

TRANSMITTAL

To: Bureau of Design and Environment
Attention: Matthew J. Sunderland
From: Illinois Natural History Survey
Regarding: Wetland Mitigation Monitoring

Title and Location

Title: FAU 5822 (Milan Beltway)
Location: West Rock River Crossing
Site: Milan
Job Number: P-92-096-84 (BDE Seq. No. 67)
Section Number: 1-3
County: Rock Island
IDOT District: 2

Survey Conducted By: Brian Wilm and David Ketzner (vegetation and hydrology)
Scott Wiesbrook (soils and hydrology)
Brad Zercher (GIS support)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 244-2176 (Wilm)

Date Conducted: July 31 and August 14, 2008

Project Summary:

Monitoring was conducted for the third year on the site created as wetland compensation for FAU 5822 (Milan Beltway). This is the Milan site, located in Rock Island County, Illinois. Introductory information, goals, objectives, performance criteria, methods, and results are presented in this report, followed by discussion, summary and recommendations. A tree planting list and a copy of the digital orthoquad (DOQ) (with the site identified) are also included. Appendices contain the wetland determination forms (including full species lists) and photographs.

Signed: _____
Dr. Allen E. Plocher
INHS/IDOT Project Coordinator

Signed: _____
Dr. Edward J. Heske
INHS/IDOT Project Principal Investigator

Date: _____

Date: _____

WETLAND MITIGATION SITE MONITORING REPORT FAU 5822 (Milan Beltway) Rock Island County – Milan Site

Introduction

This report details monitoring of the wetland mitigation site created to compensate for impacts associated with FAU 5822 (Milan Beltway). This Milan site, approximately 8.1 ha (20 acres) in size, is located in Rock Island County (legal location – NW/4, NE/4, Section 19, T 17 N, R 1 W), bordering the south side of I-280 and the north side of Airport Road, immediately east of the new Milan Beltway extension (United States Geological Survey hydrologic unit 07090005, Rock River - below Rockton). On-site monitoring was conducted for the third time on July 31 and August 14, 2008.

This report discusses the goals, objectives, and performance criteria for the mitigation project, the methods used for monitoring the site, monitoring results, and 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 Conceptual Wetland Compensation Plan (Illinois Department of Transportation (IDOT) 2002) developed for this site. Amendments to this plan, specifically addressing the amount of wetland compensation acreage required, were agreed to at a meeting held by the Army Corps of Engineers in Rock Island, Illinois on 24 April, 2007. Performance criteria are based on those specified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *Illinois Wetland Restoration and Creation Guide* (Admiraal et al. 1997), and in *Guidelines for Developing Mitigation Proposals* (United States Army Corps of Engineers (USACE) 1993). 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 wetland community should be a jurisdictional wetland as defined by current federal standards.

Objective: Establishment of 6.2 ha (15.3 acres) of emergent wetland (including the preexisting marsh present before farming was halted) and 2.0 ha (5.0 acres) of forested wetland.

Performance criteria:

- a. Predominance of hydrophytic vegetation: More than 50% of the dominant plant species must be hydrophytic.
- b. Occurrence of hydric soils: Hydric soil characteristics should be present, or conditions favorable for hydric soil formation should persist at the site.
- c. 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.

Project goal 2: The created or restored wetland plant community should meet standards for planted species survival and floristic composition.

Objectives: Planting trees will create a forested wetland. Other herbaceous vegetation will be allowed to colonize the site naturally.

Performance criteria:

- a. Planted species survivorship: At least 136 planted trees per hectare should be established and living by the end of the five year monitoring period.
- b. Native species composition: At least 50% of the plants present should be non-weedy, native, perennial species.
- c. Dominance of vegetation: None of the three most dominant plant species may be non-native or weedy species, such as cattails, sandbar willow, or reed canary grass (IDOT 2002).

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, or OBL, is considered a hydrophyte. A predominance of wetland vegetation in the plant community exists if more than 50% of the dominant species present are hydrophytic.

b. 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 may 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.

c. Presence of wetland hydrology

Wetland hydrology at this site was monitored by the Illinois State Geological Survey (Fucciolo et al. 2008). Wetland hydrology occurs when inundation or saturation to land surface is present for greater than 5% of the growing season (10 days at this site) where the soils and vegetation parameters in the Corps of Engineers Wetland Delineation Manual also are met; if either is lacking, then inundation or saturation must be present for greater than 12.5% of the growing season (25 days at this site) to satisfy wetland hydrology criteria (Environmental Laboratory 1987). Inundation and saturation at the site were monitored using a combination of monitoring wells and staff gages (Figure 3). Water levels were measured at least biweekly during April and May and monthly during the remainder of the year. Manual readings were supplemented by dataloggers, which measured surface and groundwater levels at regular intervals to document all hydrologic events.

Project goal 2

a. Planted species survivorship

In order to create floodplain forest, tree saplings were to be planted at the compensation site as specified in the Conceptual Wetland Compensation Plan (IDOT 2002). Specific planting numbers are shown in Table 1.

Table 1. Tree species planted in the created wetland (Final planting date spring 2006).

Species	Common Name	Number
<i>Carya illinoensis</i>	Pecan	111
<i>Fraxinus pennsylvanica</i>	Green Ash	111
<i>Platanus occidentalis</i>	Sycamore	111
<i>Quercus bicolor</i>	Swamp White Oak	111
<i>Quercus palustris</i>	Pin Oak	111
TOTAL		555

All of the trees were to be balled and burlapped 4.4-5.1 cm (1.75-2 in) caliper trees, except the *Carya illinoensis*, which were bare root two year old seedlings. Survivorship and density of planted trees was determined through a census of the created wetland. All live trees were counted. Dead trees were counted but not identified by species. Tree survival was calculated as the number live trees per hectare.

b. Native Species Composition

A complete list of plant species present was compiled for each of the three plant communities present in 2008 (marsh, non-native grassland and tree planted area). These species lists were used to determine native species composition. Non-weedy, native, perennial species were to include all native, perennial species with a mean coefficient of conservatism of 1 or greater.

