crossroads ventures llc

DRAFT
Environmental Impact Statement

Appendix 11

Draft Construction Stormwater
Pollution Prevention Plan

The Belleayre Resort at Catskill Park

DRAFT

Stormwater Pollution Prevention Plan

Belleayre Resort at Catskill Park

Prepared By

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August 2003

PREPARER CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

This Construction Pollution Prevention Plan was prepared in accordance with the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-01), pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law. This SPDES General Permit implements the Federal Clean Water Act pertaining to stormwater discharges.

Construction will begin only after the requirements of SEQRA are met and any necessary Federal, State and local permits are issued.

Signature: _____

Name: _____

Title: _____

Date: _____

OWNER POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Signature: _____

Name: _____

Title: _____

Date: _____

CONTRACTOR AND SUBCONTRACTOR CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards.

Signature: _____

Company: _____

Responsible For: _____

Date: _____

Signature: _____

Company: _____

Responsible For: _____

Date: _____

Signature: _____

Company: _____

Responsible For: _____

Date: _____

Stormwater Pollution Prevention Plan

1. Regulatory Information

This Stormwater Pollution Prevention Plan (SWPPP) is prepared to inform the landowner and construction personnel of the measures to be implemented for controlling runoff and pollutants from the site during and after construction activities. The objective of this plan is to comply with the New York Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-02-01 requirements. Any materials conflicts between this plan and the site plans, specification or instructions, must be brought to the attention of the design professional. The project may have other permits and it is the responsibility of the owner and contractor to know and understand all permits.

2. Project Information

Belleayre Resort at Catskill Park
East (Big Indian Plateau): Off NY Route 28 near Lasher Road, Winding Mountain Road and Friendship Road, also Woodchuck Hollow Road, Shandaken (T) Ulster (Co.), and
West (Wildacres Resort and Highmount Estates): Ulster County Route 49A, Gunnison Road, and VanLoan Road, Shandaken (T) Ulster (Co.) & Middletown (T) Delaware (Co.)

3. Owner Information

Crossroads Ventures, LLC
Dean Gitter Managing Partner
PO Box 267, Mt. Tremper, NY 12457
(845) 688-7740
worldbridgellc@usa.net

4. SWPPP Review, Update

A. SWPPP Review

Applicable Federal, State, and local regulatory agencies that have jurisdiction may elect to review this SWPPP and notify the permittee in writing that the SWPPP does not meet the requirements of their regulations. If the SWPPP needs to be revised, the permittee and the site contractor will make the required modifications within seven days of such notification and submit written certification to the notifying agency that the changes have been implemented. A copy of the SWPPP will be kept available on site for review by regulatory agencies, engineers, and subcontractors.

B. SWPPP Update

The permittee identified in this SWPPP may amend the SWPPP when there is a change in one or more of the following project components which has an affect on the potential for discharge of pollutants from stormwater runoff associated with construction activities:

- Design
- Construction
- Operation
- Maintenance

The SWPPP shall also be updated or amended under the following conditions:

- If measures identified in the SWPPP become ineffective in eliminating or minimizing pollutants from sources identified, or in achieving the general objectives of controlling stormwater pollution from permitted construction activity.
- To identify a new subcontractor that will implement any part of the SWPPP.

5. Site Description

A. Project Description

i. Background Information and Pre-development Conditions

Existing development on the Big Indian Plateau (eastern) portion of the project site consists of two hunting camps, the State hiking trail trailhead on Lost Clove Road, the Brisbane (Turner) Mansion, carriage barn and caretaker's house and its surroundings, and lands off of Bonnieview Avenue formerly known as the White Horse Lodge. Together these developed lands total approximately 16 acres. Improved roads on this portion of the project site include an upper and lower driveway at the Brisbane Mansion that total 1.1 miles, and the upper portions of Winding Mountain Road that total approximately 1.2 miles. There are also over 13 miles of dirt/logging roads located throughout the property. State hiking trails also exist on this portion of the project site, including approximately 0.8 miles of trail off of Lost Clove Road and approximately 0.4 miles of trail off of the Brisbane Mansion upper driveway.

On the Wildacres (western) portion of the project site developed lands include the Marlowe Mansion/Wildacres Hotel area, a residence and barn off of Gunnison Road, the house and outbuildings of the former Leach farm on Galli Curci Road and the former Highmount Ski Area. Together, these existing developed lands total approximately 99 acres. The driveway to the Marlowe Mansion/Wildacres Hotel area is approximately 1,000 feet long off of Gunnison Road. There is a road at the former Highmount Ski Area from the base to the top of the ski area that is approximately 0.9 miles long.

Historic uses of the project site are known to have included long term and extensive logging (lands comprising the assemblage and the project site have been comprehensively and repeatedly

logged over the last century, including in the 1990's), residential , agriculture, and a ski area. There were no known historical industrial or commercial uses that could have resulted in releases of hazardous materials on the project site.

ii. Scope of the Project

The owner owns approximately 1,960 acres of land on either side of the Belleayre Mountain Ski Center. Of these 1,960 acres approximately 573 acres will be developed. Approximately 85% of the proposed disturbance will be revegetated.

The purpose of the project is to construct a four-season destination Resort on lands to the either side of Belleayre Mountain Ski Center. The Resort project includes two eighteen hole golf courses (The Big Indian Country Club and the Highmount Golf Club) with practice ranges, two hotel buildings (the Big Indian Resort and Spa and the Wildacres Hotel) with some related and incorporated facilities such as spas, conference center, meeting rooms, restaurants, Wilderness Activity Center, Children Center, etc. The Resort also includes a number of detached lodging units at various locations within the area proposed to be disturbed. The project also includes a 21 lot residential subdivision (Highmount Estates).

New access roads will be constructed off of NY Route 28/Friendship Road as well as Ulster County Route 49A, Gunnison Road, and VanLoan Road.

New water distribution and wastewater treatment plants will be installed to provide central water and sewer service to the project.

iii. General Construction Phasing

Construction on the site will take place over multiple years (phases), with both the eastern and western portions of the site under construction at the same time.

Construction phases are broken into year 1 (Phase 1), year 2 (Phase 2), year 3 (Phase 3) and years 4 through 8 (Phase 4). The duration of Phase 4 will depend on the sale of the detached lodging units, and is estimated to be up to 8 years.

The following goals will be met by the construction phasing and erosion control/sediment control program described in the sections that follow:

- Land disturbance is divided into small compartments (Phases, Subphases and Subcatchments) that can be rapidly constructed and stabilized.
- Land disturbance is sequenced to minimize active construction and unstabilized soils in drainages of any particular surface water resource (tributaries and subtributaries).
- No more than 25 acres of soil will be unstabilized at any given time within either reservoir watershed, but always with enhanced erosion control measures in place.
- The erosion control program dictates the construction sequencing.
- Water quality of the regional water resources will be protected.

6. Phasing Plan

The following is the phasing plan for construction of the eastern (Big Indian Plateau) and western (Wildacres Resort) portions of the project site. Generally speaking, the outdoor construction period will be between April and November, six days a week, Monday through Saturday, 10 to 12 hours per day.

A. Big Indian Country Club Resort and Spa

Construction Activities (Identify name of planned practices)	Reference Sheet Number	Start→Stop
1. Improve Winding Mountain Road for truck access, including improved surfaces in steep areas and pullover areas to allow for vehicles to pass each other and adding cross culverts. Install temporary shoring to existing bridge. Complete in four (4) weeks or less.	SG-6, 7	Phase 1
2. Strip soil and blast rock for irrigation ponds and hotel foundation. Finish ponds and install liners. Approximately 18,000 cubic yards of rock material from hotel excavation will be crushed on site for sub-base material for roads, drives and parking areas. The remainder of the material will be crushed and available mostly for golf course and site work construction (fill material), approximately 190,000 cubic yards total. See attached Table 2-____ for more details.	SG-8, 9	Phase 1
3. Lay out stockpile locations, size and material types (rock versus rock and soil). Stabilize soil stockpiles with tackifier (Eco Aegis® or approved equal) and seeding (annual ryegrass), surround topsoil stockpiles with reinforced ("super") silt fence (Detail 2, Sheet CP-17).		Phase 1
4. Construct the main access road and the bridge over Birch Creek near Friendship Road simultaneously. Main access road construction will begin on the top of the Plateau near the proposed hotel site and progress downhill towards the bridge over Birch Creek. Install potable and irrigation water supply lines, wastewater lines and utilities along the access road. Road to be constructed so that the binder course is installed in six (6) months or less. Once this road is passable, the new bridge at Winding Mountain Road will be built. Also continue access road to Giggle Hollow, construct the bridge across the brook, and continue through Belleayre Highlands to Woodchuck Hollow Road.	SG-6, 7, 8, 9	Phase 1

5. Complete 20-foot wide centerline cuts for the internal roads and parking areas. Centerline cuts will not be grubbed until actual construction begins in each particular area. (This could be performed over the previous winter if permits are in place.)		Phase 1
6. Construct potable water treatment facility, wastewater treatment plant and irrigation pump station		Phase 1
7. Install erosion control measures, clear, grub, bury stumps, chip tops, rough grade, install irrigation and drainage, final grade and final stabilize golf holes 1 through 11 as per Activities #8 through # 26 below.	CP-1 through CP-18	Phase 2
8. Golf course centerline stakeout for entire phase.	CP-1, 2	Phase 2
9. Centerline clearing for Subphase 1.	CP-1, 2	Phase 2
10. Construction access and perimeter control for Subphase 1.	CP-3	Phase 2
11. Temporary basins rough grade in Subphase 1.	CP-3	Phase 2
12. Tree harvest without grubbing in Subphase 1.	CP-3	Phase 2
13. Stump grub, fine grade stormwater basins and stormwater swales, stabilizing swales with rock or geotextile in Subphase 1.	CP-3	Phase 2
14. Rough and final grade Subphase 1, including fairway depressions and "filtered" fairway drain systems for additional sediment control.	CP-3	Phase 2
15. Install permanent irrigation lines in Subphase 1.	CP-3	Phase 2
16. Stabilize Subphase 1 with temporary measures as specified, and Perform Activities 9, 10 and 11 in Subphase 2.	CP-4	Phase 2
17. Upon complete temporary stabilization of Subphase 1, repeat Activities 12-15 in Subphase 2.	CP-4	Phase 2

