



IKEA Polaris Tree Preservation and Mitigation Report

15345-272 1900 Ikea Way
Columbus, Franklin County, Ohio

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Introduction

Study Area Description and Location

The approximately 8.1-acre study site is located in Columbus, Franklin County, Ohio. The property is bounded on the west by I-71, on the south by the Gemini Place, and is located south of a residential development. The property contains successional woods, upland old fields, mowed fields, and two small forested wetlands.

Stream 1, a perennial stream, enters the site through a pipe outlet in the northwest corner of the site and drains east and south through the property. Two small intermittent streams enter the site from the southwest. These streams outlet into Stream 1 and continue to flow southeast, off site.

Site Assessment and Restoration Recommendations

The health of all forested areas at the proposed IKEA site was assessed during the November 12, 2015 survey completed by Davey Resource Group. Area P1 (“Northern Tree Area”) on the map in Appendix D (north of the detention pond and west of the proposed landscape screening planting) contains mostly *Robinia pseudoacacia* (black locust trees) and dense honeysuckle cover. The health of this area can be improved by treating *Lonicera maackii* (Amur honeysuckle) to prevent further spread of this species, allowing for increased species diversity in this area. There are also many openings in this area that can be supplemented with large caliper trees should additional mitigation areas be needed.

The ‘Southern Tree Area’ was divided into three separate sections—P2, P3, and P4—shown on the map in Appendix D. The center section, P3, was found to be the highest quality habitat of all areas surveyed. This area contains a healthy forest stand, with many large, mature tree species. It also has the lowest occurrence of non-native, invasive vegetation, providing a more open understory. This area will be preserved as is, with no tree removals to occur.

Areas P2 and P4 are in fair condition and contain a variety of mature trees as well, but also have trees in poor condition and contain moderate to dense populations of honeysuckle. Soil disturbance can cause increased population densities of this and other non-native, invasive species. These shrubs should be treated to improve the overall health, function, and success of the forested area, as well as to prevent further spread. Treatments would ideally be completed prior to any tree removals, and would likely require at least two additional treatments following tree removals to fully control the population. Maintenance treatments should be completed every two or three years following development of the site to prevent this species from becoming reestablished.

It is good forest management practice to include a wide range of tree ages in a stand to maintain forest health and canopy cover. It is ideal to preserve both large, mature trees and younger trees, in addition to planting smaller trees and shrubs. This will provide an aesthetically appealing property, as well as a healthy, diverse forest structure.

Davey Resource Group recommends that any existing young, low-growing, healthy trees be preserved within the designated clearing area (P4). Existing native tree species such as *Aesculus glabra* (Ohio buckeye), *Asimina triloba* (paw-paw), and *Ostrya virginiana* (hophornbeam) are naturally low-growing trees that should be preserved within these areas. These trees will be at or reach maturity before planted trees, and can also be limbed, if necessary, to help train their growth patterns and maintain visibility. This approach will increase the overall number of trees preserved, while allowing for the desired line of site from the roadways, and reducing the number of trees required for mitigation.

Following clearing activities in P4, Davey Resource Group suggests supplementing the existing canopy species with understory tree and shrub species to curtail invasive species encroachment, large canopy tree reestablishment, and further enhance the riparian corridor along the stream. Species such as *Amelanchier laevis* (Allegheny serviceberry), *Carpinus caroliniana* (American hornbeam), *Cercis canadensis* (eastern redbud), *Hamamelis virginiana* (American witchhazel), and *Staphylea trifolia* (American bladdernut) are recommended. Smaller stock, such as 3- to 5-gallon containers, should be used for planting within the existing forested areas to avoid disturbing existing tree roots and soils. These can be planted in addition to the required larger caliper, balled and burlapped trees, which will be planted in the open areas (P1, P2b, P3b, and P4) surrounding the forested areas to fulfill the mitigation requirements.

Finally, the stream and riparian areas were found to be in good overall health, with many fish noted in the stream. However, some sections of the streambank are eroded and should be stabilized to maintain the existing bank and prevent loss of preserved and planted trees along the riparian zone. Restoration recommendations for the stream include installation of 10 Modified Newbury riffle grade control structures, 5 bendway weirs, and approximately 650 native live-stakes and bare-root stock (in-stream structure typical can be found in Appendix E). The grade-control structures are constructed of large stones that span the stream and are keyed into the banks; these structures help slow the flow of water and prevent further erosion. Bendway weirs are similar, but are keyed into only one bank and span no more than half the stream width to help redirect flow away from compromised banks. Finally, live-stakes and bare-root stock will be used to establish native, woody vegetation along the streambank, which will provide soil stabilization and shade to the stream.

Tree Preservation and Mitigation Plan

All trees proposed for removal are restricted to area P4 on the map in Attachment D. As part of the mitigation plan development, a list of the trees to be removed have been provided with their DBH, species, and condition (Appendix A). A total of 390 trees, having a DBH of at least 3 inches, have been identified for removal; this includes 38 dead or critical trees, 3 of which are *Fraxinus* sp. (ash species) in fair to good condition. The mitigation ratios set forth by the City of Columbus were used to calculate the total number of trees required to be planted as mitigation for the planned tree removals, which are shown in Table 1 below. The total required number of mitigation trees using this protocol was calculated at 407 trees. Any trees found to be dead, or in poor or critical condition during the November 2015 survey, were not counted toward this total, as their removal is planned only to protect the remaining established and planted trees from damage when these trees naturally fall. The 3 ash trees in fair to good condition were also not counted in the mitigation due to the current emerald ash borer infestation indicated by surrounding dead ash; these trees are unlikely to survive naturally beyond the next few seasons. All removal trees are shown on the map in Appendix D.

Table 1. City of Columbus Tree Replacement Requirements

DBH	Mitigation Ratio
3 up to 12 inches	1:1
12 up to 18 inches	2:1
18 up to 24 inches	3:1
24 up to 30 inches	4:1
30 inches and over	5:1

In addition, data for trees within two existing forested areas, which have been designated for use as mitigation in place of replanting, were collected and have been compiled including their DBH, species, and condition. A total of 135 preservation trees were recorded (Appendices B and C). These preservation trees are found within area P1 ('Northern Tree Area'), north of the detention pond and west of the proposed landscape screening planting, and on an adjacent property east of northeast corner of the IKEA parcel (Appendix F). The DBH data were used to designate the mitigation ratios for each preservation tree, using the same protocol used for the tree removals (Table 1). Again, trees found to be dead, or in poor or critical condition, were not counted as mitigation trees. Further, non-native tree species were not included as mitigation credits. Using the City of Columbus provided protocol, a total of 235 mitigation credits were calculated from the preservation tree areas.

The calculated total of mitigation credits (using the city provided guidelines) for the preservation trees was deducted from the total number of mitigation trees required for the trees to be removed for a total of 172, 2.5-inch caliper native trees to be planted on site. These large caliper trees will be planted primarily in the open areas (P1, P2b, and P3b) shown on the map in Appendix D. Additional trees will be planted where appropriate within the existing forested area in P4, at the southern end of the property. Recommended species can be found in Table 2 below. The species will be planted in appropriate areas according to their mature height. Areas P1 and P3b will be planted using small-growing trees and shrubs, as well as large-growing canopy trees. The remaining areas will only be planted with naturally low-growing trees (under 25 feet at maturity) to maintain visibility. The proposed planting locations and densities can be seen in the map (Appendix D).

Table 2. Proposed Native Tree and Shrub Species to be Planted

Latin Name	Common Name	Planting Size	Height (ft)	Planting Area
<i>Acer rubrum</i>	red maple	2.5" caliper	30' - 45'	P1, P3b
<i>Aesculus flava</i>	yellow buckeye	2.5" caliper	60' - 75'	P1, P3b
<i>Aesculus glabra</i>	Ohio buckeye	2.5" caliper/ 3-5 gallon	20'-40'	P1, P3b
<i>Amelanchier laevis</i>	Allegheny serviceberry	2.5" caliper/ 3-5 gallon	20' - 25'	All
<i>Aronia melanocarpa</i>	black chokeberry	3-5 gallon	6' - 10'	All
<i>Asimina triloba</i>	pawpaw	2.5" caliper/ 3-5 gallon	10' - 30'	All
<i>Carpinus caroliniana</i>	American hornbeam	2.5" caliper	25' - 35'	P1, P3b
<i>Carya cordiformis</i>	bitternut hickory	3-5 gallon	50' - 75'	P1, P3b
<i>Cephalanthus occidentalis</i>	buttonbush	3-5 gallon/live-stakes	6' - 10'	All
<i>Cercis canadensis</i>	redbud	2.5" caliper/ 3-5 gallon	20' - 30'	All
<i>Cornus amomum</i>	silky dogwood	3-5 gallon/live-stakes	6' - 10'	All
<i>Cornus florida</i>	white flowering dogwood	3-5 gallon	25' - 30'	All
<i>Gymnocladus dioica</i>	Kentucky coffeetree	2.5" caliper	40' - 50'	P1, P3b
<i>Hamamelis virginiana</i>	American witchhazel	2.5" caliper/ 3-5 gallon	15' - 20'	All
<i>Ilex verticillata</i>	winterberry	3-5 gallon	3' - 5'	All

