T R A N S M I T T A L F O R M

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

Route and Location

Title: FAU 5822 (Milan Beltway, Rock Island Site)
Location: Milan Beltway/52nd Ave. Interchange
County: Rock Island
Applicant: IDOT District 2
Job Number: P-92-096-84 (BDE Seq. No. 67)
Section Number: 1-3

Survey Conducted By: Ian Draheim, Brian Wilm, Jason Zylka, and Brad Zercher (maps)
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Date Conducted: 19 August 2008

Project Summary:
Wetland mitigation monitoring was conducted for the first year on the site created as wetland compensation for FAU 5822 (Milan Beltway, Rock Island Site) 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. Tree planting lists and a printout of the digital orthoquads (DOQs) of the sites are also included. Appendices contain the wetland determination forms (including full species lists) and photographs.

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

Date: _____

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

Date: _____

WETLAND MITIGATION SITE MONITORING REPORT

FAU 5822 (Milan Beltway) Rock Island County – Rock Island Site

Introduction

This report details monitoring of the wetland mitigation site (Rock Island Site) created to compensate for impacts associated with FAU 5822 (Milan Beltway). The Rock Island Site is made up of five sites located along the Milan Beltway and 52nd Ave. interchange in Rock Island County, Illinois (legal location – T17N, R1W Sec. 18, NE ¼, S 1/2). All five sites have been planted with trees. The Rock Island Site is located in the Lower Rock River basin (United States Geological Survey hydrologic unit 07090005). On-site monitoring is planned for five years and was conducted for the first time on 19 August 2008. All trees except for the pecan and shagbark hickory had apparently been planted at the time of monitoring; conditions were too wet to plant these species in the spring of 2008. Each tree planting site (A/B-E) was mapped using a Trimble Global Positioning System (GPS) by walking the outside edge of every tree planting. In all, the five sites make up approximately 3.177 ha (7.852 ac) in size (not including a planted buffer site that is 0.056 ha (0.138 ac) in size). Site location was overlain on digital orthophoto quadrangles (DOQs) and its approximate acreage was determined using ArcView 3.2. Printouts of the DOQs (Figure 1), as well as a soils map (Figure 2) and wetland hydrology map (Figure 3), are included with this report. GIS generated site maps are posted on the IDOT FTP site.

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. 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 five year monitoring period. Goals, objectives, and performance criteria are outlined below.

Project goal 1: To replace filled wetlands with restored or created ones. The amount of replacement wetlands should exceed the amount filled. The replacement wetlands should be jurisdictional.

> **Objective**: Restore 1.96 ha of farmed wetlands to forested wetlands, create 1.65 ha of forested wetlands from uplands and prior converted farmland, preserve 0.76 ha of forested wetlands, and plant 0.12 ha of forested buffer on uplands. Total area of replacement wetlands would be approximately 3.51 ha.
>
> **Performance criteria**:
> a. Predominance of hydrophytic vegetation: More than 50% of the dominant plant species must be hydrophytic.
> b. Presence 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 compensation 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 replacement wetlands should emulate natural ones; that is, they should be dominated by native plants.

Objectives: Planting tree species will create a forested wetland. The tree species planted will be native to the Rock River floodplain. The Rock Island Site will be disked and herbicided as needed and seeded with an herbaceous cover primarily composed of *Secale cereale* (annual rye), *Phleum pratense* (timothy), and *Agrostis alba* (red top).

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.

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 wetland vegetation in the plant community exists if more than 50% of the dominant species present are hydrophytic.

b. Presence 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

Illinois State Geological Survey (ISGS) personnel have installed a variety of hydrologic monitoring devices at the site and will be responsible for monitoring site hydrology. Monitoring wells were not

installed at Site D until October of 2008; therefore, no monitoring well data is available for this site in 2008.

Project goal 2

a. Planted species survivorship

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

Table 1. Tree species planted at the Rock Island Site (Final planting date spring 2008).

Scientific Name	Common Name	Quantity Per Site					Total
		A	B	C	D	E	
Platanus occidentalis	Sycamore	43	25	59	86	79	292
Quercus bicolor	Swamp White Oak	49	25	56	86	79	295
Quercus palustris	Pin Oak	42	15	59	**	79	195
Carya illinoesis^	Pecan^	30^	**	36^	80^	**	146^
Carya ovata^	Shagbark Hickory^	**	**	10^	**	**	10^
Quercus macrocarpa	Bur Oak	**	**	11	**	**	11
Total		**164**	**65**	**231**	**252**	**237**	**949**

^ *The pecan and shagbark hickory were planned to be planted in the spring of 2008, but conditions were too wet for planting in 2008.*

All of the trees were to be 4.4 cm (1.75 in) caliper balled and burlaped or container grown trees. Survivorship and density of planted trees was determined through a census of each site (Sites A and B were treated as one site, as the Augustana property line (which separates the two sites) was not clearly recognized in the field. All live trees were counted. Dead trees were also 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 sites (A/B-E). 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 greater than 1, excluding *Acer saccharinum*, *Bidens frondosa*, and *Polygonum pensylvanicum*.

Included with the assessment of a site is its Floristic Quality Index (Taft *et al.* 1997). Although the Index is not a substitute for quantitative vegetation analysis in assessing plant communities, it provides a measure of the floristic integrity or level of disturbance of a site. Each native plant species is assigned a rating between 0 and 10 (the Coefficient of Conservatism) that is a subjective indicator of how likely a plant is to be found on an undisturbed site in a natural plant community. A plant species that has a low Coefficient of Conservatism (C) is common and is likely to tolerate disturbed conditions; a species with a high C is relatively rare and is likely to require specific, undisturbed habitats. Specimens not identified to species level are not rated and are not included in the calculations.

