Wetland Evaluation and Impact Report

Beacon Views Site
Conklin Street
City of Beacon
Dutchess County, New York

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1.0 EXISTING CONDITIONS/SUMMARY

Regulatory Review - Ecological Solutions, LLC completed a wetland evaluation and impact assessment for the proposed residential townhouse development located on Conklin Street in the City of Beacon (*Attachment 1*). The proposed project is sited on the undeveloped central section of the site since there is no other area for the development other than in the proposed location.

The wetland boundary on the property was delineated by Ecological Solutions, LLC on October 17, 2019 in accordance with the Routine Onsite Determination Method prescribed in the 1987 USACE Wetlands Delineation Manual and recent Northcentral/Northeast supplement. The US Army Corps of Engineers (USACE) regulates the delineated wetland and a Nationwide Permit #29 will be required for the discharge of fill material to the wetland up to 0.5 acres. A New York State Department of Environmental Conservation (NYSDEC) Individual Water Quality Certification is required for wetland impacts that exceed 0.25 acres. Impacts to wetlands under 0.25 acres are covered under a blanket Water Quality Certification. The City of Beacon Code – Chapter 223-16 requires the Applicant to evaluate the functions of the wetlands and impacts associated with this development.

Existing Wetland– The wetland is located on the southern section of the site and is best described as a small segment of red maple swamp which contains red maple, pin oak, American elm with spicebush and red-osier dogwood in the understory and skunk cabbage as the dominant herbaceous plant. This area is a dense thicket of multiflora rose, poison ivy, and stunted trees of about 4-5 inches dbh. This area is almost impenetrable with a tangle of trees, vines, and ground cover.

Project Description/Impacts - The Applicant is seeking to construct 40 multifamily residential units and appurtenant features including stormwater detention, grading, landscaping, and walkways.

2.0 WETLAND FUNCTIONS/IMPACTS/MITIGATION

2.1 Wetland Functions

An assessment of wetland functions and values was conducted on the wetland identified and delineated on the property. Using a widely accepted method for wetland functions and values assessment developed by the New England District, U.S. Army Corps of Engineers, 13 distinct wetland functions and values were assessed for the delineated wetland on the site. This method yielded an objective, descriptive quality index. This assessment had two major objectives:

1. Objectively identify the functions and values provided by the wetland identified on the site.

2. Provide baseline data with which the Applicant could work in planning land uses, and against which the Applicant could assess potential impacts of proposed development of the site.

The descriptive quality index of each wetland, based on this methodology, is summarized in this report.

Wetlands are legally protected because of the functions they perform and the benefits that society reaps from those functions. Wetland functions are chemical, physical, and biological processes that wetlands naturally perform as a matter of course, such as absorption of nutrients or floodwaters, or provision of habitat for fish and wildlife. Wetland values are the benefits that society derives from wetland functions, such as flood abatement, or water quality maintenance.

The functions and values assessment conducted on the property was based on the method outlined in *The Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach*, by the U.S. Army Corps of Engineers New England District. This method was selected over an arbitrary numeric quantifying assessment scheme because it provides an objective, descriptive approach to functions and values assessment based on professional observation and judgment rather than a simple numeric value rating system. Quantified functions and values assessments do not always provide for descriptive information about wetlands and therefore may overlook important aspects of wetland functions and values.

The Highway Method provides for assessment of each wetland for thirteen defined functions and values. Of these, the first eight are considered wetland functions, and the last five are considered to be wetland values. These are:

1. **Groundwater Recharge/Discharge –** the potential for a wetland to serve as a recharge area for an aquifer or as a surface discharge point for groundwater.

2. **Floodflow Attenuation–** A wetland's ability to store and attenuate floodwaters during prolonged precipitation events, thereby reducing or preventing flood damage.

3. **Fish and Shellfish Habitat –** The ability of permanent or temporary water bodies to provide suitable habitat for fish or shellfish.

4. **Sediment/Toxicant/Pathogen Retention –** The effectiveness of the wetland in trapping sediments, toxicants or pathogens, thereby protecting water quality.

5. **Nutrient Removal/Retention/Transformation –** The effectiveness of the wetland at absorbing, retaining, and transforming or binding excess nutrients, thereby protecting water quality.

6. **Production Export –** The wetland's ability to produce food or usable products for humans or other living organisms.

7. **Sediment/Shoreline Stabilization –** The wetland's ability to prevent erosion and sedimentation by stabilizing soils along stream banks or the shorelines of water bodies.

