

Mr. Phil Thibert
Brigil
98 rue Lois
Gatineau, QC J8Y 3R7

January 10, 2020

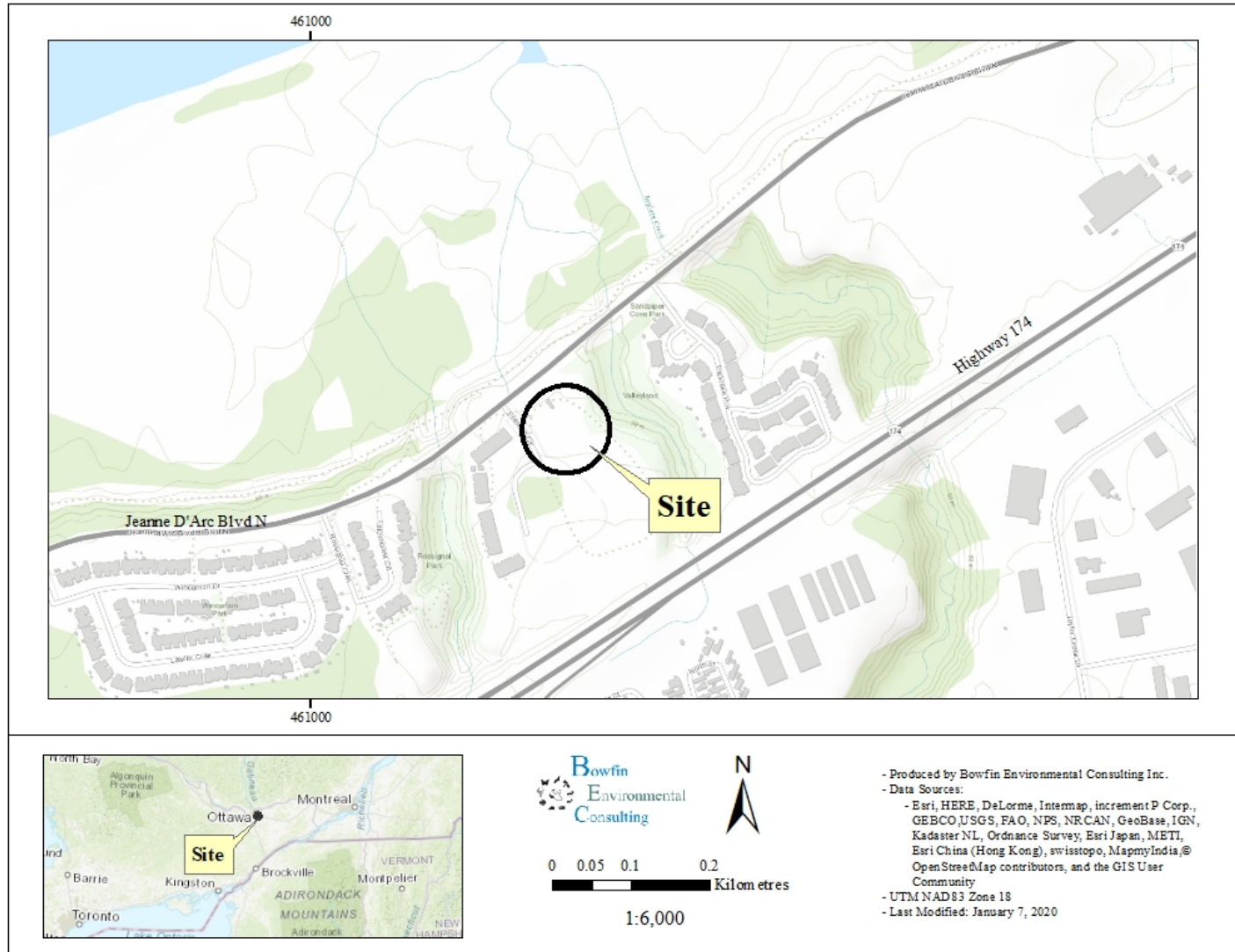
**Re.: UPDATED - Tree Conservation Report for Petrie Block 8 – 8466 Jeanne D’,
 Ottawa, Ontario**

Mr. Thibert:

Bowfin Environmental Consulting Inc. (Bowfin) was retained by Brigil, here after referred to as the proponent, to prepare a Tree Conservation Report for the proposed residential development situated at 8466 Jeanne D’Arc Boulevard North. This report follows the *City of Ottawa Tree Conservation Report Guidelines*. The field work was completed by Cody Fontaine who has his Fisheries and Wildlife Technology Degree and has 10 years of experience completing field work. Mr. Fontaine is also a certified Butternut Health Assessor (#723). The project and field work were overseen by Michelle Lavictoire who has a M.Sc in Natural Resource Sciences and over 20 years of experience in completing natural environment assessments. The intention of the report is to determine what woody vegetation should be retained and protected on site. In the paragraphs below, we have outlined the background and project description, field methodology and findings and recommendations.

