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New York State Department of Environmental Conservation

Division of Environmental Permits, Region 3

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Joe Martens
Commissioner

March 8, 2013

Richard Rennie, Jr., P.E.
Rennie Engineering Design, PLLC
PO Box 400
Dover Plains, NY 12522

Re: Double JK Ranch Property
NE Mountain Rd
Dover (T), Dutchess (C)
Application ID: 3- 1326-00297/00001
Dam ID# 230-5808

Notice of Incomplete Application

Dear Mr. Rennie:

The Department of Environmental Conservation (DEC or Department) has reviewed the application materials received January 9, 2013 for a permit pursuant to Article 15 of the Environmental Conservation Law, Protection of Waters (Dams and Impoundment Structures).

According to the information provided, the proposed activities include excavation and berming of 55,900 CY of material to construct a pond with surface area of 2.4 acres, controlled by 2 x 48" culverts and valve connected to 8" drain pipe, discharging to tributary of Tenmile River [DEC Waters Index # CT-15-3 portion, class C(TS)]. It is unclear what portions of the proposed activities have already been completed.

The Department has reviewed the submitted materials and determined that the application is incomplete. The following items must be addressed before review of this application can continue:

Application Materials and Plans

Accurate depiction of current site conditions, and proposed site conditions, are required for Department staff to accurately and thoroughly review the application for elements of Incompleteness.

1. The submitted Joint Application Form, response to question #9, indicates that work has not begun on this project. However, the submitted cover letter states that excavation has been initiated. Please ensure that the Joint Application Form is completed properly and revise as necessary.
2. Provide a narrative description of the current site conditions including work performed to date, and of the proposed conditions, clearly describing all elements of the work which remains to be done. Include a construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance.

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3. Plan sheets accurately depicting current site conditions, and proposed site conditions, are required for Department staff to adequately review this application for elements of Incompleteness. The site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s).
4. Submit site photographs taken from multiple directions which clearly depict the existing site conditions, including existing structures, and the area surrounding the site are required. Provide an index sheet indicating the location and direction from which each photograph was taken and include time and date each was taken.

Dams and Impoundment Structures

Completeness Review Comments

5. Supplement D-1 Form is incomplete. Items 3 and part of 5 need to be completed. Item 10 lists the dam as a rock filled crib dam, but the dam is a vegetated earthen dam. Please revise as appropriate. Provide the name of the licensed Professional Engineer with PE license number who is responsible for the design. The design engineer cannot be listed as an engineering company. Provide the name, PE license number and requested information for the construction engineer.
6. Provide an Engineering Assessment Report, prepared and stamped by a licensed Professional Engineer, which completely evaluates the existing dam which was built without a permit, in comparison to current dam safety criteria. The report must include a complete hazard class assessment, hydrologic and hydraulic analysis, stability analysis/assessment, and subsurface and foundation investigation/assessment of the existing dam, in accordance with NYSDEC DOW TOGS 3.1.4, Guidance for Dam Engineering Assessment Reports and NYSDEC publication "Guidelines for Design of Dams". The report must identify all deficiencies with the dam, and provide a description and engineering design to address each deficiency.

The following are comments on the documents submitted to date:

- a. The dam breach performed using Hydrocad version 10.0 employs a dam breach analysis methodology that has not been shown to be technically accepted for design of dams. Please provide thorough documentation demonstrating that the methodology is technically sound, including where this methodology has been accepted, and what dams have been analyzed and accepted using this methodology and showing that it is appropriate for the specific conditions at this dam, or use a more common and industry standard dam breach model.
- b. The dam breach width of 10 feet wide used in the analysis does not seem appropriate. The breach width for an earthen dam is typically 2 to 4 times the height of the dam, based upon site specific criteria including the construction quality and materials used to build the dam. The dam breach must be computed using an acceptable dam breach analysis methodology. Please refer to the NYSDEC publication "DOW 3.1.5-Guidance for Dam Hazard Classification" for information regarding performing a dam break assessment and proposing a hazard classification. The hazard classification of

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the dam cannot be determined until an acceptable dam break analysis and hazard assessment are submitted.

