewater Technologies
    - Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled grey water, and on-site or municipally treated wastewater).

3. Water Use Reduction, 20% Reduction
    - Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems. Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.

ENERGY & ATMOSPHERE

In order to obtain any credits for Energy & Atmosphere (EA) it is required that the owner seek out qualified individuals to lead the Fundamental Commissioning of the Building Energy Systems. Qualified individuals are identified as those who possess a high level of experience in the following areas:

- Energy systems design, installation and operation
- Commissioning planning and process management
- Hands-on field experience with energy systems performance, interaction, start-up, balancing, testing, troubleshooting, operation, and maintenance procedures
- Energy systems automation control knowledge.

Owners are encouraged to consider including water-using systems, building envelope systems, and other systems in the scope of the commissioning plan as appropriate. The building envelope is an important component of a facility which impacts energy consumption, occupant comfort and indoor air quality. While it is not required to be commissioned by LEED, an owner can receive significant financial savings and reduced risk of poor indoor air quality by including building envelope commissioning.

Also required is a Minimum Energy Performance which means that the building envelope, HVAC, lighting, and other systems will be designed to maximize energy performance.

Additional points are available for Optimize Energy Performance when it can be demonstrated that a minimum of 14 percent improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004 by a whole building project simulation using the Building Performance Rating Method in Appendix G of the Standard.

A Fundamental Refrigerant Management plan requires zero use of CFC-based refrigerants in new base building HVAC&R systems.

Points for Green Power will be investigated during the design development stage and after the energy needs of the buildings have been determined. The designers will investigate opportunities to engage in a green power contracts. Green power being derived from solar, wind, geothermal, biomass or low-impact hydro sources.

MATERIALS & RESOURCES

In order to obtain any credits for Materials & Resources (MR) it is required that a Storage & Collection of Recyclables Plan is implemented. This would include coordinating the size and functionality of the recycling areas with the anticipated collection services for glass, plastic, office paper, newspaper, cardboard and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes and collection bins at individual workstations to further enhance the recycling program.

Credits for Materials & Resources are also available by addressing:

1. Recycled Content, 10% (post-consumer + 1/2 pre-consumer)
    - Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

2. Regional Materials, 10% Extracted, Processed & Manufactured Regionally
    - Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits.
    - Establish a project goal for locally sourced materials, and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

3. Rapidly Renewable Materials
    - Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.
    - Establish a project goal for rapidly renewable materials and identify products and suppliers that can support achievement of this goal. Consider materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheatboard, strawboard and cork. During construction, ensure that the specified renewable materials are installed.

4. Certified Wood
    - Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits.
    - Establish a project goal for FSC-certified wood products and identify suppliers that can achieve this goal. During construction, ensure that the FSC-certified wood products are installed and quantify the total percentage of FSC-certified wood products installed.

INDOOR ENVIRONMENTAL QUALITY

1. MINIMUM INDOOR AIR QUALITY PERFORMANCE (IAQ) Required
    - Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality. Mechanical ventilation systems shall be designed using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent.
    - Naturally ventilated buildings shall comply with ASHRAE 62.1-2004, paragraph 5.1.
    - Design ventilation systems to meet or exceed the minimum outdoor air ventilation rates as described in the ASHRAE standard. Balance the impacts of ventilation rates on energy use and indoor air quality to optimize for energy efficiency and occupant health. Use the ASHRAE 62 User's Manual for detailed guidance on meeting the referenced requirements.

2. ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL Required
    - Minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to Environmental Tobacco Smoke (ETS).
    - Prohibit smoking in the building except in designated smoking areas.
    - Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows.
    - Locate designated smoking rooms to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no re-circulation of ETS-containing air to the non-smoking area of the building, and enclosed with impermeable deck-to-deck partitions. With the doors to the smoking room closed, operate exhaust sufficient to create a negative pressure with

respect to the adjacent spaces of at least an average of 5 Pa (0.02 inches of water gauge) and with a minimum of 1 Pa (0.004 inches of water gauge).

- Performance of the smoking room differential air pressures shall be verified by conducting 15 minutes of measurement, with a minimum of one measurement every 10 seconds, of the differential pressure in the smoking room with respect to each adjacent area and in each adjacent vertical chase with the doors to the smoking room closed. The testing will be conducted with each space configured for worst case conditions of transport of air from the smoking rooms to adjacent spaces with the smoking rooms' doors closed to the adjacent spaces.