18. After permanent irrigation lines are installed in Subphase 2 immediately topsoil, install irrigation heads and install permanent stabilization (sod/seed) in Subphase 2. Permanent stabilization will include 100 acres of sod on this golf course, 55 acres of which will be used in Phase 2. See attached Table 3-9 for a comprehensive list of permanent stabilization measures based on slope classes (table also included on Sheets CP-15 and CP-16).	CP-5 CP-15	Phase 2
19. Continue topsoiling and permanently stabilize into Subphase 1, which was previously temporarily stabilized.	CP-6 CP-15	Phase 2
20. Perform Activities 9 and 10 in the Subphase 3.	CP-6	Phase 2
21. When five acres or less of Subphase 1 require topsoiling and final stabilization, clear, but don't grub, up to 5 acres in the Subphase 3.	CP-6	Phase 2
22. After Subphase 1 is completely permanently stabilized, construct Subphase 3 through temporary stabilization (Activities 11 through the first part of Activity 16).	CP-7	Phase 2
23. Continue construction through Subphases 4 then 5 and 6 using the same sequence described above for Subphases 1, 2 and 3.	CP-8 through CP-18	Phase 2
24. Upon establishment of permanent cover, remove temporary drainage swales and basins. Convert appropriate temporary basins to be utilized during operations to their permanent condition (by Subphase).	SD-1 through SD-7	Phase 2
25. Stabilize all remaining disturbed areas (by Subphase).		Phase 2
26. Remove perimeter erosion control after vegetation stabilization is established (by Subphase).		Phase 2
27. Continue construction of Big Indian Resort and Spa building, wastewater treatment plant and four model detached lodging units. Should demand exceed four model units, more may be constructed as long as not more than 25 acres of disturbance occurs at any one time for all of Big Indian Plateau.		Phase 2
28. Construct main and satellite golf maintenance buildings.	SG-7, SG-9	Phase 2
29. Stabilize any and all other disturbed soil areas with ryegrass and wood fiber mulch hydroseeding such as Eco Aegis® or approved equal and, where necessary, tackifier.		Phase 2

30. Grade, gravel and install binder course on all internal roads and parking not proposed as porous pavement.		Phase 2
31. For porous pavement areas install proper base material.		Phase 2
32. Install erosion control measures, clear, grub, bury stumps, chip tops, rough grade, temporarily stabilize, install irrigation and drainage, final grade and final stabilize remaining golf holes 12 through 18 and the practice range in accordance with the sequence in Activities #8 through #26 above.	Future CP sheets	Phase 3
33. Top coat asphalt (conventional and porous) on all main roads, parking, and driveways.		Phase 3
34. Landscape all completed buildings	SL-1 through SL-14	Phase 3
35. Construct more detached lodging units as they are sold.		Phase 4-8

B. Belleayre Highlands

Construction Activities (Identify name of planned practices)	**Reference Sheet Number**	**Start → Stop**
1. Complete access road from Giggle Hollow (including bridge) to Woodchuck Hollow Road.	SG-5, SG-8	Phase 1
2. Construct 10 parking spaces at Brisbane Mansion and begin renovations on mansion and carriage barn.	SG-5	Phase 1
3. Construct one model quadplex detached lodging unit, unit #3.	SG-5	Phase 1
4. Construct 30 space parking lot, cabana, swimming pool and tennis courts.	SG-5	Phase 2
5. Construct four model quadplex detached lodging units, units #1, 2, 4 and 5. Should demand exceed four model units, more may be constructed as long as not more than 25 acres of disturbance occurs at any one time for all of Big Indian Plateau.	SG-5	Phase 2
6. Begin renovations on caretaker's house.	SG-5	Phase 2
7. Clear trees but do not grub 20-foot wide path for upper loop internal road.		Phase 2

8. Grade and complete to binder upper loop internal road and begin building six quadplex detached lodging units, units 8, 9, 10, 11, 17 and 18. Should demand exceed five model units, more may be constructed as long as not more than 25 acres of disturbance occurs at any one time for all of Big Indian Plateau.	SG-5	Phase 3
9. Grade and complete to binder next set of internal roads.		Phase 3
10. Construct more detached lodging units as they are sold.		Phase 4-8

C. Wildacres Resort and Highmount Estates

Construction Activities (Identify name of planned practices)	**Reference Sheet Number**	**Start → Stop**
1. Install erosion control measures, clear, grub, bury stumps, chip tops, rough grade, install irrigation and drainage, final grade and final stabilize golf holes 2 through 8 and the practice range as per Activities #8 through #26 listed above for Big Indian Country Club, Resort and Spa.	Future CP Sheets	Phase 1
2. Construct main access road through site, install binder course as soon as possible.	SG-1, 3	Phase 1
3. Cut 20-foot wide centerlines on internal roads and parking.		Phase 1
4. Stabilize haul roads and other disturbed areas with Eco Aegis® and ryegrass.		Phase 1
5. Blast rock for hotel, begin construction of hotel and golf clubhouse, main and satellite golf maintenance buildings, potable water treatment facility, wastewater treatment facility, Children's Center, Lodging Unit Clubhouse with swimming pool and tennis courts, one detached octoplex lodging unit (#6), and improve the Marlowe Mansion.	SG-1, 2	Phase 1
6. Install utility infrastructure (water, wastewater, power and communications) in vicinity of Phase 1 and along all roads.		Phase 1

7. Clear, grub, bury stumps, grade and gravel Highmount Estates subdivision roads, stockpile excess cut material on-site for lot development. Stabilize stockpiled soil materials with Eco Aegis (or approved equal) and perennial ryegrass. Install super silt fence around stockpile(s).	SG-4	Phase 1
8. In winter between Phase 1 and Phase 2 clear, but do not grub, Phase 2 centerlines for internal roads and parking.		Phase 1/Phase 2
9. Complete all Wilderness Activity Center renovations and improvements, connect to utility infrastructure, construct warming hut.	SG-3	Phases 1 and 2
10. Install erosion control measures, clear, grub, bury stumps, chip tops, rough grade, temporarily stabilize, install irrigation and drainage, final grade and final stabilize golf holes 1, 9, and 10 through 18 as per Activities #8 through #26 listed above for Big Indian Country Club, Resort and Spa.	Future CP Sheets	Phase 2
11. Grub and bury stumps, grade, gravel, and install binder course on all internal roads and parking not proposed as porous pavement.		Phase 2
12. For porous pavement areas install proper base material.		Phase 2
13. Install utility infrastructure in vicinity of Phase 2 and connect to all buildings under construction.		Phase 2
14. Install top coat of asphalt (conventional and porous) on all roads and parking, landscape all completed buildings.	SL-1 through SL-14	Phase 3
15. Construct more octoplex detached lodging units as they are sold (up to 8 year buildout).		Phase 3+

7. Receiving Water(s) (include identification of any TMDL or 303(d) waters)

The project is in the NYC watershed at the very headwaters of the Ashokan Reservoir (20 miles away) and the Pepacton Reservoir (14 miles away). Locally the site drains to Birch Creek and its tributaries in the eastern portion and to tributaries of Emory Brook in the western portion.

At the Big Indian Plateau, construction areas are distant from watercourses. With the exception of the proposed access road bridge crossings of Birch Creek and Giggle Hollow, major soil disturbing activities, primarily golf course construction, are separated from watercourses by significant forested buffers. The closest proposed golf course construction to Birch Creek, is 2,000 feet away and separated by wooded lands. Similarly, the closest golf course construction to Lost Clove Brook and the brook in Giggle Hollow are 1,500 feet and 800 feet away respectively, also separated from proposed areas of construction by existing wooded lands which

will remain undisturbed. At Belleayre Highlands the area of proposed construction closest to the creek in Woodchuck Hollow is 1,000 feet away.

At Wildacres Resort, which includes the Highmount Golf Club, there are two intermittent and unnamed tributaries to Emory Brook that pass through the project site. The intermittent tributary in the western portion of the site is crossed by thee golf holes, 11, 13 and 16, while holes 2 and 8 cross the intermittent tributary in the eastern portion of the Wildacres Resort. Enhanced erosion and sediment controls are planned throughout the proposed development and are intensified near these intermittent tributaries. Stormwater will not be discharged directly to these tributaries. Neither of these Emory Brook tributaries were found to support trout during recent investigations. Emory Brook itself does support trout, but is located approximately 1,500 feet from the closest proposed golf hole.

None are TMDL or 303(d) waters

8. Soils (include general description and Hydrologic Soil Group)

Most site soils are stony silts and silt loams in hydrologic group C. See Appendix 12, "Soils Test Results" for test pit logs, percolation test data, sieve analysis and hydrometer testing data. See DEIS figures 3-5 and 3-6 for high intensity soils mapping.

