

**ENVIRONMENTAL ASSESSMENT
FOR IMPROVING THE
RUNWAY 6L/24R SAFETY AREA
AT BURKE LAKEFRONT AIRPORT,
CLEVELAND, OHIO**

Final

September 2012

Prepared for:

Department of Port Control
Cleveland Airport System

Prepared by:



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This Environmental Assessment becomes a Federal document when evaluated and signed and dated by the responsible FAA official.

Katherine S. Delaney
Responsible FAA Official

9/19/12
Date

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**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GREAT LAKES REGION
DETROIT AIRPORTS DISTRICT OFFICE
ROMULUS, MICHIGAN**

FINDING OF NO SIGNIFICANT IMPACT/RECORD OF DECISION

for

IMPROVING THE RUNWAY 6L/24R SAFETY AREA & ASSOCIATED DEVELOPMENT

At

**BURKE LAKEFRONT AIRPORT
CLEVELAND, OHIO**



September 2012

Introduction

This Finding of No Significant Impact/Record of Decision (FONSI/ROD) has been prepared for a proposed project at Burke Lakefront Airport (BKL). The City of Cleveland (Sponsor) is the owner and operator of BKL. The proposed action, environmental impacts, and required mitigation are described in detail in the attached Environmental Assessment (EA), dated September 2012.

The City prepared the EA in accordance with the guidelines and requirements set forth by the Council on Environmental Quality (CEQ) and the Federal Aviation Administration (FAA) to implement the environmental review and disclosure provisions of the National Environmental Policy Act of 1969.

Based on the environmental evaluation, impacts, and mitigation commitments defined in the attached EA, no significant impacts associated with the development actions were identified in accordance with FAA Order 1050.1E, Environmental Impacts: Policies and Procedures and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions of Airport Actions; therefore, no environmental impact statement will be prepared and a FONSI/ROD is being issued.

This FONSI/ROD provides a review of the impacts expected to occur to the environment from a decision to implement the Proposed Action, Sponsor mitigation requirements, and provides the FAA's basis for its decision. Specific project details and mitigation commitments are further defined in the attached EA.

I. The Purpose of and Need for the Proposed Action

The Purpose of the Proposed Action is to comply with Federal Aviation Administration Runway Safety Area standards. In order to meet the purpose of the Proposed Action, the following elements must also be taken into consideration.

- The Need for the Airport to maintain sufficient runway length to the extent practicable and maintain the existing instrument landing system capabilities to accommodate the current and projected fleet.
- The Need to maintain roadway access to the extent practicable in order to maintain Airport, U.S. Department of Agriculture (USDA), and the U.S. Army Corps of Engineers (USACE) maintenance and operational activities.
- The Need to provide ancillary development to support the safety area improvement project.

The Need to maintain sufficient runway length & the existing instrument landing system

Burke Lakefront Airport is located in downtown Cleveland in the midst of an urban setting. The Airport is bounded by many constraints, including obstructions to the east that place limits on instrument approaches into the airport. The existing Instrument Landing System (ILS) approach is a fixed feature at the airport based on the permanent obstructions and cannot be moved. Maintaining the Airport's only instrument approach is vital to the use of the airport in the region.

Runway 6L/24R is currently 6,198 feet long by 150 feet wide. The Airport is served by a wide variety of aircraft. This includes small single-engine airplanes to large air carrier jets used by local and visiting sports team on a charter basis. A runway length analysis of the existing fleet mix identified a need to maintain at least 6,198 feet of runway length.

The Need to maintain roadway access

The Airport maintains vehicle service roads that provide access around the airport perimeter. The vehicle service road needs to be maintained to the extent practicable and is broken into three distinct sections each serving a unique and required need. This road provides access for airport operations, USDA wildlife management and mitigation, and the USACE. The road is used for a variety of purposes by multiple users to complete their mission. Airport operations use the road to perform perimeter checks, maintenance operations, and wildlife management activities in accordance with their Part 139 certificate. The USDA uses the road as a part of their agreement with the City of Cleveland and the USACE to perform wildlife management and mitigation related to the activities associated with both the Combined Disposal Facilities and the proximity to Lake Erie. Lastly, the USACE uses portions of the vehicle service road to access the Combined Disposal Facility operation. This is the only land access to the operation.

The Need to provide ancillary development support to the project

The completion of the Proposed Action will require some airport facilities to be modified and/or improved to be consistent with the airfield layout. These ancillary development items include extending taxiways to the new runway thresholds and relocation of navigational aids.

II. Proposed Action

The Proposed Action will be constructed on Airport-owned land and adjacent U.S. Army Corps of Engineers land. The Proposed Action will improve the Runway 6L/24R Safety Area and associated development and is broken into the following components:

- *Construction of a 400-foot Engineered Materials Arresting System (EMAS) bed on the Runway 6L end.*
- *Displace the landing threshold of Runway 6L approximately 165 feet to the east.*
- *Construct an approximate 600-foot eastern shift and extension to Runway End 24R.*
- *Relocation and enhancements to the vehicle service road, identified by three distinct areas – the south end, west side, and north end.*

The Proposed Action is graphically depicted in the Final Environmental Assessment Exhibit 1-2.

The Connected Actions associated with this project include: the construction and extension of the taxiways to the new runway ends; the relocation of the existing FAA Navigational Aids (NAVAIDs), including the Runway End 6L End Identifier Lights, automated surface observing system, and the addition of in-ground runway lights in the shift/extension; and new runway marking and striping.

III. Alternatives Considered

There was a wide range of reasonable build alternatives that were evaluated to address the purpose of and need for this project. The Airport evaluated ten (10) airfield build alternatives, three (3) roadway alternatives, and the No Action alternative. The Sponsor's Preferred Alternative, is the construction of a 400-foot EMAS bed on Runway 6L; displace the landing threshold of Runway 6L approximately 165 feet; an approximate 600-foot eastern extension to the Runway 24R end; modifications to the existing vehicle service road; construction/extension of taxiways; relocation of existing FAA navigational aids (including REILs, ASOS, and the addition of in-ground runway lights in the extension); and new runway marking and striping.

Other alternatives were considered and eliminated due to feasibility, financial considerations, or not meeting the purpose and need of meeting FAA design standards, an enhanced runway safety area, and providing a 6,198 feet of runway available for take-off included:

- Establishment of a full RSA through Lake Erie land reclamation;
- Full RSA through shortening the runway and Lake Erie land reclamation;
- 600-foot non-standard RSA length on Runway 6L;
- Full RSA through shortening runway and shifting runway centerline 40 feet south;
- 835-foot non-standard RSA length on Runway 6L and 600-foot runway extension on Runway 24R;
- Full RSA through shortening runway and 800-foot runway extension on Runway 24R;
- Full RSA through shortening runway and 1,000-foot runway extension on Runway 24R; and full RSA through EMAS on Runway 6L and 1,000-foot extension on Runway 24R.