BACKGROUND AND PROJECT DESCRIPTION

The subject lands are roughly 0.8 ha situated to the south of Jeanne D’Arc Boulevard North forming part of Lot 33 Concession 1 in the township of Ottawa/Cumberland (Figure 1). The proposal calls for the redevelopment of this parcel into residential apartments. As the property has already been cleared, there are no natural heritage features. The site was snow covered during the time of the visit however images suggest that it is mostly bare soil / gravel with some herbaceous vegetation. The site is bordered by Jeanne D’Arc Boulevard North to the north, Prestige Circles to the west, future development of Block 7 to the south and natural vegetation to the east. The topography is flat.



METHODOLOGY

One site visit was undertaken on January 8th, 2020 by Cody Fontaine. The weather conditions consisted of overcast skies and a light breeze. The air temperature ranged from -3°C in the morning to 1°C by early afternoon. The ground was snow covered. During this visit the individual trees were assessed and a description of the environmental value of the trees within the site and their ecological function recorded. The inventory took place on and within 10 m of the Site. The buffer of 10 m was chosen as the diameter-at-breast-height (dbh) of most trees were less than 30 cm and the critical root zone, as defined by the City, is 10x the dbh (as such a crz of 3 m would be sufficient to protect most individuals). The additional distance was used as a buffer because the accuracy of the hand-held GPS is typically ± 3 m. Larger individuals noted further than 10 m from the site were also inventoried. Information collected on the individual trees included:

- Their location (GPS coordinates, NAD83);
- Height of the individual;
- Identified to species for native specimens;
- Diameter at breast height (dbh);
- Presence/absence of Butternuts; and
- Health (Note: The visit took place in winter, assessment of health was made based on the condition of the twigs and bark on the tree).

This information is appended at the end of this letter and the locations of the individual trees are shown on Figure 2.

Nomenclature used in this report follows the Southern Ontario Plant List (Bradley, 2007) for both common and scientific names which are based on Newmaster *et al.* (1998). Authorities for scientific names are given in Newmaster *et al.* (1998).

EXISTING CONDITIONS

The Site was disturbed with a few individual trees. The disturbances stemmed from clearing of vegetation, and construction activities (i.e. stockpiles). The adjacent lands to the west and south of the property contained residential/apartment buildings with Prestige Circle bordering the western edge. Jeanne D'Arc Boulevard bordered the northern edge of the site. Information on the vegetation communities collected in fall of 2015 is appended to this letter.

There was a total of 55 trees with a DBH greater than 10 onsite or near. The majority of the trees had a dbh <30 cm. Three larger trees were noted: Tree 43 (white oak, 64 cm), Tree 50 (bur oak, 95 cm) and Tree 54 (white pine, 83 cm). The most common species were: American elm, bur oak and white ash. A summary of these is provided in Table 1. Details are appended to this

letter (Table 2). Most of the trees were healthy however there were a few trees that have fallen over or have some twig dieback.

Table 1: Summary of Individual Trees On-site

Species	Count	Size Range (DBH in cm)	Height Range (m)	No. Live	No. Unhealthy	No. Dead
American elm	24	10-24	1-12	16	1	7
Bur oak	23	11-95	6-15	21	2	0
White ash	6	10-40	4-13	5	0	1
White Pine	1	83	15	1	0	0
Unknown (dead)	1	20	3	0	0	1
Total	55	10-95	1-15	43	3	9

The following were not present on site:

- Surface water features (i.e. wetlands or watercourses) (adjacent to, but not on-site)
- Steep slopes (i.e. valleys or escarpments) (adjacent to but not on-site)
- Valued woodlots
- Greenspace linkages
- High quality, specimen trees
- Rare communities or unique ecological features
- Species at Risk or their habitat
-



Photo 1: Looking north from the center of the Site (January 8, 2020)



Photo 2: Looking east from the center of the Site (January 8, 2020)

