

Environmental Impact Study

Pecks Marina Storage



ECOLOGICAL SERVICES

Jan. 24, 2023



Ecological Services
3803 Sydenham Road
Elginburg, Ontario K0H 1M0
Phone: (613) 376-6916
E-mail: mail@ecologicalservices.ca

Attention:

Ms. Josie Robichaud
123 Fitzsimmons Road
Lansdowne, Ontario K0E 1L0

January 24, 2023

C/O by email: Kelsey Jones <jones@fotenn.com>

RE: Environmental Impact Study (EIS) for Pecks Marina Storage

Dear Ms. Robichaud,

We are pleased to submit our EIS report for the proposed storehouse development of Pecks Marina to be located at the corner of Fitzsimmons Road and Granite Ridge Road.

This work was completed in 2022, with the field work reflecting a review of planning and resource agency documents, and consultation with planning and resource management authorities. It is our opinion, assuming the implementation of our recommendations, that this development can proceed with no negative impacts on the natural features or on their ecological functions, and therefore be consistent with the Township of Leeds and the Thousand Islands Official Plan.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rob Snetsinger". The signature is written in a cursive, flowing style.

Rob Snetsinger
Ecological Services

Pecks Marina Storage Facility EIS

Table of Contents

1. Overview	4
2. EIS Summary and List of Recommendations	6
3. Policy and Methodology.....	7
4. Methods.....	9
5. Ecological Site History.....	10
6. Land Use, Soils, Topography, Drainage, and Geology.....	10
7. Ecological Land Classification (ELC).....	11
8. Assessment of Natural Features.....	14
8.0 Threatened or Endangered Species	14
8.1 Significant Wetland (PSW).....	15
8.2 Area of Natural and Scientific Interest (ANSI)	16
8.3 Woodlands.....	16
8.4 Valleylands	17
8.5 Wildlife Habitat	18
8.6 Fish Habitat.....	19
9. References.....	21
10. Field Visit Details	23

1. Overview

This environmental impact assessment was completed at the request of Kelsey Jones (Fotenn Inc. Planner) on behalf of the Pecks Marina for a storage facility (see Figure 1) at the corner of Fitzsimmons Rd. and Granite Ridge Road, north of Ivy Lea Ontario.



Figure 1. The proposed building locations (outlined in white). The orange line represents the top of slope created by site clearing in 2022. The plan and setback distances from the orange line were provided by Fotenn Inc., the location of the orange line was provided by Ecological Services, as based on GPS reference points gathered on Dec. 5.

The purpose of the EIS is to determine if significant natural heritage features are present on or adjacent to the proposed development property. If they are present, the purpose of the EIS is also to determine the potential for a negative impact for the purposes of the Provincial Policy Statement (PPS) and the Leeds and the Thousands Islands Official Plan (OP).

If significant natural heritage features are found on a property, or on the adjacent lands (normally 120m) and it is determined that their features or functions are at some risk of a negative impact, the EIS process has three possible conclusions.

1. Determine that the negative impact to significant natural heritage features is too great and that it will not be possible for the development to be consistent with the Official Plan.

2. Determine that a negative impact to significant natural heritage features is too great for parts of the development, and those portions of the development will not be consistent with the Official Plan.
3. Determine that the development can be consistent with the Official Plan if recommended mitigation or compensation measures are followed.

It should be noted that all sites will have some ecological value and all developments, no matter where they are situated, will result in some ecological loss and/or displacement. However, from a planning perspective, the focus of the EIS process is on those natural heritage features and functions that are deemed to be significant and whether the development can be consistent with the OP and the PPS.

2. EIS Summary and List of Recommendations

Summary Findings

Development Footprint: No significant natural heritage features.

Adjacent lands (i.e., 120 m) to development footprint: Fish Habitat and ANSI.

Summary Conclusion:

It is our opinion that the development outlined in Figure 1 will not result in a negative impact to natural heritage features for the purposes of the OP and the PPS if the following mitigation recommendations are followed.

List of Recommendations:

Species at Risk: As a caution recommendation for all developments against potential future use by SAR bats, we always recommend that any tree clearing be restricted to outside the spring/summer roost season that extends from April 1 to September 31.

ANSI: It is our opinion that no recommendations are warranted due to the separation distance between the development and the ANSI (93 m to property line), that includes dense intervening vegetation, and the intervening Fitzsimmons Rd.

Fish Habitat Recommendations: It is our opinion that no recommendations are warranted due to the separation distance between the development and the fish habitat (96 m to property line), the likely marginal condition of the habitat, the dense intervening vegetation, and the intervening Fitzsimmons Rd.

Significant Wildlife Habitat Recommendation: No significant wildlife habitat was identified. However, as a caution recommendation for all developments, it is recommended that any site clearing take place outside of the migratory birds breeding season (April 15 to August 15) to avoid contravening the Migratory Birds Act.