9. Attachments – considered part of this SWPPP

These documents will include plans, details, reports, and technical specifications that include, but are not limited to, the following (unless otherwise specified, these documents have been prepared by The LA Group, P.C.). All materials will be appended to the final SWPPP:

- General site map.
- Construction drawings.
- Phasing plan.
- Grading plans with existing and proposed contours that indicate slopes and drainage patterns prior to and after the grading activities.
- Location of sediment and erosion control devices, catch basins, etc. that will be or have been implemented.
- Maintenance schedule.

The following materials, that illustrate the project location and the nature of the activities covered under this Draft Plan, are included either by reference, or are attached as part of this Draft Plan.

- DEIS Figure 1-5, Site Location Map
- LA Group Plan Set dated August 2003 that includes, Master Plans (project layout), Grading Plans, Drainage Plans, Phasing and Erosion Control Plans, Construction Phasing Plans Big Indian Country Club Phase 2, Grade Slope Analysis Plans, and Landscaping and Lighting Plans.

- Delaware Engineering Plan Set dated August that includes water supply and wastewater engineering drawings.
- DEIS Table 2-*, Stockpiling Information
- DEIS Figures 3-5 Soils Map Western Portion and 3-6 Soils Eastern Portion
- DEIS Appendix 12 Soil Test Results
- DEIS Table 3-9, Permanent Stabilization Practices By Slope Classes
- Dewatering hydrographs for level spreaders "A" , "B", "C' and "D".
- DEIS Appendix 9 Construction Phase Stormwater Quantity Management Plan
- DEIS Appendix 9A Operation Phase Stormwater Quantity Management Plan
- DEIS Appendix 10 Construction Phase Stormwater Quality Management Plan
- DEIS Appendix 10A Operation Phase Stormwater Quality Management Plan
- DEIS Figures 3-__ through 3-__ reduced color coded construction phasing plan sheets, with emphasis on Big Indian Country Club Phase 2.
- DEIS Figure 3-15Q, Chitosan Flocculent Testing
- DEIS Figure 3-15R, Flocculent Delivery System

If not attached, copies of the above-listed materials can be obtained by contacting: The LA Group, P.C., 40 Long Alley, Saratoga Springs, NY, 12866. Phone:(518)587-8100.

10. Stormwater Controls

A. Implementation

i. There will be a dedicated erosion control team of 4 to 6 people per golf course, whose primary role will be repairing, maintaining and upgrading erosion control devices. These crews will be equipped and all the necessary equipment and supplies necessary to effectively maintain the erosion control devices. The site work contractor will install all erosion control.

ii. These crews will be directed by the Erosion Control Superintendent who will be a Professional Erosion Control Specialist certified by the International Erosion Control Association. This Erosion Control Superintendent will have complete stop-work authority of all site earthwork contractors and will have the authority to utilize whatever contractor equipment and manpower necessary to implement and repair erosion in a timely manner.

iii. This Erosion Control Superintendent and the two crews under his direction will not be employed by the site work contractor, but will be under independent contract to the developer and report directly to the developer's on-site representative.

iv. The site work contractor, as directed by the Erosion Control Superintendent will be responsible for constructing and structurally maintaining the construction phase sediment retention basins that will be constructed site-wide.

v. The Erosion Control Supervisor will have sufficient administrative support to assist him with maintaining records (i.e. inspection reports, daily reports, etc.) as well as preparing as-builts of any field adjustments to the approved sediment and erosion control plans.

B. Stormwater Management Objectives

The objectives of the stormwater management plan are to:

- Prevent increased runoff from developed land to reduce potential flooding and flood damage.
- Minimize the erosion potential from new construction.
- Increase water recharge.
- Enhance the quality of stormwater runoff to prevent water quality degradation and preserve water quality in receiving water bodies, including City water supply reservoirs.

C. Erosion and Sediment Controls – Temporary Structural Practices

i. Perimeter Control and Construction Access - The construction site will be delineated by a perimeter of silt fence (Detail 1 Sheet CP-17) or super silt fence (Detail 2 Sheet CP-17) and wide (2-3"), brightly colored survey flags to increase the visibility of the silt fence. Silt fences will not be relied upon as a sole method of controlling erosion. Enhanced controls in the form of phasing and maintaining vegetation buffers, utilization of site-wide sediment basins, widespread use of temporary stabilization , and comprehensive stabilization planning will be implemented to prevent or reduce erosion. Construction fence will also be installed at the grading limit line inside the silt fence. The silt fence and construction fence will be installed within a limited (8-10 ft. wide) right-of-way, cleared at the edge of construction. This edge of construction will be just beyond the clearing and grading limits of the project. Tree stands or individual trees to remain within the edge of construction will be marked by paint and flags. Installing silt fence and construction fence and marking trees to remain will be done for each entire Subphase prior to any earthwork.

Where necessary, construction haul roads will be prepared as shown on the LA Group plan sheets CP-3 through CP-14. These haul roads will be stabilized with gravel and stone materials (Detail 7, Sheet CP-17). Haul roads will be within the construction zone limits and also provide access to all temporary stormwater basins. Any temporary stormwater basin immediately adjacent to the permanent project access road can also be rough graded along with adjacent swales as part of this step. Stabilized Construction Entrances will be constructed where any unstabilized work roads enter paved roads. (See Detail 3 on Sheet CP-17). Street cleaning, not just

street sweeping, will be performed on a daily basis on internal paved roads. Dirt collected during street cleaning will be placed within areas protected by silt fence.

ii. Tree Clearing and Small Drainages - A logging contractor will cut and remove timber (but not yet grub stumps) from an entire Subphase as a single operation. As tree harvesting progresses, the erosion control crew will repair and replace the perimeter control silt fence wherever necessary. As clearing of the trees is completed and microtopographic drainages are found, the perimeter of these areas will be protected with silt fence. Discharge points of the microtopographic drainages will be secured with wattles to act as both a filter and as a stabilization method for the drainage. A wattle (Detail 4 Sheet CP-17) is a cylinder of fiber material (wood excelsior, koir fiber or straw) that intercepts and traps sediment. The cylinder varies in size from 6-12" in diameter and 50 feet or longer, depending on the length of the fill slope. Perimeter controls and wattles will be used to moderate flow off of the tree harvest project sites as well as the areas around the rough graded basins. Wattle locations shown on LA Group Plan Sheets PH-1 through PH-3.

iii. Rough Grading Temporary Sediment and Stormwater Basins - All temporary basins in a Subphase will be rough graded in this step. Each Subcatchment will have its own temporary basin. This is the first step with disturbance of soil, therefore, it is the first step in the construction process that will result in stormwater runoff that is substantially different than what occurs naturally. However, movement of water will continue in the natural directions and not in directions affected by grading activities. Erosion control will rely upon perimeter measures and wattles, and the basins themselves will capture any sediment that may enter from sheet flow.

iv. Temporary Sediment and Stormwater Basins - To develop the stormwater plan it was necessary to establish estimates of stormwater runoff volumes in order to create a stormwater management facility. The stormwater management facilities for construction of this project will be large temporary stormwater retention basins. Temporary basins will be constructed in each Subcatchment, and have been designed to capture and hold runoff from the entire area draining to them.

a. Sizing Temporary Basins

Stormwater calculations were conducted using the method prescribed in the USDA Soil Conservation Technical Release No. 20. The program used is the HydroCAD Stormwater Modeling System (Revised June 6, 1998) produced by Applied Microcomputer Systems of Chocurua, New Hampshire. Appendix 9A, "Construction Phase Stormwater Quantity Management Plan," contains the HydroCAD calculations.

The Design Storm utilized was the ten (10) year 24 hour Type II storm event having a rainfall total of 6.0 inches falling on bare soil as recommended by NYSDEC. The basins have been designed to capture and hold the entire volume of runoff from the

six-inch rainfall regardless of whether the period of rainfall is 2 or 24 hours. Detail 5 on Sheet CP-17 illustrates a typical basin cross section.

b. Basin Dewatering

During the course of the construction process described above, rain events will produce runoff that will be retained by the stormwater basins. In order to make sure these basins function effectively it will be important to pump out the basins so that their full design capacity is available for the next storm event.

The basins do not have a discharge outlet to either swales or to the permanent stormwater system that will be developed on the site. The basins are designed to contain the entire volume of the 10-year storm, which is six inches of rainfall on bare soil in a 24 hour period.

To empty the retention basins it will be necessary to pump them out. Depending on the location of the basin, basins will be pumped out to either the irrigation ponds or to level spreaders in wooded areas following treatment by a flocculating material. All subcatchments, with the exception of 234, 242, 252, 253 and 263 will have their basins pumped to the irrigation ponds, since they are close enough (distance and/or elevation) to the irrigation ponds to make this practical. The remaining basins will be pumped out to level spreaders consisting of lengths of wrapped perforated piped set up in adjacent undisturbed wooded areas.

c. Flocculent

Alum was originally considered for use as the stormwater flocculent. Department staff discouraged use of alum. Another class of chemicals sometimes used as flocculents, polyacrylamindes, were given consideration, but were soon discounted once it was found that polyacrylamides are on the California list of Known Carcinogens and Reproductive Toxins.

The flocculent proposed for use on the Belleayre Resort project is a product called Chitosan® (a.k.a. Storm Klear), marketed by a company called Natural Site Solutions from Washington State. Chitosan® is a natural product made from seafood shells that are a byproduct from food processing. Chitosan® is a derivative of the chitin in the seafood shells. Chitosan® has very low aquatic organism toxicity and completely biodegrades into carbon dioxide and water in 24 hours. Chitosan® is actually used by commercial aquariums to keep aquariums clear using the same application rate to treat stormwater. Chitosan® has been effectively used to treat stormwater from construction sites in Washington State that are adjacent to salmon streams.

