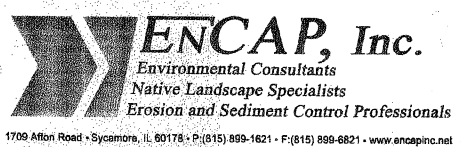
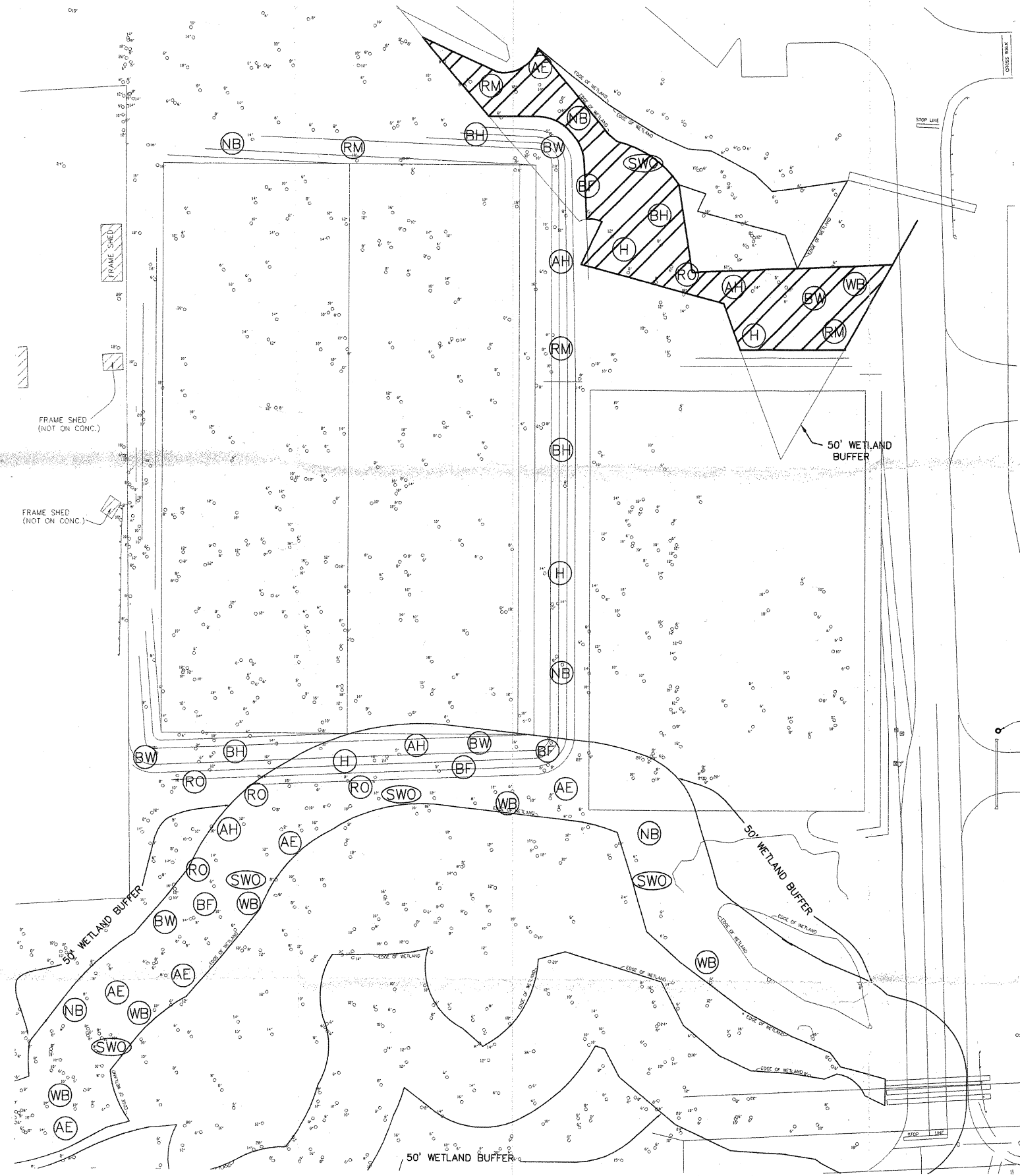


