CARLE PARK TREE MANAGEMENT PLAN

November 16, 2009
Updated January 10, 2011

Purpose

The Carle Park Tree Management Plan provides guidelines for Carle Park tree planting, maintenance, protection, and removal. These guidelines are subject to modification by the Urbana Park District Grounds Supervisor as experience, research, diseases, pests, and laws determine necessary or advisable.

Planting, Transportation/Handling, and Planting Techniques

Tree Planting, Transportation/Handling, and Planting Techniques should conform with the standards and guidelines of the City of Urbana Arboricultural Specifications and Standards Manual.

Tree Planting provides standards for acceptable nursery stock. Transportation and handling provides guidelines for minimizing damage during transport. Planting techniques provides established best industry practices of successful planting methodologies.

Planting Locations

Wherever possible, planting locations of trees shall conform with the standards and guidelines of the City of Urbana Arboricultural Specifications and Standards Manual. The west woods zone should be planted with large trees as tree spacing guidelines permit to retain the high canopy character of this area of the park. Small trees may be panted long the periphery of the west zone to create a gateway or understory transitional area.

Planting location should be driven primarily by expected mature tree size and corresponding spacing margins for healthy growth. Tree spacing is determined according to large (50' tall), medium (30'-45'), and small (<30') tree size classifications. Spacing is 40', 30' and 20' respectively. The chart below covers cross size spacing clearances for various combinations of new and existing trees.

	Large	Medium	Small
Large	40'	35'	30'
Medium	35'	30'	25'
Small	30'	25'	20'

Tree Species

A list of acceptable tree species has been developed with the assistance of the Carle Park Tree and Landscape Committee. Additional species not on this list that are attractive, suitable to the conditions of Carle Park, and resistant to disease, storm damage, and/or pests may be considered upon review by the Urbana Park District Grounds Supervisor.

When selecting a tree, it is important to consider the site opportunities and limitations to determine the best species tree for that spot. This evaluation should include:

- *Diversity* – recommend working toward a 5%-10% limit of any one species/genus
- *Disease Factor* – recommend not planting trees with high potential for disease
- *Native/Non-Native* – native trees vs non-native; indigenous; native/nearly native; naturalized; Illinois native vs central Illinois.
- *Design Characteristics* – unique species, size/scale, form, texture, color, flower/leaf/bark
- *Physiological Requirements* – sun/shade, wet/dry, soil, understory/canopy, habit, special needs
- *Location* – size, scale, understory, canopy, sun/shade, open/closed areas, prairie vs moraine
- *Habitat* – wildlife use/potential, food, shelter, beneficial
- *Structural Characteristics* – weak/strong wood, form/growth habit, ice storm resistant, other, visibility/view shed
- *Education* – trees that add unique trees to the park for educational purposes; identification
- *What Not to Plant* – thorns, disease prone, poor quality trees, over % trees, messy trees
- *Life Cycle* – life span, long lived/short lived, specifics during life cycle

A list of undesirable species has been developed within the City of Urbana's Arboricultural Specifications and Standards Manual. Unless approved by the Grounds Supervisor, these species and should not be planted due to known problems that outweigh the value of the specific species.

To protect park trees from the disease and pest outbreaks, no new plantings should occur of species that exceed 5% of the park tree population at the time of planting. Within a genus, no new plantings should occur of genus that exceed 10% of the park tree population. Exceptions may be considered where a replacement tree is needed for an individual tree/location that is part of the Hickman Tree Walk or where a large portion of the representative species or genus is expected to be lost due to imminent natural decline.

Maintenance

Early and General Maintenance should conform with the standards and guidelines of the City of Urbana Arboricultural Specifications and Standards Manual.

Early maintenance should include watering and light pruning. In limited situations, staking and/or fertilization may be considered advisable.

General maintenance should consist primarily of pruning. Per adopted guidelines, Fine, Medium, General, and Safety Reduction Pruning should take place on a seven to ten year cycle.

Several pilot mulch areas have been established to reduce compaction, protect exposed roots, and limit mowing in heavy canopy areas. These mulch areas will be evaluated annually and should be replenished on a two to four year cycle or as conditions warrant. The neighborhood may facilitate more frequent mulching by coordinating a staff assisted annual workday.

Tree Protection and Removals

Tree protection and removals should conform with the standards and guidelines of the City of Urbana Arboricultural Specifications and Standards Manual.

Tree Protection guidelines include establishment of critical root zones, root pruning, construction protection, and grade changes.

Tree Removal guidelines include conditions which do and do not warrant removal. Generally, conditions that warrant removal are when the tree is considered a liability. Conditions that do not warrant removal are those classified as a nuisance.

Park Zones

West Woods

The West Woods contains an abundance of large canopy trees. Replacement tree plantings within this core area should be selected from species that will maintain this elevated canopy character once mature.

East Woods

The East Woods include several specimen trees that are the focus of intensified protective efforts. These trees include two English oaks, a black gum, a sycamore, and a smoothleaf elm. Mulching, growth regulator applications, and other recommended treatments will be considered for these specimen trees. The east woods additionally contain a number of tree plantings that complement a garden or activity area. These include the Miller Garden, the Lincoln Statue Garden, and the Playground Landscape.

Gateways
Trees and shrubs at the north and south park path gateways will be pruned/removed, selected/replaced, and oriented to provide path to road visibility.

Wildflower Bed(s)
The northeast mulch bed supports a wildflower bed. Flowerbed maintenance is supported by volunteer efforts. The bed contains a combination of donated and district propagated wildflowers. The bed should be protected from mower traffic and signed as necessary.

Traffic Zones
Wherever possible, district vehicular traffic should be confined to the historic concrete plaza approach off Race Street and non-canopied turf areas. Limited district vehicular traffic in other areas of the park will be occasionally necessary for watering new tree plantings, emergency maintenance, and/or vehicular supported maintenance. Non-district vehicles are prohibited from the park except where granted with written permission.

Candidate Species for Carle Park Tree Plantings

The following is a list of species deemed suitable for Carle Park*

Planning for mortality over time, large canopy species will be replanted into the core west woods area.

Small understory trees may be planted along the periphery of large canopy tracts.

Scientific	Common	Native
Abies concolor	Concolor fir	
Acer ginnala	Amur maple	
Acer miyabei	Miyabe maple	
Acer rubrum	Red maple	Native
Acer saccharum	Sugar maple	Native
Aesculus octandra	Yellow buckeye	Native
Amelanchier sp	Seviceberry	
Amelanchier x grandiflora	Apple serviceberry	
Carpinus caroliniana	American hornbeam	Native
Carya cordiformis	Bitternut hickory	
Carya ovata	Shagbark hickory	Native
Castanea dentata	American chestnut	Native
Catalpa speciosa	Northern catalpa	Native
Celtis laevigata	Sugar hackberry	Native
Celtis occidentalis	Hackberry	Native
Cercidiphyllum japonicum	Katsuratree	
Cercis canadensis	Redbud	Native
Chionanthus virginicus	White fringetree	
Cornus mas	Corneliancherry dogwood	
Cornus sp	Dogwood	
Corylus columa	Turkish filbert	
Cotinus obovatus	American Smoketree	
Fagus grandifolia	American beech	Native
Ginkgo biloba	Ginkgo	
Glymnocladus dioicus	Kentucky coffeetree	Native
Halesia carolina	Carolia silverbell	Native
Koelreutenia paniculata	Goldenraintree	
Liriodendron tulipifera	Tuliptree	Native
Magnolia acuminata	Cucumbertree magnolia	Native
Magnolia virginiana	Sweetbay magnoloia	
Malus sp	Crab apple	
Ostrya virginiana	American Hophornbeam	Native
Phellodendron amurense	Amur corktree	
Picea omorika	Serbian spruce	
Pinus flexilis	Limber pine	
Platanus occidentalis	Sycamore	Native
Quercus acutissima	Sawtooth oak	
Quercus alba	White oak	Native
Quercus bicolor	Swamp white oak	Native
Quercus macrocarpa	Bur oak	Native
Quercus muehlenbergii	Chinkapin oak	Native
Quercus prinus	Chestnut oak	Native
Sassafras albidum	Sassafras	Native
Sophora japonica	Japaneese pagoda tree	
Syringa reticulata	Japaneese lilac tree	
Taxodium distichum	Baldcypress	Native
Tilia amerciana	Basswood	Native

Tilia tomentosa	Silver linden	
Tsuga canadensis	Eastern hemlock	
Ulmus accolade	Accolade elm	Native
Ulmus americana "Valley Fo	American elm	Native
Ulmus parviflora	Lacebark elm	
Viburnum prunifolium	Blackhaw viburnum	Native
Zelkova serrata	Japaneese zelkova	

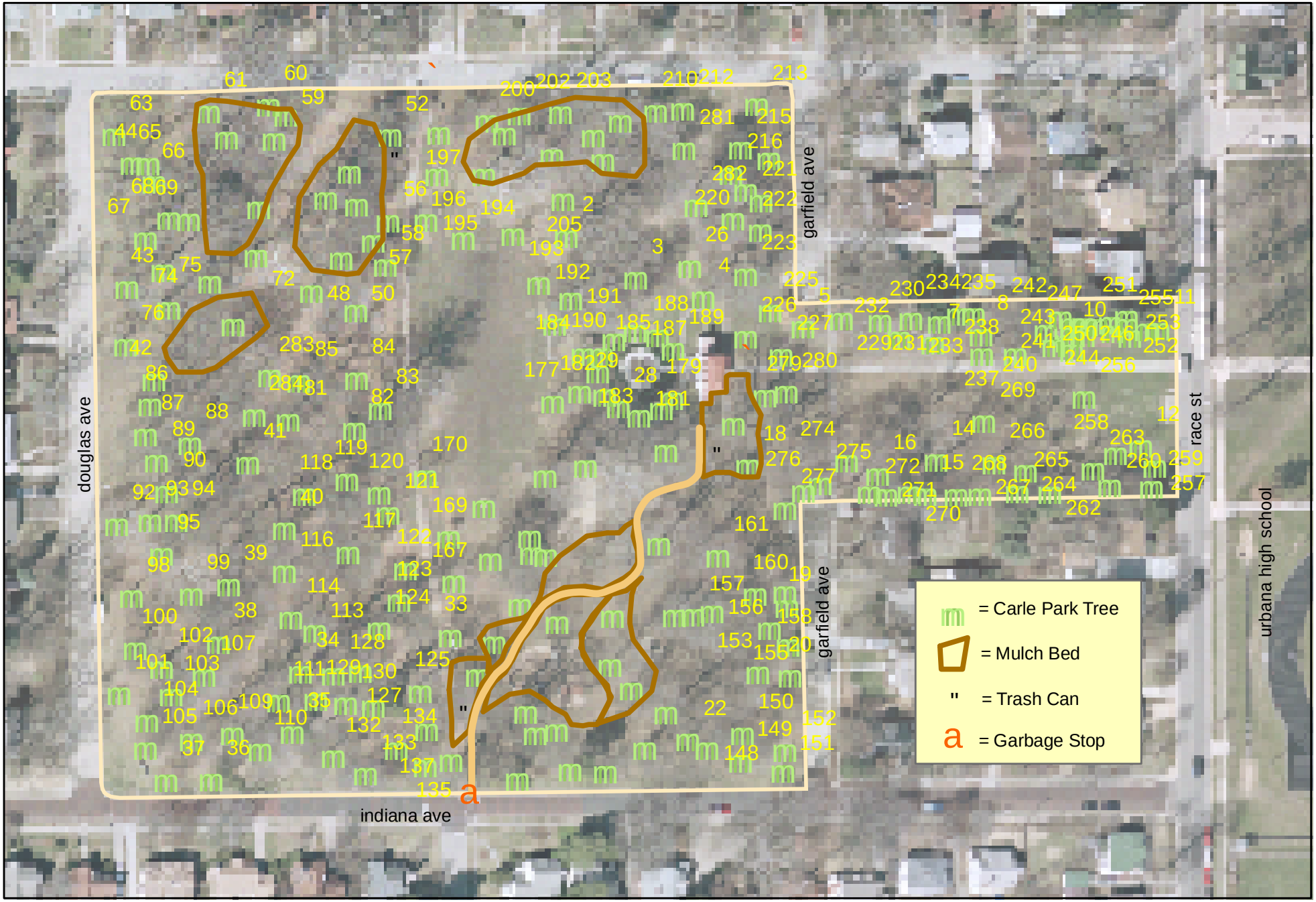
**this list is prone to revision as disease epidemics, species disease resistance, improved strains, and new developments warrant*

Trees By Quantity

Comon Name	Scientific Name	# Trees	% of total	% by genus
Balsalm Fir	Abies balsamea	1	0.40%	
Vetch Fir	Abies veitchii	3	1.21%	1.62%
Marmo maple	Acer freemanii	2	0.81%	
Amur Maple	Acer ginnala	1	0.40%	
Black Maple	Acer nigrum	1	0.40%	
Norway Maple	Acer platanoides	3	1.21%	
Red Maple	Acer rubrum	4	1.62%	
Silver Maple	Acer saccharinum	4	1.62%	
Sugar Maple	Acer saccharum	28	**11.34%**	
Three Flowered Maple	Acer triflorum	1	0.40%	**17.81%**
Red Buckeye	Aesculus	1	0.40%	
Horsechesnut	Aesculus hippocastanum	1	0.40%	
Buckeye	Aesculus sp.	1	0.40%	1.21%
Serviceberry	Amelanchier arborea	3	1.21%	1.21%
River Birch	Betula nigra	3	1.21%	1.21%
Norther Catalpa	Catalpa speciosa	11	4.45%	4.45%
Common Hackberry	Celtis occidentalis	10	4.05%	4.05%
Eastern Redbud	Cercis canadensis	17	**6.88%**	6.88%
Corneliancherry Dogwood	Cornus mas	1	0.40%	
Dogwood	Cornus sp	2	0.81%	1.21%
Downy Hawthorn	Crataegus mollis	4	1.62%	1.62%
American Beech	Fagus grandifolia	1	0.40%	
European Beech	Fagus sylvatica	1	0.40%	0.81%
White Ash	Fraxinus americana	2	0.81%	
Green Ash	Fraxinus pennylvanica	3	1.21%	2.02%
Ginkgo	Ginkgo biloba	1	0.40%	0.40%
Thornless Common Honey Locust	Gleditsia triancanthos var inermis	1	0.40%	0.40%
Kentucky Coffee Tree	Gymnocladus dioica	1	0.40%	0.40%
Carolina Silverbell	Halaesia carolina	1	0.40%	0.40%
Black Walnut	Juglans nigra	2	0.81%	0.81%
Eastern Redcedar	Juniperus virginiana	2	0.81%	0.81%
Panicled Golden Raintree	Koelreuteria paniculata	1	0.40%	0.40%
Cucumbertree Magnolia	Magnolia acuminata	1	0.40%	0.40%
Tuliptree	Liriodendron tulipifera	10	4.05%	4.05%
Crabapple	Malus sp.	4	1.62%	1.62%
Blackgum	Nyssa sylvatica	3	1.21%	1.21%
Norway Spruce	Picea abies	6	2.43%	
Blue Spruce	Picea pungens	1	0.40%	2.83%
Austrian Pine	Pinus nigra	2	0.81%	
Eastern White Pine	Pinus strobus	5	2.02%	2.83%
Sycamore	Platanus occidentalis	9	3.64%	3.64%
Black Cherry	Prunus serotina	2	0.81%	0.81%
Douglas Fir	Pseudotsuga menzeisii	14	**5.67%**	5.67%
Sawtooth Oak	Quercus acutissima	2	0.81%	
White Oak	Quercus alba	3	1.21%	
Swamp White Oak	Quercus bicolor	1	0.40%	
Shingle Oak	Quercus imbricaria	5	2.02%	
Burr Oak	Quercus macrocarpa	2	0.81%	