3. OUTDOOR AIR DELIVERY MONITORING

Install permanent monitoring systems that provide feedback on ventilation system performance to ensure that ventilation systems maintain design minimum ventilation requirements. Configure all monitoring equipment to generate an alarm when the conditions vary by 10% or more from setpoint, via either a building automation system alarm to the building operator or via a visual or audible alert to the building occupants.

a. For Mechanically Ventilated Spaces
   - Monitor carbon dioxide concentrations within all densely occupied spaces (those with a design occupant density greater than or equal to 25 people per 1000 sq. ft.). CO2 monitoring locations shall be between 3 feet and 6 feet above the floor.
   - For each mechanical ventilation system serving non-densely occupied spaces, provide a direct outdoor airflow measurement device capable of measuring the minimum outdoor airflow rate with an accuracy of plus or minus 15% of the design minimum outdoor air rate, as defined by ASHRAE 62.1-2004.

b. For Naturally Ventilated Spaces
   - Monitor CO2 concentrations within all naturally ventilated spaces. CO2 monitoring shall be located within the room between 3 feet and 6 feet above the floor. One CO2 sensor may be used to represent multiple spaces if the natural ventilation design uses passive stack(s) or other means to induce airflow through those spaces equally and simultaneously without intervention by building occupants.
   - Install carbon dioxide and airflow measurement equipment and feed the information to the HVAC system and/or Building Automation System (BAS) to trigger corrective action, if applicable. If such automatic controls are not feasible with the building systems, use the measurement equipment to trigger alarms that inform building operators or occupants of a possible deficiency in outdoor air delivery.

4. INCREASED VENTILATION

a. For Mechanically Ventilated Spaces
   - Increase breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2004 as determined by EQ Prerequisite 1.

b. For Naturally Ventilated Spaces
   - Design natural ventilation systems for occupied spaces to meet the recommendations set forth in the Carbon Trust "Good Practice Guide 237" [1998]. Determine that

natural ventilation is an effective strategy for the project by following the flow diagram process shown in Figure 1.18 of the Chartered Institution of Building Services Engineers (CIBSE) Applications Manual 10: 2005, Natural ventilation in non-domestic buildings.
AND

- Use diagrams and calculations to show that the design of the natural ventilation systems meets the recommendations set forth in the CIBSE Applications Manual 10: 2005, Natural ventilation in non-domestic buildings.

5. FOR MECHANICALLY VENTILATED SPACES: Use heat recovery, where appropriate, to minimize the additional energy consumption associated with higher ventilation rates.

6. FOR NATURALLY VENTILATED SPACES: Follow the eight design steps described in the Carbon Trust Good Practice Guide 237 – 1) Develop design requirements, 2) Plan airflow paths, 3) Identify building uses and features that might require special attention, 4) Determine ventilation requirements, 5) Estimate external driving pressures, 6) Select types of ventilation devices, 7) Size ventilation devices, 8) Analyze the design. Use public domain software such as NIST's CONTAM, Multizone Modeling Software, along with LoopDA, Natural Ventilation Sizing Tool, to analytically predict room-by-room airflows.

7. CONSTRUCTION IAQ MANAGEMENT PLAN
   a. During Construction; Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:
      - During construction meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.
      - Protect stored on-site or installed absorptive materials from moisture damage.
      - If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999. Replace all filtration media immediately prior to occupancy.

   b. Before Occupancy; prior to occupancy, perform a building flush-out or test the air contaminant levels in the building. The flush-out is often used where occupancy is not required immediately upon substantial completion of construction. IAQ testing can minimize schedule impacts but may be more costly. Coordinate with Indoor Environmental Quality Credits 3.1 and 5 to determine the appropriate specifications and schedules for filtration media.

8. LOW-EMITTING MATERIALS
   a. Adhesives & Sealants; Specify low-VOC materials in construction documents. Ensure that VOC limits are clearly stated in each section of the specifications where adhesives and sealants are addressed. Common products to evaluate include: general construction adhesives, flooring adhesives, fire-stopping sealants, caulking, duct sealants, plumbing adhesives, and cove base adhesives.

b. Paints & Coatings; Specify low-VOC paints and coatings in construction documents. Ensure that VOC limits are clearly stated in each section of the specifications where paints and coatings are addressed. Track the VOC content of all interior paints and coatings during construction.

c. Carpet Systems; All carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. All carpet adhesive shall meet the requirements of EQ Credit 4.1: VOC limit of 50 g/L.

d. Composite Wood & Agrifiber Products; Composite wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing system) shall contain no added urea-formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins. Composite wood and agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores. Materials considered fit-out, furniture, and equipment (FF&E) are not considered base building elements and are not included.

9. INDOOR CHEMICAL & POLLUTANT SOURCE CONTROL
   Design facility cleaning and maintenance areas with isolated exhaust systems for contaminants. Maintain physical isolation from the rest of the regularly occupied areas of the building. Install permanent architectural entryway systems such as grills or grates to prevent occupant-borne contaminants from entering the building. Install high level filtration systems in air handling units processing both return air and outside supply air. Ensure that air handling units can accommodate required filter sizes and pressure drops.

