ASTI ENVIRONMENTAL

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May 11, 2016

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

**Subject:** **File No. 15-014 Woodland Park;**
**Wetland Use Permit Review #5;**
**Plans received by the City of Rochester Hills on May 3, 2016**

**Applicant:** **Pulte Land Company, LLC**

Dear Ms. Roediger:

The above referenced project proposes to construct 45 residential units on five parcels totaling approximately 22.25 acres of land. The site is located in the southwest quadrant of the intersection of Hamlin Road and Livernois Road. The subject site includes wetland regulated by the City of Rochester Hills and likely the Michigan Department of Environmental Quality (DEQ).

ASTI has reviewed the site plans received by the City on May 3, 2016 (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 ASTI on June 2, 2015 and September 14, 2015. The Current Plans show the delineated wetland on-site to ASTI's satisfaction.

Portions of two wetlands are proposed to be impacted by this project; a portion of Wetland A, which is located in the north/northeastern portion of the site, and a portion of Wetland B, which is located in the southeastern portion off the site.

Wetland A was mainly forested with young woody plants and exhibited an approximately 40% canopy and was comprised of vegetation of generally average to low ecological floristic quality. The western portion of Wetland A proposed for impact exhibited vegetation dominated by native species such as silver maple (*Acer saccharinum*) and black willow (*Salix nigra*) and invasive species such as glossy buckthorn (*Frangula alnus*) and reed canary grass (*Phalaris arundinacea*). Mean vegetation cover was estimated at approximately 60% with an approximate total native species cover of 60% and approximate invasive species cover of 40% of the total mean vegetation cover; the remainder of this portion of Wetland A was open water. This portion of Wetland A appears to detain small amounts of water during seasonal high precipitation periods and conduct intermittent flow from overflow events from a pond off-site to the east, but did not appear to be a perennial stream. Soils were comprised of sandy loams to sandy clay and appeared to be undisturbed. Therefore, it is ASTI's opinion that the area of Wetland A to be impacted is of low to medium quality and is not a high quality natural resource of the City per the City's Wetland and Watercourse Protection Ordinance.

The eastern portion of Wetland A proposed for impact exhibited vegetation dominated by native vegetation such as silver maple, American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*) and invasive species such as glossy buckthorn and reed canary grass. Mean vegetation cover was estimated at approximately 50% with approximate total native species cover of 50% and approximate invasive species cover of 50%. This portion of Wetland A also appears to detain small amounts of water during seasonal high precipitation periods and conduct intermittent flow from overflow events from a pond off-site to the east, but did not appear to be a perennial stream. This portion of Wetland A was forested, but exhibited numerous dead green ash and American elm trees, which resulted in a canopy cover of approximately 25%. Overall, this portion of Wetland A was comprised of vegetation of average to low ecological floristic quality. Soils were comprised of sandy loams to sandy clay and appeared to be undisturbed. Therefore, it is ASTI's opinion that the eastern portion of Wetland A to be impacted is of low to medium quality and is not a high quality natural resource of the City per the City's Wetland and Watercourse Protection Ordinance.

The northern portion of Wetland B proposed for impact, exhibited vegetation dominated by native vegetation such as red maple and cottonwood (*Populus deltoides*), and invasive species such as glossy buckthorn and reed canary grass. Mean vegetation cover was estimated at approximately 50% with approximate native

species cover at 60% and approximate invasive species cover at approximately 40%. This portion of Wetland B slows water infiltration rates during wet periods, but does not appear to be consistently inundated or saturated at the surface. This portion of Wetland B was forested and was dominated by seven mature trees of the species listed above. Observed canopy coverage was approximately 50% and was comprised of vegetation of average to low ecological floristic quality. Soils were comprised of sandy loams to sandy clay and appeared to be normal for this portion of the project site. Therefore, it is ASTI's opinion that the northern area of Wetland B to be impacted is of medium quality and is not a high quality natural resource of the City per the City's Wetland and Watercourse Protection Ordinance.

The eastern portion of Wetland B, which is proposed for impact, exhibited vegetation dominated by native vegetation such as silver maple, cottonwood, and American elm and invasive species such as glossy buckthorn and reed canary grass. Mean vegetation cover was estimated at approximately 80% with approximate native species cover at 60% and approximate invasive species cover at approximately 40%. This portion of Wetland B slows water infiltration rates during wet periods, but does not appear to be consistently inundated or saturated. This portion of Wetland B consisted of a sapling layer of tree form vegetation, but did not exhibit a tree canopy and was comprised of vegetation of average to low ecological floristic quality. Soils were comprised of sandy loams to sandy clay and appeared to be undisturbed. Therefore, it is ASTI's opinion that the northern area of Wetland B to be impacted is of medium quality and is not a high quality natural resource of the City per the City's Wetland and Watercourse Protection Ordinance.

