APPENDIX D
WETLAND DELINEATION, THREATENED AND ENDANGERED SPECIES SURVEY, AND HABITAT ASSESSMENT REPORT

Appendix D, contains the Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report. The preliminary jurisdictional status is currently under review by the U.S. Army Corp of Engineers (USACE).

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ASC GROUP, INC.
ARCHAEOLOGY | ARCHITECTURAL HISTORY | ENVIRONMENT
CULTURAL AND ENVIRONMENTAL CONSULTANTS

July 19, 2012

Ms. Melissa J. Tarasiewicz
U.S. Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, NY 14207

Re: Wetland Delineation Report for the Proposed Safety Improvements to Runway 6L/24R
At Burke Lakefront Airport

Dear Ms. Tarasiewicz:

Please find enclosed two copies of a wetland delineation, threatened and endangered species survey, and habitat assessment report for the proposed safety improvements to runway 6L/24R at Burke Lakefront Airport in Cleveland, Cuyahoga County, Ohio. We are requesting that your office make a Jurisdictional Determination on behalf of our client, for the wetland areas identified in the enclosed report.

The proposed project entails the construction of safety improvements to Runway 6L/24R, at Burke Lakefront Airport in the City of Cleveland, Cuyahoga County, Ohio. At present, the existing runway does not comply with Federal Aviation Administration (FAA) safety requirements for a minimum safety zone at both ends. The proposed project will add approximately 600 ft of pavement to the northeast end of the runway, will relocate the Runway 6L/24R landing threshold, and will construct a new Engineered Materials Arresting System on southwest end of the runway.

Four areas (Areas 1–4) of the airport were evaluated for potential Waters of the U.S. During the field survey, portions of Lake Erie were determined to border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north. A total of five wetlands (Wetlands 1–5), occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be disturbed, low quality Category 1 wetlands. Wetlands 1–5 appear to be hydrologically isolated from a Traditional Navigable Waterway.

Your review of the enclosed report would be appreciated to keep the project on schedule. Please contact me at 614.643.3208 if you have any questions or need any additional information. Thank you for your cooperation with this project.

Sincerely,

Len Mikles
Principal Ecologist, PWS

Enclosure

Cc: Ms. Meenakshi Singh, Cleveland Airport System
Ms. Katherine S. Delaney, Federal Aviation Administration
Mr. Rob Adams, Landrum & Brown

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Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report for Burke Lakefront Airport Cleveland, Cuyahoga County, Ohio

By

Len Mikles, Principal Ecologist, PWS

Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report for Burke Lakefront Airport Cleveland, Cuyahoga County, Ohio

By
Len Mikles, Principal Ecologist, PWS

Submitted By:
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Submitted To:
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Landrum & Brown, Inc.
11279 Cornell Park Drive
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July 19, 2012

EXECUTIVE SUMMARY

ASC Group, Inc., under contract with Landrum & Brown, Inc., conducted a wetland delineation within Burke Lakefront Airport, located in Cleveland, Cuyahoga County, Ohio. This survey also included a habitat assessment as well as a survey for threatened and endangered species. Four areas were evaluated for the wetland delineation portion of the survey. These areas included portions of the airport associated with possible runway expansion and access road improvements. The habitat assessment was conducted for the entire airport facility.

No streams were identified in Areas 1–4. Portions of Lake Erie border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north.

A total of five wetlands, occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be Category 1 wetlands. Wetlands 1–5 are provisionally considered non-jurisdictional.

The wetlands and Lake Erie would be considered jointly by regulatory agencies when considering wetland and water quality impacts. Pursuant to Section 404 of the Clean Water Act, the US Army Corps of Engineers has jurisdiction over the placement of fill or dredged material in all jurisdictional "Waters of the United States". A Section 404 permit must be obtained prior to placing any fill material within a jurisdictional area. Non-jurisdictional wetlands are typically isolated wetland areas. Under most circumstances these wetlands are regulated by the Ohio Environmental Protection Agency and require either a General or Individual Isolated Wetland Permit for dredge and fill activities.

The habitat assessment was conducted for the entire airport facility. The majority of the airport facility consisted of mowed lawn. The remaining portions consisted of disturbed wetlands and wasteground.

The Ohio Department of Natural Resources found no records for any federally listed species within a 1-mile radius of the current project area and no federally listed species were observed in the airport during the habitat assessment.

The Department of Natural Resources found three records for state listed species within a 1-mile radius of the current project area. A record for the state endangered upland sand piper is recorded within the airport facility. None of these species were observed during the habitat assessment. One state species of special interest, the ruddy duck (*Oxyura jamaicensis*), was observed at the airport. Two individuals were observed in a wetland located in the northeastern portion of the airport. The Department of Natural Resources found no records of existing or proposed state nature preserves, scenic rivers, unique ecological sites, geologic features, breeding or non-breeding animal concentrations, champion trees, or state parks, forests or wildlife areas within 1 mile of the airport.

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INTRODUCTION

The proposed project includes construction of safety improvements to Runway 6L/24R, at Burke Lakefront Airport in the City of Cleveland, Cuyahoga County, Ohio. At present, the existing runway does not comply with Federal Aviation Administration (FAA) safety requirements for a minimum safety zone at both ends. The proposed project will add approximately 600 ft. of pavement to the 24R, or northeast end of the runway, will relocate the Runway 6L landing threshold, and will construct a new Engineered Materials Arresting System on the 6L, or southwest end of the runway. Direct construction impacts include the extension of the runway and the construction of the arresting system. The project will not entail a capacity increase for the airport, and is solely related to the runway extension and the relocation of the landing threshold.

ASC Group, Inc., under contract with Landrum & Brown, Inc., conducted a wetland delineation and habitat assessment within the Burke Lakefront Airport (Figures 1–7). Four separate project areas were evaluated for the presence of streams and wetlands (Figure 6). Each area is summarized below.

Area 1 – 16.7 acres at the southwest end of the existing runway;
Area 2 – 22.8 acres at the northeast end of the existing runway;
Area 3 – 2.7 acres at the northeast end of the existing runway for relocated roads;
Area 4 – 7.8 acres at the northwest end of the existing runway.

These areas included portions of the airport associated with possible runway expansion and access road improvements. The habitat assessment was conducted for the area shown on Figure 2, including Areas 1–4. The wetland delineation and habitat assessment field surveys were conducted on May 19 and 20, 2012 by ASC Group, Inc. ecologists. Representative photographs (1–44) documenting various habitats and wetland resources are included in Appendix A.

METHODS

WETLANDS

A routine on-site assessment of potential wetlands was conducted. The entire study area was surveyed on foot and major vegetative communities were noted. The *Corps of Engineers*

Wetland Delineation Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (United States Army Corps of Engineers [USACE] 2012) were used to determine whether wetlands were present within the study area. Wetlands were identified according to the routine determination method outlined in Section D of the manual (Environmental Laboratory 1987). Using this method, the three criteria—vegetation, soil, and hydrological features—were examined and evaluated to determine the presence of wetlands. Examination of the vegetation for the presence of obligate, facultative-wet, or facultative wetland species is based on the *Floristic Quality Assessment Index (FQAI) for Vascular Plants and Mosses for the State of Ohio* (Andreas et al. 2004).

When a wetland evaluation indicated that an area was not a wetland, the location was noted and no further action was taken. When the wetland evaluation indicated that an area was a wetland, a delineation was performed to identify the boundary between wetland and non-wetland areas. A wetland sampling point and non-wetland sampling point was completed for each wetland encountered. Wetland Determination data forms for each wetland can be found in Appendix B of this report.

The *Ohio Rapid Assessment Method (ORAM) for Wetlands (ORAM) version 5.0* was used to assess the functional quality of each wetland encountered (Ohio Environmental Protection Agency [OEPA] 2001). The wetland was assigned a category according to the most recent ORAM score calibration (Mack 2000). ORAM data forms for each wetland can be found in Appendix C of this report.

The ORAM categorizes wetlands according to their functional quality into three categories. Category 1 wetlands "…support minimal wildlife habitat, and minimal hydrological and recreational functions" (Ohio Administrative Code Rule 3745-1-54(C) (1)). They are usually isolated hydrologically with limited function, low species diversity, and a dominance of invasive non-native species.

Category 2 wetlands "…support moderate wildlife habitat, or hydrological or recreational functions" and are "dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions" (Ohio Administrative Code Rule 3745-1-54(C)(2)).

Category 3 wetlands have "…superior habitat, or superior hydrological or recreational functions" (Ohio Administrative Code Rule 3745-1-54(C) (3)). High functionality, high diversity, and a high proportion of native species generally characterize them.

STREAMS

The *Soil Survey of Cuyahoga County* (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1980) was also reviewed to identify potential jurisdictional waters. A provisional jurisdictional waters determination was performed in the field to determine if waterways that possessed a defined channel and streambed as defined by the ordinary high water mark were present in the study area.