10. CONTROLLABILITY OF SYSTEMS
    a. Lighting
       - Provide a high level of lighting system control by individual occupants or by specific groups in multi-occupant spaces (i.e. classrooms or conference areas) to promote the productivity, comfort and well-being of building occupants.
       - Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences.
       - Provide lighting system controllability for all shared multi-occupant spaces to enable lighting adjustment that meets group needs and preferences.
       - Design the building with occupant controls for lighting. Strategies to consider include lighting controls and task lighting. Integrate lighting systems controllability into the overall lighting design, providing ambient and task lighting while managing the overall energy use of the building.

b. Thermal Comfort

- Provide a high level of thermal comfort system control by individual occupants or by specific groups in multioccupant spaces (i.e. classrooms or conference areas) to promote the productivity, comfort and well-being of building occupants.
- Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. Operable windows can be used in lieu of comfort controls for occupants of areas that are 20 feet inside of and 10 feet to either side of the operable part of the window. The areas of operable window must meet the requirements of ASHRAE 62.1-2004 paragraph 5.1 Natural Ventilation.

AND

- Provide comfort system controls for all shared multi-occupant spaces to enable adjustments to suit group needs and preferences. Conditions for thermal comfort are described in ASHRAE Standard 55-2004 to include the primary factors of air temperature, radiant temperature, air speed and humidity. Comfort system control for the purposes of this credit is defined as the provision of control over at least one of these primary factors in the occupant's local environment.
- Design the building and systems with comfort controls to allow adjustments to suit individual needs or those of groups in shared spaces. ASHRAE Standard 55-2004 identifies the factors of thermal comfort and a process for developing comfort criteria for building spaces that suit the needs of the occupants involved in their daily activities. Control strategies can be developed to expand on the comfort criteria to allow adjustments to suit individual needs and preferences. These may involve system designs incorporating operable windows, hybrid systems integrating operable windows and mechanical systems, or mechanical systems alone. Individual adjustments may involve individual thermostat controls, local diffusers at floor, desk or overhead levels, or control of individual radiant panels, or other means integrated into the overall building, thermal comfort systems, and energy systems design. In addition, designers should evaluate the closely tied interactions between thermal comfort (as required by ASHRAE Standard 55-2004) and acceptable indoor air quality (as required by ASHRAE Standard 62.1-2004, whether natural or mechanical ventilation).

c. Thermal Comfort, Design

- Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy. Demonstrate design compliance in accordance with the Section 6.1.1 Documentation.
- Establish comfort criteria per ASHRAE Standard 55-2004 that support the desired quality and occupant satisfaction with building performance. Design building envelope and systems with the capability to deliver performance to the comfort criteria under expected environmental and use conditions. Evaluate air temperature, radiant temperature, air speed, and relative humidity in an integrated fashion and coordinate these criteria with EQ Prerequisite 1, EQ Credit 1, and EQ Credit 2.

d. Thermal Comfort, Verification
   - Agree to implement a thermal comfort survey of building occupants within a period of six to 18 months after occupancy. This survey should collect anonymous responses about thermal comfort in the building including an assessment of overall satisfaction with thermal performance and identification of thermal comfort-related problems. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with ASHRAE Standard 55-2004.

11. DAYLIGHT & VIEWS
    a. Daylight 75% of Spaces
       - Design the building to maximize interior daylighting. Strategies to consider include building orientation, shallow floor plates, increased building perimeter, exterior and interior permanent shading devices, high performance glazing and automatic photocell-based controls. Predict daylight factors via manual calculations or model daylighting strategies with a physical or computer model to assess footcandle levels and daylight factors achieved.

    b. Views for 90% of Spaces
       - Achieve direct line of sight to the outdoor environment via vision glazing between 2'6" and 7'6" above finish floor for building occupants in 90% of all regularly occupied areas. Determine the area with direct line of sight by totaling the regularly occupied square footage that meets the following criteria:
         a. In plan view, the area is within sight lines drawn from perimeter vision glazing.
         b. In section view, a direct sight line can be drawn from the area to perimeter vision glazing.
         c. Line of sight may be drawn through interior glazing. For private offices, the entire square footage of the office can be counted if 75% or more of the area has direct line of sight to perimeter vision glazing. For multi-occupant spaces, the actual square footage with direct line of sight to perimeter vision glazing is counted.

INNOVATION & DESIGN PROCESS

Points for Innovation in Design are obtained when the project substantially exceeds a LEED for New Construction performance credit such as energy performance or water efficiency. When the project applies strategies or measures that demonstrate a comprehensive approach and quantifiable environment and/or health benefits additional points can be obtained.

To receive points for LEED Accredited Professional; at least one principal participant of the project team shall be a LEED Accredited Professional (AP). Efforts must be taken to educate the project team members about green building design & construction and application of the LEED Rating System early in the life of the project. Consideration should also be taken to assigning the LEED AP as a facilitator of an integrated design & construction process.