WETLAND MITIGATION SITE MONITORING REPORT
FAP 316 (IL 26) Stephenson County

Introduction

This report details monitoring of the wetland mitigation site created to compensate for the proposed relocation of Illinois Route 26 near Orangeville in Stephenson County. The site consists of approximately 3.4 ha (8.5 acres) of wetland creation (Site 1) and 3.3 ha (8.2 acres) of wetland enhancement (Site 2). The wetland creation is located north of West St. James Road, west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26 (legal location S/2, SW/4, Sect. 36, T 29 N, R 7 E). The wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26 (legal location E/2, NW/4, Sect. 1, T 28 N, R 7 E). Emergent wetland vegetation was planted at Site 1 on 28 July 2000, and a seeding mixture was planted at Site 2, and around the perimeter of Site 1, in late August 2000. On-site monitoring was conducted on 26 September 2000.

This report discusses the goals, objectives, and performance criteria for the mitigation project, the methods used for monitoring the site, monitoring results, and a discussion and recommendations based on the results. Methods and results are discussed by performance criteria for each goal.

Goals, Objectives, and Performance Standards

Goals, objectives, and performance standards follow those specified in the wetland compensation plan (IDOT Wetlands Unit) developed for this site. Each goal should be attained by the end of the 5-year monitoring period. Goals, objectives, and performance criteria are listed below.

Project goal 1: The created and enhanced wetland communities should be jurisdictional wetlands as defined by current federal standards.

Objective: The created wetland should compensate for the loss of 1.82 ha (4.5 acres) of emergent wetland and 0.08 ha (0.2 acres) of farmed wetland at a 1.8:1 ratio. The enhanced wetland should compensate for an additional 1.32 ha (3.25 acres) at a 2.5:1 ratio, which may be required by the recent Draft of Wetlands Administrative Rules.

Performance criteria:

a. Predominance of hydrophytic vegetation: More than 50% of the dominant plant species must be hydrophytic.

b. Presence of wetland hydrology: The area must be either permanently or periodically inundated at average depths less than 2 m (6.6 ft) or have soils that are saturated to the surface for at least 12.5% of the growing season.

c. Occurrence of hydric soils: Hydric soil characteristics should be present, or conditions favorable for hydric soil formation should persist at the site.

Project goal 2: The created wetland plant community should meet a standard for vegetation cover.

Objectives: An emergent marsh will be created, and a wet meadow will be enhanced, by planting native wetland vegetation.

Performance criterion: Planted vegetation should account for at least 50% of the ground cover at the sites.

Methods

Project goal 1

a. Predominance of hydrophytic vegetation

The method for determining dominant vegetation at a wetland site is described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and further explained in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation 1989). It is based on aerial coverage estimates for individual plant species. Each of the dominant plant species is then assigned its wetland indicator status rating (Reed 1988). Any plant rated facultative or wetter, *i.e.*, FAC, FAC+, FACW, and OBL, is considered a hydrophyte. A predominance of vegetation in the wetland plant community exists if more than 50% of the dominant species present are hydrophytic.

b. Presence of wetland hydrology

Illinois State Geological Survey (ISGS) personnel will install ground water-monitoring wells during autumn 2000.

c. Occurrence of hydric soils

The soil was sampled in order to monitor hydric soil development. Soil profile morphology including horizon color, texture, and structure was described at various points throughout the

site. Additionally, the presence, type, size, and abundance of redoximorphic features were noted.

Hydric soils typically develop slowly, and characteristics may not be apparent during the first several years after project construction. In the absence of hydric soil indicators at the end of the five-year monitoring period, hydrologic data could be used as corroborative evidence that conditions favorable for hydric soil formation persist at the site.

Project goal 2

Because the recently planted vegetation at the sites was not yet established, quantitative sampling of vegetation was not performed in 2000. In subsequent years 1-m x 1-m quadrants will be used to estimate ground cover by planted and volunteer species, and planted trees will be censused.

