

- LANDSCAPE NOTES:**
- PLANT QUALITIES SHOWN IN THE PLANT SCHEDULE ARE FOR CONVENIENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIALS SHOWN ON THE PLAN AND SHOULD NOT RELY ON THE PLANT SCHEDULE FOR DETERMINING QUALITIES.
 - ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE FROM ANY DEFORMITIES, DISEASES OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR CROOKED/DISPLACED LEADERS, BARK ABRASION, SUNSCALD, INSECT DAMAGE, ETC. ARE NOT ACCEPTABLE AND WILL BE REJECTED. TREES WITH MULTIPLE LEADERS WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT SCHEDULE AS MULTI-STEM.
 - ALL LANDSCAPE IMPROVEMENTS SHALL MEET MUNICIPALITY REQUIREMENTS AND GUIDELINES, WHICH SHALL BE VERIFIED BY MUNICIPAL AUTHORITIES.
 - ALL PLANTING OPERATIONS SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICES. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, PROPER PLANTING BED AND TREE PIT PREPARATION, PLANTING MIX, PRUNING, STAKING AND GUYING, WRAPPING, SPRAYING, FERTILIZATION AND ADEQUATE MAINTENANCE OF MATERIALS DURING CONSTRUCTION ACTIVITIES.
 - ALL PLANT MATERIALS SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ANY MATERIALS INSTALLED WITHOUT APPROVAL MAY BE REJECTED.
 - THE CONTRACTOR SHALL GUARANTEE PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL OUTLINE PROPER MAINTENANCE PROCEDURES TO THE OWNER AT THE TIME OF ACCEPTANCE. DURING THE GUARANTEE PERIOD, DEAD OR DISEASED MATERIALS SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE GUARANTEE PERIOD THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
 - ANY EXISTING TREES TO BE RETAINED SHALL BE PROTECTED FROM SOIL COMPACTION AND OTHER DAMAGES THAT MAY OCCUR DURING CONSTRUCTION ACTIVITIES BY ERECTING FENCING AROUND SUCH MATERIALS AT A DISTANCE OF 8.5' FROM THE TRUNK.
 - ALL GRASS, CLUMPS, OTHER VEGETATION, DEBRIS, STONES, ETC., SHALL BE RAKED OR OTHERWISE REMOVED FROM PLANTING AND LAWN AREAS PRIOR TO INITIATION OF INSTALLATION PROCEDURES.
 - ANY AREAS TO BE LOAMED AND SEEDED WHICH HAVE NOT BEEN DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 1"-2" OF LOAM OVER SCARIFIED EXISTING SOILS. CARE SHOULD BE GIVEN TO NOT PLACE GREATER THAN 1" SOIL OVER EXPOSED ROOTS OF EXISTING TREES IN SUCH AREAS.
 - THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INITIATING PLANTING OPERATIONS. THE CONTRACTOR SHALL REPAIR/REPLACE AND UTILITY, PAVING, CURBING, ETC., WHICH IS DAMAGED DURING PLANTING OPERATIONS.
 - SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF ANSI Z60.1, AMERICAN STANDARDS FOR NURSERY STOCK, BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
 - REFER TO PLAN OF SURVEY FOR LEGAL DESCRIPTION, BOUNDARY DIMENSIONS AND EXISTING CONDITIONS.
 - REFER TO ARCHITECTURAL PLANS FOR BUILDING SIZES AND FOOTPRINTS.
 - REFER TO ENGINEERING PLANS FOR DETENTION CALCULATIONS, UTILITY LOCATIONS, TOPOGRAPHIC INFORMATION AND THE LIKE.
 - ALL PLANT MATERIAL ON THIS PLANTING PLAN REPRESENTS THE INTENTION AND INTENSITY OF THE PROPOSED LANDSCAPE MATERIAL. THE EXACT SPECIES AND LOCATIONS MAY VARY IN THE FIELD DUE TO MODIFICATIONS IN THE SITE IMPROVEMENTS AND THE AVAILABILITY OF PLANT MATERIAL AT THE TIME OF INSTALLATION. ANY SUCH CHANGES MUST FIRST BE APPROVED BY THE VILLAGE IN WRITING.
 - ALL PLANT MATERIAL SHALL BE PLANTED WITH A MINIMUM OF SIX INCHES OF ORGANIC SOIL AND MULCHED WITH A SHREDDED BARK MATERIAL TO A MINIMUM 3" DEPTH.
 - ALL BEDS SHALL BE EDED, HAVE WEED PRE-EMERGENTS APPLIED AT THE RECOMMENDED RATE.
 - ALL PARKWAYS AND PARKING LOT ISLANDS SHALL HAVE SOD AS A GROUND COVER, UNLESS OTHERWISE NOTED.
 - ALL LAWN AREAS ON THIS PLAN SHALL BE GRADED SMOOTH AND TOPPED WITH AT LEAST 4" OF TOPSOIL. ALL LAWN AREAS TO BE ESTABLISHED USING SOD UNLESS OTHERWISE NOTED.
 - THIS LANDSCAPE PLAN ASSUMES THE SITE WILL BE PREPARED WITH TOP SOIL SUITABLE FOR THE ESTABLISHMENT OF THE LANDSCAPE MATERIAL PRESENTED ON THIS PLAN. IF ADDITIONAL TOP SOIL IS REQUIRED IT IS UP TO THE LANDSCAPE CONTRACTOR ON THE PROJECT TO PROVIDE, SPREAD AND PREPARE THE SITE AS NEEDED FOR THE IMPLEMENTATION OF THIS LANDSCAPE PLAN.
 - CONTRACTORS MUST VERIFY ALL QUANTITIES AND OBTAIN ALL PROPER PERMITS AND LICENSES FROM THE PROPER AUTHORITIES.
 - ALL MATERIAL MUST MEET INDUSTRY STANDARDS AND THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REFUSE ANY POOR MATERIAL OR WORKSMANSHIP.
 - LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR UNSEEN SITE CONDITIONS.
 - ALL PLANTINGS SHALL BE SPACED EQUAL DISTANT, BACK FILLED WITH AMENDED SOIL IN A HOLE TWICE THE ROOTBALL DIAMETER, WATERED, FERTILIZED, PRUNED, AND HAVE ALL TAGS AND ROPES REMOVED.
 - ALL BEDS TO BE BERMED 12" TO 24" ABOVE GRADE AND MEET DRAINAGE REQUIREMENTS.
 - LAWN AND BED AREAS SHALL BE ROTOTILLED AND MULCHED WITH DEBRIS.
 - ALL NATIVE PLANTING SEED AREAS TO BE COVERED WITH NAG-SC150 EROSION CONTROL BLANKET.
 - CONCENTRATE SENSITIVE NATIVE SEEDING, PRIMARILY THE FORBES, TO ELEVATION 729 AND ABOVE IN THE NATIVE SEEDING AREA AROUND THE DETENTION BASIN. CONCENTRATE THE NATIVE GRASSES, SEDGES AND RUSHES FROM ELEVATION 729 DOWN TO THE DETENTION BASIN BOTTOM.