Appendix 2 of the DEIS, NYSDEC Permit Applications, includes a completed Water Treatment Chemical Usage Notification form for Chitosan®. The completed form includes toxicity data and proposed use rates. As part of the evaluation of Chitosan®

for use on this project, soil samples were collected from the project site from the different soil series present and were tested for flocculent efficacy. Solutions were made using the site soils to produce turbid water of 5,000, 1,000 and 100 NTU. These turbid soil solutions were then dosed with the flocculent to produce a Chitosan® concentration of 1 ppm. Figure 3-15Q, "Chitosan Flocculent Testing" illustrates how turbidity levels in the soil test solutions rapidly dropped following the application of Chitosan®. Within one hour after applying Chitosan turbidity levels had dropped 93% in both the 5,000 NTU and 1,000 NTU turbid soil solutions. Additional turbidity reduction occurred over more time, but the great majority of turbidity reduction occurred in the first hour after dosing the turbid soil solutions. This data as well as other data and information, such as toxicity data, were shared with the Department as the product was investigated for possible use on the Belleayre Resort project and are included with the Water Treatment Chemical Usage Notification Form in Appendix 2.

d. Flocculent Application to Stormwater Retention Basins

The basin dewatering process will start shortly after rainfall ceases. The first basins to be dewatered will be those in the active Subcatchments that are undergoing grading activity. Following the dewatering of the active Subcatchment basins, the basins in those Subcatchments that have been temporarily stabilized can then be dewatered.

Figure 3-15R, "Flocculent Delivery System" schematically how the basins will be treated with flocculent and then pumped out.

Chitosan® will be added directly to the retention basins once flow to the basin has nearly ceased or decreased significantly. Each basin will have a staff gage in order to estimate the volume of water in the basin. A chart will be developed that relates basin depth to volume so that the appropriate dose of the flocculent can be introduced into the basin. Chitosan® will be sprayed with a backpack or small tank mounted sprayer on a small trailer with a battery operated pump. Spray application will work on smaller basins where a surface spray will give adequate distribution and mixing of the Chitosan®.

Larger basins that hold 1,000,000 gallons (2 acre feet) will require pump introduction of an aliquot of flocculent solution in order to give adequate distribution and mixing. Chitosan® has been determined to be effective at a 1ppm dose to reduce the turbidity from 2,000 NTU to below 50 NTU an hour after introduction. On a 1,000,000 gallon basin, a gallon dose will be required. To properly dose the basin, a pump system will be required. A floating suction pipe will be placed into the basin as part of preparing the site. The floating intake will pick up the least turbid water in the basin since it floats at the surface. Figure 3-15R, "Flocculent Delivery System," illustrates the intake pipe and the other major components necessary to deliver flocculent to the larger temporary stormwater basins. There will be two to four wagons for each Phase. The wagons will be a small, three foot by eight foot, four-wheeled wagon that will hold pumps, flocculent mixing tanks and dosers, power supply, and turbidity monitoring equipment. Clarified water from the surface of the basin will be pumped to a 500 gallon poly tank on a wagon. When the tank is half full, the one gallon of Chitosan® solution will be introduced into the tank. The tank will then be discharged to the basin by a pump and the basin will be re-circulated to mix the Chitosan® solution more uniformly in the basin so that a 1ppm solution in the basin is obtained.

After the basin has settled or sat undisturbed for two to four hours, the pump out to the dispersal location can start. The pump will draw water off from the surface of the basin through a floating suction pipe. Once the flocculent is added, it will take two to four hours to reach the desired level of sediment precipitation. Additional settling time will further clarify the stormwater, however, the major improvement in water quality occurs in the first 1-4 hours. The target value is 25-50 NTU discharge from the basins. Stream turbidity levels were measured monthly at 13 locations by Alpha Geoscience between October 2000 and October 2001. Also, NYCDEP has been

monitoring water quality, including turbidity, around the project site since August 2000 through the present. This sampling, for the most part, has been calendar based and not based on rainfall events. From these two sets of data maximum turbidity levels in local streams have ranged from just over 2 NTU up to 210 NTU.

e. Basin Dewatering

The preferred methods to empty the basins will be to discharge the water to the irrigation ponds or to a spreader pipe laid out in the undisturbed wooded area below the basins. The spreader pipe will be a four to six inch perforated coil drain pipe with a filter fabric sock around the pipe. The filter fabric sock will reduce spray from the pipe and reduce the potential for undermining the pipe or creating erosion. The sock will also allow the system to act as a soaker hose. See Detail 9 on Sheet CP-12 for installation methods. The wooded area will polish the stormwater to assure that effluent quality will meet the ambient conditions of the local watercourses. Recharge to the wooded area avoids a point discharges and reduces the potential for recontamination of treated water during passage through the site.

Four dispersal areas have been designated to accommodate the construction stormwater from each Subphase in Phase 2. See Sheet CP-2 for location of level spreaders "A," "B," "C," and "D." The discharged stormwater will ultimately become a combination of overland flow and groundwater recharge as the wooded area sequesters nutrients and further improves water quality.

The length of the perforated piping is anticipated to be approximately 1,000 to 1,200 feet, extending perpendicular to the hill slope. Resulting flow rates will be the same or less than what occurs under natural conditions and will be finalized during a close inspection of the slope characteristics of each individual dispersion area.

The following provides specifics for dewatering to the level spreaders.

Construction Retention Basin Dewatering

The Department expressed two main concerns about the dewatering process and the use of level spreaders.

- The first concern was that dispersed flow from the proposed level spreaders (dispersion pipes) would become concentrated flow that could potentially cause downslope erosion.
- The second concern was that water that percolated into the surficial soils during dewatering could reappear downslope as surface flow, also having potential for causing downslope erosion.

The following dewatering procedures were devised to address these concerns and mitigate potential impacts associated with basin dewatering.

Proposed Level Spreader Dewatering Program

The following basins will be dewatered using level spreaders; basins 234, 242, 252, 254 and 263. All other basins in Phase 2 will be dewatered to the irrigation ponds.

In order to address concerns regarding level spreader dewatering, additional analyses of existing hydrological conditions were performed and then compared to the proposed hydrological conditions with basin dewatering. Like other hydrological analyses of stormwater management, the underlying premise behind theses analyses is that if post-construction discharges are equal to or less than pre-construction discharges, then adverse impacts can be avoided. In other words, if dewatering discharge rates are less than what is currently occurring on the site naturally without adverse effects, then dewatering using level spreaders will also not result in adverse effects.

Existing (Pre-construction) Conditions

HydroCAD modeling was used to calculate existing runoff rates at the proposed dewatering level spreader locations. Level spreaders constructed of perforated pipe wrapped with a filter fabric (dispersion pipes) are proposed to be installed in undisturbed wooded areas downslope of proposed construction activities. Using the locations of these level spreaders shown on LA Group Plan Sheet CP-2, the existing condition wooded subcatchment limits were determined. HydroCAD modeling was then used to create a hydrograph (runoff over time) for the 10-year design storm under existing conditions. Since the 10-year storm was used to design the proposed basins, the 10-year storm was also used for developing hydrographs for existing conditions.

The hydrographs of existing conditions do not represent runoff patterns that will occur during the construction phase. During construction, the proposed stormwater basins will capture and hold runoff from the entire subcatchments, and no runoff from these areas will reach the level spreaders. Instead, captured runoff in the basins will be discharged via the level spreaders after the storm event has passed.

Proposed (Construction) Conditions

Design volumes of the proposed ponds (HydroCAD data attached) and dewatering time periods were used to calculate proposed dewatering rates for each of the four proposed level spreaders (A, B, C & D). Worst-case dewatering rates were calculated using full pond volumes after the 10-year storm event. Dewatering runoff rates were varied by using different durations of time for basin dewatering. Generally, dewatering rates were calculated using 16 hours, 24 hours and 32 hours of total dewatering time.

The constant dewatering runoff rates for the different total dewatering times were then compared to the existing conditions hydrographs to determine how long a period of dewatering should be utilized to keep discharge rates at or below existing conditions runoff rates.

Level Spreader "A"

Basin 263 will be dewatered using level spreader "A" which will be located in the wooded area just to the west of this basin (See Sheet CP-2). Attached Figure 1 shows the existing conditions hydrograph in dark blue for level spreader "A". During the 10-year storm event under existing conditions runoff peaks at 40.49 cfs just after hour 12, then quickly decreases before leveling off and then slowly decreasing. It is this later part of the existing conditions curve, when runoff rates are fairly constant after the large peak in runoff, that the dewatering discharges should seek to match or be below.

Figure 1 also shows the discharge rates that would occur for 16 hours of dewatering (1.65 cfs), 24 hours of dewatering (1.1 cfs) and 16 hours of dewatering (0.83 cfs). Obviously, the existing conditions hydrograph and the dewatering discharge hydrographs on this figure (and on similar figures that follow) are not on the same "real time" scale. The graphics are not intended to represent dewatering discharges occurring during the actual storm event that would produce the existing conditions hydrograph. Dewatering discharge hydrographs were overlaid on the existing conditions hydrograph to facilitate direct comparison of discharge rates.

It is important to remember that the dewatering discharge rates given above are for the entire length of the level spreader, which in the case of level spreader "A" is approximately 1,000 feet long.

In Figure 1 the 16-hour discharge rate is slightly higher than the post-peak existing condition discharges. The 24 hour rate and the 32 hour rate are at or below the later part of the existing conditions curve. Therefore, basin 263 should be dewatered using level spreader "A" over the course of 24 to 32 hours. Dewatering should take place for no longer than 16 consecutive hours, with a minimum period of 8 hours with no discharge from level spreader "A". These limitations will make the dewatering discharge even more closely resemble the existing conditions hydrograph in Figure 1.