Floristic quality assessment

The Floristic Quality Assessment (Taft et al. 1997) was applied to the plant community at the site to evaluate floristic quality and nativity. The assessment methodology is used to identify natural areas and facilitate floristic comparisons among sites. This technique is part of the procedure for the long-term monitoring of natural areas and the monitoring of restored or created wetlands (Swink and Wilhelm 1994). Plant species not native to Illinois are not included in the FQI. Each native plant species is assigned a coefficient of conservatism (C) ranging from 0 to 10. Lower numbers have been assigned to species more tolerant of disturbance and higher numbers to species that are generally found in less disturbed natural areas. A mean coefficient value (mCv) is determined by summing the coefficients of conservatism (C) and dividing by the total number of native species (N). The Floristic Quality Index (FQI) is then determined by multiplying the mean coefficient (mCv) by the square root of N. This calculation is done to incorporate numerical species diversity into the FQI value. Sites with FQI values less than 10 indicate that the area has been disturbed or is in an early successional stage. Sites with FQI values of 20 or more possess some evidence of natural character and may be considered environmental assets. Sites with values of 35 or more are considered to be of natural area quality.

Results

Project goal 1

a. Predominance of hydrophytic vegetation

Dominant plant species for Site 1 in 2000 are shown in Table 1. The dominant species are rated OBL, and are, therefore, hydrophytic. Wetland vegetation is not yet established at Site 2. It has been seeded with a cover crop of *Avena sativa* (indicator status UPL), and, therefore, does not yet contain dominant hydrophytic vegetation.

Table 1. Dominant plant species by stratum and wetland indicator status for the created wetland.

Dominant Plant Species	Stratum	Indicator Status
1. *Lindernia dubia*	herb	OBL
2. *Rorippa islandica*	herb	OBL

b. Presence of wetland hydrology

Ground water-level data for the sites have not yet been collected. Hydrologic information will be reported in 2001.

c. Occurrence of hydric soils

Soils at both the wetland enhancement and the wetland creation are disturbed. Soils at both sites were removed exposing a lower substratum.

The soils at the wetland creation site are very disturbed. The area has been excavated perhaps as much as 1.5 to 1.8 m (5 to 6 ft). There are rocks on the surface that match those on the road being put in and pebbles in the profile starting at 76 cm (30 in). There are no hydric soil indicators present within the upper 30 cm (12 in), but the soil has good potential of becoming hydric. The following is a description of a typical pedon at the creation site.

Table 2. Description of the soils at the created wetland (Site 1).

Depth	Matrix Color	Concentrations	Depletions	Texture	Structure
0-2 in	10YR 3/1	N/A	N/A	Silt loam	Granular
2-11 in	10YR 3/1	N/A	N/A	Silty clay loam	Massive
11-30 in	10YR 3/2	5YR 3/4 & 10YR 3/4	N/A	Silt loam	Massive
30-36 in	10YR 5/2	10YR 4/6	N/A	Silt loam	Massive

At the wetland enhancement site the soils were excavated perhaps only 31 to 46 cm (2 to 2.5 ft). No other type of anthropogenic disturbance is evident within the profile. A buried A horizon was found at 46 cm (18 in). Even though the soil is disturbed, hydric soil indicators are present. A typical pedon is described below.

Table 3. Description of the soils at the enhanced wetland (Site 2).

Depth	Matrix Color	Concentrations	Depletions	Texture	Structure
0-5 in	10YR 2/2	5YR 3/4	N/A	Silt loam	Granular
5-18 in	10YR 3/1	7.5YR 3/4	2.5Y 5/2	Silty clay loam	Granular
18-26 in	N 3/	N/A	2.5Y 4/2	Silt loam	Granular

Project goal 2

The recently planted wetland vegetation is not yet established at the mitigation sites. Therefore, the sites do not yet meet the performance criterion of 50% ground cover by planted species.