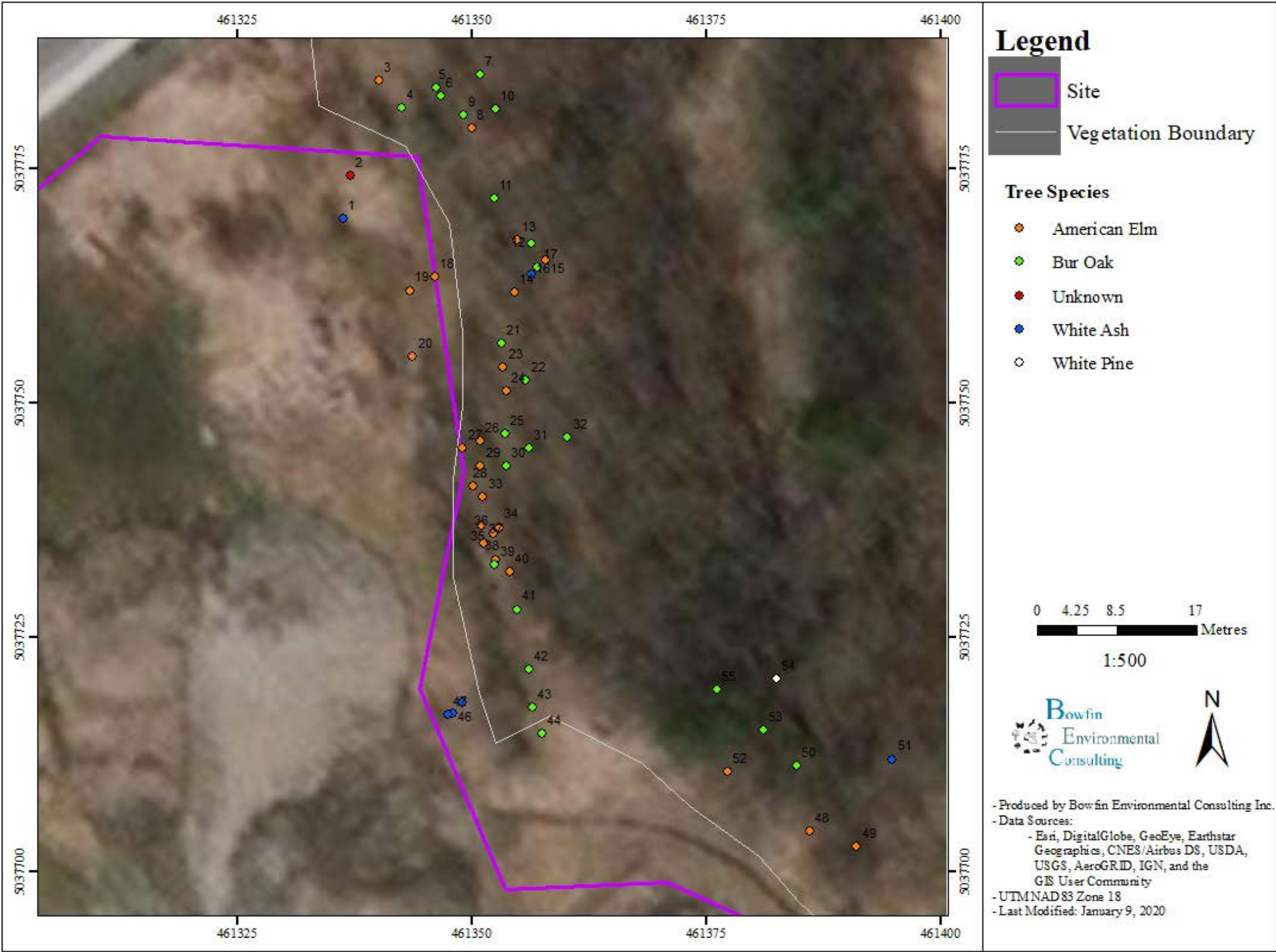


Photo 3: Looking south from the center of the Site (January 8, 2020)



Photo 4: Looking west from the center of the Site (January 8, 2020)

Figure 2: Location of Trees (≥10 cm)



RECOMMENDATIONS

Summary of Findings

This development (approximately 0.8 ha) is found at Lot 33 Concession 1 in the township of Ottawa/Cumberland. The Site was a cultural meadow with a few (6 trees ≥ 10 cm). A deciduous forest was situated in the adjacent lands to the east. No Species at risk or water features were noted.

The most common tree species were American elm, bur oak and white ash. Most of the trees were healthy with the exception of few broken trees or individuals showing twig dieback. All but three specimens have a dbh under 60 cm. These larger trees were concentrated at the southeast end outside of the 10 m adjacent lands.

All six trees within the site will be removed (Figure 3). These were individuals were: Tree 1 (white ash, dbh 15 cm), Tree 2 (unknown, dbh 20 cm), Tree 18 (American elm, dbh 12 cm), Tree 19 (American elm, 18 cm), Tree 20 (American elm, dbh 23 cm) and Tree 27 (American elm, dbh 20 cm). Of these, the unknown and three elms were dead (individuals 2, 18, 19 and 27).