Level Spreader "B"

Using the same procedure described above, it has been determined that basin 253 can be dewatered using level spreader "B" over the course of 16 hours. See Sheet CP-2 for the location of level spreader "B" and see Figure 2 of this attachment for the existing conditions and dewatering hydrographs. If, for whatever reason, basin 253 is dewatered over the course of more than 16 hours, there should be a period of 8 hours of no dewatering following the first 16 hours of dewatering.

Level Spreader "C"

Level spreader "C" (See Sheet CP-2 for location) will be used to dewater basin 252 and basin 242. Since these two basins are in different Subphases, only one of the two basins will be serving an area of active construction at any given time. While one of the basins is serving an active construction area, the area served by the other basin will either be still undisturbed, temporarily stabilized, or finally stabilized.

Both basin 252 (attached figure 3) and basin 242 (attached figure 4) should be dewatered over a period of 24 to 32 hours, with no more than 16 consecutive hours of dewatering separated by a period of 8 hours with no dewatering discharge.

Level Spreader "D"

Using the same process, it has been determined that the total amount of dewatering time for basin 234 when using level spreader "D" should be 48 hours. The dewatering time for this basin is longer than for the other basins discussed previously because existing conditions runoff rates are lower at level spreader "D" because of its smaller drainage area (see Sheet CP-2). Dewatering should occur for no more than 16 consecutive hours separated by periods of 8 hours when no dewatering discharges occur.

If it is ever necessary to dewater basin 234 over a shorter period of time, the option exists to pump water up to basin 233 and from there to pump the water to the irrigation pond.

Monitoring Turbidity

To restrict the discharge of turbid stormwater, the pump system will be fitted with a turbidity meter and a shutoff system. The shutoff circuit will be connected to the pump to stop the operation of the pump when the turbidity exceeds the selected range of values or is over the proposed discharge limit of 50 NTU. When the pump shuts down it will be necessary to restart the system with clean water in the pump circuit. The basin will have to either be re-dosed or allowed additional time to settle prior to completing the pump out.

When the basins that serve the active Subcatchments are pumped out, the remaining basins serving stabilized Subcatchments can be cleared of stormwater using the same methods.

For the Subcatchments where it will be feasible to discharge the retention basins to the irrigation storage ponds, flocculent will still be used in these retention basins since it will be desirable to reduce the turbidity before discharging to the irrigation ponds. It is likely that the irrigation ponds will be in use during this time, and it is desirable to minimize turbidity in the irrigation pond as much as possible since the soil that is

causing the turbidity can cause unnecessary wear, and possibly even clogging of irrigation heads. This in turn could hinder establishing final stabilization measures.

v. Stump Grubbing, Basin Fine Grading & Stormwater Swales - Stumps will be grubbed on a subphase basis. Completion of the excavation of the temporary sediment/stormwater basins and adjacent swales or temporary stormwater pipes for the Subphase will occur concurrently. This will require construction stakeout and then verification by the Erosion Control Superintendent that the basins are in the best position to intercept construction site runoff. During the rough grading of the basins runoff will enter the basins by sheet flow. Once this step is completed, stabilized drainage swales and temporary gravity-fed stormwater pipelines will also convey stormwater to the basin. Coil drain pipes will be used for temporary stormwater pipes. Use of pipes avoids disturbance of areas that require minimal grading or are at finished grades but are not stabilized. Pipes also avoid erosion scour. Swales will be stone-lined with check dams (Detail 6 Sheet CP17) or may be lined with Pyramat®. Pyramat® is a three-dimensional plastic fiber web product recommended for stormwater swales. Detail 10 on Sheet CP-17 shows how the product is installed. Pyramat® is a NYSDOT-approved Class III erosion control blanket. The USEPA guidance for Turf Reinforcement mats, including Pyramat® (EPA 832-F-99-02) indicates that their use is acceptable for flows of 5 ft/sec. to 25 ft./sec. and for use on slopes of up to 1:1.

vi. Rough Grading, Fine Grading and Irrigation Installation - Rough grading and fine grading will consist of both earth removal (cuts) to reduce site grades to within a 0.5-1.0 foot of the final grades and fill slopes will be established and compacted, also within a 0.5-1.0 feet of the finish grades. Any necessary subsurface drain structures or permanent basin structures will be set during rough grading. The core material for the tee and greens will be imported and placed at the appropriate locations. Temporarily stockpiling may be necessary during construction within a Subphase.

The tee and green side slopes will be covered with light weight mesh of Ten Max® erosion control netting or similar products to shed the rain to the area stabilized with Soil Guard® or Eco Aegis®.

All stockpiles will be contained in an additional perimeter of super silt fence (Detail 2, Sheet CP-7). Topsoil stockpiles will be tackified with Eco Aegis® or a similar product if they will not be used within fourteen days.

The following are the routine maintenance tasks to be carried out by the on-site erosion control teams that will occur during all construction steps but will occur at the greatest frequency during rough grading.

- Daily inspections of construction fence and silt fence at active Subcatchments.
- Weekly inspection of all perimeter controls.
- Inspection of all basins and perimeter controls after rainfalls of ½ inch or greater in a 24 hour period.
- Clearing temporary basins of accumulated sediments and repairing side slopes.
- Daily road/street cleaning of paved surfaces.
- Daily and weekly stream and runoff sampling.
- Pump out of the temporary sediment basins following storm events, monitoring the quality as it is done. (See "Water Quality Monitoring Plan" later in this document.)

The permanent irrigation trunk lines, laterals and irrigation heads will be installed during final grading. Irrigation trunk lines and laterals will generally be in a trench that will be 2-3 feet deep and one foot wide. The trench may be slightly wider at junctions with laterals. Irrigation installation will be completed on an entire Subphase basis since it is an integrated utility and the construction activity involves entire subphase areas that will contain large numbers of irrigation heads designed to deliver precise irrigation coverage to specific areas of the golf course. Adequately tall sprinkler head risers will be installed in order to allow for topsoiling and permanent stabilization.

vii. Fairway Drain/Sediment Traps – During rough grading minor depressions will be created to capture runoff and to keep it from running across fairways. In these depressions there will be a perforated riser pipe surrounded by stone/gravel and wrapped in silt fence (Detail 6, Sheet CP-18). These risers will be piped to construction stormwater basins that will eventually be converted to permanent stormwater basins. During permanent stabilization the silt fence and stone/gravel will be removed and the riser pipe will be cut flush with the finished grade and a grate will be installed. During the operational phase, the fairway drains will capture stormwater, keeping it from running across the fairways and allowing the fairways to dry more quickly following rain events.

viii. Temporary Stabilization – For some Subphases temporary stabilization will be utilized until the Subphase is ready for topsoiling and final stabilization (see sequence above and description below in E).

D. Erosion and Sediment Controls and Stormwater Management - Permanent Structural Practices

- Permanent erosion control will occur via maintenance of vegetation cover in landscaped and golf course areas.

- Fairway surface drains (see vii above) will be in place and be connected to the permanent stormwater management system.
- Sediment control will also occur via implementation of the project stormwater management plan. The basis of design for the stormwater management plan is as follows.

i. Introduction

The stormwater management plan for the Belleayre Resort at Catskill Park project was developed in accordance with the guidelines established in the New York State Stormwater Management Design Manual (NYSSMDM) (Center for Watershed Protection, October 2001). The primary design goal achieved by the project stormwater management plan is to meet water quality objectives such as capturing and treating the full water quality volume, reducing total suspended solids (TSS) by 80% and reducing total phosphorus (TP) by 40% (NYSMSDM, page 5-1).

In order to achieve this primary design goal of meeting water quality objectives, while at the same time mitigating potential impacts associated with increased stormwater volumes, the design of the project stormwater management plan integrated two analysis methodologies. These two methodologies were combined in an iterative manner to design the stormwater management plan for the project. DEIS Appendix 9A, "Operational Phase Stormwater Quantity Management Plan," and Appendix 10A, " Operational Phase Stormwater Quality Management Plan", describe the two analysis methodologies. The design of the stormwater management plan derived from the two analysis methodologies is illustrated on the plans that accompany the DEIS, including the Site Drainage (SD) plans and the Site Grading (SG) plans.

ii. Proposed Stormwater Management Plan Practice

Using the stormwater management practices selection matrices contained in Chapter 7 of the NYSSMDM, it was determined that stormwater ponds were the most suitable practice to be implemented for the Belleayre Resort project. More specifically, the Micropool Extended Detention Pond (P-1) was selected as the practice to be implemented. The P-1 practice was selected based on the following factors;

- The project density makes it a "rural" project (NYSSMDM Table 7.1),
- Soils (mostly groups C&D), groundwater (non-aquifer), and drainage area sizes (most >10 acres) are suitable (NYSSMDM Table 7.2),
- The presence of local sensitive coldwater trout streams (NYSSMDM Table 7.3a),
- The need for sediment and phosphorus removal for trout water and NYC water supply reservoir protection (NYSSMDM Table 7.3b),
- Other pollutant controls and channel protection and flood control in this region with "flashy" storm hydrology (NYSSMDM Table 7.4), and
- Ease of maintenance and public safety (NYSSMDM Table 7.5).

Note: For purposes of discussion of the project stormwater management plan the terms "pond", "P-1 pond", "P-1" and "basin" are synonymous.