In addition, 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). The basis of the method is that each native plant species is assigned a conservatism coefficient (C) ranging from 0 to 10. Individual conservatism coefficients are ranks of species behavior and reflect the committee's (Taft et al. 1997) confidence level for a taxon's

correspondence to anthropogenic disturbances. Coefficient values range from 0 to 10, with all adventive species given a coefficient of 0. Plant species assigned 0 have low affinities for natural areas, whereas those assigned 10 have very high affinities. When a complete species list is assembled for a wetland site, the overall average conservatism coefficient (\bar{c}) and a site floristic quality index (FQI) can be calculated. The \bar{c} is calculated by summing the coefficients of conservatism (ΣC) and dividing by the total number of native species (N). The FQI is then calculated by dividing the ΣC by the square root of N. These values provide a measure of site floristic quality. Floristic quality index (FQI) values less than 5 indicate that the area is extremely weedy or in an early successional stage (Swink and Wilhelm 1994). FQI values between 20 and 35 ($\bar{c} = 3.0$) indicate that the area has evidence of native character and can be considered a botanical asset. FQI values between 35 and 50 ($\bar{c} = 3.5$) indicate that the area has significant native character.

c. Dominance of vegetation

Plant species dominance was determined as in 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).

Photography Stations

Seven photography stations were established around the perimeter of the site, in an attempt to document changes in the plant communities over time (Figure 1). Photographs are contained in Appendix B.

Milan Beltway (FAU 5822) Wetland Compensation
Milan Site - Rock Island County
Photostations



 Project site

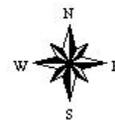


Figure 1. Photography stations at the Milan wetland compensation site.

Results

Project goal 1

a. Predominance of hydrophytic vegetation

Dominant plant species for all three plant communities on the site are found in Tables 2-4. Plant communities are shown in Figure 2. The marsh community is the only community to have dominant hydrophytic vegetation solely based on naturally occurring vegetation. The tree planted area has dominant hydrophytic vegetation when including planted tree species; it lacks dominant hydrophytic vegetation when these species are excluded. The non-native grassland community also lacks dominant hydrophytic vegetation, only one of its dominant species is hydrophytic.

Table 2. Dominant plant species for the marsh community, July 2008.

Dominant Plant Species	Stratum	Indicator Status
1. <i>Typha angustifolia</i>	herb	OBL

Table 3. Dominant plant species for the non-native grassland community, July 2008.

Dominant Plant Species	Stratum	Indicator Status
1. <i>Bromus inermis</i>	herb	UPL
2. <i>Eupatorium serotinum</i>	herb	FAC+
3. <i>Poa pratensis</i>	herb	FAC-
4. <i>Solidago canadensis</i>	herb	FACU

Table 4. Dominant plant species for the tree planted area (including planted tree species), July 2008.

Dominant Plant Species	Stratum	Indicator Status
1. <i>Fraxinus pennsylvanica</i>	sapling	FACW
2. <i>Platanus occidentalis</i>	sapling	FACW
3. <i>Quercus palustris</i>	sapling	FACW
4. <i>Bromus inermis</i>	herb	UPL
5. <i>Eupatorium serotinum</i>	herb	FAC+
6. <i>Poa pratensis</i>	herb	FAC-
7. <i>Solidago canadensis</i>	herb	FACU

Milan Beltway (FAU 5822) Wetland Compensation
Milan Site - Rock Island County



 Project site



Figure 2. Plant communities at the Milan wetland compensation site, July 2008.

b. Occurrence of hydric soils

Soils across the entire site appear to be hydric. Based on site examination, Sawmill silty clay loam was found throughout the area. Sawmill is a poorly drained Cumulic Endoaquoll and is found on the Rock Island County hydric soils list. More specific soils information can be found within the wetland determination forms (Appendix A).

c. Presence of wetland hydrology

The ISGS estimated that the area that satisfied the wetland hydrology criteria for more than 5% of the 2008 growing season was 6.1 ha (15.1 acres) (Figure 3) (Fucciolo et al. 2008); this was a significant increase compared to that reported in the two previous monitoring years (Fucciolo et al. 2007, 2006). The area that satisfied the wetland hydrology criteria for more than 12.5% of the growing season in 2008 was 4.7 ha (11.6 acres) (Figure 3) (Fucciolo et al. 2008), a value very similar to that reported in previous monitoring years (Fucciolo et al. 2007, 2006). More detailed hydrologic information can be found in the ISGS annual report for active IDOT wetland compensation and hydrologic monitoring sites (Fucciolo et al. 2008).

**Milan Beltway, Airport Road Wetland Compensation Site
(FAU 5822)**

Estimated Areal Extent of 2008 Wetland Hydrology
based on data collected between September 1, 2007 and September 1, 2008
Map based on USGS digital orthophotograph, Milan SW quarter quadrangle
from 03/30/2000 aerial photography (ISGS 2005)