The Floristic Quality Index (FQI) is calculated as follows: $FQI = R/\sqrt{N}$, where R represents the sum of the numerical ratings (C) for all species recorded for a site, and N represents the number of native plant species on the site. The mean C value (also known as mean rated quality) was also calculated for each site. This value is calculated as follows: $mCv = R/N$. The C value for each species is shown in the species list for the site. Species not native to Illinois (indicated by * in the

species list for each site) are not included in calculations. An Index score below 10 suggests a site of low natural quality; below five, a highly disturbed site. A FQI value of 20 or more (mCv > 3.0) suggests that a site has evidence of native character and may be considered an environmental asset.

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

Photography stations were established around the perimeter of Sites A/B-E (nine stations in total), in an attempt to document changes in the plant communities over time. Photo stations locations can be found on Figure 1. Photographs are contained in Appendix B.

Results

Project goal 1

a. Predominance of hydrophytic vegetation

Dominant plant species for all five sites are found in Tables 2-6. Sites C, D, and E were the only sites to have dominant hydrophytic vegetation.

Table 2. Dominant plant species for the tree planted area in sites A and B, August 2008.

Dominant Plant Species	Indicator Status	Stratum
1. *Solidago canadensis*	FACU	herb
2. *Phalaris arundinacea*	FACW+	herb

Table 3. Dominant plant species for the tree planted area in Site C, August 2008.

Dominant Plant Species	Indicator Status	Stratum
1. *Echinochloa muricata*	OBL	herb

Table 4. Dominant plant species for the tree planting in the upland buffer in Site C, August 2008.

Dominant Plant Species	Indicator Status	Stratum
1. *Setaria faberi*	FACU+	herb
2. *Echinochloa muricata*	OBL	herb
3. *Solidago canadensis*	FACU	herb

Table 5. Dominant plant species for the tree planted area in Site D, August 2008.

Dominant Plant Species	Indicator Status	Stratum
1. *Typha latifolia*	OBL	herb

Table 6. Dominant plant species for the tree planted area in Site E, August 2008.

Dominant Plant Species	Indicator Status	Stratum
1. *Agrostis Alba*	FACW	herb
2. *Echinochloa muricata*	OBL	herb
3. *Festuca pratensis*	FACU-	herb
4. *Melilotus alba*	FACU	herb
5. *Phalaris arundinacea*	FACW+	herb

b. Occurrence of hydric soils

Otter silt loam, Orion silt loam, Coffeen silt loam, and Sawmill silty clay loam are the soils mapped in the five sites of the Rock Island Site by the NRCS. Otter silt loam and Sawmill silty clay loam are hydric soils, while the others are not. All of these soils were present at the Rock Island Site. The soils across the entire tracts of Sites C, D, and E appear to be hydric. Based on site examination, Otter silt loam was found throughout Site C (Figure 2). Otter is a poorly drained Cumulic Endoaquoll and is found on the Rock Island County hydric soils list. The soils at Sites D and E have been disturbed and were not identified. Most of Site A/B appears to be hydric. Only a small tract along the east side of the site was mapped as non-hydric. The hydric portions were mapped as Sawmill silty clay loam. Sawmill is a poorly drained Cumulic Endoaquoll and is found on the Rock Island County hydric soils list. The non-hydric portions of Site A/B were mapped as Orion silt loam. Orion is a somewhat poorly drained Aquic Udifluvent and it does not appear on the Rock Island County hydric soils list. The upland buffer in Site C was mapped as the non-hydric Coffeen silt loam. Coffeen is a somewhat poorly drained Fluvaquentic Hapludoll and it does not appear 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 1.48 ha (3.67 ac) (Benton et al., 2008). This included 0.72 ha (1.79 ac) of Site A/B, and 0.76 ha (1.87 ac) of Site C. These are the only areas in the Rock Island Site that satisfied the wetland hydrology criteria during 2008 (Figure 3). Although monitoring wells were not installed in Site D in 2008, the presence of hydrologic indicators demonstrates that this site has wetland hydrology. This site is 1.032 ha (2.551 ac) in size. None of the wetland mitigation areas satisfied wetland hydrology criteria for more than 12.5% of the growing season. More detailed hydrologic information can be found in the ISGS annual report for active IDOT wetland compensation and hydrologic monitoring sites (Benton et al. 2008).

Project goal 2

a. Planted species survivorship

Results of the planted tree count are shown in Table 7 (percent survival is shown by site and by the Rock Island Site as a whole). The pecan and shagbark hickory were not planted because the site was too wet in their planned year of planting (spring of 2008). Tree survival appeared to be high throughout all sites, with the exception of Site D. Site D was especially wet at the time of the field visit, which most likely accounted for a 56.7% loss. In all, 80.7% survival was reported for 2008. Based on a calculated area of 3.233 hectares for all five sites, 215.3 trees/ha were found alive in 2008. This exceeds the performance criteria of a minimum of 136 trees/ha.

Table 7. Number of trees counted and percent tree survival by site (and by species).

