

LAKE ANNE WEST VEGETATION SCHEDULE

PLANTING SCHEDULE										PLANTING QUANTITIES (BASED ON ONE-GALLON SIZE) ⁴									
CONTAINER PLANTING ZONE	SPECIES GROUP ^{1,2}	SPECIES ²	INDICATOR STATUS	WILDLIFE VALUE				PLANT SPACING ³	CONTAINER SIZE, RATE, AND QUANTITY ⁴		AREA (SF): AREA (AC): LENGTH (LF):	A	B	C	D	E			
				FUNCTIONS	PRIMARY SPECIES	PLANT PART	SEASON		PLANTS PER ACRE	# OF PLANTS									
RIPARIAN FOREST	TREE LAYER	1	QUERCUS ALBA (WHITE OAK) QUERCUS PALUSTRIS (PIN OAK) QUERCUS PHELLOS (WILLOW OAK) QUERCUS RUBRA (NORTHERN RED OAK)	FACW FACW FAC+ FACU-	Food	Blue jays, woodpeckers, turkey, deer, fox, raccoons, squirrels, other small mammals	Nuts	Fall, Winter	SEE NOTE #3	300 ONE-GAL --or-- 600 TUBELINGS --or-- MIX AT 1:2 RATIO (SEE NOTE #4)	219 (BASED ON ONE-GALLON)	-	-	63	156				
		2	ACER NEGUNDO (BOX ELDER) ACER RUBRUM (RED MAPLE) BETULA NIGRA (RIVER BIRCH) LIQUIDAMBAR STYRACIFLUA (SWEET GUM)	FAC+ FAC FACW FAC	Food Food, cover Food	Finches, chickadees, squirrels, robins, goldfinches, other birds Finches, chickadees, squirrels, robins, goldfinches, other birds Song birds Finches, cardinals, chickadees, sparrows, squirrels	Seeds, buds, flowers, plant Seeds, buds, flowers, plant Seeds, plant Seed	Spring, summer Spring, summer All Summer, fall, winter	SEE NOTE #3	150 ONE-GALLON --or-- 300 TUBELINGS --or-- MIX AT 1:2 RATIO (SEE NOTE #4)	110 (BASED ON ONE-GALLON)	-	-	32	78				
		3	ILEX OPACA (AMERICAN HOLLY)	FACU+	Food, cover, reproductive areas	Robins, bluebirds, mockingbirds, hermit thrush	Fruit, plant	All	SEE NOTE #3	ONE-GALLON --or-- 200 TUBELINGS --or-- MIX AT 1:2 RATIO (SEE NOTE #4)	73 (BASED ON ONE-GALLON)	-	-	-	21	52			
	SHRUB LAYER	4	AMELANCHER CANADENSIS (CANADIAN SERVICEBERRY) CERCIS CANADENSIS (EASTERN REDBUD) CORNUS FLORIDA (FLOWERING DOGWOOD) CORYLUS AMERICANA (AMERICAN HAZELNUT) LINDERA BENZON (NORTHERN SPICEBUSH) VIBURNUM DENTATUM (SOUTHERN ARROWWOOD) VIBURNUM PRUNIFOLIUM (BLACK-HAW)	FAC FACU- FACU- FACU- FACW- FAC FACU	Food, cover Food Food Food, cover Food Food Food, cover	Song birds, small mammals Honeybees, butterfly caterpillars Wild turkey, cardinal, cedar waxwing, robin, brown thrasher, wood thrush, rabbits Songbirds, small mammals Thrushes vireos, catbird, bluebird, butterfly caterpillars Robins, bluebirds, other thrushes, thrashers, catbirds, vireos Catbirds, thrashers, thrushes, cover and nest sites for songbirds	Fruit, plant Flowers, leaves Flower, fruit Fruit Fruit, leaves Fruit Fruit, plant	All Spring, summer Spring, fall Summer, fall Spring, summer, fall Fall Spring, fall	SEE NOTE #3	ONE-GALLON --or-- 300 TUBELINGS --or-- MIX AT 1:2 RATIO (SEE NOTE #4)	110 (BASED ON ONE-GALLON)	-	-	32	78				
		RIPARIAN FOREST QUANTITY SUBTOTALS										400	512	-	-	148	364		
		STREAM BANK	TREE AND SHRUB LAYER	5	CORNUS AMOMUM (SLIKY DOGWOOD) ILEX VERTICILLATA (COMMON WINTERBERRY) SAMBUCUS CANADENSIS (ELDERBERRY) VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FACW FACW+ FACW- FAC	Food Food, cover, reproductive areas Food, cover Food, cover, reproductive areas	Catbird, thrasher, thrushes, woodpeckers Bluebird, catbird, brown thrasher, robin, yellow bellied sapsucker, mockingbird Brown thrasher, catbird, woodpeckers, thrushes Purple finch, goldfinch, robin, junco, bluebird, hermit thrush	Fruit Flower, seed, leaves Seed Flower, fruit	Summer, fall All Spring, fall, winter Spring, summer, fall	SEE NOTE #3 (AVERAGES 3' O.C. FOR ONE-GALLON)	N/A	652 (BASED ON ONE-GALLON)	282	370	-	-		
				STREAM BANK QUANTITY SUBTOTALS										-	652	282	370	-	-
				STREAM EDGE	TREE AND SHRUB LAYER	6	CORNUS AMOMUM (SLIKY DOGWOOD) SALIX NIGRA (BLACK WILLOW) ALNUS SERRULATA (BROOKSIDE ALDER) VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FACW FACW+ OBL FAC	Food, cover, reproductive areas Food Food, reproductive areas Food	Catbird, thrasher, thrushes, cedar waxwings, rabbits Beaver, porcupine, deer, muskrat, ducks, fish Finches, sparrows, doves, yellow warbler, song sparrow, other songbirds Robins, bluebirds, other thrushes, thrashers, catbirds, vireos	Flower, fruit Seeds, plant, leaves Seeds, buds, stems Fruit	Summer, fall, winter Spring, summer, fall Summer, fall, winter Fall	1' O.C. (SEE NOTES #5, #6)	N/A	1,956 (TUBELINGS OR LIVESTAKES ONLY - SEE NOTE #5)	846	1,110	-	-
						STREAM EDGE QUANTITY SUBTOTALS										-	1,956	846	1,110