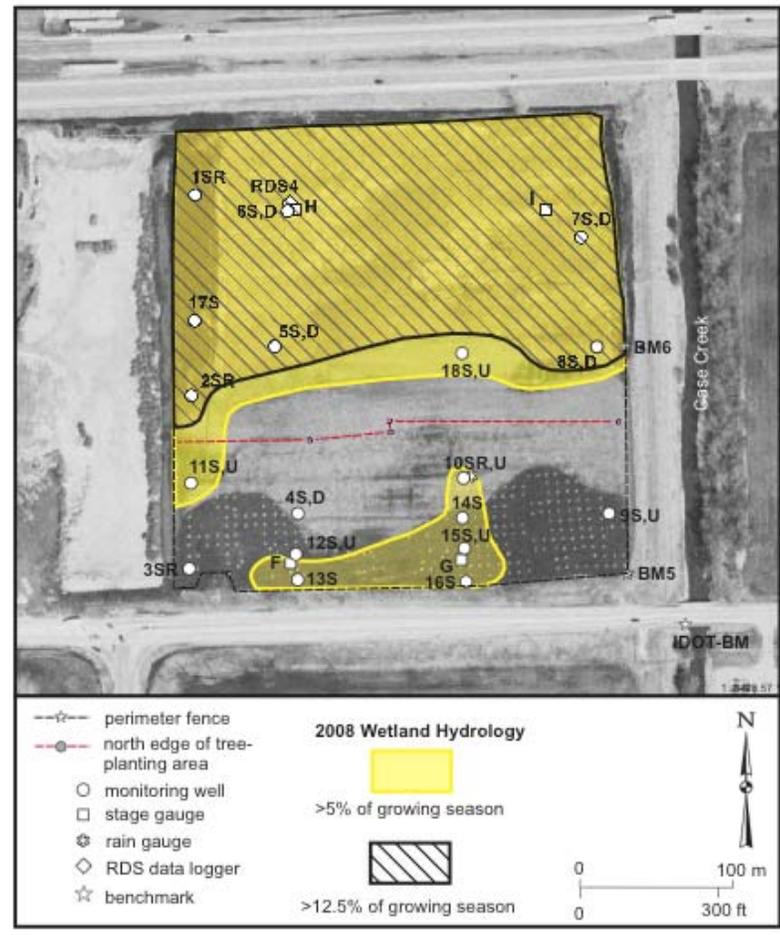


Figure 3. Areal extent of wetland hydrology at the Milan wetland compensation site, 2008 (courtesy of Steve Benton, ISGS (Fucciolo et al. 2008)).

Project goal 2

a. Planted species survivorship

Results of the planted tree count are shown in Table 5. Counts for sycamore and pin oak both exceeded the number supposedly planted; whether this was a counting error or whether more trees were actually planted is unclear. Tree survival, in any case, was very high, totaling 92.8% for 2008. Based on a calculated area of 2.8 hectares for the tree planted area, 183.9 trees/ha were found alive in 2008. This far exceeds the performance criteria of a minimum of 136 trees/ha.

Table 5. Number of trees counted and percent tree survival (by species).

Species	Common Name	Number Planted	Number Counted	% Survival
<i>Carya illinoensis</i>	Pecan	111	76	
<i>Fraxinus pennsylvanica</i>	Green Ash	111	110	
<i>Platanus occidentalis</i>	Sycamore	111	112	
<i>Quercus palustris</i>	Pin Oak	111	115	
<i>Quercus bicolor</i>	Swamp White Oak	111	102	
Dead (apparently)			39	
TOTAL (apparently live)		555	554	92.8%

b. Native species composition

Within the marsh community, 76.8% of the species present were non-weedy, native perennials and within the non-native grassland, 52.7%. However, within the tree planted area, only 40.0% of the plant species were non-weedy, native, perennials; when planted tree species were included this rose to 43.3%. The marsh and non-native grassland communities meet the minimum standard for native species composition (50%), while the tree planted area does not, even if planted tree species were included.

The calculated floristic quality index (FQI) for the marsh community was 19.9, with a mean coefficient of conservatism (mean C) of 2.6. The non-native grassland community showed a FQI of 13.3 and a mean C of 2.1. The tree planted area had a FQI of 13.1 and a mean C of 1.8 when excluding planted trees, as compared to 15.2 and 2.0 when they were included. The marsh can be considered to have marginally good floristic quality, while both the non-native grassland and the tree planted area show only fair floristic quality.

c. Dominance of vegetation

None of the three plant communities present on the wetland compensation site met the performance criteria for dominance of vegetation. Narrowleaf cattail (*Typha angustifolia*), an invasive, exotic species, is the only dominant in the marsh community. Within both the non-native grassland community and the tree planting area, awnless brome (*Bromus inermis*) and Kentucky bluegrass (*Poa pratensis*), both exotics, are dominants and among the three most prevalent species.

Discussion, Summary and Recommendations

After the third monitoring season in 2008, Project Goal 1 (creation of jurisdictional wetland) remains only partially met. Jurisdictional wetland habitat is definitively present only in the marsh community. Hydric soils are present throughout the site, but only in the marsh are both dominant hydrophytic vegetation and wetland hydrology also definitively present. When using the “more than 5% of the growing season” wetland hydrology criterion, a significant amount of area in both the non-native grassland and the tree planting area had also wetland hydrology in 2008; therefore, when including planted tree species as dominant vegetation, much of the central portion of the tree planted area was wetland in 2008 (Figure 3). Total wetland acreage in 2008 was 5.3 hectares (13.0 acres), this included the entire marsh (4.7 hectares (11.6 acres)) and a portion of the tree planted area (0.6 hectares (1.4 acres)). However, 2008 was considered an abnormally wet year and these results may not be typical of what can be expected in most years; no wetland hydrology was present in the tree planting area in 2006 or 2007 (Fucciolo et al. 2006, 2007). Continued hydrologic monitoring by the ISGS will determine whether or not wetland hydrology maintains itself in these wet areas and whether it develops in the other areas currently lacking. Dominant hydrophytic vegetation is lacking in the non-native grassland community and is present in the tree planting area only when including planted tree species. Based on agreement with the Army Corps of Engineers (USACE, Betker, personal communication 2006), including planted trees in the determination of dominant hydrophytic vegetation is acceptable. At this time, however, concerns about the presence of dominant hydrophytic vegetation are secondary in the non-native grassland community and the tree planted area, where wetland hydrology is yet to be conclusively established. If wetland hydrology becomes established in these areas, dominant hydrophytic vegetation should also develop.

Project goal 2 (meeting minimum standards for planted species survival and floristic composition) has also met with mixed results thus far. Planted tree survivorship, as measured in all three monitoring years, appears to be favorable. In 2008, well over 90% of planted trees were found alive and at a density of 183.9 trees/ha, well above the required performance criteria.