3. Policy and Methodology

POLICY: Provincial Policy Statement (PPS)

Issued under the *Planning Act*, the 2020 version of the PPS requires that municipalities consider natural heritage features in assessing proposed work proposals. Guidance on the extent of adjacent lands is provided in a Natural Heritage Reference Manual (MNR 2010). The adjacent land width for significant natural heritage features is 120 m. From the PPS:

2.1.4 Proposed work and site alteration shall not be permitted in:

a) significant wetlands in Ecoregions 5E, 6E and 7E1; and

2.1.5 Proposed work and site alteration shall not be permitted in:

b) significant woodlands in Ecoregions 6E;

c) significant valleylands in Ecoregions 6E;

d) significant wildlife habitat;

e) significant areas of natural and scientific interest;

... unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.6 Proposed work and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Proposed work and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Proposed work and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

POLICY: Township of Leeds and the Thousand Islands Official Plan (2018)

The Natural Heritage System Strategy of the OP mirrors significant natural heritage policies outlined in the PPS, that is intended to protect significant natural heritage features.

The OP also includes consideration for adjacent lands as follows:

Provincially Significant Wetlands and Significant Coastal Wetlands	120 m
Areas of Natural and Scientific Interest – Life Science	120 m
Significant Valleylands	120 m
Significant Woodlands	120 m
Significant Habitat of Endangered and Threatened Species	120 m
Significant Wildlife Habitat	120 m

The OP notes that a negative impact determined by an Environmental Impact Study (EIS) is one that would impact those features and functions that define the natural heritage feature. The OP outlines expectations for an EIS, as follows.

a) define the nature and the boundaries of any significant features, ecological functions and values on, or adjacent to, the site;

b) describe and map the proposed work activities, including building location, excavation, site grading, landscaping, drainage works, roadway construction, paving, sewer and water servicing, in relation to various environmental considerations;

c) predict the effects of the proposed work on the various components of the environment on and adjacent to the site, such as wildlife, fish, vegetation, soil, surface water, groundwater, air and any other relevant factors, taking into consideration effects during and after site alteration;

d) evaluate the significance of all predicted and negative and positive impacts on the various environmental considerations.

e) itemize and recommend all measures that can be taken to avoid, or mitigate the predicted negative impacts;

f) evaluate the cumulative impacts that the project (and any other known projects or activities) may have following implementation of any mitigation measures on the natural features, areas, and adjacent lands and the ecological functions identified for protection;

g) conclude with a professional opinion on whether negative impacts on the natural features, areas, and adjacent lands, and the ecological functions will occur, the significance of such impacts, and whether ongoing monitoring is required; and

h) describe and map any water access and staging areas.

Notable EIS related Legislation

- Fisheries Act (1985)
- Conservation Authorities Act (1990)
- Migratory Birds Convention Act (1994)
- Endangered Species Act (2007)

4. Methods

Site screening was undertaken using the MNRF (2018) and MECP (2019) screening protocols.

Habitat communities are described following the methodology outlined in the Ecological Land Classification (ELC) manual for Southern Ontario (Lee *et al.*, 1998). Plant species were used to characterize ELC community types.

The Natural Heritage Reference Manual (MNR 2010), Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015) and Significant Wildlife Habitat Technical Guide (MNR 2000) were used to define significant natural features.

Breeding bird surveys were based on OBBA (2021), which is an update of Cadman and Kopysh, (2001). Surveying included both dawn and evening site visits.

Marsh Monitoring followed protocols provided by TRCA (2011). Snake surveys were based on SAR snake protocols provided by MNRF (2016). Protocols for targeted SAR surveys were applied where necessary, such as for Least Bittern (Jobin *et al.* 2010) and Blanding’s Turtles (MNRF 2015b).

The work personnel and timing and nature of the site visits is presented in Table 1 and Table 2.

Table 1. Pecks Marina Site Visit Summary			
Survey Date 2022	Starting Time	Surveyors	Main Focus of Visit
April 13	2000	Rob Snetsinger	Amphibian monitoring
April 24		Rob Snetsinger	Herps
April 29	1130	Rob Snetsinger	Herps
May 1	950	Rob Snetsinger	Herps
May 3	940	Rob Snetsinger Kaitlyn Closs	Herps
May 11	2145	Kaitlyn Closs	Amphibian monitoring, night birds
May 21	657	Kurt Hennige	BBS
June 4	810	Kurt Hennige	BBS
June 15	2140	Rob Snetsinger	Amphibian monitoring, night birds
June 18	2010	Kaitlyn Closs	Herps
June 19	2125	Kaitlyn Closs	Night birds, herps
June 20	2125	Kaitlyn Closs	Herps
June 22	2145	Kaitlyn Closs	Herps
June 27	925	Kurt Hennige	BBS
June 30		Dale Kristensen Rob Snetsinger	All taxa, ELC
July 31	945	Rob Snetsinger	All taxa
Dec. 5	1005	Mary Alice Snetsinger Rob Snetsinger	All taxa, boundary mapping

5. Ecological Site History

Aerial imagery from 1954 to 2021 show a similar footprint as the adjacent 1996 image in that the northwest portion of the proposed storage area has remained clear since at least 1954 and has been used for a variety of purposes including farming and storage.