There are also five trees whose critical root zone (crz) (defined by the City of Ottawa as 10x the dbh) was in or immediately next to the edge of the development [individuals 25 (bur oak, dbh 36 cm), 28 (American elm, dbh 15 cm), 29 (American elm, dbh 16 cm – dead), 33 (American elm, dbh 19 cm) and 47 (white ash, dbh 11 cm)]. To prevent harming of these additional trees it is recommended that the snow fencing (see mitigation measures) be brought in, away from the crz in the two locations. The locations in question are seen on Figure 4. It is recommended that the clearing of trees, grading and infilling be limited to the area fenced (see below) to prevent root damage to trees meant to be left in place. Table 2 and Figure 3 show which trees will be removed and which will be retained.

Mitigation measures:

- A tree permit is needed before trees can be removed from site.
- Sturdy fencing will be installed on the edge of the Site, which is outside of the Critical Root Zone (crz) (defined by the City as 10 x the DBH) of the adjacent trees, for almost all of the trees to be retained. There are two locations where the crz of trees to be retained infringes into the Site. In these locations, the fence will be brought in slightly (1-2 m) to ensure that the crz of all trees ≥ 10 cm offsite is protected. To ensure that this measure is followed, the surveying of this portion of the snow fence will be verified by a biologist or arborist prior to the installation of the fence.

- The need of a sturdy snow fence around the Site, with special notes highlighting the two locations where the fence must be adjusted to protect the crz, will be clearly noted on the site plans.
- No work, including clearing of vegetation, grading, use of heavy machinery etc., will take place outside of the area delineated with snow fencing.
- Furthermore, no machinery maintenance or refueling or stockpiling is permitted within 5 m of this fencing.
- Exhaust fumes from all equipment will be directed away from the canopy of the trees to be retained.
- If roots of trees to be retained become exposed during site alterations, they will be buried immediately with soil or covered with filter cloth or woodchips and kept moist until the roots can be buried permanently.
- Any roots that must be cut will be cut cleanly to allow for healing.
- No signs, notices or posters should be attached to any trees;
- The removal of vegetation should occur outside of the breeding bird window (April 1st to August 15th, inclusive) unless a biologist walks the site no earlier than 2 days prior to the clearing activities and confirms that no nesting is occurring. Since these are individual trees within an open and developed area it is possible to accurately search for nests without disturbing active nests.
- The removal of trees should also avoid the active bat season (May-September). Precaution for bats can include bat exit survey or shaking trees prior to cutting them down.
- Any landscape plans should include native species as much as possible various species could be used including: sugar maple, American basswood and white spruce.