Pin Oak	Quercus palustrus	29	**11.74%**	
English Oak	Quercus robur	3	1.21%	
Northern Red Oad	Quercus rubra	9	3.64%	
Black oak	Quercus velutina	1	0.40%	**22.27%**
Common Sassafras	Sassafras albidum	1	0.40%	0.40%
Common Baldcypress	Taxodium distichum	5	2.02%	2.02%
American Basswood	Tilia americana	5	2.02%	
Littleleaf Linden	Tilia cordata	2	0.81%	2.83%
American Elm	Ulmus americana	3	1.21%	
Smoothleaf Elm	Ulmus carpinifolia 'Variegata'	1	0.40%	1.62%
		247	100.00%	100.00%

Carle Park
Tree Management Plan



Source: CCRPC, UPD
January 10, 2011
DAL

INV #	Common Name	Scientific Name	DBH	Tree Ht	Tree Sprd
Tree Inventory- Carle Park					
1	Sycamore	Platanus occidentalis	46	61'	85'
2	Tuliptree	Liriodendron tulipifera	48	65'	104'
3	Small Leaved Linden	Tilia cordata	35	45'	53'
4	Flowering Dogwood	Cornus florida	6	15'	25'
5	Sawtooth Oak	Quercus acutissima	13	49'	36'
7	Common Sassafras	Sassafras albidum	9	34'	31'
8	Thornless Common Honeylocust	Gleditsia triacanthos var. inermis	26	52'	58'
10	Veitch Fir	Abies veitchii	20	41'	36'
11	Douglasfir	Pseudotsuga menzeisii	14	41'	31'
12	River Birch	Betula nigra	6	38'	35'
14	Northern Red Oak	Quercus rubra	39	81'	85'
15	Corneliancherry Dogwood	Cornus mas	3stem- 4.5	23'	25'
16	Eastern White Pine	Pinus strobus	14	62'	22'
18	English Oak	Quercus robur	50	87'	74'
19	Balck Cherry	Prunus serotina	2stem- 20	67'	43'
20	American Elm	Ulmus americana	3.5	28'	15.5'
22	Pin Oak	Quercus palustrus	39	84'	70'
23	Austrian Pine	Pinus nigra	22	58'	33'
24	Downy Hawthorn	Crataegus mollis	10	26'	26'
25	American Linden	Tilia americana	37	103'	60'
26	Horsechestnut	Aesculus hippocastanum	3	15'	12'
27	Blackgum	Nyssa sylvatica	22	62'	67'
28	Eastern Redbud	Cercis canadensis	5.5	17'	18'
29	Crabapple	Malus sp.	14	31'	34'
30	Smoothleaf Elm	Ulmus carpinifolia 'Variegata'	44	85'	55'
32	Amur Maple	Acer ginnala	6stem - 6	26'	33'
33	Serviceberry	Amelanchier arborea	4stem - 4	31'	18'
34	Shingle Oak	Quercus imbricaria	32	100'	70'
35	Norway Spruce	Picea abies	12	41'	16'
36	Balsam Fir	Abies balsamea	15	58'	22'
37	Baldcypress	Taxodium distichum	22	52'	31'
38	Norway Maple	Acer platanoides	24	69'	63'
39	Silver Maple	Acer saccharinum	21.5	80'	50'
40	White Oak	Quercus alba	35	94'	75'
41	Common Hackberry	Celtis occidentalis	22	80'	63'
42	Swamp White Oak	Quercus bicolor	33	93'	70'
43	Northern Catalpa	Catalpa speciosa	34	70'	50'
44	Black Walnut	Juglans nigra	21	71'	57'
45	Panicled Golden Raintree	Koelreuteria paniculata	4	25'	16'
46	Sugar Maple	Acer saccharum	30.5	82'	80'
47	European Beech	Fagus sylvatica	18	48'	41'

48	Black Maple	Acer nigrum	33	82'	78'
49	Red Maple	Acer rubrum	13	47'	47'
50	Ginkgo	Ginkgo biloba	12	43'	43'
52	White Ash (treatments)	Fraxinus americana	5	28'	18'
53	Sugar Maple	Acer saccharum	23	73'	63'
54	Pin Oak	Quercus palustrus	40	100'	95'
55	Pin Oak	Quercus palustrus	15.5	54'	47'
56	American Baswood	Tilia americana	17	56'	40'
57	American Baswood	Tilia americana	16	56'	40'
58	American Baswood	Tilia americana	18	56'	40'
59	Sugar Maple	Acer saccharum	21	83'	65'
60	Pin Oak	Quercus palustrus	11	63'	35'
61	Sugar Maple	Acer saccharum	21	83'	65'
65	American Elm	Ulmus americana	4 stem - 9	76'	40'
66	Tuliptree	Liriodendron tulipifera	21	82'	70'
67	Pin Oak	Quercus palustrus	30	70'	56'
68	White Oak	Quercus alba	32	103'	82'
69	White Oak	Quercus alba	33.5	98'	88'
71	Sugar Maple	Acer saccharum	15	60'	65'
72	Sycamore	Platanus occidentalis	33	89'	62'
73	Tuliptree	Liriodendron tulipifera	19	66'	50'
74	Pin Oak	Quercus palustrus	39.5	105'	65'
75	Pin Oak	Quercus palustrus	40	106'	90'
76	Hackberry	Celtis occidentalis	17	51'	42'
78	Sugar Maple	Acer saccharum	29.5	88'	38'
81	Pin Oak	Quercus palustrus	37	100'	90'
82	Pin Oak	Quercus palustrus	47	100'	90'
83	Sycamore	Platanus occidentalis	44	91'	84'
84	Northern Catalpa	Catalpa speciosa	8	14'	10'
85	Pin Oak	Quercus palustrus	35	100'	90'
86	Pin Oak	Quercus palustrus	31	95'	78'
87	Pin Oak	Quercus palustrus	35	96'	76'
88	Sugar Maple	Acer saccharum	15.5	70'	50'
89	Northern Catalpa	Catalpa speciosa	27	75'	40'
90	Pin Oak	Quercus palustrus	37.5	105'	91'
92	Sycamore	Platanus occidentalis	35	86'	60'
93	Pin Oak	Quercus palustrus	28	96'	52'
94	Northern Catalpa	Catalpa speciosa	28.5	83'	41'
95	Sycamore	Platanus occidentalis	36.5	100'	74'
98	Northern Red Oak	Quercus rubra	23	80'	53'
99	Pin Oak	Quercus palustrus	36	92'	61'
100	Pin Oak	Quercus palustrus	35	82'	58'
101	Baldcypress	Taxodium distichum	3	14'	12'
102	Tuliptree	Liriodendron tulipifera	45	106'	85'
103	Sugar Maple	Acer saccharum	18	70'	61'
104	Pin Oak	Quercus palustrus	26	86'	53'

105	Baldcypress	Taxodium distichum	13	44'	34'
106	Sugar Maple	Acer saccharum	18	46'	53'
107	Tuliptree	Liriodendron tulipifera	20	76'	49'
109	Sugar Maple	Acer saccharum	24	64'	68'
110	Black Walnut	Juglans nigra	13	57'	40'
111	Pin Oak	Quercus palustrus	40	108'	85'
113	Shingle Oak	Quercus imbricaria	34	100'	80'
114	American Basswood	Tilia americana	24.5	92'	60'
116	Sugar Maple	Acer saccharum	21	73'	63'
117	Hackberry	Celtis occidentalis	23	66'	60'
118	Pin Oak	Quercus palustrus	46	108'	88'
119	Northern Red Oak	Quercus rubra	26	76'	52'
120	Shingle Oak	Quercus imbricaria	7	30'	24'
121	Shingle Oak	Quercus imbricaria	7	30'	24'
122	Kentucky Coffee Tree	Gymnocladus dioica	1.5	11'	5'
123	Pin Oak	Quercus palustrus	31	93'	58'
124	Green Ash (treatments)	Fraxinus pennsylvanica	4	26'	12'
125	Tuliptree	Liriodendron tulipifera	34.5	98'	85'
126	Norway Spruce	Picea abies	19.5	66'	39'
127	Green Ash (treatments)	Fraxinus pennsylvanica	8	56'	20'
128	Eastern Redbud	Cercis canadensis	8	36'	20'
129	Sugar Maple	Acer saccharum	2	12'	6'
130	Northern Catalpa	Catalpa speciosa	2	10'	8'
132	Norway Maple	Acer platanoides	20	60'	54'
133	Sugar Maple	Acer saccharum	13	40'	46'
134	Tuliptree	Liriodendron tulipifera	22.5	73'	47'
135	Crabapple	Malus sp.	10	25'	32'
136	Crabapple	Malus sp.	2 stem - 10	28'	30'
137	Pin Oak	Quercus palustrus	37.5	86'	92'
138	Hackberry	Celtis occidentalis	22.5	70'	77'
139	Pin Oak	Quercus palustrus	38	103'	80'
140	Austrian Pine	Pinus nigra	19	44'	37'
141	Three Flowered Maple	Acer triflorum	1	10'	7'
142	Green Ash (treatments)	Fraxinus pennsylvanica	4	28'	19'
144	Pin Oak	Quercus palustrus	34	98'	70'
145	Pin Oak	Quercus palustrus	42	102'	80'
146	Silver Maple	Acer saccharinum	28	95'	71'
147	Silver Maple	Acer saccharinum	19	58'	61'
148	Northern Red Oak	Quercus rubra	23	79'	56'
149	Downy Hawthorn	Crataegus mollis	4 stem - 7.5	29'	33'
150	Northern Red Oak	Quercus rubra	21	71'	56'
151	Red Maple	Acer rubrum	5	22'	19'
152	Pin Oak	Quercus palustrus	19.5	67'	56'
153	Sugar Maple	Acer saccharum	19	61'	59'
154	Norway Spruce	Picea abies	21	56'	34'
155	Tuliptree	Liriodendron tulipifera	17	68'	40'

156	Red Maple	Acer rubrum	11.5	51'	40'
157	Burr Oak	Quercus macrocarpa	51	100'	94'
158	Dogwood	Cornus sp.	5	31'	25'
160	Sugar Maple	Acer saccharum	30	78'	64'
161	Northern Catalpa	Catalpa speciosa	35.5	79'	47'
162	Silver Maple	Acer saccharinum	38.5	95'	78'
164	Norway Maple	Acer platanoides	8	32'	27'
165	Red Maple	Acer rubrum	21	45'	45'
166	Burr Oak	Quercus macrocarpa	3	15'	10'
167	Sugar Maple	Acer saccharum	14.5	45'	45'
168	Pin Oak	Quercus palustrus	37	96'	72'
169	Shingle Oak	Quercus imbricaria	7	32'	23'
170	Northern Red Oak	Quercus rubra	18	50'	42'
171	Hackberry	Celtis occidentalis	5	25'	18'
172	Sugar Maple	Acer saccharum	13.5	50'	52'
173	Eastern White Pine	Pinus strobus	11	55'	22'
174	Sugar Maple	Acer saccharum	12	47'	47'
175	Sycamore	Platanus occidentalis	47.5	106'	91'
177	Northern Catalpa	Catalpa speciosa	18.5	45'	34'
179	Eastern Redbud	Cercis canadensis	2 stem - 4	21'	17'
180	Eastern Redbud	Cercis canadensis	2 stem - 4	23'	18'
181	Eastern Redbud	Cercis canadensis	2 stem - 4	23'	18'
182	Eastern Redbud	Cercis canadensis	3 stem - 4	24'	18'
183	Eastern Redbud	Cercis canadensis	3 stem - 3	20'	17'
184	Crabapple	Malus sp.	11	35'	24'
185	Eastern Redbud	Cercis canadensis	5	18'	10'
186	Eastern Redbud	Cercis canadensis	5	20'	20'
187	Eastern Redbud	Cercis canadensis	2 stem - 3	16'	20'
188	Eastern Redbud	Cercis canadensis	2 stem - 6	23'	22'
189	Eastern Redbud	Cercis canadensis	6	20'	14'
190	Red Buckeye	Aesculus	2	12'	12'
191	Sugar Maple	Acer saccharum	29	58'	73'
192	Small Leaved Linden	Tilia cordata	6.5	22'	18'
193	Black Oak	Quercus velutina	11	47'	30'
194	Northern Catalpa	Catalpa speciosa	10	30'	34'
195	White Ash (treatments)	Fraxinus americana	15.5	38'	44'
196	Blackgum	Nyssa sylvatica	1	8'	6'
197	Eastern Redbud	Cercis canadensis	2 stem - 9	32'	38'
200	Sugar Maple	Acer saccharum	20	60'	51'
201	Sugar Maple	Acer saccharum	9	51'	36'
202	Sugar Maple	Acer saccharum	19	60'	53'
203	Tuliptree	Liriodendron tulipifera	2 stem - 35	109'	70'
204	Sugar Maple	Acer saccharum	33	85'	65'
205	Tuliptree	Liriodendron tulipifera	10.5	45'	42'
207	Sugar Maple	Acer saccharum	28.5	90'	65'
208	Sugar Maple	Acer saccharum	22	80'	60'

209	Sugar Maple	Acer saccharum	31	93'	69'
210	Baldcypress	Taxodium distichum	6.5	28'	17'
212	Baldcypress	Taxodium distichum	8	33'	21'
213	Northern Red Oak	Quercus rubra	17.5	58'	47'
214	Buckeye	Aesculus sp.	1.5	10'	6'
215	Downy Hawthorn	Crataegus mollis	7.5	32'	32'
216	Downy Hawthorn	Crataegus mollis	6.5	36'	25'
219	Hackberry	Celtis occidentalis	21.5	73'	57'
220	Northern Red Oak	Quercus rubra	13	74'	32'
221	Marmo Maple	Acer freemanii	23.5	75'	54'
222	Marmo Maple	Acer freemanii	35	77'	63'
223	Eastern White Pine	Pinus strobus	11	37'	23'
225	Sawtooth Oak	Quercus acutissima	12.5	60'	37'
226	English Oak	Quercus robur	5	34'	18'
227	Eastern Redbud	Cercis canadensis	3 stem - 2	15'	13'
229	Sycamore	Platanus occidentalis	25	90'	54'
230	Sugar Maple	Acer saccharum	27	64'	52'
231	Norway Spruce	Picea abies	17	62'	36'
232	Sycamore	Platanus occidentalis	34	92'	59'
233	Vietch Fir	Abies veitchii	21	66'	37'
234	Eastern Redcedar	Juniperus virginiana	5	20'	15'
235	Eastern Redcedar	Juniperus virginiana	4	18'	15'
237	Sycamore	Platanus occidentalis	30	95'	60'
238	Blackgum	Nyssa sylvatica	15.5	58'	40'
239	Douglasfir	Pseudotsuga menzeisii	2	12'	8'
240	Blue Spruce	Picea pungens	2	8'	8'
241	Douglasfir	Pseudotsuga menzeisii	2	10'	10'
242	Douglasfir	Pseudotsuga menzeisii	9.5	60'	
243	Douglasfir	Pseudotsuga menzeisii	9.5	60'	
244	Vietch Fir	Abies veitchii	7.5	58'	
245	Douglasfir	Pseudotsuga menzeisii	12	57'	
246	Douglasfir	Pseudotsuga menzeisii	13	55'	
247	Douglasfir	Pseudotsuga menzeisii	12	55'	
249	Douglasfir	Pseudotsuga menzeisii	14.5	53'	
250	Douglasfir	Pseudotsuga menzeisii	9	53'	
251	Douglasfir	Pseudotsuga menzeisii	13	52'	
252	Douglasfir	Pseudotsuga menzeisii	12	50'	
253	Douglasfir	Pseudotsuga menzeisii	9.5	50'	
255	Douglasfir	Pseudotsuga menzeisii	11.5	50'	
256	Eastern Redbud	Cercis canadensis	2 stem - 8	24'	26'
257	River Birch	Betula nigra	4 stem - 5	40'	34'
258	River Birch	Betula nigra	3 stem - 7	42'	34'
259	Norway Spruce	Picea abies	10	38'	22'
260	Norway Spruce	Picea abies	7.5	38'	20'
262	Black Cherry	Prunus serotina	6.5	30'	20'
263	Northern Catalpa	Catalpa speciosa	26	70'	34'