Prior to 2022, the southeast portion of the proposed development portion has remained in mixed forest cover, similar in composition as adjacent woodlands.



It is evident that there is more wetland in proximity to the development in 2022 than there was in 1954. The cause of this is unknown but may be due to past farming practices that encouraged site drainage.

Adjacent residential development to the north, east, and south has occurred in the last several decades, with the most recent addition being a house built in 2021 on the adjacent lands to the immediate south of the proposed storage site.

6. Land Use, Soils, Topography, Drainage, and Geology

Land Use: The subject property is within Charleston Lake Ecodistrict 6E-15, of which nearly 83% is in natural cover, primarily forest, with the remainder being mostly in agricultural lands (Henson and Brodribb 2005). Abandoned pastures and marginal agricultural lands, continue to be reforested. The subject lands are bordered to the north, east, and south by residential properties that have retained some woodland cover. As a corner lot it is bordered by two roads, Fitzsimmons Rd. to the west, and Granite Ridge Rd. to the north. Wetland, woodland, and scrub habitat occurs west of Fitzsimmons Rd.

Soils: The Soil Map of Leeds County (Soil Survey Report No. 41) shows the property, and much of the adjacent properties to be *Rockland*, highlighting their shallow soils.

Topography: As a result of recent site clearing and excavation the property is relatively flat.

Drainage: There are no watercourses on the proposed development property. Drainage is to the south and east. A stream channel begins about 125 m southeast of the eastern most proposed storage building (Figure 1). From here it flows east for about 140 m, linking into a wetland that flows southwards towards the St. Lawrence River.

Geology: The Ontario Geological Survey (Map P.2054) shows the entire property and much of the adjacent properties to be underlain by Plutonic Rocks, a coarse-grained rock that includes granitic gneiss, migmatite, granitized gneiss, hybrid granite gneiss, and granite pegmatite.

7. Ecological Land Classification (ELC)

Ecological land classification determination was based on Lee et al. (1998). ELC mapping is provided below, followed by a description of the ELC types.

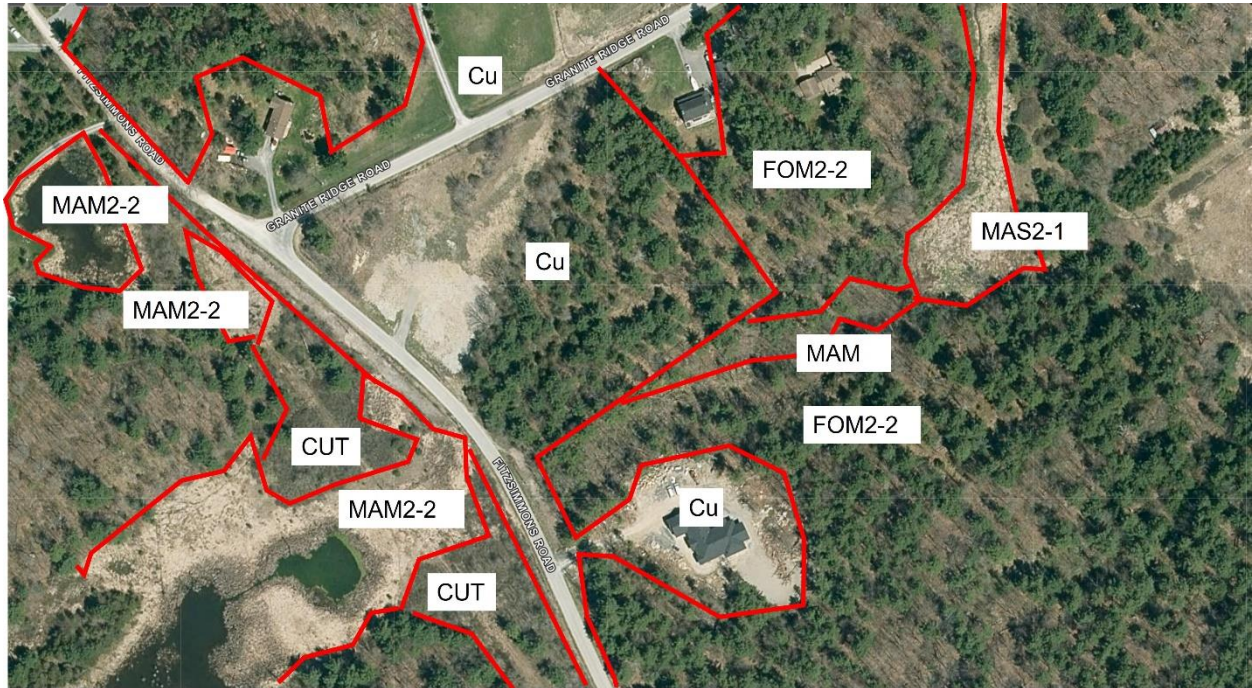


Figure 2. ELC mapping associated with the proposed storage facility. Site alterations in 2022 are not reflected in the base image that was taken in 2021.