Figure 3: Identification of Trees to be Removed/Retained

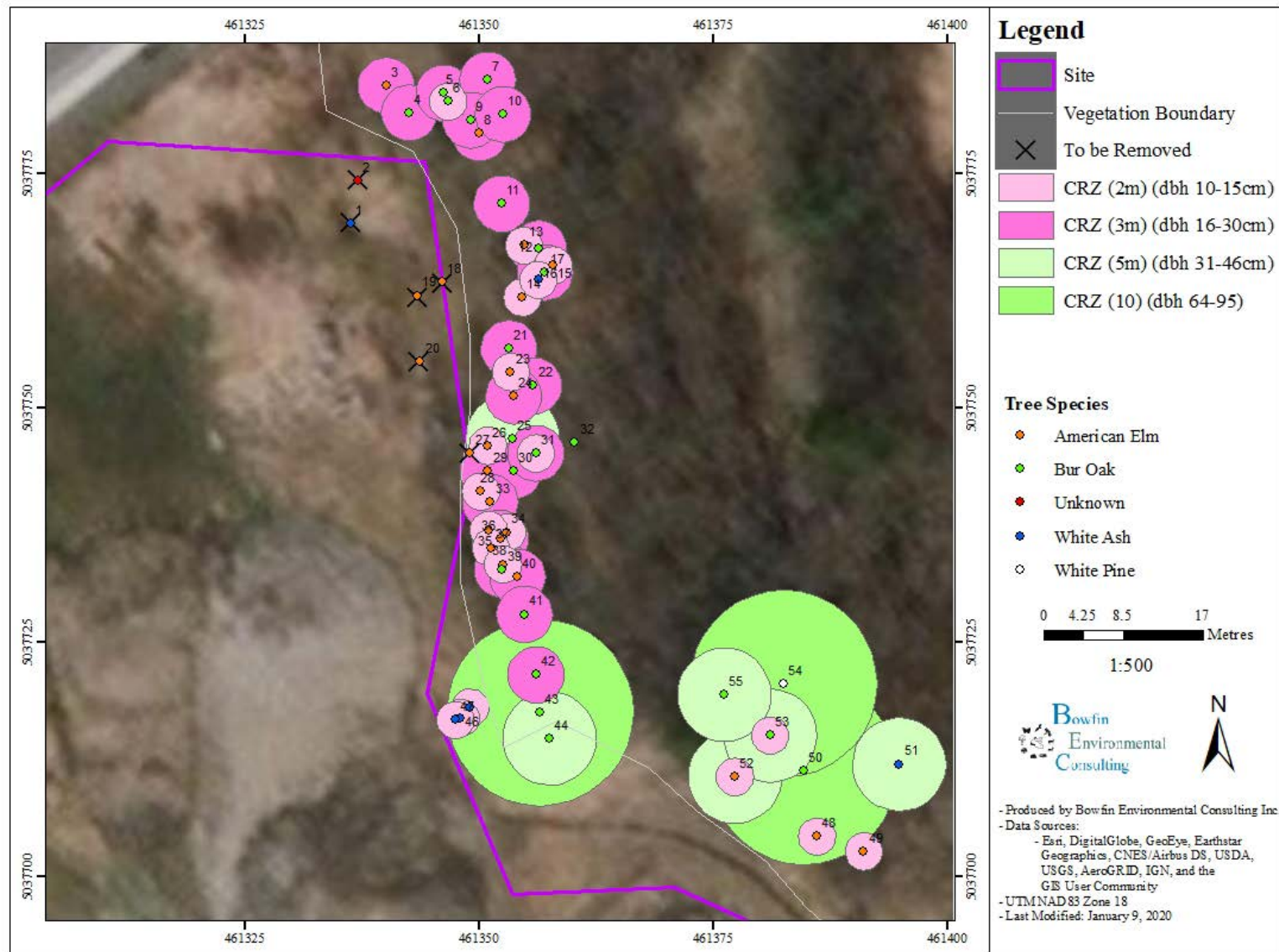
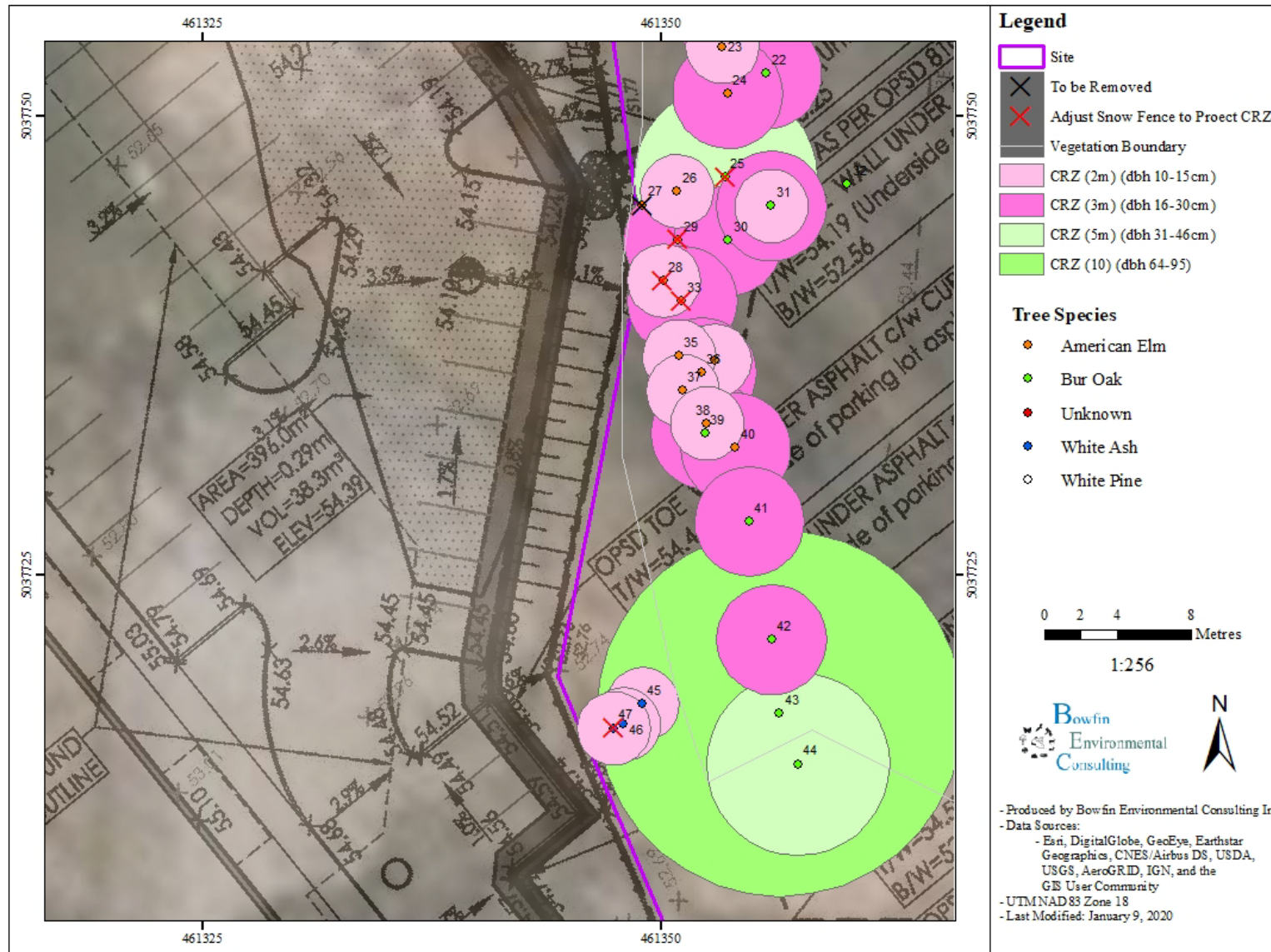