Minimum standards for native species composition were found to have been met in the marsh and non-native grassland community, but not in the tree planted area. Many annual and exotic species typical of disturbed, early successional communities were prevalent in this area. However, given that it is very likely that many of these species will disappear and that native perennials may take their place as the community develops and as planted trees grow and spread their shade, the Army Corps of Engineers is not particularly concerned about the composition of this herbaceous community (USACE, Betker, personal communication 2006).

Floristic quality within the marsh community appears to be good (FQI 19.9), while it appears fair within the non-native grassland and the planted tree area. The prevalence of awnless brome has a very negative impact on floristic quality; its active management could have a positive impact on the floristic quality. Within the tree planted area, as previously discussed, the Army Corps of Engineers is not particularly concerned with the herbaceous plant community (USACE, Betker, personal communication 2006), which is likely to improve over time as natural community succession proceeds.

All three plant communities have problems involving acceptable plant species dominance. The marsh community is dominated solely by narrowleaf cattail, an invasive exotic. This species is likely to persist and expand without herbicide control. However, the Army Corps of Engineers seems to accept the presence and dominance of this species (USACE, Betker, personal communication 2006), realizing that, in reality, little can be done to control it in the long run. The non-native grassland is greatly dominated by awnless brome. Like narrowleaf cattail, awnless brome is likely to persist and dominate without herbicide control; Kentucky bluegrass is also a dominant here, but is much less prevalent and is much less of a problem than awnless brome. Within the tree planted area, exotic awnless brome and Kentucky bluegrass are both dominants. However, they are not strongly dominant in this area and a variety of early successional species are present in this disturbed community. Natural floodplain forest community development may enable favorable dominant species to become prevalent over time. Also, as stated previously, the Army Corps of Engineers is not particularly concerned with the herbaceous community in this tree planted area (USACE, Betker, personal communication 2006).

In summary, the primary concern for this wetland compensation site is the development of wetland hydrology over the majority of the site. Based on the 2008 monitoring year, only 4.7 to 6.1 hectares of the site had wetland hydrology (depending on which wetland hydrology criterion is utilized). A secondary concern is the development of acceptable, dominant, native, hydrophytic plant communities. Total wetland acreage in 2008 was 5.3 hectares (13 acres).

Literature Cited

- Admiraal, A.N., M.J. Morris, T.C. Brooks, J.W. Olson, and M.V. Miller. 1997. Illinois wetland restoration and creation guide. Illinois Natural History Survey Special Publication 19. viii+188pp.
- Elmer, S.L. 2004. Soil survey of Rock Island County, Illinois. United States Department of Agriculture-Natural Resources Conservation Service in cooperation with Illinois Agricultural Experiment Station. 393 pp. + maps
- Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Technical Report Y-87-1.
- Federal Interagency Committee for Wetland Delineation. 1989. Federal manual for identifying and delineating jurisdictional wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication.
- Fucciolo, C. S., S. E. Benton, K. E. Bryant, K. W. Carr, C. W. Knight, J. J. Miner, E. T. Plankell, and G. E. Pociask. 2008. Annual report for active IDOT wetland compensation and hydrologic monitoring sites. Report submitted to the Illinois Department of Transportation, Bureau of Design and Environment, Wetlands Unit.

- Fucciolo, C. S., S. E. Benton, K. W. Carr, C. W. Knight, J. J. Miner, E. T. Plankell, G. E. Pociask, and B. J. R. Sperling. 2007. Annual report for active IDOT wetland compensation and hydrologic monitoring sites. Report submitted to the Illinois Department of Transportation, Bureau of Design and Environment, Wetlands Unit.
- Fucciolo, C. S., S. E. Benton, K. W. Carr, C. W. Knight, J. J. Miner, E. T. Plankell, G. E. Pociask, and B. J. R. Sperling. 2006. Annual report for active IDOT wetland compensation and hydrologic monitoring sites. Report submitted to the Illinois Department of Transportation, Bureau of Design and Environment, Wetlands Unit.
- Illinois Department of Transportation. 2002. Conceptual Wetland Compensation Plan for FAU 5822 Section 1-3 Milan Beltway Extension (West Rock River Crossing) Rock Island County, P92-096-84. 10p. + attachments.
- Reed, P. B., Jr. 1988. National list of plant species that occur in wetlands: Illinois. U.S. Fish and Wildlife Service, National Wetlands Inventory. NERC-88/18.13.
- Swink, F., and G. Wilhelm. 1994. Plants of the Chicago region. Indiana Academy of Science, Indianapolis.
- Taft, J. B., G.S. Wilhelm, D. M. Ladd, and L.A. Masters. 1997. Floristic quality assessment for vegetation in Illinois - a method for assessing vegetation integrity. *Erigenia* 15:3-95.
- US Army Corps of Engineers. 1993. Guidelines for developing mitigation proposals, Chicago District. September 1.
- US Army Corps of Engineers, John Betker personal communication. 2007. Meeting held at US Army Corps of Engineers office, Clock Tower Building, Rock Island, IL, April 24, 2007. Other attendees included personnel from Illinois Department of Transportation, Illinois Department of Natural Resources, Illinois State Geological Survey, and Illinois Natural History Survey.

Appendix A. Wetland Determination Forms

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Marsh (page 1 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois

County: Rock Island

Community Name: Marsh

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The northern portion of site, just south of I-280

Do normal environmental conditions exist at this area? Yes: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Typha angustifolia</i>	herb	OBL

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

Hydrophytic vegetation: Yes: No:

Rationale: More than 50% of the dominants are OBL, FACW, FACW+, FACW-, FAC+, or FAC.

SOILS

Series and phase: Sawmill silty clay loam (Cumulic Endoaquoll)

On county hydric soils list? Yes: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 5YR 4/4

Redox Depletions? Yes: No:

Matrix color: N 3/

Other indicators: None

Hydric soils? Yes: No:

Rationale: The Natural Resources Conservation Service identifies Sawmill silty clay loam as a Cumulic Endoaquoll which is poorly drained. The presence of redoximorphic concentrations within a gleyed matrix indicates conditions of saturation for significant duration during the growing season. Therefore, the soil at this site meets the hydric soil criteria. This soil meets NRCS hydric soil indicator A12 – thick dark surface.