Floristic Quality Assessment

Two FQI values were calculated for each site from the species lists included in Appendix B. The first FQI value is calculated from only species that became established on the site naturally; the second FQI value includes the planted species. The created wetland has an FQI value of 10.0 and mCv value of 1.9 when only natural vegetation is included. When the planted trees and emergent rootstocks are added, the FQI value is raised to 18.3 and the mCv value is raised to 2.9. The FQI value for the enhanced wetland is 8.3 and the mCv value is 1.6 when only naturally established vegetation is considered. These values increase to 9.7 and 1.8, respectively, when the planted trees are included.

Discussion

After one monitoring season, these sites show progress towards wetland establishment. The sites will most likely comply with project goals, objectives, and performance standards by the end of the monitoring period.

Planted wetland vegetation is not yet established at either site. The low FQI values at the sites are the result of recent disturbance caused by the creation of the sites. As the planted

vegetation becomes established, and the disturbance-adapted species are replaced by more conservative species, the mCv and FQI values should increase.

Invasive plant species may threaten the floristic quality at these sites. *Phalaris arundinacea* is present at both sites, and this aggressive grass dominates large areas adjacent to the mitigation sites. There is also a small patch of *Phragmites australis* on the edge of Site 2. Care must be taken to ensure that these invasive species do not become well established at the mitigation sites.

At Site 1, the created wetland, Canada geese are consuming the emergent vegetation as it grows through protective cages. It may be necessary to stretch rows of nylon string, marked by bright flagging tape, across the length of the site. This should discourage geese from landing at the site. Grazing by geese may also become a problem at Site 2 when the seeded species begin to emerge.

Soils at both sites have been seriously disturbed. Even so, the soils at the wetland enhancement site do contain some hydric soil indicators, and therefore can be characterized as hydric. However, the highly disturbed soil at the wetland creation site has not yet developed hydric soil indicators.

Literature Cited

Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Technical Report Y-87-1.

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Swink, F., and G. Wilhelm. 1994. Plants of the Chicago region. Indiana Academy of Science, Indianapolis.

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ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 1 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Created marsh
Legal Description: S/2, SW/4, Sect. 36, T 29 N, R 7 E
Location: This created marsh is located north of West St. James Rd., west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26.

Do normal environmental conditions exist at this site? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: X No:
Comment: The site has been recently excavated, affecting soils and hydrology.

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. *Lindernia dubia*	OBL	herb
2. *Rorippa islandica*	OBL	herb

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: Mapped as Dorchester silt loam; revised to Typic Udorthent

On county hydric soils list?	Yes:	No: X	
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 10YR 3/4, 10YR 4/6, 5YR 3/4
Redox Depletions?	Yes:	No: X	

Matrix color: 10YR 3/1, 10YR 3/2, and 10YR 5/2
Other indicators: Ponded water on parts of site.
Hydric soils? Yes: No: X
Rationale: This is an excavated site where soils were stripped away exposing a lower substratum. This soil does not meet the hydric soil criterion at this time.

ROUTINE ON-SITE WETLAND DETERMINATION
Site 1 (page 2 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Created marsh
Legal Description: S/2, SW/4, Sect. 36, T 29 N, R 7 E
Location: This created marsh is located north of West St. James Rd., west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26.

HYDROLOGY

Inundated: Yes: X No: Depth of standing water: 0-0.15 m (0-6 in)
Depth to saturated soil: Varies from surface to >0.9 m (36 in)
Overview of hydrological flow through the system: This site receives water through precipitation and sheetflow from surrounding higher ground. Water leaves the site via evapotranspiration and streamflow via a culvert at the south end.
Size of Watershed: <100 km^2 (38.6 mi^2)
Other field evidence observed: Sediment deposits on vegetation.

Wetland hydrology: Yes: X No:
Rationale: This site is in an excavated depression and holds water for a long or very long time during the growing season; therefore, it is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: X No:
Rationale: This site supports dominant hydrophytic vegetation and wetland hydrology. The recently excavated soils do not yet display hydric characteristics. We determined that this site is a wetland.