PLANT SCHEDULE PHASE I

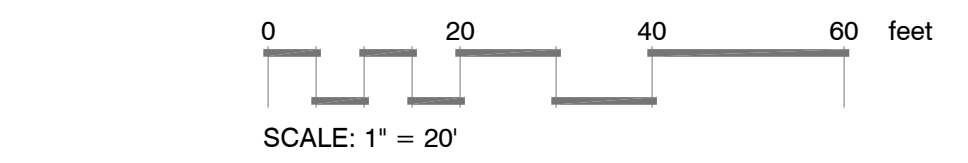
CANOPY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
ACE AU2	ACER FREEMANII / AUTUMN BLAZE* / AUTUMN BLAZE MAPLE	B # B	2.5" CAL	3
ACE SUN	ACER RUBRUM / RED SUNSET* / RED SUNSET MAPLE	B # B	2.5" CAL	2
CEL OCC	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B # B	2.5" CAL	2
GLE SKY	GLEDITSIA TRIACANTHOS / SKYLINE* / SKYLINE HONEY LOCUST	B # B	2.5" CAL	1
POP HYB	POPULUS DELTOIDES / EASTERN COTTONWOOD	EXISTING	18" CAL	1
QU E BIC	QUERCUS BICOLOR / SWAMP WHITE OAK	B # B	4" CAL	6
TIL GRE	TILIA CORDATA / GREENSPIRE* / GREENSPIRE LITTLELEAF LINDEN	B # B	2.5" CAL	13
EVERGREEN TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
PIC COL	PICEA PUNGENS / COLORADO GREEN* / BLUE SPRUCE	B # B	6" - 8" HT.	6
PIN NIG	PINUS NIGRA / AUSTRIAN BLACK PINE	B # B	6" - 8" HT.	3
UNDERSTORY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
AME MUL	AMELANCHIER CANADENSIS / SHADBLow SERVICEBERRY MULTITRUNK	B # B	6" - 8" HT.	5
BET NIG	BETULA NIGRA / RIVER BIRCH MULTI-TRUNK	EXISTING	4" CAL	2
DECIDUOUS SHRUBS	BOTANICAL NAME / COMMON NAME	COND.	SIZE	QTY
ARO ME2	ARONIA MELANOCARPA / CHOKEBERRY	B # B	36" HT.	3
COR 15A	CORNUS SERICEA 'ISANTI' / ISANTI REDOSIER DOGWOOD	B # B	36" HT.	10
COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	B # B	36" HT.	17
RHU GRO	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	5 GAL	24" SPREAD	48
ROS FL4	ROSA 'FLOWER CARPET PINK' / ROSE	5 GAL	24" SPREAD	10
SYR VUL	SYRINGA VULGARIS / COMMON LIAC	B # B	36" HT.	10
VIB LUS	VIBURNUM DENTATUM 'CHICAGO LUSTER' / CHICAGO LUSTER ARROWWOOD	B # B	36" HT.	13
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	COND.	SIZE	QTY
JUN COM	JUNIPERUS CHINENSIS / PFITZERIANA COMPACTA* / COMPACTA PFITZER	5 GAL	24" SPREAD	6
TAX DE4	TAXUS MEDIA / DENSE YEW	B # B	24" HT.	4
THU SMA	THUJA OCCIDENTALIS 'SMARAGD' / EMERALD GREEN ARBORVITAE	B # B	36" HT.	16
THU WOO	THUJA OCCIDENTALIS 'WOODWARDII' / WOODWARD ARBORVITAE	B # B	36" HT.	12
GRASSES	BOTANICAL NAME / COMMON NAME	COND.	SIZE	QTY
CAL KAR	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	1 GAL	2' - 3' HT.	5
PAN NOR	PANICUM VIRGATUM 'NORTH WIND' / NORTHWIND SWITCH GRASS	1 GAL		7

NATIVE AREA PLUG MIX

NATIVE PLUG MIX	FLS
PANICUM VIRGATUM / SWITCH GRASS	2,297 SF
SCIRPUS FLUVIATILIS / RIVER BULRUSH	33% @ 24" oc
SPARTINA PECTINATA / PRAIRIE CORDGRASS	33% @ 36" oc
SPARTINA PECTINATA / PRAIRIE CORDGRASS	33% @ 24" oc
TOTAL PLUGS:	482

Stormwater Seed Mix	Common Name	FLS
Permanent Grasses/Sedges/Rushes:		
Carex crinitella	Crested Oat Sedge	4
Carex fraxifolia	Bristly Cattail Sedge	4
Carex lurida	Butcherbush Sedge	5
Carex sparganioides v. cephalodes	Rough-Cuscuter Sedge	12
Carex melanocarpa	Brown Fox Sedge	12
Eriocaulis ovata	Blunt Spike Rush	3
Elymus virginicus	Virginia Wild Rye	32
Glyceria striata	Fowl Manna Grass	4
Juncus effusus	Common Rush	4
Juncus torreyi	Torrey's Rush	2
Leersia oryzoides	Rice Cut Grass	4
Panicum virgatum	Switch Grass	6
Scirpus atrovirens	Dark Green Rush	3
Scirpus capriensis	Wood Grass	2
Scirpus fluminalis	River Bulrush	4
Scirpus villosus	Great Bulrush	4
	Total	110.00
Temporary Cover:		
Avena sativa	Common Oat	360.00
Lolium multiflorum	Annual Rye	118.00
	Total	478.00
Forbs:		
Ailanthus sp.	Water Plantain (Various Mix)	12
Alopecurus incarnatus	Swamp Milkweed	6
Bidens sp.	Bidens (Various Mix)	4
Galium aparine	Sheep Sorrel	9
Mimulus ringens	Monkey Flower	3
Pentstemon seedheads	Ditch Stonecrop	2
Polypogon monspeliensis	Smartweed	16
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	3
Scirpus atrovirens	Dark Green Rush	3
Thalictrum dasycarpum	Purple Meadow Rue	4
	Total	63.00

Low-profile Prairie Seed Mix	Common Name	FLS
Permanent Grasses:		
Bouteloua curtipendula	Side Oats Gramme	10.00
Carex spp.	Prairie Carex Mix	4.00
Elymus canadensis	Canada Wild Rye	32.00
Holcus cristata	June Grass	1.00
Panicum virgatum	Switch Grass	1.00
Schizachyrium scoparium	Little Bluestem	32.00
	Total	80.00
Temporary Cover:		
Avena sativa	Common Oat	360.00
Lolium multiflorum	Annual Rye	118.00
	Total	478.00
Forbs:		
Ailanthus sp.	Water Plantain (Various Mix)	12
Alopecurus incarnatus	Swamp Milkweed	6
Bidens sp.	Bidens (Various Mix)	4
Galium aparine	Sheep Sorrel	9
Mimulus ringens	Monkey Flower	3
Pentstemon seedheads	Ditch Stonecrop	2
Polypogon monspeliensis	Smartweed	16
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	3
Scirpus atrovirens	Dark Green Rush	3
Thalictrum dasycarpum	Purple Meadow Rue	4
	Total	63.75



BOARD APPROVED

Case No: 2014-0424

Date: 7/20/15

W/Conditions: x

W/Out Conditions: x

VILLAGE OF ORLAND PARK



REVISION:

S.S.G.	10-02-14
S.S.G.	11-07-14
S.S.G.	1-6-15
S.S.G.	4-28-15
S.S.G.	5-12-15
S.S.G.	6-03-15
S.S.G.	6-04-15
S.S.G.	6-16-15

Landscape Plan - Phase I
Midwest Animal Hospital Expansion
Orland Park, Illinois

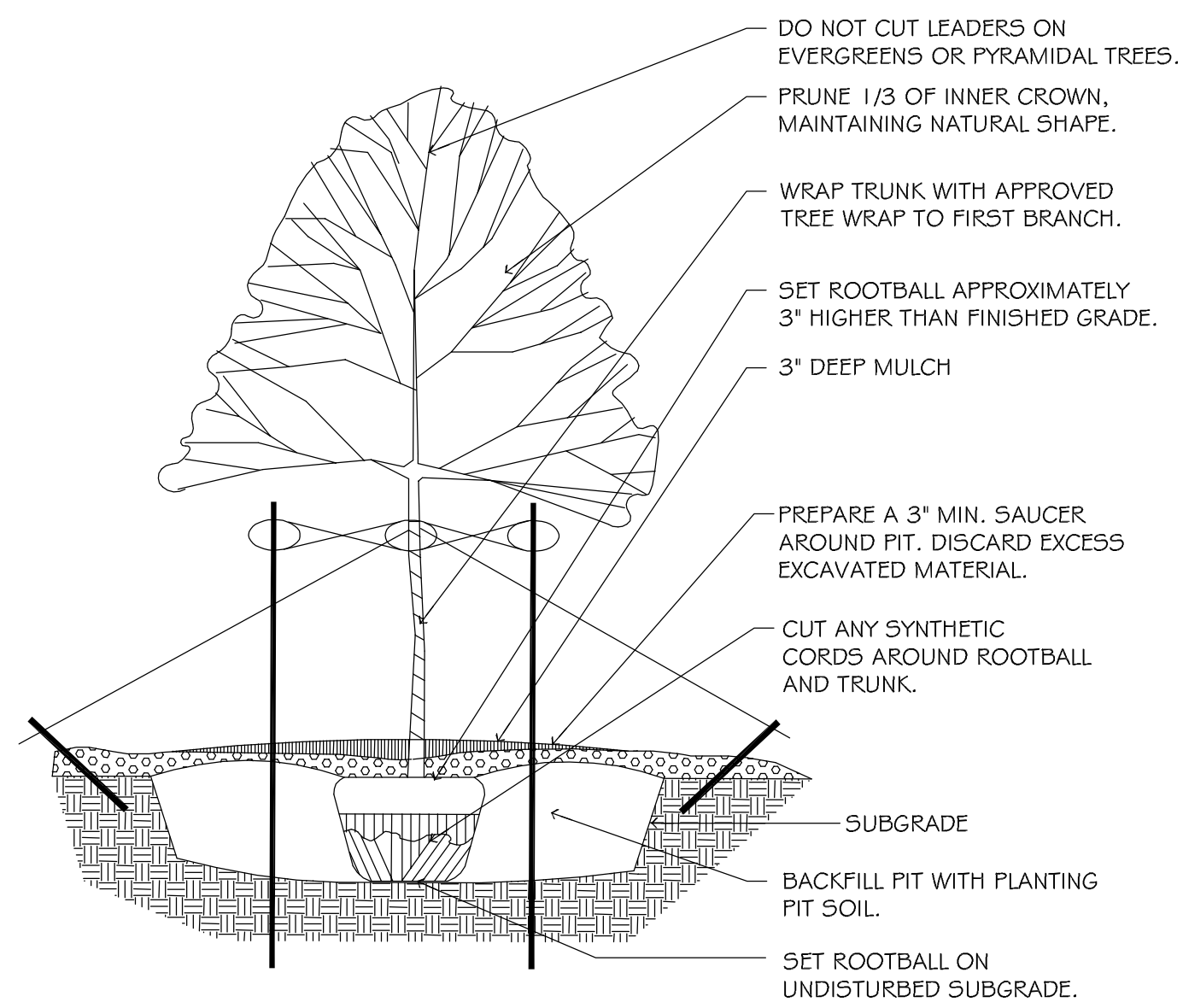
Emerald
 Site Services, LLC
 8223 W. Lincoln Highway
 Frankfort, Illinois 60423
 P: (815) 469-7400 F: (815) 469-7413