- c. The submitted report does not include an assessment of the stability of the existing dam.
 - d. The report does not include an evaluation of the as constructed foundation.
 - e. The existing dam includes a vertical wall on the downstream toe of the dam constructed of boulders, but no stability evaluation has been submitted for this retaining wall.
 - f. The Pond Construction and Grading plan indicates construction requirements for construction of a new dam, not rehabilitation of the existing dam.
 - g. No borings or test pits have been indicated in the report or shown on the drawings. No information on the dam's foundation or construction has been presented. If borings or test pits were obtained, they should be indicated on the plans and logs and lab analysis data should be submitted as part of the report.
 - h. Complete and submit a Safety Inspection Report of the dam.
 - i. Evaluate the low level drain capacity. Provide engineering computations which demonstrate that the drain meets current dam safety criteria. If the drain does not meet required capacity requirements provide a design for installing a low level drain that meets dam safety criteria.
 - j. Provide a conclusion as to whether the dam is in conformance with current dam regulations and safety criteria.
7. Provide design drawings, stamped by a licensed Professional Engineer, including location map, site plan with topography for the entire dam, plan view of the dam, elevation view, cross sectional view, and details of major components of the dam, including sufficient detail to fully evaluate the dam.
 8. Provide a schedule of construction inspection activities which describes what activities, if not full time inspection, will be inspected by the engineer.
 9. Provide technical specifications which describe the materials and the requirements for placement and installation of the materials for any proposed work at the dam.

Preliminary Technical Comments

10. The reduced scale unstamped drawings included at the end of the Agricultural Pond Assessment Report appear to indicate requirements for construction of a new dam but it appears the current proposal is to retain the existing dam. The drawings must indicate the requirements for proposed work on the existing dam to have it meet current dam safety "new dam" criteria, or to remove the dam.

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11. The proposed auxiliary spillway is located over the dam. The NYSDEC publication "Guidelines for Design of Dams" (Guidelines), section 6.0, Hydraulics of Spillways states that Auxiliary spillways shall not be placed on fill. The auxiliary spillway must be located off of the dam.
12. The drawings indicate (2) 36 inch diameter HDPE spillway pipes through the dam. HDPE pipe is not an acceptable piping material through a dam. Revise the pipe material and installation detail to address these issues. For more information regarding pipes in dams, you may wish to refer to the Federal Emergency Management Agency (FEMA 484) publication, "Conduits Through Embankment Dams, Best Practices for Design, Construction, Problem Identification and Evaluation, Inspection, Maintenance, Renovation, and Repair", September 2005. FEMA 484 can be ordered or downloaded from www.FEMA.gov.
13. The downstream slope of the existing dam has rounded rocks installed vertically as a retaining wall. The proposed outlet structure detail on plan sheet 3 indicates a boulder slope stabilization on the downstream slope. Please provide a slope stability evaluation demonstrating that the existing and proposed boulder retaining walls meet all required stability criteria and are stable for all load cases, or revise the design to eliminate these walls. You may want to consider extending the earthen toe of the dam so that no retaining wall is needed and/or employing a concrete headwall.
14. The hydrologic analysis performed using Hydrocad defines the drainage area as 100% woods and grass combination, The Supplement D-1 form lists the drainage area as consisting of approximately 50% forest, 10% cropland, 25% pasture, and 15% other land cover types. The runoff curve number and time of concentration could be affected by the land type and could impact the accuracy of the inflow hydrograph. Please review and modify this analysis as appropriate.

NYS Threatened and Endangered Species

According to Department records, the following State-listed endangered or threatened species have been recorded within or near the project site:

- Bog Turtle (*Glyptemis muhlenbergii*); also Federally listed as threatened
- Timber Rattlesnake (*Crotalus horridus*)

Pursuant to 6 NYCRR Part 182 (Endangered and Threatened Species), a permit is required for any proposed activity that will result in a "take", which includes but is not limited to, adverse modification, degradation, or destruction of occupied habitat, of any species listed as endangered or threatened (Section 11-0535 of the Environmental Conservation Law).