Species	Common Name	Number Planted Per Site				Number Counted Per Site				% Survival			
		A/B	C	D	E	A/B	C	D	E	A/B	C	D	E
Platanus occidentalis	Sycamore	68	59	86	79	68	56	76	79	100.0	94.9	88.4	100.0
Quercus bicolor	Swamp White Oak	74	56	86	79	74	40	15	77	100.0	71.4	17.4	97.5
Quercus palustris	Pin Oak	57	59	**	79	58	55	18	80	102.0	93.2	N/A	101.3
Carya illinoesis	Pecan	30^	36^	80^	**	0^	0^	0^	**	N/A	N/A	N/A	**
Carya ovata	Shagbark Hickory	**	10^	**	**	**	0^	**	**	**	N/A	**	**
Quercus macrocarpa	Bur Oak	**	11†	**	**	**	10†	**	**	**	86.8	**	**
Dead						4	13	143	1				
Total (alive)		199	174	252	237	200	151	109	236	100.5	87.0	43.3	99.6

^ Not planted. Too wet to plant in 2008. These values are not included in percent survival calculations.
† Planted in upland buffer in Site C. These values are not included in percent survival calculations for wetland sites.
Note: Percent survival for the entire Rock Island Site = 80.7% (696 present and living/862 planted)

b. Native species composition

Within the whole Rock Island Site, 47.3% of the species present were non-weedy, native perennials. This does not include the upland buffer in Site C. Here, 37.5% of the species present were non-weedy, native perennials. Table 8 shows the native species composition for each site.

Table 8. Number of non-weedy, native species and percent non-weedy, native species by site.

Site	Total Species	Non-weedy, Native Species	% Non-weedy, Native
A/B	58	28	48.3
C	42	21	50.0
Upland C	16	6	37.5
D	12	4	33.3
E	70	33	47.1

Note: Percentage of non-weedy, native species for the entire Rock Island Site (does not include upland buffer in Site C) = 47.3 %

The calculated floristic quality index (FQI) and mean coefficient of conservatism (mCv) for each of the sites is shown below in Table 9. The Rock Island Site had a collective FQI and mCv of 11.8 and 2.0, respectively (not including the upland buffer in Site C). As a whole, the Rock Island Site can be considered to have a fair floristic quality. As Table 9 shows below, sites A/B, C, and E individually are considered to have a fair floristic quality, while Site D has a very low floristic quality and is considered to be a highly disturbed site. The upland buffer in Site C had an FQI of 5.8 and a mCv of 1.6, indicating poor floristic quality.

Table 9. FQI and mCv values for each site at the Rock Island Site.

Site	FQI	mCv

A/B	14.6	2.2
C	10.7	1.8
Upland C	5.8	1.6
D	3.8	1.2
E	16.2	2.3

c. Dominance of vegetation

None of the sites at the Rock Island Site met the performance criteria for dominance of vegetation. All sites were dominated by non-native or weedy species, which is to be expected at a newly constructed site. Non-native, weedy species like reed canary grass (*Phalaris arundinacea*) has the potential to overtake a site and make it a monoculture. Refer back to Tables 2-6 for a complete list of vegetation dominants for each site.

Discussion, Summary and Recommendations

After the first monitoring season, Project Goal 1 (creation of jurisdictional wetland) has partially been met. Wetland habitat appears to be present throughout Sites C (not including the upland buffer) and D. Site A/B contains hydric soils through most of the site excluding a small strip along the eastern edge, but the entire site lacks hydrophytic vegetation. Much of this site also lacks wetland hydrology indicated by ISGS well data. While Site E contains hydric soils and dominant hydrophytic vegetation, it too lacks wetland hydrology, indicated by ISGS well data. Continued hydrologic monitoring by the ISGS will determine whether or not wetland hydrology develops (or is maintained) throughout the Rock Island Site.

Project goal 2 (meeting minimum standards for planted species survival and floristic composition) has also partially been met. Planted tree survivorship, as measured in 2008, appears to be favorable on the whole. The entire Rock Island Site enjoyed an 80.7% survival rate. Planted trees currently exist at a density of 223.4 trees/ha in 2008--well above the required performance criteria of 136 ha/acre. Site D was the only site that experienced significant tree loss. This site lost 143 of the 252 trees planted (56.7% loss). A re-planting would be needed for this site to meet the minimum standards for planted species survival.

Minimum standards for native species composition were only met in Site C. As a whole, the site had a non-weedy, native composition of 47.3%. Several annual and exotic species typical of disturbed, early successional communities were prevalent throughout the area. However, in time, it is very likely that many of these species will disappear and that native, perennials may take their place. Continued monitoring in upcoming years will determine whether or not this appears to be the trend. Also, as planted tree species grow, they will likely shade out some of early successional, shade intolerant species.

Floristic quality within the Rock Island Site as a whole appears to be acceptable (a fair floristic quality rating). A closer look at Table 9 (above) shows that Sites D and the upland buffer in Site C have poor floristic quality. In these sites, natural succession over time should increase floristic quality to an acceptable level.

All five sites at the Rock Island Site have problems involving acceptable plant species dominance. Each had at least one dominant species that is considered non-native or weedy. Non-native, invasive species, like reed canary grass (*Phalaris arundinacea*), are likely to persist and expand in these sites

until planted trees begin to mature and effectively shade out this understory vegetation. However, some non-natives, like giant foxtail (*Setaria faberi*), are considered early successional species that are common in disturbed communities. Natural community development may enable favorable dominant species to become prevalent over time.