SCALE: 1" = 20'
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 DATE: 7-3-14
 JOB NUMBER: ESS-

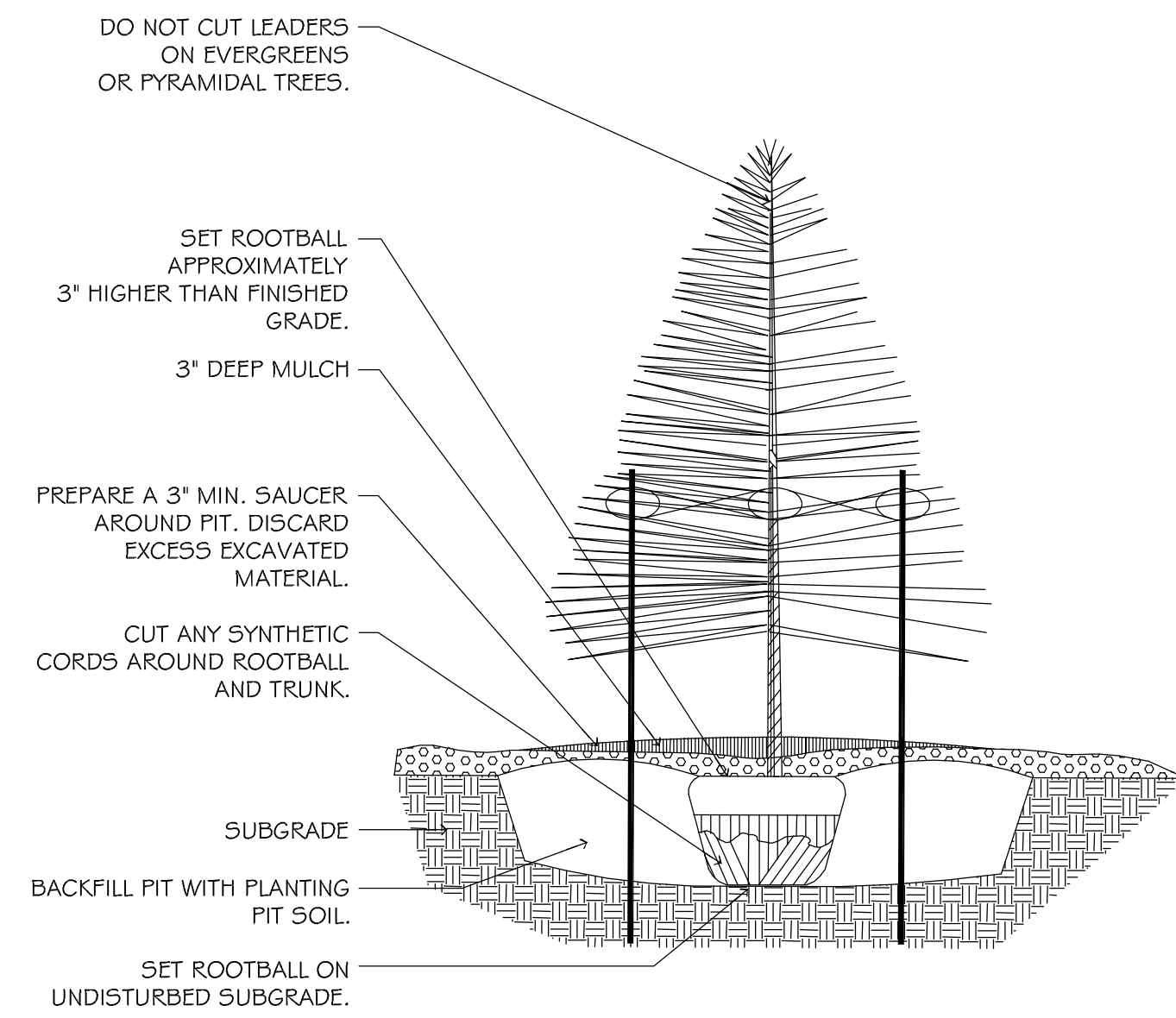
PREPARED FOR: RWE
 CALL JULIE TOLL FREE (800)892-0123 OPERATES 24 HOURS A DAY 365 DAYS A YEAR
 WARNING
 CALL BEFORE YOU DIG
 1800292-1123 48 HOURS BEFORE YOU DIG

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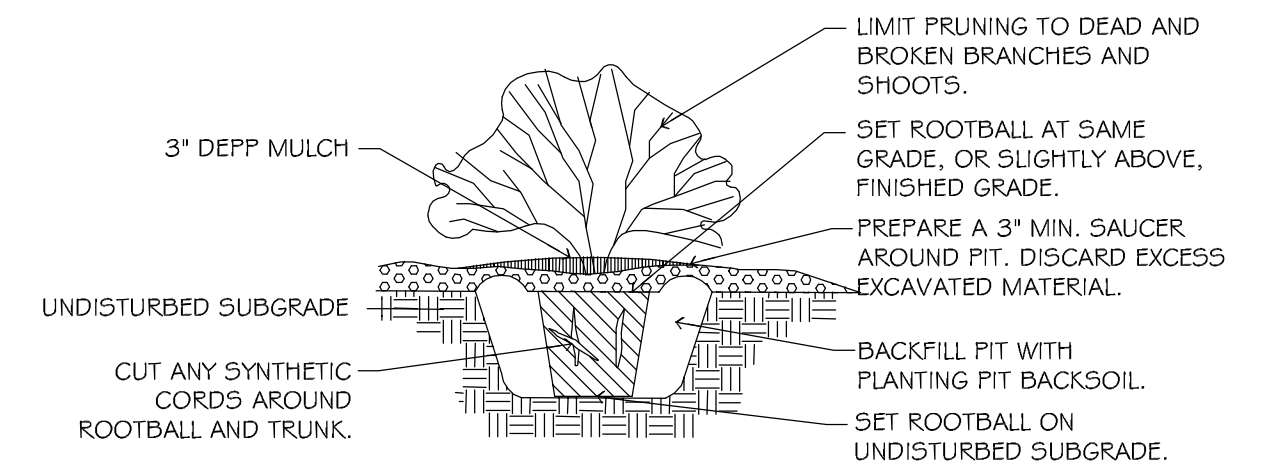
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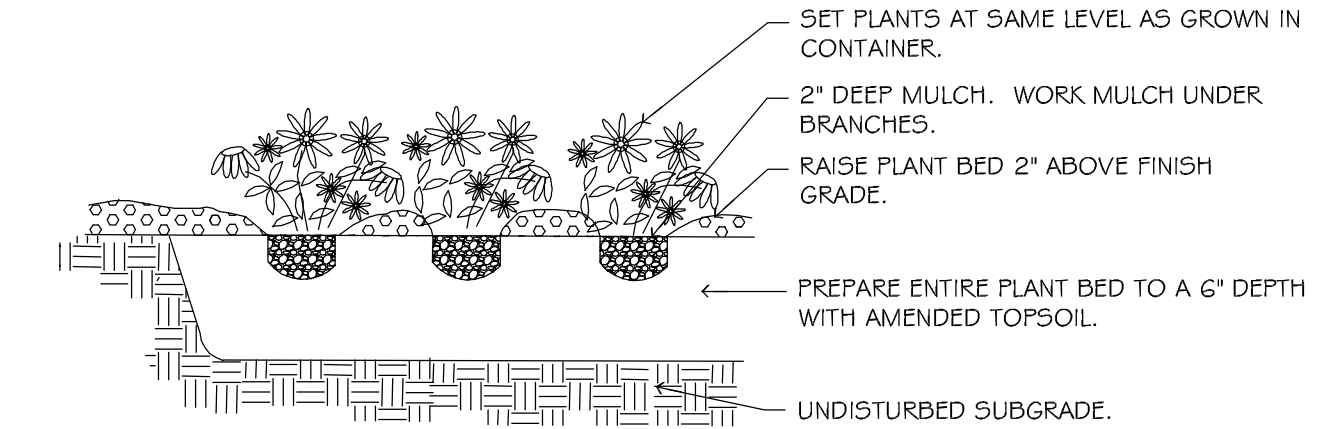
1 TREE PLANTING DETAIL
NOT TO SCALE 329343-01