Stormwater ponds as a whole, including the P-1 Micropool Extended Detention Pond practice proposed for this project, provide the highest levels of stormwater control from both quality and quantity standpoints of all of the acceptable practices in the NYSSMDM, and are easy to maintain. The fact sheet summary description of stormwater ponds contained in the NYSSMDM (pages 6-20 and 6-21) rates pollutant removal for phosphorus, nitrogen, metals and pathogens as "good", the highest ranking available. Additionally, ponds are listed as suitable for WQv, Cpv, Qp, and Qf protection, while having a low maintenance burden. Other practices in the NYSSMDM have lower pollutant removal capabilities and/or are unable to treat higher volume storm events.

iii. Design Details

The project plan sheets that illustrate the project stormwater management plan are on base mapping with a 5-foot contour interval. Because of this, it was not possible to illustrate the details of the proposed micropool extended detention ponds directly on the SD and SG plans. An engineering detail of a cross section through a typical pond is illustrated on Detail 1 on Sheet CP-18. This detail schematically illustrates how the ponds will include a sediment forebay on the upper end and a micropool on the lower end. Details 1 and 2 on Sheet CP-18 provides additional information showing how the pond design is consistent with the design guidance for P-1 contained in the NYSSMDM, including benches, plantings and outlet structures. Like the rest of the detailed construction phasing and construction stormwater control construction-level drawings, after a permit is issued for the project and as a condition of the permit, more detailed drawings will be prepared and submitted for each of the proposed P-1 ponds using more detailed (i.e. 2-foot contour) topography.

iv. Required Elements and Design Guidance

The following is a discussion of how the proposed stormwater management plan meets the required elements and design guidance specified for practice P-1 in Chapter 6 of the NYSSMDM.

Section 6.1.1 Feasibility

- Forty-nine (49) of the 71 proposed P-1 ponds have direct contributing drainage areas greater than 10 acres. For the 22 ponds that do not have 10 acres of direct contributing drainage area, 11 of these P-1 ponds are in series or sequence with a downstream P-1 pond that does have a 10 acre drainage area. Having these 11 ponds with less than 10 acres of direct contributing drainage area located upstream and in series/sequence with downstream ponds with more than 10 acres of contributing areas is consistent with the NYSSMDM recommendation of providing multiple pathways by providing multiple cells and redundant treatment methods (NYSSMDM page 6-12) and still meets the 10 acre drainage area required design for practice P-1.

  This leaves 11 P-1 ponds that do not have 10 acres of direct contributing areas and are not located upstream of a downstream P-1 pond with more than 10 acres of contributing

area. The sizes of the contributing drainage areas for these 11 ponds range from 2.13 to 9.48 acres. The NYSSMDM allows for the use of the P-1 practice where drainage areas are less than the 10 acre minimum when there is an adequate water balance and an anti-clogging outlet device in installed (NYSSMDM Table 7.2, footnote #1). All P-1 ponds have been individually sized based upon the size of their respective contributing drainage areas and the land use covertypes within these drainage areas. As per the typical detail for these ponds (Detail 1, Sheet CP-18), outlet orifices will be set at an elevation that will produce surface water areas of at least 20% of the water quality volume to be in the permanent pool of all P-1 ponds (NYSSDM Table 6.1). These design elements will produce the desired water balance for the 11 P-1 ponds with contributing areas of less than 10 acres. All of the 71 proposed P-1 ponds will have anti-clogging trash racks installed at their outlets in accordance with the anti-clogging details contained in Appendix K of the NYSSMDM (See Detail 3, Sheet CP-18).

- As shown on the SD and SG sheets, no ponds are proposed in jurisdictional waters, stream channels or wetlands.

- As shown on the SG sheets, ponds are dug ponds, not impoundments requiring dam permits.

- The ponds are not located in a sole source aquifer recharge area (NYSSMDM Figure 7.1).

Section 6.1.2 Conveyance

- Inlet Protection – stabilized forebays 4 to 5 feet deep are provided in all pond inflows and all inlets will be suitably stabilized with riprap to ensure non-erosive conditions for at least the 2-year storm (See Detail 1, Sheet CP-18). Because the site is in a cold region of the State, pond inlets will be stone lined swales, rather than a partially full inlet pipe that is subject to freezing.

- Outfall Protection – The site grading (SG) plans indicate which ponds will outfall to swales and which ponds will outfall to overland flow and how outfalls have been designed to prevent erosion. Swale outfalls will contain riprap over geotextile fabric (See Detail 1, Sheet CP-18) or suitable alternative such as a three dimensional grid materials such as the Pyramat® shown on Detail 10 on Sheet CP-12. Overland flow outfalls will have a similar riprap outfall, but will also be equipped with a level spreader below the stabilized outfall as per NYSSMDM Appendix K, Figure K-9 (See Detail 5, Sheet CP-18).

- Pond Liners – Percolation rates for all ponds are provided on the site grading (SG) plans. All but 7 of the proposed ponds essentially have no percolation at their proposed 5-foot bottom depth. The seven ponds that have percolation at the 5-foot bottom depth are ponds 15, 20, 23 and 110 on Sheet SG-1, ponds 12 and 16 on Sheet SG-2 and pond 27 on Sheet SG-6. The bottoms of these ponds will be covered with 6 to 12 inches of clay soils available on-site (See DEIS Appendix

12, Soil Test Results, where sieve analysis show suitable on-site soils with 31-60% passing the #200 sieve). Amended pond soils will be percolation tested to confirm minimum permeability of $1x10^{-5}$ cm/sec.

Section 6.1.3 Pretreatment

- As per Details 1 and 2 on Sheet CP-18, all ponds will include a forebay separated from the rest of the pond by an earthen berm barrier and forebays will be four to five feet deep and sized to contain at least 10% of the WQv. The 10% of WQv volume for each pond is listed on the SG plans. The riprap non-erosive forebay outlet is also shown on these details, as is a sediment depth marker. As shown on the SG and SD plans, all basins and their forebays are readily accessible for maintenance.

Section 6.1.4 Treatment

- The 10% of WQv for the forebay and the 20% of WQv for the permanent pool for each pond is indicated on the site grading (SG) plans. As per Detail 1 on Sheet CP-18 a minimum of 20% of the WQv will be contained in the permanent pool and a maximum of 80% of the WQv will be treated by extended detention (NYSSMDM Table 6.1). Topography constraints and the desire to minimize land disturbance dictate that water quality treatment be provided in-line rather than offline. As stated previously, and as illustrated on the HydroCAD stormwater routing schematics included on the site drainage (SD) plans, multiple ponds in series provides for the recommended multiple cells and redundant treatment. Ponds have purposefully been designed to be long and narrow (>1.5 L:W ratio) in an effort to increase shading. As discussed above, future detailed construction plans for each of the ponds will provide a water surface area of a minimum of 1% of the drainage area.

Section 6.1.5 Landscaping

- Pond Benches and Landscaping Plan - Detail 2 on Sheet CP-18 shows a typical pond landscaping plan with a planting palette for aquatic and terrestrial areas, including the safety bench and the aquatic bench. Safety benches are 10 feet wide minimum and 6% maximum slope, while aquatic benches are 10 feet wide and set at an elevation to provide a maximum depth of 18" below the normal water elevation (see Detail 2 on Sheet CP-18). All plant species are suitable for the climate of the site and the hydrologic regimes in which they are proposed.

- Buffers and Setbacks - Ponds are not proposed in proximity to any structures, roads or property lines. There are no other state-regulated buffers on the project site. The planting plan referenced above (Detail 2, Sheet CP-18) does not propose woody vegetation within 15 feet of the toe of the embankment or 25 feet from the principal spillway. These areas will be maintained free of woody vegetation.

Section 6.1.6 Maintenance

- Maintenance Responsibility - The ponds will not become the responsibility of any municipality. Maintenance will be the responsibility of the project sponsor (landowner) and no maintenance right-of-way or easement will be required. In the event the project sponsor transfers the project, the new owner will be required to sign a maintenance agreement to clearly transfer this obligation to the new entity.

- Trash Racks (non-clogging orifices) - Pond risers and the low flow orifices will be equipped with accessible and removable trash racks to prevent clogging (See Detail 3 on Sheet CP-18).

- Sediment Removal - As indicated on a note with Detail 1 on Sheet CP-18, forebay sediment removal will occur when the forebay is 50% full.

- Accessibility - As illustrated on the SD and SG site plan sheets, all ponds and their components are readily accessible by equipment that would be used to maintain the ponds. Details 1 and 2 on Sheet CP-18 show how risers will also be accessible when they are placed within pond embankments.

- Pond Drain and Gate Valve - A drain pipe will be installed for the micropool of each pond as per Detail 1 on Sheet CP-18. Pipes will be sized to drain the entire pond volume within 24 hours and will be equipped with a gate valve. Because of slopes and topography, installing an additional drain pipe in pond forebays is not practical. Whenever it is necessary to dewater the forebay or the entire pond for maintenance, the micropool drain pipe will be opened and water will be pumped from the forebay to the micropool using a portable pump. If requested, notification will be provided to the Department ("the approving jurisdiction" NYSSMDM page 6-16) prior to draining a pond.

- Safety Features - As per Details 1 and 2 on Sheet CP-18, side slopes of the pond will be between 3:1 and 5:1 and safety benches are provided. The ponds will be located on private resort property in a low density rural area, and as such, access to spillways by small children is not a concern as it might be on public property in a more urban area.

Section 6.1.7 Cold Climate Pond Design Considerations

- As per DEIS Appendix 10A (page 14) "The stormwater control sizes have been verified to accommodate snow-runoff events".

- The following note has been added to Detail 1 on Sheet CP-18 that shows a typical micropool pond drain: "Unless absolutely necessary for emergency pond repair, do not drain roadside ponds prior to May 1."

Rock lined swales are proposed in lieu of inlet pipes, and outflow pipes are located below frost line as shown on Detail 1 on Sheet CP-18.