In summary, the primary concerns are establishing (or maintaining) wetland hydrology in Site A/B and Site E, and developing and maintaining acceptable, dominant, native, hydrophytic, plant communities. As of 2008, 1.643 ha (4.062 ac) of wetland had been created. This includes 0.611 ha (1.511 ac) in Site C and 1.032 ha (2.551 ac) in Site D. Also, 0.56 ha (0.138 ac) of upland buffer has been created in Site C.

Literature Cited

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Appendix A. Wetland Determination Forms

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site A/B (page 1 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the eastern edge of the Milan Beltway; south of the 52nd Ave interchange

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. Solidago canadensis	FACU	herb
2. Phalaris arundinacea	FACW+	herb

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 50%
Hydrophytic vegetation: Yes: No: X
Rationale: Only 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: Mapped as Sawmill silty clay loam

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

Matrix color: 10YR 2/1 over 10YR 5/1
Other indicators: This site is located in a low-lying area surrounded by uplands.
Hydric soils? Yes: X No:
Rationale: The NRCS classifies Sawmill silty clay loam as a Cumulic Endoaquoll that is poorly drained. This soil contains redoximorphic concentrations within a low chroma matrix, which indicates saturated or reduced conditions for an extended duration during the growing season. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicator A12 – Thick Dark Surface (Field Indicators, 2006).

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site A/B (page 2 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the eastern edge of the Milan Beltway; south of the 52nd Ave interchange

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: 0.61 m (24 in)
Overview of hydrological flow through the system: Water enters the site by precipitation, sheet flow from adjacent uplands and roadways, and occasional overflow from the Rock River. Water leaves the site via evapotranspiration and soil infiltration.
Size of watershed: 28,026 km^2 (10,821 mi^2) (Ogata, 1975)
Other field evidence observed: N/A

Wetland hydrology: Yes: X (in parts) No:
Rationale for decision: No field indicators of wetland hydrology were observed; however, ISGS well data does indicate that the wetland hydrology criterion has been met in the southern 0.72 ha (1.79 ac) of this site. In the remaining portions of this site, it is our belief that this site is not inundated or saturated for a duration sufficient to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: No: X
Rationale: Though the wetland hydrology criterion has been met in portions of this site, and hydric soils were present as well, the site lacked dominant hydrophytic vegetation throughout. Therefore, this site is not a wetland.

Determined by: Ian Draheim (soils and hydrology)
Brian Wilm (vegetation and hydrology)
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ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site A/B (page 3 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the eastern edge of the Milan Beltway; south of the 52nd Ave interchange

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0
Acer saccharinum	silver maple	herb	FACW	1
Agrostis alba	red top	herb	FACW	0
Ambrosia artemisiifolia	common ragweed	herb	FACU	0
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0
Aster novae-angliae	New England aster	herb	FACW	4
Aster pilosus	hairy aster	herb	FACU+	0
Bidens frondosa	common beggar's ticks	herb	FACW	1
Carex lanuginosa	wooly sedge	herb	OBL	4
Carex stipata	prickly sedge	herb	OBL	2
Cassia fasciculata	partridge pea	herb	FACU-	1
Cicuta maculata	water hemlock	herb	OBL	4
Cirsium arvense	Canada thistle	herb	FACU	*
Cirsium discolor	pasture thistle	herb	UPL	3
Cornus racemosa	gray dogwood	shrub	FACW-	2
Cyperus esculentus	yellow nut-sedge	herb	FACW	0
Daucus carota	Queen Anne's lace	herb	UPL	*
Desmodium illinoense	illinois tick trefoil	herb	UPL	5
Echinochloa muricata	barnyard grass	herb	OBL	0
Epilobium coloratum	cinnamon willow herb	herb	OBL	3
Erigeron annuus	annual fleabane	herb	FAC-	1
Eupatorium altissimum	tall boneset	herb	FACU	2
Eupatorium perfoliatum	common boneset	herb	FACW+	4
Fraxinus pennsylvanica	green ash	herb	FACW	2
Helenium autumnale	autumn sneezeweed	herb	FACW+	3
Juncus dudleyi	Dudley's rush	herb	FAC	4
Juncus torreyi	Torrey's rush	herb	FACW	3
Lobelia siphilitica	blue cardinal-flower	herb	FACW+	4
Lycopus virginicus	bugle weed	herb	OBL	5
Lythrum alatum	winged loosestrife	herb	OBL	5
Lythrum salicaria	purple loosestrife	herb	OBL	*
Medicago lupulina	black medic	herb	FAC-	*

(Species list continued on next page)

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site A/B (page 4 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the eastern edge of the Milan Beltway; south of the 52nd Ave interchange

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Melilotus alba	white sweet clover	herb	FACU	*
Mimulus ringens	monkey flower	herb	OBL	5
Oenothera biennis	evening primrose	herb	FACU	1
Panicum dichotomiflorum	fall panicum	herb	FACW-	0
Phalaris arundinacea	reed canary grass	herb	FACW+	*
Phragmites australis	common red reed	herb	FACW+	1
Plantago rugelii	red-stalked plantain	herb	FAC	0
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Populus deltoides	eastern cottonwood	herb	FAC+	2
Robinia pseudoacacia	black locust	shrub	FACU-	*
Rudbeckia hirta	black-eyed susan	herb	FACU	2
Rumex crispus	curly dock	herb	FAC+	*
Salix amygdaloides	peach-leaved willow	tree	FACW	4
Salix exigua	sandbar willow	shrub	OBL	1
Setaria faberi	giant foxtail	herb	FACU+	*
Solidago canadensis	Canada goldenrod	herb	FACU	1
Taraxacum officinale	common dandelion	herb	FACU	*
Toxicodendron radicans	poison ivy	shrub	FAC+	1
Trifolium hybridum	alsike clover	herb	FAC-	*
Typha angustifolia	narrow-leaved cattail	herb	OBL	*
Ulmus americana	American elm	herb	FACW-	5
Verbena hastata	blue vervain	herb	FACW+	3
Verbena urticifolia	white vervian	herb	FAC+	3