264	Northern Catalpa	Catalpa speciosa	31	76'	46'
265	Eastern White Pine	Pinus strobus	17	56'	34'
266	Northern Red Oak	Quercus rubra	4 stem - 22	90'	72'
267	Common Hackberry	Celtis occidentalis	5	23'	23'
268	Common Hackberry	Celtis occidentalis	14	45'	33'
269	Northern Catalpa	Catalpa speciosa	6	27'	22'
270	Eastern White Pine	Pinus strobus	8	40'	20'
271	Common Hackberry	Celtis occidentalis	6	42'	30'
272	Common Hackberry	Celtis occidentalis	9	54'	40'
274	Sugar Maple	Acer saccharum	25	80'	73'
275	Pin Oak	Quercus palustrus	15	70'	45'
276	Pin Oak	Quercus palustrus	9	46'	26'
277	Pin Oak	Quercus palustrus	27	70'	60'
278	English Oak	Quercus robur	57.5	90'	97'
279	Eastern Redbud	Cercis canadensis	3 stem - 1	12'	12'
280	Eastern Redbud	Cercis canadensis	2 stem - 2	15'	12'
281	Cucumbertree magnolia	Magnolia acuminata	3	10'	8'
282	American Beech	Fagus grandifolia	3	10'	10'
283	Carolina silverbell	Halaesia carolina	2	8'	8'
284	American elm	Ulmus Americana "Valley Forge"	2	8'	8'
285	Serviceberry	Amelanchier arborea	mult stem	6'	4'
286	Serviceberry	Amelanchier arborea	mult stem	6'	4'

Arboricultural Specifications and Standards Manual

Revised August 2007

TABLE OF CONTENTS

Arboricultural Specifications and Standards Manual

City of Urbana, Illinois

Appendix

A. Tree Species Tables
   1. Large Trees
   2. Medium Trees
   3. Small Trees
   4. Undesirable Trees
   5. Trees for Difficult Areas

B. Quick Reference to Tree Protection Zone

C. Detailed Specifications: Parkway Tree Pruning

D. Tree and Landscape Work Permit

E. Co-op Tree Planting Program

F. Tree Replacement Program

G. New Subdivision Tree Replacement Program

H. Reference Materials
   1. Safety Requirements for Tree Care Operations, the American National Standards Institute, Inc. ANSI Z133.1, most current edition
      [www.isa-arbor.com/publications/pdfs/zpart1.pdf]
      [www.isa-arbor.com/publications/pdfs/zpart2.pdf]
      [www.isa-arbor.com/publications/arbnews/pdfs/zpart3.pdf]
   2. American Standard for Nursery Stock, ANSI Z601, most current edition
      [www.anla.org/applications/Documents/Docs/ANLAstandard2004.pdf]
   3. Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices for Tree Care Operations, the American National Standards Institute ANSI A300, most current edition
      [www.tcia.org/Public/gov_standards_a300.htm]

I. Other Recommended References

Printed Materials

1. Under the Canopy: A Guide to Selecting, Planting and Caring for Trees in Illinois. Urbana: City of Urbana Public Works, 2007.
2. Fazio, James R. Trenching and Tunneling Near Trees: A Field Pocket Guide for Qualified Utility Workers. Nebraska City: National Arbor Day Foundation, 1998.
3. National Register of Big Trees. Washington D.C.: American Forests, 2007.
4. Dirr, Michael A. Manual of Woody Landscape Plants. 5th ed. Champaign: Stipes Publishing, 1998.

5. Smith, Michael D. The Ortho Problem Solver. 6th ed. DesMoines: Meredith Books, 2003.

City of Urbana Publications

1. State Street Tree Trail Guide. Urbana: City of Urbana Public Works, 2002.
2. Urbana Greenscapes. Urbana: City of Urbana Public Works, 2000.
3. How to Use Compost. Urbana: City of Urbana Public Works, 2005.

Websites

3. International Society of Arboriculture [www.isa-arbor.com]
4. The Morton Arboretum [www.mortonarb.org]
5. UI Plants: Woody Ornamentals [woodyplants.nres.uiuc.edu/plant/]
6. Landscape Recycling Center [www.ci.urbana.il.us/urbana/public_works/arbor/lrc/Main.asp]

INTRODUCTION

This Arboricultural Specifications and Standards Manual is designed to supplement and support the City of Urbana's Vegetation Ordinance for Regulating the Planting, Maintenance, and Removal of Trees, Shrubs, and Other Plants. The objective of this manual is to present the best tree planting, maintenance, protection, and removal techniques based on accepted arboricultural standards. The guidelines and standards presented in this manual apply only to public trees as defined in Article II of Urbana's Vegetation Ordinance. The City Arborist and Urbana Tree Commission have the authority to maintain and modify this manual any time that experience, new research, or laws indicate that improved methods or circumstances make it advisable.

Safety Requirements

In all operations related to public tree planting, maintenance, and removal, safety of workers, citizens, and the general public shall be of primary importance. Contractors are required to follow the safety requirements for tree care operations as presented in the most current edition American National Standards Institute ANSI Z133.1 (See Appendix H-1).

Available online in sections at:

- www.isa-arbor.com/publications/pdfs/zpart1.pdf
- www.isa-arbor.com/publications/pdfs/zpart2.pdf
- www.isa-arbor.com/publications/arbnews/pdfs/zpart3.pdf

PLANTING

1. Plant Materials

A. All trees shall be grown in a nursery located within similar temperature zones as Urbana, Illinois and licensed by the respective State.

B. All trees shall conform to the "American Standard For Nursery Stock" as approved by the American National Standards Institute, Inc., and issued as the most current edition of ANSI Z60.1 (See Appendix H-2). Available online at www.anla.org/applications/Documents/Docs/ANLAstandard2004.pdf.

C. Trees shall have a minimum trunk diameter of 2 inches, as measured 6 inches above the root flare, unless the City Arborist grants written permission to allow smaller trees.

D. Trees selected for planting in the City shall be healthy and free of insects, diseases, bark bruises, and scrapes on the trunk or limbs, before and after planting. Trees shall be single-stemmed and have a central leader that can be pruned so the lowest limb is at least 6 feet above ground, with the exception of small growing trees such as crabapples. All trees shall have a balanced crown, and a well-developed root system.

E. Trees shall have their north orientation marked with a painted dot by the nursery prior to digging.

F. Unless a tree is to be transplanted by mechanized tree spade, all tree roots shall be balled and burlapped, or containerized. Nylon twine shall not be used for balling. Minimum ball size must conform to the most current edition of ANSI Z60.1. Root balls shall be intact at the time of planting. Bare root plantings are discouraged, but may be approved in special cases by the City Arborist.

G. The root flare of balled and burlapped trees shall be within the top 1/2 inch of the root ball, and the structural roots shall be within the top 3 inches of the soil surface. (See Figure 1)

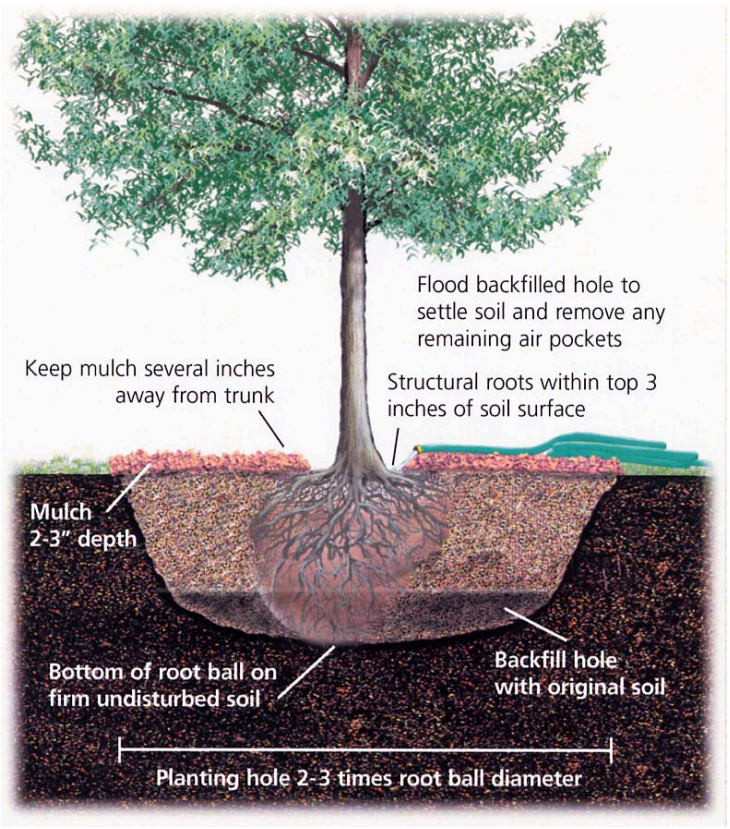


Figure 1 – Tree Planting Detail

2. Transportation and Handling

A. Trees shall be covered during transport to the planting site.

B. Plant material shall be handled in a manner that causes the least amount of damage during the planting process.

C. Balled and burlapped plants shall always be handled by the soil ball. Under no circumstances shall they be dragged, lifted or pulled by the trunk or foliage.

D. Plants shall be handled, secured, or covered to prevent damage from wind and vibration. Plants shall never be allowed to drop, but shall always be lowered in a controlled manner.

E. Plant material shall be planted the day it is taken to the planting site, or it shall be watered and/or covered, and placed in a shady area to prevent drying out or freezing.

3. Planting Techniques

A. The Spring planting season shall begin when the ground has sufficiently thawed and end approximately one week before buds begin to break. Spring planting may be extended through the end of May as long as the trees have been dug at the nursery before bud break and stored properly until planting. The Fall planting season will begin after mid-September and end by mid-November or with the onset of prolonged freezing temperatures.

B. Tree holes may be machine dug only with the written approval of the City Arborist. All other tree planting holes will be manually dug. If the existing lawn is damaged, it shall be the responsibility of the applicant or contractor to restore the lawn to its original condition. The applicant or contractor shall also secure all necessary underground utility locations prior to planting.

C. The planting hole shall be a minimum of twice the diameter of the ball (3 times wider in compacted soil), with sides sloping inward toward the bottom of the root ball (see Figure 1). The planting hole shall not be dug to a depth deeper than the depth of the root ball. The root ball must be placed on undisturbed subgrade. The resulting hole shall place the structural roots within the top 3 inches of the soil surface when measured at 4 inches from trunk, unless special drainage needs are approved by the City Arborist.

D. Excavated planting pits that are open when work is not in progress pose a hazard to pedestrians and shall be adequately barricaded with approved warning devices. No planting pit may remain open in excess of 24 hours.

E. Generally the tree shall be planted so that the root collar is at or slightly (no more than 1 inch) above grade unless structural root depth (see letter “C” above) dictates otherwise. The City Arborist may allow exceptions to this rule if extraordinary drainage needs exist.

F. The tree shall be placed plumb and in the center of the planting hole.

G. All ropes, strings, nails, burlap wrapping, and wire baskets shall be removed from the upper 2/3 the root ball after the tree has been placed in the planting hole.

H. In most instances, the backfill around the ball shall be the same soil as that which was removed from the hole; however, in cases where rocks, stones, etc., are encountered, top soil shall be used, and in cases of highly compacted clay soil, existing soil may be amended with 25% compost.

I. When approximately 2/3 to 3/4 of the planting pit has been backfilled, the hole shall be watered to settle the soil around the roots. After the water has been absorbed, the planting pit shall be filled with the planting soil, tamped lightly to grade, and watered thoroughly again. Any further settlement shall be brought to grade with additional planting soil.

J. A shallow soil berm, approximately 3 to 4 inches high, can be formed just inside the edge of the planting hole to serve as a water reservoir if the planting area is located on a slope.

K. After planting, planting contractors shall apply a 2 to 3 inch layer of wood chips or other approved organic mulch to the top of the planting hole to within approximately 3 to 4 inches of the trunk. No mulch shall be placed in direct contact with the trunk of the tree.

L. Any excess soil, debris, or trimming shall be removed from the planting site immediately upon completion of planting.

M. The trunk of the tree shall not be wrapped. Any existing trunk wrapping materials shall be removed and disposed of.

N. All tags, wires, and plastic ties shall be removed from each tree unless otherwise specified.

O. Trees shall only be staked if located in loose sandy soils or windy areas. Rubber cords/tubing or flat straps shall be used to avoid girdling the tree. Hose and wire combinations are prohibited. Staking should allow some trunk movement.

4. Planting Locations

Planting locations of trees shall be subject to the following regulations:

A. Large trees (see Appendix A-1) shall be planted no closer than 40 feet from any other large parkway tree. Trees of medium size (see Appendix A-2) shall be planted no closer than 30 feet from any other medium-sized parkway tree. Small trees (see Appendix A-3) shall be planted no closer than 20 feet from any other small parkway tree. New tree plantings of all sizes can be as close as 20 feet to existing conifer trees. When planting a new tree next to an existing variety of a different size, minimum spacing shall be calculated by averaging the spacing requirements for the two size classes. For example, a new medium-sized tree may be planted 35 feet from a large variety, or 25 feet from a small variety.

B. Trees shall be planted no closer than 10 feet from driveways or alleys. Planting distances from street intersections shall be that specified in City Ordinance #7677-54 (Visibility Triangle). No tree shall be planted closer than 35 feet to a utility pole or within 15 feet of a streetlight. No trees, shrubs, or other plant material above 7 inches in height shall be planted within 5 feet of a fire hydrant or utility box.

C. Trees shall normally be planted on the centerline of the parkways unless, in the opinion of the City Arborist, there is sufficient reason to plant the trees off-center.

D. No trees shall be planted on parkways less than 5 feet in width unless, in the opinion of the City Arborist, the planting and the species of the tree approved will not endanger sidewalks, curbs and gutters, sewers, water lines, or other physical property. Where there is a tree lawn less than 5 feet in width, it is recommended that legal steps be taken to obtain easement rights to plant beyond the sidewalk on private property.

E. Only small trees (see Appendix A-3) shall be planted under overhead power lines. Trees planted to the side of power lines shall be carefully selected relative to crown form to minimize future conflicts.