Potential jurisdictional streams would be evaluated to determine whether the stream qualified as a primary headwater habitat (PHWH) stream as defined by the OEPA (2012) or a non-headwater stream as defined by the OEPA (2006). PHWH streams have a defined bed and bank, with either continuous or periodic flowing water, a watershed area of less than 1 mi^2, and maximum pool depth (excluding plunge pools) of 16 inches or less. A Headwater Habitat Evaluation Index (HHEI) data form would be completed for all streams meeting these criteria. This evaluation is based on three physical measurements that have been found to correlate well with biological measures of stream quality. Streams are assigned to a Class (I, II, or III) based on the score that is derived from the HHEI.

Class I streams typically are ephemeral with little or no aquatic life present. Class II streams are typically found to have a moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis. Class III streams have native fauna adapted to cool-cold perennial flowing water characterized by a community of vertebrate and /or a diverse community of benthic macroinvertebrates.

The Qualitative Habitat Evaluation Index (QHEI), as described by the OEPA (2006), would be used to evaluate the habitat quality for all streams in the survey area with watersheds larger than 1 mi^2. The QHEI is based on a quality rating of the stream substrate, in-stream cover, channel morphology, riparian zone, stream bank erosion, pool/glide as well as riffle/run quality. QHEI scores can range from zero to 100, and are grouped into five narrative ranges: very poor (0–30), poor (31–45), fair (46–59), good (60–74), and excellent ($\geq$75).

HABITAT ASSESSMENTS

All habitats were surveyed within the airport. All plant species encountered were identified, recorded and dominant species were noted. Plants were identified according to Gleason and Cronquist (1991). The habitats were identified and described based on the type of community and the dominant plant species in each. Terrestrial vertebrates were recorded during the survey based on actual observance, calls, tracks, scat, nests, burrows, and road kill.

THREATENED AND ENDANGERED SPECIES METHODS

The Ohio Department of Natural Resources (ODNR 2012) [Appendix D] and the United States Fish and Wildlife Service (USFWS) [2012a] were consulted on the presence of any federally or state-listed species known to occur within the current project area or within a 1-mile radius. The ODNR Biodiversity Database search included a 5-mile radius for the Indiana bat capture sites and a 10- mile radius for hibernacula. The current project area was surveyed on foot for the presence of listed species and suitable habitats. Additionally, the project area was surveyed for the presence of any state-listed species known to occur within a 1-mile radius of the project area.

RESULTS

LITERATURE REVIEW

WETLANDS

The *Soil Survey of Cuyahoga County* (United states Department of Agriculture, Natural Resource Conservation Service [USDA, NRCS] 2009a) was examined for the location of hydric soil map units, since these are likely locations for wetlands. The map shows only one soil map unit, Urban land (Ub), present in the four project areas (Figure 3). This soil is not considered hydric and is not known to contain hydric inclusions according to the hydric soils list for Cuyahoga County, Ohio (USDA, NRCS 2009b).

The Ohio Wetland Inventory (OWI) map was also reviewed and showed no wetlands in the project areas (ODNR 1991) [Figure 4]. The National Wetlands Inventory (NWI) map (USFWS 2012b) was also reviewed and shows one excavated pond located outside of the northeastern boundary of Area 4 (Figure 4).

STREAMS AND OPEN WATER HABITATS

The *Soil Survey of Cuyahoga County* (USDA, SCS 1980) was examined for the location of streams in the project area. The map shows no streams present in the four project areas. The project area is located in the Lake Erie watershed (HUC: 04110003-010-010) [USDA, NRCS 1999]. Portions of Lake Erie border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north

LAND USE/HABITATS

The National Landcover Data Set was reviewed for the project area (Figure 5). The project areas and the remaining portion of the airport are mapped as areas of Barren Land, Herbaceous, Developed Open Space, and Developed Land ranging from High Intensity to Low Intensity.

THREATENED AND ENDANGERED SPECIES

Federally Listed Species

The ranges of the federally endangered Indiana bat (*Myotis sodalis*), Kirkland's warbler (*Dendroica kirtlandii*), Piping plover (*Charadrius melodus*), and the federal species of concern, the bald eagle (*Haliaeetus leucocephalus*) include Cuyahoga County (USFWS 2012a). The ODNR found no records of any of these four federally listed species within a 1-mile radius of the current project areas (Appendix D: ODNR 2012). In addition, no capture sites for the Indiana bat were identified within a 5-mile radius or hibernacula within a 10-mile radius (Appendix D: ODNR 2012).

State Listed Species

The ODNR found three records of threatened or endangered species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). These records include the following:

- Upland Sandpiper (*Bartramia longicauda*), State Threatened
- Peregrine Falcon (*Falco peregrinus*), State Threatened
- Richardson's Pondweed (*Potomogeton richardsonii*), State Potentially Threatened

The record for the upland sandpiper is located within the Burke Lakefront Airport property. Additionally, ODNR found no existing or proposed state nature preserves, scenic rivers, unique ecological sites, geologic features, breeding or nonbreeding animal concentrations,

champion trees, or state parks, forests, or wildlife areas within 1 mile of the airport facility (Appendix D: ODNR 2012).

FIELD SURVEY RESULTS

WETLANDS

The wetland delineation portion of the survey was only conducted in project Areas 1–4. Areas 1–4 are summarized below and the location of each area is shown on Figure 6.

Area 1

Area 1 is located in the western portion of the airport and encompasses a portion of the existing runway (Figure 6). No wetlands were identified in Area 1. Area 1 consists of an area that is periodically mowed. Area 1 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). These species are indicative of disturbed, non-wetland areas. Representative photographs (1–8) of Area 1 are presented in Appendix A. Portions of Lake Erie border project Area 1 to the west and north.

Area 2

Area 2 is located in the eastern portion of the airport and encompasses a portion of the existing runway (Figure 6). Area 2 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). Representative photographs (26, 33 and 39–43) of Area 2 are presented in Appendix A.

A total of five wetlands (Wetlands 1–5) were identified in this area. The dominant vegetation observed in these wetland areas consisted primarily of spike rush (*Eleocharis erythropoda*) and/or creeping bent grass (*Agrostis stolonifera*). The vegetation observed in these locations satisfies the Rapid Test for Hydrophytic Vegetation. This observation satisfies the vegetation criterion.

Soil Saturation, Sediment Deposits, Algal Mat/Crust, and Oxidized Rhizospheres on Living Roots hydrology indicators were also observed at these locations, which satisfies the hydrology criterion. The soils in these areas exhibited either the Depleted Matrix or the Redox Dark Surface hydric soil indicator. This observation satisfies the soils criterion. These areas

satisfied all three criteria and qualify as wetlands. Wetland determination forms are included in Appendix B.

These wetlands appeared to be hydrologically isolated from another surface water. The areas appear to be small, closed depressions (Figure 6; Appendix A: Photographs 34–37 and 44). As a result, Wetlands 1–5 are provisionally considered non-jurisdictional.

Collectively, Wetlands 1–5 occupied 0.312 acre. These wetlands were grouped for purposes of the ORAM calculations, as they were functionally identical. As a group, they scored 19 on the ORAM, classifying them as Category 1 wetlands (Appendix C). The acreage of each individual wetland is summarized in Table 1. below.

Table 1. Summary of Wetlands Located in Area 2 at Burke Lakefront Airport.

Wetland	Photograph Number	Total Acreage	Acreage within Project Area
1	34	0.180	0.180
2	35	0.066	0.066
3	36	0.005	0.005
4	37	0.029	0.029
5	44	0.032	0.032
Total		**0.312**	**0.312**

In addition, another wetland was identified outside of Area 2, but within close proximity to the boundary (Appendix A: Photograph 38). Its location is noted on Figure 6 for planning purposes.

Area 3

Area 3 is located in the eastern portion of the airport and encompasses a portion of an existing access road (Figure 6). A portion of Area 3 also consists of an area that is periodically mowed. No wetlands were identified in Area 3. Area 3 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). These species are indicative of disturbed, non-wetland areas. Portions of Lake Erie border project Area 3 to the east. Representative photographs (25 and 28–31) of Area 3 are presented in Appendix A.

Area 4

Area 4 is located in the northern portion of the airport and encompasses an existing access road (Figure 6; Appendix A: Photograph 13). No wetlands were identified in Area 4. Two wetlands were identified just south of Area 4 within close proximity to the boundary (Appendix A: Photographs 9–10). They are noted on Figure 6 for planning purposes. A portion of Lake Erie borders project Area 4 to the north.

STREAMS AND OPEN WATER HABITATS

No streams were identified in Areas 1–4. Portions of Lake Erie border project Area 1 to the north and west, Area 3 to the east, and Area 4 to the north (Figure 6; Appendix A: Photographs 1–3, 8, and 28).

HABITAT ASSESSMENTS

The habitat assessment was conducted for the entire airport facility. The majority of the airport facility consisted of disturbed mowed lawn areas. The remaining portions consisted of disturbed wetlands and wasteground. The approximate location of these habitats is shown on Figure 7.