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

$mC_V = R/N = 99/46 = 2.2$
$FQI = R/(\sqrt{N}) = 99/(\sqrt{46}) = 14.6$

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

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 500 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. Echinochloa muricata	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 Otter silt loam

On Rock Island county hydric soils list?	Yes: X	No:	
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 7.5YR 4/4
Redox Depletions?	Yes: X	No:	Color: 10YR 5/2

Matrix color: 10YR 2/1 over 10YR 5/1
Other indicators: This site is located in a low-lying area surrounded by uplands.
Hydric soils? Yes: X No:
Rationale: The NRCS classifies Otter silt loam as a Cumulic Endoaquoll that is poorly and very poorly drained. This soil contains redoximorphic concentrations and depletions within a low chroma matrix, which indicates saturated or reduced conditions for an extended duration during the growing season. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicator A12 – Thick Dark Surface (Field Indicators…, 2006).

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

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 500 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: 0.36 m (14 in)
Overview of hydrological flow through the system: Water enters the site by precipitation, sheet flow from adjacent uplands and roadways, and occasional overflow from the Rock River. Water leaves the site via evapotranspiration and soil infiltration.
Size of watershed: 28,026 km^2 (10,821 mi^2) (Ogata, 1975)
Other field evidence observed: We observed water-stained leaves and wetland drainage patterns.

Wetland hydrology: Yes: X No:
Rationale: ISGS well data as well as the field evidence listed above indicates that this site 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 for decision: Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland.

Determined by:
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ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site C (page 3 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 500 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Acer saccharinum	silver maple	herb	FACW	1
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1
Ambrosia artemisiifolia	common ragweed	herb	FACU	0
Ambrosia trifida	giant ragweed	herb	FAC+	0
Ammannia coccinea	long-leaved ammannia	herb	OBL	5
Aster simplex	panicled aster	herb	FACW	3
Bidens frondosa	common beggar's ticks	herb	FACW	1
Boehmeria cylindrica	false nettle	herb	OBL	3
Conyza canadensis	horseweed	herb	FAC-	0
Cyperus esculentus	yellow nut-sedge	herb	FACW	0
Cyperus strigosus	straw colored flatsedge	herb	FACW	0
Echinochloa muricata	barnyard grass	herb	OBL	0
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Epilobium coloratum	cinnamon willow herb	herb	OBL	3
Erigeron annuus	annual fleabane	herb	FAC-	1
Eupatorium altissimum	tall boneset	herb	FACU	2
Eupatorium serotinum	late boneset	herb	FAC+	1
Fraxinus pennsylvanica	green ash	herb	FACW	2
Geum canadense	white avens	herb	FAC	2
Gleditsia triacanthos	honey locust	herb	FAC	2
Hackelia virginiana	stickseed	herb	FAC-	1
Juncus dudleyi	Dudley's rush	herb	FAC	4
Juncus torreyi	Torrey's rush	herb	FACW	3
Lindernia dubia	false pimpernel	herb	OBL	5
Lythrum alatum	winged loosestrife	herb	OBL	5
Morus alba	white mulberry	tree	FAC	*
Panicum dichotomiflorum	fall panicum	herb	FACW-	0
Penthorum sedoides	ditch stonecrop	herb	OBL	2
Phalaris arundinacea	reed canary grass	herb	FACW+	*
Polygonum hydropiper	common smartweed	herb	OBL	*
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Polygonum punctatum	dotted smartweed	herb	OBL	3
Populus deltoides	eastern cottonwood	herb/shrub	FAC+	2

(Species list continued on next page)

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

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 500 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Portulaca oleracea	purslane	herb	FAC-	*
Potentilla norvegica	rough cinquefoil	herb	FAC	0
Rumex crispus	curly dock	herb	FAC+	*
Setaria faberi	giant foxtail	herb	FACU+	*
Solidago canadensis	Canada goldenrod	herb	FACU	1
Verbena hastata	blue vervain	herb	FACW+	3
Verbena urticifolia	white vervian	herb	FAC+	3
Xanthium strumarium	cocklebur	herb	FAC	0

†Coefficient of Conservatism (Taft *et al.* 1997) $mC_V = R/N = 64/36 = 1.8$
*Non-native species $FQI = R/(\sqrt{N}) = 65/(\sqrt{37}) = 10.7$

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Upland Buffer in Site C (page 1 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 600 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. Setaria faberi	FACU+	herb
2. Echinchloa muricata	OBL	herb
3. Solidago canadensis	FACU	herb

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 33%
Hydrophytic vegetation: Yes: No: X
Rationale: Less than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Otter silt loam, revised to Coffeen silt loam.
On Rock Island county hydric soils list? Yes: No: X
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: No: X
Redox Depletions? Yes: No: X
Matrix color: 10YR 3/2
Other indicators: N/A
Hydric soils? Yes: No: X
Rationale: The NRCS classifies Coffeen silt loam as a Fluvaquentic Hapludoll that is somewhat poorly drained. This soil has a low chroma matrix, but lacks the redoximorphic features to define it as hydric.

