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TECHNICAL MEMORANDUM

To: Paul Ecker
EES Environmental Consultants, Inc.
240 N. Broadway, Suite 203
Portland, OR 97227

From: Tom Dee, PWS, CERP

Date: March 15, 2019

Re: **Plaid Pantry #112 Terrestrial Ecological Evaluation / SWCA Project No. 54211**

INTRODUCTION

SWCA Environmental Consultants (SWCA) conducted a Terrestrial Ecological Evaluation (TEE) on March 5, 2019 at Plaid Pantry Store #112 (site), located at 1002 W Fourth Plain Boulevard, Vancouver, WA 98660. The TEE included desktop analysis and direct observations of the undeveloped land within 500 feet of the site.

TERESTRIAL ECOLOGICAL EVALUATION

Desktop Analysis

The desktop analysis consisted of reviewing aerial photographs in Google Earth to determine the extent of contiguous undeveloped land within 500 feet of the site. Contiguous undeveloped land is defined under Washington Administrative Code 173-340-7491 as:

“land that is not divided into smaller areas by highways, extensive paving or similar structures that are likely to reduce the potential use of the overall area by wildlife. Roads, sidewalks and other structures that are unlikely to reduce potential use of the area by wildlife shall not be considered to divide a contiguous area into smaller areas.”

Undeveloped land is defined under the same code as:

“land that is not covered by buildings, roads, paved areas or other barriers that would prevent wildlife from feeding on plants, earthworms, insects or other food in or on the soil.”

The desktop analysis resulted in 3.48 acres of contiguous undeveloped land within 500 feet of the site (Figure 1).

Habitat Evaluation

A habitat evaluation was conducted on March 5, 2019, by botanist and wetland ecologist, Tom Dee (Professional Wetland Scientist and Certified Ecological Restoration Practitioner).

Mr. Dee recorded observations on plant composition and wildlife sightings from public right-of-ways surrounding the contiguous undeveloped land. A list of plant species observed is provided in Appendix A and photographs are provided in Appendix B. The Habitat Rating System presented in Table 749-1 of the TEE form was used to determine the quality of the habitat of the contiguous undeveloped land. Table 749-1 of the TEE has been completed by SWCA and is provided in Appendix C.

The habitat evaluation resulted in a “low” habitat rating. The “low” rating is defined as:

“Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.”

The plant community was dominated by noxious and non-native species such as tree of heaven (*Ailanthus altissima*), Himalayan blackberry (*Rubus armeniacus*), chicory (*Cichorium intybus*), Queen Anne’s lace (*Daucus carota*), and tall fescue (*Schedonorus arundinaceus*). Not a single native plant was observed during the habitat evaluation.

Question 3 in Table 749-1 asks “Is the undeveloped land likely to attract wildlife?” The qualifiers for this question listed below the table include the statement:

“Indicate “yes” if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use by mammals (tracks, scat, etc.); habitat “island” in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.”

The blackberry thickets present within the contiguous undeveloped land provide habitat that may be visited by birds for feeding or for cover, although the frequency of such visits cannot be determined in one site visit. Wildlife observed during the habitat evaluation included two California scrub jays (*Aphelocoma californica*) and one sparrow (*Passerellidae* sp.). No evidence of mammal usage was observed, and the contiguous undeveloped land does not provide a habitat island.

Based on this finding, and the table in Appendix C, the simplified evaluation may be ended.

PREPARED BY:



Tom Dee, PWS, CERP
Botanist/Wetland Ecologist

REVIEWED BY:



C. Mirth Walker, PWS
Senior Wetland Scientist

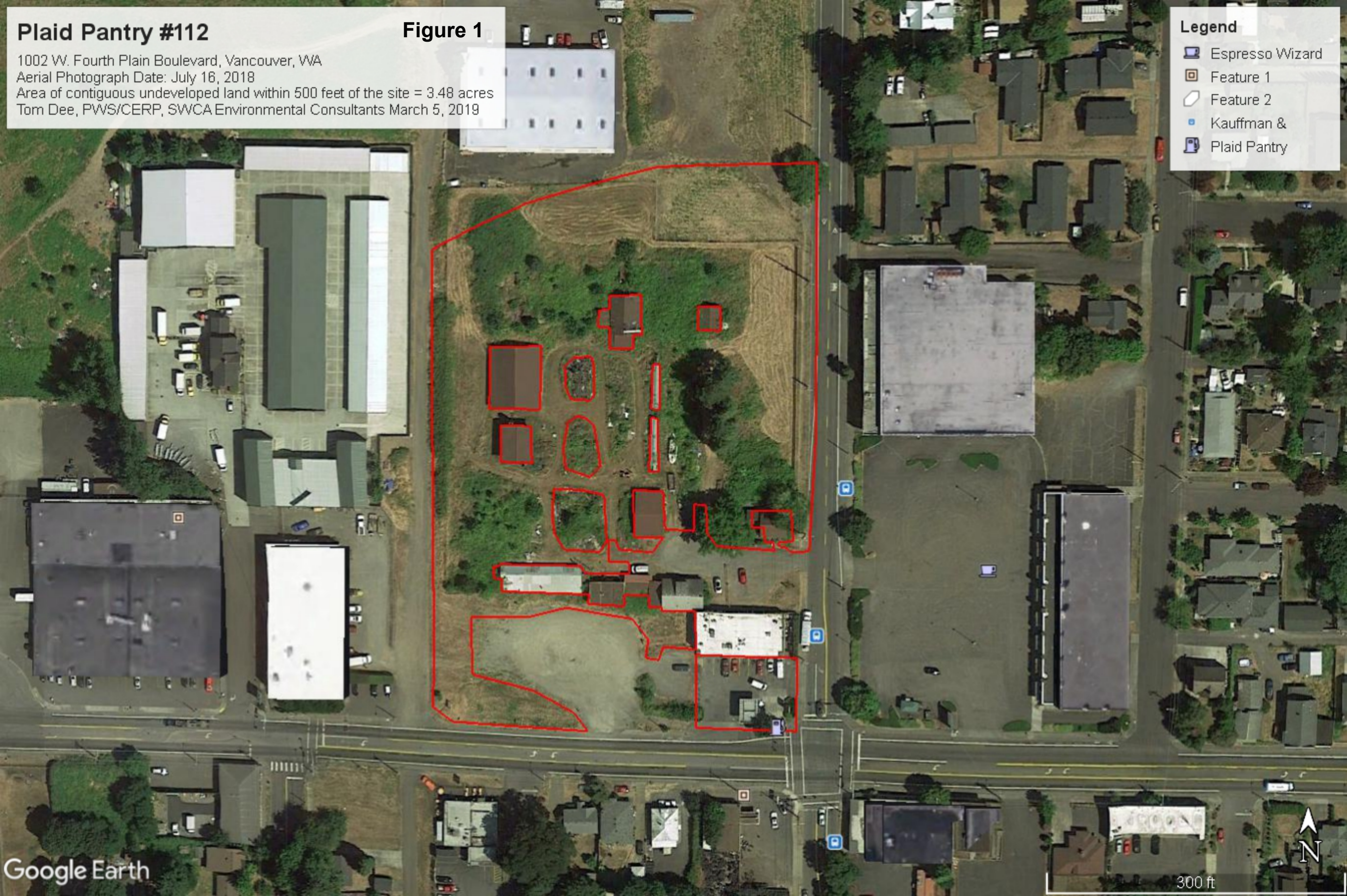
Plaid Pantry #112

1002 W. Fourth Plain Boulevard, Vancouver, WA
Aerial Photograph Date: July 16, 2018
Area of contiguous undeveloped land within 500 feet of the site = 3.48 acres
Tom Dee, PWS/CERP, SWCA Environmental Consultants March 5, 2019

Figure 1

Legend

- Espresso Wizard
- Feature 1
- Feature 2
- Kauffman &
- Plaid Pantry



APPENDIX A

Plant List

Plaid Pantry #112 Vegetation List March 5, 2019			
Common Name	Scientific Name	Wetland Indicator Status	Native, Non-native, and Noxious
tree-of-heaven	<i>Ailanthus altissima</i>	FACU	noxious
field meadow-foxtail	<i>Alopecurus pratensis</i>	FAC	non-native
chicory	<i>Cichorium intybus</i>	FACU	non-native
orchard grass	<i>Dactylis glomerata</i>	FACU	non-native
Queen Anne's-lace	<i>Daucus carota</i>	FACU	non-native
hairy cat's-ear	<i>Hypochaeris radicata</i>	FACU	non-native
English holly	<i>Ilex aquifolium</i>	FACU	non-native
English plantain	<i>Plantago lanceolata</i>	FACU	non-native
English laurel	<i>Prunus laurocerasus</i>	NOL	non-native
Himalayan blackberry	<i>Rubus armeniacus</i>	FAC	noxious
tall fescue	<i>Schedonorus arundinaceus</i>	FAC	non-native