Cultural (Cu): A cultural site (Cu) is one that is influenced more by cultural activities than those that define the eco-types listed in the ELC manual. The site underwent clearing and grading in 2022, which converted it to a Cultural ecotype. Cultural sites normally have low ecological potential and sensitivity.

Adjacent Cu sites include roads and residential properties.



Cultural Thicket (CUT): Located along the western edge of Fitzsimmons Rd., primarily in association with the hydro corridor and the road itself. It is heavily vegetated by a mix of shrub species including grey dogwood, European buckthorn, Tartarian honeysuckle, and red cedar. Some red pine and white pine associates are also found here.

Dry-Fresh White Pine-Sugar Maple Mixed Forest Type (FOM2-2): Dominated by white pine with lesser amounts of sugar maple. Other trees commonly observed include white oak, red oak, white ash, hemlock, green ash, and bitternut hickory. The secondary canopy layer is dominated by sugar maple saplings. The shrub layer is relatively sparse, but includes tree saplings and Virginia creeper. The ground cover is also sparse, with coverage by *Carex pennsylvanica*, helleborine, Canada mayflower, and spinulose wood fern. Soil depths are mostly shallow with numerous protruding rocks.



Reed Canary Grass Mineral Meadow Marsh Type (MAM2-2): Located in several pockets immediately west of Fitzsimmons Rd., but also extending several hundred meters to the west within a wetland valley. It is dominated by the invasive non-native reed canary grass, but also includes patches of narrow leaved cattail, in association with deeper water areas. As this is on private property, a more in-depth vegetation analysis was not possible. The density of the reed-canary grass reduces its ecological potential and significance.



Meadow Marsh (MAM): Located in the valley floor to the immediate south of the development fill area and extending eastward. At ~0.2 ha. it is too small to be considered a separate ELC type, but is included here for clarity, given the potential link to Regulation 148/06. It contained no standing water except at its eastern end where a channel formed at the property fence line, that drains water eastward along the southern edge of the MAS2-1 wetland area discussed below. This MAM area contained some upland plant species, but the dominant ground cover (i.e., >50% rule) was by wetland plants including sensitive fern, *Glyceria striata*, touch me not, and joe-pye-weed. The tree overstory was a mix of elm, red maple, and green ash.



Cattail Mineral Shallow Marsh Type (MAS2-1): Located to the east of the development site, this ~0.45 ha. wetland is too small to be considered as a separate ELC type, but when combined with the previous listed ~0.2 ha MAM site (they are connected) it results in an overall woodland size that is greater than the required 0.5 ha. minimum. The dominant plant observed was narrow leaved cattail



8. Assessment of Natural Features

8.0 Threatened or Endangered Species

The following Species at Risk (SAR) were considered during the field work because of their potential to be associated with the proposed work site, as based on background screening.

Barn Swallow (THR): Not listed by the NHIC for the 1 km square of the proposed storage site, and none observed on or adjacent to the site. The site also contains no Barn Swallow nesting features.

Bats (END): In reference to the four SAR bats found throughout the region, but primarily focused on Little Brown Myotis, Northern Myotis, and Tri-Colored Bat. No trees were present on the development site in early spring because of site clearing that might otherwise provide roosting/maternity habitat for bats.

Blanding's Turtles (THR). Listed by the NHIC for the 1 km square containing the proposed storage site. The wetland areas in proximity to the development lands do not contain overwintering and basking features due to a lack of open water, and the dense canary reed grass areas that dominate the adjacent wetlands do not provide good feeding habitat.

A site on the proposed facility site land near the corner of Fitzsimmons Rd., and Granite Ridge Rd. contained piles of gravelly/sand piles that might support nesting. The graveled edges of the municipal roads also might support nesting. Accordingly, we applied the MNR (2015) nesting search protocol, and no evidence of nesting was observed (see Table 7). As per MNR (2015), this provides confidence that the site is not important for Blanding's Turtles.

Butternut (END): No Butternut were observed on site or in the adjacent lands.

Eastern Whip-poor-will (THR): No listings for the woodlands around the site, but known to the region. The MNR (2013b) Eastern Whip-poor-will survey protocol (Table 5) was applied and no whip-poor-will were observed.

Gray Ratsnake (THR): As they are well known to this region, we always give them consideration for any development project during the field work. The recent site disruption precludes Ratsnake use within the site for any purpose. We did investigate the adjacent lands for key life cycle habitat features including hibernacula and nest sites. Hibernacula require fractured south facing slopes that lack dense overhead foliage, and this feature was not observed. Nest sites require appropriate nesting substrates (e.g., rotting logs and stumps) that have some exposure to sunlight. None were observed within proximity to the site. We also searched for this species using the MNR (2016) field protocol (see Table 6) which when followed, provides confidence on whether this species is using a site.