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Upland Buffer in Site C (page 2 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 600 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: Greater than 0.61 m (24 in)
Overview of hydrological flow through the system: Water enters the site by precipitation and occasional overflow from the Rock River. Water leaves the site via evapotranspiration, sheet flow to adjacent wetlands, and soil infiltration.
Size of watershed: 28,026 km^2 (10,821 mi^2) (Ogata, 1975)
Other field evidence observed: None

Wetland hydrology: Yes: X No:
Rationale for decision: No field indicators of wetland hydrology were observed; however, ISGS well data does indicate that the wetland hydrology criterion has been met.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: No: X
Rationale: This site met the wetland hydrology criteria in 2008, but lacked hydric soils and dominant hydrophytic vegetation. Therefore, this site is not a wetland. If wetland hydrology persists in the following years, a wetland is likely to form.

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ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Upland Buffer in Site C (page 3 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Non-native grassland
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: About 600 ft east of the Milan Beltway and about 800 ft south of 52nd Ave

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Aster pilosus	hairy aster	herb	FACU+	0
Cyperus strigosus	straw-colored flatsedge	herb	FACW	0
Echinochloa muricata	barnyard grass	herb	OBL	0
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Erigeron annuus	annual fleabane	herb	FAC-	1
Eupatorium serotinum	late boneset	herb	FAC+	1
Juncus dudleyi	Dudley's rush	herb	FAC	4
Juncus torreyi	Torrey's rush	herb	FACW	3
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Senecio pauperculus	balsam groundsel	herb	FAC+	3
Setaria faberi	giant foxtail	herb	FACU+	*
Setaria glauca	pigeon grass	herb	FAC	*
Solidago canadensis	Canada goldenrod	herb	FACU	1
Trifolium hybridum	alsike clover	herb	FAC-	*
Verbena hastata	blue vervain	herb	FACW+	3
Xanthium strumarium	cocklebur	herb	FAC	0

†Coefficient of Conservatism (Taft *et al.* 1997) $mC_V = R/N = 21/13 = 1.6$
*Non-native species $FQI = R/(\sqrt{N}) = 21/(\sqrt{13}) = 5.8$

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site D (page 1 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Marsh
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Within the Milan Beltway/52nd Ave interchange

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: X No:

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. *Typha latifolia*	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: NRCS mapped as Orion silt loam and Sawmill silty clay loam, revised to undetermined.

On Rock Island county hydric soils list?	Yes:	No: Undet.: X	
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 10YR 5/6
Redox Depletions?	Yes:	No: X	

Matrix color: 10YR 5/1 over N 4/0
Other indicators: This site is located in a low-lying area surrounded by uplands.
Hydric soils? Yes: X No:
Rationale: This soil contains redoximorphic concentrations within a low chroma and gleyed matrix, which indicates saturated or reduced conditions for an extended duration during the growing season. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicators F2 – Loamy Gleyed Matrix and F3 – Depleted Matrix (Field Indicators…, 2006).

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site D (page 2 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Marsh
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Within the Milan Beltway/52nd Ave interchange

HYDROLOGY

Inundated: Yes: X (in parts) No: Depth of standing water: 0.15 m (6 in)
Depth to saturated soil: Surface to 0.25 m (10 in)
Overview of hydrological flow through the system: Water enters the site by precipitation, overflow from a culvert on the south side of the site, and sheet flow from adjacent uplands and roadways. Water leaves the site via evapotranspiration, sheet flow through a culvert on the west side of the site, and soil infiltration.
Size of watershed: < 2.6 km^2 (< 1 mi^2)
Other field evidence observed: We observed water-stained leaves and wetland drainage patterns.

Wetland hydrology: Yes: X No:
Rationale: Field evidence listed above indicates that this site 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: Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland.

Determined by:
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ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site D (page 3 of 3)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Marsh
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Within the Milan Beltway/52nd Ave interchange

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Agrostis alba	red top	herb	FACW	0
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1
Cyperus strigosus	straw-colored flatsedge	herb	FACW	0
Echinochloa muricata	barnyard grass	herb	OBL	0
Ludwigia palustris americana	marsh purslane	herb	OBL	4
Melilotus alba	white sweet clover	herb	FACU	*
Panicum dichotomiflorum	fall panicum	herb	FACW-	0
Polygonum aviculare	knotweed	herb	FAC-	*
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Populus deltoides	eastern cottonwood	herb	FAC+	2
Scirpus pendulus	red bulrush	herb	OBL	3
Typha latifolia	cattail	herb	OBL	1

†Coefficient of Conservatism (Taft *et al.* 1997) $mC_V = R/N = 12/10 = 1.2$
*Non-native species $FQI = R/(\sqrt{N}) = 12/(\sqrt{10}) = 3.8$

ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the western edge of the Milan Beltway; south of the 52nd Ave interchange

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. *Agrostis Alba*	FACW	herb
2. *Echinochloa muricata*	OBL	herb
3. *Festuca pratensis*	FACU-	herb
4. *Melilotus alba*	FACU	herb
5. *Phalaris arundinacea*	FACW+	herb

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 60%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Coffeen silt loam, revised to undetermined.

On Rock Island county hydric soils list?	Yes:	No:	Undet.: X
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 10YR 5/6
Redox Depletions?	Yes:	No:	

Matrix color: 10YR 2/1 over 10YR 4/2
Other indicators: None
Hydric soils? Yes: X No:
Rationale: This soil contains redoximorphic concentrations within a low chroma matrix, which indicates saturated or reduced conditions for an extended duration during the growing season. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicator A12 – Thick Dark Surface (Field Indicators…, 2006).