F. Downtown and parking lot tree planting locations are allowed closer spacing due to limited planting space. In downtown and parking lot areas, above ground minimum spacing for small trees is 10 feet, for medium trees is 20 feet, and for large trees is 30 feet.

G. The minimum spacing standards outlined above may be modified by the City Arborist for new plantings in downtown areas, particularly where openings in pavement are required to establish planting sites. In these areas, trees may be planted closer together, recognizing the limited availability of planting spaces, and the advantages of allowing trees greater access to larger volumes of soil through cluster plantings.

1) In areas where openings in pavement are required to establish planting sites, or where above ground planters are to be used, the most restrictive space limitation is usually associated with the volume of acceptable rooting habitat as opposed to limitations of crown space. For this reason, minimum tree spacing in these areas is determined by available soil volume.

2) Minimum soil volumes are intended to reflect acceptable rooting habitat. This eliminates most urban soils that currently reside under sidewalks, and roads because of the compaction necessary to support pavement, and the absence of oxygen, and moisture exchange. Therefore, in many downtown situations, minimum soil volumes can only be achieved by excavating existing compacted soils, and replacing them with suitable natural or engineered soils. (Engineered soils are mixtures of organic and mineral soils with coarse gravel. The gravel can be compacted to the densities necessary to support pavement, and the soil suitable for root growth fills the large pores between the gravel elements.)

3) For single tree planting in pavement cut-outs where no modification is made to soil beyond the planting pit, the following minimum soil volumes are required –

a. Small trees — 200 cubic feet
For example, a 2 foot deep pit must be accompanied by a 10 foot by 10 foot or equivalent opening. The smallest surface dimension must be at least 4 feet.

b. Medium trees — 300 cubic feet
For example, a 2 foot deep pit must be accompanied by a 10 foot by 15 foot or equivalent opening. The smallest surface dimension must be at least 5 feet.

c. Large trees — 400 cubic feet
For example, a 2 foot deep pit must be accompanied by a 10 foot by 20 foot or equivalent opening. The smallest surface dimension must be at least 7 feet.

d. Soil shall be at least 2 feet deep. Soil may be deeper than 3 feet, but 3 feet is the maximum dimension that may be used in the calculation of minimum soil volume. For example, a 10 foot by 10 foot opening can yield a maximum of 300 cubic feet of soil volume.

4) Two trees that share soil volume may be planted in a single planting pit without increasing the minimum soil volume required for one tree if above spacing can be achieved. If desired, paving bricks or other permeable surfacing material can be used to cover the central portion of the planting space between the two trees, providing they allow adequate penetration of air and water.

5) For each additional tree over 2 per planting area, the minimum soil volume requirement increases by 65% of the minimum requirement for one tree. For example, 2 medium-sized trees can be planted in 300 cubic feet of soil. If a third tree were to be added, 65% of the minimum requirement for a single medium size tree (195 cubic feet) would need to be added. The 3 trees would also need to be planted at least 20 feet from each other. Therefore, an excavated planting site 2 feet deep, 5 feet wide, and 50 feet long would accept 3 medium-sized trees.

6) Exceptions to the above soil volume requirements may be made by the City Arborist when 1, or a few trees, are being replaced in existing pits and there are no immediate plans or funds available to reconstruct the surrounding sidewalk area.

5. Tree Species

Lists of allowed tree species and/or their acceptable varieties have been compiled and approved by the City Arborist and the Tree Commission (See Appendix A-1, A-2, A-3). Other desirable trees not listed that have good appearance, beauty, and adaptability, and are resistant to injurious insects, diseases or other limitations may be planted on City-owned property with the written consent (tree and landscape work permit) of the City Arborist.

These lists provide a guide to the most appropriate species for parkways in urban situations. There is no single perfect tree. It is important to match the planting site limitations with the right tree for that spot. Each site must be evaluated and possible restrictions of tree species noted. These restrictions include rooting space, soil texture, soil pH, drainage, exposure, overhead wires, and surrounding building surfaces.

To protect City trees from the spread of disease and insect infestations, the Tree Commission has set limits to planting tree species that are over 7% of the 1) overall street tree population and/or 2) street tree population within a 1/4 mile circumference. Tree species falling in the preceding categories may only be planted under the guidance and approval of the City Arborist.

Undesirable tree species and/or their varieties are covered in Appendix A-4 and shall not be planted on City-owned property, except in special locations where, because of characteristics of adaptability or landscape effect, they can be used to public advantage.

Where certain planting sites have been assigned a particular species or variety, only the designated species or variety shall be planted on such sites, unless the plan is revised by the City Arborist with the advice and assistance of the Urbana Tree Commission.

The Tree Commission, in conjunction with the City Arborist, shall review at least once every 5 years the species, cultivars, and varieties listed in Appendix A-1, A-2, and A-3 to determine whether any should be removed or whether certain new species, cultivars or varieties of proven adaptability and value should be added. The Tree Commission shall similarly review the trees listed in Appendix A-4 to determine whether any should be removed or whether certain new species, cultivars or varieties should be added.

EARLY MAINTENANCE

General

Newly-planted trees, shrubs and other plants require special maintenance for the first 3 growing seasons following planting. All maintenance practices shall follow approved arboricultural standards.

Staking

Staking a tree is not recommended except in situations where the tree will not stand on its own, such as in loose sandy soils or windy locations. If staking is used, rubber cords/tubing or flat straps shall be used to avoid girdling the tree. Hose and wire combinations are prohibited**.** All staking should be removed after 1 year so the tree can naturally strengthen with wind movement.

Watering

Correct soil moisture shall be maintained following planting. The amount of water given to newly-planted trees should be carefully measured by slowly applying 1 gallon of water for each diameter inch of trunk every 5 to 7 days when there has been less than 1/2 inch of rain during that week. Hot, dry periods (90 plus degrees) or sandy soils may require watering trees every 3 to 5 days to keep soil sufficiently moist. Containerized trees grown in bark mix readily dry out and may require frequent light watering throughout the week during summer months. Adding more than 1 gallon of water per diameter inch is not recommended as this can lead to overwatering, which can drown tender roots. A soil probe can be used to check the moisture in the soil ball and/or backfill. Utilizing a watering bag drip irrigation system can also be an effective way to protect tree roots from over/under watering. There are two types of watering bags. Pin hole type watering bags (Treegator) will release water over several days and should be filled as described above. Emitter type watering bags (Ooze tube) can take several weeks to release water, depending on soil structure. They should be filled after 3/4 of the water has been drained since they never drain entirely.

Fertilization

Fertilization of newly-planted trees and shrubs is not recommended. Adequate quantities of the essential nutrients should be available for new root growth in existing soils. However, proper drainage and adequate moisture of the backfill and soil ball is essential. To increase vigor of established trees (3 years and older), a pre-approved fertilizer may be applied in the Fall or early Spring.

Pruning

Pruning of newly-planted trees should be limited to dead or broken limbs for the first 3 years since foliage helps regenerate the root system. Water sprouts should be removed when they reach the diameter of a pencil. Pruning shall be practiced as often thereafter as needed to develop proper branch scaffolding and adequate clearance. Newly-planted trees are to be inspected after 3 years of establishment for corrective pruning.

GENERAL MAINTENANCE

Pruning

For tree pruning contracts issued by the City, bid specifications shall include minimum or maximum diameter branches to be removed. Pruning objectives will also be stated to provide a clear understanding of the results desired by the City. Detailed specifications for the classes and types of pruning are contained in the "Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (ANSI A300, most current edition) published by the American National Standards Institute, Inc. (Appendix H-3) and the most current edition of "Best Management Practices – Tree Pruning" published by the International Society of Arboriculture. These standards are to be followed in all pruning activities performed on City trees. The above are available online at:

- www.tcia.org/Public/gov_standards_a300.htm
- .secure.isa-arbor.com/store/Best-Management-Practices-Series---Tree-Pruning-P177C0.aspx

Pruning activities can be generally classified as pruning for hazard reduction, routine maintenance pruning, and horticultural training of small trees.

A. Maintenance and Safety
   The following maintenance shall be performed on a 7 to 10 year cycle, city-wide, block by block:

   1) Sidewalk clearance for pedestrians to a minimum of 7 feet

   2) Street clearance for trucks and buses to a minimum of 16 feet

   3) Corrective pruning of trees less than 8 inches in diameter

   4) Clearance for traffic signage and lighting

   5) Clearance within the visibility triangle of intersections [in accordance with City Ordinance #7677-54]

B. Pruning Classifications
   City maintenance pruning shall follow these pruning classifications:

   1) Class I – Fine Prune
      (For trees 8 inches in diameter or less, or trees of significance as determined by the City Arborist)

      Fine pruning shall consist of the removal of dead, dying, diseased, interfering, objectionable, obstructing and weak branches, as well as selective thinning to lessen wind resistance. The removal of such described branches is to include those on the main trunk, as well as those inside the leaf area. An occasional branch up to ½ inch diameter may remain within the main leaf area to its full length when it is not practical to remove it.

   2) Class II – Medium Prune
      (For trees with diameters in excess of 8 inches but less than 25 inches or any other tree as determined by the City Arborist)

Medium pruning shall consist of the removal of dead, dying, diseased, interfering, objectionable, obstructing and weak branches on the main trunk, as well as those inside the leaf area. An occasional branch up to 1 inch diameter may remain within the main leaf area to its full length when it is not practical to remove it.

3) Class III – Coarse Prune
(For trees in excess of 25 inches in diameter)

Coarse pruning shall consist of the removal of dead, dying, diseased, or obviously weak branches 2 inches in diameter or greater.

4) Class IV – Safety Reduction Pruning
(For hazardous trees)

In the event a tree is determined hazardous by the City Arborist, excessive pruning such as heading back or drop crotching may be performed to eliminate the hazard, provided the useful life of the tree will be extended long enough to warrant so doing. If the expected pruning cost is to exceed the tree's value, removal and replacement shall be considered the preferred option.

TREE PROTECTION

Because of limited available space, urban trees frequently encounter other elements of the infrastructure such as curbs and sidewalks. Tree roots can sometimes cause damage to existing hardscape. On other occasions, construction of new curbs or sidewalks, or repair to existing curbs or sidewalks, can damage trees. It is important to the City that solutions be developed to minimize these conflicts so that the health of the urban forest is maintained, while providing economically feasible alternatives for maintaining safe roads and sidewalks.

Improper excavation of soil adjacent to trees can result in severe damage to the structural roots that support the tree. Roots that are broken and splintered by power equipment such as backhoes serve as entry ports for decay-producing fungi that further weaken the support of the tree. If the damage from excavation is severe, the tree is in danger of being uprooted in a wind storm.

1. Critical Root Zone

To prevent unnecessary damage to existing public trees during construction, proper tree protection guidelines must be followed, particularly in the root zone where major support roots securely hold the tree in the soil. This Critical Root Zone (CRZ) is defined as the entire ground area within the vertical projection of the crown of a tree. This is also commonly referred to as the area within the drip line of a tree.

Power equipment may not be used to excavate soil or dig trenches in the Critical Root Zone. All soil excavation done within the Critical Root Zone must be done by hand. Exceptions to the above shall be granted only with written permission from the Director of Public Works or designee.

2. Root Pruning

A. Pre - Construction Root Pruning

During construction activities there may be times when in the opinion of the Director of Public Works or designee, it is not possible to entirely avoid trenching or excavation within the Critical Root Zone. In such instances the Director of Public Works or designee may require the permittee to perform pre-construction root pruning. This procedure results in root removal, but if done properly it will minimize damage to the tree and afford the pruned roots an opportunity to quickly regenerate. This shall be accomplished according to the following standards:

- Roots shall be cut off cleanly by hand, or using power equipment specifically designed to cleanly cut roots such as a stump grinder (shredding or ripping roots damages root tissue and hinders regeneration).

- Depth of pruning shall be at least 18 inches but ideally 24 inches, however, pruning shall be no deeper that the depth of the planned excavation.

- Roots shall be pruned during the dormant season whenever possible.

- Roots shall be pruned 6 inches closer to the tree than the limits of excavation.

- Trenches shall be immediately backfilled to prevent drying out of roots.

- The distance of the root pruning trench past from the tree shall be determined using the tunneling specifications in Appendix B of this Manual, and the trench shall be centered on the tree. For example, for a 20 inch tree the root-pruning trench should be 30 feet long; it should begin 15 feet before the tree and end 15 feet past the tree.

B. Root Pruning During Construction

All tree roots greater than 1 inch in diameter that are encountered in any construction process shall be cut cleanly with an appropriate saw or pruning shear or other tool specifically designed for cutting wood. Axes or other such chopping tools should not be used, nor should shovels or other tools designed for digging.

3. Tree Protection in Construction Areas

It is the responsibility of the person or organization who holds a construction permit, as a condition of permit, to protect all public trees located on the adjacent public right-of-way that may reasonably be expected to be affected or damaged by construction activities. All unpaved ground on public property within the Critical Root Zones of existing trees subject to construction damage shall be boxed, fenced, or otherwise protected before any work is started as illustrated in Appendix B. If pavement such as a sidewalk is within the Critical Root Zone, unpaved public property on both sides of the pavement shall be protected with fencing without blocking the right-of-way. The City Arborist shall determine which trees need to be protected, the method of protection, and the dimensions involved. Once assembled, no boxing, fencing, or other protection device shall be removed without prior approval of the City Arborist, and there shall be no construction activity or material including storage, stockpiling, and equipment access within the enclosure.

4. Curb Installation

The installation of new or replacement curbs requires the excavation of soil. When soil excavation occurs inside the Critical Root Zone of a tree, the following guidelines shall be used:

- Excavation shall not disturb the soil beyond 12 inches from the back side of the curb to be installed. This allows sufficient room for a 12-inch bucket to be used on a backhoe, for a back form to be installed, and for curb installation equipment to operate.

- All tree roots greater than 1 inch in diameter that are encountered in the excavation process shall be cut cleanly as described in Section 2 above.

- Pre-construction root pruning may be required as specified in Section 2 above.

When appropriate, curbs in need of replacement can be installed without the use of a typical wood back form. Metal angle irons can be placed on top of the adjacent undisturbed ground and can serve as a back form. A front form may be used in those instances when conventional curb installation techniques might cause

unacceptable damage to a tree's root system, and the tree is determined to be of sufficient size, quality, or location value to make removal unacceptable.

The Director of Public Works or designee and the Assistant City Engineer shall have the authority to determine the placement and form of new curbs and the need for replacement curbs, while the City Arborist shall provide advice on tree protection during curb replacement.

5. Sidewalk and Driveway Installation and Replacement

When conflicts arise between tree roots and existing pavement, it is advisable to look for solutions that minimize damage to tree roots while providing a smooth walking surface for pedestrians. Removal of large support roots should be avoided. Without adequate support from structural roots, trees become increasingly at risk of falling, particularly during heavy winds. Removal of large roots may also severely stress an otherwise healthy tree, increasing the risk of disease or pest infestation. The mitigation of uneven sidewalks in a manner that produces additional hazards in the form of structurally unsound trees is not acceptable.

