STAFF REPORT

PLEASE REFER TO DRCC # WHEN SUBMITTING ADDITIONAL DOCUMENTS

DELAWARE AND RARITAN CANAL COMMISSION

DRCC #: 20-5611
DATE: March 29, 2021
PROJECT NAME: The Regency at Cranbury
Latest Submission Received: March 8, 2021

Applicant:
Toll Bros, Inc.
96 Route 173
Suite 1B
Hampton, NJ 08827
jmajewski@tollbrothers.com

Engineer:
Andrew J. Grover
ESE Consultants, Inc.
100 Willow Brook Road
Suite 200
Freehold, NJ 07728
agrover@eseconsultants.com

Project Location:

Road	Municipality	County	Block(s)	Lot(s)
330 Dey Road	Cranbury Township	Middlesex	25	1

Jurisdictional Determination:

Zone B	Major	Nongovernmental

Subject to Review for:

Drainage	Visual	Traffic	Stream Corridors
X			X

THIS STAFF REPORT IS ISSUED AS A GUIDE TO APPLICANTS IN COMPLYING WITH DRCC REGULATIONS. IT IS NOT AN APPROVAL. NO CONSTRUCTION SHALL BEGIN UNTIL A CERTIFICATE OF APPROVAL HAS BEEN ISSUED.

Documents Received: Stormwater Management Report revised December 28, 2020; Site Plans (42 sheets) revised December 28, 2020; Stream Corridor Exhibit Map dated January 12, 2021; prepared by ESE Consultants.

The application is complete and shall be presented to the Commission for their action with a staff recommendation of approval at the April 21, 2021 meeting, based upon the following analysis:

Existing Conditions: This approximate 71.3 acre property is located on Dey Road within the Township of Cranbury, Middlesex County, approximately 4.5 miles east of the Delaware and Raritan Canal, and within the Commission Review Zone B. The existing site mainly consists of agricultural land, along with one detached single home, and a mixture of mature vegetation and undeveloped land on the eastern and southern portion of the property. The site is bounded to the north by agricultural land and Dey Road, to the west by single-family residential development and Petty Road, to the east by undeveloped and formerly agricultural land, and to the south by one single-family residence, undeveloped land and an existing watercourse known as Cedar Brook which traverses the southern property boundary.

Proposed Project: The applicant is proposing to develop the site by constructing an active adult community consisting of 167 single-family detached homes, interior private roadways and parking, concrete sidewalks, underground utilities including water, sewer, electric, cable, telephone and gas, two stormwater management wet ponds, a 4,440 square-foot clubhouse and ancillary landscaping and amenities. The project would be serviced by existing public potable water supply with connection to the existing water mains located in Petty Road and Dey Road. Sanitary sewer service shall be provided via gravity sewer and collection, inclusive of an on-site pump station. Two roadway access points are proposed for the project with one connection to Dey Road and the other access

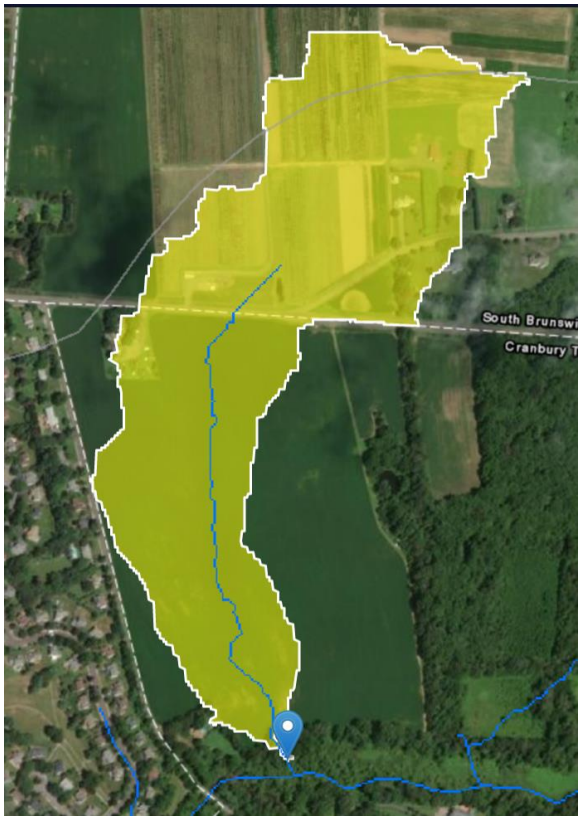
point to Petty Road. The project will also include the demolition of the existing home onsite.