Latin Name	Common Name	Planting Size	Height (ft)	Planting Area
<i>Juglans nigra</i>	black walnut	2.5" caliper	50' - 75'	P1, P3b
<i>Lindera benzoin</i>	spicebush	2.5" caliper/ 3-5 gallon	6' - 8'	All
<i>Myrica pensylvanica</i>	northern bayberry	3-5 gallon	5' - 12'	All
<i>Ostrya virginiana</i>	hophornbeam	2.5" caliper	25' - 40'	P1, P3b
<i>Quercus bicolor</i>	swamp white oak	2.5" caliper	50' - 60'	P1, P3b
<i>Quercus coccinea</i>	scarlet oak	2.5" caliper	40' - 50'	P1, P3b
<i>Quercus muehlenbergii</i>	chinkapin oak	2.5" caliper	40' - 50'	P1, P3b
<i>Quercus palustris</i>	pin oak	2.5" caliper	60' - 70'	P1, P3b
<i>Rhus glabra</i>	smooth sumac	3-5 gallon	10' - 15'	All
<i>Salix nigra</i>	black willow	3-5 gallon/ live-stakes	30' - 60'	All
<i>Salix sericea</i>	silky willow	3-5 gallon/live- stakes	4' - 12'	All
<i>Staphylea trifolia</i>	American bladdernut	2.5" caliper/ 3-5 gallon	10' 15'	All
<i>Viburnum dentatum</i>	arrowwood viburnum	3-5 gallon	6' - 10'	All
<i>Viburnum lentago</i>	nannyberry	3-5 gallon	15' - 20'	All

In addition to the mitigation trees required by the City of Columbus using the mitigation ratios in Table 1, the city also noted that because the mitigation agreement is a variance of a variance, “the tree replacement shall be double of what is removed, so as to replace the protected tree in addition to meeting the replacement requirements” in Table 1. This requires an additional 172 trees to be planted as mitigation for the removals (after the mitigation credits). This quantity of trees cannot be planted on site, in addition to the 172 trees reflected in the planting plan in Appendix D. These trees will be mitigated by IKEA using the guidelines in Section C(b) of the letter provided by the City of Columbus (Appendix G).

Conclusions

Overall, we feel this tree removal and restoration plan will preserve the greatest number of existing native trees and make significant improvements to the forest and riparian areas by removing invasive vegetation and enhancing the stream. In addition, this plan will also achieve the desired visibility of the IKEA building from the major roadways and intersections, while providing an attractive landscape feature to the IKEA and adjacent properties.

Appendix A

Species, DBH, Condition, and Mitigation Data for all Trees to be Removed On Site

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
1	Sugar Maple	<i>Acer saccharum</i>	7	Fair	1:1	1
2	Box Elder	<i>Acer negundo</i>	12	Fair	2:1	2
3	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
5	Sugar Maple	<i>Acer saccharum</i>	4,2	Good	1:1	1
6	American Beech	<i>Fagus grandifolia</i>	3	Good	1:1	1
7	American Beech	<i>Fagus grandifolia</i>	3	Good	1:1	1
8	American Elm	<i>Ulmus americana</i>	3	Good	1:1	1
9	Swamp White Oak	<i>Quercus bicolor</i>	4	Good	1:1	1
10	Box Elder	<i>Acer negundo</i>	15	Good	2:1	2
14	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
15	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
16	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
17	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
18	Sugar Maple	<i>Acer saccharum</i>	3	Poor	N/A	N/A
19	Sugar Maple	<i>Acer saccharum</i>	5	Fair	1:1	1
20	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
21	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
22	Swamp White Oak	<i>Quercus bicolor</i>	22	Good	3:1	3
23	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
24	Box Elder	<i>Acer negundo</i>	5	Good	1:1	1
25	Box Elder	<i>Acer negundo</i>	3,3	Good	1:1	1
27	American Beech	<i>Fagus grandifolia</i>	25	Good	4:1	4
28	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
29	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
30	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
31	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
32	Bitternut Hickory	<i>Carya cordiformis</i>	7	Poor	N/A	N/A
33	Bitternut Hickory	<i>Carya cordiformis</i>	3	Dead	N/A	N/A
35	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
36	Box Elder	<i>Acer negundo</i>	3	Good	1:1	1
38	Bitternut Hickory	<i>Carya cordiformis</i>	25	Poor	N/A	N/A
39	Sugar Maple	<i>Acer saccharum</i>	6	Fair	1:1	1
40	Sugar Maple	<i>Acer saccharum</i>	6	Dead	N/A	N/A
41	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
43	Bitternut Hickory	<i>Carya cordiformis</i>	8	Good	1:1	1
45	Sugar Maple	<i>Acer saccharum</i>	4	Dead	N/A	N/A
47	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
48	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
49	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
51	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
52	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
55	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
56	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
57	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
58	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
59	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
60	Slippery Elm	<i>Ulmus rubra</i>	3	Good	1:1	1
61	White Ash	<i>Fraxinus americana</i>	6	Dead	N/A	N/A
63	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
64	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
65	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
66	Sugar Maple	<i>Acer saccharum</i>	12	Good	2:1	2
67	American Beech	<i>Fagus grandifolia</i>	25	Poor	N/A	N/A
68	Slippery Elm	<i>Ulmus rubra</i>	3	Good	1:1	1
69	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
71	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
72	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
73	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
74	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
75	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
76	Box Elder	<i>Acer negundo</i>	7	Dead	N/A	N/A
77	Sugar Maple	<i>Acer saccharum</i>	9	Good	1:1	1
78	Sugar Maple	<i>Acer saccharum</i>	9	Good	1:1	1
79	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
80	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
81	Shagbark Hickory	<i>Carya ovata</i>	11	Good	1:1	1
82	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
83	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
85	Shagbark Hickory	<i>Carya ovata</i>	6	Good	1:1	1
86	Sugar Maple	<i>Acer saccharum</i>	9	Good	1:1	1
87	Sugar Maple	<i>Acer saccharum</i>	10	Good	1:1	1
88	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
91	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
93	Green Ash	<i>Fraxinus pennsylvanica</i>	24	Dead	N/A	N/A
94	Hackberry	<i>Celtis occidentalis</i>	7	Good	1:1	1
95	Hackberry	<i>Celtis occidentalis</i>	15	Good	2:1	2
96	Bitternut Hickory	<i>Carya cordiformis</i>	7	Good	1:1	1
97	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
98	Green Ash	<i>Fraxinus pennsylvanica</i>	15	Good	N/A	N/A
99	Bitternut Hickory	<i>Carya cordiformis</i>	6	Good	1:1	1

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
182	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
183	Sugar Maple	<i>Acer saccharum</i>	5	Dead	N/A	N/A
204	Box Elder	<i>Acer negundo</i>	4	Good	1:1	1
205	Ohio Buckeye	<i>Aesculus glabra</i>	8	Good	1:1	1
209	Bitternut Hickory	<i>Carya cordiformis</i>	23	Good	3:1	3
210	Bitternut Hickory	<i>Carya cordiformis</i>	3	Good	1:1	1
211	Bitternut Hickory	<i>Carya cordiformis</i>	3	Good	1:1	1
212	Sugar Maple	<i>Acer saccharum</i>	21	Good	3:1	3
213	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
214	Ohio Buckeye	<i>Aesculus glabra</i>	3	Fair	1:1	1
215	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
216	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
219	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
220	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
221	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
222	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
223	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
224	Sugar Maple	<i>Acer saccharum</i>	3	Dead	N/A	N/A
225	Sugar Maple	<i>Acer saccharum</i>	6	Dead	N/A	N/A
226	Pawpaw	<i>Asimina triloba</i>	4	Good	1:1	1
228	Pawpaw	<i>Asimina triloba</i>	4	Good	1:1	1
233	Pawpaw	<i>Asimina triloba</i>	3	Good	1:1	1
235	Hackberry	<i>Celtis occidentalis</i>	21	Good	3:1	3
236	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
237	Sugar Maple	<i>Acer saccharum</i>	9	Good	1:1	1
238	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
239	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
240	Sugar Maple	<i>Acer saccharum</i>	3	Dead	N/A	N/A
242	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
243	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
244	Bitternut Hickory	<i>Carya cordiformis</i>	9	Good	1:1	1
245	Bitternut Hickory	<i>Carya cordiformis</i>	13	Good	2:1	2
246	Washington Hawthorn	<i>Crataegus phaenopyrum</i>	3	Dead	N/A	N/A
247	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
248	Ohio Buckeye	<i>Aesculus glabra</i>	7	Good	1:1	1
249	Green Ash	<i>Fraxinus pennsylvanica</i>	6	Fair	N/A	N/A
250	Slippery Elm	<i>Ulmus rubra</i>	6	Good	1:1	1
251	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
252	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
253	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
254	Bitternut Hickory	<i>Carya cordiformis</i>	6	Good	1:1	1
255	American Elm	<i>Ulmus americana</i>	9	Good	1:1	1