8. **Wildlife Habitat** – The ability of wetlands to provide food, water, cover, or space for wildlife populations typically associated with wetlands or their adjacent areas, both resident and migratory. *

9. **Recreation –** The value placed on a wetland by society for providing consumptive and non-consumptive as well as active or passive recreational opportunities such as canoeing/boating, fishing, hunting, bird/wildlife watching, hiking, etc.

10. **Education/Scientific Value –** The value placed on a wetland by society for providing subjects for scientific study or research or providing a teaching resource for schools.

11. **Uniqueness/Heritage –** The value placed on a wetland by society for having unique characteristics such as archaeological sites or sites of historical events, unusual aesthetic qualities, or unique plants, animals, or geologic features, etc.

12. **Visual Quality/Aesthetics –** The value placed on a wetland by society for having visual and/or other aesthetic qualities.

13. **Threatened or Endangered Species Habitat –** The value placed on a wetland by society for effectively harboring or providing habitat for threatened or endangered species.

Each function or value in the list has a set list of qualifiers for identifying which functions and values are performed or provided by each wetland. The qualifiers are referenced by number on a standard evaluation form to document the functions and values assessment. In addition to outlining qualifying rationale for each function and value, the data forms also document information on each wetland's size, distance to nearest road or other development, adjacent land uses, position in the watershed, impacts from human activity, tributaries, cover types, connectivity to other wetlands, and general condition. All of these elements factor into the functions and values assessment. The forested wetland is a well developed red maple swamp that is fed by overland flow and groundwater discharge. The wetland continues offsite to the west. Functions and values provided by the wetland includes floodflow attenuation, sediment trapping, nutrient removal, and fish/wildlife habitat. Of these, the most significant functions based on extent of rationale in identifying

functions and values are floodflow attenuation and fish/wildlife habitat. Wildlife useage noted in the wetland is consistent with other sites in the area since there were deer tracks observed in the substrate as well as raccoon tracks and other mammals. Common bird species would also be expected to utilize the wetland for nesting and foraging.

2.2 Wetland Impacts

Impacts to the wetland will occur and permits will be required from the USACE and NYSDEC. The impacts are to the wetland edge and existing upland boundary adjacent to the wetland and are associated with the proposed private road. Impacts to the wetland cannot be avoided due to the site topography but can be minimized through grading techniques and retaining walls if necessary. The impact to the wetland will not be significant since the project can obtain a Nationwide Permit. The impacts around the periphery of the wetland will not reduce the effectiveness of the wetland in performing it's vital functions of storing floodflows, providing wildlife habitat, and removing nutrients from flows into this area. A mitigation plan will create wetland from current upland area to replace the directly impacted wetland area.

2.2 Wetland Mitigation

The proposed layout for the development and associated features sought to minimize encroachments into Federal regulated wetlands. The proposed project is designed to provide a suitable layout for the development that meets the City of Beacon Building and Highway Code and meets the Phase II Stormwater Regulations for treating stormwater from impervious surfaces prior to discharge.

The site design minimizes wetland disturbances to the maximum extent practicable. To compensate for the loss of wetland area and functional capacity, the Applicant is committed to the establishment of additional wetland in one area on the site in a ratio of 1:1 with the proposed impacts. The compensatory wetland establishment plan will be based on the proposed establishment area being similar in spatial relation and existing features, and the following principles:

- The water table in the establishment wetlands must be maintained near the finished grade;
- The establishment area must not be flooded for prolonged periods of time as a result of significant rainstorms;
- The area must be planted with sufficient hydrophytic vegetation and seed to allow wetland communities to emerge within a reasonable time period.

The final design of the establishment area will strive to create edge habitat around the existing wetland type. Wetland plantings will be installed after the placement of suitable substrate material in the establishment area. This bedding material will keep soil moisture high during summer dry periods when establishment of vegetation is critical. The design of an interconnected system of existing wetland with forested and shrub wetland is intended so that the existing wetlands serve as a “regeneration nucleus” around which a forested vegetative cover type could be established. This layout will exploit the predicted hydrologic condition of the establishment area. Generally, wildlife populations thrive when edge habitat

between cover and food types is increased. Increased edge equates to more resources being available to an animal in a smaller area.

The placement of suitable substrate in the establishment area will provide an ecotonal microhabitat of value to certain wildlife species, while the wooded swamp interface with shrubs will provide two additional ecotones or “edge habitat”. By maximizing the amounts and types of these ecotonal areas both the colonization of the area by local wildlife and the natural successional formation of shrub swamp and wooded swamp habitats will be considerably accelerated.

3.0 PHOTOGRAPHS

Forested wetland on site

Site wetland area to remain in this condition