

Mailing Address:  
P.O. Box 2160  
Brighton, MI 48116-2160800 395-ASTI  
Fax: 810.225.3800

www.asti-env.com

January 14, 2020

Kristen Kapelanski  
Department of Planning and  
Economic Development  
**City of Rochester Hills**  
1000 Rochester Hills Drive  
Rochester Hills, MI 48309-3033

**Subject: File No. 18-022 Redwood at Rochester Hills PUD  
Wetland Use Permit Review #6;  
Plans received by the City of Rochester Hills on  
December 30, 2019**

**Applicant: Redwood USA, LLC**

Dear Ms. Kapelanski:

The above referenced project proposes to construct 121 residential units on one parcel totaling approximately 30 acres of land. The site is in the southwest quadrant of the intersection of Avon Road and Dequindre Road. The site includes wetland regulated by the City of Rochester Hills and likely the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

ASTI has reviewed the site plans received by the City on December 30, 2019 (Current Plans) for conformance to the Wetland and Watercourse Protection Ordinance and the Natural Features Setback Ordinance and offers the following comments for your consideration.

**COMMENTS**

1. **Applicability of Chapter (§126-500).** The Wetland and Watercourse Protection Ordinance is applicable to the subject site because the subject site is not included within a site plan which has received final approval, or a preliminary subdivision plat which received approval prior to January 17, 1990, which approval remains in effect and in good standing and the proposed activity has not been previously authorized.
2. **Wetland and Watercourse Determinations (§126-531).** This Section lists specific requirements for completion of a Wetland and Watercourse Boundary Determination.
  - a. This review has been undertaken in the context of a Wetland and Watercourse Boundary Determination completed on the site by the Applicant's wetland consultant, King and MacGregor Environmental. ASTI confirmed this wetland delineation in the field on November 30, 2018.

Five wetlands were identified on the property: Wetlands A, B, C, E, and F, all of which are regulated by the City. Portions of Wetlands A, C, and E are proposed to be impacted this project.

Wetland Quality Assessments

Five wetlands were delineated on the property. Quality assessments are as follows:

Wetland A and Wetland E

Wetland A and Wetland E were delineated as separate wetlands. However, Wetland A and Wetland E exhibit a direct surface hydrologic connection and are connected subsurface. Therefore, these two wetlands will be considered the same wetland complex for the purposes of this review.

Located in the central portion of the property, Wetland A/E is a forested, scrub/shrub, and emergent wetland comprised of vegetation of generally low ecological floristic quality. Vegetation within the forested portion of Wetland A/E, which is located in the extreme western on-site extent, was dominated by the native species of silver maple (*Acer saccharinum*), cottonwood (*Populus deltoides*), and American elm (*Ulmus americana*). Canopy within the forested portion was estimated at 70-80% and trees were generally mature. Vegetation within the scrub/shrub portion, which is located in the extreme eastern extent, was dominated by the common native species of sand bar willow (*Salix interior*), silky dogwood (*Cornus amomum*), pussy willow (*Salix discolor*), and the invasive species reed canary grass (*Phalaris arundinacea*). The emergent portion of Wetland A/E, which comprised the majority of this wetland complex, was dominated by the native species of lake bank sedge (*Carex lacustris*) and the invasive species Phragmites (*Phragmites australis*). Mean vegetation cover within the entirety of Wetland A/E was estimated at approximately 100% with an approximate total native species cover of 40% and approximate invasive species cover of 60%. Wetland hydrology is mainly supplied to Wetland A/E from ground water seepage from the west. Exposed and active groundwater flows and surface water was observed throughout this wetland complex on the day of ASTI's site inspection. Wetland A/E provides direct ground water filtration, groundwater recharge, and surface water detainment enhancing ground and surface water quality prior to entering the Clinton River to the east via a road ditch system along Dequindre Road. Soils were comprised of sandy loams and muck and appeared to be relatively undisturbed since approximately 1990 based on historical aerial photography review. The vegetation within Wetland A/E is dominated by invasive species, but does contain significant amounts of native species. Wetland A/E provides some of the last remaining natural water filtration and detainment functions in close proximity to the Clinton River near the property and should be considered an important natural resource of the City per the City's Wetland and Watercourse Protection Ordinance.

#### Wetland B

Wetland B is a small and isolated emergent wetland in the north central portion of the property, which exhibited vegetation dominated by reed canary grass. Wetland B likely detains small amounts of storm water from precipitation events and ponding; no surface water or ground water was observed. Wetland B appears to be the result of historic grading activities to the north. Soils were comprised of sandy loams and appeared relatively undisturbed. Wetland B is dominated by invasive species and is small and isolated, which reduces its potential to provide significant natural resource functions. Therefore, it is ASTI's opinion that Wetland B is of low ecological value and function and should not be considered an important natural resource to the City.