Figure 4: Trees whose CRZ are in or on Edge of the Site



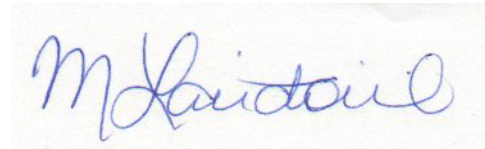
Concluding Statement

No trees requiring retention were identified within the Site.

I trust that this report will meet your requirements. Should you have any questions or comments, please contact the undersigned.

Sincerely,

Bowfin Environmental Consulting Inc.



Michelle Lavictoire,
Biologist / Principal

References

Bradley, David. 2007. Southern Ontario Vascular Plant Species List. Prepared by Southern Science and Information Section, Ontario Ministry of Natural Resources, Peterborough, Ontario. 57pp.

Newmaster, S.G., A. Lehela, P.W.C Uhlig, S. McMurray and M.J. Oldham. (1998). Ontario plant list. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, ON, Forest Research Information Paper No. 123. 550 pp. + appendices.

Official Plan of the City of Ottawa. 2009.

Table 2: Individual Tree Details

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Ownership	To be Removed (Y/N)	Comments
Individual Trees								
1	White Ash	18 T 461336 5037770	15	7	Good	Brigil	Y	Many epicormic shoots along main stem
2	Unknown	18 T 461337 5037774	20	3	Dead	Brigil	Y	Broken at 3m
3	American Elm	18 T 461340 5037784	20	8	Good	City of Ottawa	N	
4	Bur Oak	18 T 461342 5037782	30	7	Good	City of Ottawa	N	2 stems
5	Bur Oak	18 T 461346 5037784	17	7	Good	City of Ottawa	N	
6	Bur Oak	18 T 461347 5037783	14	7	Good	City of Ottawa	N	
7	Bur Oak	18 T 461351 5037785	27	9	Good	City of Ottawa	N	
8	American Elm	18 T 461350 5037779	17	10	Good	City of Ottawa	N	
9	Bur Oak	18 T 461349 5037781	27	11	Good	City of Ottawa	N	
10	Bur Oak	18 T 461352 5037781	19	9	Good	City of Ottawa	N	

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Ownership	To be Removed (Y/N)	Comments
11	Bur Oak	18 T 461352 5037772	22	9	Good	City of Ottawa	N	
12	Bur Oak	18 T 461356 5037767	25	11	Good	City of Ottawa	N	
13	American Elm	18 T 461355 5037767	10	8	Good	City of Ottawa	N	
14	American Elm	18 T 461355 5037762	13	8	Dead	City of Ottawa	N	
15	American Elm	18 T 461358 5037765	15	3	Dead	City of Ottawa	N	Broken at 3m
16	White Ash	18 T 461356 5037764	11	4	Dead	City of Ottawa	N	Broken at 4m
17	Bur Oak	18 T 461357 5037764	25	10	Good	City of Ottawa	N	3 stems
18	American Elm	18 T 461346 5037763	12	3	Dead	Brigil	Y	Broken at 3m
19	American Elm	18 T 461343 5037762	18	1	Dead	Brigil	Y	Broken at 2m
20	American Elm	18 T 461344 5037755	23	8	Good	Brigil	Y	2 stems
21	Bur Oak	18 T 461353 5037756	20	7	Good	City of Ottawa	N	
22	Bur Oak	18 T 461356 5037752	17	8	Good	City of Ottawa	N	