Henslow Sparrow (END): This is an historical NHIC reference, as these birds are largely extirpated from the province. The few sightings made are more than 20 years old, and these are all in association with the southern shore of Lake Ontario. None were observed, and the site habitat is not appropriate for these birds.

Least Bittern (THR): Found thinly dispersed in this region, including a 2021 sighting we provided to eBird for a property about 2.3 km to the north. Least Bittern are a wetland obligate species and as such, they will not be in upland sites. The adjacent wetlands do not contain good Least Bittern habitat features and none were observed or heard calling from these wetland areas during the breeding bird surveys (see Table 8).

Piping Plover (END): This is an historical NHIC reference, as these birds are largely extirpated from the province. The few sightings made within the last 20 years were in association with Prince Edward County. None were observed, and the site habitat is not appropriate for these birds.

Red-headed Woodpecker (THR). The closest eBird record is from June 8, 2014 from a site west of Gananoque. Most of the sightings that we are aware of are for wooded areas near water, with a preference for mature oak/beech woodlands. None were observed. Henson and Brodribb (2005) identified several potential SAR species for the Westport Ecoregion (6E-10) which includes McCrae Bay, as follows:

Purple Twayblade (THR): We discovered a patch of this orchid growing in Frontenac Park, which to our understanding is the only listing of this species in Eastern Ontario. The development site and adjacent lands lack appropriate habitat features for this species.

American Ginseng (END): We have identified many patches of this plant in Eastern Ontario, all in association with south facing slopes that include maidenhair fern and butternut trees. These features are not present on the development lands.

Deerberry (THR): We have contributed to the Deerberry recovery strategy for the Thousands Islands population, by germinating and establishing seedlings for transplanting to the island population sites within St. Lawrence Islands National Park. None were found on, or adjacent to the site.

Blunt-lobed Woodsia (END): The closest known sighting that we are aware of is in association with the Landons Bay/Fitzsimmons Mountain ANSI where it grows on steep rock faces. These features are not present on the development lands, and none were observed on or adjacent to the site.

8.1 Significant Wetland (PSW)

There are no significant wetlands within 120 m of the subject property. The closest PSW is the Ivy Lea wetland about 400 m to the east. As there are no PSW within 120 m of the development site, we refer to the following excerpt from Section 4.4 of the Natural Heritage Reference Manual.

The need to evaluate the ecological function of adjacent lands (i.e., undertake an EIS or equivalent study) would be removed if proponents choose to avoid having proposed work and site alteration occur within the extent of adjacent lands.

8.2 Area of Natural and Scientific Interest (ANSI)

In the adjacent insert from Schedule A3 of the Leeds and the Thousand Islands OP, the development property is outlined in red. The provincially significant Landons Bay/Fitzsimmons Mountain ANSI is located about 104 m to the entrance of the storage property. The closest structural element of the site will be a storage building and it will be more than 120 m from the ANSI. There is an approximate 83 m zone of heavy vegetation between the ANSI and Fitzsimmons Rd. Given the intervening barrier provided by Fitzsimmons Rd., the intervening ~83 m vegetation buffer, and that development stormwater will flow away from the ANSI, it is our opinion that the development will not result in a negative impact to the ANSI and no recommendations are warranted.



8.3 Woodlands

In the adjacent insert from Schedule A3 of the Leeds and the Thousand Islands OP, we have outlined the approximate footprint of the development property in red.

Potential significant woodland is shown in dark green

A perceived watercourse is shown in blue. From our field work, we determined that this blue line is not accurate and the watercourse (ie. with a defined channel) begins at the blue arrowed line, about 5 meters west of the property line.

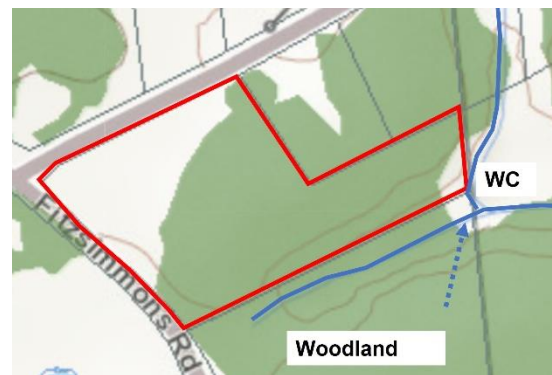


Table 2. Significant Woodland Ranking Criteria.		
Criteria	Significant Threshold	Is Significance Met?
Size (based on 30-60% Leeds and Grenville forest coverage)	50 ha.	No
Core Habitat	2 ha	No
Proximity (within 30 m)	Adjacent to PSW	No
Linkages	Connecting two significant features	No
Water Protection	Open water within 30 m	No
Note: The eastern edge of the development property is within 30 m of a watercourse that starts at the dotted blue arrow in the above figure. This woodland protection feature is more than 30 m from the disturbance area and will be more than 90 m from the nearest storage structure.		
Woodland Diversity	- native forest species that have declined significantly south and east of the Canadian Shield - high native diversity through a combination of composition and terrain	No
Uncommon Characteristics	- unique species composition or a vegetation community with a provincial ranking of S1, S2 or S3	No