#### Wetland C

Wetland C is a forested and emergent wetland located in the north/northwest portion of the property. Vegetation within the forested portion of Wetland C, which is located in the western half of this complex on-site, was dominated by the common native species of box elder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), cottonwood, and the invasive species of glossy buckthorn (*Frangula alnus*). Canopy within the forested portion was estimated at 60-70% and trees were generally young. Vegetation within the emergent portion was dominated by the native species of lake bank sedge and common rush (*Juncus effusus*). Mean vegetation cover within the entirety of Wetland C was estimated at approximately 100% with an approximate total native species cover of 70% and approximate invasive species cover of 30%. Wetland hydrology is mainly supplied to Wetland C from ground water seepage from the west. Exposed and active groundwater flows and surface water was observed throughout this wetland complex on the day of ASTI's site inspection. Wetland C provides direct ground water filtration and surface water detainment, enhancing ground and surface water quality prior to entering the Clinton River to the east via off-site wetlands that empty directly into the Clinton River through a culvert beneath Dequindre Road. Soils were comprised of sandy loams and muck and appeared to be relatively undisturbed since approximately 1990 based on historical aerial photography review. The vegetation within Wetland C is dominated by native species, but does contain significant amounts of invasive species. However, Wetland C provides some of the last remaining natural water filtration and detainment functions in close proximity to the Clinton River near the property and should be considered an important natural resource of the City.

#### Wetland F

Wetland F is an emergent wetland located in the south central portion of the property. Vegetation within Wetland F was dominated by the invasive species of Phragmites and reed canary grass. Mean vegetation cover within Wetland F was estimated at approximately 100% with an approximate total native species cover of approximately 20% and approximate invasive species cover of 80%. Wetland hydrology is supplied to Wetland F from ground water seepage from the west.

Exposed and active groundwater flow and surface water was observed in this wetland complex on the day of ASTI's site inspection. Wetland F provides direct ground water filtration and surface water detainment, enhancing ground and surface water quality prior to entering the Clinton River to the south via an off-site watercourse system that empties directly into the Clinton River. Soils were comprised of sandy loams and muck and appeared to be relatively undisturbed since approximately 1990 based on historical aerial photography review. The vegetation within Wetland F is dominated by invasive species. However, Wetland F provides some of the last remaining natural water filtration and detainment functions in close proximity to the Clinton River in the area of the property and should be considered an important natural resource of the City.

3. **Use Permit Required (§126-561).** This Section establishes general parameters for activity requiring permits, as well as limitations on nonconforming activity. This review of the Current Plans has been undertaken in the context of those general parameters, as well as the specific requirements listed below.
  - a. On-site wetland appears to be shown accurately on the Current Plans as well as all alpha-numeric wetland flagging as applied in the field. The Current Plans show the wetland delineation for this site was completed on October 18, 2019, which is to ASTI's satisfaction. The applicant is advised that wetland delineations are only considered valid by the City and EGLE for a period of three years past the completion date.
  - b. All wetland on the site is regulated by the City and likely EGLE. Wetland A/E is regulated by the City and likely EGLE because it exhibits a direct surface water connection to the Clinton River. Wetland B is regulated by the City and likely EGLE because it is within 500 feet of the Clinton River. Wetland C is regulated by the City and likely EGLE because it exhibits a direct hydrologic connection to the Clinton River. Wetland F is regulated by the City and likely EGLE because it exhibits a direct hydrological connection to an off-site watercourse system, which is directly connected to the Clinton River.
  - c. The Current Plans show that 3,898 square feet of permanent wetland impacts and 2,862 square feet of temporary impacts will occur in the eastern portion of Wetland A/E from the construction of a residential drive over the existing earthen pathway and an associated retaining wall at Wetland A/E. Wetland A/E is of low floristic quality in this area, however, this wetland functions as a direct groundwater recharge area and water filtration medium for the Clinton River to the east. The existing earthen path within Wetland A/E does not currently appear to affect the flow of ground water seepage or overland flows as observed during ASTI's November 30, 2018 site inspection. Any proposed development should avoid adversely affecting natural surface and ground water flows associated with this wetland complex. Sheet C605