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ROUTINE ON-SITE WETLAND DETERMINATION
Site 1 (page 3 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Created marsh
Legal Description: S/2, SW/4, Sect. 36, T 29 N, R 7 E
Location: This created marsh is located north of West St. James Rd., west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26.

SPECIES LIST

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Abutilon theophrasti	velvet-leaf	herb	FACU-	*
Alisma plantago-aquatica	broad-leaf water-plantain	herb	OBL	2
Amaranthus retroflexus	rough pigweed	herb	FACU+	*
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1
Bidens cernua	nodding beggar-ticks	herb	OBL	2
Bidens tripartita	beggar-ticks	herb	OBL	2
Brassica kaber	charlock	herb	UPL	*
Cyperus esculentus	yellow nut-sedge	herb	FACW	0
Cyperus strigosus	straw colored flatsedge	herb	FACW	0
Echinochloa muricata	barnyard grass	herb	OBL	0
Eleocharis obtusa	blunt spike rush	herb	OBL	2
Elodea nuttallii	elodea	herb	OBL	6
Lemna minor	common duckweed	herb	OBL	3
Lindernia dubia	false pimpernel	herb	OBL	5
Lycopus americanus	common water horehound	herb	OBL	3
Mimulus ringens	monkey flower	herb	OBL	5
Morus alba	white mulberry	herb	FAC	*
Myosoton aquaticum	giant chickweed	herb	FAC+	*
Panicum capillare	witch grass	herb	FAC	0
Penthorum sedoides	ditch stonecrop	herb	OBL	2
Phalaris arundinacea	reed canary grass	herb	FACW+	*
Polygonum amphibium	water smartweed	herb	OBL	3
Polygonum hydropiper	common smartweed	herb	OBL	*
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Polygonum persicaria	spotted lady's thumb	herb	FACW	*
Populus deltoides	eastern cottonwood	herb	FAC+	2

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ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 4 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Created marsh
Legal Description: S/2, SW/4, Sect. 36, T 29 N, R 7 E
Location: This created marsh is located north of West St. James Rd., west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26.

SPECIES LIST (continued)

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Potentilla norvegica	rough cinquefoil	herb	FAC	0
Ranunculus sceleratus	cursed crowfoot	herb	OBL	3
Rorippa islandica	marsh yellow cress	herb	OBL	4
Rudbeckia hirta	black-eyed susan	herb	FACU	2
Rumex crispus	curly dock	herb	FAC+	*
Salix exigua	sandbar willow	herb	OBL	1
Salix nigra	black willow	herb	OBL	3
Setaria glauca	pigeon grass	herb	FAC	*
Solanum carolinense	horse-nettle	herb	FACU-	0
Solanum ptycanthum	black nightshade	herb	FACU-	0
Sonchus asper	prickly sowthistle	herb	FAC	*
Taraxacum officinale	common dandelion	herb	FACU	*
Trifolium hybridum	alsike clover	herb	FAC-	*

† Coefficient of Conservatism (Taft et al. 1997)
* Non-native species

$mCv = \sum C/N = 52/27 = 1.9$
$FQI = \sum C/\sqrt{N} = 52/\sqrt{27} = 10.0$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 5 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Created marsh
Legal Description: S/2, SW/4, Sect. 36, T 29 N, R 7 E
Location: This created marsh is located north of West St. James Rd., west of the Wisconsin and Calumet Railroad, and east of the proposed realignment of Illinois Route 26.