RM = Red Maple
H = Hackberry
BW = Black Walnut
SWO = Swamp White Oak
AE = American Elm

BF = Blue Fruited Dogwood
RO = Red-osier Dogwood
AH = American Hazelnut
WB = Wild Black Currant
NB = Nannyberry
BH = Black Haw



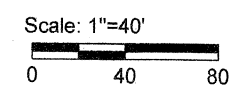
Native Landscape Plan

North Regional Stormwater Management Facility

ENCAP Project Number: C-07-1023C
 Date: February 29, 2008

Client:
 Village of Glen Ellyn
 535 Duane St.
 Glen Ellyn, IL 60137
 630-547-5250

Engineer:
 AW McGurr, Ltd.
 951 W. Liberty Drive
 Wheaton, IL 60187
 630-665-1170



LEGEND:

- Prairie/Woodland Seed Mix (0.25 Acres Total)
- Tree (24 Total)
- Shrub Clusters of 3 (84 Total)

Created By: SM
 Drawn By: EW
 Reviewed By: SM, CP, PH

DATE	REVISIONS

NATIVE LANDSCAPE SPECIFICATIONS

1.0 PURPOSE

The North Regional Stormwater Management Facility native landscape plan includes the enhancement of 0.25 acre of wetland buffer through the installation of seed of native herbaceous prairie/woodland plant species. In addition, twenty-four (24) trees and eighty-four (84) shrubs will be planted within portions of the preserved wetland buffers. The purpose of this planting plan is to compensate for tree and shrub removal from a special management area. The native herbaceous prairie/woodland vegetation, trees, and shrubs will increase stormwater infiltration and filtration functions, remove sediments and pollutants, and provide habitat for wildlife. Existing vegetation within the buffers will not be removed except for that which is necessary for site development.

2.0 CONTRACTOR QUALIFICATIONS

The Native Landscape Contractor chosen for the establishment of the native herbaceous vegetation, trees, and shrubs must be experienced in the restoration, installation, and management of said areas. They must have a minimum of five years experience in the field. There shall be a supervisor available at all times that can identify non-native and native plants by genus and species. The goal of installing successful native plant communities is a long-term process. Therefore, it is imperative that a qualified Native Landscape Contractor perform the initial installation and maintenance.

3.0 QUALITY AND CONDITION

- Native seed shall be obtained from sources east of the Mississippi River within the same EPA Level III Ecoregion as the project site (Central Corn Belt Plains). Plant origins outside of the Ecoregion shall be approved by the Wetland Consultant.
- Native seeds shall be blended by the vendor, and the mixture and ratio shall be guaranteed in writing to be as specified. The amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre for all species listed. It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry standard PLS requirements.
- Native Landscape Contractor shall provide the Wetland Consultant with the name and location of the seed supplier, origin of the various kinds of plants, and a statement of the purity of the seed.
- Seed shall conform to applicable State and Federal regulations as in effect on the date of letting. Unless otherwise specified, seed shall not contain in excess of 1 percent weed seeds; 0 percent is desirable.
- All storage requirements, stratification, and scarification considerations shall be the sole responsibility of the Native Landscape Contractor.
- Mycorrhizal inoculants shall be palletized and mixed at 1 lb. per acre with the fine seeds before installation. The inoculants shall contain a diverse mixture of Glomales fungal species (*Glomus* spp.) in palletized form.
- Under no circumstances shall Wheat (*Triticum aestivum*), Cereal Rye (*Secale cereale*), Perennial Rye (*Lolium perenne*), or Barley (*Hordeum vulgare*) be used as a temporary cover crop.