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Ownership	To be Removed (Y/N)	Comments
23	American Elm	18 T 461353 5037754	11	8	Good	City of Ottawa	N	
24	American Elm	18 T 461354 5037751	16	10	Good	City of Ottawa	N	
25	Bur Oak	18 T 461354 5037747	36	10	Good	City of Ottawa	N	2 stems
26	American Elm	18 T 461351 5037746	14	8	Poor	City of Ottawa	N	Some bark peeling off
27	American Elm	18 T 461349 5037745	20	1	Dead	Brigil	Y	Broken at 1m
28	American Elm	18 T 461350 5037741	15	7	Good	City of Ottawa	N	
29	American Elm	18 T 461351 5037743	16	2	Dead	City of Ottawa	N	Broken at 2m
30	Bur Oak	18 T 461354 5037743	24	10	Good	City of Ottawa	N	
31	Bur Oak	18 T 461356 5037745	11	6	Poor	City of Ottawa	N	Some twig dieback
32	Bur Oak	18 T 461360 5037746	25	8	Poor	City of Ottawa	N	Some twig dieback, 2 stems
33	American Elm	18 T 461351 5037740	19	8	Good	City of Ottawa	N	
34	American Elm	18 T 461353 5037737	12	8	Good	City of Ottawa	N	

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Ownership	To be Removed (Y/N)	Comments
35	American Elm	18 T 461351 5037737	14	2	Dead	City of Ottawa	N	Broken at 2m
36	American Elm	18 T 461352 5037736	27	9	Good	City of Ottawa	N	2 stems
37	American Elm	18 T 461351 5037735	11	7	Good	City of Ottawa	N	
38	American Elm	18 T 461353 5037733	12	8	Good	City of Ottawa	N	
39	Bur Oak	18 T 461352 5037733	28	8	Good	City of Ottawa	N	3 stems
40	American Elm	18 T 461354 5037732	24	12	Good	City of Ottawa	N	
41	Bur Oak	18 T 461355 5037728	25	8	Good	City of Ottawa	N	
42	Bur Oak	18 T 461356 5037721	23	8	Good	City of Ottawa	N	
43	Bur Oak	18 T 461356 5037717	64	10	Good	City of Ottawa	N	3 stems
44	Bur Oak	18 T 461357 5037715	34	10	Good	City of Ottawa	N	4 stems
45	White Ash	18 T 461349 5037718	10	6	Good	City of Ottawa	N	
46	White Ash	18 T 461348 5037717	10	6	Good	City of Ottawa	N	

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Ownership	To be Removed (Y/N)	Comments
47	White Ash	18 T 461347 5037717	11	5	Good	City of Ottawa	N	
48	American Elm	18 T 461386 5037704	11	6	Good	City of Ottawa	N	
49	American Elm	18 T 461391 5037703	14	7	Good	City of Ottawa	N	
50	Bur Oak	18 T 461385 5037711	95	15	Good	City of Ottawa	N	
51	White Ash	18 T 461395 5037712	40	13	Good	City of Ottawa	N	Some twig dieback
52	American Elm	18 T 461377 5037711	10	5	Good	City of Ottawa	N	
53	Bur Oak	18 T 461381 5037715	46	14	Good	City of Ottawa	N	
54	White Pine	18 T 461383 5037720	83	15	Good	City of Ottawa	N	2 stems. 57 DBH stem good health, 61 DBH stem dead/broken at 5m with many cavities
55	Bur Oak	18 T 461376 5037719	41	14	Good	City of Ottawa	N	

Vegetation Description from 2015

The 2015 findings indicated that the Site consisted of a cultural meadow. Portions of the site had been cleared previously and used for temporary staging during the construction of other phases. The adjacent lands to the south formed part of this same community. West of the site is now developed as part of other phases. The forest along the ravine, next to Block 8, consisted of Fresh-Moist Bur Oak Deciduous Forest. The community boundaries are based on satellite image interpretation.