Mowed Lawn

The majority of the airport facility consisted of mowed lawn area that was primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). The mowed lawn areas are located primarily around the airport runways (Figures 6 and 7; Appendix A: Photographs 4, 6, 7, 32, 33, 39–43). A complete listing of vascular flora found throughout the mowed lawn areas are presented in Table 2.

Wasteground

The immediate areas surrounding many of the airport access roads, portions of armored shoreline, and areas where historic and recent grading, filling, and paving have occurred are collectively referred to as wasteground (Figures 6 and 7; Appendix A: Photographs 1–3, 5, 8, 13, 19, 20, 23–32).). These areas are developed and/or highly disturbed from recent and historic earth moving activities. Wasteground is dominated by a variety of weedy species including downy brome (*Bromus tectorum*), Common mugwort (*Artemisia vulgaris*), Common chickweed (*Stellaria media*), Crown vetch (*Coronilla varia*), and sweet clover species (*Melilotus*

spp.). A complete listing of vascular flora found throughout the wasteground areas is presented in Table 2.

Wetlands

In addition to the wetlands previously discussed, two large wetlands were observed in the northeastern portion of the airport property (Figures 6 and 7; Appendix A: Photographs 14, 16–18, 21, and 22). These wetland areas appeared to be created from historic earth moving activities in the USACE's confined disposal facilities. The hydrology of both areas appears to be controlled by artificial water control structures. The wetland areas are surrounded and separated by earthen embankments or berm walls. At the time of evaluation, one of the wetland areas appeared to be artificially flooded and contained a large number of foraging birds and ducks. The other wetland consisted of a large marsh that was relatively dry and dominated by remnants of lasts year's vegetation, which included rough barnyard grass (*Echinochloa muricata*), common reed (*Phragmites australis*), long-root smartweed (*Polygonum amphibium var. emersum*), reed canary grass (*Phalaris arundinacea*), fall panic grass (*Panicum dichotomiflorum*), straw-colored umbrella-sedge (*Cyperus strigosus*), and cattail species (*Typha spp.*). Both wetlands are dominated by low quality plant species that are adapted to disturbance. However, the wetlands appeared to be providing important wildlife habitat for birds and ducks if the proper hydrology is maintained. A complete listing of vascular flora found throughout the wetland areas is presented in Table 2.

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Acalypha rhomboidea	Rhombic copperleaf	X		
Acer negundo	Box elder	X	X	
Achillea millefolium	Yarrow	X		X
Agrostis gigantea	Redtop		X	X
Agrostis stolonifera	Creeping bent grass		X	X
Alliaria petiolata	Garlic mustard	X		
Allium vineale	Field-garlic	X		X
Alopecurus carolinianus	Carolina foxtail		X	
Amaranthus sp.	Amaranth	X		
Ambrosia artemisiifolia	Common ragweed	X		
Andropogon virginicus	Broom sedge	X		X
Arabidopsis thaliana	Mouse-ear cress	X		

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Arctium minus	Common burdock	X		
Artemisia vulgaris	Common mugwort	X		
Asclepias syriaca	Common milkweed	X		X
Aster pilosus	Awl aster	X		
Barbarea vulgaris	Spring cress			X
Bromus tectorum	Downy brome	X		
Calystegia sepium	Hedge bindweed	X		
Capsella bursa-pastoris	Shepherd's purse	X		
Cardamine hirsuta	Hoary bitter-cress			X
Carex praegracilis	Freeway sedge			X
Cerastium vulgatum	Common chickweed	X		X
Chenopodium album	Lambs-quarters	X		
Chrysanthemum leucanthemum	Oxeye daisy	X		X
Cichorium intybus	Chicory	X		
Cirsium arvense	Canada thistle	X		X
Cirsium vulgare	Bull thistle	X		X
Conium maculatum	Poison hemlock	X		
Convolvulus arvensis	Field bindweed	X		
Conyza canadensis	Common horseweed	X		
Cornus amomum	Knob-styled dogwood	X	X	
Coronilla varia	Crown vetch	X		
Cyperus strigosus	False nut sedge		X	
Dactylis glomerata	Orchard grass			X
Datura stamonium	Jimsonweed	X		
Daucus carota	Wild carrot	X		X
Duchesnea indica	Indian strawberry			X
Echinochloa muricata	Rough barnyard grass	X	X	
Echinocloa crus-galli	Barnyard grass	X	X	
Elaeagnus umbellata	Autumn olive	X		X
Eleocharis erythropoda	Spike rush		X	
Eleusine indica	Yard-grass	X		
Elytrigia repens	Quack grass			X
Epilobium coloratum	Purple-leaved willow herb	X	X	
Erigeron annuus	Annual fleabane	X		X
Erophila verna	Early whitlow grass	X		
Erysimum cheiranthoides	Wormseed-mustard	X		
Euphorbia maculatum	Prostrate spurge	X		
Festuca elatior	Tall fescue	X		X
Galium aparine	Cleavers	X		X

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Geranium molle	Dove's-foot crane's-bill	X		
Glechoma hederacea	Ground ivy	X		
Hypericum perforatum	Common St. John's wort	X		
Juncus effuses	Soft rush		X	
Lamium amplexicaule	Henbit	X		X
Lamium purpureum	Purple dead-nettle	X		X
Lepedium campestre	Fieldcress	X		X
Linaria vulgaris	Butter and eggs	X		
Lonicera japonica	Japanese honeysuckle	X		
Lonicera maackii	Bush honeysuckle	X		
Malva neglecta	Cheese mallow	X		
Melilotus alba	White sweet clover	X		X
Melilotus officinalis	Yellow sweet clover	X		X
Myosotis micrantha	Small flowered forget-me-not			X
Oenothera biennis	Evening primrose	X		
Oxalis stricta	Yellow wood sorrel	X		X
Panicum dichotomiflorum	Fall panic grass		X	
Parthenocissus quinquefolia	Virginia creeper	X		
Pastinaca sativa	Wild parsnip	X		
Phalaris arundinacea	Reed canary grass		X	
Phragmites australis	Common reed	X	X	
Plantago lanceolata	English plantain			X
Plantago rugelii	American plantain	X		X
Poa annua	Speargrass	X		X
Poa pratensis	Kentucky bluegrass	X		X
Polygonum aviculare	Common knotweed	X		X
Polygonum cuspidatum	Japanese knotweed	X		
Polygonum amphibium var. emersum	Long-root smartweed		X	
Polygonum hydropiper	Water pepper		X	
Populus deltoides	Cottonwood	X	X	
Potentilla recta	Rough-fruited cinquefoil			X
Prunella vulgaris	Self-heal	X		X
Ranunculus sceleratus	Cursed crow-foot		X	
Rhamnus frangula	European buckthorn		X	
Rhus typhina	Staghorn sumac	X		
Robinia psuedoacacia	Black Locust	X		
Rosa multiflora	Multiflora rose	X		
Rumex altissimus	Pale dock	X		

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Rumex crispus	Curly dock	X	X	
Rumex obtusifolius	Bitter dock			X
Salix interior	Sandbar willow	X	X	
Salix nigra	Black willow	X	X	
Sambucus canadensis	Elderberry	X		
Schoenoplectus tabernaemontani	Soft-stemmed bulrush		X	
Scirpus atrovirens	Black bulrush		X	
Senecio vulgaris	Common squaw-weed		X	X
Silene latifolia	White campion	X		X
Sisymbrium altissimum	Tall tumble mustard	X		
Solanum dulcamara	Bittersweet nightshade	X		
Solidago canadensis	Common goldenrod	X		X
Sonchus asper	Prickly sow thistle	X		
Sonchus oleraceus	Common sow thistle	X		
Stellaria media	Common chickweed	X		X
Taraxacum officinale	Dandelion	X		X
Thalaspi arvense	Field pennycress	X		
Toxicodendron radicans	Poison ivy	X		
Tragopogon dubius	Field goat's-beard	X		
Trifolium pratensis	Red clover	X		X
Trifolium repens	White clover	X		X
Typha angustifolia	Narrow-leaved cattail		X	
Typha latifolia	Common cattail		X	
Urtica dioica	European stinging nettle	X		
Verbascum thapsus	Common mullein	X		
Veronica arvensis	Corn speedwell			X
Veronica peregrina var. peregrina	Purslane speedwell	X	X	
Veronica serpyllifolia	Thyme-leaved speedwell			X
Viola sororia	Common blue violet			X
Vitis riparia	Riverbank grape	X		
Xanthium strumarium	Common cocklebur	X	X	

Wildlife

During the habitat assessment, the presence of 26 bird species and two mammal species were observed directly, either alive or dead, or through evidence such as scat, tracks, or calls.

The species observed are summarized in Table 3 and 4 below. The species observed are typically found along the lakeshore and/or inhabiting open space.

Table 3. Summary of Birds Observed During the Habitat Assessment at Burke Lakefront Airport.