4.0 HANDLING

- Native Landscape Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.
- All native seeds shall be packed and covered in such a manner as to ensure adequate protection against damage and maintain dormancy while in transit, storage, or during planting operations.
- Seed shall be kept dry and unopened until needed for use. Seed shall not be stored or temporarily stored in locations or vehicles where the temperature will be in excess of 90 degrees F.

5.0 SITE PREPARATION

- The General Contractor and Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seedbed prior to seeding.
- Unless the Wetland Consultant agrees to another approach, seed shall be hand broadcast over the preserved Wetland 3 buffer area at twice the specified rate. Site preparation equipment shall be of a design that can be utilized efficiently by the Native Landscape Contractor to meet the requirements for the work specified.
- If present, compacted soils shall be disked or raked prior to seeding.
- Under no circumstances shall machinery enter the adjacent wetland.

6.0 PLANT MATERIALS

TABLE 1. Temporary Matrix Seed Mix - to be mixed with the Prairie and Woodland Seed Mix

Scientific Name	Common Name	lbs / acre
<i>Avena sativa</i>	Seed Oats	32,000
<i>Elymus canadensis</i>	Canada Wild Rye	4,000
<i>Lolium multiflorum</i>	Annual Rye	4,000
Total		40,000 lbs

TABLE 2. Prairie and Woodland Seed Mix

- to be installed within Wetland 3 Buffer Enhancement Area

Scientific Name	Common Name	lbs / acre
<i>Andropogon scoparius</i>	Little Bluestem Grass	4,000
<i>Allium cernuum</i>	Nodding Wild Onion	0.125
<i>Amorpha canescens</i>	Lead Plant	0.125
<i>Anemone virginiana</i>	Tall Anemone	0.063
<i>Aquilegia canadensis</i>	Wild Columbine	0.063
<i>Antennaria atrorubens</i>	Jack-in-the-Pulpit	0.031
<i>Asclepias sullivanti</i>	Prairie Milkweed	0.031
<i>Asclepias syriaca/verticillata</i>	Milkweed	0.031
<i>Aster azureus</i>	Sky Blue Aster	0.090
<i>Aster ericoides</i>	Heath Aster	0.031
<i>Aster laevis</i>	Smooth Blue Aster	0.125
<i>Aster lateriflorus</i>	Side-Flowering Aster	0.031
<i>Aster macrophyllus</i>	Big-leaved Aster	0.015
<i>Aster oblongifolius</i>	Aromatic Aster	0.063
<i>Aster sagittifolius</i>	Arrow-leaved Aster	0.063
<i>Aster shortii</i>	Short's Aster	0.061
<i>Blephilia hirsuta</i>	Wood Mint	0.015
<i>Bouteloua curtipendula</i>	Side-Oats Gramma	5,000
<i>Campanula americana</i>	Tall Bellflower	0.063
<i>Carex grisea</i>	Wood Gray Sedge	0.125
<i>Carex radiata</i>	Straight-styled Wood Sedge	0.015
<i>Carex rosea</i>	Curly-styled Wood Sedge	0.015
<i>Carex shortiana</i>	Short's Sedge	0.375
<i>Carex springlei</i>	Long-Beaked Sedge	0.031
<i>Cassia fasciculata</i>	Partridge Pea	0.250
<i>Coreopsis lanceolata</i>	Sand Coreopsis	0.500
<i>Coreopsis palmata</i>	Prairie Coreopsis	0.015
<i>Echinacea pallida</i>	Purple Coneflower	0.031