E. Temporary Stabilization Practices (including vegetative practices)

i. The primary means of temporary stabilization will be use of tackifiers, with Eco Aegis® and Soil Guard® being the preferred products. Eco Aegis® and Soil Guard® will hold soil in place and prevent runoff from accumulating soil or other debris. Both products can be rapidly and accurately applied using conventional hydroseeding equipment. Both products can be applied with standard hydroseeding equipment. Application of Soil Guard® requires a special spray nozzle and the manufacturer requires training of the contractor. If the decision is made to use Soil Guard®, the required spray nozzle will be used and the contractor will be trained in the use of this product.

ii. In side slopes areas outside of golf play or outside of areas to be landscaped, the slopes can be hydro-seeded with the tackifiers and seeded with a conservation grass mix of deep rooting native grasses.

iii. Prior to starting the clearing and grubbing in a subsequent Subphase, the temporary stabilization must be in place. The Erosion Control Superintendent will inspect and document successful temporary stabilization prior to authorizing clearing and grubbing to begin in the next Subphase.

iv. All temporary stabilization after August 15 will include use of annual rye.

v. All temporary stormwater basins will be inspected and cleared of accumulated sediments that will be used in rough grading of the subsequent Subphase.

vi. Temporary stabilization must be utilized whenever the permanent irrigation system is not functional when it is time to topsoil and permanently stabilize a Subphase.

vii. Temporary stabilization must be utilized when any construction areas, soil stockpiles, or haul roads will remain undisturbed for more than 14 days.

F. Permanent Stabilization Practices (Including Vegetative Practices)

i. Maintaining Existing Vegetation - The golf course layout has been prepared based on the five-foot topographic survey of the site. The golf course designer and project engineers must confirm that the survey is accurate and that unique features or site attributes are accommodated by the design. Site attributes could include stone walls, rock outcroppings or a particular large tree or stand of trees that may be desirable to be incorporated into the design. The centerline staking and clearing allows the entire design team to review their design as it relates to the field conditions. Once the centerline of the golf course is staked, a fifty-foot wide

path (25 feet either side of the center line) will be cut for the whole subphase. Trees will be cut and felled and may be removed or left on the ground for subsequent clearing. The stumps will not be grubbed at this time. This will enable the design team to then establish clearing limits taking into account the site attributes discussed above. The project plans show clearing limits that are absolutely the outer limits that may be cleared. Design team inspection and establishment of actual clearing limits, taking into account site attributes, will be within the clearing limits shown on the plans. For buildings and road rights-of-way the process is similar, but since final clearing limits will tend to be narrower, 20-40 feet wide, only a 10 to 20 foot wide centerline clearing is required.

ii. Establishing Permanent Stabilization -

b. A total of approximately 55 acres of sod will be used during construction of Phase 2 of the Big Indian Country Club, 45 acres will be used during Phase 3 of the Big Indian Country Club, and 50 acres will be used for the construction of Highmount Golf Club.

c. Sheets SA-1 through SA-3 illustrate how the finished grades of the proposed golf courses have been broken down into different slope categories. An Erosion Control Products List has been developed and those erosion control products that are suitable for the different slopes shown on sheets SA-1 through SA-3. The materials listed in this comprehensive table include such things as various tackifiers, erosion control blankets, etc. Sheets CP-15, 16, and 17 provided similar but more detailed information for Phase 2 of Big Indian Country Club.

d. All areas disturbed for golf course construction will be seeded or sodded with high quality turfgrass seed or sod and irrigation will be provided as necessary to promote rapid germination and establishment.

G. Stormwater Quantity and Quality Management

i. Supporting Materials – for construction activities meeting conditions A, B, or C in Part III.A.1.b of GP-02-01.

a) Hydrologic/hydraulic analysis for all structural components of the stormwater control system for the applicable design storm(s).
b) Comparison of post-development stormwater runoff conditions with pre-development conditions.
c) Dimensions, material specifications and installation details for each post-construction stormwater control practice.
d) Maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice.

FOR THE ABOVE INFORMATION SEE APPENDICES 9, 9A, 10, AND 10A.

For the golf course itself and other areas that are revegetated, the pre- and post-development weighted C runoff coefficient should not significantly change as a result of project construction

once herbaceous vegetation is re-established. New impervious areas will be served by a stormwater collection and detention system. The operational stage stormwater management system has been designed so that post-construction stormwater discharge rates will be the same or less than the rate under the pre-development conditions. The system has been designed to effectively treat the 25-year storm, and can also effectively pass the 100-year storm. Significant areas of porous pavement are proposed to reduce impervious area on the site.

ii. Comparison of Pre- and Post-Construction Stormwater Runoff

FOR THE FOLLOWING INFORMATION SEE APPENDICES 9, 9A, 10, AND 10A.

a) Stormwater Quantity

Site Area: acres
Total Area of Disturbance: acres
Total Acres of New Impervious: acres

Weighted CN:
☐ If HydroCAD, then A.
☐ If Rational, then B.

Design Year Storm	Pre-construction	Post-construction
1.	cfs	cfs
2.	cfs	cfs
3.	cfs	cfs

Design Year Storm	Pre-construction	Post-construction
1.	cfs	cfs
Weighted CN		

b) Stormwater Quality

Water Quality Storage Volume WQ_v = acre-feet of storage

Table 1
Pre-development and post-development pollutant loadings.

	Annual Pollutant Loadings						
	TSS	TP	TN	Cu	Pb	Zn	Bacteria
Loading to SMP's	lbs	lbs	lbs	lbs	lbs	lbs	billion colonies
Export from SMP's	lbs	lbs	lbs	lbs	lbs	lbs	billion colonies
SMP	%	%	%	%	%	%	%

reduction

iii. Water Quality Monitoring Plan

The flocculent treatment process will result in a clarified effluent with turbidity values of 25-50 NTU. This level of turbidity is similar to the clarity found in local streams. During pump out of a particular basin, composite samples of the clarified effluent will be taken at the point where the pump discharges into the pipe feeding into the level spreader perforated pipe. This sample will be made up of equal volume of effluent collected every hour during the pump out. The volume pumped from a basin will be measured by flow meter or by run time on the pump.

Surface water will also be monitored. Two locations on Birch Creek will be monitored on a weekly basis and daily during periods of rainfall. The sample parameters will be conductivity, turbidity, total phosphorus, total nitrogen and nitrate. Sampling sites will be upstream of the confluence of Birch Creek and Crystal Spring Brook near where Birch Creek crosses under NY Route 28 and downstream where Lasher Road crosses Birch Creek. The upstream site is above the drainage area in which construction will be occurring. The downstream location encompasses the lands under construction that drain to the brook in Giggle Hollow, a tributary of Birch Creek, as well as the lands that drain to Birch Creek itself.

At Wildacres Resort, the same process will be used to empty the stormwater basins, therefore, the same measurement procedures will be utilized, including upstream and downstream stream monitoring locations.

Appendix 1
Other Controls

Tree Stumps and Tops: Tree stumps will be buried on site. Tree tops will be chipped directly into trucks and then be shipped off-site.

Waste Materials: All waste materials generated during construction will be disposed at a suitable landfill, transfer station or C and D landfill.

Hazardous Waste: The project will not be a generator of hazardous waste and it is not anticipated that any hazardous waste will be generated during construction. If there are any materials generated, a licensed hazardous waste carrier will be contracted to dispose the hazardous material at a suitable disposal site. If hazardous materials are discovered during construction, the work will be stopped until the issue is resolved.

Sanitary Waste: Portable sanitary facilities will be made available to construction personnel and will be serviced regularly.

Offsite Vehicle Tracking: Earthworking equipment involved with the construction will remain on the project site and will not regularly egress or ingress the site. Any trucks used to bring in materials or remove materials via municipal paved roads will do so over a stabilized construction entrance. If significant off-site vehicle tracking begins to occur, the contractor will be directed to institute a daily, or as-needed, street sweeping program in the immediate vicinity of the site.

Timing of Measures/Controls

- All construction retention basins shall be pumped out within 48 hours of rainfall events.
- Temporary structural erosion controls will be installed prior to earthwork as per the attached plans.
- The Erosion Control Superintendent shall conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part III.D of GP-02-01 have been adequately installed to ensure overall preparedness of the site for commencement of construction.
- Structural erosion controls and non-stabilized areas shall be inspected once a week or within 24 hours after a rainfall of 0.5 inches or more. Copies of the Stabilization Inspection Forms and Structural Inspection Forms located at the end of this report shall be completed in full for every inspection performed.
- Areas to be undisturbed for more than 14 days will be temporarily stabilized.
- Disturbed areas will be permanently stabilized after final contours are established and no more than 14 days after the completion of construction at that site.
- Temporary erosion control devices will not be removed until the area served is stabilized by the growth of vegetation and the area is certified as being stabilized by the Erosion Control Superintendent.

- Any areas that cannot be seeded to turf by October 1 or earlier will receive a temporary seeding. The temporary seeding will consist of winter rye seeded at the rate of 120 pounds per acre (2.5 pounds per 1,000 square feet).

The operator shall prepare a summary of construction status using the Construction Sequence Form at the end of this document once every month. Significant deviations to the sequence and reasons for those deviations (i.e. weather, subcontractor availability, etc.), shall be noted by the contractor. The schedule shall be used to record the dates for initiation of construction, implementation of erosion control measures, stabilization, etc. A copy of this table will be maintained at the construction site and be updated in addition to the individual Stabilization Inspection Forms and Structural Inspection Forms completed for each inspection.