Each alternative was evaluated based on the following criteria:

- Does this alternative provide a FAA-standard RSA?
- Does this alternative maintain runway length and instrument capability?
- Is the alternative economically and environmentally feasible and/or reasonable?

Alternatives that were not able to meet each of the three criteria were eliminated from further consideration. Since the sponsors preferred alternative meets the purpose and need statement and have the fewest environmental impacts, the Sponsor's Preferred Alternative was carried forward for environmental consideration as well as the No Action alternative.

Alternatives Carried Forward

No Action alternative – The No Action alternative would maintain Runway 6L/24R in its existing location and there would be no enhancements or improvements to the runway safety area, vehicle service road, or runway shift.

Proposed Action (Sponsor's Preferred Alternative) – The Proposed Action is the construction of a 400-foot EMAS bed on Runway 6L; displace the landing threshold of Runway 6L approximately 165 feet; an approximate 600-foot eastern extension to the Runway 24R end; modifications to the existing vehicle service road (such as, maintaining portions of the road with operational restrictions and relocating other portions of the road outside the runway safety area); construction/extension of taxiways; relocation of existing FAA navigational aids (including REILs, ASOS, and the addition of in-ground runway lights in the extension); and new runway marking and striping.

It was determined a portion of the vehicle service road will remain in the RSA on the west side of the airport. This determination is based on the unique geographic location and proximity to Lake Erie to BKL. A portion of the road may remain in place subject to the conditions set forth below. Extensive review of the usage and need for the road was completed. It was determined the vehicle service road needs to remain in its existing location for Airport Operations, USDA, and USACE. Each entity uses the road for various reasons but are not limited to perimeter inspections, wildlife management, and access to the north side of the airfield.

In order for the vehicle service road to remain in the RSA many conditions must be met. The conditions as outlined in this finding include:

- Appropriate roadway signage must be installed to delineate the boundaries of the RSA.
 - The approved signage must ultimately be incorporated within the Airport Certification Manual. The Airport must also work with the assigned Airport Certification Safety Inspector (ACSI) on the proposed signage and marking plan. Additionally, it may be necessary to add additional pavement markings at a later date if deemed necessary by the FAA.
- The Airport must establish and enforce appropriate use of the roadway in the airports drivers training program.
 - The training program must include ensuring all personnel who have airfield driving access understand and are trained in the restrictions on the perimeter road. This action must be coordinated with the Airport's assigned ACSI.
- Operational procedures are established to ensure applicable portions of this road are no being used when aircraft operations are taking place on Runway 6L/24R.
 - Operational procedures must ensure the roadway remains clear during aircraft operations during towered and non-towered hours of operation. The procedures must be outlined and exhibited in the Airport Certification Manual to include but not be limited to a Letter of Agreement with the local Airport Traffic Control Tower. This agreement must be coordinated with the ACSI for acceptability.

IV. Public and Agency Coordination

The public and agency coordination was extensive. An agency meeting was held on March 7, 2012 and included a site visit.

Additional agency meetings were held with the USACE and the Ohio Department of Natural Resources (ODNR). The USACE meeting was held on May 9, 2012 in the Buffalo District office. The purpose of the meeting was to discuss the various options regarding the vehicle service road and use of the road. The ODNR meeting was held at the Burke Lakefront Airport on June 21, 2012. The purpose of the meeting was to discuss the close proximity of the vehicle service road to the Lake Erie shoreline and the various submerged land leases held between the City of Cleveland and the ODNR.

The draft EA was made available to the public on August 6, 2012 for 30 days and made available at the following locations: the Burke Lakefront Airport; Cleveland Hopkins International Airport, Planning and Engineering; City of Cleveland, Planning Department; Cleveland Public Library Main Office Science & Technology Department.

A public hearing was held on September 5, 2012 at the Burke Lakefront Airport from 3:00 p.m. to 6:00 p.m. The documentation at the public workshop portion is located in Appendix A. The public comment period was open until September 12, 2012, providing the public a total of 38 days to review and comment on the document. A transcript of the public hearing, including the response to comments is also located in Appendix A.

V. Environmental Considerations and Mitigation

The Proposed Action was compared to the environmental impacts of the No Action alternative described in the Final EA, September 2012. The environmental impacts and mitigation in this section of the FONSI are described for the Proposed Action only.

The following environmental categories were evaluated and found to have **no impacts**:

Air Quality
Architectural, Archaeological, and Cultural Resources
Coastal Resources
Compatible Land Use
Department of Transportation Section 4(f)
Farmlands
Fish, Wildlife and Plants
Floodplains
Hazardous Materials
Light Emissions and Visual Impacts
Natural Resources and Energy Supply
Noise
Secondary Induced Impacts
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health and Safety Risks
Wild and Scenic Rivers

The following environmental impact categories were evaluated and found to have **no significant impact** for the Proposed Action:

1. Construction Impacts

The Proposed Action will include temporary construction impacts typical of construction projects in the area.

Mitigation: The Proposed Action may result in temporary, localized air, water, and noise quality impacts during construction. Construction documents will identify specific environmental control methods to minimize noise, air, and water quality impacts. Care will be taken when identifying haul routes and construction activity hours to avoid

residential areas in order to minimize noise impacts. Air quality impacts, such as fugitive dust and exhaust from construction equipment will be minimized by using some or all of the following measures, including the use of water or other appropriate liquids to control dust during land clearing, grading, and construction operations; tarp covers on trucks transporting construction materials to and from the site; the wetting of unpaved roadways and material stockpiles; and removing loose material, vehicle cleaning, and landscaping of disturbed areas. Sediment and erosion control measures will be used to minimize any water quality impacts under the requirements of the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System Permit Program. No in-water work is approved for the construction of this project. Construction will comply with the most current version of FAA specifications AC 150/5370-2E – *Operational Safety on Airports During Construction* and AC 150/5370-10A – *Standards for Specifying Construction of Airports*. Ohio Environmental Protection Agency (OEPA) regulations will be followed, as required, to prevent air pollution. The City of Cleveland must obtain a general NPDES permit for any construction activity prior to the start of the project.

2. Water Quality

The Proposed Action includes impacts to the City of Cleveland-owned storm sewer pipes; Combined Sanitation/ Stormwater Pipes (Perpendicular to the Runway); and drainage along the Confined Disposal Facility 10B roadway and berm. The proposed road relocation out of the runway safety area is intended to restore the functionality of the drainage and the pipes once the road is relocated.

Mitigation: The storm sewer pipe located on the Runway 6L end in close proximity to the proposed EMAS bed will need to be relocated due to interference with potential maintenance of the pipe and sensitivity of the EMAS bed to construction traffic. Pipe relocation must be coordinated with the appropriate owners. Prior to construction of the replacement vehicle service road on USACE property, the USACE, Buffalo District and Real Estate Division must be coordinated with on the plans and specifications, including the proposed drainage structures with the road.