Based upon the submitted application, the proposed project would result in an impervious surface area coverage onsite of approximately 25.3 acres. The proposed project would result in an area of land disturbance of about 64.7 acres.

Stream Corridor: The project site is located within the Millstone River watershed area. The main stem of Cedar Brook and its floodplain are located along the southern property boundary of the property. Also, a tributary to Cedar Brook and its floodplain bisect the property, while a second tributary to Cedar Brook is located just to the east of property. Both of these tributaries to Cedar Brook were determined by the Commission to possess a contributory drainage area of greater than 50 acres at their respective confluences with Cedar Brook.

For this project, the Commission defines "stream corridor" to mean Cedar Brook and its tributaries, the 100-year floodplain associated with Cedar Brook and its tributaries, and all of the land within a 100-foot buffer adjacent to the 100-year flood line associated with Cedar Brook and its tributaries. The floodplain used to establish the limits of the stream corridor by the applicant was based upon Method 3 (FEMA fluvial method) of the NJ Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-3.6, which applies to a fluvial flood hazard area for which a FEMA profile exists. The FEMA 100-year flood elevation on the property for the main stem of Cedar Brook is 80.50-feet NAVD88.

Using digital topography, the tributary to Cedar Brook that bisects the property has been determined by Commission staff to drain about 64 acres at the confluence to Cedar Brook. As such, a Commission stream corridor could be defined to the point that the watercourse drains at least 50 acres. An image of the drainage area to the tributary is provided. Commission staff discussed this tributary with NJDEP environmental staff that performed a field verification at the site to determine if there is evidence of a flow path along the tributary. NJDEP staff have determined that the area in question is a swale with no defined channel associated with the feature. Therefore, Commission staff agree that there is no Commission stream corridor associated with this tributary.



Using digital topography, the tributary to Cedar Brook that is located just to the east of the property has been determined by

Commission staff to drain about 77 acres at the confluence to Cedar Brook. As such, a Commission stream corridor should be defined to the point that the watercourse drains at least 50 acres. An image of the drainage area to the tributary is provided. However, although the floodplain of this tributary has not been delineated by the applicant, it appears that the floodplain and the 100-foot buffer would not impact the applicant's property.

Commission staff has determined that an appropriate stream corridor delineation has been submitted. The total area of the lot property that is located within the defined stream corridor is 292,159 square feet (6.70 acres) in area size.

The project is proposing multiple intrusions within the Commission stream corridor area. Therefore, this project will be subjected to a stream corridor impact review pursuant to N.J.A.C. 7:45-9.1(a). The specific impacts to the Commission stream corridor include the regrading of existing topography. An area of 7,477 square feet (0.17 acre) of regrading is proposed within the defined stream corridor. The proposed disturbances will be located within the buffer and outside of the 100-year floodplain. Within this area a total of 1,190 square feet of riprap stone is proposed in order to provide outlet protection in compliance with NJ Standards for Soil Erosion & Sediment Control and included within the disturbance areas. Re-grading of existing topography is considered to be prohibited uses in accordance with N.J.A.C. 7:45-9.3(a).