	<ul style="list-style-type: none"> - habitat of a rare, uncommon or restricted woodland plants - vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10 - tree species of restricted distribution - 10 or more trees/ha at least 50 cm in diameter 	
--	--	--

8.4 Valleylands

From Section 5.5.7 of the OP:

*A valleyland is a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. Based on available information, there are **no identified** significant valleylands within the Township at the time that this Plan was prepared. The locations of significant valleylands must be determined on a site-specific basis, in accordance with the criteria for determining significance provided in the Ministry of Natural Resources and Forestry’s Natural Heritage Reference Manual, as amended from time to time.*

We did not identify any valleylands within 120 m of the proposed development site (i.e., a landform depression with water flowing through it). In this regard, we refer to the following excerpt from Section 4.4 of the Natural Heritage Reference Manual.

The need to evaluate the ecological function of adjacent lands (i.e., undertake an EIS or equivalent study) would be removed if proponents choose to avoid having proposed work and site alteration occur within the extent of adjacent lands.

Accordingly, no further analysis is warranted regarding valleylands.

Regarding Regulation 148/06, we defer to the CRCA for an interpretation as it pertains to this site. To assist them in this regard we provide the following information.

1. There is no water channel in the “valley” to the south of the fill area, as can be seen in the adjacent image. The red line is the limit of wetland vegetation (WG).

2. There is some wetland vegetation, as shown in Figure 2 and the by WG in the adjacent image. It is below the 0.5 ha. threshold. It does connect with a second wetland area below the 0.5 ha. threshold, and combined they are a total of 0.65 ha.



3. A defined watercourse (see adjacent) begins about 5 m west of the eastern property fence line. At this location, it is about 80 m to the eastern extent of the 2022 fill area and will be about 110 m to the eastern most storage building.



8.5 Wildlife Habitat

The Significant Wildlife Habitat (SWH) Criteria for Charleston Lake Ecodistrict 6E-10 (MNRF 2015) describes habitat and wildlife requirements and habitat thresholds needed to reach significance. The potential for candidate SWH is first assessed in Table x, and none of the SWH thresholds were met, and therefore there is no SWH on or adjacent to the proposed Pecks storage site.

Table 3: Candidate SWH analysis.			
SWH Type	Candidate Habitat < 120 m	Criteria analysis	Species Thresholds Met
Waterfowl Stopover and Staging Area (Terrestrial)	No	No sheet water fields	No
Waterfowl Stopover and Staging Area (Aquatic)	No	No open aquatic habitat < 120 m	No
Shorebird Migratory Stopover Area	No	No shorelines < 120 m	No
Raptor Wintering Area	No	Fields (>20 ha) and associated woodlands are present.	No
Bat Hibernacula	No	No caves	No
Bat Maternity Colonies	No	Threshold snags not present	No
Turtle Wintering Areas	No	No open aquatic habitat < 120 m	No
Reptile Hibernacula	No	Lacks physical features that would support overwintering	No
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No	No exposed banks or cliffs	No
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	No	No open aquatic habitat < 120 m	No
Colonially-Nesting Bird Breeding Habitat (Ground)	No	No shoreline areas < 120 m	No

Migratory Butterfly Stopover Area	No	Not within 5 km to Lake Ontario	No
Landbird Migratory Stopover Area	No	Not within 5 km to Lake Ontario	No
Deer Yarding Area	No	Known SWH yarding is many km. to the northwest	No
Deer Winter Congregation Area	No	Requires 100 ha. woodlots	No
Rare Vegetation Communities	No	Common habitat types present	No
Waterfowl Nesting	No	No nesting habitat on site	No
Bald Eagle/Osprey Nesting, Foraging, and Perching	No	No lake or river < 120 m	No
Woodland Raptor Nesting	No	No 30 ha blocks with 10 ha of interior woodland habitat with 200 m edge that are < 120 m	No
Turtle Nesting	No	No open aquatic habitat < 120 m	No
Seeps and Springs	No	Not a headwater area	No
Amphibian Breeding Habitat (Woodland)	No	No ephemeral pools > 500 m ²	No
Amphibian Breeding Habitat (Wetlands)	Yes	Wetland within 120 m	No, see Table 4
Woodland Area-Sensitive Bird Breeding Habitat	No	No 30 ha. woodlands <120 m	No
Marsh Bird Breeding Habitat	Yes	All wetlands are considered	No
Open Country Bird Breeding Habitat	No	No 30 ha. grasslands < 120 m	No
Shrub/Early Successional Bird Breeding Habitat	No	No 10 ha. thickets < 120 m	No
Terrestrial Crayfish	No	N/A to Eastern Ontario	No
Special Concern and Rare Wildlife Species	No	Discussed below.	No
Amphibian Movement Corridors	No	No breeding habitat < 120 m	No
Deer Movement Corridors	No	No SWH deer wintering	No

8.6 Fish Habitat

We found no water features within 120 m of the development site to the south or east that would represent fish habitat.