PLANTING AND SEEDING NOTES

- It is expected and preferred that all species in each of the Species Groups are planted. The tolerances listed in this note are intended to incorporate flexibility according to species availability. At a minimum, Contractor to provide at least:
 - 3 of the 4 species in Group 1,
 - 3 of the 4 species in Group 2,
 - all of Group 3,
 - 6 of the 7 species in Group 4,
 - 3 of the 4 species in Group 5,
 - 3 of the 4 species in Group 6 (with Salix nigra a required species),
 - all of Group 7,
 - 4 of the 6 species in Group 8,
 - 3 of the 4 species in Group 9,
 - 5 of 6 species in Group 10,
 - 5 of 7 in Group 11,
 - 6 of 8 in Group 12,
 - 4 of 5 in Group 13,
 - 5 of 8 in Group 14, and
 - 5 of 6 in Group 15.
- Substitutions for selected species based upon availability shall be requested in writing to engineer documenting the lack of availability if the flexibility inherent in the above schedule is still not sufficient. Engineer is under no obligation to approve substitutions.
- The planted trees and shrubs shall be randomly spaced and species mixed throughout the planting areas.
- Container rates and quantities shown for one gallon size. For purposes of substitution, two tubelings are the equivalent of one 1-gallon container plant in this schedule. Contractor may provide a mix of container and tubeling sizes for each species requirement, provided the ratio of tubelings to containers is not less than 2:1. Exception -- Group 6 (Stream Edge) shall be planted in accordance with Note #5.
- Group 6 (Stream Edge) zone shall be planted with tubelings, or as livestock (Salix nigra only, and only between February 1 and March 31). No one gallons are required to be used for any of this Group's species.
- Stream Bank and Stream Edge zones shall be planted such that the combined mix of species is spaced approx. 3' O.C. and 1' O.C. respectively. These zones shall not be planted such that each individual species in these zones is planted at these rates, resulting in tighter spacing.
- All seeding rates are expressed in pounds of pure live seed (PLS).