Common Name	**Scientific Name**
American Coot	*Fulica americana*
Herring Gull	*Larus argentatus*
Ring-billed Gull	*Larus delawarensis*
Canada Goose	*Branta canadensis*
Red-winged Blackbird	*Agelaius phoeniceus*
Killdeer	*Charadrius vociferus*
Great Blue Heron	*Ardea herodias*
Double-crested Cormorant	*Phalacrocorax auritus*
Common Starling	*Sturnus vulgaris*
American Robin	*Turdus migratorius*
Ruddy Duck	*Oxyura jamaicensis*
Greater Scaup	*Aythya marila*
Mallard	*Anas platyrhynchos*
Red-shouldered Hawk	*Buteo lineatus*
Yellowlegs	*Tringa sp.*
Turkey Vulture	*Cathartes aura*
Blue-winged Teal	*Anas discors*
Northern Flicker	*Colaptes auratus*
Song Sparrow	*Melospiza melodia*
Caspian Tern	*Sterna caspia*
Savannah Sparrow	*Passerculus sandwichensis*
American Tree Sparrow	*Spizella arborea*
White-throated Sparrow	*Zonotrichia albicollis*
Chipping Sparrow	*Spizella passerina*
Pied-billed Grebe	*Podilymbus podiceps*
Short-billed Dowitcher	*Limnodromus griseus*

Table 4. Summary of Mammals Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name
Marmota monax	Groundhog
Ondatra zibethicus	Muskrat

THREATENED AND ENDANGERED SPECIES

FEDERALLY LISTED SPECIES

The ranges of the federally endangered Indiana bat (*Myotis sodalis*), Kirkland's warbler (*Dendroica kirtlandii*), Piping plover (*Charadrius melodus*), and the federal species of concern, the bald eagle (*Haliaeetus leucocephalus*) includes Cuyahoga County (USFWS 2012a). However, the ODNR found no records of any of these federally listed species within a 1-mile radius of the current project areas (Appendix D: ODNR 2012). Each species is addressed separately below.

Indiana Bat (Federally Endangered)

The range of the federally endangered Indiana bat (*Myotis sodalis*) includes Cuyahoga County. This species hibernates in caves and mines with swarming in surrounding wooded areas. Summer roosting and foraging habitat occurs in wooded stream corridors, bottomlands, upland forests, and woods. There are no records of capture sites within a 5-mile radius or hibernacula within 10 miles of the study area (Appendix A: ODNR 2012). No individuals or potential habitat was observed during the survey. No potential roosting trees or no maternity roost trees for the Indiana bat were observed in the study area.

Kirtland's Warbler (Federally Endangered)

Kirtland's warbler (*Dendroica kirtlandii*) nest only on the ground near the lower branches and in large stands of young jack pines (*Pinus banksiana*) that are 5 to 20 feet tall and 6 to 22 years old. The Kirtland's warbler is only a migrant species in Ohio. Approximately half of all observations for this species in Ohio have occurred within 3 miles of the shore of Lake Erie. During migration, individual birds usually forage in shrub/scrub or forested habitat and may stay in one area for a few days. No individuals or suitable habitat was observed in the study area.

Piping Plover (Federally Endangered)

The piping plover (*Charadrius melodus*) prefers sandy beaches, but migrants use large mudflats. Piping plovers used to nest on the larger Lake Erie beaches, but due to the disturbance

and destruction of their delicate habitat, this species has disappeared as an Ohio breeder. The last nesting record was in 1942; the piping plover is now only a migrant species in Ohio. There is no sandy beach habitat located in the study area.

Bald Eagle (Federal Species of Concern)

The range of the bald eagle (*Haliaeetus leucocephalus*) includes Cuyahoga County. There are no records of this species within a 1-mile radius of the study area (Appendix D: ODNR 2012) and no individuals or nests were observed during the survey.

STATE LISTED SPECIES

The ODNR found three records of threatened or endangered species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). None of these species were observed at the airport during the field survey. However, one state species of Special Interest, the ruddy duck (*Oxyura jamaicensis*), was observed at the airport. Each state listed species is addressed below.

Upland Sandpiper (State Threatened)

Upland sandpipers in Ohio are associated with grasslands, pastures, and prairies where the vegetation reaches a maximum height of 30–60 cm. There is a record for the upland sandpiper within the Burke Lakefront Airport property. However, during the survey, no individuals were observed.

Peregrine Falcon (State Threatened)

The peregrine falcon lives mostly along mountain ranges, river valleys, coastlines, and increasingly in cities. Many falcons have settled in large cities, nesting in cathedrals, skyscraper window ledges, and the towers of suspension bridges. Potential nesting habitat was not observed in the airport.

Richardson's Pondweed (State Potentially Threatened)

Habitats vary widely and include the Great Lakes and connecting waterways, inland lakes, rivers, and creeks; in waters up to 5 m.; frequently in brackish or alkaline waters. Suitable habitat was observed along the portions of the project area that butted against Lake Erie and within one of the artificially flooded wetlands in the northeastern portion of the property. However, no individuals were observed during the survey.

Ruddy Duck (Species of Special Interest)

Ruddy ducks frequent large, deep lakes and rivers, as well as coastal bays and inlets. Their breeding habitat is marshy lakes and ponds. They nest in dense marsh vegetation near water. Suitable habitat and two individuals were observed in the northeastern portion of the airport where an artificially flooded wetland is located. The approximate location is noted on Figure 6.

SUMMARY

No streams were identified in Areas 1–4. Portions of Lake Erie border Area 1 to the west and north, Area 3 to the east, and Area 4 to the north.

A total of five wetlands, occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be Category 1 wetlands. Wetlands 1–5 are provisionally considered non-jurisdictional. The wetlands are summarized in Table 5 below.

Table 5. Wetlands Summary Table for Project Areas 1–4 at Burke Lakefront Airport.

Wetland ID	Vegetative Coverage	Photo No.	Isolated, Adjacent, Abutting	Receiving Waters	ORAM Score Category (1,2,3)	Wetland Type (Cowardin et al. 1979)	Est. Total Size (ac.)	Est. size in project area (ac.)
Wetland 1	*Agrostis stolonifera, Eleocharis erythropoda, Phalaris arundinacea*	34	Isolated	N/A	19 (Cat 1)	PEM	0.180	0.180
Wetland 2	*Agrostis stolonifera, Eleocharis erythropoda*	35	Isolated	N/A	19 (Cat 1)	PEM	0.066	0.066
Wetland 3	*Agrostis stolonifera, Eleocharis erythropoda*	36	Isolated	N/A	19 (Cat 1)	PEM	0.005	0.005
Wetland 4	*Agrostis stolonifera, Eleocharis erythropoda*	37	Isolated	N/A	19 (Cat 1)	PEM	0.029	0.029
Wetland 5	*Agrostis stolonifera, Eleocharis erythropoda*	44	Isolated	N/A	19 (Cat 1)	PEM	0.032	0.032
How the wetland(s) connects to Traditional Navigable Water (TNW): Wetlands 1–5 appear to be hydrologically isolated from a TNW.								

Pursuant to Section 404 of the Clean Water Act, the USACE has jurisdiction over the placement of fill or dredged material in all jurisdictional "Waters of the United States". A Section 404 permit must be obtained prior to placing any fill material within a jurisdictional area. Non-jurisdictional wetlands are typically isolated wetland areas. Under most circumstances these wetlands are regulated by the Ohio Environmental Protection Agency (OEPA) and require either a General or Individual Isolated Wetland Permit for dredge and fill activities.

The habitat assessment was conducted for the area identified in Figure 2. The majority of the airport facility consisted of disturbed mowed lawn areas. The remaining portions consisted of USACE confined disposal faciltiesand wasteground.

The ODNR found no records for any federally listed species within a 1-mile radius of the current project area (Appendix D: ODNR 2012) and no federally listed species were observed in the airport during the habitat assessment.

The ODNR found three records for state listed species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). None of these species were observed during the field survey. A record for the state endangered upland sand piper is recorded within the airport. Additionally, one state species of special interest, the ruddy duck (*Oxyura jamaicensis*), was observed in an artificially flooded wetland located in the northeaster portion of the airport during the field survey.