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Marsh (page 2 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois

County: Rock Island

Community Name: Marsh

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The northern portion of site, just south of I-280

HYDROLOGY

Inundated: Yes: X (partially) No: Depth of standing water: Less than 0.15 m (6 in)

Depth to saturated soil: Inundated or saturated at the surface throughout much of the site

Overview of hydrological flow through the system: Hydrologic inputs include surface runoff (from I-280 and Airport Road), precipitation, and possible groundwater influence from the nearby Rock River. Hydrologic outputs include evapotranspiration and soil infiltration.

Size of watershed: <math> < 2.6 \text{ km}^2 < /math> (<math> < 1 \text{ mi}^2 < /math>), excluding any groundwater influence of the Rock River

Other field evidence observed: Surface saturation and inundation were observed, as were wetland drainage patterns and barren, cracked soil surfaces (from previously standing water).

Wetland hydrology: Yes: X No:

Rationale: Field evidence cited above, as well as ISGS data, indicates that this area is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X No:

Rationale: Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are all present.

Determined by: Brian Wilm and David Ketzner
(vegetation and hydrology)
Scott Wiesbrook (soils and hydrology)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 244-2176 (Wilm)
wilm@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Marsh (page 3 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois

County: Rock Island

Community Name: Marsh

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The northern portion of site, just south of I-280

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Acer negundo</i>	box elder	shrub, herb	FACW-	1
<i>Acer saccharinum</i>	silver maple	sapling, shrub, herb	FACW	1
<i>Agrostis alba</i>	red top	herb	FACW	0
<i>Alisma plantago-aquatica</i>	broad-leaf water-plantain	herb	OBL	2
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster lateriflorus</i>	side-flowered aster	herb	FACW-	2
<i>Aster pilosus</i>	hairy aster	herb	FACU+	0
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Bidens frondosa</i>	common beggar's ticks	herb	FACW	1
<i>Boehmeria cylindrica</i>	false nettle	herb	OBL	3
<i>Carex annectens</i>	large yellow fox sedge	herb	FACW	3
<i>Carex cristatella</i>	sedge	herb	FACW+	3
<i>Carex frankii</i>	sedge	herb	OBL	4
<i>Carex lanuginosa</i>	wooly sedge	herb	OBL	4
<i>Carex stipata</i>	prickly sedge	herb	OBL	2
<i>Carex vulpinoidea</i>	fox sedge	herb	OBL	3
<i>Cirsium arvense</i>	Canada thistle	herb	FACU	*
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub	FAC	2
<i>Cornus obliqua</i>	pale dogwood	herb	FACW+	4
<i>Cyperus strigosus</i>	straw-colored flatsedge	herb	FACW	0
<i>Dipsacus laciniatus</i>	cut-leaved teasel	herb	UPL	*
<i>Eleocharis erythropoda</i>	spike rush	herb	OBL	3
<i>Epilobium coloratum</i>	cinnamon willow herb	herb	OBL	3
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Fraxinus pennsylvanica</i>	green ash	sapling, shrub	FACW	2
<i>Geum laciniatum</i>	rough avens	herb	FACW	2
<i>Gleditsia triacanthos</i>	honey locust	herb	FAC	2
<i>Hordeum jubatum</i>	squirrel-tail	herb	FAC+	*
<i>Juncus dudleyi</i>	Dudley's rush	herb	FAC	4
<i>Juncus torreyi</i>	Torrey's rush	herb	FACW	3
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lemna minor</i>	common duckweed	herb	OBL	3

*Species not native to Illinois

(Species list continued on next page.)

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Marsh (page 4 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois

County: Rock Island

Community Name: Marsh

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The northern portion of site, just south of I-280

SPECIES LIST (Continued)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Ludwigia polycarpa</i>	false loosestrife	herb	OBL	5
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Lysimachia nummularia</i>	moneywort	herb	FACW+	*
<i>Lythrum alatum</i>	winged loosestrife	herb	OBL	5
<i>Lythrum salicaria</i>	purple loosestrife	herb	OBL	*
<i>Mimulus ringens</i>	monkey flower	herb	OBL	5
<i>Morus alba</i>	white mulberry	shrub, herb	FAC	*
<i>Penthorum sedoides</i>	ditch stonecrop	herb	OBL	2
<i>Phalaris arundinacea</i>	reed canary grass	herb	FACW+	*
<i>Phragmites australis</i>	common red reed	herb	FACW+	1
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Physostegia virginiana</i>	false dragonhead	herb	FACW	6
<i>Polygonum amphibium</i>	water smartweed	herb	OBL	3
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Polygonum</i> sp.	smartweed	herb	----	--
<i>Populus deltoides</i>	eastern cottonwood	tree, sapling, shrub	FAC+	2
<i>Quercus palustris</i>	pin oak	herb	FACW	4
<i>Rhamnus cathartica</i>	common buckthorn	herb	FACU	*
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Sagittaria latifolia</i>	arrowhead	herb	OBL	4
<i>Salix amygdaloides</i>	peach-leaved willow	tree, sapling, shrub	FACW	4
<i>Salix exigua</i>	sandbar willow	shrub	OBL	1
<i>Salix nigra</i>	black willow	tree, sapling, shrub	OBL	3
<i>Scirpus atrovirens</i>	dark green bulrush	herb	OBL	4
<i>Scirpus fluviatilis</i>	river bulrush	herb	OBL	3
<i>Scutellaria lateriflora</i>	mad-dog skullcap	herb	OBL	4
<i>Senecio pauperculus</i>	balsam groundsel	herb	FAC+	3
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Solidago gigantea</i>	late goldenrod	herb	FACW	3
<i>Toxicodendron radicans</i>	poison ivy	herb	FAC+	1
<i>Typha angustifolia</i>	narrow-leaved cattail	herb	OBL	*
<i>Typha latifolia</i>	cattail	herb	OBL	1
<i>Ulmus americana</i>	American elm	shrub, herb	FACW-	5
<i>Verbena hastata</i>	blue vervain	herb	FACW+	3
<i>Vitis riparia</i>	riverbank grape	herb	FACW-	2
<i>Xanthium strumarium</i>	cocklebur	herb	FAC	0