2 EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE 329343-02



3 SHRUB PLANTING DETAIL
NOT TO SCALE 329333-01



4 ANNUAL, PERENNIAL, & GROUNDCOVER DETAIL
NOT TO SCALE 329301-03

REVISION:	S.S.G.	DATE
	S.S.G.	10-02-14
	S.S.G.	11-07-14
	S.S.G.	1-16-15
	S.S.G.	4-28-15
	S.S.G.	5-12-15

Landscape Details
Midwest Animal Hospital Expansion
Orland Park, Illinois

Emerald
Site Services, LLC
8223 W. Lincoln Highway
Frankfort, Illinois 60423
P:(815) 469-7400 F:(815) 469-7413

SCALE: 1" = 20'	COMPUTER NAME: Lplan
PREPARED FOR: RWE	JOB NUMBER: E55_
LOCATION: Orland Park, IL	DATE: 7-3-14

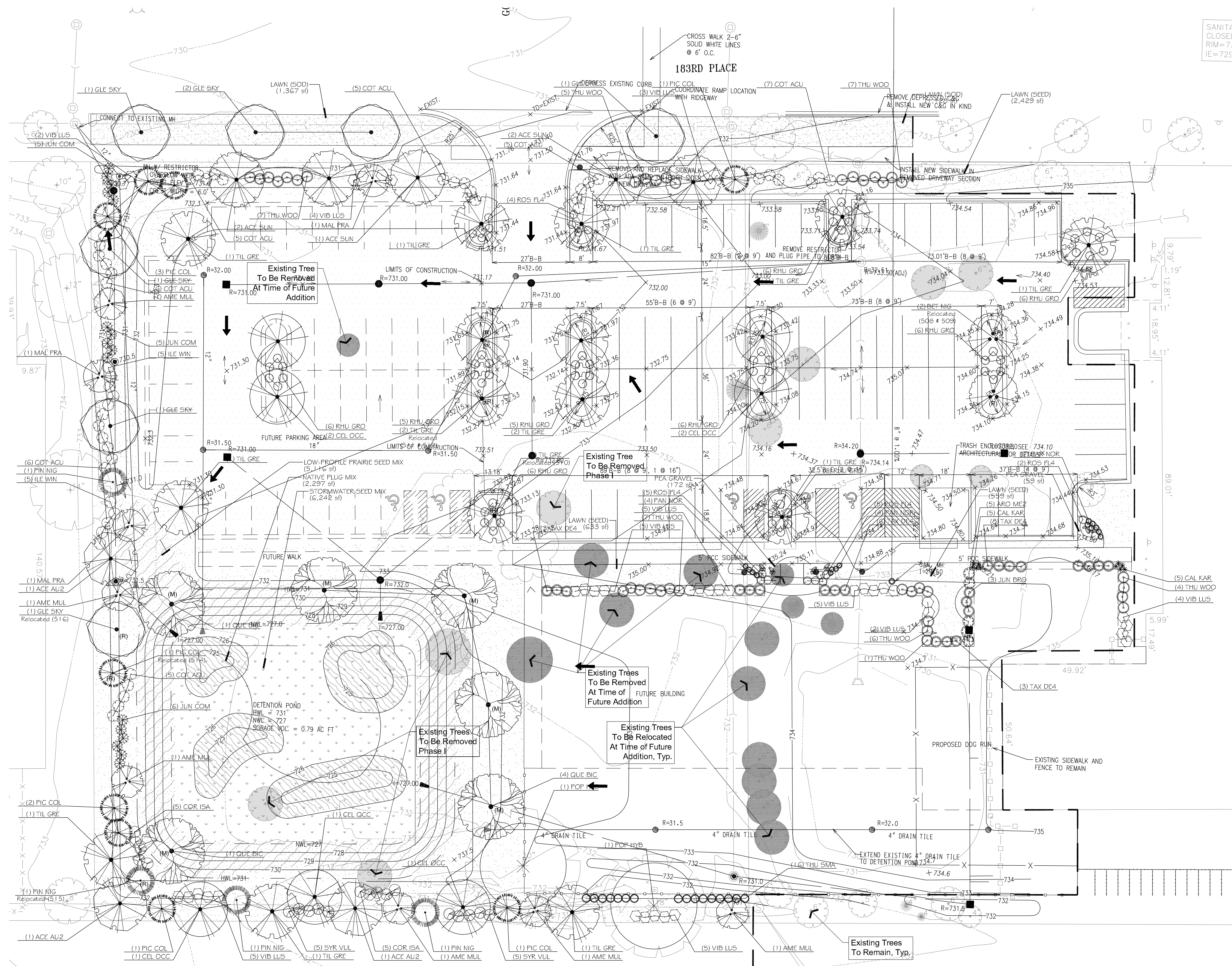
SHEET
1-3

BOARD APPROVED

Case No: 2014-0424
Date: 7/20/15
W/Conditions: _____
W/Out Conditions: _____ x

VILLAGE OF ORLAND PARK
VILLAGE OF ORLAND PARK
VILLAGE OF ORLAND PARK

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PLANT SCHEDULE 183RD PLACE BUFFERYARD

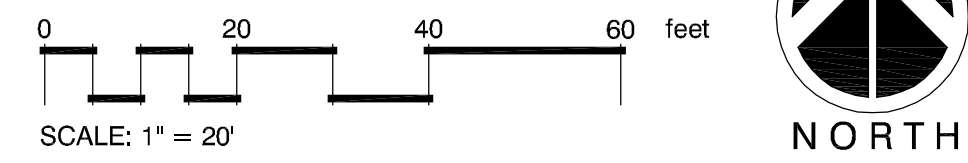
CANOPY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
ACE SUN	ACER RUBRUM "RED SUNSET" / RED SUNSET MAPLE	B # B	2.5" CAL	3
EVERGREEN TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
PIC COL	PICEA FUNGENS "COLORADO GREEN" / BLUE SPRUCE	B # B	6" - 8" HT.	2
UNDERSTORY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
MAL PRA	MALUS X "PRAIRIFIRE" / PRAIRIFIRE CRAB APPLE	B # B	6" - 8" HT.	1
DECIDUOUS SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	B # B	36" HT.	10
VIB LUS	VIBURNUM DENTATUM "CHICAGO LUSTER" / CHICAGO LUSTER ARROWWOOD	B # B	36" HT.	6
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
THU WOO	THUJA OCCIDENTALIS "WOODWARDII" / WOODWARD ARBORVITAE	B # B	36" HT.	7