It may not always be necessary to replace a damaged sidewalk at the same grade or in the same position that the original sidewalk occupied. When possible, replacement sidewalks should be routed further from the root collar of the tree than the original sidewalk. While this may deviate from a straight pathway, the additional space will allow for future root growth without resulting in future pavement heaving. Occasionally, re-routing sidewalks may require obtaining an easement from the adjacent landowner. (See Figure 2)

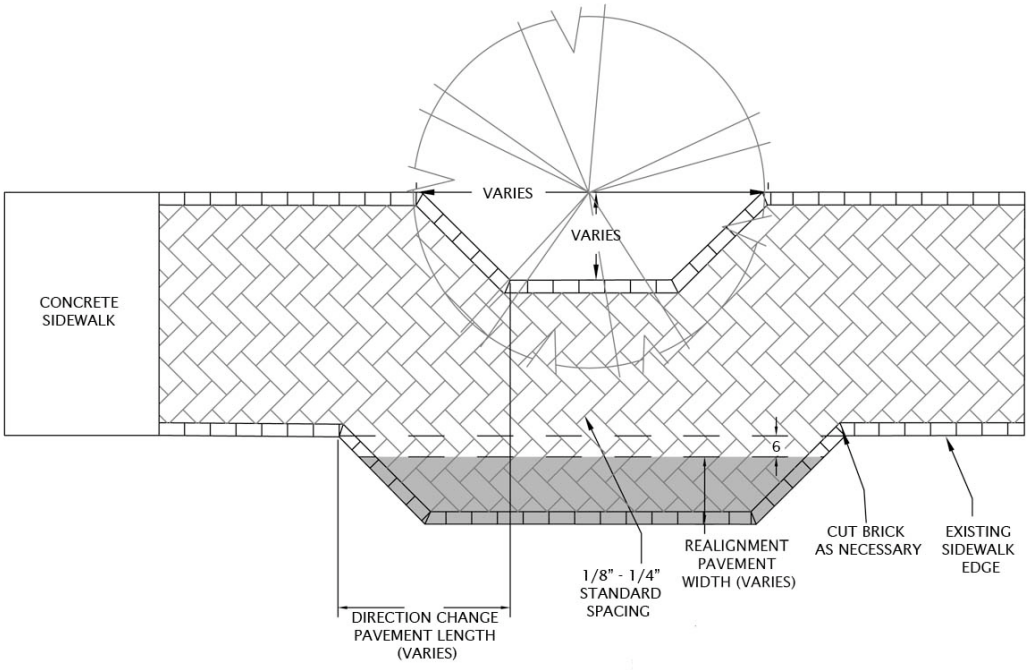


Figure 2 – Brick Sidewalk Reconstruction

When large roots are present at the surface, it may be possible to raise the grade in the location of the replacement sidewalk. Adding a ramp of soil along the edges of the replacement sidewalk that slopes to the grade of adjacent turf will prevent tripping on or falling off of the new sidewalk.

Other alternatives include using smaller panels of concrete with expansion joints or narrowing the width of the sidewalk pavement in the area of the root crown. However, pavement must be of sufficient width to accommodate a wheelchair.

Whenever possible, installation of new driveways or widening of existing driveways should not be performed within a tree's Critical Root Zone. If, in the opinion of the Public Works Director or designee, that is not feasible, the pavement should be installed no closer to the tree than the minimum distances shown in Appendix B for trees 10 inches in diameter and over. For example, the pavement should be no closer than 15 feet from the center of a 20 inch tree. Distances less than those shown on the table will be permitted only with written permission of the Director of Public Works or designee. To prevent future damage to the pavement by the tree, in no case shall the minimum distance between a tree and the new pavement be less than 6 feet.

Whenever possible, replacement or installation of pavement that requires cutting of tree roots should be conducted in early Spring and concluded by mid-Summer to allow maximum root recovery before dormancy.

6. Changes to Existing Grade

No changes to original grade shall be allowed inside the Critical Root Zone. If such changes are unavoidable, consideration should be given to installation of retaining walls on cuts or wells in fills. This will minimize root cutting and keep the base of the trunk at the original ground level.

7. Installation or Repair of Underground Cables and Pipes

All underground installations or repairs of utility or communication cables or pipes, including sprinkler or irrigation systems upon the public right-of-way, are subject to approval by the City. Any and all installations or repairs that may affect public trees due to underground conflicts (roots) are specifically subject to the review and approval of the City Arborist before the project starts.

Trenching and Tunneling

Where there is insufficient space for trenching to bypass the Critical Root Zone of trees, tunneling must be used in place of trenching. In no case shall the top of the tunnel be less than 2 feet in depth. When the tunneling procedure is required, the distance of the tunnel from the center of the tree is determined by the diameter of the tree 4 1/2 feet above the ground line (DBH). Unless otherwise specified, all dimensions apply as listed in Appendix B.

It is recognized there may be situations where utilities must be installed or repaired within a tree's Critical Root Zone, and trenchless excavation is not possible. Examples could include exceptionally rocky conditions or cases where a pit must be excavated within the CRZ to receive tunneling equipment. The Director of Public Works or designee shall have the authority to determine whether trenchless

excavation is impossible, in which case permission to proceed may be granted under the following conditions:

- The Director of Public Works or designee will determine the location and size of the pit or trench.
- Pre-construction root pruning may be required as in Section 2 above.
- Any roots encountered during construction must be cleanly cut as described in Section 2 – Root Pruning.
- All trenches/excavations shall be backfilled as soon as possible to prevent roots from drying out.

Additional information on trenching and tunneling near trees is contained in Appendix B.

REMOVAL POLICY

As stated in the City of Urbana Tree Ordinance, the primary objective of the City is to provide citizens with a safe, prosperous, and healthy community. Healthy trees are an important component of the City and contribute significantly to the quality of the local environment. Diseased or structurally unsound trees can be a liability. It is the policy of the City to maintain public trees as long as they remain assets to the community and to remove public trees when they become a liability.

There are many factors that contribute to transforming a tree from an asset to a liability. Since trees are living organisms, they eventually die and therefore age can be a factor that produces a liability. Disease, decay, and mechanical damage can also cause a tree to be structurally unsound and, therefore, a liability. The location of a tree may also cause it to be a liability in the form of interfering with traffic visibility.

There are other factors that occasionally cause a tree to be an inconvenience, but not necessarily a liability. Deciduous trees drop leaves each Fall which may cause an inconvenience without causing a liability. The decision to remove a publicly maintained tree is frequently influenced by a number of considerations. It is the policy of the City to base tree removals on criteria of safety (and therefore liability) and consider criteria of inconvenience to a lesser extent.

The decision to remove or not to remove a tree will be based on several factors:

- The tree species and its desirability for parkway use
- The size and appearance of the tree and the contribution it is making toward our goal of tree-lined streets
- The potential for the tree to damage hardscape features such as driveways, sidewalks, curbs, streetlights, etc.
- The number of other trees growing under the same conditions and the precedent that would be set by removing the tree in question
- The degree of danger the tree creates for residents and the area
- The feasibility of alternate measures that may alleviate the hazard
- Suitability of the tree for its present location
- Expected long-term maintenance costs for the tree compared to other trees of same age/size
- Significance of the tree to the neighborhood/community

The final decision on a tree removal request will always try to balance the needs of the individual property owner and of the City and its citizens in general. The following section lists a limited number of reasons for tree removals that have been submitted to the City for approval. This is not an exhaustive list, however, it is provided as a practical guide to citizens who are considering submitting a tree removal request.

1. **Conditions Which Automatically Warrant Scheduled Removal at City Cost (No Replacement is Required - Except as Noted)**

   A. Tree is dead.

   B. In the opinion of the City Arborist or designee, there is a clear and reasonable risk of failure that could cause injury or property damage, and corrective measures are not feasible.

C. Presence of contagious and/or fatal disease (e.g., Dutch Elm Disease or Oak Wilt).

D. Tree damaged beyond repair (e.g., construction injury, lightning, vandalism, auto accidents).

E. Extremely poor shape due to dieback or storm damage, (e.g. 50% or more of crown missing and unlikely to regenerate within 5 years).

F. Unsuitable species and/or form in parkway adjacent to an area being newly developed (note - in these situations developer is required to pay for tree and stump removal and a tree for tree replacement with a 2 - 2 1/2 inch DBH sized tree.

G. Tree is in the way of City-authorized construction project designed to benefit the community in general; rerouting of construction or alternative tree protection measures are not feasible (e.g., road widening, main break repair).

H. Tree is almost totally obstructing growth of an adjacent tree specimen that is clearly superior (based on species, condition, and location).

I. Tree was recently planted and does not meet code requirements due to species, spacing, or location.

J. Tree is causing serious sight obstruction that cannot be alleviated by pruning.

K. Large-growing species under power lines that cannot be pruned for adequate clearance without severely compromising the tree's appearance or long-term survival.

L. A serious chronic condition exists that will definitely result in tree death long before its normal lifespan (e.g., entire trunk is completely encircled with girdling roots).

M. Tree trunk (not just roots) has grown into and is lifting a driveway apron or sidewalk, creating a hazard condition. Procedures being undertaken to alleviate the hazard will kill the tree and alternate measures for alleviating the hazard are not possible.

N. Tree produces large, dangerous thorns.

2. Conditions Which By Themselves <u>Do Not</u> Warrant Tree Removal

The following lists some of the many reasons citizens have given for requests to remove trees. Each reason is followed by one or more examples of trees that may be involved, as well as Arbor Division rationale for denying such requests in the past.

A. <u>Reason</u> – Chronic tendency of species to drop bark, somewhat messy fruit, small twigs
<u>Example</u> –Sycamores, Walnuts, some older varieties of Crabapples, Siberian Elms, some Honeylocusts, Willows
<u>Rationale</u> – Inconvenience only

B. Reason – Dripping sap or "honeydew" from insects
Example – Cottony Maple Scale on Silver Maple
Rationale – Natural and temporary condition; will eventually wash off in most cases

C. Reason – Too many leaves to rake
Example – Any deciduous tree
Rationale – Inconvenience only

D. Reason – Insects (which in the opinion of the City Arborist or designee are not significantly tree damaging)
Example – Hackberry Nipple Gall, Aphids, Carpenter Ants, Japanese Beetle
Rationale – Aesthetics only or can be treated

E. Reason – Homeowner fears tree will fall (but the City Arborist or authorized representative doesn't agree there is a reasonable risk)
Example – Large tree near home
Rationale – Although no one can guarantee a tree could never fall given the right conditions, we perform a thorough risk evaluation using a formula developed by the International Society of Arboriculture (ISA) and/or prune the tree where feasible to abate hazards. (The tree is removed if extensive defects are found which cannot be economically corrected).

F. Reason – Birds nest in tree, causing droppings and noise
Example – Any tree; any birds but especially crows
Rationale – Inconvenience only

G. Reason – Homeowner blames tree for private sewer backups
Example – Any tree near a faulty sewer pipe, but especially fast-growing species like Silver Maple and Willows
Rationale – Roots do not invade sound sewer systems, but many older systems have settled and allowed open joints that roots can enter. Sewer services should be periodically maintained with root pruning and/or chemical treatment. If that fails, sewers should be repaired using modern installation techniques, which do not allow root invasion. Also, because tree roots commonly grow outward 2 - 3 times the height of the tree, most locations have roots from many trees, public and private, growing near the faulty sewer. Therefore, removal of just the closest tree is unlikely to solve the problem.

H. Reason –Tree has a few surface roots
Example – Many Silver Maples, and some other species, especially those growing in heavy clay soil or areas with high water tables
Rationale – A few minor roots can sometimes be removed, or the above-ground portion shaved off, without significant tree injury. A resident can be allowed to add 1 – 2 inches of topsoil over the immediate root area or ground cover/mulch can also be installed by the homeowner to eliminate the need for mowing.

I. Reason – Grass is thin beneath tree due to shade.
Example – Norway Maples
Rationale – Healthy trees are a greater asset to the community than grass, and much more difficult and costly to replace. Shade-tolerant ground covers are a good alternative.

J. Reason – Species or cultivar is considered undesirable in general
Example – Sweetgums, Sycamores, Silver Maples, etc.
Rationale – Healthy, sound specimens of the above species growing in adequate planting sites are not removed even though a long-term goal of the forestry program would be to eliminate these species. This is due to the sheer number of these species present, the limited resources the City has for street tree maintenance and the devastation that would result if they were all removed.

K. Reason – Homeowner doesn't like the appearance or location of tree
Example – Tree not centered on picture window, or Fall leaves not colorful enough, or shape is somewhat imperfect
Rationale – Aesthetics only

L. Reason – Sidewalk or driveway apron is lifted by roots; repair measures are available which will not seriously impact tree.
Example – Silver Maples and Elms, especially in older neighborhoods, growing at least 6 feet from aprons and walks
Rationale – Repairs should be made to the sidewalks or aprons. Usually selected roots can be removed at that time that will not seriously impair the tree, and the distance between tree and pavement is far enough that the problem hopefully will not reoccur in the near future

M. Reason – Tree is partially impeding the growth of a private tree, or overhanging house or yard
Example – Many trees, especially on corner lots where parkway is near home
Rationale – We can prune to provide for proper roof clearance, however, we will not prune for clearing private trees that were improperly close to city trees since such pruning can affect the health, appearance, or longevity of the parkway tree.

3. Conditions Where Removal May or May Not Be Allowed
The following are examples of conditions where removal requests may or may not be granted. Following the examples there is a list of circumstances that may influence the decision to remove trees in this category and conditions which may be imposed.

A. Reason – Repeated branch failures of the tree over a period of time (but not just normal twig dropping common to certain species)
Example – A Siberian Elm that has lost fairly large limbs each year for the last several years

B. Reason – Very large and/or very extensive surface roots create a tripping or mowing hazard, and removal of roots will seriously threaten the health or stability of the tree. Covering or ramping problem areas with soil or mulch is too extensive to be practical
Example – Some Silver Maples

C. Reason –Extremely abundant, messy, odoriferous or staining fruit is produced.
Example – Ginkgo, Walnut or Mulberry trees (but not Crabapples)

D. Reason – Species is subject to *chronic*, *severe* disease symptoms that frequently disfigure tree
Example – Some older varieties of Crabapple are frequently disfigured by Apple Scab (not just in years with cool, wet Spring seasons)

E. Reason – Tree is sending forth extensive sprouts from root system into lawn
Example – Many Silver Poplars, some Honeylocusts

F. Reason – Proximity of tree to a driveway may cause a safety problem when backing out
Example – Trees, especially in older sections of town, where driveways were installed too close to established trees

G. Reason – No driveway exists, or the existing driveway is not wide enough for one car; installation or widening is planned which would require significant root loss, rendering the tree unsafe; and no other options are available to relocate planned improvement
Example – Vacant lots, or homeowners who want to attach or detach a garage, or older homes with narrow drives

H. Reason – Homeowner will be paying for permanent sewer/water service repairs (not just rodding), which will require extensive root removal that will threaten stability of tree; alternate measures are not possible
Example – An existing tree sits directly above the connection between a service that is being replaced, and the main sewer

When making decisions regarding tree removal, the following list of factors and conditions will also be considered:

A. The existence of multiple conditions, which do not by themselves warrant removal but may influence the decision when weighed together. See conditions A, H, J, L, and M listed in part 2 of this Removal Policy.

B. The presentation to the Arbor Division of a petition, signed by all property owners within 250 feet of the proposed removal, stating there are no objections to the proposed removal.