*Species not native to Illinois

$$FQI = R/\sqrt{N} = 153/\sqrt{59} = 19.9$$

$$\text{mean } C = R/N = 153/59 = 2.6$$

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Non-native Grassland (page 1 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Non-native Grassland

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The central portion of site, between the marsh and the tree planted area

Do normal environmental conditions exist at this area? Yes: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Bromus inermis</i>	herb	UPL
2. <i>Eupatorium serotinum</i>	herb	FAC+
3. <i>Poa pratensis</i>	herb	FAC-
4. <i>Solidago canadensis</i>	herb	FACU

Percentage of dominant species that are OBL, FACW, FACW+, FACW-, FAC+, or FAC: 25%

Hydrophytic vegetation: Yes: No:

Rationale: Less than 50% of the dominants are OBL, FACW, FACW+, FACW-, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Sawmill silty clay loam and Coffeen silt loam; revised to Sawmill silty clay loam (Cumulic Endoaquoll)

On county hydric soils list? Yes: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 5YR 4/4

Redox Depletions? Yes: No:

Matrix color: 2.5 Y 2.5/1 over N 3/ over 2.5Y 3/1 and 4/1

Other indicators: None

Hydric soils? Yes: No:

Rationale: The Natural Resources Conservation Service identifies Sawmill as a Cumulic Endoaquoll which is poorly drained. The presence of redoximorphic concentrations within a low chroma matrix indicates conditions of saturation for significant duration during the growing season. Therefore, the soil at this site meets the hydric soil criteria. This soil meets NRCS hydric soil indicator A12 – thick dark surface.

ROUTINE ONSITE WETLAND DETERMINATION
 Wetland Compensation for Milan Beltway-Milan Site
 Non-native Grassland (page 2 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Non-native Grassland

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The central portion of site, between the marsh and the tree planted area

HYDROLOGY

Inundated: Yes: No: X

Depth of standing water: None

Depth to saturated soil: Greater than 0.61 m (24 in)

Overview of hydrological flow through the system: Hydrologic inputs include surface runoff (from I-280 and Airport Road), precipitation, and possible groundwater influence from the nearby Rock River. Hydrologic outputs include evapotranspiration and soil infiltration.

Size of watershed: <2.6 km² (<1 mi²), excluding any groundwater influence of the Rock River

Other field evidence observed: None

Wetland hydrology: Yes: X (partially) No:

Rationale: No field indicators of wetland hydrology were observed. However, ISGS data indicated that the wetland hydrology criteria had been met for part of this area (when using the “more than 5% of the growing season” wetland hydrology criterion) (Fucciolo et al. 2008).

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: No: X

Rationale: Hydric soils are present, but dominant hydrophytic vegetation is absent and wetland hydrology is only partially present.

Determined by: Brian Wilm and David Ketzner
 (vegetation and hydrology)
 Scott Wiesbrook (soils and hydrology)
 Illinois Natural History Survey
 1816 South Oak Street
 Champaign, Illinois 61820
 (217) 244-2176 (Wilm)
wilm@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION
 Wetland Compensation for Milan Beltway-Milan Site
 Non-native Grassland (page 3 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Non-native Grassland

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The central portion of site, between the marsh and the tree planted area

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Abutilon theophrasti</i>	velvet-leaf	herb	FACU-	*
<i>Acer negundo</i>	box elder	shrub	FACW-	1
<i>Acer saccharinum</i>	silver maple	herb	FACW	1
<i>Amaranthus tuberculatus</i>	tall waterhemp	herb	OBL	1
<i>Ammannia coccinea</i>	long-leaved ammannia	herb	OBL	5
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Asclepias syriaca</i>	common milkweed	herb	UPL	0
<i>Asclepias verticillata</i>	horsetail milkweed	herb	UPL	1
<i>Aster pilosus</i>	hairy aster	herb	FACU+	0
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Bidens connata</i>	purplestem beggar's ticks	herb	OBL	2
<i>Bromus inermis</i>	awnless brome grass	herb	UPL	*
<i>Carex</i> sp.	sedge	herb	----	--
<i>Cassia fasciculata</i>	partridge pea	herb	FACU-	1
<i>Catalpa</i> sp.	catalpa	shrub	----	--
<i>Cirsium arvense</i>	Canada thistle	herb	FACU	*
<i>Cirsium discolor</i>	pasture thistle	herb	UPL	3
<i>Cirsium vulgare</i>	bull thistle	herb	FACU-	*
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub, herb	FAC	2
<i>Cyperus esculentus</i>	yellow nut-sedge	herb	FACW	0
<i>Cyperus strigosus</i>	straw-colored flatsedge	herb	FACW	0
<i>Daucus carota</i>	Queen Anne's lace	herb	UPL	*
<i>Dipsacus laciniatus</i>	cut-leaved teasel	herb	UPL	*
<i>Eleocharis erythropoda</i>	spike rush	herb	OBL	3
<i>Eleocharis obtusa</i>	blunt spike rush	herb	OBL	2
<i>Erechtites hieracifolia</i>	fire weed	herb	FACU	2
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Fraxinus pennsylvanica</i>	green ash	shrub, herb	FACW	2
<i>Geum canadense</i>	white avens	herb	FAC	2
<i>Geum laciniatum</i>	rough avens	herb	FACW	2
<i>Gleditsia triacanthos</i>	honey locust	herb	FAC	2
<i>Hordeum jubatum</i>	squirrel-tail	herb	FAC+	*

*Species not native to Illinois

(Species list continued on next page.)