PLANT SCHEDULE WEST BUFFERYARD

CANOPY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
ACE AU2	ACER FREEMANII "AUTUMN BLAZE" / AUTUMN BLAZE MAPLE	B # B	2.5" CAL	2
GLE SKY	GLADISTIA TRIACANTHOS "SKYLINE" / SKYLINE HONEY LOCUST	B # B	2.5" CAL	3
TIL GRE	TILIA CORDATA "GREENSPIRE" / GREENSPIRE LITTLELEAF LINDEN	B # B	2.5" CAL	1
EVERGREEN TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
PIC COL	PICEA FUNGENS "COLORADO GREEN" / BLUE SPRUCE	B # B	6" - 8" HT.	4
PIN NIG	PINUS NIGRA / AUSTRIAN BLACK PINE	B # B	6" - 8" HT.	2
UNDERSTORY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
AME MUL	AMELANCHIER CANADENSIS / SHADBLOW SERVICEBERRY MULTITRUNK	B # B	6" - 8" HT.	3
MAL PRA	MALUS X "PRAIRIFIRE" / PRAIRIFIRE CRAB APPLE	B # B	6" - 8" HT.	2
DECIDUOUS SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
COR ISA	CORNUS SERICEA "ISANTI" / ISANTI REDOSIER DOGWOOD	B # B	36" HT.	5
COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	B # B	36" HT.	17
ILE WIN	ILEX VERTICILLATA "WINTER RED" / WINTER RED HOLLY	B # B	36" HT.	10
VIB LUS	VIBURNUM DENTATUM "CHICAGO LUSTER" / CHICAGO LUSTER ARROWWOOD	B # B	36" HT.	2
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
JUN COM	JUNIPERUS CHINENSIS "PFITZERIANA COMPACTA" / COMPACTA PFITZER	B # B	24" SPREAD	16

PLANT SCHEDULE SOUTH BUFFERYARD

CANOPY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
ACE AU2	ACER FREEMANII "AUTUMN BLAZE" / AUTUMN BLAZE MAPLE	B # B	2.5" CAL	1
CEL OCC	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B # B	2.5" CAL	3
POP HYB	POPULUS DELTOIDES / EASTERN COTTONWOOD	EXISTING	1.8" CAL	1
TIL GRE	TILIA CORDATA "GREENSPIRE" / GREENSPIRE LITTLELEAF LINDEN	B # B	2.5" CAL	2
EVERGREEN TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
PIC COL	PICEA FUNGENS "COLORADO GREEN" / BLUE SPRUCE	B # B	6" - 8" HT.	2
PIN NIG	PINUS NIGRA / AUSTRIAN BLACK PINE	B # B	6" - 8" HT.	2
UNDERSTORY TREES	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
AME MUL	AMELANCHIER CANADENSIS / SHADBLOW SERVICEBERRY MULTITRUNK	B # B	6" - 8" HT.	3
DECIDUOUS SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
COR ISA	CORNUS SERICEA "ISANTI" / ISANTI REDOSIER DOGWOOD	B # B	36" HT.	5
SYR VUL	SYRINGA VULGARIS / COMMON LILAC	B # B	36" HT.	10
VIB LUS	VIBURNUM DENTATUM "CHICAGO LUSTER" / CHICAGO LUSTER ARROWWOOD	B # B	36" HT.	10
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	COND	SIZE	QTY
THU SMA	THUJA OCCIDENTALIS "SMARAGD" / EMERALD GREEN ARBORVITAE	B # B	36" HT.	16



BOARD APPROVED

Case No: 2014-0424
 Date: 7/20/15
 W/Conditions:
 W/Out Conditions: x

VILLAGE OF ORLAND PARK

Landscape Plan - Bufferyard Breakdown
 Midwest Animal Hospital Expansion
 Orland Park, Illinois

8223 W. Lincoln Highway
 Frankfort, Illinois 60423
 P: (815) 469-7400 F: (815) 469-7413

SCALE:
 1" = 20'
 PREPARED FOR:
 RWE
 LOCATION:
 Orland Park, IL
 DATE:
 7-3-14

COMPUTER NAME:
 Lplan
 JOB NUMBER:
 E55_

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CALL BEFORE YOU DIG
 1-800-882-0123
 48 HOURS BEFORE YOU DIG

PREPARED FOR:
 RWE
 LOCATION:
 Orland Park, IL
 DATE:
 7-3-14

COMPUTER NAME:
 Lplan
 JOB NUMBER:
 E55_

SHEET

L-4

**Midwest Animal Hospital
Monitoring and Management Plan**

SECTION 1.0 NEAR-TERM MONITORING AND REPORTING

1.1 Responsible Parties

The owner, Midwest Animal Hospital, will be responsible for funding and implementing a three-year "near-term" management and maintenance plan for establishing a naturalized landscape associated with the proposed Midwest Animal Hospital project stormwater facility. The owner may elect to contract management and maintenance services to a third party to ensure proper implementation.

1.2 Monitoring Methodology

Areas of naturalized revegetation will be monitored following methodologies as outlined herein. Meander survey monitoring will be performed on an annual basis for three years after planting is substantially complete, or until the landscape is accepted by the Village. Annual vegetation monitoring will occur in August, September, or early October. Meander survey methodology will involve taking five to 10 representative site photographs and performing a review of at least 20 percent of each vegetative community to identify the following:

- the limits of all vegetation areas by general community type and dominant species within each planting zone (e.g., wetland and prairie zones),
- all plant species (native and non-native) in each planting zone,
- the approximate percent ground cover by native species within each planting zone,
- the percent ground cover by non-native or invasive species in each planting zone,
- erosion and sedimentation problems,
- water level or drainage problems,
- areas of bare soil larger than one square-meter, and
- observations on specific management strategies necessary to achieve acceptance requirements.

1.3 Reporting Requirements

The owner will provide the Village with notification 24-hours prior to the start of planting installation. Following substantial completion, the owner will document that natural area landscape revegetation has been completed. Nursery packing lists indicating the species and quantities of materials installed will accompany this notice.

In addition, the owner (or their designated representative) will submit an annual monitoring report to the Village of Orland Park by February 28th of the following year evaluating the progress of the naturalized landscape toward design goals. The report will contain a location map, a summary of annual monitoring observations, a description of management performed during the year, a tabular summary of annual progress relative to acceptance standards, and a list of recommendations for management during the upcoming year.

1.4 Acceptance Requirements

Satisfactory landscape development associated with naturalized vegetation in the stormwater facility will be based on the following items. The attainment of these items is expected to result in acceptance of the landscape improvement by the Village of Orland Park.

- Within three months of seed installation (or three months after the start of the growing season following dormant seeding), at least 90 percent of the seeded area, as measured by aerial cover, will be vegetated or otherwise stabilized against erosion.
- Naturalized landscapes shall have more than one square-meter devoid of vegetation, as measured by aerial coverage
- Seeded areas shall have no rills or gullies greater than four inches wide by four inches deep, and basin shorelines shall not have more than six inches of cut as a result of erosion.
- Areas seeded to turfgrass or low-maintenance turf shall have 95 percent ground cover.
- Emergent areas shall have minimum of 35 percent ground cover (avg. 50 percent) and other wetland and prairie areas shall have a minimum of 35 percent ground cover (avg. 60 percent) by species in the approved plant list and/or native species with native coefficient of conservation (C-) values 2 (per Swink and Wilhelm 1994 or more current version).
- Naturalized landscapes shall have a minimum of 30 percent presence by species seeded or planted for the permanent matrix and/or native species with C-value 2 (per Swink and Wilhelm 1994 or more current version).
- Installed woody materials shall be alive, in healthy condition, and representative of the species.
- No more than 25 percent of any specific plant community shall be individually or collectively dominated by non-native or weedy species.
- None of the three-most dominant species may be non-native or weedy, including but not limited to Canada thistle (*Cirsium arvense*), common reed (*Phragmites australis*), reed canarygrass (*Phalaris arundinacea*), sweetclover (*Melilotus* spp.), Kentucky bluegrass (*Poa pratensis*), purple loosestrife (*Lythrum salicaria*), barmyard grass (*Echinochloa crus-galli*) or sandbar willow (*Salix interior*) unless otherwise indicated on the approved planting plan.
- Cattails (*Typha* spp.) do not count towards the 25 percent weed criterion provided they represent no more than 20 percent cover.