C. Applicant's willingness to pay, in advance, for some or all of the costs involved. These may include:

    1) The resident's share of a 2 inch tree on the cost-share program ($115)

    2) The full, planted cost of a 2 inch tree ($310)

    3) The full, planted cost of one or more larger trees (in some cases inch for inch replacement may be required (e.g., a 12 inch removal will require six new 2 inch trees)

    4) The full cost of transplanting the tree elsewhere

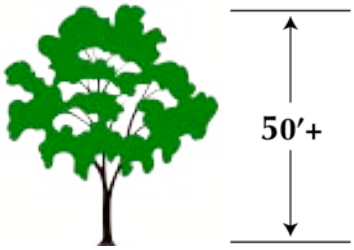
    5) The full cost of tree and/or stump removal, to be performed by a properly insured tree care company

D. The number of trees growing in the neighborhood and/or the City that exhibit the specific conditions cited (and thus, the likelihood of setting a precedent which will result in widespread tree removal).

TABLE A - 1
LARGE TREES

Spacing: 40' minimum
Parkway Width: 8' minimum

Larger trees are preferred on street parkways for better clearance adaptability. They require more living space.



SCIENTIFIC NAME	COMMON NAME	CULTIVARS
Acer saccharum [3]	Sugar Maple	'Green Mountain' 'Fairview' 'Goldspire'
Acer x freemani [2,3]	Freeman Maple	
Acer nigrum	Black Maple	
Aesculus hippocastanum [2,3]	Horse Chestnut	
Aesculus x carnea	Ruby Red Horse Chestnut	
Alnus glutinosa [2]	Black Alder	
Carya illinoiensos	Pecan	
Celtis occidentalis [2]	Hackberry	
Celtis laevigata [1, 2]	Sugar Hackberry	
Fagus grandifolia	American Beech	
Fagus sylvatica	European Beech	
Ginkgo biloba [2]	Gingko (male)	
Gymnocladus dioicus [1, 2]	Kentucky Coffee (male)	'Prairie Titan' or Espresso'
Larix decidua	European Larch	
Magnolia acuminata	Cucumber Tree	
Quercus alba	White Oak	
Quercus bicolor [1]	Swamp White Oak	'Regal Prince'
Quercus imbricaria [5]	Shingle Oak	
Quercus macrocarpa [1, 4]	Bur Oak	'Heritage'
Quercus cerris [2]	Turkey Oak (very rare)	'Argenteovariegata' variegated
Quercus coccinea	Scarlet Oak	
Quercus phellos	Willow Oak	
Quercus robur [2]	English Oak	Mildew resistant varieties
Quercus rubra [2,3]	Red Oak	
Quercus shumardii	Shumard Oak	
Quercus stellata [4]	Post Oak	
Quercus muehlenbergii [1, 2]	Chinkapin Oak	
Sassafras albidum	Sassafras	
Taxodium distichum [1]	Bald Cypress	
Tilia americana	Basswood	
Tilia euchlora	Crimean Linden	
Tilia heterophylla	Beetree Linden	
Tilia platyphyllos	Bigleaf Linden	
Tilia tomentosa [2]	Silver Linden	
Tilia petiolaris	Pendent Silver Linden	
Ulmus parvifolia [2]	Lacebark Elm	
Ulmus x triumph [2]	Triumph Elm	
Zelkova serrata	Zelkova Tree	'Village Green'

1. Native to Illinois **2.** Tolerant to urban conditions **3.** Limit use / Over planted genus **4.** Tolerant to poor soil conditions

TABLE A - 2
MEDIUM TREES

Spacing: 30' minimum
Parkway Width: 6' minimum

Medium trees are better suited for planting on crowded City parkways than their larger counterparts.

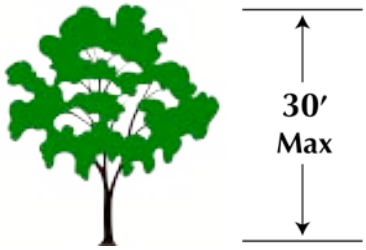
SCIENTIFIC NAME	COMMON NAME	CULTIVARS
Acer griseum	Paperbark Maple	
Acer miyabei [2]	Miyabe Maple	
Acer rubrum [2,3]	Red Maple	'Autumn Flame'
		'October Glory'
		'Red Sunset'
		'Schlesinger'
		'Scarlet Sentinel'
		'September Song'
		'Armstrong'
		'Bowhall'
Acer truncatum x platanoides	Shantung Maple	'Pacific Sunset'
Alnus glutinosa	European Black Alder	
Carpinus betulus	European Hornbeam	
Cercidiphyllum japonicum	Katsuratree	
Corylus colurna	Turkish Filbert	
Eucommia ulmoides	Hardy Rubber Tree	
Ginkgo biloba (male only)	Ginkgo (narrow cultivars)	'Princeton Sentry'
Ostrya virginana [1]	Ironwood	
Koelreuteria paniculatta [2]	Goldenrain Tree	
Maclura pomifera	Osage Orange (male, thornless)	'Double O'
Magnolia kobus	Kobus Magnolia	
Nyssa sylvatica	Black Gum	
Phellodendron amurense	Amur Cork Tree (male)	'Macho'
		'His Majesity' 'Shademaster'
Ostrya virginana [1]	Ironwood	
Quercus acutissima	Sawtooth Oak	
Quercus robur	English Oak (Columnar Cultivars)	Mildew resistant varieties
Sophora japonica	Pagodatree	

1. Native to Illinois **2.** Tolerant to urban conditions **3.** Limit use / Over planted genus
* Selected cultivars or varieties of suitable form and resistant to scab disease

TABLE A - 3
SMALL TREES

Spacing: 20' minimum
Parkway Width: 5' minimum

Small trees are appropriate in parkway locations where larger trees cannot be properly utilized due to space limitations.



SCIENTIFIC NAME	COMMON NAME	CULTIVARS
Acer campestre [2]	Hedge Maple	tree form
Acer ginnala [2,3]	Amur Maple	tree form
Acer palmatum [3]	Japanese Maple	
Acer pennsylvanicum	Striped Maple	
Acer tataricum [2,3]	Tatarian Maple	
Alnus incana var rugosa [2]	Tag Alder	
Alnus serrulata [2]	Hazel Alder	
Amelanchier canadensis	Shadblow Serviceberry	tree form
Amelanchier x grandiflora	Apple Serviceberry	tree form
Amelanchier laevis	Allegany Serviceberry	tree form
Asimina triloba [3]	Common Paw Paw	tree form
Carpinus betulus	European Hornbeam (columnar forms)	
Carpinus caroliniana [1]	American Hornbeam	
Chionanthus virginicus [3]	White Fringetree	tree form
Cornus florida [3]	Flowering Dogwood	
Cornus kousa [3]	Japanese Dogwood	
Cornus mas [2,3]	Cornelian Cherry Dogwood	
Crataegus sp. [2]	Hawthorn (thornless varieties)	
Cotinus obovatus	American Smoke Tree	
Maackia amurensis	Amur Maackia	
Magnolia x loebneri	Loebner Magnolia	
Magnolia virginiana [3]	Sweetbay Magnolia	Illinois cultivars
		'Mayer'
		'Moonglow'
		'Havener'
Malus spp.* [2,3]	Flowering Crab	
Syringa reticulata [2,3]	Japanese Tree Lilac	
Syringa pekinensis [3]	Pekin Tree Lilac	
Viburnum prunifolium [1]	Blackhaw Viburnum	tree form

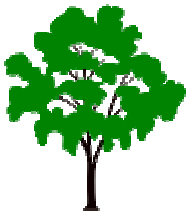
1. Native to Illinois **2.** Tolerant to urban conditions **3.** Generally suitable for planting beneath power lines
4. Limit use / Over planted genus * Selected cultivars or varieties of suitable form and resistant to scab disease

TABLE A - 4
UNDESIRABLE TREES
NOT ALLOWED ON CITY RIGHT OF WAY

The following is a listing of trees common to our area that are undesirable as street or parkway trees. Their lack of suitability is based on undesirable growth habits, fruiting habits, form, susceptibility to serious diseases or pests, propensity for storm damage and other limitations. The limitations listed for each tree or species are the more serious problems encountered locally. There are many superior street or parkway trees listed in Tables A-1, A-2, and A-3.

SCIENTIFIC NAME	COMMON NAME	PROBLEM OR LIMITATION
Abies spp	Fir	Form – visibility hazard
Acer negundo	Boxelder	Fast growing, weak wooded
Acer platanoides	Norway Maple	Verticillium wilt
Acer saccahrinum	Silver/Soft Maple	Subject to rot/storm damage
Ailanthus altissima	Tree of Heaven	Weak wooded, aggressive
Albizzia spp	Mimosa	Not hardy, disease prone
Betula spp	Birches	Environmental stress, borers, ice storm damage
Carya spp	Hickory	Littering fruit
Catalpa spp	Catalpa	Littering fruit
Diospiros virginiana	Persimmon	Littering fruit
Elaeagnus angustifolia	Russian Olive	Form, disease
Fraxinus	Ash species	Disease and insect problems
Gleditsia spp	Honeylocust	Serious disease/insect problem
Ginkgo biloba (female)	Maiden Hair Tree	Malodorous fruit
Juglans spp	Walnut	Littering fruit
Juniperus spp	Juniper	Form – visibility hazard
Liquidamber styraciflua	Sweetgum	Littering fruit
Liriodendron tulipifera	Tuliptree	Deadwood, lighting strikes
Malus spp	Common Apple	Littering fruit
Morus spp	Mulberry	Littering fruit (female)
Paulownia tomentosa	Royal Paulownia,	Week wood, littering fruit
Picea spp	Spruce	Form – visibility hazard
Pinus spp	Pine	Form – visibility hazard
Platanus occidentalis	Sycamore (Amer.)	Disease – twig blight
Populus spp	Poplar	Fast growing, weak wooded
Prunus spp	Cherry and Plum	Littering fruit, disease
Pyrus commonus	Common Pear	Littering fruit
Quercus palustris	Pin Oak	Iron chlorosis
Robinia psuedoacacia	Black Locust	Shallow rooted, borers
Salix spp	Willow	Weak wooded, aggressive
Sorbus species	Mountain Ash	Short lived
Thuja spp	Arbor-vitae	Form – visibility hazard
Tsuga spp	Hemlock	Form – visibility hazard
Ulmua pumila	Siberian Elm	Weak wooded, disease

TABLE A-5
TREES FOR DIFFICULT AREAS



	HEAT TOLERANT	SUITABLE FOR ABOVE GROUND CONTAINERS	RESTRICTED ROOT AREA	COMPACTED SOIL	POLLUTION TOLERANT	COMMON NAME, *SCIENTIFIC NAME*	ALKALINE SOILS	DRY SOILS	WET SOILS	SALT TOLERANT	PH TOLERANT
SMALL TREES		x	x			Amur Maple, *Acer ginnala*					
		x	x			Apple Serviceberry, *Amelanchier X gradiflora*					
						Cornelian Cherry Dogwood, *Cornus mas*					x
						Crabapple, *Malus**		x			x
				x	x	Hawthorn (thornless varieties)		x	x		x
				x	x	Hazel Alder, *Alnus serrulata*			x		
			x	x		Hedge Maple, *Acer campestre*					x
			x			Japanese Tree Lilac, *Syringa reticulate*					
				x	x	Tag Alder, *Alnus incana var rugosa*			x		
						Tatarian Maple, *Acer tataricum*		x			x
MEDIUM TREES						Amur Corktree, *Phellodendron amurense*†		x			x
				x	x	Black Alder, *Alnus glutinosa*		x	x		
	x				x	Goldenrain Tree, *Koelreuteria paniculata*		x			x
	x				x	Pacific Sunset Maple, *Acer x 'Warrenred'*		x			x
	x				x	Pagodatree, *Sophora japonica*		x			
	x					Sawtooth Oak, Quercus acutissima		x	x		x
EVERGREENS						State Street Miyabei Maple, *Acer miyabei 'State Street'*	x				
						Turkish Filbert		x			x
			x			Limber Pine, *Pinus flexilis*		x			
						American Sentry Linden, *Tilia americana* 'American Sentry'		x			
				x		Bald Cypress, *Taxodium distichum*			x		
LARGE TREES						Bur Oak,*Quercus macrocarpa*		x			x
						Chinkapin Oak, *Quercus muehlenbergii*		x	x		x
			x		x	English Oak, *Quercus robur*		x			x
						Freeman Maple, *Acer freemani*		x	x		
					x	Ginkgo, *Ginkgo biloba*				x	x
				x	x	Hackberry, *Celtis occidentalis*		x	x	x	x
						Heritage Oak, *Quercus macrocarpa X Quercus robur*		x			x
						Horse Chestnut, *Aesculus hippocastanum*					x
	x					Kentucky Coffee Tree, *Gymnocladus dioicus*		x		x	x
						Lacebark Elm, *Ulmus parvifolia*					x
				x	x	Red Oak, *Quercus rubra*				x	
			x		x	Regal Prince Oak, *Quercus robur 'Fasitgiata' x Quercus bicolor*		x			x
				x		Silver Linden, *Tilia tomentosa*					x
				x	x	Sugar Hackberry, *Celtis laevigata*		x	x	x	
				x		Swamp White Oak, *Quercus bicolor*		x		x	
						Triumph Elm,*Ulmus x japonica x Ulmus wilsoniana*		x			x

* only disease free / improved cultivars, 'Adirondack', 'Camelot', 'Donald Wyman', 'Luwick', 'Prairiefire', 'Professor Sprenger', 'Sinai Fire', 'Sugar Tyme', and 'Sargent'
† only male clone varieties allowed such as 'Macho', 'Shademaster', and 'His Majesty'

QUICK REFERENCE TO TREE PROTECTION ZONE

Tree/Shrub Protection (above ground)

The contractor or permit holder shall be responsible for protecting all public trees and shrubs located on the public right-of-way. Existing trees/shrubs subject to construction activity shall be boxed, fenced or otherwise protected before any work is started. The trees/shrubs to be protected, the method of protection, and the dimensions involved shall follow the guidelines of the City Arborist, or if special conditions warrant adjustment, be determined by the City Arborist in conjunction with the contractor or permit holder. Once assembled, no boxing, fencing or other protection device shall be removed without prior approval of the City Arborist or City Inspector and there shall be no construction activity or material within the enclosure.

Shrubs and small trees shall be boxed or fenced in such a manner as to encompass the entire drip line area of the tree (Figure 1). In no case shall the enclosure be less than 2 feet from the center line of the tree. Medium to large trees shall be boxed or fenced in a manner to encompass as much of the drip line area of the tree as possible as determined by property and right of way boundaries (Figure 2). In no case shall the protective device be closer than 10 feet from the center line of the tree except in those portions bordered by the public sidewalk or curb, in which case the protective device shall be offset 1 foot wherever possible.