ROUTINE ONSITE WETLAND DETERMINATION
 Wetland Compensation for Milan Beltway-Milan Site
 Non-native Grassland (page 4 of 4)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Non-native Grassland

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The central portion of site, between the marsh and the tree planted area

SPECIES LIST (Continued)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Juncus dudleyi</i>	Dudley's rush	herb	FAC	4
<i>Juniperus virginiana</i>	eastern red cedar	shrub, herb	FACU	1
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Lythrum alatum</i>	winged loosestrife	herb	OBL	5
<i>Oenothera biennis</i>	evening primrose	herb	FACU	1
<i>Phalaris arundinacea</i>	reed canary grass	herb	FACW+	*
<i>Poa pratensis</i>	Kentucky bluegrass	herb	FAC-	*
<i>Polygonum hydropiper</i>	common smartweed	herb	OBL	*
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Populus deltoides</i>	eastern cottonwood	tree, sapl, shrub, herb	FAC+	2
<i>Quercus palustris</i>	pin oak	herb	FACW	4
<i>Rumex altissimus</i>	pale dock	herb	FACW-	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Salix amygdaloides</i>	peach-leaved willow	shrub	FACW	4
<i>Scirpus atrovirens</i>	dark green bulrush	herb	OBL	4
<i>Scirpus cyperinus</i>	wool grass	herb	OBL	5
<i>Senecio pauperculus</i>	balsam groundsel	herb	FAC+	3
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Toxicodendron radicans</i>	poison ivy	herb	FAC+	1
<i>Typha angustifolia</i>	narrow-leaved cattail	herb	OBL	*
<i>Vitis riparia</i>	riverbank grape	herb	FACW-	2
<i>Xanthium strumarium</i>	cocklebur	herb	FAC	0

*Species not native to Illinois

$$FQI = R/\sqrt{N} = 85/\sqrt{41} = 13.3$$

$$\text{mean } C = R/N = 85/41 = 2.1$$

ROUTINE ONSITE WETLAND DETERMINATION
 Wetland Compensation for Milan Beltway-Milan Site
 Tree Planted Area (page 2 of 5)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Tree Planted Area

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The southern portion of site, just north of airport road

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: None

Depth to saturated soil: Surface to greater than 0.61 m (24 in)

Overview of hydrological flow through the system: Hydrologic inputs include surface runoff (from I-280 and Airport Road), precipitation, and possible groundwater influence from the nearby Rock River. Hydrologic outputs include evapotranspiration and soil infiltration.

Size of watershed: <2.6 km² (<1 mi²), excluding any groundwater influence of the Rock River

Other field evidence observed: None.

Wetland hydrology: Yes: X (partially) No:

Rationale: No field indicators of wetland hydrology were observed. However, ISGS data indicated that the wetland hydrology criteria had been met for part of this area (when using the “more than 5% of the growing season” wetland hydrology criterion) (Fucciolo et al. 2008).

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X (partially) No:

Rationale: Hydric soils are present throughout this area and dominant hydrophytic vegetation is present when including planted tree species. Based on ISGS data, wetland hydrology is also present for much of the central portion of the area (Figure 3).

Determined by: Brian Wilm, David Ketzner, and Allen Plocher
 (vegetation and hydrology)
 Scott Wiesbrook and Dennis Keene (soils and hydrology)
 Illinois Natural History Survey
 1816 South Oak Street
 Champaign, Illinois 61820
 (217) 244-2176 (Wilm)
wilm@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION
 Wetland Compensation for Milan Beltway-Milan Site
 Tree Planted Area (page 3 of 5)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Tree Planted Area

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The southern portion of site, just north of airport road

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Abutilon theophrasti</i>	velvet-leaf	herb	FACU-	*
<i>Acer negundo</i>	box elder	shrub, herb	FACW-	1
<i>Agropyron repens</i>	quack grass	herb	FACU	*
<i>Allium vineale</i>	field garlic	herb	FACU	*
<i>Amaranthus tuberculatus</i>	tall waterhemp	herb	OBL	1
<i>Ambrosia artemisiifolia</i>	common ragweed	herb	FACU	0
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0
<i>Ammannia coccinea</i>	long-leaved ammannia	herb	OBL	5
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Asclepias syriaca</i>	common milkweed	herb	UPL	0
<i>Asclepias verticillata</i>	horsetail milkweed	herb	UPL	1
<i>Aster pilosus</i>	hairy aster	herb	FACU+	0
<i>Aster simplex</i>	panicled aster	herb	FACW	3
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Boltonia asteroides</i>	false aster	herb	FACW	5
<i>Bromus commutatus</i>	hairy brome	herb	UPL	*
<i>Bromus inermis</i>	awnless brome grass	herb	UPL	*
<i>Carduus nutans</i>	musk bristle thistle	herb	UPL	*
<i>Carex annectens</i>	large yellow fox sedge	herb	FACW	3
<i>Chamaesyce maculata</i>	nodding spurge	herb	FACU-	0
<i>Cirsium arvense</i>	Canada thistle	herb	FACU	*
<i>Cirsium discolor</i>	pasture thistle	herb	UPL	3
<i>Cirsium vulgare</i>	bull thistle	herb	FACU-	*
<i>Conyza canadensis</i>	horseweed	herb	FAC-	0
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub, herb	FAC	2
<i>Cynanchum laeve</i>	blue vine	herb	FAC	1
<i>Cyperus esculentus</i>	yellow nut-sedge	herb	FACW	0
<i>Daucus carota</i>	Queen Anne's lace	herb	UPL	*
<i>Echinacea purpurea</i>	broad-leaved purple coneflower	herb	UPL	6
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eleocharis erythropoda</i>	spike rush	herb	OBL	3
<i>Epilobium coloratum</i>	cinnamon willow herb	herb	OBL	3
<i>Erechtites hieracifolia</i>	fire weed	herb	FACU	2
<i>Erigeron annuus</i>	annual fleabane	herb	FAC-	1
<i>Eupatorium altissimum</i>	tall boneset	herb	FACU	2

*Species not native to Illinois

(Species list continued on next page.)