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
256	American Elm	<i>Ulmus americana</i>	8	Good	1:1	1
257	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
258	Sugar Maple	<i>Acer saccharum</i>	18	Good	3:1	3
259	Bitternut Hickory	<i>Carya cordiformis</i>	22	Fair	3:1	3
260	Bitternut Hickory	<i>Carya cordiformis</i>	11	Fair	1:1	1
261	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
262	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
263	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
264	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
265	American Elm	<i>Ulmus americana</i>	7	Good	1:1	1
266	Slippery Elm	<i>Ulmus rubra</i>	4	Good	1:1	1
267	Slippery Elm	<i>Ulmus rubra</i>	6	Good	1:1	1
268	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
269	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
270	Bitternut Hickory	<i>Carya cordiformis</i>	11	Good	1:1	1
271	Ohio Buckeye	<i>Aesculus glabra</i>	4	Good	1:1	1
272	Bitternut Hickory	<i>Carya cordiformis</i>	9	Good	1:1	1
273	Box Elder	<i>Acer negundo</i>	8	Good	1:1	1
274	Box Elder	<i>Acer negundo</i>	6	Good	1:1	1
275	Box Elder	<i>Acer negundo</i>	6	Dead	N/A	N/A
438	American Elm	<i>Ulmus americana</i>	13	Poor	N/A	N/A
439	American Elm	<i>Ulmus americana</i>	13	Poor	N/A	N/A
441	Pawpaw	<i>Asimina triloba</i>	3	Good	1:1	1
442	Pawpaw	<i>Asimina triloba</i>	3	Good	1:1	1
443	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
444	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
445	American Beech	<i>Fagus grandifolia</i>	15	Good	2:1	2
446	American Beech	<i>Fagus grandifolia</i>	13	Good	2:1	2
447	American Beech	<i>Fagus grandifolia</i>	19	Critical	N/A	N/A
448	Eastern Cottonwood	<i>Populus deltoides</i>	9	Good	1:1	1
449	Bitternut Hickory	<i>Carya cordiformis</i>	3	Good	1:1	1
450	Sugar Maple	<i>Acer saccharum</i>	21	Critical	N/A	N/A
451	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
455	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
456	Bitternut Hickory	<i>Carya cordiformis</i>	6	Good	1:1	1
457	Slippery Elm	<i>Ulmus rubra</i>	3,3	Good	1:1	1
458	Slippery Elm	<i>Ulmus rubra</i>	4	Good	1:1	1
459	Slippery Elm	<i>Ulmus rubra</i>	6	Good	1:1	1
460	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
461	Box Elder	<i>Acer negundo</i>	10	Good	1:1	1
464	Shagbark Hickory	<i>Carya ovata</i>	7	Good	1:1	1
465	Green Ash	<i>Fraxinus pennsylvanica</i>	9	Dead	N/A	N/A

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
466	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
467	Bitternut Hickory	<i>Carya cordiformis</i>	5	Good	1:1	1
469	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
470	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
474	Chinquapin Oak	<i>Quercus muehlenbergii</i>	26	Good	4:1	4
475	American Elm	<i>Ulmus americana</i>	8	Good	1:1	1
477	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
478	Sugar Maple	<i>Acer saccharum</i>	7,3	Fair	1:1	1
480	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
483	Box Elder	<i>Acer negundo</i>	6	Good	1:1	1
484	Box Elder	<i>Acer negundo</i>	7	Poor	N/A	N/A
485	American Beech	<i>Fagus grandifolia</i>	7	Good	1:1	1
486	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
488	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
489	Bitternut Hickory	<i>Carya cordiformis</i>	7	Good	1:1	1
490	American Elm	<i>Ulmus americana</i>	7	Good	1:1	1
491	American Elm	<i>Ulmus americana</i>	4	Good	1:1	1
492	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
493	Ohio Buckeye	<i>Aesculus glabra</i>	6,3	Good	1:1	1
494	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
495	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
500	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
501	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
502	American Elm	<i>Ulmus americana</i>	7	Good	1:1	1
503	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
504	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
505	Ohio Buckeye	<i>Aesculus glabra</i>	3	Good	1:1	1
508	Sugar Maple	<i>Acer saccharum</i>	6	Fair	1:1	1
509	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
510	Ohio Buckeye	<i>Aesculus glabra</i>	3	Good	1:1	1
511	Sugar Maple	<i>Acer saccharum</i>	4	Poor	N/A	N/A
512	Bitternut Hickory	<i>Carya cordiformis</i>	5	Good	1:1	1
513	Bitternut Hickory	<i>Carya cordiformis</i>	3	Good	1:1	1
514	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
515	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
516	Sugar Maple	<i>Acer saccharum</i>	6,3	Good	1:1	1
517	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
518	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
519	Sugar Maple	<i>Acer saccharum</i>	6	Fair	1:1	1
520	Ohio Buckeye	<i>Aesculus glabra</i>	5	Good	1:1	1
521	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
522	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
524	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
526	Hackberry	<i>Celtis occidentalis</i>	7	Good	1:1	1
527	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
528	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
529	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
531	Sugar Maple	<i>Acer saccharum</i>	3	Poor	N/A	N/A
532	Sugar Maple	<i>Acer saccharum</i>	3	Poor	N/A	N/A
533	Sugar Maple	<i>Acer saccharum</i>	3	Poor	N/A	N/A
534	Sugar Maple	<i>Acer saccharum</i>	4	Poor	N/A	N/A
535	Bitternut Hickory	<i>Carya cordiformis</i>	7	Good	1:1	1
536	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
537	Black Cherry	<i>Prunus serotina</i>	4	Good	1:1	1
538	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
540	Shagbark Hickory	<i>Carya ovata</i>	20	Good	3:1	3
541	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
542	Slippery Elm	<i>Ulmus rubra</i>	9	Good	1:1	1
543	Bitternut Hickory	<i>Carya cordiformis</i>	6	Good	1:1	1
546	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
548	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
549	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
550	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
551	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
552	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
553	Green Ash	<i>Fraxinus pennsylvanica</i>	10	Fair	N/A	N/A
554	Green Ash	<i>Fraxinus pennsylvanica</i>	12	Poor	N/A	N/A
558	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
559	Hackberry	<i>Celtis occidentalis</i>	4	Good	1:1	1
560	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
561	Sugar Maple	<i>Acer saccharum</i>	6	Dead	N/A	N/A
562	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
563	Sugar Maple	<i>Acer saccharum</i>	6	Dead	N/A	N/A
564	Hackberry	<i>Celtis occidentalis</i>	16	Fair	2:1	2
566	Ohio Buckeye	<i>Aesculus glabra</i>	6	Good	1:1	1
567	Bitternut Hickory	<i>Carya cordiformis</i>	10	Good	1:1	1
568	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
569	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
570	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
574	Sugar Maple	<i>Acer saccharum</i>	10	Good	1:1	1
575	American Beech	<i>Fagus grandifolia</i>	21	Good	3:1	3
576	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
577	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
578	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
579	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
580	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
582	Sugar Maple	<i>Acer saccharum</i>	4	Poor	N/A	N/A
583	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
584	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
585	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
586	Sugar Maple	<i>Acer saccharum</i>	4	Fair	1:1	1
587	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
589	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
590	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
591	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
592	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
593	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
594	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
595	Sugar Maple	<i>Acer saccharum</i>	5	Poor	N/A	N/A
597	Sugar Maple	<i>Acer saccharum</i>	3	Poor	N/A	N/A
598	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
599	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
600	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
601	Sugar Maple	<i>Acer saccharum</i>	5	Poor	N/A	N/A
602	Sugar Maple	<i>Acer saccharum</i>	4	Fair	1:1	1
603	Sugar Maple	<i>Acer saccharum</i>	6	Fair	1:1	1
604	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
605	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
606	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
607	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
608	Sugar Maple	<i>Acer saccharum</i>	5	Fair	1:1	1
609	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
610	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
611	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
613	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
614	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
615	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
617	Sugar Maple	<i>Acer saccharum</i>	5	Dead	N/A	N/A
618	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
619	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
620	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
621	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
622	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
623	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
624	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
625	American Elm	<i>Ulmus americana</i>	7	Poor	N/A	N/A

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
626	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
627	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
628	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
629	Green Ash	<i>Fraxinus pennsylvanica</i>	12	Dead	N/A	N/A
630	Green Ash	<i>Fraxinus pennsylvanica</i>	3	Dead	N/A	N/A
631	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
632	American Beech	<i>Fagus grandifolia</i>	25	Fair	4:1	4
633	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
650	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
651	Slippery Elm	<i>Ulmus rubra</i>	7	Fair	1:1	1
748	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
749	Black Cherry	<i>Prunus serotina</i>	10	Good	1:1	1
750	Slippery Elm	<i>Ulmus rubra</i>	9	Good	1:1	1
751	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
752	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
753	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
754	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
755	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
756	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
757	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
758	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
759	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
760	Sugar Maple	<i>Acer saccharum</i>	11	Good	1:1	1
765	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
775	Sugar Maple	<i>Acer saccharum</i>	12	Good	2:1	2
776	Sugar Maple	<i>Acer saccharum</i>	5	Fair	1:1	1
777	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
778	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
779	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
780	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
781	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
782	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
783	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
784	Sugar Maple	<i>Acer saccharum</i>	9	Good	1:1	1
785	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
786	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
787	Sugar Maple	<i>Acer saccharum</i>	12	Good	2:1	2
788	Sugar Maple	<i>Acer saccharum</i>	10	Good	1:1	1
789	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
790	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
791	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
792	Sugar Maple	<i>Acer saccharum</i>	12	Good	2:1	2