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. All on-site wetland and proposed wetland impacts are shown on the Current Plans to ASTI's satisfaction.

   b. The Current Plans show that approximately 1,298 square feet of permanent impacts will result to the wetland in the northwestern portion of the site (Wetland A) from the construction of a portion of the proposed Logan Drive, outlet headwall, and associated utilities. These impacts appear to be unavoidable as part of a properly designed site and are minimized as part of the proposed plans. Wetland A is of low to medium ecological quality in this area and the proposed impacts are minor. Moreover, these impacts as proposed will not necessarily compromise the functions of Wetland A in this area or in its entirety. Therefore, ASTI recommends the City allow for a Wetland Use Permit for the impacts proposed to Wetland A in this area.

c. The Current Plans show that approximately 10,692 square feet of permanent impacts will result to the northern portion of the wetland in the southwestern portion of the site (Wetland B) from the construction of a portion of the proposed Logan Drive and associated utilities and from the construction of the southeastern portion of Lot 39. Constructing the proposed road and utilities at the narrowest portion of the wetland in this area appears to be the alternative that will minimize wetland impacts in this area. Moreover, it is ASTI's opinion that the portion of Wetland B that will be impacted by the construction of Lot 39 would be hydrologically isolated by the construction of the road and may fail to persist. Therefore, the construction of Lot 39 as shown is acceptable and ASTI is satisfied with the depiction of these impacts. Wetland B is of medium ecological quality in this area and the proposed impacts are minor. Although these impacts as proposed will compromise the functions of Wetland B in this immediate area, it is ASTI's opinion that the functions of Wetland B as a whole will not be measurably altered. Therefore, ASTI recommends the City allow for a Wetland Use Permit for the impacts proposed to Wetland B in this area.

   To ensure no further impacts occur to Wetland B as a result of development in this area, ASTI recommended a retaining wall or some other City-approved structure be constructed along the southern edge of the proposed curb line of the road, which would minimize any unplanned impacts to Wetland B in this area. The Current Plans now show an 18 inch high wall comprised of 12-18 inch natural stone in this area. This is to ASTI's satisfaction.

d. The Current Plans show that approximately 1,045 square feet of permanent impacts will result to the eastern portion of Wetland B from the construction of a portion of the southwest portion of Lot 38 and the northwest portion of Lot 37. To ensure no further impacts occur to Wetland B as a result of development in this area, ASTI recommended a retaining wall, fieldstone wall, or some other City-approved permanent structure be constructed along the western boundary of Lot 38 and Lot 39 in the area of proposed wetland impact, which would minimize any unplanned impacts to Wetland B in this area. The Current Plans now show an 18 inch high wall comprised of 12-18 inch natural stone in this area. Wetland B is of medium ecological quality in this area and the proposed impacts are minor. Although these impacts as proposed will compromise the functions of Wetland B in this immediate area, it is ASTI's opinion that the functions of Wetland B as a whole will not be measurably altered. Therefore, ASTI recommends the City allow for a Wetland Use Permit for the impacts proposed to Wetland A in this area.

e. The Current Plans show that approximately 20 square feet of permanent impacts will result to Wetland A from the construction of a portion of a boulder retaining wall recommended by ASTI to detour future encroachment on Wetland A. It is ASTI's opinion that the impacts to City-regulated wetland in this area are very minimal and will serve to protect the remaining portion of Wetland A. The Current Plans also

show that approximately 438 square feet of permanent impacts will result to Wetland A from the construction of a portion of a woodchip path north of Lot 40. This action would maximize the usable open space area on-site and impacts to Wetland A are minimal. Therefore, ASTI recommends the City allow for a Wetland Use Permit for these impacts. These impacts are shown on the Current Plans to ASTI's satisfaction.

f. The Current Plans show that approximately 292 square feet of temporary impacts to the eastern portion of Wetland A south of Lot 41 and temporary impacts to the watercourse that flows through Wetland A in this area will result from the placement of a proposed culvert.

   This proposed action qualifies 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. The Current Plans also 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, where possible. This is to ASTI's satisfaction.