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FIGURES

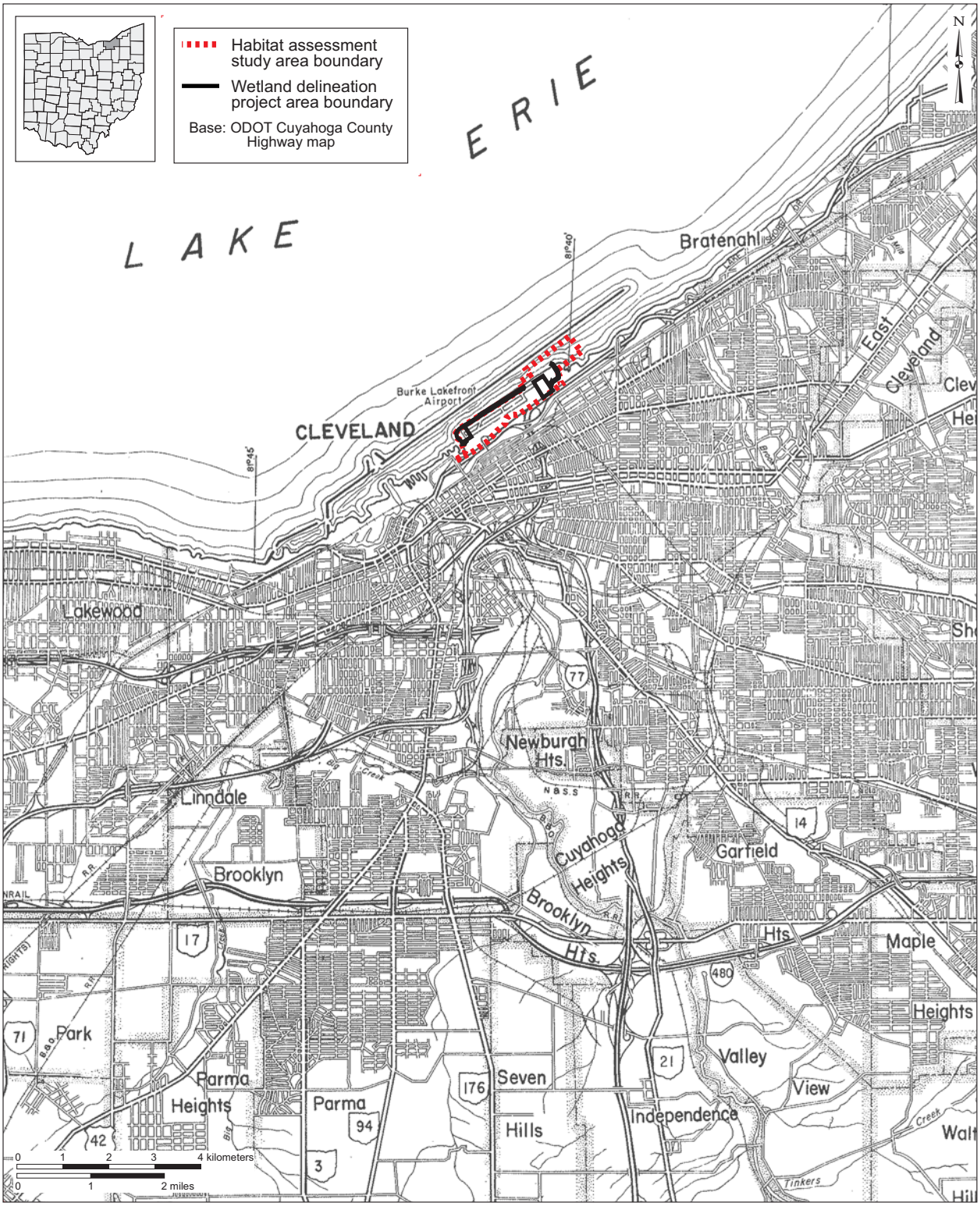

Figure 1. Ohio Department of Transportation (ODOT) map showing project vicinity for the Burke Lakefront Airport.

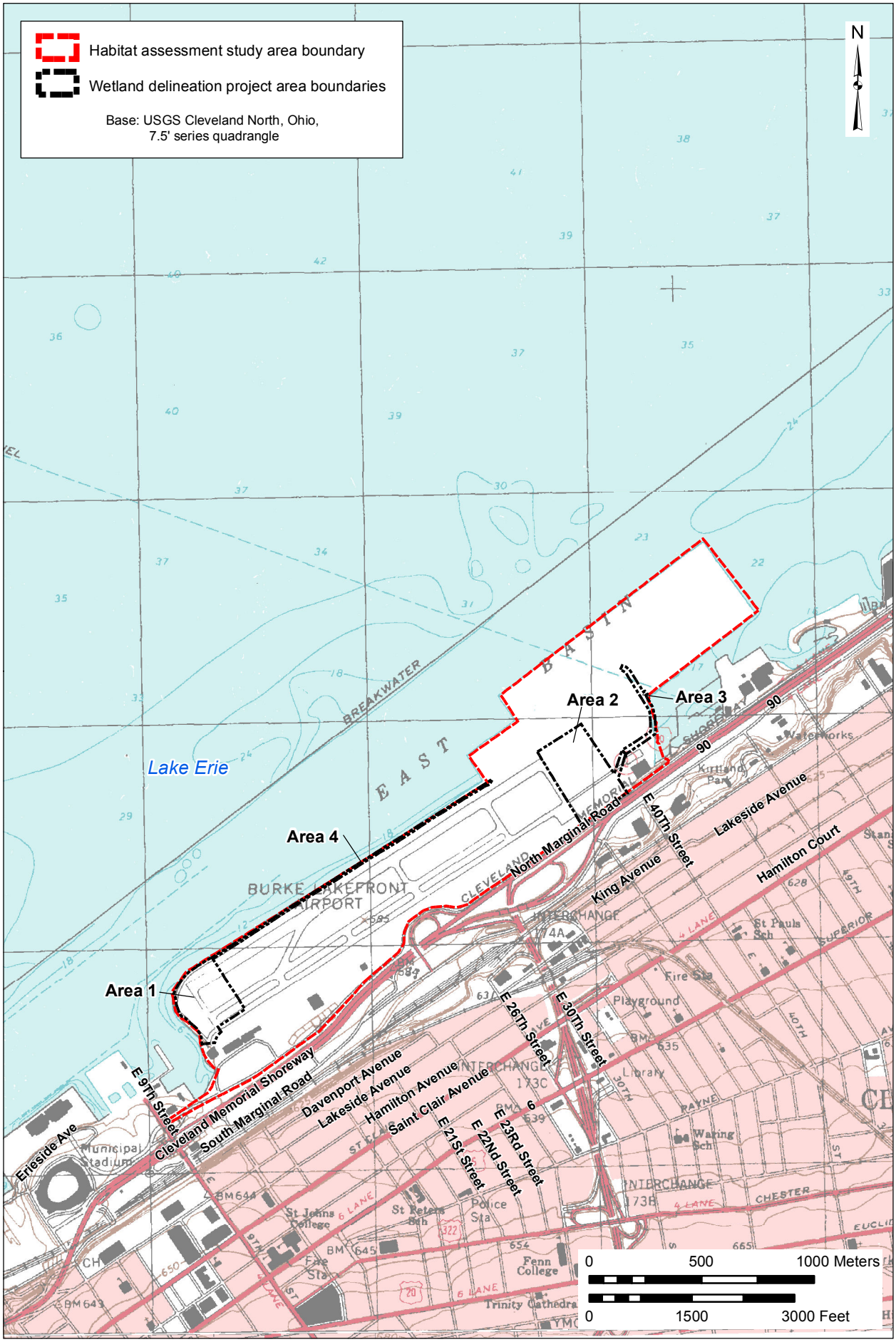

Figure 2. Portions of the 1994 Cleveland North quadrangle (USGS 7.5' topographic map) showing the Burke Lakefront Airport.

Figure 3. Soil Survey map (USDA, NRCS 2009a), showing the Burke Lakefront Airport.