SEEDING SCHEDULE										SEEDING QUANTITIES							
SEED PLANTING ZONE	SPECIES GROUP ^{1,2}	SPECIES ²	INDICATOR STATUS	WILDLIFE VALUE				SEEDING RATE ⁷ (LBS/AC)	AREA PER PLANT (AC)	QUANTITY (LBS)	AREA (SF): AREA (AC):	A	B	C	D	E	
				FUNCTIONS	PRIMARY SPECIES	PLANT PART	SEASON										
RIPARIAN BUFFER SEED MIX	7	LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)	N	Erosion control, food	Sparrows, finches, small mammals	Seeds	Summer, fall	45.00	1.76	79.20	1.80	1.80	9.45	23.40	42.75		
		SETARIA ITALICA (FOXTAIL MILLET) (OR ECHINOCHLOA CRUSGALII VAR. FRUMENTACEA)	UPL	Food	Sparrows, finches, small mammals	Seeds	Fall, winter	45.00	1.76	79.20	1.80	1.80	9.45	23.40	42.75		
	8	CAREX SCOPARIA (BLUNT BROOM SEDGE)	FACW	Food, cover	Song birds (esp. sparrows), small mammals	Seeds, plant	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		CAREX SQUARROSA (SQUARROSE SEDGE)	N	Food	Song birds, waterfowl	Seeds	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		CAREX VULPINOIDEA (FOX SEDGE)	OBL	Food	Song birds, waterfowl	Seeds	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		CYPERUS ESCULENTUS (CHIFFA)	FACW	Food	Song birds, waterfowl	Seeds	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		JUNCUS EFFUSUS (SOFT RUSH)	FACW+	Food, cover, reproductive areas	Waterfowl, songbirds (esp. sparrows), bluegill and other fish	Seeds, stems	Summer, fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		JUNCUS TENUIS (PATH RUSH)	FAC-	Food	Songbirds, small mammals	Seeds	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
	9	ELYMUS RIPARIUS (RIVERBANK WILD RYE)	FACW	Food	Song birds, small mammals	Seeds, leaves	All	10.00	1.76	17.60	0.40	0.40	2.10	5.20	9.50		
		ELYMUS VIRGINICUS (VIRGINIA WILD RYE)	FACW-	Food	Deer, sparrows, small mammals	Seeds, leaves	All	10.00	1.76	17.60	0.40	0.40	2.10	5.20	9.50		
		PANICUM CLANDESTINUM (DEER TONGUE GRASS)	FAC+	Food	Song birds, waterfowl, small mammals	Seeds	Summer, fall	10.00	1.76	17.60	0.40	0.40	2.10	5.20	9.50		
		PANICUM DICHOTOMIFLORUM (SMOOTH PANIC GRASS)	FACW-	Food	Song birds, waterfowl, small mammals	Seeds	Summer, fall	10.00	1.76	17.60	0.40	0.40	2.10	5.20	9.50		
	10	ANEMONE VIRGINIANA (THIMBLEWEED)	N	Food	Pollinators, butterflies, beneficial insects	Flowers	Spring, summer	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		ASTER NOVAE-ANGLIAE (NEW ENGLAND ASTER)	FACW-	Food	Butterflies, beneficial insects	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		ASTER PLOSUS (HEATH ASTER)	UPL	Food	Butterflies	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		ASTER PRENANTHOIDES (ZIG ZAG ASTER)	FAC	Food	Butterflies	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		LILIUM SUPERBUM (TURKSCAP LILY)	FACW+	Food	Butterflies, song birds	Flowers	Summer	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		SOLDAGO JUNCEA (EARLY GOLDENROD)	UPL	Food	Pollinators, butterflies, beneficial insects	Seeds	Fall, winter	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
	11	EUPATORIUM FISTULOSUS (JOE PYE WEEED)	FACW	Food	Pollinators, butterflies, beneficial insects	Flowers, seeds	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		EUPATORIUM PERFORIOLATUM (BONESET)	FACW+	Food	Pollinators, butterflies, beneficial insects	Flowers	Summer	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		EUTHAMIA GRAMINIFOLIA (GRASS LEAVED GOLDENROD)	FAC	Food	Butterflies	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		SOLDAGO CANADENSIS (CANADIAN GOLDENROD)	FACU	Food	Butterflies, song birds, small mammals	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		SOLDAGO SPECIOSA (SHOWY GOLDENROD)	UPL	Food	Butterflies, song birds, small mammals	Flowers	Summer, fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		VERNONIA NOVEBORACENSIS (NEW YORK IRONWEED)	FACW+	Food	Butterflies	Flowers	Fall	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		ZIZA AUREA (GOLDEN ALEXANDERS)	FAC	Food	Beneficial insects	Flowers	Spring, summer	0.10	1.76	0.17	0.00	0.00	0.02	0.05	0.10		
		ASCLEPIAS SYRIACA (COMMON MILKWEED)	UPL	Food	Butterflies, beneficial insects	Flowers	Spring, summer	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		BIDENS FRONDOSA (BEGGAR TICKS)	FACW	Food	Pollinators, butterflies, beneficial insects	Seeds	Summer, fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		HELENIUM AUTUMNALE (COMMON SNEEZEWEED)	FACW+	Food	Butterflies	Flowers	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