Tree Diameter	Distance of fencing from tree trunk *
Up to 2 inches	Min 2 feet to drip line
2.1 – 4 inches	Min 4 feet to drip line
4.1 – 9 inches	Min 6 feet to drip line
9.1 – 14 inches	Min 10 feet to drip line
14.1 – 19 inches	Min 12 feet to drip line
19.1 and greater	Min 15 feet to drip line

***Minimum distances listed are required unless waived by City Arborist. If available space permits greater distances for tree protection, such as to drip line, are preferred but not required.**

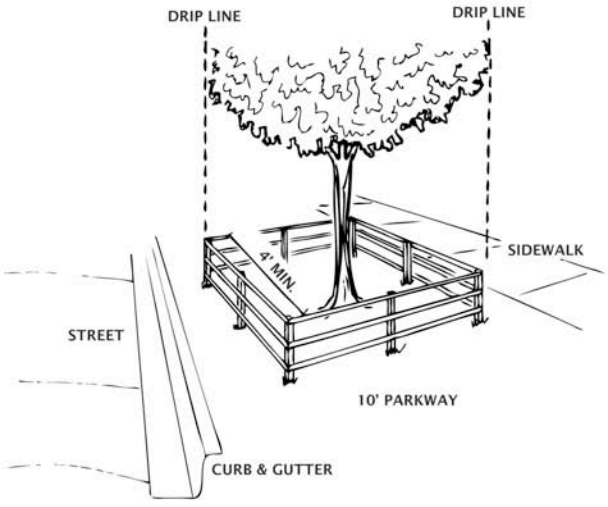


FIGURE 1 - SMALL TREES
MINIMUM FENCING REQUIREMENTS

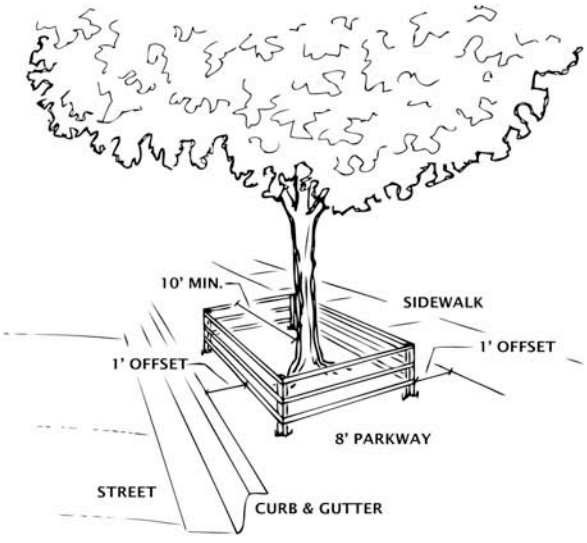


FIGURE 2 - MEDIUM TO LARGE TREES
MINIMUM FENCING REQUIREMENTS

Utility Installations (underground)

All installations of underground utilities upon the public right-of-way are subject to approval by the City. Any and all installations that impact on public trees due to underground conflicts (roots) are specifically subject to the review and approval of the City Arborist before the project starts.

Trenching and Tunneling – Open trenching in the root zone of public trees is prohibited unless it falls outside the drip line of a tree's canopy (Figure 3). All trees where there is insufficient space to bypass the drip line by trenching must be tunneled. In no case shall the tunnel be less than 2 feet in depth. When the tunneling procedure is required, the distance of the tunnel from the face of the tree is determined by the diameter of the tree 4 1/2 feet above the ground line. Unless specified otherwise by the City Arborist, all dimensions apply as illustrated in Figure 4 with the quick reference table.

Since the cutting of larger roots is unavoidable in a trenching operation, all roots over 1 inch in diameter must be cut cleanly. All trenches should not stay open longer than necessary and must be properly barricaded.

Tree Diameter (a) (at 4 1/2 feet above ground)	**Distance of trenching from tree trunk (b)**	**Recommended depth of tunnel or trench (c)**
Up to 2 inches	Min 2 feet to drip line	24 inches
2.1 – 4 inches	Min 4 feet to drip line	24 inches
4.1 – 9 inches	Min 6 feet to drip line	30 inches
9.1 – 14 inches	Min 10 feet to drip line	30 inches
14.1 – 19 inches	Min 12 feet to drip line	36 inches
19.1 and greater	Min 15 feet to drip line	36 inches

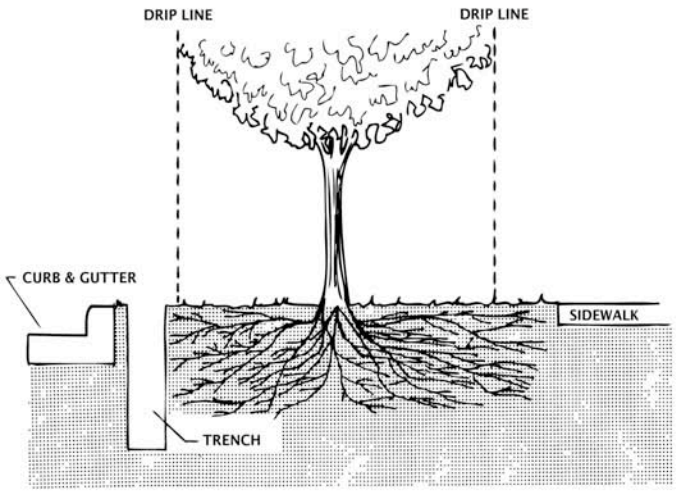


FIGURE 3 - SMALL TREES
TRENCHING REQUIREMENTS

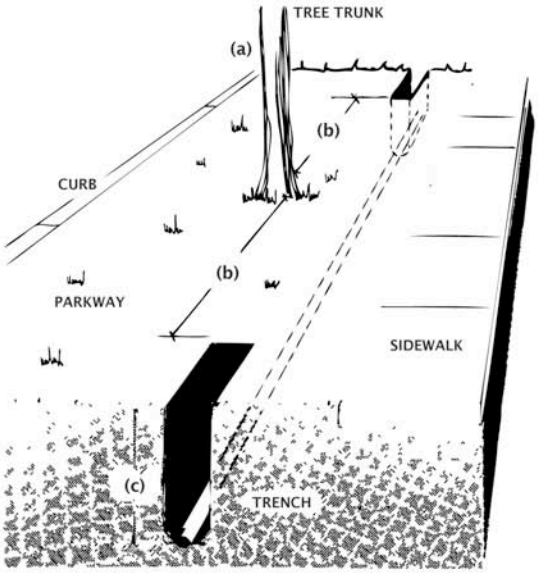


FIGURE 4 - MEDIUM TO LARGE TREES
TRENCHING AND TUNNELING REQUIREMENTS

Augering - Tree root zones shall be protected by augering in the manner described below. Tree diameter is measured 4 1/2 feet above the ground. The minimum depth of auger within the tree protection zone, as defined above, shall be 24 inches below the soil surface. No trenching within the protection zone of the tree shall be permitted.

Tree Diameter	Augering Instructions
Up to 2 inches	Auger 2 feet from the face of tree in all directions if trench will be located within or intersect this radius.
2.1 – 4 inches	Auger 4 feet from the face of tree in all directions if trench will be located within or intersect this radius.
4.1 – 9 inches	Auger 6 feet from the face of tree in all directions if trench will be located within or intersect this radius.
9.1 – 14 inches	Auger 10 feet from the face of tree in all directions if trench will be located within or intersect this radius.
14.1 – 19 inches	Auger 12 feet from the face of tree in all directions if trench will be located within or intersect this radius.
19.1 or greater	Auger 15 feet from the face of tree in all directions if trench will be located within or intersect this radius.

DETAILED SPECIFICATIONS
PARKWAY TREE PRUNING

The undersigned ("Contractor") agrees to furnish to the City of Urbana, an Illinois Municipal Corporation, hereinafter referred to as the "City," Parkway Tree Pruning services conforming to the specifications, terms and conditions attached hereto, with such exceptions or modifications, as are herewith set forth.

GENERAL TERMS AND CONDITIONS

A. Examination of Site

Bidders shall inform themselves of all the conditions under which the work is to be performed concerning the site of the work, the obstacles which may be encountered, and all other relevant matters concerning the work to be performed and the type of pruning required under this contract.

B. Damage to Property

Any damage of private property caused by the contractor's operations shall be resolved with the property owner within ten (10) days after damage occurs. The contractor shall inform the City Arborist of any damage caused by the contractor's operation on the day such damage occurs.

C. Basis of Payment

The contractor shall be paid for the work described herein on a per tree basis for each work area. Partial payment shall be made to the contractor as work progresses but, in no case, shall payment be made on trees not completed to the satisfaction of the City Arborist and in accordance with these specifications and accepted arboricultural practices. Partial billings are acceptable on a monthly basis. Ten percent (10%) of each invoice shall be withheld until Contractor's work is completed to the satisfaction of the City Arborist. Diameters of trees pruned shall be measured with a standard diameter tape at four and one-half (4-1/2) feet from the ground. In the case of multi-stemmed trees whose crotch is four and one half (4-1/2) feet from the ground or lower, measurement will be taken one foot below the crotch.

Final acceptance is granted in writing by the City and such document shall note the initial completion of all requirements of this specification. The Contractor, upon receipt of the Final Acceptance document, shall be eligible for complete payment under the terms of this contract.

D. Daily Report

A written daily report shall be prepared during the contract period and submitted weekly to the City Arborist listing locations and numbers of trees pruned, on forms provided by the City Arbor Division.

E. Starting and Completion Requirements

Work shall begin at a schedule mutually agreed upon by the contractor and the City Arborist. Fifty percent (50%) of the dollar value of the contract shall be completed by May 5, 2003 or halfway through the approved schedule if changed, as an indication that the Contractor is satisfactorily progressing toward completion of the contract.

F. Working Hours

The contractor will schedule work between the hours of 7:30 AM. and 6:00 PM., Monday through Saturday, unless otherwise authorized by the City Arborist or his/her representative.

G. Pruning Specifications

The class of pruning for trees follows Urbana's Arboricultural Specifications:

Class I Fine Pruning to include Corrective Pruning - all trees with an 8" dbh or less
Class II Medium Pruning - trees greater than 8" dbh but less than 25" dbh
Class III Coarse Pruning - all trees in excess of 25" dbh

1. All pruning shall follow ANSI-A300 (Part 1)- 2001 Pruning *Tree Shrub and other Woody Plant Material – Standard Practices – Pruning* and overview of which includes the following:

    a. To remove all dead, dying, diseased, interfering, objectionable, and weak branches.
    b. To remove under-branches to permit clearance of approximately sixteen (16) feet, where practical to allow passage of second class motor vehicles on the street side of the tree, approximately eight (8) feet on the sidewalk or pedestrian side of the tree and approximately ten (10) feet over driveways. This may include the heading back of lower limbs or in some cases the lightening of lower branch loads to achieve clearance where practical. Work shall always maintain the crown shape and symmetry typical of the species being pruned.
    c. To remove all interior interfering branches, and one of all crossed or rubbing branches where practicable so the removal thereof will not leave large holes in the general form of the tree.
    d. To remove one branch of all structurally weak "V" crotches occurring along the main trunk or developing within the tree crown, particularly in smaller trees. Special attention shall be given to the effect removal of such branches will have on the ultimate form of the tree.
    e. To remove trunk suckers and water sprouts especially where they are present below the bottom one half (1/2) of the tree. Such branches that add to the shape of the tree above 16 feet may remain.
    f. To improve the appearance of the trees pruned.
    g. To clear traffic control signs (stop, yield, crossing, etc.) of tree limb and foliage obstructions.
    h. To clear street lights of limb and foliage obstructions within two (2) feet of light globe, where practical, or which block light to street or sidewalk.

2. Attention is to be given to the eventual symmetrical appearance of the trees. Appropriate pruning shall be done in order to maintain a tree-like form typical of the species of tree being pruned.

3. In lifting the bottom branches of trees for under-clearance, care shall be given to the symmetrical appearance of the entire crown.

4. All final cuts shall be “collar cuts” made sufficiently close to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub, so that closure can readily begin under normal conditions. The face of the “collar cut” or wound area shall be circular in form. “Flush” cuts to the main stem behind the branch collar and that leave oval exposed wounds shall NOT be made. Cuts shall be made such that all wound sides are even edged and do not leave “dog ear” ridges on one side or another. Clean cuts shall be made at all times without leaving any stubs.

5. All limbs to be removed shall be cut in such a manner so as to prevent any ripping or tearing of the wood or bark on the parent or remaining stem. Large limbs shall be cut using the three-cut pruning method. All limbs shall be brought to the ground in such a manner as to prevent any damage to real or personal property, publicly or privately owned.

6. Proper tools for pruning shall be used for each cut. Blades of each tool, including hand pruners, pole saws, hand saws, and chain saws, shall be placed on each branch to obtain the proper pruning cut. This shall be done in a way that will not cut, rip, or harm adjacent bark areas.

7. Any visible girdling roots, structural weakness, decayed trunk or branches, or split crotches or branches in the tree shall be reported to the City Arborist in writing on forms provided by the City.

8. No person working in trees shall use shoes with spikes, or any other footwear which will, in the opinion of the City Arborist, injure the tree being pruned. At no time shall any person working in trees for pruning purposes, wear spurs or climbing irons.

9. The contractor shall clean up and dispose of all debris resulting from the pruning operation, including raking all lawn areas and sweeping paved areas. All work areas shall be cleaned up by the end of each work day. In addition, no Elm or diseased logs will be left or given to any resident and must be disposed of by means agreeable to the City Arborist.

10. All debris from trees which may not have been acceptably or sufficiently pruned initially, and which require additional pruning or other work prior to payment, will be cleaned up and disposed of by the contractor.

To avoid misunderstanding, the terms in parts 1.a. through 1.e. above will be used as defined below:

Sucker Growth
The bushy and undesirable growth of small shoots on the trunk of a tree or on major limbs in close proximity to the trunk, usually not following the general pattern of the tree.

Objectionable Branches
Branches which are growing in contact with or within eight (8) feet of man-made structures or overhanging a structure.

Interfering Branches

Branches which are growing in such a manner that they cause unnecessary crowding, or are undesirable if the natural form and shape of the tree is to be achieved, or are growing in a direction heading into the crown of the tree.

H. Inspection of Work

All work must be completed to the satisfaction of the City Arborist, or his/her representative, and any questions as to proper procedures or quality of workmanship will be resolved by same.

I. Discontinuance of Work

Any practice obviously hazardous as determined by the City Arborist or his/her representative shall be immediately discontinued by the contractor upon receipt of either written or oral notice to discontinue such practice.

J. Personnel and Equipment

The contractor shall supply all material, equipment and personnel necessary to complete the work specified. Individuals found not to be following the intent of these specifications will be removed from the work site at the request of the City Arborist or his/her representative. Such individuals will not be allowed to return to complete work on this contract.

K. Certified Arborist

At least one individual must be on the job site at all times who has passed and received "Arborist Certification" from the International Society of Arboriculture prior to the Award of this contract. Their name(s) and certification number(s) must be included in the bid document to be considered for this project. Any change in the status of the "certified" individual(s) during the life of this contract must be reported to the City Arborist at the time of occurrence. Failure to have a certified Arborist on site at all times will result in termination of the contract.

L. Work Crew Supervision

The contractor shall provide qualified supervision of each crew at all times while working under this contract. Each supervisor shall be fluent in both written and spoken English and be authorized by the contractor to accept and act upon all directives issued by the City Arborist or his/her representatives.

M. Protection of Overhead Utilities

Tree pruning operations may be conducted in areas where overhead electric, telephone, and cable television facilities exist. The contractor shall protect all utilities from damage, shall immediately contact the appropriate utility if damage should occur, and shall be responsible for all claims for damage due to his/her operation. The contractor shall make arrangements with the utility for removal of all necessary limbs and branches which may conflict with or create a hazard in conducting the operations of this contract. If the contractor has properly contacted the utility in sufficient time to arrange for the required work by the utility, delays encountered by the contractor in waiting for the utility to complete its work shall not be the responsibility of the contractor.

N. Safety Standards

1. All equipment to be used and all work to be performed must be in full compliance with the most current revision of the American National Standards Institute Standard Z-133.1-2000, or as amended.