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	0.500
<i>Elymus villosus</i>	Silky Wild Rye	4,000
<i>Elymus virginicus</i>	Virginia Wild Rye	2,000
<i>Eryngium yuccifolium</i>	Rattlesnake Master	0.125
<i>Eupatorium purpureum</i>	Purple Joe Pye Weed	0.031
<i>Eupatorium rugosum</i>	White Snakeroot	0.031
<i>Festuca obtusa</i>	Nodding Fescue	0.250
<i>Geranium maculatum</i>	Wild Geranium	0.015
<i>Glyceria striata</i>	Fowl Manna Grass	0.500
<i>Hystrix patula</i>	Bottlebrush Grass	0.250
<i>Lespedeza capitata</i>	Roundheaded Bush Clover	0.125
<i>Liatris aspera</i>	Rough Blazing Star	0.031
<i>Lonicera proflera</i>	Yellow Honeysuckle	0.016
<i>Osmorhiza claytonii</i>	Hairy Sweet Cicely	0.015
<i>Parthenium integrifolium</i>	Wild Quinine	0.125
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	0.125
<i>Petalostemum candidum</i>	White Prairie Clover	0.015
<i>Petalostemum purpureum</i>	Purple Prairie Clover	0.500
<i>Phlox divaricata</i>	Woodland Phlox	0.016
<i>Polygonatum canadense</i>	Smooth Solomon's Seal	0.188
<i>Potentilla arguta</i>	Prairie Cinquefoil	0.031
<i>Prenanthes alba</i>	Lion's Foot	0.016
<i>Pycnanthemum spp.</i>	Mountain Mint species	0.031
<i>Ribes americanum</i>	Wild Black Currant	0.015
<i>Rosa carolina</i>	Pasture Rose	0.125
<i>Rudbeckia hirta</i>	Black-Eyed Susan	0.500
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	0.015
<i>Sanicula spp.</i>	Sanicula species	0.031
<i>Silphium laciniatum</i>	Compass Plant	0.031
<i>Silphium terebinthinaceum</i>	Prairie Dock	0.031
<i>Smilax tamedoides hispida</i>	Bristly Cat Briar	0.015
<i>Solidago caesia</i>	Blue-Stemmed Goldenrod	0.031
<i>Solidago flexicaulis</i>	Broad-Leaved Goldenrod	0.053
<i>Solidago graminifolia</i>	Grass-Leaved Goldenrod	0.015
<i>Solidago juncea</i>	Early Goldenrod	0.010
<i>Solidago nemoralis</i>	Old-Field Goldenrod	0.125
<i>Solidago ulmifolia</i>	Elm-leaved Goldenrod	0.063
<i>Thaspium trifoliatum</i>	Meadow Parsnip	0.031
<i>Tradescantia ohioensis</i>	Common Spiderwort	0.063
<i>Verbena stricta</i>	Hoary Vervain	0.125
<i>Zizia aurea</i>	Golden Alexander	0.063
Total		22,668 lbs

TABLE 3. Trees - to be installed as depicted on the Native Landscape Plan.

Scientific Name	Common Name	Quantity
<i>Acer rubrum</i>	Red Maple (RM)	4
<i>Celtis occidentalis</i>	Hackberry (H)	4
<i>Juglans nigra</i>	Black Walnut (BW)	5
<i>Quercus bicolor</i>	Swamp White Oak (BO)	5
<i>Ulmus americana</i>	American Elm (AE)	6
Total		24

TABLE 4. Shrubs - to be installed as depicted on the Native Landscape Plan.

Scientific Name	Common Name	Quantity
<i>Cornus obliqua</i>	Blue-Fruited Dogwood (BF)	12
<i>Cornus stolonifera</i>	Red-Osier Dogwood (RO)	15
<i>Corylus americana</i>	American Hazelnut (AH)	12
<i>Ribes americanum</i>	Wild Black Currant (WB)	18
<i>Viburnum lentago</i>	Nannyberry (NB)	15
<i>Viburnum prunifolium</i>	Black Haw (BH)	12
Total		84