Wetland Indicator Status and taxonomy for the Western Mountains, Valleys, and Coast Region per the National Wetland Plant List 2
Accessed May 3, 2016. <http://rsgisias.crrel.usace.army.mil/NWPL/>

Native per Hitchcock & Cronquist 1973 and <http://plants.usda.gov/>

Noxious per Washington State Noxious Weed Board 2019:

<https://www.nwcb.wa.gov/printable-noxious-weed-list>

WETLAND INDICATOR STATUS (WIS)	
OBL	Obligate Wetland Plant – Almost always occurs in wetlands (hydrophyte), rarely in uplands
FACW	Facultative Wetland Plant - Usually occur in wetlands (hydrophyte), but may occur found in non-wetlands
FAC	Facultative Plant – Occurs in wetlands (hydrophyte) and uplands (nonhydrophyte)
FACU	Facultative Upland Plant - Usually occur in non-wetlands (non-hydrophyte), but may occur in wetlands
UPL	Upland Plant - Almost always occurs in uplands (non-hydrophyte), almost never occurs in wetlands. UPL plants have a WIS in other regions
NOL	Not Listed - Plants that are not on the National Wetland Plant List are assumed to be UPL and have no WIS in any region

APPENDIX B

Photographs



Contiguous undeveloped land looking southwest.



Contiguous undeveloped land looking west.



Contiguous undeveloped land looking east.



Contiguous undeveloped land looking northeast.



Contiguous undeveloped land (in background) looking northwest.



Contiguous undeveloped land looking west.



Contiguous undeveloped land looking northeast.



Contiguous undeveloped land looking east.

APPENDIX C

Table 749-1

Table 749-1

Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).																						
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.																						
	<table border="1"> <thead> <tr> <th>Area (acres)</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>0.25 or less</td> <td>4</td> </tr> <tr> <td>0.5</td> <td>5</td> </tr> <tr> <td>1.0</td> <td>6</td> </tr> <tr> <td>1.5</td> <td>7</td> </tr> <tr> <td>2.0</td> <td>8</td> </tr> <tr> <td>2.5</td> <td>9</td> </tr> <tr> <td>3.0</td> <td>10</td> </tr> <tr> <td>3.5</td> <td>11</td> </tr> <tr> <td>4.0 or more</td> <td>12</td> </tr> </tbody> </table>	Area (acres)	Points	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	11
Area (acres)	Points																					
0.25 or less	4																					
0.5	5																					
1.0	6																					
1.5	7																					
2.0	8																					
2.5	9																					
3.0	10																					
3.5	11																					
4.0 or more	12																					
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1		3																				
3) ^a Enter a score in the box to the right for the habitat quality of the site, using the following rating system ^b . High=1, Intermediate=2, Low=3		3																				
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. ^c		2																				
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.		4																				
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.		12																				

Notes for Table 749-1

^a It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

^b **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

Low: Early [successional](#) vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.

High: Area is ecologically significant for one or more of the following reasons: Late-[successional](#) native plant communities present; relatively high species diversity; used by an uncommon or rare species; [priority habitat](#) (as defined by the Washington Department of fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.

Intermediate: Area does not rate as either high or low.

^c Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use b mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

[\[Area Calculation Aid\]](#) [\[Aerial Photo with Area Designations\]](#) [TEE Table 749-1] [\[Index of Tables\]](#)

[\[Exclusions Main\]](#) [\[TEE Definitions\]](#) [\[Simplified or Site-Specific?\]](#) [\[Simplified Ecological Evaluation\]](#) [\[Site-Specific Ecological Evaluation\]](#) [\[WAC 173-340-7493\]](#)

[\[TEE Home\]](#)