From Google Earth, an open water area about 95 m to the west of the proposed storage site can be seen. As it is on private land, we did not visit the pond site directly, but it appears to be part of a larger series of ponds, and it stands to reason that they contain fish habitat. The value of the habitat would be somewhat limited in value as fish habitat (i.e., marginal habitat) as it is within an isolated area without a connection to a larger external fish habitat source. Regardless, it is our opinion that the storage site would not be a risk to this fish habitat for the following reasons.



1. Site topography and drainage will direct stormwater to the east. No culvert or flow was observed crossing Fitzsimmons Rd.
2. Fitzsimmons Rd. will act as a significant stormwater berm.

3. The intervening vegetation west of Fitzsimmons Rd. has significant buffering functionality.
4. The sensitive or rare fish that are known to this region would not be found in this type of habitat.

9. References

- BSC (Bird Studies Canada). 2009. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. 13 pages. Published by Bird Studies Canada in cooperation with Environment Canada and the U.S. Environmental Protection Agency. February 2009.
- Cadman M. and N. Kopysh. 2001. Ontario Breeding Bird Atlas Guide for Participants. Bird Studies Canada, Environment Canada: Canadian Wildlife Service, Federation of Ontario Naturalists, OFO, Ontario Ministry of Natural Resources.
- Henson, B.L. and K.E. Brodribb 2005. Great Lakes Conservation Blueprint for Terrestrial Biodiversity, Volume 2: Ecodistrict Summaries. Nature Conservancy of Canada.
- Jobin, B., R. Bazin, L. Maynard, A. McConnell and J. Stewart. 2010. National Least Bittern Survey Protocol. Environment Canada, Canadian Wildlife Service. Québec Region. Unpublished report. 26 p.
- Kurta, A., C. Schumacher, M. Kurta, and S. Demers. 1999. Roost sites of an eastern pipistrelle during late-summer swarming. *Bat Research News* 40:8–9.
- Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario. Natural Heritage Information Centre.
- Meeks, R., and G. Ultsch. 1990. Overwintering behavior of Snapping Turtles. *Copeia* 3:880-884.
- MNR (Ministry of Natural Resources). 1984. A Wetland Evaluation System for Wetlands of Ontario South of the Precambrian Shield. 2nd ed. Wildlife Branch Ontario Ministry of Natural Resources and Canadian Wildlife Service, Environment Canada.
- MNR (Ministry of Natural Resources). 2000. Significant Wildlife Habitat Technical Guide. 151 pp. Fish and Wildlife Branch, Technical Section.
- MNR (Ministry of Natural Resources 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.
- MNR (Ministry of Natural Resources). 2013. Ontario Wetland Evaluation System. Southern Manual, 3rd Ed., Version 3.2.
- MNR (Ministry of Natural Resources). 2013b. Survey Protocol for Eastern Whip-poor-will (*Caprimulgus vociferus*) in Ontario. Ontario Ministry of Natural Resources, Species at Risk Branch, Peterborough. iii + 10 pp.
- MNR (Ontario Ministry of Natural Resources). 2015. Significant Wildlife Habitat Ecoregion 6E Criterion Schedule.
- MNRF (Ministry of Natural Resources and Forestry). 2015. Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario. Species Conservation Policy Branch. Peterborough, Ontario. ii + 16 pp.

- MNRF, Ministry of Natural Resources and Forestry. 2016. Survey Protocol for Ontario's Species at Risk Snakes. Ontario Ministry of Natural Resources and Forestry, Species Conservation Policy Branch. Peterborough, Ontario. ii + 17 pp.
- MNRF (Ministry of Natural Resources and Forestry). 2018. Natural heritage information request guide. Regional Operations Division.
- Newton, E.J., and T. Herman. 2009. Habitat, movements, and behaviour of overwintering Blanding's turtles (*Emydoidea blandingii*) in Nova Scotia. Canadian Journal of Zoology 87: 299–309.
- Obbard, M, and R. Brooks. 1981. Nesting migrations of the Snapping Turtle (*Chelydra serpentina*). Herpetologica 36:158-162.
- OBBA (Ontario Bird Breeding Atlas). 2021. Instructions for Point Counts, Ontario Bird Breeding Atlas. Birds Canada. Environment and Climate Change Canada, Ontario Nature, and Ontario Ministry of Natural Resources and Forestry.
- Rowe, J., and E. Moll. 1991. A radiotelemetric study of activity and movements of the Blanding's turtle (*Emydoidea blandingi*) in northeastern Illinois Journal of Herpetology, Vol. 25, No. 2, pp. 178-185.
- Rowe, J., and S. Dalgarn. 2010. Home range size and daily movements of Midland Painted Turtles (*Chrysemys picta marginata*) in relation to body size, sex, and weather patterns. Herpetological Conservation and Biology 5: 461-473.
- Scott, W., and E. Crossman. 1973. Freshwater fishes of Canada. Bulletin 184. Fisheries Research Board of Canada, Ottawa.
- Snider, J., and M. Linck. 2011. Habitat use and movement patterns of Blanding's Turtles (*Emydoidea blandingii*) in Minnesota, USA: A landscape approach to species conservation. Herpetological Conservation and Biology 7:185-195.