PLANTED SPECIES

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Alisma plantago-aquatica	broad-leaf water-plantain	herb	OBL	2
Avena sativa	oats	herb	UPL	*
Calamagrostis canadensis	bluejoint grass	herb	OBL	3
Caltha palustris	marsh marigold	herb	OBL	7
Carex lacustris	river sedge	herb	OBL	6
Carex stricta	tussock sedge	herb	OBL	5
Eleocharis obtusa	blunt spike rush	herb	OBL	2
Iris shrevei	southern blue flag	herb	OBL	5
Pontederia cordata	pickerelweed	herb	OBL	8
Populus deltoides	eastern cottonwood	sapling	FAC+	2
Quercus bicolor	swamp white oak	sapling	FACW+	7
Quercus macrocarpa	burr oak	sapling	FAC-	5
Sagittaria latifolia	arrowhead	herb	OBL	4
Scirpus americanus	American bulrush	herb	OBL	3
Scirpus fluviatilis	river bulrush	herb	OBL	3
Scirpus tabernaemontanii	great bulrush	herb	OBL	4
Spartina pectinata	freshwater cord grass	herb	FACW+	4

† Coefficient of Conservatism (Taft et al. 1997)
* Non-native species

$mCv = \sum C/N = 116/40 = 2.9$**
$FQI = \sum C/\sqrt{N} = 116/\sqrt{40} = 18.3$**

**These calculations include the complete species list above, as well as the planted species.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 1 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Wetland enhancement
Legal Description: E/2, NW/4, Sect. 1, T 28 N, R 7 E
Location: This wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26.

Do normal environmental conditions exist at this site? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: X No:
Comment: The site has been excavated recently and planted with oats, therefore affecting vegetation, soils, and hydrology.

VEGETATION

This site currently lacks dominant vegetation. It has been seeded with a cover crop of *Avena sativa*.

Hydrophytic vegetation: Yes: No: X
Rationale: This site currently lacks dominant vegetation.

SOILS

Series and phase: Mapped as Dorchester silt loam, revised to Typic Udorthent

On county hydric soils list?	Yes:	No: X	
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 5YR 3/4, 7.5YR 3/4
Redox Depletions?	Yes: X	No:	Color: 2.5Y 5/2, 2.5Y 4/2

Matrix color: 10YR 2/2, 10YR 3/1, N3/
Other indicators: Oxidized root channels.
Hydric soils? Yes: X No:
Rationale: This is an excavated site where soils were stripped away exposing a lower substratum. The colors being observed are remnants of the old soil, but they do meet the hydric soil criterion.

ROUTINE ON-SITE WETLAND DETERMINATION
Site 2 (page 2 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Wetland enhancement
Legal Description: E/2, NW/4, Sect. 1, T 28 N, R 7 E
Location: This wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: Surface
Overview of hydrological flow through the system: This site receives water through precipitation, sheetflow from surrounding higher ground, and occasional overflow form Richland Creek and a tributary. Water leaves the site via evapotranspiration and sheetflow into Richland Creek and a tributary.
Size of Watershed: <100 km^2 (38.6 mi^2)
Other field evidence observed: Sediment deposits on vegetation.

Wetland hydrology: Yes: X No:
Rationale: This site is in an excavated area along Richland Creek and is occasionally inundated. It is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: X No:
Rationale: This site supports hydric soils and wetland hydrology. Vegetation has been cleared recently and the site has been planted with oats. We determined that this site is a wetland.

Determined by: Jeff Matthews and Paul Tessene
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ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 3 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
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Legal Description: E/2, NW/4, Sect. 1, T 28 N, R 7 E
Location: This wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26.