2. Closing of public streets shall not be permitted unless prior arrangements have been made with the City Arborist.

Whenever streets are to be closed to public service, the City Arborist shall be notified of the location and length of time the street will be closed. Further, notifications shall be given upon the removal of such barriers or if such barriers are to remain longer than originally expected. Under no circumstances are streets to be blocked to any degree over night. All barricades, obstructions and debris shall be cleared from street before leaving job site.

To protect the public from danger, suitable street and sidewalk barriers, highway cones, or signs shall be used in accordance with the Urbana Public Works "Work Area Protection Guide".

Street Closure and Reopening Procedure

a. Notify the City Arborist to inform all Police and Fire Departments and the MTD buslines of street closure and duration of closure.
b. Close street and sidewalk with proper signs, barriers, barrier tape and cones in compliance with Urbana Public Works "Work Area Protection Guide"
c. Remove street closure barriers in this order: barrier tape, cones, barriers and signs.
d. Notify public Works Garage to inform all Police and Fire Departments and MTD buslines of street reopening.
e. Remove all warning signs

3. The contractor shall provide adequate barricades, flagmen, signs and/or warning devices during the performance of the Contract to protect motorists and pedestrians. Yellow flashing lights mounted on a vehicle shall not be deemed as sufficient or adequate protection. Individual trees being pruned by a single climber shall have cones placed in the roadway to alert motorist of activity in those trees. Questions of sufficiency shall be resolved to the satisfaction of the City Arborist. **The City will provide the contractor with 2 tree work ahead signs, 2 sidewalk signs, and 12 traffic cones**.

   If it is necessary to temporarily leave the worksite, always leave one lane clear of obstruction for emergency traffic.

O. Posting and Notification

The City Arborist will notify residents by letter of the upcoming trimming and parking restrictions. If necessary, it will be the contractor's responsibility to post no parking signs 48 hours in advance of trimming for these situations. No parking signage and guidance will be provided by the City.

P. Specified Area of Trees to be Trimmed

The area targeted for trimming shall be clearly defined by section number, bordering streets and map. (See sample below)

Section 4

North boundary – Washington St. from Vine to Philo Rd.
South boundary – Florida Ave. from Vine to Philo Rd.
West boundary – Vine St. from Washington St. to Florida Ave.
East boundary – Philo Rd. from Washington St. to Florida Ave.

Note: All perimeter streets are to have trees on both sides of the street trimmed.

Q. Wood and Chip Disposal

All residual wood, brush and or chips may be dropped off at the Landscape Recycling Center at no charge to the contractor. All LRC drop off fees for plant material generated from the contract will be charged to the City of Urbana. Contractor must collect and turn in all LRC receipts to City Arborist on a weekly basis. Any logs wanted by the residents shall be given free of charge and shall not be from elm or diseased trees. Wood from tree pruning can only be left for adjacent homeowners if 1) it is cut into 24" or less lengths, 2) is stockpiled off public R.O.W. and onto homeowner's property and 3) the homeowner signs an agreement with the City for firewood. Under no circumstances may wood chips be dropped off to homeowners.

R. Questions

All questions should be directed to:

Michael J. Brunk, Urbana City Arborist
706 South Glover Avenue
Urbana, IL 61802-4427
217-384-2393

S. Costs

The undersigned hereby affirms and states that the prices quoted herein constitute the total cost to the City for all work involved in the respective items and that this cost also includes all insurance, royalties, transportation charges, use of all tools and equipment, superintendence, overhead expense, inspection costs, all profits and all other work,

services and conditions necessarily involved in the work to be done in accordance with the requirements of the Contract Documents considered severally and collectively.

T. Additional Information

Each bidder shall be asked to provide the following data with his/her bid:

1. A statement of the items of equipment which the bidder proposes to use on the project, together with a statement noting which of these items of equipment the bidder owns, and separately those items which he/she does not own but is certain he/she will be able to rent or otherwise has access to use. (Complete Reference/Equipment Form)

2. At least four (4) references who can attest to the contractor's ability to fulfill this contract. Include names, addresses, and phone numbers. (Complete Reference/Equipment Form)

3. At least one (1) reference who can attest to the contractor's previous satisfactory performance of a municipal or other governmental tree pruning contract in excess of 1,000 trees.

Any bidder may be required by the City to submit additional data in support of the bidder's claim to be competent to carry out the terms and provisions of the contract.

REFERENCE/EQUIPMENT FORM

REFERENCES			EQUIPMENT LIST			
Name	Address	Phone	Make	Model	Year	Hours

Division of Public Works

TREE AND LANDSCAPE WORK PERMIT

Permit or Approval to perform tree or tree-related work, planting and/or treatment of plant material on City Property.

APPLICANT ONLY - please provide the following information

_____ Public Utility _____

_____ Other _____

Application Date: _____

Work Site Location: _____

Type of tree work/planting/treatment involved: _____

Total number of trees involved: (complete Detailed Inventory Form) _____

Proposed species to be planted: _____

Proposed starting date (48-hour advance notice required): _____

Project contact person and phone: _____

Signature of Applicant: _____

The signature of the applicant verifies that he/she has read and understands those provisions of the Ordinance, the Arboricultural Specifications Manual and/or any other agreed upon standards that apply to the work for which this permit is sought.

ARBORIST ONLY

_____ Approved _____ Not Approved Permit No._____

Additional comments or conditions:

_____
_____
_____
_____
_____
_____

Approved by: _____ Date:_____
City Arborist

DETAILED INVENTORY FORM

Permit No. _____

INVENTORY (to be completed by applicant)					INSPECTION (Arborist use only)			
#	Location	Species	Description of Work	Size	Satisfactory	Unsatisfactory	Rework	Comments
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Work Quality or Standard Approval by City Arborist_____

NOTE: The issuance of any additional or future permits is predicated on the satisfactory completion of work authorized through this permit as confirmed by the City Arborist. All work must conform to the standards outlined in the "Overhead Line Clearance Manual" and/or the "Arboricultural Specifications and Standards Manual" as required by ordinance. Violation penalties, as prescribed by the Urbana Tree Ordinance (#7677-24), will apply.

Division of Public Works

CO-OP TREE PLANTING PROGRAM

MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF URBANA, ILLINOIS, AND CERTAIN QUALIFIED OWNERS OF PROPERTY FOR A COOPERATIVE PLANTING PROGRAM

The City of Urbana, Illinois, a Municipal Corporation, by and through its Arbor Division, hereinafter referred to as the City, desires to enter into a cooperative planting program with the owner(s) identified, for the planting of trees along and within the adjoining or adjacent street right-of-way of the City, and said qualified owner(s) of such property adjoining or adjacent to the right-of-way of the City agree to co-operate in and abide by the provisions contained herein. For the purposes of this program and in order to be eligible therefore, the property or properties of said owner(s) must either be of sufficient dimension in itself or be contiguous with other property so as to provide sufficient dimension to enable the planting of at least one (1) tree along and within said right-of-way of the City.

1. The City will make recommendations as to tree species and determine planting location(s).

2. The City will contact all utility agencies to check for and determine possible utility conflicts.

3. The City will select, plant, and prune any and all trees in connection with this program.

4. The City will purchase any and all trees provided in connection with this program.

5. The Owner(s), in order to participate in this program, must first express a desire to do so and, if multiple owners of contiguous properties are involved, said owners should designate a person or persons to represent said owners for the purposes of coordination with the City Arbor Division.

6. The Owner(s) will pay to the City $115 per tree and tree watering bag for tree/s planted and or installed in the City right-of-way adjacent to or adjoining the property or properties of said Owner(s).

7. The Owner(s) further agree to water, as required, any and all trees planted in connection with the program through the critical first 3 years. **If for any reason the tree fails and/or declines replacement will be the sole discretion of the City Arborist and then only one replacement tree is allowed under the original fee.**

SPECIES SELECTION		
LARGE	**MEDIUM**	**SMALL**
Oak (*mostly swamp white, bur, sawtooth, chinkapin*)	Amur Corktree	Amur Maple
Kentucky Coffee Tree	Turkish Filbert	Tartarian Maple
Silver Linden	Hedge Maple	Japanese or Pekin Tree Lilac
Baldcypress	American Hophornbeam	Flowering Crabapple
Lacebark Elm	Katsuratree	Apple Serviceberry *(tree form)*
Danada Charm Elm	Black Gum *(moist loamy soils only)*	Paperbark Maple
Accolade Elm	Pagodatree *(hard to find)*	White Fringetree *(hard to find)*
Ginkgo	Goldenraintree	
Hardy Rubber Tree		
Sugar Hackberry		

Division of Public Works

CO-OP TREE PLANTING PROGRAM
REMITTANCE FORM

Thank you for your interest in the Co-op Tree Planting Program. Please attach this application with your payment ($115 per tree) and mail to:

Urbana Public Works
Arbor Division
Co-op Tree Planting Program
706 S. Glover
Urbana, IL 61802

Please contact Michael Brunk, City Arborist OR Mark Kates, Forestry Supervisor at (217) 384-2393 if you have futher questions.

_____
Owner(s) of Certain Property Date

_____
Address

_____
Phone

If you have a preference of species, please indicate below (or City Arborist will choose a tree best suited for site):

_____
1st Choice

_____
2nd Choice

_____
Number of Trees Requested

Note: Your payment is NON-REFUNDABLE as it is committed to a tree order shortly after receipt.

Division of Public Works

TREE REPLACEMENT PROGRAM

MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF URBANA, ILLINOIS, AND CITIZENS FOR THE TREE REPLACEMENT PROGRAM

The City of Urbana, Illinois, a Municipal Corporation, by and through its Arbor Division, hereinafter referred to as the City, will provide qualified owners with a replacement tree if a tree removal on the City right-of-way adjacent to a citizen's property has taken place. Owners are eligible for one replacement tree for a cost of $20.

For multiple tree removals, owners may be eligible for more than one replacement tree if trees were removed within the last year and there is sufficient room, as determined by the City Arborist. For requests of two or more replacement trees contact the City Arborist at 384-2393 for a site inspection prior to submitting application.

The Replacement Program offers the flexibility to choose from the species of trees listed, guaranteeing a quality 1½ - 2 inch diameter tree. Participants are responsible for watering all trees planted in connection with this program through the critical first 3 years. Each participant will receive a watering bag with each replacement tree. Watering bag and general care instructions for new tree(s) will be provided at the time of planting

The provisions of the program are as follows:

1. The City will purchase, plant and prune any and all trees provided in connection with this tree replacement program.

2. The City will only replant if there is sufficient space for tree to be planted on City Right of Way and locations do not interfere with vehicular visibility.

3. The City will provide only one replacement tree and watering bag per removal. If for any reason the new tree dies, it is up to the discretion of the City Arborist if the tree will be replaced and a $20 replacement tree fee will be required.

4. Any additional trees can be purchased for $115 each if the City Arborist determines there is room.

5. The City reserves the right to make the final determination of tree species selection and location.

SPECIES SELECTION		
LARGE	**MEDIUM**	**SMALL**
Oak (*mostly swamp white, bur, sawtooth, chinkapin*)	Amur Corktree	Amur Maple
Kentucky Coffee Tree	Turkish Filbert	Japanese or Pekin Tree Lilac
Silver Linden	Hedge Maple	Flowering Crabapple
Baldcypress	American Hophornbeam	Apple Serviceberry *(tree form)*
Lacebark Elm	Katsuratree	Paperbark Maple
Zelkova	Black Gum *(moist loamy soils only)*	White Fringetree *(hard to find)*
Accolade Elm	Pagodatree *(hard to find)*	
Ginkgo	Goldenraintree	
Hardy Rubber Tree		
Sugar Hackberry		

Division of Public Works

TREE REPLACEMENT PROGRAM
REMITTANCE FORM

Thank you for your interest in the Tree Replacement Program. Please attach this application with your payment of $20 for the first tree and $115 for each tree thereafter and mail to:

Urbana Public Works
Arbor Division
Tree Replacement Program
706 S. Glover
Urbana, IL 61802

Please contact Michael Brunk, City Arborist, OR Mark Kates, Forestry Supervisor, at (217) 384-2393 if you have futher questions.

_____
Owner(s) of Certain Property Date

_____
Address

_____
Phone

If you have a preference of species, please indicate below (or City Arborist will choose a tree best suited for site):

_____
1st Choice

_____
2nd Choice

_____
Number of Trees Requested

Note: Your payment is NON-REFUNDABLE as it is committed to a tree order shortly after receipt.

Division of Public Works

NEW SUBDIVISION TREE REPLACEMENT PROGRAM

MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF URBANA, ILLINOIS, AND CITIZENS FOR THE **NEW SUBDIVISION** TREE REPLACEMENT PROGRAM

The City of Urbana, Illinois, a Municipal Corporation, by and through its Arbor Division, hereinafter referred to as the City, will provide qualified owners with a replacement tree if a tree removal on the City right-of-way adjacent to a citizen's property has taken place. Owners are eligible for one replacement tree for a cost of $20.

For multiple tree removals, owners may be eligible for more than one replacement tree if trees were removed within the last year and there is sufficient room, as determined by the City Arborist. For requests of two or more replacement trees, contact the City Arborist at 384-2393 for a site inspection prior to submitting application.

The Replacement Program offers the flexibility to choose from the species of trees listed, guaranteeing a quality 1½ - 2 inch diameter tree. Participants are responsible for watering all trees planted in connection with this program through the critical first three years. Each participant will receive a watering bag with each replacement tree. Watering bag and general care instructions for new tree(s) will be provided at the time of planting

The provisions of the program are as follows:

1. The City will purchase, plant and prune any and all trees provided in connection with this tree replacement program.

2. The City will only replant if there is sufficient space for tree to be planted on City Right of Way and locations do not interfere with vehicular visibility.

3. The City will provide only one replacement tree and watering bag per removal. If for any reason the new tree dies, it is up to the discretion of the City Arborist if the tree will be replaced and a $20 replacement tree fee will be required.

4. Any additional trees can be purchased for $115 each if the City Arborist determines there is room.

5. The City reserves the right to make the final determination of tree species selection and location.

SPECIES SELECTION		
LARGE	**MEDIUM**	**SMALL**
Bur Oak	Amur CorkTree	Amur Maple
Chinkapin Oak	Turkish Filbert	Corneliancherry Dogwood
Regal Prince Oak	Hedge Maple	Flowering Crabapple
English Oak	Sawtooth Oak	Dogwood
Kentucky Coffee Tree	Miyabe Maple	Paperbark Maple
Elm Hybrids	Goldenraintree	Blackhaw Viburnum (hard to find)
Ginkgo		
Yellow Buckeye		
Sugar Hackberry		

Division of Public Works

NEW SUBDIVISION TREE REPLACEMENT PROGRAM
REMITTANCE FORM

Thank you for your interest in the New Subdivision Tree Replacement Program. Please attach this application with your payment of $20 for the first tree and $115 for each tree thereafter and mail to:

Urbana Public Works
Arbor Division
New Subdivision Tree Replacement Program
706 S. Glover
Urbana, IL 61802

Please contact Michael Brunk, City Arborist, OR Mark Kates, Forestry Supervisor, at (217) 384-2393 if you have futher questions.

_____
Owner(s) of Certain Property Date

_____
Address

_____
Phone

If you have a preference of species, please indicate below (or City Arborist will choose a tree best suited for site):

_____
1st Choice

_____
2nd Choice

_____
Number of Trees Requested

Note: Your payment is NON-REFUNDABLE as it is committed to a tree order shortly after receipt.