Although not acceptance requirements, the following milestones will be assessed for Year 2 natural landscape development to help determine the need for and level of management appropriate to achieve Year 3 landscape acceptance:

- Minimum ground cover of 25 percent by species in the approved plant list and/or native species with C-value 2.
- Minimum presence of 20 percent by species seeded or planted for the permanent matrix and/or native species with C-value 2.

SECTION 2.0 NEAR-TERM MANAGEMENT FOR NATURALIZED LANDSCAPES

Near-term (i.e., three-year) management for naturalized landscapes associated with the Midwest Animal Hospital development will involve monitoring and management to promote germination and establishment of desired plants. The following is a near-term maintenance plan for naturalized landscapes associated with the development.

2.1 Near-term Management Tasks

For several years after installation, naturalized landscapes will be managed on a regular basis to ensure successful establishment. Site characteristics influence how management and maintenance techniques are implemented. Vegetation management actions may differ from the tasks and frequencies indicated below based on specific recommendations from a Village-approved native landscape restoration specialist.

2.1.1 Undesirable Plant Control

The owner acknowledges that it is best to perform corrective actions for vegetation management early in the revegetation effort. Aggressive and/or non-native species will be managed such that their presence and density does not threaten the attainment of acceptance requirements.

Depending on the type of plant being targeted, control of undesirable plant species may involve removing all above-ground and below-ground stems, roots, and flower masses prior to development of seeds. Weeding practices will avoid damaging the native plantings and be timed to prevent development of weed seeds. The ability to differentiate between weeds and native seedlings is important. Plants may be left untreated until they can be positively identified.

Various means of weed control will be employed, as appropriate, and may include mechanical control, chemical control, and/or biological control.

Mechanical Control: Mechanical control of nuisance plant species typically includes cutting, mowing and/or the digging up individual plants by hand. In many cases, cutting or mowing a plant before its seeds mature will minimize further spread. Cutting or mowing close to the ground surface with a weed-eater or hand-scythe can be an effective means of control for species such as sweet clover, various thistles, and ragweed. For general mowing of swaths of vegetation, mowers will be set to a height of 12+ inches above the ground surface or to a height that treats weedy species yet minimizes impacts on desirable plants.

For species such as common reed, purple loosestrife, Canada thistle, and reed canarygrass, mowing actually encourages the spread of underground stems. Hand digging these species and woody undesirables such as multiflora rose can result in control if there are fewer than 100 plants throughout the entire site. Where more than 100 individuals of such plants are present, chemical control will be the primary method of control. (Note: Pulling and digging out weeds generally is discouraged because the soil disturbance can uproot desirable plants and encourage the growth of more weeds.)

Chemical Control: When employed in conjunction with prescribed burning and mechanical control, the judicious use of herbicides can be an important component of management programs for controlling weeds. Some weeds such as purple loosestrife, buckthorn (*Rhamnus* spp.) and honeysuckle (*Lonicera* spp.), reed canarygrass, common reed, sandbar willow, and cattails are controlled more effectively by chemical treatment than by most mechanical control measures.

For aggressive weeds, an appropriate herbicide will be applied. Because of the potential for damage to native plant communities, the use of preventative herbicides will be limited to problem areas and problem species for which manual control is ineffective. Aquatic herbicides will not be used to treat algal blooms.

Glyphosate herbicide (trade names Rodeo or Roundup) is often recommended for use in naturalized landscape areas. Other herbicides such as Transline, Plateau, and Garlon are also used. The application of herbicides will be performed only by persons licensed or certified in the State of Illinois for pesticide/herbicide application. Herbicide use will be in strict compliance with all application rates, procedures, warning labels and applicable codes, standards and best management practices.

Generally, wick application will be preferred over spray application, which is less selective. Wicking applies herbicide only to individual plants, using a canvas-covered, perforated, chemical filled PVC pipe. Trained personnel walk the area, swinging the eight foot pipe from side to side above the native plants but deliberately striking invasive species. The pipe strikes and bends the weeds, smearing them with the chemical and destroying them within a few days. If used, spray applications will not occur on gusty days because non-target species could be affected.

Biological Control: An alternative to chemical treatment, use of biological controls for purple loosestrife will be considered provided site conditions are appropriate to support and maintain the insect population. Through this method, host-specific insects (one a root infesting weevil; others are leaf-eating chrysomelid beetles) are released to feed on the roots or leaves of purple loosestrife. If purple loosestrife becomes abundant, biological control can prove a cost-effective means of management.

2.1.2 Wildlife Management

It is generally accepted that the long-term use of even the most benign pesticides has effects on wildlife that are still only barely researched. Therefore, pesticides will not be used broadly or routinely at the mitigation site other than for mosquito abatement (should that be necessary). Pesticides will be used only for specific and localized problem areas as determined by a native landscape restoration specialist with experience in installation and development of native plant communities, should such areas occur. Standard application procedures and precautions for chemical application in wetland areas will be followed.

Control of nuisance species such as geese and ducks, which often forage on young emergent wetland plants, may be performed if monitoring indicates such species are responsible for poor plant establishment and performance. The method will be determined by a native landscape restoration specialist.

2.1.3 Debris Management

Debris (e.g., paper, plastic, metal, concrete, etc.) will be removed from the developed area every other month between March and November. Debris will be disposed of at an appropriate off-site trash receptacle or hauled to an approved dump site.

2.1.4 Fertilizer Application

For ecological reasons, a conservative approach to the application of fertilizers will be taken. Turf management chemicals will not be used within areas of naturalized plantings unless specifically prescribed by and per the direction of a native landscape restoration specialist. If used, special care will be taken to not apply fertilizers when inclement weather is forecast.

2.2 Schedule of Near-term Management Activities

The following text provides a general schedule of management and maintenance tasks for installation and establishment of naturalized landscapes. The actual schedule and tasks performed in any given year may differ from those indicated based on specific recommendations from a natural landscape restoration specialist.

2.2.1 Typical First-Year Management Actions

To prevent weed seed development, mowing to a height of 6 inches will be performed when vegetation reaches a height of 12 inches. (Note: Weekly mowing at turf lawn height will NOT be performed, as mowing too often can set-back native planting development.) A rotary or flail-type mower will be used to finely chop the cut material. If clippings shade the ground or smother the remaining plants, they will be bagged for off-site disposal or otherwise dispersed. The last mow will be timed so that vegetation can grow to a height of eight to 10 inches before winter.

Weeding practices will avoid damaging the native plantings and be timed to prevent development of weed seeds. For aggressive weeds, herbicide will be selectively applied (e.g., wick application, not spraying). Turf management chemicals will not be used on native plantings except as directed by a Village-approved landscape restoration specialist.

Debris and litter (e.g., paper, plastic, metal, concrete, grass clippings, brush, etc.) will be removed every other month between 1 March to 31 October to prevent floating materials from clogging the outlet. Debris will be disposed of at an appropriate off-site trash receptacle.

Other potential responsibilities may include, but are not limited to, access restriction enforcement, insect/pest control, erosion repairs, and wildlife management (e.g., control of carp, muskrats, geese, etc. as needed). The need for other management actions will be determined on a quarterly basis when performing general maintenance visits for dam embankments and control structures.

2.2.2 Typical Second-Year Management Actions

During the second growing season, the seeded area will be mowed as close to the ground as possible in early spring and the cuttings raked or bagged. If annual weeds remain a problem, an additional mow will be performed during mid- to late June, with the mow height set to 12 inches.

Weed management will emphasize control of biennial and perennial weeds. Biennial weeds targeted for control include sweetclovers (*Melilotus* spp), Queen Anne's lace (*Daucus carota*), and teasel (*Dipsacus* spp.). Proper weed control may require multiple treatments and will be performed at times that will provide maximum treatment effectiveness.