3. Wetlands

The Proposed Action includes impacts to isolated wetlands, which will require a Section 401 Water Quality Certification administered by the OEPA. Total impact avoidance to all of the identified wetlands in the proposed project area is not likely due to the site and engineering constraints for the proposed project. There are no prudent, feasible, or reasonable alternatives to avoid impacts to the wetlands. The Proposed Action will impact approximately 0.312 acres of isolated wetlands.

Mitigation: The City of Cleveland must receive the final jurisdictional determination from the USACE and all appropriate permits from both Federal and State agencies prior to the start of construction. The USACE administers the Clean Water Act and Section 404

permit and the OEPA administers the Section 401 Water Quality Certification. All permits must be obtained prior to impacting the wetlands. All applicable permits and mitigation requirements must be met prior to the start of the project.

Based upon the discussion presented in the Final EA related to wetland impacts, the proposed mitigation strategy, and in accordance with wetland protection provisions of Executive Order 11990, Protection of Wetlands, the FAA finds that: (a) there is no practicable alternative to such construction; and (b) the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

VI. FAA FINDINGS and ORDERS

The following determinations are based upon analysis contained in the EA:

Implementation of the Proposed Action would not cause an increase in net air emissions that would equal or exceed the applicable *de minimis* thresholds demonstrating the Proposed Action would not require a General Conformity Determination. Consequently, it can be concluded that no adverse impact on air quality would be expected as a result of the Proposed Action. [Clean Air Act, Section 176(c)(1) Conformity Determination for the Proposed Project. 42 U.S.C. Section 7506(c)]

Based on the discussion presented in the EA related to wetland impacts and in accordance with wetland protection provisions of Executive Order 11990, I find that: 1) There are no practicable alternatives to such construction, and 2) that the Proposed Action includes all practicable measures to minimize harm to wetlands which may result from such use.

Individuals from the FAA have devoted substantial attention to the EA in order to insure compliance with NEPA and other environmental requirements. Accordingly, I find that the independent and objective evaluation call for by the Council on Environmental Quality has been provided. The FAA has given this proposal the independent and objective evaluation required by the Council on Environmental Quality [40 CFR 1506.5].

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the proposed Federal action is consistent with the existing national environmental policies and objectives set forth in Section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA. As a result, FAA will not prepare an EIS for this action.

Therefore, under the authority delegated to me by the Administrator of the FAA, I find that the proposed airport improvement projects described and evaluated in the attached EA and addressed in this FONSI/ROD are reasonably supported and approved.

I direct that action be taken to carry out the agency actions discussed in the following proposed action:

- FAA approval of the final Airport Layout Plan for the Proposed Action showing the improvement project.
- Federal environmental approval so that the City of Cleveland can establish eligibility to participate in funding through the Federal Airport Improvement Program funds.
- Determination and actions, through the aeronautical study process of any off-airport obstacles that might be obstructions to the navigable airspace under the standards and criteria of 14 CFR Part 77 and evaluate the appropriateness of proposals for on-airport development from an airspace utilization and safety perspective based on aeronautical studies conducted pursuant to the processes under the standards and criteria of 14 CFR Part 157, including the conditions set forth earlier in this Finding of No Significant Impact/Record of Decision.
- Development of air traffic control and airspace management procedures to establish and maintain safe and efficient handling and movement of air traffic into and out of the airport under 49 U.S.C. Sections 40103, 40113, and 40120; development and approval of revision to Standard Instrument Approach Procedures (SIAP), Standard Instrument Departures (SID), and Standard Approach Routes (STAR) procedures (14 CFR Part 97).
- FAA environmental approval for issuance of necessary funding, installation, and/or relocation, certification, and operation of navigational aids and any associated revisions to the existing procedures.
- FAA determinations that the proposed projects conform to the greatest extent practicable and feasible to the FAA design standards including the conditions set forth earlier in this Finding of No Significant Impact/Record of Decision.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 of the National Environmental Policy Act of 1969 and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 101(a) and Section 102(2)(C) of NEPA.

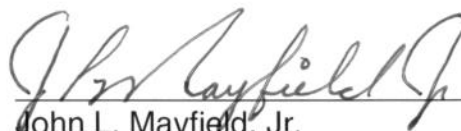
Having met all relevant requirements for environmental considerations and consultations, the Proposed Action is authorized to be taken at such time as the requirements have been met. These decisions are taken pursuant to 49 U.S.C. § 40101, et seq. The FAA findings contained in the ROD regarding the FONSI/ROD, Runway 6L/24R Safety Area Improvement, installation of Engineering Material Arresting

System, relocation of the vehicle service roads, and realignment of existing taxiways, and any necessary funding constitute an order of the Administrator, which is subject to review by the Court of Appeals of the United States in accordance with the provisions of Section 1006 of Federal Aviation Act of 1958, as amended, 49 U.S.C. § 46110.

Finally, having based upon the administrative review of this project, I certify, as prescribed by 49 U.S.C. 44502(b) that implementation of the Proposed Action is reasonably necessary for the use in air commerce.

APPROVED:

 vx



John L. Mayfield, Jr.

Detroit Airports District Office Manager
Federal Aviation Administration

Date: 9-19-12

RIGHT OF APPEAL

This FONSI/ROD presents the Federal Aviation Administration's final decision and approvals for the actions identified, including those taken under provisions of 49 U.S.C. Subtitle VII, Parts A and B. This decision constitutes a final order of the Administrator subject to review by the Courts of Appeals of the United States in accordance with the provisions of 49 U.S.C. Section 46110.

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ACRONYMS

| | |
|---------|--|
| AAC | Aircraft Approach Category |
| AC | Advisory Circular |
| ACCRI | Aviation Climate Change Research Initiative |
| ALP | Airport Layout Plan |
| ADG | Airplane Design Group |
| APE | Area of Potential Effect |
| APU | Auxiliary Power Unit |
| AQCR | Air Quality Control Region |
| ARC | Airport Reference Code |
| ARFF | Aircraft Rescue and Fire Fighting |
| ATADS | Air Traffic Activity System |
| ATCT | Airport Traffic Control Tower |
| AWOS | Automated Weather Observing System |
| BMP | Best Management Practice |
| BCMP | Best Construction Management Practice |
| BKL | Burke Lakefront Airport |
| CAA | Clean Air Act, including the 1990 Amendments |
| CBD | Central Business District |
| CBRA | Coastal Barrier Resources Act |
| CDF | Confined Disposal Facility |
| CEQ | Council on Environmental Quality |
| CERCLIS | Comprehensive Environmental Response, Compensation, and Liability Information System |
| CFR | Code of Federal Regulations |
| CIP | Capital Improvement Plan |
| CLE | Cleveland Hopkins International Airport |
| CMA | Coastal Management Area |
| CMSD | Cleveland Metropolitan School District |
| CNG | Compressed Natural Gas |
| CO | Carbon Monoxide |