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
793	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
794	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
795	Sugar Maple	<i>Acer saccharum</i>	11	Good	1:1	1
796	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
797	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
798	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
799	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
800	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
802	Sugar Maple	<i>Acer saccharum</i>	8	Fair	1:1	1
803	Sugar Maple	<i>Acer saccharum</i>	8	Fair	1:1	1
804	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
805	Sugar Maple	<i>Acer saccharum</i>	7	Fair	1:1	1
806	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
807	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
808	Bitternut Hickory	<i>Carya cordiformis</i>	26	Good	4:1	4
809	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
811	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
812	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
813	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
814	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
816	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
817	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
818	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
819	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
821	Black Cherry	<i>Prunus serotina</i>	26	Good	4:1	4
822	Sugar Maple	<i>Acer saccharum</i>	23	Good	3:1	3
823	Sugar Maple	<i>Acer saccharum</i>	19	Good	3:1	3
824	Sugar Maple	<i>Acer saccharum</i>	20	Good	3:1	3
825	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
828	Bitternut Hickory	<i>Carya cordiformis</i>	10	Good	1:1	1
829	Slippery Elm	<i>Ulmus rubra</i>	10	Good	1:1	1
832	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
833	Sugar Maple	<i>Acer saccharum</i>	14	Good	2:1	2
834	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
836	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
841	Sugar Maple	<i>Acer saccharum</i>	29	Good	4:1	4
842	Sugar Maple	<i>Acer saccharum</i>	19	Good	3:1	3
843	Bitternut Hickory	<i>Carya cordiformis</i>	12	Good	2:1	2
844	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
845	Slippery Elm	<i>Ulmus rubra</i>	6	Good	1:1	1
847	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
848	American Beech	<i>Fagus grandifolia</i>	27	Good	4:1	4

Tree ID	Common Name	Scientific Name	Size (dbh)	Condition	Mitigation Ratio	# Trees
849	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
852	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
853	Sugar Maple	<i>Acer saccharum</i>	3	Fair	1:1	1
855	Sugar Maple	<i>Acer saccharum</i>	6	Good	1:1	1
856	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
857	Sugar Maple	<i>Acer saccharum</i>	7	Good	1:1	1
858	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
859	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
860	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
862	Sugar Maple	<i>Acer saccharum</i>	8	Good	1:1	1
863	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
865	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
867	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
886	Black Walnut	<i>Juglans nigra</i>	10	Good	1:1	1
887	Sugar Maple	<i>Acer saccharum</i>	3	Good	1:1	1
888	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
390	Total Removal Trees			Mitigation Trees Required		407

Appendix B

Colonial Meadows Mitigation Credits

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
1	Shagbark Hickory	<i>Carya ovata</i>	11,12,12	Good	2:1	2
2	Apple	<i>Pyrus malus</i>	8,8	Poor	N/A	N/A
3	Apple	<i>Pyrus malus</i>	7,8	Poor	N/A	N/A
4	American Elm	<i>Ulmus americana</i>	7,3	Fair	1:1	1
5	Shagbark Hickory	<i>Carya ovata</i>	4,4	Fair	1:1	1
6	Silver Maple	<i>Acer saccharinum</i>	14,8	Fair	2:1	2
7	Shagbark Hickory	<i>Carya ovata</i>	14,14	Good	2:1	2
8	Shagbark Hickory	<i>Carya ovata</i>	10,11	Good	1:1	1
9	Shagbark Hickory	<i>Carya ovata</i>	10,11	Good	1:1	1
10	Eastern Cottonwood	<i>Populus deltoides</i>	42	Fair	5:1	5
11	Eastern Cottonwood	<i>Populus deltoides</i>	40	Fair	5:1	5
12	Eastern Cottonwood	<i>Populus deltoides</i>	30	Fair	5:1	5
13	Eastern Cottonwood	<i>Populus deltoides</i>	27	Fair	4:1	4
14	Shagbark Hickory	<i>Carya ovata</i>	26	Good	4:1	4
15	Shagbark Hickory	<i>Carya ovata</i>	24	Good	4:1	4
16	Shagbark Hickory	<i>Carya ovata</i>	22	Good	3:1	3
17	Shagbark Hickory	<i>Carya ovata</i>	22	Good	3:1	3
18	Shagbark Hickory	<i>Carya ovata</i>	21	Good	3:1	3
19	Shagbark Hickory	<i>Carya ovata</i>	20	Fair	3:1	3
20	Shagbark Hickory	<i>Carya ovata</i>	18	Good	3:1	3
21	Shagbark Hickory	<i>Carya ovata</i>	18	Good	3:1	3
22	Shagbark Hickory	<i>Carya ovata</i>	18	Good	3:1	3
23	Eastern Cottonwood	<i>Populus deltoides</i>	18	Good	3:1	3
24	Norway Spruce	<i>Picea abies</i>	17	Good	N/A	N/A
25	Red Oak	<i>Quercus rubra</i>	16	Fair	2:1	2
26	Shagbark Hickory	<i>Carya ovata</i>	16	Good	2:1	2
27	Eastern Cottonwood	<i>Populus deltoides</i>	16	Good	2:1	2
28	Green Ash	<i>Fraxinus pennsylvanica</i>	16	Dead	N/A	N/A
29	Shagbark Hickory	<i>Carya ovata</i>	15	Good	2:1	2
30	Shagbark Hickory	<i>Carya ovata</i>	15	Good	2:1	2
31	Shagbark Hickory	<i>Carya ovata</i>	15	Fair	2:1	2
32	Norway Spruce	<i>Picea abies</i>	15	Good	N/A	N/A
33	Silver Maple	<i>Acer saccharinum</i>	14	Fair	2:1	2
34	Shagbark Hickory	<i>Carya ovata</i>	14	Good	2:1	2
35	Shagbark Hickory	<i>Carya ovata</i>	14	Good	2:1	2
36	Shagbark Hickory	<i>Carya ovata</i>	14	Good	2:1	2
37	Shagbark Hickory	<i>Carya ovata</i>	13	Good	2:1	2
38	Norway Spruce	<i>Picea abies</i>	13	Good	N/A	N/A
39	Norway Spruce	<i>Picea abies</i>	13	Good	N/A	N/A
40	Shagbark Hickory	<i>Carya ovata</i>	12	Good	2:1	2

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
41	Shagbark Hickory	<i>Carya ovata</i>	12	Good	2:1	2
42	Shagbark Hickory	<i>Carya ovata</i>	12	Good	2:1	2
43	Norway Spruce	<i>Picea abies</i>	12	Good	N/A	N/A
44	Green Ash	<i>Fraxinus pennsylvanica</i>	12	Dead	N/A	N/A
45	Shagbark Hickory	<i>Carya ovata</i>	11	Good	1:1	1
46	Shagbark Hickory	<i>Carya ovata</i>	11	Good	1:1	1
47	Shagbark Hickory	<i>Carya ovata</i>	10	Good	1:1	1
48	Shagbark Hickory	<i>Carya ovata</i>	10	Good	1:1	1
49	Hackberry	<i>Celtis occidentalis</i>	9	Good	1:1	1
50	American Elm	<i>Ulmus americana</i>	9	Poor	N/A	N/A
51	American Elm	<i>Ulmus americana</i>	9	Poor	N/A	N/A
52	Green Ash	<i>Fraxinus pennsylvanica</i>	9	Dead	N/A	N/A
53	Norway Spruce	<i>Picea abies</i>	9	Good	N/A	N/A
54	Norway Spruce	<i>Picea abies</i>	9	Good	N/A	N/A
55	Norway Spruce	<i>Picea abies</i>	9	Good	N/A	N/A
56	Norway Spruce	<i>Picea abies</i>	9	Good	N/A	N/A
57	Sugar Maple	<i>Acer saccharum</i>	8	Fair	1:1	1
58	American Elm	<i>Ulmus americana</i>	8	Fair	1:1	1
59	Black Walnut	<i>Juglans nigra</i>	8	Good	1:1	1
60	Green Ash	<i>Fraxinus pennsylvanica</i>	8	Dead	N/A	N/A
61	Green Ash	<i>Fraxinus pennsylvanica</i>	7	Dead	N/A	N/A
62	Shagbark Hickory	<i>Carya ovata</i>	7	Good	1:1	1
63	Norway Spruce	<i>Picea abies</i>	7	Good	N/A	N/A
64	White Pine	<i>Pinus strobus</i>	7	Fair	1:1	1
65	Washington Hawthorn	<i>Crataegus phaenopyrum</i>	7	Good	1:1	1
66	White Pine	<i>Pinus strobus</i>	6	Poor	N/A	N/A
67	Black Cherry	<i>Prunus serotina</i>	6	Dead	N/A	N/A
68	Persimmon	<i>Diospyros virginiana</i>	6	Poor	N/A	N/A
69	Persimmon	<i>Diospyros virginiana</i>	6	Fair	1:1	1
70	American Elm	<i>Ulmus americana</i>	6	Poor	N/A	N/A
71	American Elm	<i>Ulmus americana</i>	6	Good	1:1	1
72	Shagbark Hickory	<i>Carya ovata</i>	6	Good	1:1	1
73	Black Walnut	<i>Juglans nigra</i>	6	Good	1:1	1
74	Shagbark Hickory	<i>Carya ovata</i>	6	Good	1:1	1
75	American Beech	<i>Fagus grandifolia</i>	6	Good	1:1	1
76	Black Walnut	<i>Juglans nigra</i>	6	Good	1:1	1
77	Green Ash	<i>Fraxinus pennsylvanica</i>	6	Dead	N/A	N/A
78	Green Ash	<i>Fraxinus pennsylvanica</i>	6	Dead	N/A	N/A
79	Sugar Maple	<i>Acer saccharum</i>	5	Good	1:1	1
80	Shagbark Hickory	<i>Carya ovata</i>	5	Fair	1:1	1
81	American Elm	<i>Ulmus americana</i>	5	Good	1:1	1
82	American Elm	<i>Ulmus americana</i>	5	Good	1:1	1