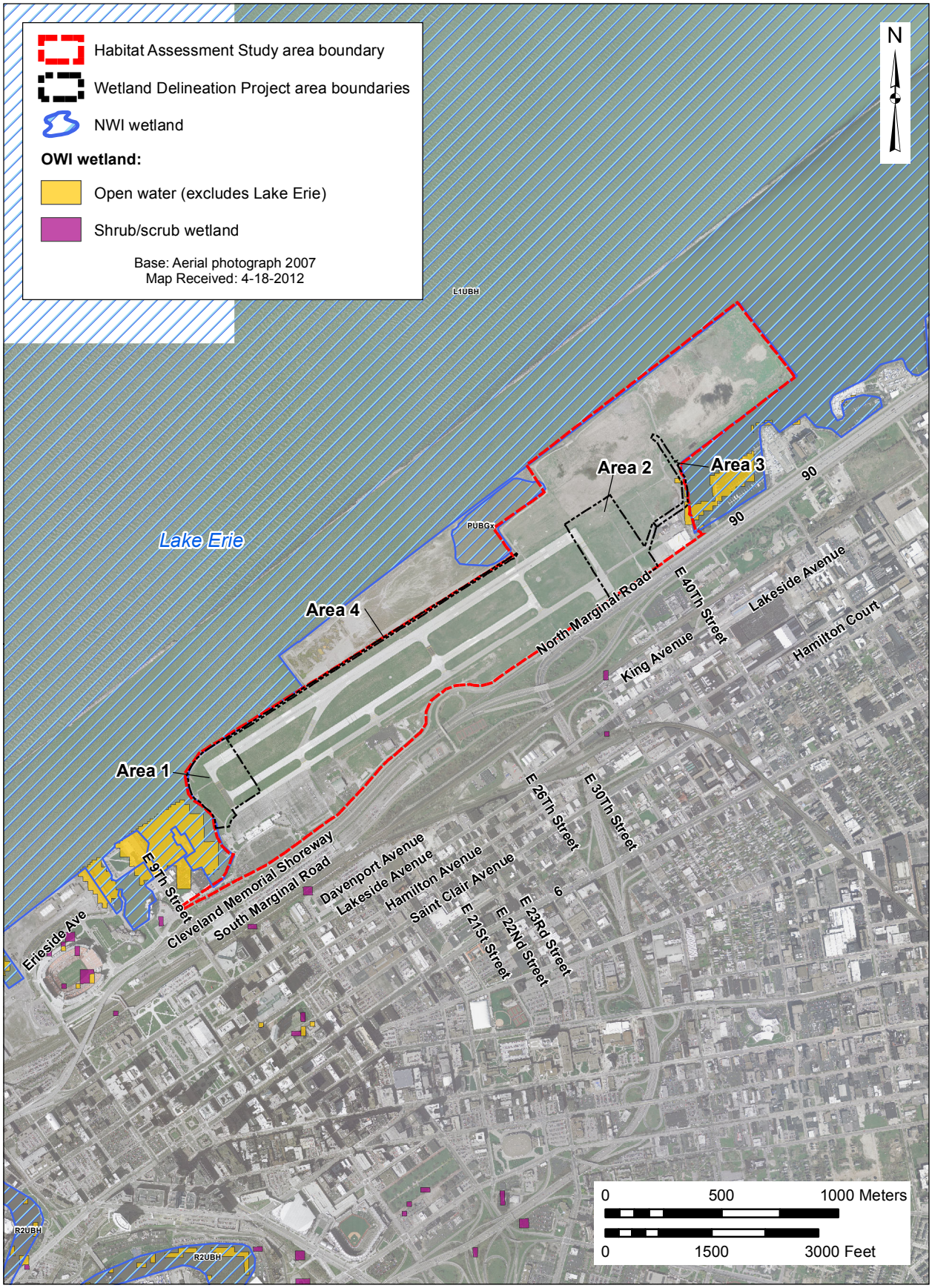

Figure 4. Ohio Wetland Inventory (ODNR 1991) and National Wetland Inventory maps (USFWS 2012b) showing the Burke Lakefront Airport.

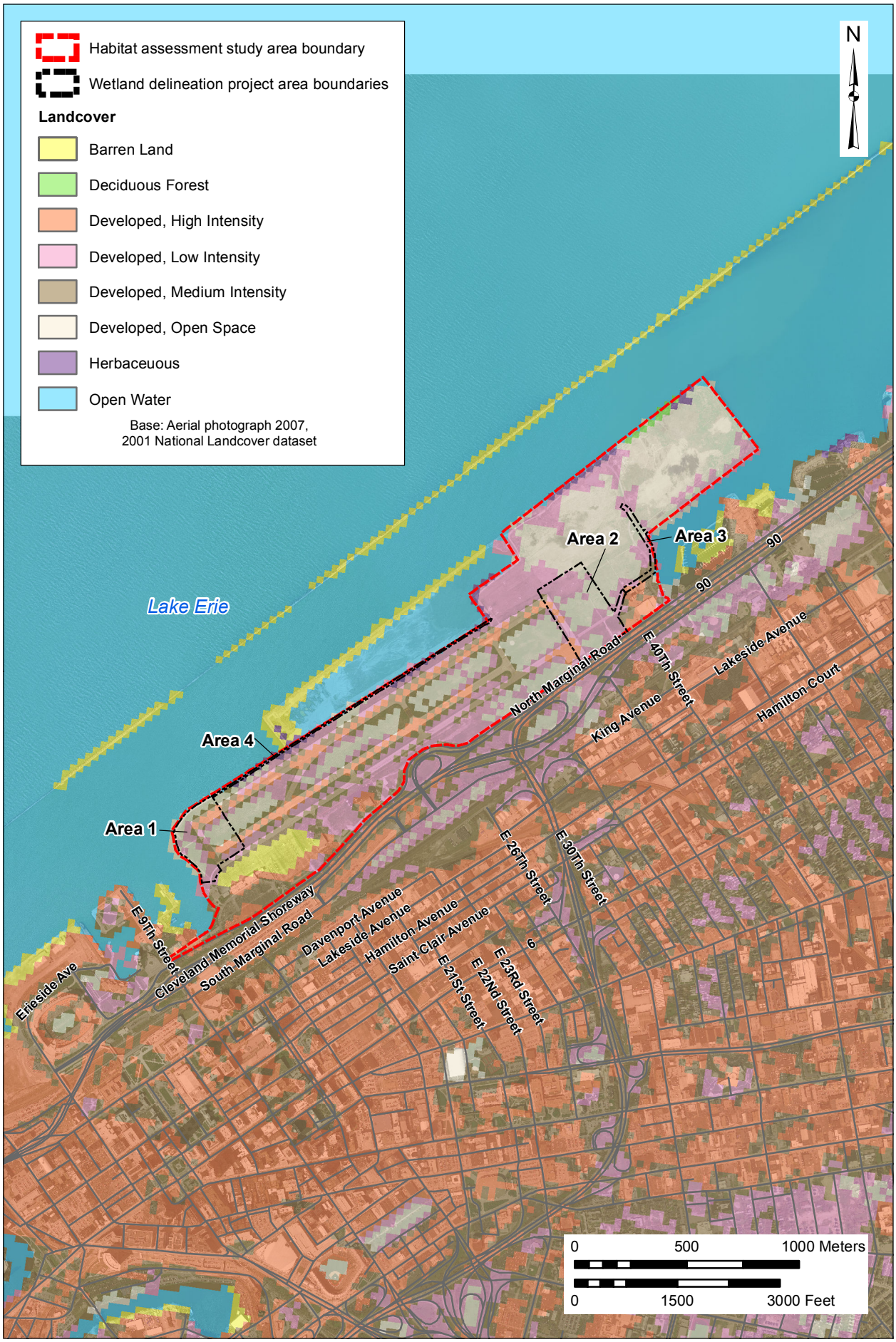

Figure 5. National Landcover map for Burke Lakefront Airport.

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Figure 6. Map of Burke Lakefront Airport showing Areas 1–4, wetlands and photograph locations. (2 Sheets)

Habitat Assessment study area boundary
Wetland delineation project area boundaries
Sample point
Photograph location
Wetland

Base: Aerial photograph 2007
Map received: 4-18-2012

N

Area 2
Area 3
Area 4

Ruddy Duck
SP 1
SP 2
SP 3
SP 4
SP 5
SP 6
SP 7
SP 8
SP 9
SP 10
Wetland 1
Wetland 2
Wetland 3
Wetland 4
Wetland 5
Wetland located outside project area

North Marginal Road
Cleveland Memorial Shoreway
South Marginal Road
E 49Th Street
E 40Th Street
E 45Th St
Lakeside Avenue
90

0 125 250 Meters
0 375 750 Feet

Figure 6. Map of Burke Lakefront Airport showing Areas 1–4, wetlands and photograph locations. (2 Sheets)