| | |
|-------|--|
| CSO | Combined Sewer Outfall |
| CWA | Clean Water Act |
| DEIS | Draft Environmental Impact Statement |
| DNL | Day-Night Average Sound Level |
| DOE | Department of Energy |
| DOT | Department of Transportation |
| DPC | City of Cleveland Department of Port Control |
| EA | Environmental Assessment |
| EDMS | Emissions and Dispersion Modeling System |
| EIS | Environmental Impact Statement |
| EMAS | Engineered Materials Arrestor System |
| EMS | Emergency Medical Service |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| ETMS | Enhanced Traffic Management System |
| FAA | Federal Aviation Administration |
| FBO | Fixed Based Operator |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highways Administration |
| FIRM | Flood Insurance Rate Maps |
| FONSI | Finding of No Significant Impact |
| GA | General Aviation |
| GAO | General Accounting Office |
| GAV | Ground Access Vehicles |
| GHG | Greenhouse Gases |
| GSE | Ground Support Equipment |
| HIRL | High Intensity Runway Edge Lights |
| ICAO | International Civil Aviation Organization |
| IFR | Instrument Flight Rules |

| | |
|-----------------|--|
| ILS | Instrument Landing System |
| INM | Integrated Noise Model |
| ISR | Indirect Source Review |
| JD | Jurisdictional |
| LTO | Landing Take-Off Cycles |
| MA | Maintenance Area |
| MALSF | Medium Intensity Approach Lighting System with Sequenced Flashing Lights |
| MBTA | Migratory Bird Treaty Act |
| MPO | Metropolitan Planning Organization |
| MSA | Metropolitan Statistical Area |
| MSL | Mean Sea Level |
| NAAQS | National Ambient Air Quality Standards |
| NASA | National Aeronautics and Space Administration |
| NAVAIDS | Navigational Aids |
| NEPA | National Environmental Policy Act of 1969 |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NMIM | National Mobile Inventory Model |
| NO ₂ | Nitrogen Dioxide |
| NO _x | Nitrogen Oxides |
| NOAA | National Oceanic and Atmospheric Administration |
| NPL | National Priorities List |
| NRHP | National Register of Historic Places |
| O ₃ | Ozone |
| OAC | Ohio Administrative Code |
| OCMP | Ohio Coastal Management Program |
| OFA | Object Free Area |
| ODNR | Ohio Department of Natural Resources |
| ODOT | Ohio Department of Transportation |
| PARTNER | Partnership for Air Transportation Noise & Emissions Reduction |

| | |
|-------------------|---|
| PM | Particulate Matter |
| PM ₁₀ | Coarse Particulate Matter |
| PM _{2.5} | Fine Particulate Matter |
| REILS | Runway End Identifier Lights |
| RHA | Rivers and Harbors Act |
| RPZ | Runway Protection Zone |
| RSA | Runway Safety Area |
| SC | Special Concern |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SO ₂ | Sulfur Dioxide |
| SO _x | Sulfur Oxides |
| SWPPP | Stormwater Pollution Prevention Plan |
| TAF | Terminal Area Forecast |
| T&E | Threatened or Endangered |
| THPO | Tribal Historical Preservation Officers |
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USDOT | U.S. Department of Transportation |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| VASI | Visual Approach Slope Indicator |
| U.S.C. | United States Code |
| VOC | Volatile Organic Compounds |

Chapter One

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CHAPTER ONE

PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) analyzes the potential environmental impacts of improving the Runway 6L/24R Safety Area at Burke Lakefront Airport (BKL or Airport) in Cleveland, Ohio.

An EA is a disclosure document prepared for a proposed Federal or Federally-funded action, in compliance with the requirements set forth by the Council on Environmental Quality (CEQ) in its regulations implementing the *National Environmental Policy Act of 1969* (NEPA), as amended (40 Code of Federal Regulations (CFR) 1500-1508).¹ The purpose of this EA is to investigate, analyze, and disclose the potential environmental impacts of a Proposed Action and its reasonable alternatives. Depending upon whether certain environmental thresholds of significance are exceeded or not, this EA may either lead to a Finding of No Significant Impact (FONSI) or to the preparation of an Environmental Impact Statement (EIS). This EA has been prepared in accordance with NEPA, Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Actions*, and the FAA's Environmental Desk Reference for Airport Actions. This EA was also prepared pursuant to other laws relating to the quality of the natural and human environments including:

- The Department of Transportation Act, 49 U.S.C., § 303 (formerly Section 4(f))
- 49 U.S.C., §40114, as amended
- 49 U.S.C., §§47101, et seq.
- Executive Order 11990, Protection of Wetlands
- Executive Order 11988, Floodplain Management
- Executive Order 11593, Protection and Enhancement of the Cultural Environment
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Federal Aviation Act of 1958 recodified as 49 U.S.C. §§40101, et seq.
- The Airport and Airway Improvement Act of 1982, 49 U.S.C. §47108, as amended
- National Historic Preservation Act, 16 U.S.C. §470(f), as amended
- 36 CFR Part 800, Advisory Council on Historic Preservation
- Archaeological and Historic Preservation Act, 16 U.S.C. §469(a)