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
83	Black Walnut	<i>Juglans nigra</i>	5	Fair	1:1	1
84	Shagbark Hickory	<i>Carya ovata</i>	5	Fair	1:1	1
85	Shagbark Hickory	<i>Carya ovata</i>	4	Good	1:1	1
86	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
87	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
88	Green Ash	<i>Fraxinus americana</i>	4	Poor	N/A	N/A
89	Sugar Maple	<i>Acer saccharum</i>	4	Poor	N/A	N/A
90	American Elm	<i>Ulmus americana</i>	4	Fair	1:1	1
91	American Elm	<i>Ulmus americana</i>	4	Fair	1:1	1
92	American Elm	<i>Ulmus americana</i>	4	Good	1:1	1
93	Sugar Maple	<i>Acer saccharum</i>	4	Good	1:1	1
94	Green Ash	<i>Fraxinus americana</i>	4	Good	N/A	N/A
95	Shagbark Hickory	<i>Carya ovata</i>	3	Good	1:1	1
96	Shagbark Hickory	<i>Carya ovata</i>	3	Fair	1:1	1
97	Shagbark Hickory	<i>Carya ovata</i>	3	Good	1:1	1
98	Shagbark Hickory	<i>Carya ovata</i>	3	Fair	1:1	1
Total Colonial Meadows Mitigation Credits						124

Appendix C

Northern Tree Area Mitigation Credits

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
1570	Silver Maple	<i>Acer saccharinum</i>	17	Good	2:1	2
1571	Green Ash	<i>Fraxinus pennsylvanica</i>	7	Dead	N/A	N/A
1572	Slippery Elm	<i>Ulmus rubra</i>	16	Fair	2:1	2
1573	Black Locust	<i>Robinia pseudoacacia</i>	16	Fair	2:1	2
1574	Silver Maple	<i>Acer saccharinum</i>	9	Fair	1:1	1
1575	Slippery Elm	<i>Ulmus rubra</i>	9	Fair	1:1	1
1576	Slippery Elm	<i>Ulmus rubra</i>	13	Fair	2:1	2
1577	Box Elder	<i>Acer negundo</i>	8	Fair	1:1	1
1578	Box Elder	<i>Acer negundo</i>	8	Dead	N/A	N/A
1579	Bitternut Hickory	<i>Carya cordiformis</i>	8	Good	1:1	1
1580	Slippery Elm	<i>Ulmus rubra</i>	9	Good	1:1	1
1581	Silver Maple	<i>Acer saccharinum</i>	13	Good	2:1	2
1582	Slippery Elm	<i>Ulmus rubra</i>	9	Good	1:1	1
1583	Box Elder	<i>Acer negundo</i>	9	Fair	1:1	1
1584	Box Elder	<i>Acer negundo</i>	6	Poor	N/A	N/A
1599	Black Locust	<i>Robinia pseudoacacia</i>	15	Fair	2:1	2
1600	Black Locust	<i>Robinia pseudoacacia</i>	20	Fair	3:1	3
1601	Slippery Elm	<i>Ulmus rubra</i>	11	Fair	1:1	1
1602	Bitternut Hickory	<i>Carya cordiformis</i>	6	Fair	1:1	1
1603	Bitternut Hickory	<i>Carya cordiformis</i>	6	Fair	1:1	1
1604	Black Locust	<i>Robinia pseudoacacia</i>	13	Fair	2:1	2
1605	Black Locust	<i>Robinia pseudoacacia</i>	8	Fair	1:1	1
1606	Black Locust	<i>Robinia pseudoacacia</i>	12	Poor	N/A	N/A
1607	Black Locust	<i>Robinia pseudoacacia</i>	11	Poor	N/A	N/A
1608	Slippery Elm	<i>Ulmus rubra</i>	9	Fair	1:1	1
1609	Black Locust	<i>Robinia pseudoacacia</i>	12	Fair	2:1	2
1610	Osage-Orange	<i>Maclura pomifera</i>	12	Fair	2:1	2
1611	Box Elder	<i>Acer negundo</i>	9	Fair	1:1	1
1613	Eastern Cottonwood	<i>Populus deltoides</i>	24	Fair	4:1	4
1614	Black Locust	<i>Robinia pseudoacacia</i>	10	Fair	1:1	1
1615	Black Locust	<i>Robinia pseudoacacia</i>	6	Fair	1:1	1
1616	Eastern Cottonwood	<i>Populus deltoides</i>	16	Fair	2:1	2
1617	Box Elder	<i>Acer negundo</i>	15	Dead	N/A	N/A
1618	Bitternut Hickory	<i>Carya cordiformis</i>	10	Fair	1:1	1
1619	Green Ash	<i>Fraxinus pennsylvanica</i>	10	Dead	N/A	N/A
1620	Box Elder	<i>Acer negundo</i>	17	Fair	2:1	2
1658	Black Locust	<i>Robinia pseudoacacia</i>	16	Fair	2:1	2
1659	Box Elder	<i>Acer negundo</i>	7	Poor	N/A	N/A
1660	Box Elder	<i>Acer negundo</i>	9	Fair	1:1	1
1661	Box Elder	<i>Acer negundo</i>	8	Fair	1:1	1

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
1662	Box Elder	<i>Acer negundo</i>	8	Fair	1:1	1
1663	Slippery Elm	<i>Ulmus rubra</i>	16	Fair	2:1	2
1676	Green Ash	<i>Fraxinus pennsylvanica</i>	13	Dead	N/A	N/A
1677	Green Ash	<i>Fraxinus pennsylvanica</i>	11	Dead	N/A	N/A
1678	Black Locust	<i>Robinia pseudoacacia</i>	14	Poor	N/A	N/A
1679	Black Locust	<i>Robinia pseudoacacia</i>	16	Poor	N/A	N/A
1680	Black Locust	<i>Robinia pseudoacacia</i>	14	Poor	N/A	N/A
1683	Black Locust	<i>Robinia pseudoacacia</i>	16	Poor	N/A	N/A
1684	Black Locust	<i>Robinia pseudoacacia</i>	17	Fair	2:1	2
1685	Box Elder	<i>Acer negundo</i>	32	Fair	4:1	4
1686	White Ash	<i>Fraxinus americana</i>	14	Fair	N/A	N/A
1687	White Ash	<i>Fraxinus americana</i>	12	Poor	N/A	N/A
1688	White Ash	<i>Fraxinus americana</i>	10	Poor	N/A	N/A
1689	Box Elder	<i>Acer negundo</i>	24	Fair	4:1	4
1690	Bitternut Hickory	<i>Carya cordiformis</i>	12	Fair	2:1	2
1691	Apple	<i>Pyrus malus</i>	6,7,8	Good	1:1	1
1692	White Ash	<i>Fraxinus americana</i>	24	Fair	N/A	N/A
1693	Apple	<i>Pyrus malus</i>	8	Fair	1:1	1
1694	Bitternut Hickory	<i>Carya cordiformis</i>	8	Fair	1:1	1
1695	Eastern Cottonwood	<i>Populus deltoides</i>	30,30	Good	5:1	5
1696	Black Walnut	<i>Juglans nigra</i>	8	Good	1:1	1
1697	White Ash	<i>Fraxinus americana</i>	9	Dead	N/A	N/A
1698	White Ash	<i>Fraxinus americana</i>	9	Dead	N/A	N/A
1699	Box Elder	<i>Acer negundo</i>	9,9	Good	1:1	1
1700	Black Walnut	<i>Juglans nigra</i>	8	Good	1:1	1
1701	Eastern Cottonwood	<i>Populus deltoides</i>	30,30	Good	5:1	5
1702	White Ash	<i>Fraxinus americana</i>	14	Dead	N/A	N/A
1703	Box Elder	<i>Acer negundo</i>	8	Fair	1:1	1
1704	Eastern Cottonwood	<i>Populus deltoides</i>	41	Fair	5:1	5
1705	Box Elder	<i>Acer negundo</i>	13	Fair	2:1	2
1706	Eastern Cottonwood	<i>Populus deltoides</i>	25	Fair	4:1	4
1707	Eastern Cottonwood	<i>Populus deltoides</i>	32	Fair	4:1	4
1708	Black Locust	<i>Robinia pseudoacacia</i>	9	Fair	1:1	1
1709	Box Elder	<i>Acer negundo</i>	6	Fair	1:1	1
1710	Box Elder	<i>Acer negundo</i>	6	Fair	1:1	1
1711	Black Locust	<i>Robinia pseudoacacia</i>	9	Fair	1:1	1
1712	Black Locust	<i>Robinia pseudoacacia</i>	8	Fair	1:1	1
1713	Box Elder	<i>Acer negundo</i>	9	Fair	1:1	1
1714	Black Locust	<i>Robinia pseudoacacia</i>	10	Fair	1:1	1
1715	Black Locust	<i>Robinia pseudoacacia</i>	10	Fair	1:1	1
1716	Slippery Elm	<i>Ulmus rubra</i>	11	Fair	1:1	1
1717	Slippery Elm	<i>Ulmus rubra</i>	9	Fair	1:1	1
1718	Slippery Elm	<i>Ulmus rubra</i>	12	Fair	2:1	2