Appendix 2
Maintenance/Inspection Procedures

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls. The practices listed herein shall be implemented in accordance with the attached maintenance schedule.

A maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the inspector is attached in Appendix 4. Reports should be compiled and maintained on-site.

- It is recommended that a rain gage be installed at the site.
- The Erosion Control Superintendent will supervise day-to-day erosion control activities on the site. The Erosion Control Superintendent and his crews will make at least weekly inspections of erosion control devices, as well as inspections following any storm event of 0.5 inches or greater.
- All measures will be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of report.
- Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.
- Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in ground.
- All temporary sediment basins should be inspected for stability and integrity once a week or after a storm event of 0.5 inch or more. Any structural failure in sediment basins or trenches that serve them will be repaired within 24 hours after detection.
- All temporary sediment basins or trenches shall be cleaned out when one foot of sediment or half the design depth of the trap has accumulated. All spoils shall be removed to a stabilized upland area.
- Seeded and planted areas will be inspected for bare spots, washouts, and healthy growth. If necessary, spot reseeding or sodding will be implemented.

Appendix 3
Spill Prevention Practices

GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES

The following good housekeeping and material management practices will be followed on site during the construction project to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

- Materials will be brought on site in the minimum quantities required.
- All materials stored on site will be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposal.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The construction manager or his designee will inspect daily to ensure proper use and disposal of materials on site.
- The contractor shall prohibit washing of tools, equipment, and machinery in or within 100 feet of any watercourse or wetland.
- All above grade storage tanks are to be protected from vehicle damage by temporary barriers.

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials and substances listed below are expected to be on-site during construction.

- Petroleum for fueling vehicles will be stored in above ground storage tanks. Tanks will either be steel with an enclosure capable of holding 110% of the storage tank volume or of a Con-Store, concrete encased type typically employed by NYSDOT. Hydraulic oil and other oils will be stored in their original containers. Concrete and asphalt will be stored in the original delivery trucks.
- Fertilizer may be stored on site in its original container for a short period of time prior to seeding. Original containers will be safely piled on pallets or similar devices to protect from moisture.
- Paints and other similar materials will be stored in their original containers and all empty containers will be disposed of in accordance with label directions.

- Portable sanitary facilities, which contain chemical disinfectants (deodorants) will be located on-site, with the disinfectants held in the tank of the toilet.

HAZARDOUS PRODUCTS

These practices are used to reduce the risks associated with hazardous materials.

- Products will be kept in original containers unless they are not resealeable.

- Original labels and material safety data sheets will be retained; they contain important product information.

- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

SPILL PREVENTION – PRODUCT SPECIFIC PRACTICES

The following product specific practices will be followed on site.

Petroleum Products:

- Construction personnel should be made aware that emergency telephone numbers are located in this SWPPP.
- The contractor shall immediately contact NYSDEC in the event of a spill, and shall take all appropriate steps to contain the spill, including construction of a dike around the spill and placing absorbent material over this spill.
- The contractor shall instruct personnel that spillage of fuels, oils, and similar chemicals must be avoided.
- Fuels, oils, and chemicals will be stored in appropriate and tightly capped containers. Containers shall not be disposed of on the project site.
- Fuels, oils, chemicals, material, equipment, and sanitary facilities will be stored/located away from trees and at least 100 feet from streams, wells, wet areas, and other environmentally sensitive sites.
- Dispose of chemical containers and surplus chemicals off the project site in accordance with label directions.
- Use tight connections and hoses with appropriate nozzles in all operations involving fuels, lubricating materials or chemicals.
- Use funnels when pouring fuels, lubricating materials or chemicals.
- Refueling and cleaning of construction equipment will take place in parking areas to provide rapid response to emergency situations.
- All on-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Any vehicle leaking fuel or hydraulic fuel will be immediately scheduled for repairs and use will be discontinued until repairs are made.

Fertilizers:

- Fertilizer will be stored in its original containers on pallets with water resistant coverings.
- Proper delivery scheduling will minimize storage time.
- Any damaged containers will be repaired immediately upon discovery and any released fertilizer recovered to the fullest extent practicable.

Paints:

- All containers will be tightly sealed and stored when not required for use.
- Excess paint will not be discharged to the storm water system or wastewater system, but will be properly disposed of according to manufacturers' instructions or State and local regulations.

Concrete Trucks:

- Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.

Asphalt Trucks:

- Asphalt trucks shall not discharge surplus asphalt on the site.

SPILL CONTROL PRACTICES

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup. The construction manager responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the onsite construction office or trailer.

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spill in excess or suspected to be in excess of two gallons will be reported to the NYSDEC Regional Spill Response Unit. Notification to the NYSDEC (1-800-457-7362) must be completed within two hours of the discovery of the spill.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to absorbent pads, brooms, dust pans, mops, rags, gloves, goggles, activate clay, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with spilled substance.
- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.

SPILL RESPONSE REPORT

Within 1 hour of a spill discovery less than 2 gallons in volume the following must be notified:

Erosion Control Superintendent
Crossroads Ventures/(845) 688-7740

Within 1 hour of a spill discovery greater than 2 gallons or any spill of any hazardous or toxic material the following must be notified:

Erosion Control Superintendant
Crossroads Ventures/(845) 688-7740
NYSDEC Spill Response Hotline 1-800-457-7362
NYCDEP
Spill Response Contractor
Local Municipality Code Enforcement Officer

Material Spilled: _____

Approximate Volume: _____

Location: _____

Distance to nearest down gradient drainage: _____

Distance to nearest down gradient open water: _____

Temporary control measures in place: _____

Spill Reported to: _____ Time: _____
_____ Time: _____
_____ Time: _____
_____ Time: _____

Appendix 4
Forms for the Stormwater Pollution Prevention Plan

Belleayre Resort at Catskill Park
SWPP INSPECTION REPORT

_____,CPECS _____ _____
Inspector Name Signature Date of Inspection

Inspection #_____

YES	NO		
☐	☐	Routine Inspection.	Date of last inspection:_____
☐	☐	Inspection following rain event.	Date/time of storm ending:_____
			Rainfall amount:_____
			Recorded by:_____
☐	☐	Is this a final site inspection?	
☐	☐	Has site undergone final stabilization?	
☐	☐	If so, have all temporary erosion and sediment controls been removed?	

REPORT CHECKLIST
Complete the following report checklist and key issue items to attached site plan.

1. Site Disturbance (Indicate Locations on Plan)

YES	NO		
☐	☐	1.1	Areas previously disturbed, but have not undergone active site work in the last 14 days?
☐	☐	1.2	Areas disturbed within last 14 days?
☐	☐	1.3	Areas expected to be disturbed in next 14 days?
☐	☐	1.4	Do areas of steep slopes or complex stabilization issues exist? If "YES" explain_____

Additional Comments: _____

2. Inspection of Control Devices

YES	NO		
☐	☐	2.1	Perimeter controls (silt fences) installed? Type_____
☐	☐	2.2	Silt accumulation? Amount (%)_____
☐	☐	2.3	Inlet protection? Type_____
☐	☐	2.4	Silt accumulation? Amount (%)_____

Additional Comments: _____

3. Stabilization

YES	NO		
☐	☐	3.1	Are all existing disturbed areas contained by control devices? Type of devices_____
☐	☐	3.2	Are there areas that require stabilization within the next 14 days? Specify Area_____
☐	☐	3.3	In recently or previously stabilized areas, is there evidence of permanent or temporary stabilization measures that have been implemented where work has ceased for 14-21 days?
☐	☐	3.4	Is there current snow cover or frozen ground conditions?
☐	☐	3.5	Rills or gullies?
☐	☐	3.6	Slumping/deposition?
☐	☐	3.7	Loss of vegetation?
☐	☐	3.8	Lack of germination?
☐	☐	3.9	Loss of mulching?

☐ ☐ Action Items: _____

_____

_____

4. Receiving Structures/Water Bodies

Indicate locations where runoff leaves the project site on the site plan.

_____

YES	NO		
☐	☐	4.2	Surface water swale or stream?
☐	☐	4.3	Municipal or community system?
		4.4	Indicate drainage pathways.

_____

Inspect locations where runoff from project site enters the receiving waters and indicate if there is evidence of:

☐	☐	4.5	Rills or gullies?
☐	☐	4.6	Slumping/deposition?
☐	☐	4.7	Loss of vegetation?
☐	☐	4.8	Undermining of structures?

☐ ☐ Action Items: _____

_____

_____

5. General Site Condition

YES	NO		
☐	☐	5.1	Have action items from previous reports been addressed?
		5.2	Contractors summary on pertinent progress last 7 days.
			_____
			_____
		5.3	Anticipated work to be begun in the next 7 days.
			_____
			_____
☐	☐	5.4	Does routine maintenance of protection components occur on a regular basis?
☐	☐	5.5	Does cleaning and/or sweeping affected roadways occur, at minimum, daily?
☐	☐	5.6	Is debris and litter removed on a monthly basis, or as necessary?
☐	☐	5.7	Is the site maintained in an orderly manner?

Additional Comments: _____
_____
_____

SUMMARY OF ACTION ITEMS

_____
_____
_____
_____
_____

Construction Activities (Identify name of planned practices)	Date Complete
1.	
2.	
3.	
4.	

STORM WATER POLLUTION PREVENTION PLAN
PLAN CHANGES, AUTHORIZATION, AND CHANGE CERTIFICATION

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

_____
_____
_____
_____

REASONS FOR CHANGES:

_____
_____
_____
_____

REQUESTED BY: _____

DATE: _____

AUTHORIZED BY: _____

DATE: _____

CERTIFICATION OF CHANGES:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the penal code.

SIGNATURE: _____

DATE: _____

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