The applicant is requesting a waiver of the Commission stream corridor impact standards with justifications. The applicant notes that the prohibited uses that have been proposed within the stream corridor area as a result of the following reasons:

- The areas containing proposed prohibited uses are currently active farmland which has been disturbed for many years. By locating portions of the development in these active farmland areas within the stream corridor buffer, other wooded areas on site which lie outside of the buffer area can remain in their current state and avoid being disturbed by proposed development. Maintaining the existing wooded area which could potentially be disturbed will provide a greater ecological benefit to the site; and

- It is recommended to have the basin outlets as close as possible to an existing stabilized "well-defined waterway" within the Standards for Soil Erosion and Sediment Control in New Jersey. Due to this, the basin outlets riprap stone which is designed to reduce exiting runoff velocities from the proposed basins needs to be within the stream corridor buffer in order to avoid erosion impacts downstream.

In order to compensate for the proposed 7,477 square feet (0.17 acre) of intrusion within the defined stream corridor area for the regrading of existing topography, the applicant proposes to provide other natural areas onsite having "greater ecological benefit" as compensation areas. More specifically, a wetland area and an area to be re-vegetated with buffer plantings adjacent to the stream corridor containing a total of 9,497 square feet (0.22 acre) is proposed for the compensation area, providing a reduction to

compensation ratio of 1:1.27, which is greater than a 1:1 ratio. In addition, once the stormwater management basins have been constructed; basin areas, basin slopes and any remaining farmland between the basins and the 100-year floodplain will be seeded with a native "meadow seed mix" in order to return these areas back to their natural land cover, minimizing the impact within the area of reduction.

Separately from the requirement to prevent impacts to the corridor, the Commission regulations require preservation of the stream corridor on the project site, N.J.A.C. 7:45-9.5. The applicant must take whatever measures are necessary to ensure that the stream corridor is preserved or to prevent future encroachments into the corridor, and, at minimum, such measures shall include easements, deed restrictions, or other measures satisfactory to the Commission. The applicant will be required to preserve a stream corridor total area of 294,179 square feet (6.75 acres) by mean of the execution of a conservation easement agreement. This includes the net existing stream corridor area of 292,159 square feet (6.70 acres), minus the proposed disturbed area of 7,477 square feet (0.17 acre), plus the compensation area of 9,497 square feet (0.22 acre). The stream corridor will be reserved and protected such that natural succession of vegetative species can occur.

It is Commission staff's opinion that the stream corridor waiver request for the noted 7,477 square feet (0.17 acre) of disturbances related to regrading of existing topography is justified by the proposed inclusion of 9,497 square feet (0.22 acre) of compensation areas and meets the standard of preservation of other natural areas onsite having a greater ecological beneficial effect pursuant to the criteria at N.J.A.C. 7:45-12.4(a)2.

Stormwater Runoff Quantity: The majority of the existing site generally slopes from a high point along Dey Road, by the northeastern portion of the property boundary toward Cedar Brook, by the southern property boundary. A small portion of the site slopes from a high point by the residential structures towards the intersection of Dey Road and Petty Road. The highest-grade elevation is approximately 106-feet, with fall to elevation 76-feet along the southern boundary. The applicant is proposing an increase in the amount of impervious area that will result in an associated increase in runoff as compared to the existing conditions if unmitigated. In addition, the topography within the project area will be altered as a result of the proposed development.

The submitted application proposes to mitigate for these changes by controlling stormwater runoff flow and volume increases via the construction of stormwater best management practice (BMP) measures. This will include the construction of two (2) above-ground stormwater management wet pond basins (Wet Pond A and Wet Pond B). Drainage from the developed on-site areas shall be modified to direct surface runoff to the two new stormwater management wet ponds. Discharge from the wet ponds will be controlled by multiple outlet control structures which will discharge to existing wetlands which will drain towards Cedar Brook. The location and size of the proposed outlet control structure have been designed to simulate the pre-developed condition in an effort to maintain similar drainage patterns to the existing Cedar brook along the southern portion of the property.