Tree ID	Common Name	Latin Name	Size	Condition	Mitigation Ratio	# Trees
1719	Slippery Elm	<i>Ulmus rubra</i>	7	Fair	1:1	1
1720	Slippery Elm	<i>Ulmus rubra</i>	8	Poor	N/A	N/A
1721	Slippery Elm	<i>Ulmus rubra</i>	15	Poor	N/A	N/A
1722	Slippery Elm	<i>Ulmus rubra</i>	10	Fair	1:1	1
1723	Slippery Elm	<i>Ulmus rubra</i>	10	Fair	1:1	1
Total Northern Tree Area Mitigation Credits						111

Appendix D
Site Plan Maps and Renderings

Map View 1

North Tree Preservation area, invasive shrubs and vines to be treated (1.0 acre, and includes the 0.4 acre of medium tree/shrub planting in north area)

Colonial Meadows Drive



Colonial Meadows Tree Mitigation Exhibit

Area that will be planted with medium trees, understory tree, and shrub planting 15- to 50-foot tall (0.9 acres) Invasive shrubs removed and poor quality, structurally unsound trees removed.

Map View 2

71

In-stream structures to extenuate erosion, improve stability, and provide habitat

Modified Newbury riffle grade control structure

Bendway and/or partial weirs

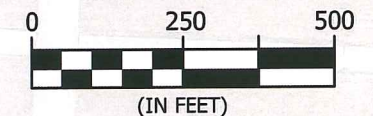
4.0 acres total planting area as shown
To restore and mitigate a multi-age forested community
Medium trees (B&B) (172 trees, understory and medium canopy)
Small trees and shrubs 3-7 gallon field sited (500)
965 linear feet of stream (2-banks) to receive live-stakes and bare root cuttings 3-foot on-center (650)

Map View 3

Tree Preservation area, invasive shrubs and vines to be treated (3.0 acres)

Area to be cleared (exception, existing small growing trees including pawpaw, hornbeam, and Ohio buckeye) This area will be replanted small trees and shrubs 10- to 25-foot tall (2.4 acres)

GRAPHIC SCALE



Map View 4

Orion Place

Gemini Place

Gemini Parkway extension

Mature and existing trees to be preserved

Large growing, existing trees to be removed, trees will be judiciously dropped and their stumps cut flush and treated with a herbicide to inhibit re-sprouting.

Existing small growing trees that will be preserved and remain low and unobtrusive.

Proposed 2.5-inch caliper tree plantings

Proposed formal landscape plantings

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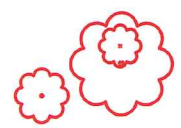
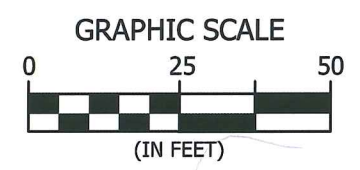
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IKEA Polaris Site
1-71 and Gemini Place
Columbus, Ohio

Data used to produce this map were collected on November 2, 2015 and January 4, 2016

Overall
Map

-  = Tree Preservation area, invasive shrubs and vines to be treated (4.0 acres, and includes the 0.4 acre of medium tree/shrub planting in north area)
-  = Area that will be planted with medium trees, understory tree, and shrub planting 15- to 50-foot tall (0.9 acres)
-  = Area that will be planted with small trees and shrubs, mature height 10- to 15-foot tall (0.5 acre)
-  = Area to be cleared (exception, existing small growing trees including pawpaw, hornbeam, and Ohio buckeye) This area will be replanted small trees and shrubs 10- to 25-foot tall (2.4 acres)



Three existing trees to be removed due to proposed grade changes, these trees will be judiciously dropped and their stumps cut flush and treated with a herbicide to inhibit re-sprouting.



Mature and existing surveyed trees to be preserved



Proposed 3- to 5-gallon tree and shrub plantings (NTS)



Proposed 2.5-inch caliper tree plantings









Proposed formal landscape plantings





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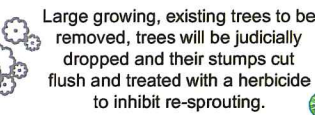
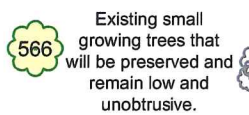
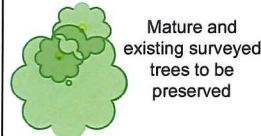
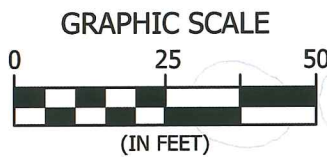
Prepared for
GreenbergFarrow

IKEA Polaris Site
 1-71 and Gemini Place
 Columbus, Ohio

Data used to produce this map were collected on November 2, 2015 and January 4, 2016

-  = Perennial stream and riparian corridor to be enhanced through plantings and in-stream features.
-  = Ephemeral stream to be avoided during tree felling and planting.
-  = Direction of flow
-  = Areas of wetlands to be avoided and enhanced through plantings
-  = Bendway and/or partial weirs will be installed on the outside meander bend of an eroded bank to stop bank failure.
-  = Modified Newbury riffle grade control structures will be installed to maintain channel morphology, channel elevation and inhibit future down-cutting and channel incising.

-  = Tree Preservation area, invasive shrubs and vines to be treated (4.0 acres, and includes the 0.4 acre of medium tree/shrub planting in north area)
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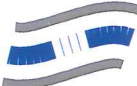











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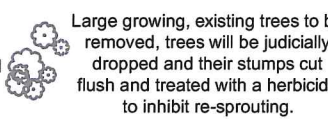
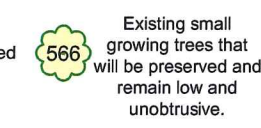
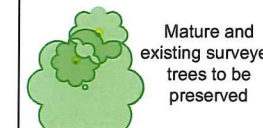
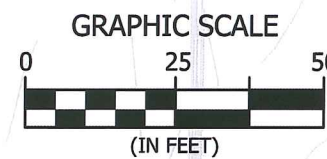
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IKEA Polaris Site
1-71 and Gemini Place
Columbus, Ohio

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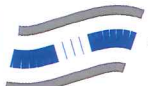











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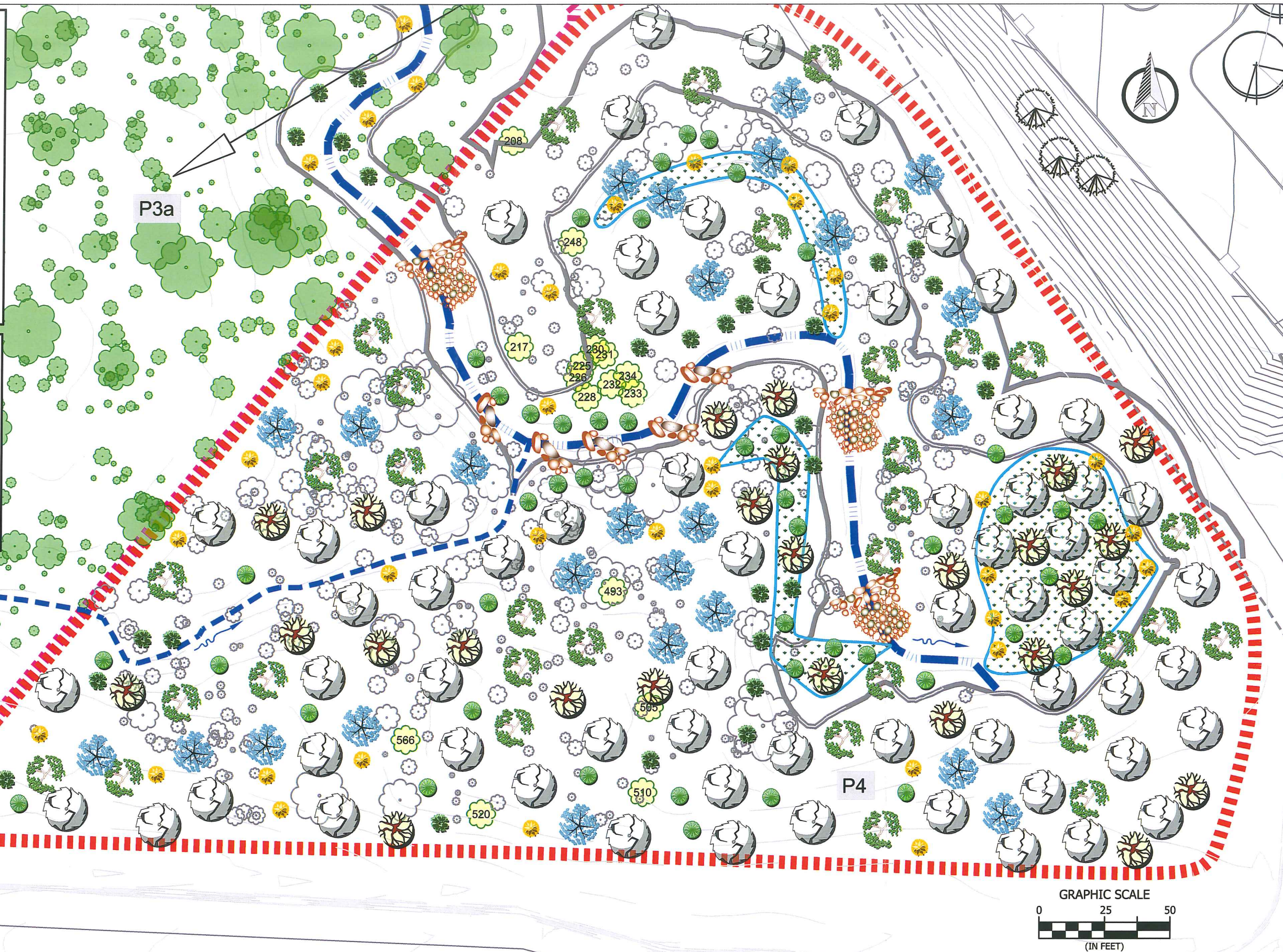
Prepared for
GreenbergFarrow