	12	HELIANTHUS ANGSTIFOLIUS (NARROW-LEAF SUNFLOWER)	FACW	Food	Butterflies, song birds	Flowers, seeds	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		ONOCLEA SENSIBILIS (SENSITIVE FERN)	FACW	Food	Songbirds, small mammals	Ferns	Spring, summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		PENSTEMON DIGITALIS (PENSTEMON)	FAC	Food	Pollinators, butterflies, beneficial insects	Leaves, seeds	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		VERBENA HASTATA (BLUE VERVAIN)	FACW+	Food	Pollinators, butterflies, beneficial insects	Flowers, seeds	Spring, summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		VERBESINA ALTERNIFOLIA (WINGSTEM)	FAC	Food	Butterflies, other insects	Flowers	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		COREOPSIS LANCEOLATA (LANCE LEAVED COREOPSIS)	FACU	Food	Song birds, butterflies	Flowers, seeds	Spring, summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
	13	HELOPSIS HELIANTHOIDES (OXEYE SUNFLOWER)	UPL	Food	Pollinators, butterflies, beneficial insects	Flowers, seeds	Spring, summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		POLYGONUM PENNSYLVANICUM (PA SMARTWEED)	FACW	Food	Sparrows, finches, blackbirds, quail, small mammals	Seeds	Fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		RUDBECKIA HIRTA (BLACK EYED SUSAN)	FACU-	Food	Butterflies and other pollinators	Flowers, seeds	Summer, fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		SENNA HEBECARPA (WILD SENNA)	FAC	Food	Song birds, upland game birds	Seeds	Summer	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		AMELANCHER CANADENSIS (CANADIAN SERVICEBERRY)	FAC	Food, cover	Song birds, small mammals	Fruit, plant	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		ARONIA MELANOCARPA (BLACK CHOKEBERRY)	UPL	Food	Songbirds, upland game birds, small mammals	Fruit	Fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		HAMAMELIS VIRGINIANA (WITCH HAZEL)	FAC-	Food, cover, reproductive areas	Ruffed grouse, wild turkey, rabbit, deer, beaver	Flowers, fruit	Spring, fall, winter	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
	14	ILEX VERTICILLATA (WINTERBERRY)	FACW+	Food, cover, reproductive areas	Song birds, upland game birds	Flower, seed, leaves	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		LINDERA BENZON (NORTHERN SPICEBUSH)	FACW-	Food	Thrushes vireos, catbird, bluebird, butterfly caterpillars	Fruit, leaves	Spring, summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		PHYSOCARPUS OPULIFOLIUS (COMMON NINEBARK)	FACW-	Food, cover	Songbirds, waterfowl, small mammals, beneficial insects	Flowers, fruit	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		VIBURNUM DENTATUM (SOUTHERN ARROW WOOD)	FAC	Food	Robins, bluebirds, other thrushes, thrashers, catbirds, vireos	Fruit	Fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		VIBURNUM PRUNIFOLIUM (BLACK-HAW)	FACU	Food, cover	Catbirds, thrashers, thrushes, cover and nest sites for songbirds	Fruit, plant	Spring, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		ACER RUBRUM (RED MAPLE)	FAC	Food	Finches, chickadees, squirrels, robins, goldfinches, other birds	Seeds, buds, flowers, plant	Spring, summer	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		CARPINUS CAROLINIANA (MUSCLEWOOD)	FAC	Food	Ruffed grouse, bobwhite, pheasant, wild turkey, squirrel, rabbit, deer	Fruit	Summer, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
	15	CERCIS CANADENSIS (EASTERN REDBUD)	FACU-	Food	Honeybees, butterfly caterpillars	Flowers, leaves	Spring, summer	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		CORNUS FLORIDA (FLOWERING DOGWOOD)	FACU-	Food	Wild turkey, cardinal, cedar waxwing, robin, brown thrasher, wood thrush, rabbits	Flower, fruit	Spring, fall	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		NYSSA SYLVATICA (BLACK GLUM)	FAC	Food, cover	Song birds, waterfowl, small mammals	Fruit, plant	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		PLATANUS OCCIDENTALIS (AMERICAN SYCAMORE)	FAC	Food, cover	Raccoons, opossum, wood duck, pileated and other woodpeckers	Fruit, hollow trunks	All	0.20	1.76	0.35	0.01	0.01	0.04	0.10	0.19		
		SEEDING TOTALS										137.90	242.56	5.53	5.53	28.88	71.55

TURFGRASS AREA SEEDING SCHEDULE

SEED PLANTING ZONE	SPECIES ³	SEEDING RATE ² (LBS/AC)	AREA PER PLANT (AC)	QUANTITY (LBS)
GRASSLAND AREA	KENTUCKY 31 OR TURF-TYPE TALL FESCUE	190.00	0.023	4.37
	IMPROVED PERENNIAL RYEGRASS	5.00	0.023	0.12
	KENTUCKY BLUEGRASS	5.00	0.023	0.12
SEEDING TOTALS		200.00		