- of the Current Plans shows a 24-inch storm sewer pipe beneath the proposed drive associated with Wetland A/E. It is ASTI's opinion that the proposed culvert will allow adequate ground water seepage and overland flow between the two wetland areas upon completion. Additionally, the Current Plans show a note stating that any temporary impact areas are to be restored to original grade with original soils or equivalent soils and seeded with a City-approved wetland seed mix and that restoration of any temporary wetland impacts will be subject to inspection by the City and ASTI upon completion. This is all to ASTI's satisfaction.
- d. The Current Plans show that 3,242 square feet of permanent wetland impacts and 1,691 square feet of temporary wetland impacts will occur in the northern portion of Wetland C from the construction of a residential access drive connecting to Avon Road. This portion of Wetland C is forested and of low floristic quality. However, Wetland C is an active ground water seep area directly connected to the Clinton River. Sheet C605 of the Current Plans shows three 12-inch storm sewer pipes spaced approximately 30-45 feet within 81 feet of the proposed drive from Avon Road within Wetland C. It is ASTI's opinion that this strategy should allow the current volumes and dissipation of natural groundwater seepage from the west to adequately flow through the entirety of the remaining portion of Wetland C east of the access drive. This plan should maximize water dissipation throughout Wetland C and minimize the chances of channelization, excess erosion, and drying out of areas within Wetland C not proposed for wetland impacts. Additionally, the Current Plans state that any temporary impact areas are to be restored to original grade with original soils or equivalent soils and seeded with a City-approved wetland seed mix. Restoration of any temporary wetland impacts will be subject to inspection by the City and ASTI upon completion. This is all to ASTI's satisfaction.
  - e. The Current Plans show proposed grading could impact the southwest portion of Wetland C northwest of Unit 1, south of Unit 18, and south of Unit 31, and Wetland A south of Unit 54. These impacts are small and will not likely alter the current natural functions of these wetlands. ASTI was notified by the Applicant that no wetland impacts are to occur in these areas prior to this review. A note on the proposed grading plan within the Current Plans states "Unless otherwise noted, all grading activities and limits of work are to terminate outside of the wetland areas." This is to ASTI's satisfaction. The Applicant should be aware that any unplanned temporary or permanent wetland impacts on-site will require immediate restoration and will be subject to City inspection and potential EGLE corrective actions.
  - f. In ASTI's first plan review of this project, it was recommended that plans should show a retaining structure, such as a 1-2 feet high fieldstone boulder wall, around all remaining on-site portions of Wetland A/E and Wetland C, where applicable, to ensure no future unplanned impacts to these wetlands occur. The Applicant has offered a description and photograph of a proposed 1-2 feet high fieldstone wall in

their response letter to the City dated August 26, 2019, which is to ASTI's satisfaction. Please note that final wall standards and construction will be subject to final City approval. The Current Plans show a retaining wall in the areas of proposed impact of Wetland C and Wetland A/E near proposed Units 40-44, units 82-85, and the road between Wetland A and Wetland E. This is to ASTI's satisfaction. The Applicant has requested that signage be placed along the remaining areas of Wetland on-site to discourage secondary impacts post-construction. ASTI agrees that this should help minimize unplanned activities such as, mowing, planting, clearing, etc. Signs should state that no construction or placement of structures, mowing, cutting, dredging, or the application of chemicals are allowed. Signs should be of an adequate size to be easily observed by residents. These actions should help minimize unplanned adverse effects to remaining wetland on-site from mowing, clearing, etc., as prescribed and would be in harmony with the City's PUD development standards. Final plans must show a detail of the proposed retaining wall and signage for City review.

- g. The Current Plans show two 12-inch storm sewer pipes emptying into Wetland E; one west of Unit 15 and one east of Unit 82; and one 12-inch storm sewer pipe emptying into Wetland A east of Unit 54.

These proposed actions qualify for an exception to the Wetland Use Permit provided that: (1) a prior written notice is given to the City Engineer and written consent is obtained from the City Mayor prior to work commencing; (2) the work is conducted using best management practices (BMPs) to ensure flow and circulation patterns and chemical and biological characteristics of wetlands are not impacted; and (3) such that all impacts to the aquatic environment are minimized. Revised plans must note that BMPs will be implemented during the construction phase of the proposed project and that any temporary impact areas be restored to original grade with original soils or equivalent soils and seeded with a City-approved wetland seed mix. This is noted on the Current Plans. These actions will require a Part 303 permit from EGLE, which must be obtained and submitted to the City for review.

- 4. **Use Permit Approval Criteria (§126-565).** This Section lists criteria that shall govern the approval or denial of an application for a Wetland Use Permit. The following items must be addressed on a revised and dated Wetland Use Permit application and additional documentation submitted for further review:
  - a. A Wetland Use Permit from the City and likely Part 303 Permit from EGLE are required for this project as proposed. Once an EGLE permit is received by the applicant, it must be submitted to the City for review.

5. **Natural Features Setback (§21.23).** This Section establishes the general requirements for Natural Features Setbacks and the review criteria for setback reductions and modifications.
- a. Should the City accept the Applicant's proposal to develop the subject property as a PUD, subject to final review and approval as part of the site plan review process, the on-site Natural Features Setback regulations can be waived by the City at its discretion. The Applicant should note that upon the request of the City, ASTI will re-evaluate any Natural Features Setback impacts and impact areas if the City does not waive Natural Feature Setback regulations. The Current Plans show Natural Features Setback impacts in linear feet to ASTI's satisfaction.

**RECOMMENDATION**

ASTI recommends the City approve the Current plans.

Respectfully submitted,

**ASTI ENVIRONMENTAL**



Kyle Hottinger  
Wetland Ecologist  
Professional Wetland Scientist #2927



Dianne Martin  
Vice President  
Professional Wetland Scientist #1313