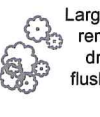



IKEA Polaris Site
1-71 and Gemini Place
Columbus, Ohio

Data used to produce this map were collected on November 2, 2015 and January 4, 2016

-  = Perennial stream and riparian corridor to be enhanced through plantings and in-stream features.
-  = Ephemeral stream to be avoided during tree felling and planting.
-  = Direction of flow
-  = Areas of wetlands to be avoided and enhanced through plantings
-  = Bendway and/or partial weirs will be installed on the outside meander bend of an eroded bank to stop bank failure.
-  = Modified Newbury riffle grade control structures will be installed to maintain channel morphology, channel elevation and inhibit future down-cutting and channel incising.

-  = Tree Preservation area, invasive shrubs and vines to be treated (4.0 acres, and includes the 0.4 acre of medium tree/shrub planting in north area)
-  = Area that will be planted with medium trees, understory tree, and shrub planting 15- to 50-foot tall (0.9 acres)
-  = Area that will be planted with small trees and shrubs, mature height 10- to 15-foot tall (0.5 acre)
-  = Area to be cleared (exception, existing small growing trees including pawpaw, hornbeam, and Ohio buckeye) This area will be replanted small trees and shrubs 10- to 25-foot tall (2.4 acres)



-  Mature and existing surveyed trees to be preserved
-  Existing small growing trees that will be preserved and remain low and unobtrusive.
-  Large growing, existing trees to be removed, trees will be judiciously dropped and their stumps cut flush and treated with a herbicide to inhibit re-sprouting.
-  Proposed 3-to-5-gallon tree and shrub plantings (NTS)
-  Proposed 2.5-inch caliper tree plantings
-  Proposed formal landscape plantings







IKEA Home furnishings



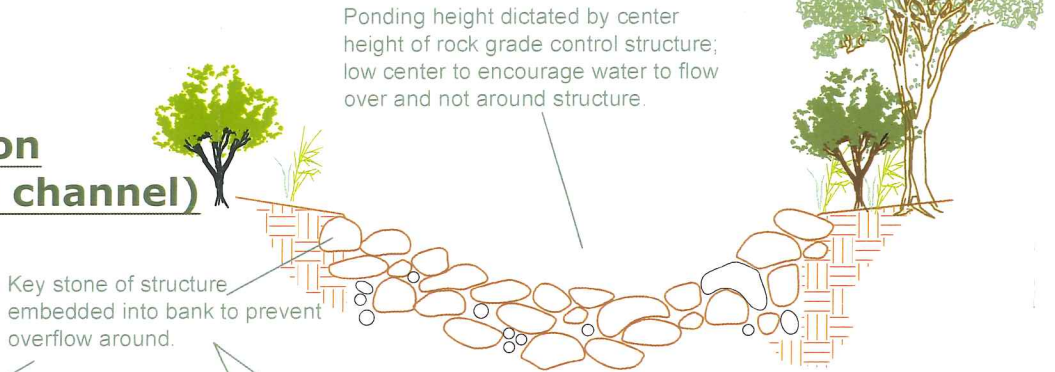


Appendix E

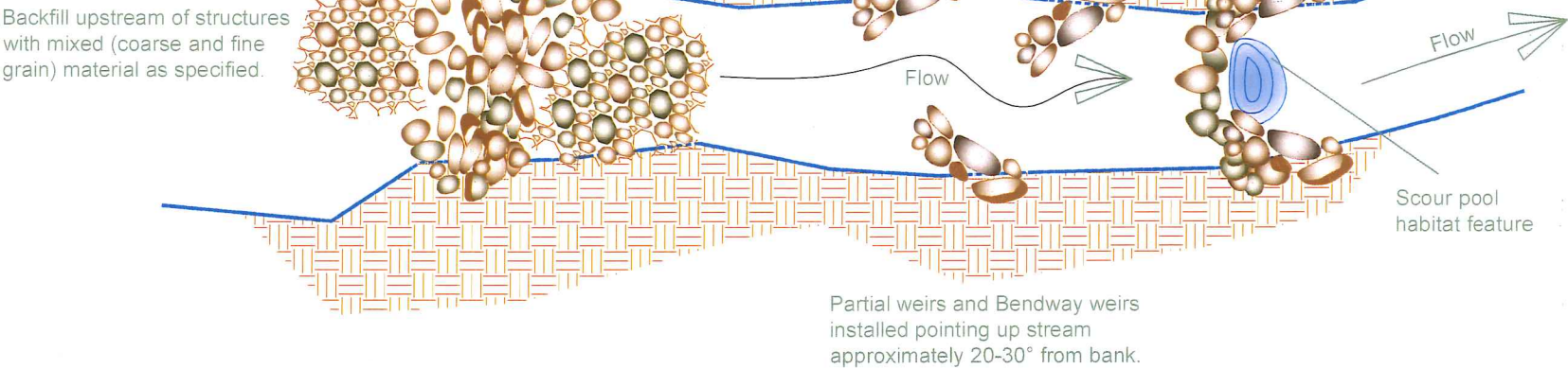
In-Stream Structure Typical

**Typical Rock Grade
Control Structure
and Riffle Features**

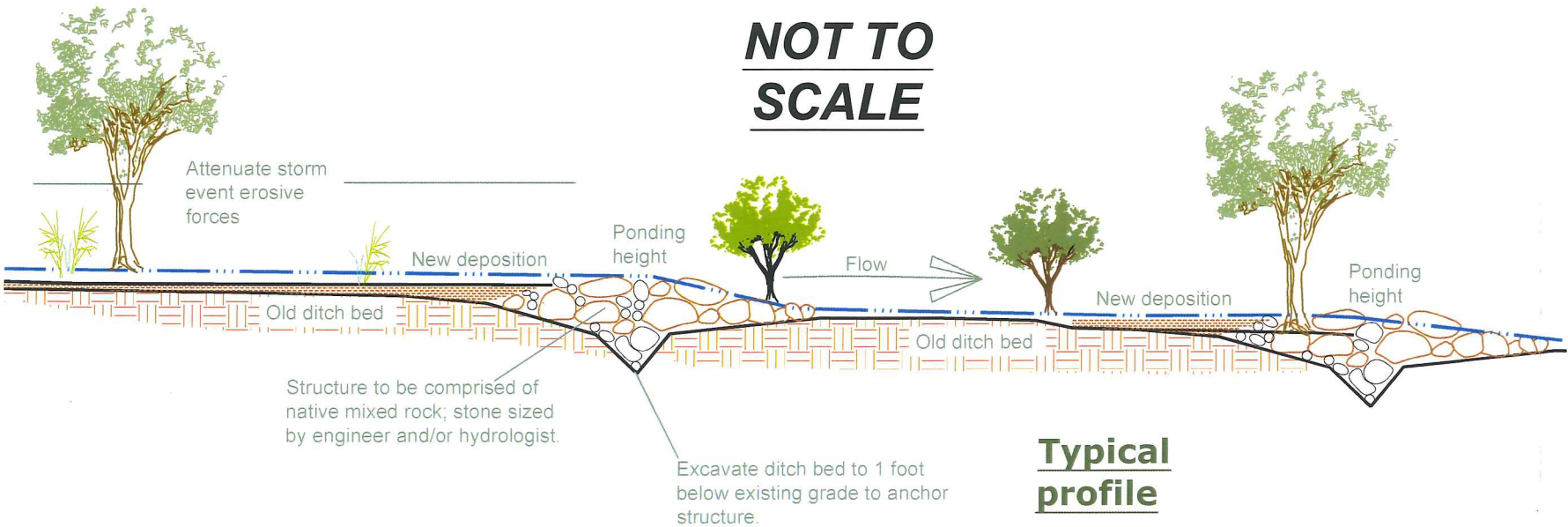
**Typical
cross-section
(looking up channel)**