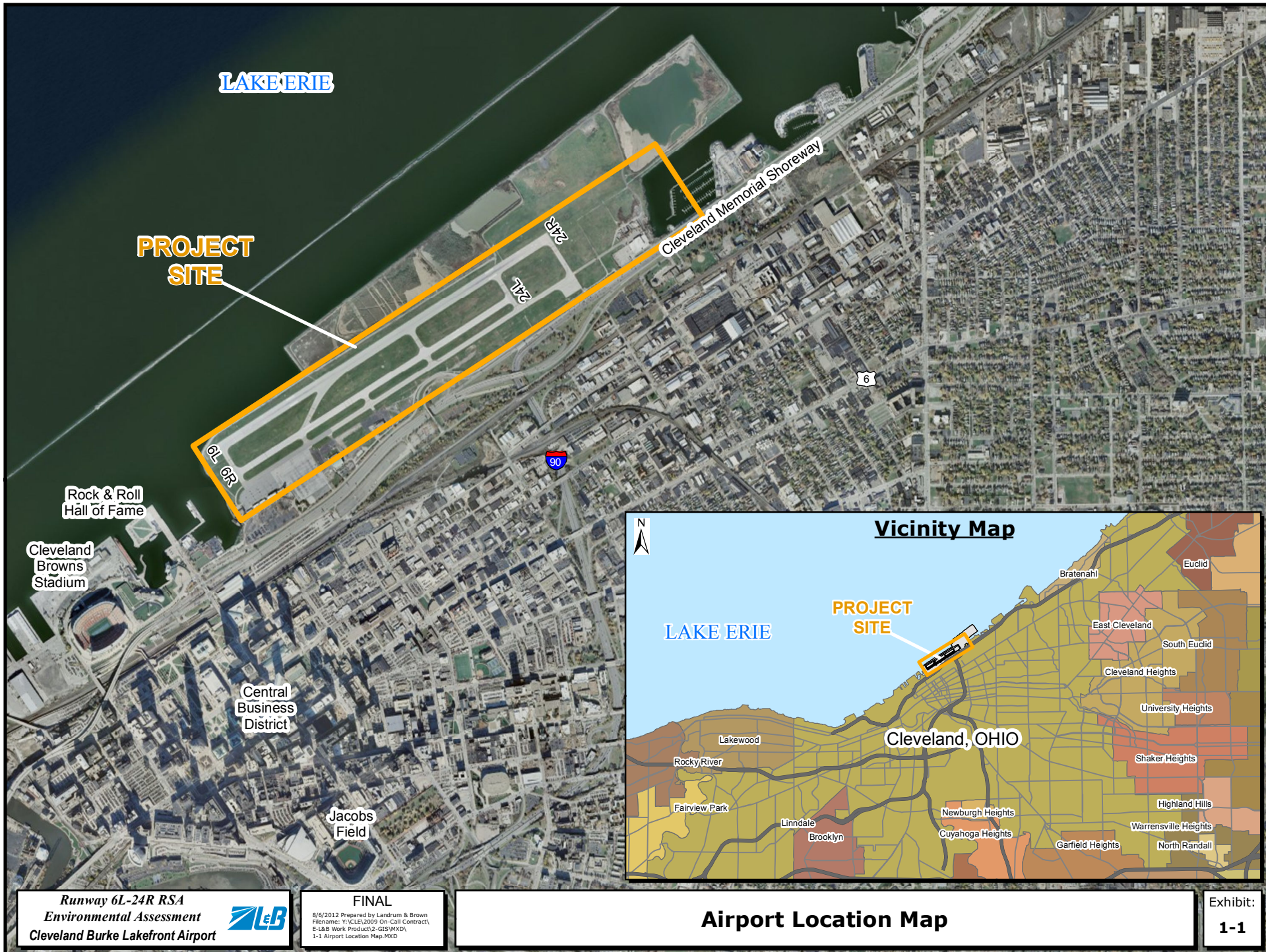
¹ P.L. 91-190, 42 U.S.C. 4321, et. seq., *National Environmental Policy Act*, 1969, Section 102(2)(c).

- Archaeological Resource Protection Act, 16 U.S.C. §470(aa)
- Farmland Protection Policy Act, 7 U.S.C. §73, and implementing regulations at 7 CFR §658
- Clean Air Act, 42 U.S.C. §§7401, et seq., and implementing regulations at 40 CFR Parts 51 and 93
- Clean Water Act, 33 U.S.C. §§121, et seq., and implementing regulations at 33 CFR §§325 and 33 CFR §336
- 33 CFR Parts 320-330, Regulatory Programs of the Corps of Engineers
- Endangered Species Act, 16 U.S.C. §661, et seq., as amended
- Coastal Zone Management Act (CZMA) as amended, 16 U.S.C. §§1451-1464.
- Other laws, regulations, and policies as applicable

1.2 BACKGROUND

BKL is owned and operated by the City of Cleveland, Department of Port Control (DPC). The Airport is located adjacent to the Lake Erie shoreline in downtown Cleveland as shown on **Exhibit 1-1, Airport Location Map**. BKL encompasses 450 acres and has two runways. The main runway, 6L/24R, is 6,198 feet long by 150 feet wide. There is an Instrument Landing System (ILS) on the Runway 24R end that permits landings with cloud ceilings as low as 300 feet above the runway end elevation and horizontal visibility of one mile or more. Runway 6R/24L is a secondary runway and is 5,197 feet long by 100 feet wide. There is no ILS for Runway 6R/24L, as a result all approaches are conducted using visual navigation aids. The Airport is a publicly owned public-use facility with an Airport Traffic Control Tower (ATCT). BKL has a terminal/administration building that accommodates general aviation (GA) operations, commercial/office uses, the International Women's Air & Space Museum, and airport administrative uses. The Airport provides on-site customs and immigration capability on an "on-call" basis. Landmark Aviation is a full-service fixed-based operator (FBO) at BKL that provides an array of aviation-related services including rental cars for visitors, pilot lounges, aircraft fueling, full FAA repair stations, chartering of aircraft, aircraft sales, aircraft management, and aircraft parking/storage. The Airport also has four flight schools (Premier Flight Academy, T&G Flying Services, Top Gun Flight Academy, and Precision Helicopter Services).

BKL is a designated GA reliever airport for Cleveland Hopkins International Airport (CLE). Reliever airports are generally described by the FAA as airports located in major metropolitan areas that divert GA activity from larger scheduled service airports; they are used by the FAA to relieve congestion at commercial service airports and to provide improved GA access to the overall community.



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The intent of a reliever airport is to provide a viable alternative to the use of the primary air carrier airport, in this case CLE, by GA users and to preserve the capacity and capability of the commercial service facility, thereby avoiding the need to undertake major runway development to meet demand. GA activity at BKL ranges from recreational flying and flight training activities to business travel. In addition to business or corporate activity, local and visiting professional sports teams use BKL to fly in and out of Cleveland on larger aircraft. BKL is also routinely used for emergency medical transport flights and donor organ transportation.

1.3 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action, which is the subject of this EA, is proposed to be constructed on Airport-owned property and the U.S. Army Corps of Engineers (USACE) adjacent property. The elements of the Proposed Action as shown on **Exhibit 1-2, Proposed Action**, include:

Construction of a 400-foot Engineered Materials Arresting System (EMAS) bed on Runway End 6L

EMAS consists of crushable concrete blocks which are designed to stop aircraft without significant damage to the aircraft or injuries to passengers. A standard EMAS provides a level of safety that is generally equivalent to a full runway safety area (RSA) built to the dimensional standards in AC 150/5300-13, Airport Design. It also provides an acceptable level of safety for undershoots.² A portion of the RSA is located over an area of Lake Erie.³

Displace landing threshold of Runway 6L 165 feet to the east

A displaced threshold is located at a point on the runway other than the designated beginning of the runway. In this case, the landing point for Runway 6L would be displaced (relocated) to a point 165 feet east of its current position.

An approximate 600-foot eastern shift and extension to Runway End 24R

A 600-foot extension of the runway to the east would be constructed to offset the reduction in runway length associated with the installation of the EMAS and the displacement of the landing threshold of Runway 6L.