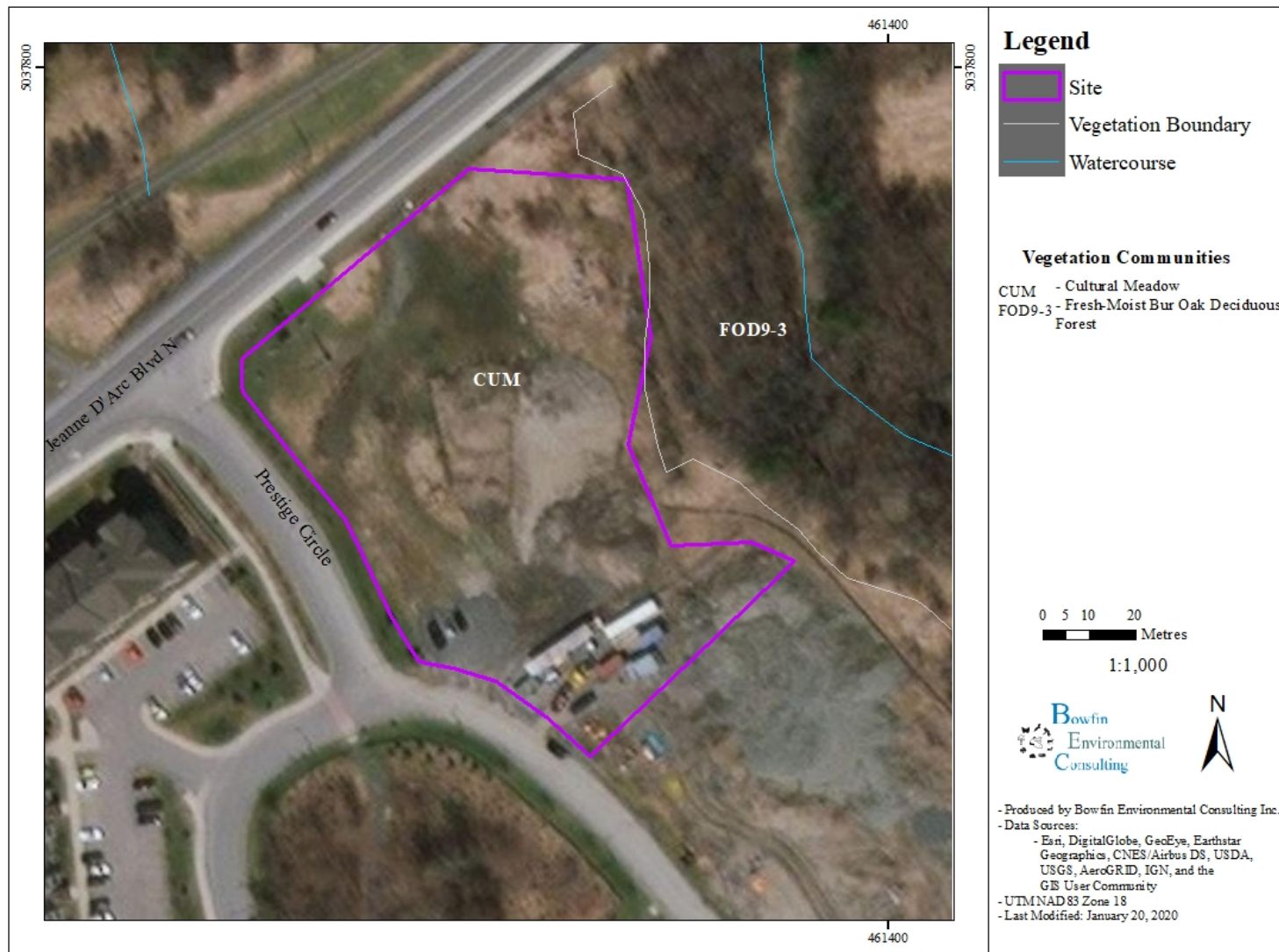
Cultural Meadow (CUM)

This community was present throughout the Site and continued south until Highway 174. The community was highly disturbed with storage containers, discarded garbage, gravel pads and spoil piles. The dominant layer was the ground cover (100% cover) which was characterized by reed canary grass, Canada goldenrod, late goldenrod, and rough goldenrod. The canopy (5-6 m tall; provided 2% cover) consisted of: white ash (average dbh 10 cm) which was more common than American elm (average dbh 12 cm). The sub-canopy (2-3 m tall; 5% cover) was dominated by Manitoba maple which was more common than staghorn sumac, common buckthorn or white ash. The understory (1 m tall; 10% cover) consisted of: wild red raspberry followed by purple flowering raspberry and black raspberry.



Photo 5: Cultural Meadow (September 22, 2015)

Figure 5: Vegetation Communities (2015)



Fresh- Moist Bur Oak Deciduous Forest (FOD9-3)

This deciduous community was found within the eastern side of the adjacent lands. It was composed of 95% tree cover which included 5% coniferous trees. This forested community was present on a steep ravine. The canopy was 13-15 m tall and provided 40% canopy cover. The dominant species was bur oak (95%, average dbh 15 cm) which was much more abundant than white pine (5%, average, dbh 45 cm). The sub-canopy (8-10 m tall; 60% cover) was still strongly vegetated with bur oak followed by white ash, white birch, American basswood and trembling aspen. The understory (1-3 m tall; 30% cover) was composed of: white ash, Tartarian honeysuckle, and common buckthorn. The ground layer (40% cover) included: large-leaved aster, common strawberry, and northern lady fern. The bottom of the ravine was vegetated with reed canary grass.



Photo 6: Fresh- Moist Bur Oak Deciduous Forest (FODM9-4) (September 22, 2015)



Photo 7: Reed Canary Grass in the bottom of Ravine (September 22, 2015)