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

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the western edge of the Milan Beltway; south of the 52nd Ave interchange

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: 0.51 m (20 in)
Overview of hydrological flow through the system: Water enters the site by precipitation and occasional overflow from the Rock River. Water leaves the site via evapotranspiration, sheet flow to the Rock River, and soil infiltration.
Size of watershed: 28,026 km^2 (10,821 mi^2) (Ogata, 1975)
Other field evidence observed: We observed wetland drainage patterns.

Wetland hydrology: Yes: No: X
Rationale: Though field evidence of wetland hydrology was found, ISGS well data indicates this Site Does not meet the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: No: X
Rationale for decision: Though this Site Contains dominant hydrophytic vegetation and hydric soils, it lacks wetland hydrology. Therefore, we determined that this site is not a wetland.

Determined by:
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ROUTINE ONSITE WETLAND DETERMINATION
Wetland Compensation for Milan Beltway-Rock Island Site
Site E (page 3 of 4)

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the western edge of the Milan Beltway; south of the 52nd Ave interchange

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	CC†
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0
Agalinis tenuifolia	slender false foxglove	herb	FACW	5
Agrimonia parviflora	swamp agrimony	herb	FAC+	5
Agrostis alba	red top	herb	FACW	0
Ambrosia artemisiifolia	common ragweed	herb	FACU	0
Ambrosia trifida	giant ragweed	herb	FAC+	0
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0
Aster novae-angliae	New England aster	herb	FACW	4
Aster pilosus	hairy aster	herb	FACU+	0
Bidens frondosa	common beggar's ticks	herb	FACW	1
Carex lanuginosa	wooly sedge	herb	OBL	4
Carex stipata	prickly sedge	herb	OBL	2
Carex trichocarpa	sedge	herb	OBL	6
Cichorium intybus	blue sailors	herb	UPL	*
Cicuta maculata	water hemlock	herb	OBL	4
Cirsium arvense	Canada thistle	herb	FACU	*
Cirsium discolor	pasture thistle	herb	UPL	3
Conyza canadensis	horseweed	herb	FAC-	0
Cornus racemosa	gray dogwood	shrub	FACW-	2
Cyperus esculentus	yellow nut-sedge	herb	FACW	0
Cyperus strigosus	straw-colored flatsedge	herb	FACW	0
Dactylis glomerata	orchard grass	herb	FACU	*
Daucus carota	Queen Anne's lace	herb	UPL	*
Echinochloa muricata	barnyard grass	herb	OBL	0
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Epilobium coloratum	cinnamon willow herb	herb	OBL	3
Erigeron annuus	annual fleabane	herb	FAC-	1
Eupatorium maculatum	spotted joe pye weed	herb	OBL	5
Eupatorium perfoliatum	common boneset	herb	FACW+	4
Eupatorium serotinum	late boneset	herb	FAC+	1
Festuca pratensis	meadow fescue	herb	FACU-	*
Fraxinus pennsylvanica	green ash	herb/shrub	FACW	2
Geum canadense	white avens	herb	FAC	2

(Species list continued on next page)

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

Field Investigators: Draheim, Wilm, and Zylka **Date:** 19 August 2008
Project Name: FAU 5822 (Milan Beltway, Rock Island Site) **IDOT District:** 2
State: Illinois **County:** Rock Island **Site Name**: Wet meadow
Legal Description: T17N, R1W Sec. 18, NE ¼, S 1/2
Location: Along the western edge of the Milan Beltway; south of the 52nd Ave interchange

SPECIES LIST (continued)