² FAA Advisory Circular 150/5220-22A *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*. 09/30/2005. (FAA Advisory Circular 150/5220-22B was released April 24, 2012 to interested industry associations to obtain comments and recommendations by June 29, 2012. AC includes new Paragraph 5, Principal Changes).

³ FAA Order 5200.8, Runway Safety Area Program, Appendix 2, paragraph 4 g. allows the FAA to consider an irregular shape to the RSA if traditional means cannot accomplish the goal of the full rectangular size.

Relocation of the Vehicle Service Road

The vehicle service road currently circles the Airport perimeter and provides access for airport operations, U.S. Department of Agriculture (USDA) wildlife management and mitigation, and the USACE. Each of the three entities uses the vehicle service road to perform their missions. Airport operations use the road to perform perimeter checks, maintenance operations, and wildlife management activities in accordance with their Part 139 certificate. The USDA uses the road as a part of their agreement with the City of Cleveland and the USACE to perform wildlife management and mitigation related to the activities associated with both the Combined Disposal Facilities and the proximity to Lake Erie. Lastly, the USACE uses portions of the vehicle service road to access the Combined Disposal Facility operation. This is the only land access to the operation. Portions of the road would require relocation or closure. See Exhibit 1-2, *Proposed Action*, for location of the following areas.

South End

Approximately 530 feet of the vehicle service road on the southwest end of the Airport would be relocated. This roadway is located adjacent to the Aircraft Rescue and Firefighting (ARFF) station.

West Side Service Road

Currently, the vehicle service road's runs the full length of Runway 6L/24R. Two areas of this road would be affected by the Proposed Action.

Area 1 (southern portion)

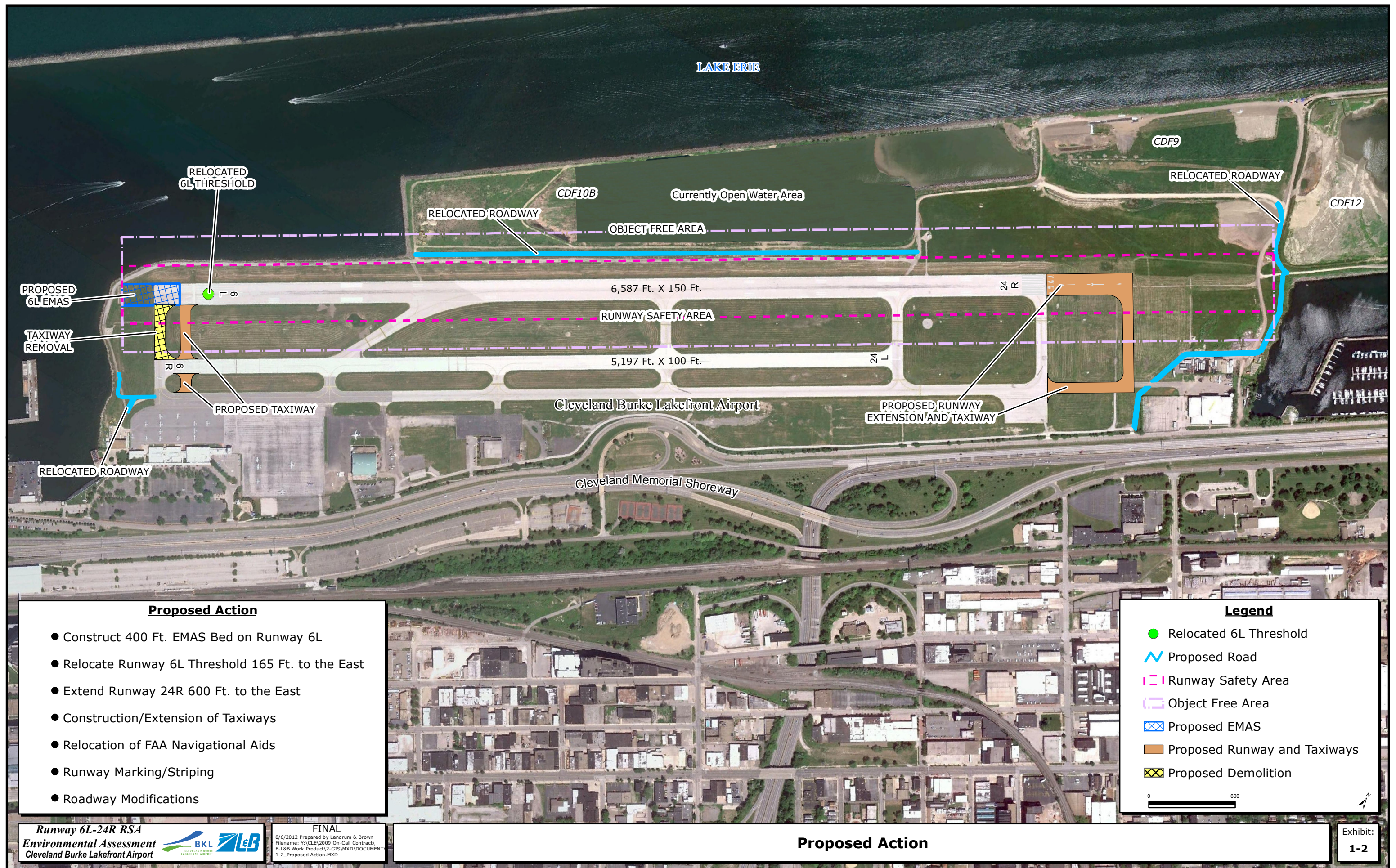
The existing southern portion of the perimeter road is adjacent to Lake Erie. There is no land available directly northwest of the existing road. It is proposed the existing road would remain as it is today, if removal is deemed unacceptable from an airport operations, wildlife management, and safety aspect.

Area 2 (middle portion)

Approximately 3,480 feet of the vehicle service road next to the confined disposal facilities (CDF) Dike 10B would be relocated. The vehicle service road would be relocated into the current storm water drainage area along the south perimeter of CDF Dike 10B. The storm water functions of the drainage ditch would be reconstructed as part of the road relocation.

North End

Approximately 2,200 feet of the vehicle service road on the east side of the Airport by the former Aviation High School and CDF Dike 12 would also need to be relocated. A portion of this roadway would still be located in the object free area (OFA) and would need a modification to standards from the FAA.