7.0 SEED INSTALLATION

- Wetland Consultant shall be notified at least 24 hours prior to beginning the seeding operations.
- Seed shall be installed through hand broadcasting and lightly raking in the seed. Seed installed within undisturbed portions of the buffer do not need to be raked in. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Wetland Consultant.
- Seasonal Considerations:
 - November 1 through February 28:** Seed must be protected from displacement due to water and wind erosion. Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Seed drilled into existing vegetation or on flat ground not subject to erosion may need only minimal erosion protection. Less cover crop will be observed during the following spring due to frost damage.
 - March 1 through June 29:** Seeding during this period is appropriate but germination of a portion of the seed may not occur until the following season due to lack of cold stratification to break seed dormancy. Cover crop generally germinates within 2-3 weeks of seeding operation.
 - June 30 through September 15:** Installation of native seed should be suspended unless irrigation can be provided or unseasonably cool conditions persist. Also, any annual forbs planted with the mix during this time period may germinate but not have sufficient time to flower before fall senescence.
 - September 15 through October 31:** Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Seed drilled into existing vegetation or on flat ground not subject to erosion may need only minimal erosion protection. Less cover crop will be observed during the following spring due to frost damage.
- Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.
- Seeding operations must occur when soil moisture is appropriate for seeding operation.
- Native plant seed shall not receive fertilizer.
- Wet seed that is moldy or otherwise damaged in transit or storage shall not be used.
- After seeding is completed, install erosion control blanket per manufacturer's specifications as necessary.

8.0 TREE AND SHRUB INSTALLATION

- Trees (minimum 2 inch Diameter at Breast Height [DBH]) and shrubs (minimum 5-gallon container with a plant height of at least 3 feet as measured above the planted ground level) shall be installed. The Wetland Consultant must approve substitutions. Exact locations appropriate to site conditions will be determined by the Native Landscape Contractor in the field.
- The ideal time to plant trees and shrubs is during the fall after leaf drop or early spring before bud-break. Weather conditions are cool and allow plants to establish roots in the new location. However, trees and shrubs properly cared for can be planted throughout the growing season.
- Shrubs will be installed as shown on the planting plan in the plumb position at the same depth as grown at the nursery. Backfill material will be installed around the roots to cover all sides equally. Shrubs shall be thoroughly watered, to the point of saturation. Additional back fill material should be installed following setting. Mulch the base of the shrubs with 2-4 inches of leaf litter, pine straw, shredded bark, peat moss, or wood chips.
- Trees will be installed as shown on the planting plan in the plumb position in a shallow, broad planting hole. The hole shall be as much as three times the diameter of the root ball, but only as deep as the root ball. Place the tree in the hole. Always lift the tree by the root ball, never the trunk. The trunk flare should be 2-3 inches above the top of the hole. Straighten the tree in the hole.
- Fill the hole about 1/2 full and gently but firmly pack the soil around the base of the root ball. Cut and remove the string and wire from around the trunk and top 1/3 of the root ball (altering string and wire around the root ball should not occur if it will void the suppliers guarantee).
- Fill the remainder of the hole taking care to firmly pack soil to eliminate air pockets. It is not recommended to apply fertilizer at the time of planting. Stake the tree if necessary. Remove support staking and ties after the first year of growth.
- Mulch the base of the trees with 2 to 4 inches of leaf litter, pine straw, shredded bark, peat moss, or wood chips. Do not cover the trunk of the trees with mulch.
- Water the trees immediately after planting and then as needed to keep the soil moist but not saturated.

9.0 EROSION CONTROL

- The Native Landscape Contractor shall be fully responsible for implementing erosion control measures within prescribed planting areas.
- Sparsely vegetated areas within the planting area are recommended to be covered with erosion control blanket. North American Green S75 or equivalent will be used at a minimum. Fall/Winter plantings require North American Green S150 or equivalent. Erosion control blanket shall be installed within 24 hours after an area is seeded. See manufacturer's specifications for erosion control blanket composition.