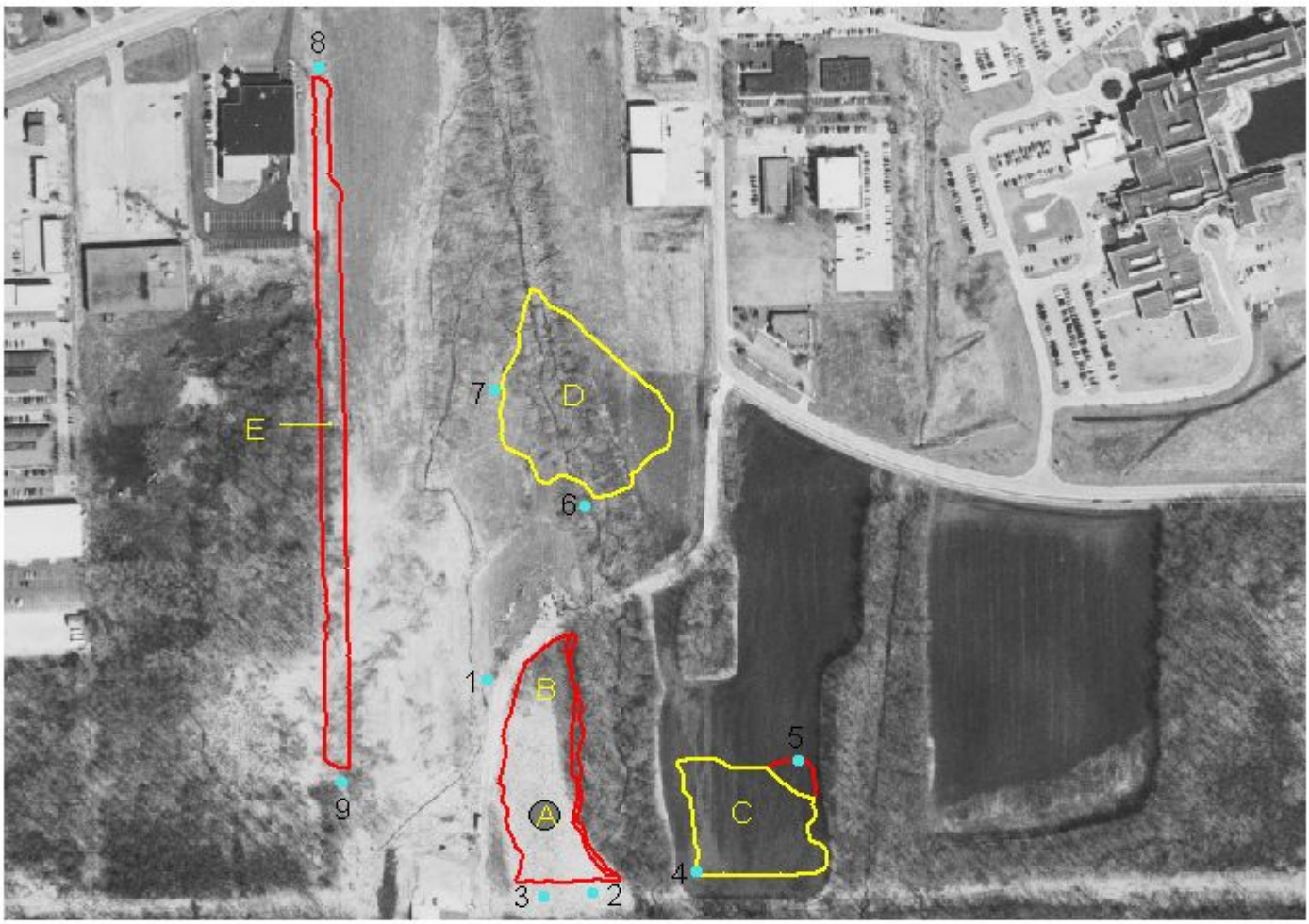
Scientific name	Common name	Stratum	Wetland indicator status	CC†
Helenium autumnale	autumn sneezeweed	herb	FACW+	3
Helianthus tuberosus	Jerusalem artichoke	herb	FAC	3
Hordeum jubatum	squirrel-tail	herb	FAC+	*
Juncus dudleyi	Dudley's rush	herb	FAC	4
Juncus torreyi	Torrey's rush	herb	FACW	3
Lobelia siphilitica	blue cardinal-flower	herb	FACW+	4
Lysimachia nummularia	moneywort	herb	FACW+	*
Lythrum alatum	winged loosestrife	herb	OBL	5
Melilotus alba	white sweet clover	herb	FACU	*
Melilotus officinalis	yellow sweet clover	herb	FACU	*
Morus alba	white mulberry	shrub, herb	FAC	*
Oenothera biennis	evening primrose	herb	FACU	1
Oxalis stricta	yellow wood sorrel	herb	FACU	0
Phalaris arundinacea	reed canary grass	herb	FACW+	*
Poa pratensis	Kentucky bluegrass	herb	FAC-	*
Polygonum amphibium	water smartweed	herb	OBL	3
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Polygonum punctatum	dotted smartweed	herb	OBL	3
Prunella vulgaris	self-heal	herb	FAC	*
Rumex altissimus	pale dock	herb	FACW-	2
Rumex crispus	curly dock	herb	FAC+	*
Salix amygdaloides	peach-leaved willow	tree	FACW	4
Salix exigua	sandbar willow	shrub	OBL	1
Scirpus atrovirens	dark green bulrush	herb	OBL	4
Setaria faberi	giant foxtail	herb	FACU+	*
Setaria glauca	pigeon grass	herb	FAC	*
Silphium perfoliatum	cup plant	herb	FACW-	4
Solidago canadensis	Canada goldenrod	herb	FACU	1
Trifolium hybridum	alsike clover	herb	FAC-	*
Trifolium pratense	red clover	herb	FACU+	*
Trifolium repens	white clover	herb	FACU+	*
Verbena hastata	blue vervain	herb	FACW+	3
Verbena urticifolia	white vervian	herb	FAC+	3
Xanthium strumarium	cocklebur	herb	FAC	0

†Coefficient of Conservatism (Taft *et al.* 1997) $mC_V = R/N = 65/37 = 1.8$

*Non-native species $FQI = R/(\sqrt{N}) = 65/(\sqrt{37}) = 10.7$

FAU 5822, Milan Beltway
Mitigation Monitoring Site
Wetland site map
Rock Island County

figure 1



0 400 800 Feet

scale 1:4800
1 inch=400 ft

0 100 200 Meters

Photo stations
Mitigation site - wet
Mitigation site - non-wet

N
W E
S

12/08

FAU 5822, Milan Beltway
Mitigation Monitoring Site
Soils map
Rock Island County

figure 2

0 400 800 Feet

scale 1:4800
1 inch=400 ft

0 100 200 Meters

Mitigation site

Sites A and B-Sawmill silty clay loam (hydric)
Site C-Otter silt loam (hydric)
Site D-hydric (undetermined)
Site E-hydric (undetermined)
Sites A and B-(non-hydric) Coffeen silt loam
Site C-(non-hydric) Orion silt loam

N
W E
S

12/08