Proposed Action

- Construct 400 Ft. EMAS Bed on Runway 6L
- Relocate Runway 6L Threshold 165 Ft. to the East
- Extend Runway 24R 600 Ft. to the East
- Construction/Extension of Taxiways
- Relocation of FAA Navigational Aids
- Runway Marking/Striping
- Roadway Modifications

Legend

- Relocated 6L Threshold
- ~ Proposed Road
- Runway Safety Area
- Object Free Area
- Proposed EMAS
- Proposed Runway and Taxiways
- Proposed Demolition

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Connected Actions

The following elements are considered connected actions of the Proposed Action and are also shown on Exhibit 1-2, *Proposed Action*. Connected actions as defined in FAA Order 5050.4B Paragraph 905 (1) includes actions that are closely related to the Proposed Action and cannot or will not occur unless the Proposed Action is implemented. These connected actions include, construction/extension of taxiways, relocation of existing FAA Navigational Aids (NAVAIDS)⁴ (including the Runway End 6L Runway end identifier lights (REILS), automated surface observing system (ASOS), evaluation and amendments to any necessary flight procedures, and the addition of in-ground runway lights in the shift/extension), and new runway marking/stripping.

1.4 PROPOSED FEDERAL ACTION

The Proposed Action constitutes a modification to the Airport Layout Plan (ALP), environmental evaluation for Federal funding from the Airport Improvement Program, flight procedures, and modifications to various navigational aids which requires FAA approval, consistent with the environmental disclosures within this EA.

The need for Federal approval triggers the requirement for an environmental review in accordance with NEPA⁵. This EA is intended to provide an evaluation sufficient for the FAA to determine whether the Proposed Action would have adverse impacts significant enough to require the preparation of an EIS; or, if the need for an EIS is not indicated, a FONSI would be issued by the FAA.

1.5 SCOPING AND EARLY COORDINATION

The DPC, in cooperation with the FAA, completed a number of scoping activities to determine the range of issues to be analyzed, and to what magnitude they were to be treated in this EA. These activities included:

- Early written coordination with Federal, State, and local resource agencies;
- Conducting an agency scoping meeting; and
- Follow up discussions with specific agencies.

⁴ The existing Runway End 6L and Runway End 24R visual approach slope indicator (VASI) lights on the side of the runway threshold that provides visual descent guidance information during the approach will be replaced as part of a separate FAA project. The VASIs will be replaced by a Precision Approach Path Indicator (PAPI) which consists of four sets of lights in a line perpendicular to the runway, usually mounted to the left side of the runway. These have a similar purpose to the VASI, but have additional lights to show the pilot the glide slope for the aircraft.

⁵ *National Environmental Policy Act of 1969 (NEPA)*; Pub.L. 91-190, U.S. Statute at Large, Volume and Page (83 Stat. 852) (January 1, 1970); codified as Title 42 U.S. Code §4321-4347; as amended 42 U.S. Code §4371 et seq.

In an effort to identify potential issues associated with the Proposed Action, a coordination letter was mailed to key agencies responsible for resource protection and public policy. The letter requested responses from Federal, State, and local agencies which might have information pertaining to natural and human resources and their locations within the study area. A copy of the coordination letter DPC sent out is included in **Appendix A, *Coordination and Comments***.

The DPC and the FAA conducted an Agency Scoping Meeting at 9:30 a.m. on March 7, 2012, at BKL. Members of the DPC, FAA, and the EA consultant team discussed the Proposed Action and were available to respond to questions and issues. Copies of sign-in sheets and other meeting materials for the Agency Scoping Meeting are also included in Appendix A.

The DPC and the FAA also conducted follow up discussions with specific agencies. See Appendix A, *Coordination and Comments* for all scoping comments received and how they were addressed in this EA.

1.6 PUBLIC WORKSHOP AND HEARING

A public information workshop and public hearing were held on September 5, 2012 following the publication of the Draft EA at the Burke Lakefront Airport. The Public Workshop took place from 3:00 p.m. until 6:00 p.m. The format included an open house style workshop with presentation boards and project staff available to answer questions; and a private comment area for individual comments to be made and recorded by a court reporter. The City of Cleveland published a Notice of Availability and Public Hearing in the Plain Dealer on August 6, 2012. See Appendix A, *Coordination and Comments* for the notice, public workshop meeting materials, and the comments received at the public hearing.

1.7 COMMENTS ON THE DRAFT EA

The Draft EA was made available to the public on August 6, 2012. Comments on the Draft EA were accepted until the close of the official comment period on September 12, 2012, a period of 38 days from the publication of the Draft EA. Comments were received on the Draft EA from Federal, state, and local agencies as well as the public. They included emails, letters, and oral testimony provided at the September 5, 2012 public workshop and public hearing. A response was prepared for all substantive comments received on the Draft EA. See Appendix A, *Coordination and Comments*. No significant or substantial issues were identified in any of the comments received on the Draft EA document.

Chapter Two

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CHAPTER TWO PURPOSE AND NEED

2.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

For an Environmental Assessment (EA), the purpose and need section should identify “the problem facing the proponent (that is, the need for an action), the purpose of the action (that is, the proposed solution to the problem), and the proposed timeframe for implementing the action”.¹

The following sections provide the need statements for the Proposed Action, the purpose of the project, and the proposed timeframe for implementing the action.

The need to comply with Federal Aviation Administration (FAA) Runway Safety Area (RSA) standards.

The standards provided by FAA AC 150/5300-13, *Airport Design*, provide the basis for planning airfield facilities. The FAA uses a coding system, referred to as the Airport Reference Code (ARC), to relate airport design standards to the operational and physical characteristics of the aircraft that use an airport. The ARC is made up of two components. The first component is the Aircraft Approach Category (AAC), which relates to aircraft approach speed and is designated by a letter (A through E). The second element of the ARC is the Airplane Design Group (ADG) and is based on wingspan. The ADG is identified by Roman numerals, ranging from I through VI. Based on FAA Enhanced Traffic Management System (ETMS) data (Calendar Year 2010), the existing ARC for Burke Lakefront Airport (Airport or BKL) is “C-II.”

RSAs are the most stringent design requirements for a runway. They are designed and maintained to enhance safety in the event that an aircraft undershoots, overruns, or veers off the runway, and to provide greater accessibility for aircraft fire-fighting and rescue (ARFF) equipment during such incidents. The RSA is centered on the runway centerline and it extends both laterally from the centerline of the runway and beyond both ends of the runway. The RSA must be clear, graded, and devoid of hazardous ruts, depressions, or other surface variations. It must be drained to prevent water accumulation and must be capable, under dry conditions, of supporting snow removal equipment, ARFF equipment, and the occasional passage of aircraft, without causing structural damage. The RSA should be devoid of objects other than those that must be located in the RSA due to their aviation-related function.

¹ FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*. Effective date: March 20, 2006; Paragraph 405c.

In order to comply with AC 150/5300-13, *Airport Design*, the RSA at BKL must extend 600 feet beyond the runway end with a width of 400 feet.² BKL RSA for Runway 6L/24R does not meet the standards contained in FAA Advisory Circular (AC) 150/5300-13. The *Burke Lakefront Airport Runway Safety Area Practicability Study*³ documented seven deficiencies including, but not limited to, obstructions in the RSA, grading issues in the RSA, and location of the BKL service road in the Runway 6L/24R RSA.