10.0 CLEAN-UP AND PROTECTION

- During landscape work, store materials and equipment where directed. Keep pavements clean and work areas and adjoining areas in an orderly condition.
- Protect landscape work and materials from damage due to landscape operations or operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed by the Wetland Consultant.

11.0 INSPECTIONS AND ACCEPTANCE

- Owner reserves the right to inspect all seeds and plants either at place of growth or at site before planting for compliance with requirements for name, variety, size, quantity, quality or mix proportion.
- Native Landscape Contractor is to keep records of the certificates of composition or invoices of seed mixtures and integrity of plant materials with respect to species, variety, and source after purchase.
- Native Landscape Contractor is to notify Owner within five days after completing initial and/or supplemental plantings in each area.

MONITORING AND MANAGEMENT PLAN

1.0 MONITORING METHODOLOGY

Monitoring of the native prairie/woodland plant community, trees, and shrubs shall be required for three growing seasons after the initial planting. Monitoring of the native prairie/woodland plant community shall be conducted utilizing a meander search methodology. The monitoring shall identify 1) the five most dominant vegetative species, 2) the approximate percent vegetative coverage by native species, and 3) the percent coverage by non-native or invasive species. Observations shall be made during the monitoring to identify specific management strategies necessary to reach design goals. Site conditions shall be photo documented during the monitoring sessions.

2.0 PERFORMANCE CRITERIA

- By the end of the first full growing season, the seeded prairie/woodland area shall exhibit nearly complete vegetative cover, primarily by species contained in the temporary matrix seed mix. There shall be no area greater than 0.25 square-meter devoid of vegetation, as measured by aerial coverage.
- By the end of the second full growing season, a minimum of 30% of the seeded area shall be dominated by native herbaceous vegetation. There shall be no more than 0.25 square-meter devoid of vegetation, as measured by aerial coverage.
- By the end of the third full growing season, a minimum of 60% of the seeded area shall be dominated by native herbaceous vegetation. There shall be no area greater than 0.25 square-meter devoid of vegetation, as measured by aerial coverage. No more than 25% of the native herbaceous plant community shall be dominated by the following non-native or weedy species including but not limited to: Reed Canary Grass (*Phalaris arundinacea*), White Sweet Clover (*Melilotus alba*), or Kentucky Blue Grass (*Poa pratensis*).
- At the end of the third full growing season, 100% of the planted trees and shrubs shall be alive and apparent.

3.0 REPORTING

An annual monitoring report shall be prepared and submitted to the property owner and the Village of Glen Ellyn by December 31st of each year. The monitoring report shall be utilized to determine if the naturalized area is meeting design goals based on the performance standards.

4.0 MANAGEMENT PLAN

First Year. Mow the seeded area to a height of 6-8 inches 2-4 times during the early growing season and as needed to control non-native weedy species. Mowing (including weed whipping) shall take place prior to or when non-native and weedy species are flowering so as to prevent seed set. Control undesirable plant species, when present in small quantities, by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all aboveground and belowground stems, roots and flower masses prior to development of seeds. Apply herbicide (as necessary) to non-native and weedy species within the seeded area with appropriate herbicide.

Herbicide should be applied by a trained and licensed applicator. Non-selective herbicides can be used but with utmost caution. Non-selective herbicides are absorbed through the plant tissues and work their way into the root system, effectively killing the plant. The only acceptable herbicides are glyphosate based such as RoundUp, Rodeo, or Razor.

Second Year. Control of undesirable plant species during the second growing season shall consist primarily of herbicide application. Mowing (including weed whipping) shall be conducted two to four times during the early growing season and as needed to a height of 6 to 8 inches to prevent annual weeds from producing seed.

Third Year. Undesirable plant species will be controlled (as necessary) by mowing (including weed whipping), hand pulling, and/or spot herbicide application.

Long Term. As the seeded area matures, required supplemental management will be significantly reduced. Mowing to prevent seed set of undesirable species and spot herbicide application are recommended when and where applicable.