**Typical
plan view**



**NOT TO
SCALE**





Prepared by



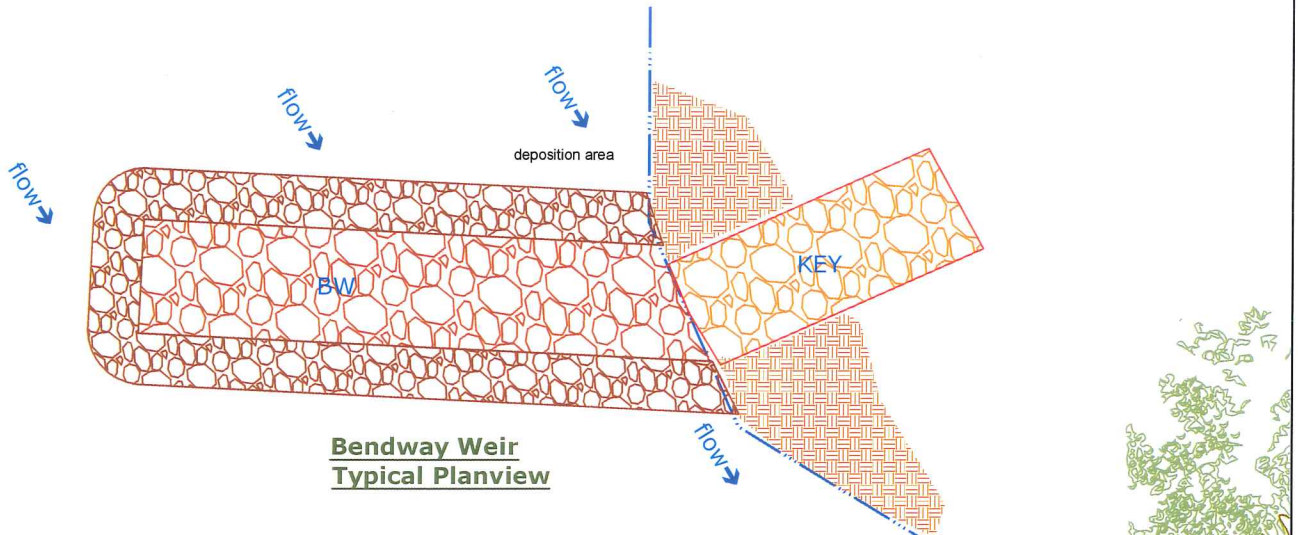
Prepared for

Bendway

State Road 145
Creek
Lake County, Ohio

Typical Bendaway

Sheet 1
of 2



**Bendway Weir
Typical Planview**

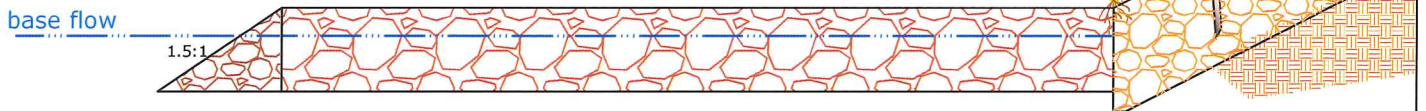
A series of Bendway (BW) weir structures installed on the outside meander bends will encourage the thalweg and the erosive velocities of the stream to be deflected back to the center of the channel.

These structures would be oriented upstream about 70° are to encourage bank building deposition, protection, and in-stream habitat.

Generally the crest of the BW structures will be 1 foot above base flow. Rock will be sized by engineer and actual placement and quantities of structures will be based on hydraulic conditions.

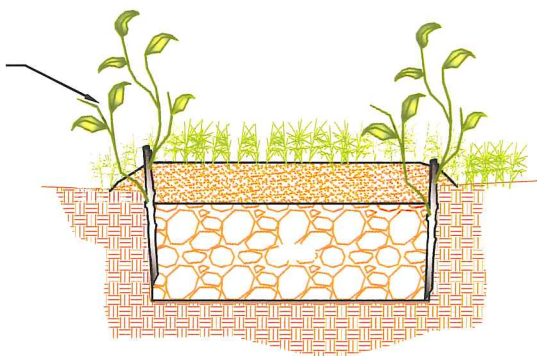
Live poles and/or rooted stock plants will be installed along the perimeter of the restored area.

Typical Profile



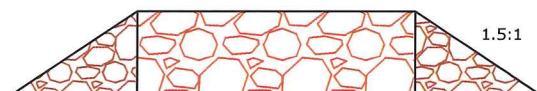
Live poles and/or rooted stock plants will be installed along the perimeter of the restored area.

**Key-Typical
Cross-section**



Key may be overfilled with soil and seeded or stone and exposed.

**Bendway Weir
Typical Cross-section**



Appendix F
Off-Site Mitigation Site Map



DELAWARE COUNTY, OHIO
COLONIAL MEADOWS
TREE INVENTORY EXHIBIT

Date: December, 2014

Scale: 1" = 100'

Job No: 2014-1605

EMH&T

Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648

emht.com

Appendix G
IKEA Polaris Tree Replacement Requirements (City of
Columbus)

From: Keith Johnston
Sent: Tuesday, December 23, 2014 10:13 AM
To: Bob Grimsley; Michael Maier; Rick Johnson
Subject: FW: Gemini Parcel Tree Replacement Requirements

FYI – I have not had a chance to digest this yet, I'm about to step into meeting.
Rick, I'll call you in about ½ hour.

Keith E. Johnston
GreenbergFarrow

From: Sanson, Jason T. [<mailto:JTSanson@columbus.gov>]
Sent: Tuesday, December 23, 2014 8:16 AM
To: Keith Johnston; (fgeiger@polariscenters.com)
Cc: Aubry, Ann M.
Subject: Gemini Parcel Tree Replacement Requirements

Keith and Franz:

The following tree replacement procedure is what the City of Columbus will require the property owner or developer to follow for the site located on Gemini Parkway. This tree replacement procedure is consistent with local communities and communities throughout the country. This particular site was issued a variance to reduce the width of the Stream Corridor Protection Zone and, as part of the variance, the trees in the west and southwest portion of the property were to be protected. The current proposal is to remove some of the trees in the said protection zone and the SCPZ to increase visibility for a retail development. The current proposal is a variance of a variance and the tree replacement shall be double of what is removed, so as to replace the protected tree, in addition to meeting the following tree replacement requirements:

- (A) At the conclusion of development and installation of landscaping, a sufficient number of large canopy trees shall have been planted or retained so as to return the development site to the percentage of canopy coverage existing prior to development. The canopy coverage shall be achieved over a thirty year period. The property owner or developer shall be required to replace major trees removed in accordance with the following schedule with trees having a trunk diameter of at least two and one-half inches, measured twenty-four inches above ground level:
- a. Major trees having a trunk diameter up to twelve inches are to be replaced on a one-for-one basis;
 - b. Major trees having a trunk diameter of twelve inches up to eighteen inches are to be replaced on a two-for-one basis;
 - c. Major trees having a trunk diameter of eighteen inches up to twenty-four inches are to be replaced on a three-for-one basis;
 - d. Major trees having a trunk diameter of twenty-four inches up to thirty inches are to be replaced on a four-for-one basis; and
 - e. Major trees having a trunk diameter of thirty inches and over are to be replaced on a five-for-one basis

- (B) Trees outside of the SCPZ and the tree protection zone are not required to be replaced, however, the requirement for tree canopy shall be considered as being in addition to any other landscaping required by zoning.
- a. Trees outside of the SCPZ and preserve area are not required to be replaced, however, the requirement for tree canopy coverage shall be considered as being in addition to any other landscaping required by zoning.
 - b. In the event that the developer or owner of a heavily wooded site is unable to plant the number of trees required to achieve the canopy outlined above, said developer or owner shall replace such trees in compliance with (C) below.
- (C) Where it is impractical or not feasible to replace all of the trees on the affected lot, staff may approve one, or any combination of, the following alternatives as a means of meeting the tree replacement requirements:
- a. For those trees that cannot be replaced, the developer or owner shall be required to replace the trees elsewhere in the City; or
 - b. Pay a fee per tree in accordance with a fee schedule adopted and approved by the City of Columbus to support the City's effort to replace the trees
 - c. Use larger caliper replacement trees to achieve a planting of equal or greater value with fewer numbers. This option would require approval of the City Forester.
- (D) The developer or property owner will be required to replace both major and canopy trees within one year of plan approval.

The following example(s) is in effort to clarify doubling for the variance within a variance:

Removal of 10 trees twelve inches or under will be required to be replaced with 20 two and one-half inch trees.
Removal of 10 trees twelve to eighteen inches will be required to be replaced with 40 two and one-half inch trees.

Feel free to contact me if you have any questions after reviewing this information.

JASON T. SANSON, P.E.
SECTION MANAGER, PRIVATE DEVELOPMENT

THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

DEPARTMENT OF
PUBLIC UTILITIES

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Fax: 614-645-1840
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