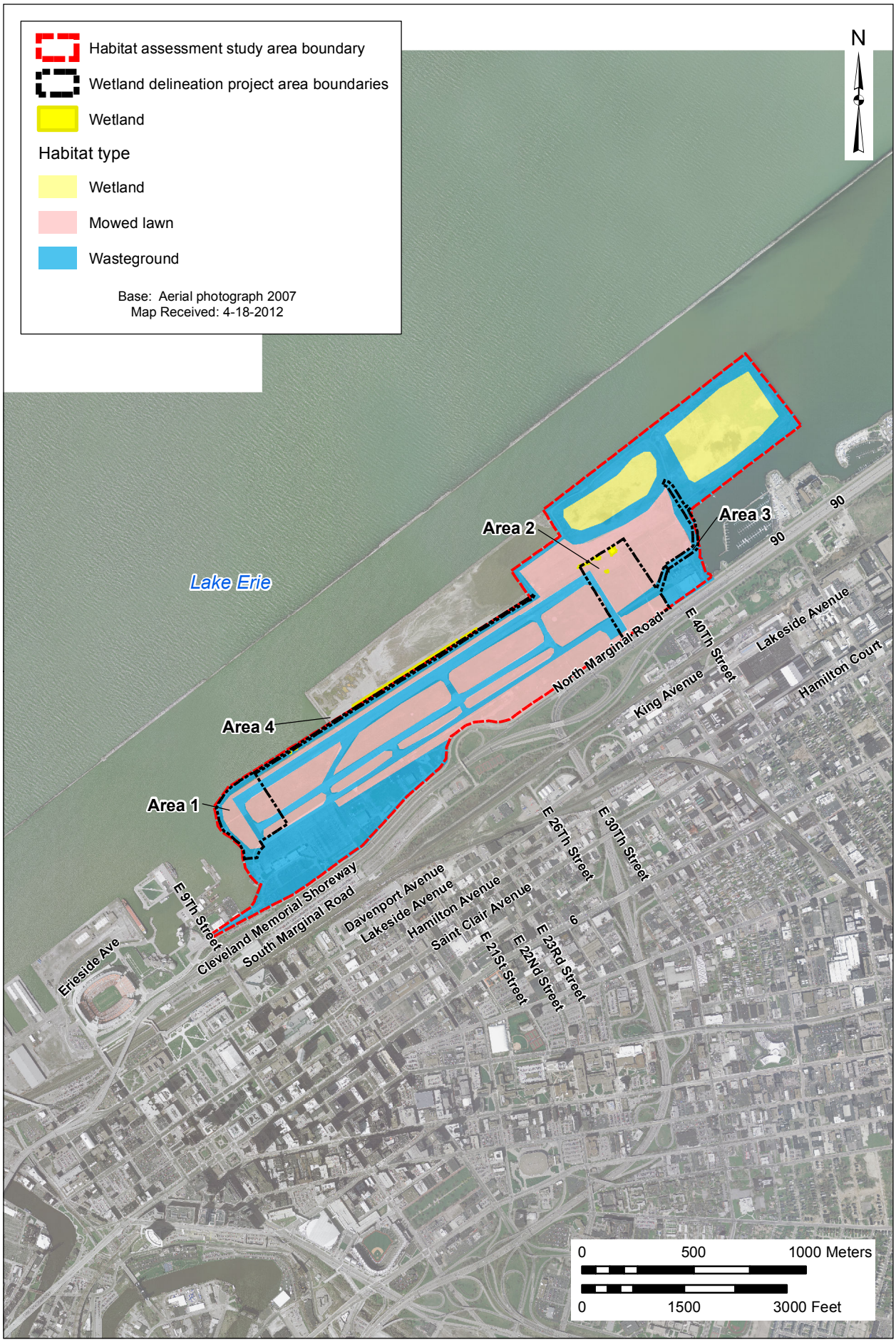

Figure 7. Habitat Map for Burke Lakefront Airport.

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APPENDIX A: PHOTOGRAPHS

Photograph 1. View along the western edge of Area 1, looking northwest.

Photograph 2. View along the western edge of Area 1, looking southeast.

Photograph 3. View along the western edge of Area 1, looking northeast.

Photograph 4. View of mowed lawn area, looking southeast.

Photograph 5. View of runway, looking northeast.

Photograph 6. View of mowed lawn, looking northeast.

Photograph 7. View of mowed lawn looking southwest.

Photograph 8. View along the northern edge of Area 1, looking northeast.

Photograph 9. View of wetland located adjacent to Area 4, looking northeast.

Photograph 10. View of wetland located adjacent to Area 4, looking southwest.

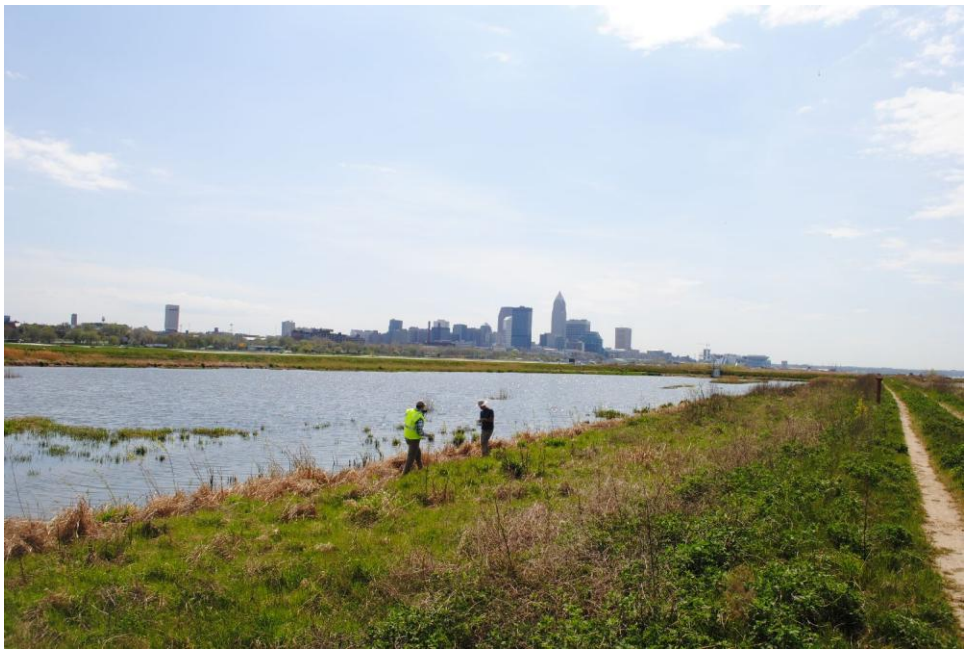
Photograph 11. View of a portion of the USACE confined disposal facility located adjacent to Area 4, looking southwest.

Photograph 12. View of a portion of the USACE confined disposal facility located adjacent to Area 4, looking northeast.

Photograph 13. View of access road and a portion of the USACE confined disposal facility in Area 4, looking southeast.

Photograph 14. View of an artificially flooded wetland, looking southwest.

Photograph 15. View of open water area adjacent to the airport property, looking southwest.



Photograph 16. View of an artificially flooded wetland, looking southwest.

Photograph 17. View of an artificially flooded wetland, looking east.

Photograph 18. View of a wetland, looking east.

Photograph 19. View of access road, looking southwest.

Photograph 20. View of access road, looking northeast.

Photograph 21. View of wetland, looking west.

Photograph 22. View of wetland, looking southeast.

Photograph 23. View of access road, looking southeast.

Photograph 24. View of access road, looking northwest.

Photograph 25. View of Area 3, looking northeast.

Photograph 26. View of Area 2, looking southwest.

Photograph 27. View of fill pile, looking northeast.

Photograph 28. View of marina along the eastern boundary of Area 3, looking southeast.

Photograph 29. View of Area 3, looking northwest.

Photograph 30. View of Area 3, looking northwest.

Photograph 31. View of Area 3, looking northwest.

Photograph 32. View of access road and adjacent mowed lawn, looking southeast.

Photograph 33. View of mowed lawn in Area 2, looking west.

Photograph 34. View of Wetland 1, looking northwest.

Photograph 35. View of Wetland 2, looking east.

Photograph 36. View of Wetland 3, looking east.

Photograph 37. View of Wetland 4, looking west.

Photograph 38. View of wetland adjacent to the Area 2 boundary, looking west.

Photograph 39. View of mowed lawn in Area 2, looking southeast.

Photograph 40. View of mowed lawn in Area 2, looking northwest.

Photograph 41. View of mowed lawn in Area 2, looking northeast.

Photograph 42. View of mowed lawn in Area 2, looking northwest.

Photograph 43. View of mowed lawn in Area 2, looking southeast.

Photograph 44. View of Wetland 5, looking northwest.

APPENDIX B: WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 1

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5237 Long: 81.6726 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**If yes, optional Wetland Site ID: Wetland 1**

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
X Sediment Deposits (B2)	**X** Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
X Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	0.5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **1**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Agrostis stolonifera*	80	Yes	FACW
2. *Eleocharis erythropoda*	15	No	OBL
3. *Phalaris arundinacea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) The dominant species observed has a wetland indicator status of FACW. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

SOIL Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
4-7	2.5Y 4/1	90	10YR 4/6	10	C	PL	Loamy/Clayey	
>7	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)		Depleted Matrix (F3)
Depleted Below Dark Surface (A11)	**X**	Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, l, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 7

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Redox Dark Surface (F6) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 2

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land, Road Embankment Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5234 Long: 81.6734 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No		**Within a Wetland? Yes** **No X**
Wetland Hydrology Present?	Yes		No	**X**	**If yes, optional Wetland Site ID: Out Point for Wetland 1**

Remarks:

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	**X**	Depth (inches):
Water Table Present?	Yes	No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No	**X**	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **2**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca elatior*	70	Yes	FACU
2. *Plantago lanceolata*	20	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** **No** **X**

Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test is not greater than 50 percent. The plant community fails the Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

SOIL Sampling Point: **2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)		Depleted Matrix (F3)
Depleted Below Dark Surface (A11)	**X**	Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Redox Dark Surface (F6) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 3

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5234 Long: 81.6734 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**If yes, optional Wetland Site ID: Wetland 2**

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water(A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
X	Sediment Deposits (B2)	**X**	Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
X	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	0.5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **3**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Agrostis stolonifera*	80	Yes	FACW
2. *Eleocharis erythropoda*	15	No	OBL
3. *Phalaris arundinacea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) The dominant species observed has a wetland indicator status of FACW. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

SOIL Sampling Point: **3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
4-7	2.5Y 4/1	90	10YR 4/6	10	C	PL	Loamy/Clayey	
>7	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)		Depleted Matrix (F3)
Depleted Below Dark Surface (A11)	**X**	Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, l, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 7