The subject site is within 300 feet of a known bog turtle occurrence. Disturbance activities are likely to destroy or degrade wetland habitat, and cut off travel corridors between wetlands occupied or likely to be occupied by bog turtles, thereby isolating or dividing populations and increasing the risk of turtles being killed while attempting to disperse.

15. Please provide a plan sheet which accurately depicts all wetland, stream and watercourse areas on the site in relation to sediment/erosion control measures and construction activity.

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16. Existing wetland areas which may be impacted directly or indirectly by the proposed activities must be evaluated for suitable bog turtle habitat. Please provide a habitat assessment in accordance with U.S. Fish and Wildlife Service guidelines (see http://www.fws.gov/btlaw/regulations/bog_turtle_survey.pdf).
17. Further review of potential impacts to these species will likely be required once the requested information has been received.

Freshwater Wetlands

18. The wetland below the proposed pond likely provides suitable bog turtle habitat. In such case, it would be eligible for mapping as a wetland of Unusual Local Importance (ULI), and activities within the wetland or 100-foot adjacent area would be subject to regulation by Article 24 (Freshwater Wetlands) of the Environmental Conservation Law. Disturbance to this wetland and associated 100-foot adjacent area should be avoided.
19. The U.S. Army Corps of Engineers (ACOE) regulates the placement of fill and the construction of certain structures in waterways and wetlands. Please contact the ACOE NY District for any permitting they might require.

Protection of Waters (Stream Disturbance)

The ponds which are indicated as the discharge point of the proposed spillways are within the watercourse of a protected stream, a tributary of Tenmile River [DEC Waters Index # CT-15-3 portion, class C(TS)]. A Protection of Waters permit is required to physically disturb the bed or banks of any protected streams.

To meet Permit issuance standards, an applicant must demonstrate that the proposal:

- is reasonable and necessary
- will not endanger the health, safety, or welfare of the people of the State of New York
- will not cause unreasonable, uncontrolled, or unnecessary damage to the natural resources of the State, including soil, forests, water, fish, and aquatic and land-related environment.

20. Indicate whether the pond outlets have been constructed or are proposed.
21. Provide a description and depiction of any bank stabilization measures proposed for the disturbed areas.

State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-08-001) / SWPPP

22. The SWPPP submitted with this application was found to be acceptable. Please indicate whether revisions to the SWPPP will be necessary from any project modifications proposed to satisfy the requirements indicated in this letter.

State Environmental Quality Review (SEQR)

23. The Department is in receipt of SEQR Lead Agency coordination from the Town of Dover Planning Board. The Department has no objection to the Board serving as Lead Agency for review of this action pursuant to SEQR. Please note that this application cannot be deemed complete under the Uniform Procedures Act (UPA) until the provisions of SEQR have been satisfied.

Re: Double JK Ranch property
Dover (T), Dutchess (C)

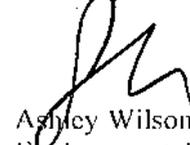
Application ID: 3-1326-00297/00001 (DA)
Dam ID# 230-5808

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Please note that pursuant to 6 NYCRR Part 621, if a project requires more than one department permit subject to the Uniform Procedures Act (UPA), the applicant must simultaneously submit all the necessary applications, or demonstrate to the department's satisfaction that there is good cause not to do so.

This application will remain as incomplete until the above items are addressed. Please submit **5 copies** of the revised project plans and other information (including revision dates as appropriate). Technical review of the updated application package may uncover additional issues that may need to be addressed. If you have any questions or would like to schedule a meeting to discuss these issues, please feel free to contact me at (845) 256-3050 or the above address.

Sincerely,



Ashley Wilson
Environmental Analyst

cc: Double JK Ranch, LLC
T/Dover Planning Board
ACOE NY District
David Harmon, P.E. (DEC)
Berhanu Gonfa, P.E. (DEC)
Jennifer Zunino-Smith (DEC)
Lisa Masi (DEC)
Heather Gierloff (DEC)
Mary Wojcik (DEC)