SPECIES LIST

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Abutilon theophrasti	velvet-leaf	herb	FACU-	*
Acer saccharinum	silver maple	herb	FACW	1
Agropyron repens	quack grass	herb	FACU	*
Amaranthus retroflexus	rough pigweed	herb	FACU+	*
Artemisia biennis	biennial wormwood	herb	FACW-	*
Bidens cernua	nodding beggar-ticks	herb	OBL	2
Bidens tripartita	beggar-ticks	herb	OBL	2
Brassica kaber	charlock	herb	UPL	*
Chenopodium album	lamb's quarters	herb	FAC-	*
Conyza canadensis	horseweed	herb	FAC-	0
Cyperus esculentus	yellow nut-sedge	herb	FACW	0
Daucus carota	Queen-Anne's-lace	herb	UPL	*
Echinochloa muricata	barnyard grass	herb	OBL	0
Epilobium coloratum	cinnamon willow herb	herb	OBL	3
Eragrostis hypnoides	pony grass	herb	OBL	5
Festuca arundinacea	tall fescue	herb	FACU+	*
Glechoma hederacea	ground ivy	herb	FACU	*
Impatiens capensis	jewelweed	herb	FACW	2
Leersia oryzoides	rice cutgrass	herb	OBL	3
Lolium perenne	crested rye grass	herb	FACU	*
Mimulus ringens	monkey flower	herb	OBL	5
Myosoton aquaticum	giant chickweed	herb	FAC+	*
Oenothera biennis	evening primrose	herb	FACU	1
Oxalis stricta	yellow wood sorrel	herb	FACU	0
Panicum capillare	witch grass	herb	FAC	0
Panicum dichotomiflorum	fall panicum	herb	FACW-	0
Phalaris arundinacea	reed canary grass	herb	FACW+	*

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ROUTINE ON-SITE WETLAND DETERMINATION
Site 2 (page 4 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Wetland enhancement
Legal Description: E/2, NW/4, Sect. 1, T 28 N, R 7 E
Location: This wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26.

SPECIES LIST (continued)

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Plantago rugelii	red-stalked plantain	herb	FAC	0
Polygonum hydropiper	common smartweed	herb	OBL	*
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Polygonum persicaria	spotted lady's thumb	herb	FACW	*
Populus deltoides	eastern cottonwood	herb	FAC+	2
Portulaca oleracea	purslane	herb	FAC-	*
Ranunculus sceleratus	cursed crowfoot	herb	OBL	3
Rorippa islandica	marsh yellow cress	herb	OBL	4
Rumex crispus	curly dock	herb	FAC+	*
Salix exigua	sandbar willow	herb	OBL	1
Salix nigra	black willow	herb	OBL	3
Setaria viridis	common foxtail	herb	UPL	*
Solanum ptycanthum	black nightshade	herb	FACU-	0
Sonchus asper	prickly sowthistle	herb	FAC	*
Taraxacum officinale	common dandelion	herb	FACU	*
Trifolium hybridum	alsike clover	herb	FAC-	*
Urtica dioica	stinging nettle	herb	FAC+	2
Verbascum thapsus	woolly mullein	herb	UPL	*
Verbena hastata	blue vervain	herb	FACW+	3
Veronica peregrina	purslane speedwell	herb	FACW+	0

† Coefficient of Conservatism (Taft et al. 1997)
* Non-native species

$mCv = \sum C/N = 43/27 = 1.6$
$FQI = \sum C/\sqrt{N} = 43/\sqrt{27} = 8.3$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 5 of 5)

Field Investigators: Matthews, Kurylo, Tessene, and Keene
Date: 26 September 2000
Project Name: FAP 316
State: Illinois **County:** Stephenson **Applicant:** IDOT District 2
Site Name: Wetland enhancement
Legal Description: E/2, NW/4, Sect. 1, T 28 N, R 7 E
Location: This wetland enhancement is located south of West St. James Road, along the east and west sides of Richland Creek, upstream and downstream from the proposed bridge on relocated Illinois Route 26.

PLANTED SPECIES

Scientific Name	Common Name	Stratum	Wetland indicator status	C†
Populus deltoides	eastern cottonwood	sapling	FAC+	2
Quercus bicolor	swamp white oak	sapling	FACW+	7
Avena sativa	oats	herb	UPL	*
Fraxinus pennsylvanica	green ash	sapling	FACW	2

† Coefficient of Conservatism (Taft et al. 1997)
* Non-native species

$mCv = \sum C/N = 52/29 = 1.8$**
$FQI = \sum C/\sqrt{N} = 52/\sqrt{29} = 9.7$**

**These calculations include the complete species list above, as well as the planted species.