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Tree Planted Area (page 4 of 5)

Field Investigators: Wilm, Wiesbrook, and Ketzner**Dates:** July 31 and August 14, 2008**Project Name:** FAU 5822 (Milan Beltway-Milan Site)**IDOT District:** 2**State:** Illinois **County:** Rock Island **Community Name:** Tree Planted Area**Legal Description:** NW/4, NE/4, Section 19, T. 17 N., R. 1 W**Location:** The southern portion of site, just north of airport road

SPECIES LIST (Continued)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Fraxinus pennsylvanica</i>	green ash	shrub, herb	FACW	2
<i>Hordeum jubatum</i>	squirrel-tail	herb	FAC+	*
<i>Ipomoea hederacea</i>	ivy-leaved morning glory	herb	FAC	*
<i>Iva annua</i>	marsh elder	herb	FAC	0
<i>Juniperus virginiana</i>	eastern red cedar	shrub, herb	FACU	1
<i>Lactuca serriola</i>	prickly lettuce	herb	FAC	*
<i>Lepidium virginicum</i>	common peppergrass	herb	FACU-	0
<i>Lolium perenne</i>	crested rye grass	herb	FACU	*
<i>Lotus corniculatus</i>	birdsfoot-trefoil	herb	FAC-	*
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Medicago sativa</i>	alfalfa	herb	UPL	*
<i>Melilotus alba</i>	white sweet clover	herb	FACU	*
<i>Monarda fistulosa</i>	wild bergamot	herb	FACU	4
<i>Oenothera biennis</i>	evening primrose	herb	FACU	1
<i>Oxalis stricta</i>	yellow wood sorrel	herb	FACU	0
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Physalis subglabrata</i>	smooth ground cherry	herb	UPL	0
<i>Plantago lanceolata</i>	narrow-leaved plantain	herb	FAC	*
<i>Plantago rugelii</i>	red-stalked plantain	herb	FAC	0
<i>Poa pratensis</i>	Kentucky bluegrass	herb	FAC-	*
<i>Polygonum amphibium</i>	water smartweed	herb	OBL	3
<i>Polygonum hydropiper</i>	common smartweed	herb	OBL	*
<i>Polygonum lapathifolium</i>	curttop lady's thumb	herb	FACW+	0
<i>Polygonum persicaria</i>	spotted lady's thumb	herb	FACW	*
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Polygonum ramosissimum</i>	bushy knotweed	herb	FAC-	3
<i>Polygonum sp.</i>	smartweed	herb	----	--
<i>Populus deltoides</i>	eastern cottonwood	tree, sapl, shrub, herb	FAC+	2
<i>Prunus serotina</i>	wild black cherry	herb	FACU	1
<i>Ratibida pinnata</i>	drooping coneflower	herb	UPL	4
<i>Rubus allegheniensis</i>	common blackberry	shrub	FACU+	2
<i>Rudbeckia hirta</i>	black-eyed Susan	herb	FACU	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Senecio pauperculus</i>	balsam groundsel	herb	FAC+	3

*Species not native to Illinois
(Species list continued on next page.)

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Milan Site
Tree Planted Area (page 5 of 5)

Field Investigators: Wilm, Wiesbrook, and Ketzner

Dates: July 31 and August 14, 2008

Project Name: FAU 5822 (Milan Beltway-Milan Site)

IDOT District: 2

State: Illinois **County:** Rock Island **Community Name:** Tree Planted Area

Legal Description: NW/4, NE/4, Section 19, T. 17 N., R. 1 W

Location: The southern portion of site, just north of airport road

SPECIES LIST (Continued)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Setaria faberi</i>	giant foxtail	herb	FACU+	*
<i>Setaria glauca</i>	pigeon grass	herb	FAC	*
<i>Solanum carolinense</i>	horse nettle	herb	FACU-	0
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Sonchus asper</i>	prickly sowthistle	herb	FAC	*
<i>Sporobolus asper</i>	drop seed	herb	UPL	3
<i>Suaeda depressa</i>	sea blite	herb	FACW	*
<i>Trifolium hybridum</i>	alsike clover	herb	FAC-	*
<i>Trifolium pratense</i>	red clover	herb	FACU+	*
<i>Trifolium repens</i>	white clover	herb	FACU+	*
<i>Ulmus pumila</i>	Siberian elm	tree, herb	UPL	*
<i>Verbena hastata</i>	blue vervain	herb	FACW+	3
<i>Verbena urticifolia</i>	white vervain	herb	FAC+	3
<i>Vitis riparia</i>	riverbank grape	herb	FACW-	2

*Species not native to Illinois

$$FQI = R/\sqrt{N} = 97/\sqrt{55} = 13.1$$

$$\text{mean } C = R/N = 97/55 = 1.8$$

Planted Saplings
SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism
<i>Carya illinoensis</i>	pecan	shrub	FACW	6
<i>Fraxinus pennsylvanica</i>	green ash	sapling	FACW	2
<i>Platanus occidentalis</i>	sycamore	sapling	FACW	3
<i>Quercus bicolor</i>	swamp white oak	sapling	FACW+	7
<i>Quercus palustris</i>	pin oak	sapling	FACW	4

$$FQI = R/\sqrt{N} = 117/\sqrt{59} = 15.2$$

$$\text{mean } C = R/N = 117/59 = 2.0$$

(These calculations include the complete species list above, as well as the planted trees.)

Appendix B. Photographs of Wetland Mitigation Sites



Figure 1. Photo station 1, facing west.



Figure 2. Photo station 2, facing west.



Figure 3. Photo station 3, facing west.



Figure 4. Photo station 4, facing east.



Figure 5. Photo station 5, facing east.



Figure 6. Photo station 5, facing north.



Figure 7. Photo station 6, facing east.