   This action will also require a Part 301 permit from the DEQ, which must be obtained and submitted to the City for review. This is noted on the Current Plans to ASTI's satisfaction.

g. The Current Plans show that approximately 857 square feet the eastern portion of Wetland B will be temporarily impacted from the construction of a storm sewer that empties into the proposed Detention Basin A.

   This proposed action qualifies 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. The Current Plans also 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, where possible. This is to ASTI's satisfaction.

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 DEQ Part 303 and Part 301 Permit and a Wetland Use Permit from the City are required for this project as proposed on the Current Plans. Once a permit is obtained from the DEQ 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. The Current Plans show all Natural Features Setback areas and all impacts to Natural Features Setback areas in linear feet to ASTI's satisfaction.

    b. The Current Plans indicate that approximately 190 linear feet of Natural Features Setback will be permanently impacted from the construction of the proposed Logan Drive and associated utilities west of Lot 41. This is shown on the Current Plans to ASTI's satisfaction. The Natural Features Setback in this area is dominated by invasive species such as honeysuckle (*Lonicera tatarica*), mustard garlic (*Allaria petiolata*), and glossy buckthorn. Total canopy was approximately 20% in this area. The Natural Features Setback in this area is of poor floristic quality and is sparsely vegetated; it is ASTI's opinion that it offers minimal buffer quality to Wetland A in this area. Therefore, ASTI recommends the City allow a Natural Features modification in this area.

    c. The Current Plans indicate that approximately 195 linear feet of Natural Features Setback will be permanently impacted from the construction of the northern portion of Lot 40. These impacts are shown on the Current Plans to ASTI's satisfaction. The Natural Features Setback in this area is dominated by invasive species such as honeysuckle, glossy buckthorn, and mustard garlic. Total canopy was approximately 20% in this area. The Natural Features Setback in this area is of poor floristic quality and is sparsely vegetated and it is ASTI's opinion that it offers minimal buffer quality to Wetland A in this area. Therefore, ASTI recommends the City allow a Natural Features modification in this area.

    d. The Current Plans indicate that approximately 422 feet of Natural Features Setback will be permanently impacted from the construction of the proposed Logan Drive and associated utilities and from the construction of the the southeastern portion of Lot 39. These impacts are shown on the Current Plans to ASTI's satisfaction. This portion of the Natural Features setback was dominated by scattered native mature

tree species such as red oak (*Quercus rubra*), cottonwood, and red maple. Glossy buckthorn dominated the sapling/shrub layer. Tree canopy was approximately 50-60%. The Natural Features Setback in this area is of medium floristic quality, but is sparsely sparsely vegetated; it is ASTI's opinion that it offers a medium buffer quality to Wetland B in this area. Therefore, ASTI recommends the City allow a Natural Features modification in this area.

e. The Current Plans indicate that approximately 200 linear feet of Natural Features Setback will be permanently impacted from the construction of the southwest portion of Lot 38 and the northwest portion of Lot 37. These impacts are shown on the Current Plans to ASTI's satisfaction. The Natural Features Setback in this area is comprised of a sapling and shrub layer with very sparse trees and is comprised of native species such as prickly ash (*Zanthoxylum americanum*), blackberry (*Rubus allegheniensis*), and red maple and invasive species such as Siberian elm (*Ulmus pumila*), and honeysuckle. No tree canopy was observed in this area. The Natural Features Setback in this area is of poor floristic quality and is sparsely vegetated; it is ASTI's opinion that it offers minimal buffer quality to Wetland B in this area. Therefore, ASTI recommends the City allow a Natural Features modification in this area.

f. The Current Plans indicate that approximately 50 linear feet of Natural Features Setback will be permanently impacted from the construction of the proposed woodchip path north of Lot 40. The Natural Features Setback in this area is of the same low quality character as explained in Comment 3.c. Therefore, ASTI recommends the City allow a Natural Features modification in this area to maximize on-site open space. These impacts are shown on the Current Plans to ASTI's satisfaction.

g. The Current Plans show that approximately 70 linear feet of Natural Features Setback will be temporarily impacted from the construction of a storm sewer north of the proposed Detention Basin A.

   This action would qualify for an exception to the Natural Features Setback ordinance 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. These impacts are shown on the Current Plans to ASTI's satisfaction.

**RECOMMENDATION**

ASTI recommends the City approve the Current Plans.

Respectfully submitted,

**ASTI ENVIRONMENTAL**

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