10. Field Visit Details

Table 4. Amphibian Marsh Monitoring based on BSC (2009). Only calling in pond NW of Granite Ridge Rd. /Fitzimmons Rd. intersection.

Date	Time	Weather	Wind Code	Noise Code	Surveyor	Results
April 13	2030	11 C, clear	0	1 (distant traffic)	Rob Snetsinger	Chorus Frogs (CC 1), Spring Peepers (CC 2)
May 11	2145	10 C clear	0	1	Kaitlyn Closs	Tree Frog (CC1), Spring Peeper (CC1)
June 15	2140	23 C partly cloudy	0	1	Rob Snetsinger	American Toad (CC1), Tree Frog (CC1)

Table 5. Eastern Whip-poor-will surveys based on MNR (2013b).

Date	Time	Weather	Wind Code	Noise Code	Surveyor	Results
May 11	2145	16 C clear	1	1	Kaitlyn Closs	No calls
June 15	2130	23 C partly cloudy	0	1	Rob Snetsinger	No calls
June 19	2110	18 C clear	0	1	Kaitlyn Closs	No Calls

Table 6. SAR snake monitoring based on MNRF (2016).

Date and Time Range	Time	Weather	Surveyors	Results
April 24	1310	20 C, sunny	Rob Snetsinger	No SAR snakes observed
April 29	1130	12 C, sunny	Rob Snetsinger	No SAR snakes observed
April 29	1130	12 C, sunny	Rob Snetsinger	No SAR snakes observed
May 1	950	15 C, partly overcast	Rob Snetsinger	No SAR snakes observed
May 3	940	12 C, partly overcast	Rob Snetsinger Kaitlyn Closs	No SAR snakes observed
June 18	2010	18 C, sunny	Kaitlyn Closs	No SAR snakes observed
June 20	2125	21 C, sunny	Kaitlyn Closs	No SAR snakes observed
June 22	2145	25 C, partly overcast	Kaitlyn Closs	No SAR snakes observed
June 30	1000	22 C, partly overcast	Dale Kristensen Rob Snetsinger	No SAR snakes observed
July 31	945	23 C, sunny	Rob Snetsinger	No SAR snakes observed

Table 7. Turtle nesting survey, based on MNRF (2015b).

Date and Time Range	Time	Weather	Wind Code	Surveyors	Results
June 15	2130	23 C partly cloudy	1	Rob Snetsinger1	No nesting turtles
June 18	2010	18 C clear	2	Kaitlyn Closs	No nesting turtles
June 19	2110	18 C, sunny	2	Kaitlyn Closs	No nesting turtles
June 20	2125	21 C, sunny	1	Kaitlyn Closs	No nesting turtles
June 22	2145	25 C, partly overcast	1	Kaitlyn Closs	No nesting turtles

Table 8 Pecks storage site avifauna list. Field work based on OBBA (2021), and Jobin et al. (2010).

Species	Species
Alder Flycatcher	Magnolia Warbler
American Crow	Mallard
American Goldfinch	Mourning Dove
American Robin	Northern Cardinal
Baltimore Oriole	Northern Harrier
Black-and-white Warbler	Pileated Woodpecker
Black-capped Chickadee	Pine Warbler
Blue Jay	Red-eyed Vireo
Canada Goose (flyover)	Red-shouldered Hawk (flyover)
Cedar Waxwing	Red-winged Blackbird
Chestnut-sided Warbler	Rose-breasted Grosbeak
Chipping Sparrow	Ruby-throated Hummingbird
Common Grackle	Scarlet Tanager
Common Yellowthroat	Song Sparrow
Downy Woodpecker	Swamp Sparrow
Eastern Kingbird	Tennessee Warbler
European Starling	Warbling Vireo
Gray Catbird	Yellow Warbler
Great Blue Heron (flyover)	Yellow-bellied Sapsucker
Great Crested Flycatcher	Yellow-billed Cuckoo
Hairy Woodpecker	Yellow-rumped Warbler
House Wren	