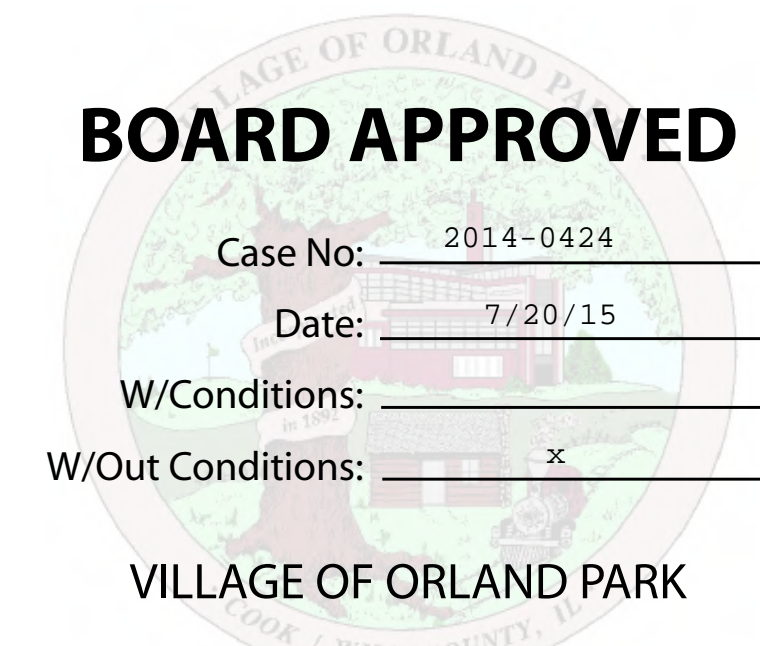
Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management as determined on a quarterly basis. If there is sufficient fuel, a prescribed burn may be attempted at the end of the second growing season, provided proper permits from the Illinois Environmental Protection Agency are obtained and notice is provided to the Village and local authorities.

2.2.3 Typical Third-Year Management Actions

Typical management in the third growing season will involve the use of prescribed fire in combination with mechanical and chemical methods for controlling aggressive biennial and perennial weeds.

A permit will be obtained from the Illinois Environmental Protection Agency prior to conducting a prescribed burn. The burn will occur between mid-October and April as weather and site conditions permit. Prior to conducting a prescribed burn, notice must be provided to the Village and local authorities. If prescribed burning is not practical, mowing in late fall or very early spring will be substituted for burning. The burn-replacement mow will be done at a height of two inches, with cut material bagged for off-site disposal.

As in the first two years, management of aggressive weeds will continue. Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management as determined on a quarterly basis when performing general maintenance visits for dam embankments and control structures.



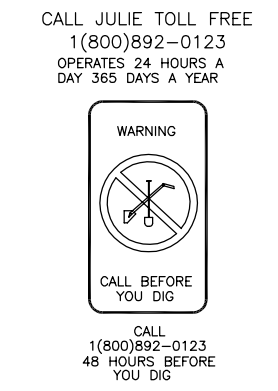
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	11-07-14
	5.5.G.
	1-6-15
	5.5.G.
	4-28-15
	5.5.G.
	5-12-15
	5.5.G.
	6-16-15

**Natural Area - Monitoring & Maintenance
Midwest Animal Hospital Expansion
Orland Park, Illinois**

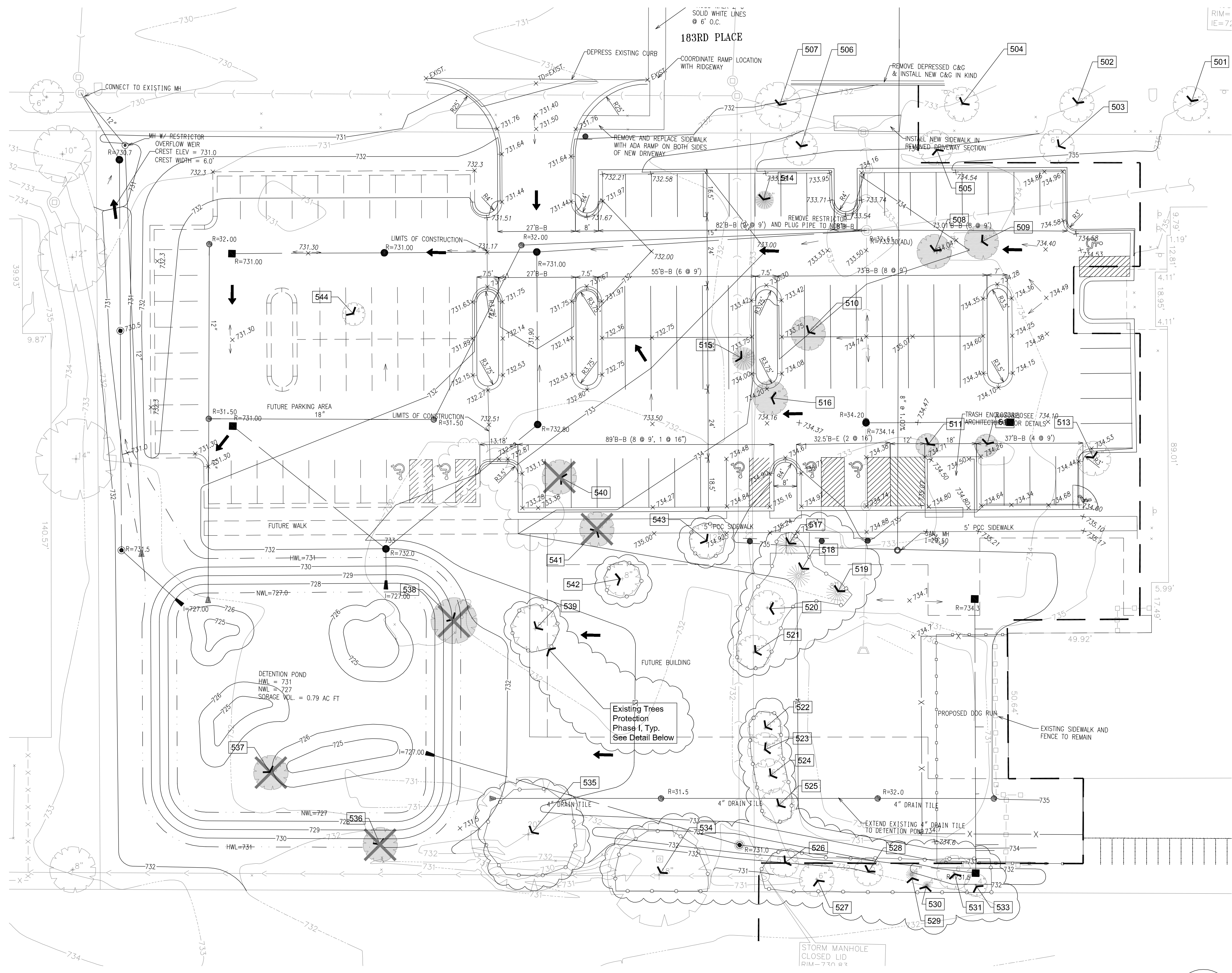
Emerald
Site Services, LLC
8223 W. Lincoln Highway
Frankfort, Illinois 60423
P: (815) 469-7400 F: (815) 469-7413

SCALE: 1" = 20'	COMPUTER NAME:
RWE	Lpln
LOCATION: Orland Park, IL	JOB NUMBER: ESS_
DATE: 7-3-14	

SHEET
1-5



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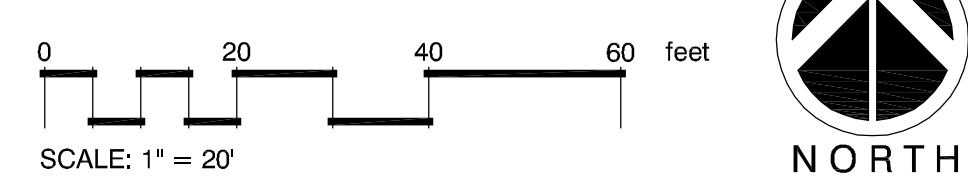


Existing Tree Data:

TAG #	BOTANICAL NAME	COMMON NAME	TREE SIZE	CONDITION	COMMENTS	Replacement Req.
501	Gleditsia triacanthos inermis	Thomless Honeylocust	6"	Good	To Remain in Place	0
502	Gleditsia triacanthos inermis	Thomless Honeylocust	5"	Good	To Remain in Place	0
503	Acer rubrum	Red Maple	6"	Good	To Remain in Place	0
504	Gleditsia triacanthos inermis	Thomless Honeylocust	4"	Good	To Remain in Place	0
505	Acer rubrum	Red Maple	8"	Good	To Remain in Place	0
506	Tilia cordata	Littleleaf Linden	6"	Good	To Remain in Place	0
507	Gleditsia triacanthos inermis	Thomless Honeylocust	8"	Good	To Remain in Place	0
508	Betula nigra	River Birch (Multi-trunk)	6' 7 8"	Fair	Relocate On Site	0
509	Betula nigra	River Birch (Multi-trunk)	4' 7 4' 15"	Fair	Relocate On Site	0
510	Tilia cordata	Littleleaf Linden	8"	Good	Relocate On Site	0
511	Tilia cordata	Littleleaf Linden	3"	Good	Relocate On Site	0
512	Tilia cordata	Littleleaf Linden	6"	Good	Relocate On Site	0
513	Tilia cordata	Littleleaf Linden	6"	Good	Relocate On Site	0
514	Picea glauca	Blue Spruce	6"	Good	Relocate On Site	0
515	Pinus nigra	Austrian Pine	12"	Good	Relocate On Site	0
516	Gleditsia triacanthos inermis	Thomless Honeylocust	8"	Good	Relocate On Site	0
517	Pinus nigra	Austrian Pine	10"	Good	Relocate On Site	0
518	Picea pungens	Colorado Green Spruce	6"	Good	Relocate On Site	0
519	Pinus nigra	Austrian Pine	10"	Good	Relocate On Site	0
520	Gleditsia triacanthos inermis	Thomless Honeylocust	8"	Good	To Remain in Place	0
521	Picea glauca	Blue Spruce	6"	Good	To Remain in Place	0
522	Picea glauca	Blue Spruce	6"	Good	To Remain in Place	0
523	Picea glauca	Blue Spruce	6"	Good	To Remain in Place	0
524	Tilia americana	American Linden	6"	Good	To Remain in Place	0
525	Pinus nigra	Austrian Pine	8"	Good	To Remain in Place	0
526	Acer x freemanii	Freeman Maple	8"	Good	To Remain in Place	0
527	Gleditsia triacanthos inermis	Thomless Honeylocust	7"	Fair	To Remain in Place	0
528	Tilia americana	American Linden	8"	Good	To Remain in Place	0
529	Picea pungens	Colorado Green Spruce	4"	Good	To Remain in Place	0
530	Picea pungens	Colorado Green Spruce	4"	Good	To Remain in Place	0
531	Acer x freemanii	Freeman Maple	8"	Good	To Remain in Place	0
533	Tilia americana	American Linden	5"	Good	To Remain in Place	0
534	Populus deltoides	Cottonwood	15"	Good	To Remain in Place	0
535	Populus deltoides	Cottonwood	20"	Good	To Remain in Place	0
536	Populus deltoides	Cottonwood	15"	Fair	To Be Removed (2) 4" Cal. Trees	0
537	Populus deltoides	Cottonwood	5"	Good	To Be Removed (1) 4" Cal. Trees	0
538	Populus deltoides	Cottonwood	8"	Good	To Be Removed (1) 4" Cal. Trees	0
539	Populus deltoides	Cottonwood	8"	Good	To Remain in Place	0
540	Populus deltoides	Cottonwood	6"	Good	To Be Removed (1) 4" Cal. Trees	0
541	Populus deltoides	Cottonwood	6"	Good	To Be Removed (1) 4" Cal. Trees	0
542	Populus deltoides	Cottonwood	8"	Good	To Remain in Place	0
543	Populus deltoides	Cottonwood (Multi-trunk)	10' 12"	Fair	To Remain in Place	0
544	Populus deltoides	Cottonwood	4"	Good	To Remain in Place	0
Total Number of Mitigation Trees Required						(6) 4" Cal. Trees

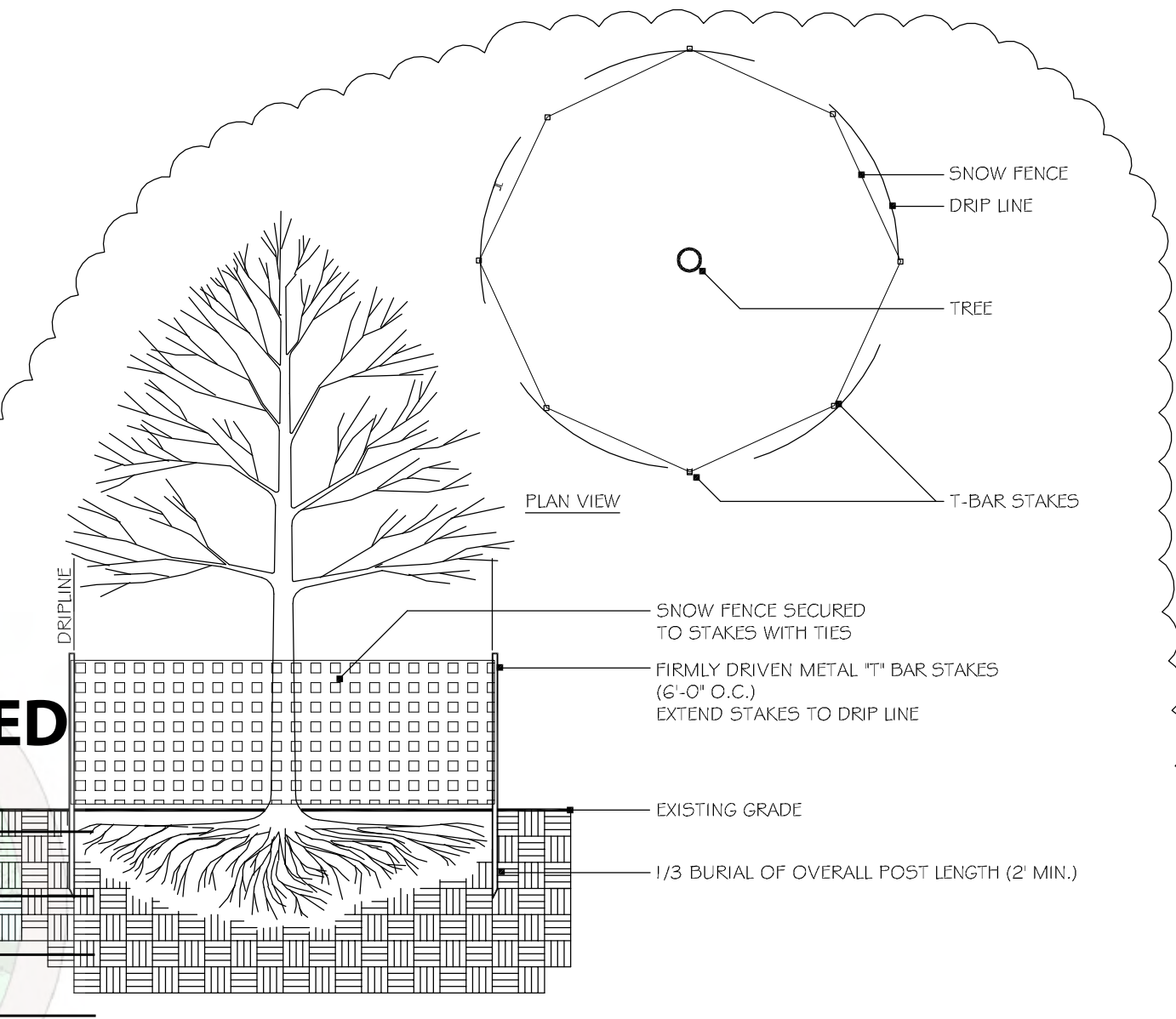
- Existing Trees to Remain In Place (Phase I)
- Existing Trees to Be Relocated On Site (Phase I)
- Existing Trees to Be Removed (Phase I)

- Notes:**
- In Phase II additional trees will need to be removed if and when the future addition is implemented.
 - If Phase II is implemented and additional trees are to be removed then an updated Tree Preservation Plan will be provided at that time in accordance with The Village Tree Preservation Ordinance.



BOARD APPROVED

Case No: 2014-0424
 Date: 7/20/15
 W/Conditions:
 W/Out Conditions: x



VILLAGE OF ORLAND PARK TREE PROTECTION DETAIL
 Not To Scale
 329383-01

Tree Preservation Plan
 Midwest Animal Hospital Expansion
 Orland Park, Illinois

Emerald
 Site Services, LLC
 8223 W. Lincoln Highway
 Frankfort, Illinois 60423
 P: (815) 469-7400 F: (815) 469-7413

PREPARED FOR: RWE
 LOCATION: Orland Park, IL
 DATE: 7-3-14

SCALE: 1" = 20'
 COMPUTER NAME: Lplan
 JOB NUMBER: E55_

SHEET
 TP-1