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Redox Dark Surface (F6) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 4

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land, Road Embankment Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5235 Long: 81.6733 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No		**Within a Wetland? Yes** **No X**
Wetland Hydrology Present?	Yes		No	**X**	**If yes, optional Wetland Site ID: Out Point for Wetland 2**

Remarks:

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	**X**	Depth (inches):
Water Table Present?	Yes	No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No	**X**	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **4**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca elatior*	70	Yes	FACU
2. *Plantago lanceolata*	20	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test is not greater than 50 percent. The plant community fails the Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)		Depleted Matrix (F3)
Depleted Below Dark Surface (A11)	**X**	Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Redox Dark Surface (F6) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 5

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5232 Long: 81.6738 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**If yes, optional Wetland Site ID: Wetland 3**

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water(A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
X	Sediment Deposits (B2)	**X**	Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
X	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	0.5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **5**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Eleocharis erythropoda*	60	Yes	OBL
2. *Agrostis stolonifera*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) The dominant species observed have a wetland indicator status of FACW and OBL. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 6

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land, Road Embankment Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5232 Long: 81.6738 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No		**Within a Wetland? Yes No X**
Wetland Hydrology Present?	Yes		No	**X**	**If yes, optional Wetland Site ID: Out Point for Wetland 3**

Remarks:

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	**X**	Depth (inches):
Water Table Present?	Yes	No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No	**X**	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **6**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca elatior*	70	Yes	FACU
2. *Plantago lanceolata*	20	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test is not greater than 50 percent. The plant community fails the Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

- 2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L, M)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 7

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5232 Long: 81.6740 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**If yes, optional Wetland Site ID: Wetland 4**

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water(A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
X	Sediment Deposits (B2)	**X**	Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
X	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	0.5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **7**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Eleocharis erythropoda*	60	Yes	OBL
2. *Agrostis stolonifera*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) The dominant species observed have a wetland indicator status of FACW and OBL. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 8

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land, Road Embankment Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5232 Long: 81.6740 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No		**Within a Wetland? Yes No X**
Wetland Hydrology Present?	Yes		No	**X**	**If yes, optional Wetland Site ID: Out Point for Wetland 4**

Remarks:

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	**X**	Depth (inches):
Water Table Present?	Yes	No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No	**X**	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **8**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca elatior*	70	Yes	FACU
2. *Plantago lanceolata*	20	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test is not greater than 50 percent. The plant community fails the Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 9

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5229 Long: 81.6729 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**If yes, optional Wetland Site ID: Wetland 5**

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water(A1)
- High Water Table (A2)
- **X** Saturation (A3)
- Water Marks (B1)
- **X** Sediment Deposits (B2)
- Drift Deposits (B3)
- **X** Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- **X** Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- **X** FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No	**X**	Depth (inches):
Water Table Present?	Yes		No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	**X**	No		Depth (inches): 0.5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **9**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Eleocharis erythropoda*	60	Yes	OBL
2. *Agrostis stolonifera*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) The dominant species observed have a wetland indicator status of FACW and OBL. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Burke Lakefront Airport City/County: Cleveland/Cuyahoga Sampling Date: 3.14.12

Applicant/Owner: Burke Lakefront Airport State: OH Sampling Point: 10

Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski

Landform (hillslope, terrace, etc.): Urban Land, Road Embankment Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 41.5229 Long: 81.6727 Datum: NAD 1927

Soil Map Unit Name: Ub – Urban Land NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (If no, explain in Remarks.)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No		**Within a Wetland? Yes** **No X**
Wetland Hydrology Present?	Yes		No	**X**	**If yes, optional Wetland Site ID: Out Point for Wetland 5**

Remarks:

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	**X**	Depth (inches):
Water Table Present?	Yes	No	**X**	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No	**X**	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **10**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca elatior*	70	Yes	FACU
2. *Plantago lanceolata*	20	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test is not greater than 50 percent. The plant community fails the Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	The soils observed are highly disturbed.
>4	IMPENETRABLE						Fill	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Histosol (A1)		Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
Histic Epipedon (A2)		Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
Black Histic (A3)		Loamy Mucky Mineral (F1) **(LRR K, L)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)
Sandy Mucky Mineral (S1)		Redox Depression (F8)
Sandy Gleyed Matrix (S4)		
Sandy Redox (S5)		
Stripped Matrix (S6)		
Dark Surface (S7) **(LRR R, MLRA 149B)**		

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(LRR K, I, MLRA 149B)**
Coast Prairie Redox (A16) **(LRR K, L, R)**
5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
Dark Surface (S7) **(LRR K, L, M)**
Polyvalue Below Surface (S8) **(LRR K, L)**
Thin Dark Surface (S9) **(LRR K, L)**
Iron-Manganese Masses (F12) **(LRR K, L, R)**
Piedmont Floodplain Soils (F19) **(MLRA 149B)**
Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 4

Hydric Soil Present? **Yes** **X** **No**

Remarks:

The soils observed are highly disturbed. The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

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APPENDIX C: ORAM V.5.0 FORMS

ORAM v.5.0 Field Form Quantitative Rating

Site: Burke Lake Airport, Wetlands 1-5 | Rater(s): Len Mikles | Date: Apr 19, 2012

Metric 1. Wetland Area (size)

max 6 pts. | subtotal: 2 | 2

Select one size class and assign score.

- ☐ >50 acres (20.2ha) (6 pts.)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts.)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts.)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts.)
- 2 ☒ 0.3 to <3 acres (0.04 to <0.12 to <1.2ha (2 pts.)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha (1 pt.)
- ☐ <0.1 acres (0.04ha) (0 pts.)

Metric 2. Upland buffers and surrounding land use

max 14 pts. | subtotal: 6 | 8

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- 4 ☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☐ LOW. Old field (>10 years), shrubland, young second growth forest (5)
- 2 ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation, tillage, new fallow field (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

Metric 3. Hydrology

max 30 pts. | subtotal: 6 | 14

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- 1 ☒ Precipitation (1)
- ☐ Seasonal/intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- 1 ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☐ Recovering (3)
- 1 ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- 1 ☒ Between stream/lake and other human use (1)
- ☐ Part of upland/wetland (e.g. forest) complex (1)
- ☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or double check and average.

- ☐ Semi- to permanently inundated/saturated (4)
- ☐ Regularly inundated/saturated (3)
- 2 ☒ Seasonally inundated (2)
- ☐ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed.

☐ ditch	☐ point source (nonstormwater)
☒ tile	☒ filling/grading
☐ dike	☒ road bed/RR track
☐ weir	☐ dredging
☐ stormwater input	☐ other

3 | 17

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☐ Recovering (2)
- 1 ☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ Fair (3)
- ☐ Poor to fair (2)
- 1 ☒ Poor (1)

Check all disturbances observed.

☒ mowing	☐ shrub/sapling removal
☐ grazing	☒ herbaceous/aquatic bed removal
☐ clearcutting	☐ sedimentation
☐ selective cutting	☐ dredging
☐ woody debris removal	☐ farming
☒ toxic pollutants	☐ nutrient enrichment

4c. Habitat alternation. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☐ Recovering (3)
- 1 ☒ Recent or no recovery (1)

0 | 17

max 10 pts. subtotal

Metric 5. Special Wetlands

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- 0 ☐ Old growth forest (10)
- ☐ Mature forested wetland (5)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10)
- ☐ Relict Wet Prairies (10)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/water fowl habitat or usage (10)
- ☐ Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 | 19

max 20 pts. subtotal

Metric 6. Plant communities, interspersion, microtopography

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [x] Emergent (1)
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open Water

Other

6b. Horizontal (plan view) Interspersion

Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] None (0) (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25 to 75% cover (-3)
- [ ] Sparse 5 to 25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1) (1)

6d. Microtopography

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh (0)
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale	
0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality	
low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality	
0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4h (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale	
0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

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Grant Total

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

Reset Form | Print Form

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APPENDIX D: AGENCY CORRESPONDENCE

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Scott Zody, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

April 17, 2012

Jason Early
ASC Group
800 Freeway Drive North, Suite 101
Columbus, OH 43229

Dear Mr. Early

Per your request, I have e-mailed you a set of ArcView shape files for the Burke Lakefront Airport 6L Safety Improvements project area, including a one mile radius, in the City of Cleveland, Cuyahoga County, Ohio. This data may not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

I am attaching a shape file for the rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, A = recently added to inventory, status not yet determined, FE = federal endangered, FT = federal threatened, FPE = federal potentially endangered, FC = federal candidate and FSC = federal species of concern.

I have performed a search for Indiana Bat (*Myotis sodalis*, state endangered, federal endangered) capture sites within a five mile radius and hibernacula within a ten mile radius. There were no records found in your project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

This letter only represents a review of rare species and natural features data within the Ohio Biodiversity Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq).and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

Greg Schneider

Greg Schneider, Administrator
Ohio Biodiversity Database Program

Appendix D: ODNR biodiversity database serach records within a mile radius.