Wet Pond A will be located in the southwestern portion of the site along Petty Road, and will discharge to the existing wetlands using two proposed outlet structures. Wet Pond B will also be located in the southwestern portion of the site along Petty Road, and will discharge to the existing wetlands using two proposed outlet structures. The stormwater management measures have been designed so that the post-construction peak runoff rates for the two, 10 and 100-year storm events will be no greater than 50 percent (%), 75% and 80%, respectively, of the pre-construction peak runoff rates.

The submitted calculations utilized the Natural Resource Conservation Service (NRCS) Technical Release No. 55 (TR-55) hydrologic methodology, NOAA Region D unit hydrograph rainfall distribution and current New Jersey 24-hour rainfall frequency data for Middlesex County to compute peak runoff flow rates and volumes. Therefore, the proposed stormwater management measures will provide enough peak flow attenuation to meet the specific runoff quantity standards of N.J.A.C. 7:45-8.6(a)1.

Water Quality: The Commission requires that all proposed full-depth pavement including newly and reconstructed parking and access drives that are being renewed, must meet water quality standards in accordance with Commission regulations (N.J.A.C. 7:45-8.7). This includes reduction of the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm by a rate of 80% of the anticipated load from the developed site, expressed as an annual average.

Based upon the submitted application, 197,196 square feet (4.53 acres) of new access roadways and parking pavement areas are being proposed. The submitted design proposes to treat for water quality by using a BMP measure, consisting of the permanent pool and extended detention within two Wet Pond basins (Wet Pond A and Wet Pond B). The proposed Wet Ponds are designed such that 90% of the water quality storm runoff volume will be contained within the basins for 24-hours and will also provide more than three times the ratio of permanent pool volume to water quality runoff volume. Therefore, in accordance with the NJDEP Stormwater BMP Manual, at least an 80% TSS removal rate will be achieved. As such, stormwater quality measures for project have been designed in accordance with the requirements of N.J.A.C. 7:45-8.7.

Groundwater Recharge: The Commission regulations require that stormwater management measures maintain 100% of the average annual preconstruction groundwater recharge volume for the site; or that any increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated. A groundwater recharge analysis calculation (NJDEP GSR-32 spreadsheet) has been submitted, which demonstrates that the annual groundwater recharge deficit for the entire site is 811,604 cubic-feet.

The stormwater report notes that in order to mitigate for this deficit, runoff from the proposed project will be infiltrated back into the ground via the use of BMP measures, consisting of six groundwater recharge trench systems. Areas flowing to the recharge trenches are only rear yard grass areas and roof runoff. Runoff from vehicular surfaces will not be included. The BMP measures are designed to infiltrate a greater amount of

runoff volume than the annual groundwater recharge deficit. Therefore, the groundwater recharge requirements of N.J.A.C. 7:45-8.5 have been addressed.

Non-Structural Methods: The Commission requires that nonstructural stormwater management strategies be incorporated into the stormwater design of a development project. To assist in determining that sufficient non-structural stormwater management strategies have been incorporated into the project site design "to the maximum extent practical", the NJDEP Nonstructural Strategies Point System (NSPS) spreadsheet has been completed for this project. The results indicate that the ratio of proposed to existing site points (114%) are greater than or equal to the required site points ratio (109%). Therefore, the project has proposed non-structural measures that are adequate, and the project is therefore designed in accordance with N.J.A.C. 7:45-8.4.

Stormwater Management Maintenance Plan: A stormwater management operation and maintenance plan document has been prepared and submitted for the BMP elements proposed for the proposed project. The plan includes maintenance details for the proposed stormwater BMP measures, including the two stormwater management Wet Pond basins and the six underground recharge basin systems. The plan has been prepared in accordance with the requirements of N.J.A.C. 7:45-8.8.

Staff Recommendation: Staff recommends approval.

Sincerely,

John Hutchison
Executive Director

c. Cranbury Township Planning Board
Middlesex County Planning Board
Rick Hoff (rhoff@bisgaierhoff.com)