In the late 1990s and early 2000s, a series of aircraft mishaps highlighted the need for airports to comply with RSA standards. These mishaps stimulated the passage of P.L. 109-115, which states “*not later than December 31, 2015, the owner or operator of an airport certificated under 49 United States Code 44706 shall improve the airport’s RSAs to comply with the FAA design standards required by 14 Code of Federal Regulations Part 139*” (P.L. 109-115, November 30, 2005 [119 Statute 2401]). As a result, all RSAs at federally obligated airports and all RSAs at airports certificated under 14 Code of Federal Regulations (CFR) Part 139 must conform to the standards contained in AC 150/5300-13. Therefore, one purpose of the Proposed Action is to meet the need of complying with FAA RSA standards.

The need to maintain sufficient runway length to the extent practicable and to maintain existing instrument landing system capabilities to accommodate the current and projected fleet.

Runway Length

One way to correct a deficient RSA would be to add additional runway pavement to meet the standard. However BKL is in a constrained location. The Airport is located in downtown Cleveland and is bordered by Lake Erie, by the U.S. Army Corps of Engineers (USACE) Confined Disposal Facilities (CDFs), and by North Marginal Road and the Cleveland Memorial Shoreway. There is not enough existing area to just add additional runway pavement to meet the RSA standard.

Another way to correct a deficient RSA is to designate a portion of the runway as RSA which results in the loss of runway length. For some airports reducing runway takeoff or landing length does not affect operational capability. The runway length requirements for aircraft takeoffs typically exceed the requirements for aircraft landings. However, at BKL, reducing the length, specifically takeoff length, of Runway 6L/24R would have negative effects on the overall capability of the Airport.

Therefore, in addition to making the RSA compliant to FAA standards, the Proposed Action has another purpose which is to maintain sufficient runway length to the extent practicable to accommodate the current and projected fleet.

² Per FAA AC 150/5300-13 the RSA length may be reduced from 1,000 feet to 600 feet prior to the landing threshold with the installation of a standard Engineered Materials Arresting System (EMAS) and declared distances are provided. Also for a runway designated Airport Reference Code C-I and C-II, an RSA width of 400 feet instead of 500 feet is permissible.

³ Prepared for Cleveland Airport System by Ricondo & Associates, Inc. *Burke Lakefront Airport Runway Safety Area Practicability Study*, August 2006.

BKL serves a unique role in the Cleveland Airport System. The Airport is a highly effective reliever airport to Cleveland Hopkins International Airport (CLE) and provides convenient access to businesses, tourist attractions, and medical facilities in downtown Cleveland. BKL is able to serve a high level of corporate jet activity due to its runway length, instrumentation, and Air Traffic Control Tower (ATCT).

BKL is served by a wide variety of aircraft. If BKL's runway length was reduced and became unavailable for use by presently-based aircraft and itinerant operators that routinely fly into BKL, then these tenants and users would have to find an alternative facility that would meet certain minimum facility capabilities--most importantly of which is runway length. A runway length analysis⁴ was conducted to determine the takeoff runway length needed for the different types of aircraft that operate at BKL. The Runway Length Analysis is provided in Appendix B, *Runway Length Requirements*.

While the typical turboprop aircraft that operate at BKL generally require between 2,000- to 3,000-feet of runway for takeoff and the single-engine piston aircraft generally requires 1,500- to 3,000-feet of takeoff runway length,⁵ the majority of the BKL jet aircraft fleet require greater runway lengths. Virtually all jet aircraft weighing more than 20,000 pounds require runway lengths of 5,000 feet or more. The aircraft fleet mix at BKL is a combination of business jets such as the Global Express, Boeing Business Jet, Challengers, Lears, and Gulfstreams, and charter aircraft for the local sports team which include the B757, B737, and DC-9. Based on extensive review and analysis of the take-off and landing requirements for the family of aircraft that use BKL, it was determined the Airport needs to maintain landing length of at least 6,000 feet using the Runway 24R approach and a take-off length of at least 6,198 feet to maintain the existing operational capability. This will allow BKL to continue to serve the existing fleet mix as well as the sports teams and special charters that use the Airport today.^{6,7}

Instrument Landing System Capabilities

In addition to the need to maintain runway length, there is a need for the Proposed Action to maintain current instrument landing system capabilities at BKL. Runway 6L at BKL has a visual approach and Runway 24R is equipped with a Category I Instrument Landing System (ILS). An ILS provides both vertical and horizontal guidance which allows for precision approaches to an airport in poor weather conditions. There are different ILS categories which allow landings under different weather minima. The Category I ILS for Runway 24R consists of a Medium Intensity Approach Lighting System with Sequenced Flashing Lights (MALSF), an electronic localizer (provides horizontal guidance), a glide slope facility

⁴ City of Cleveland Department of Port Control. *Burke Lakefront Airport Runway Safety Area Study for Runway 6L/24R* prepared by Landrum & Brown and McGuiness Unlimited, 2011.

⁵ Runway length requirements obtained from Jane's *All the World's Aircraft*, based on standard day temperatures at maximum takeoff weight.

⁶ City of Cleveland Department of Port Control. *Burke Lakefront Airport Runway Safety Area Study for Runway 6L/24R* prepared by Landrum & Brown and McGuiness Unlimited, 2011.

⁷ City of Cleveland, Interim Airport Layout Plan (September 2012) recommends the implementation of declared distances. Based on planning information, the Landing Distance Available for Runway 24R will be 5,987 feet.

(provides vertical guidance), and middle and outer markers (to identify distance from the runway). The Runway 24R instrument approach has minimums of 1-mile visibility and a ceiling of 273 feet. Runway 6L/24R is equipped with High Intensity Runway Edge Lights (HIRL), a 4-box Visual Approach Slope Indicator (VASI) on each of the approaches, and Runway End Identifier Lights (REILs) on the end of Runway 6L.

The *Burke Lakefront Airport Runway Safety Area Practicability Study*⁸ documented the need for BKL to maintain its only Instrument Flight Rules (IFR) approach on Runway 24R. If the Runway 6L arrival threshold is relocated or displaced to the east to achieve a full RSA and the Runway 24R arrival threshold is extended to east to maintain the existing runway length and BKL's intended role and viability, the Airport would lose the existing ILS approach. The controlling obstruction is the stack on the Cleveland Municipal Power Plant. Based upon existing obstructions, the arrival threshold for 24R cannot be moved to the east and still maintain the ILS approach with existing minimums (273' – 1 nautical mile visibility). Therefore, the purpose of the Proposed Action is to maintain current instrument landing system capabilities.

The need to maintain roadway access to the extent practicable in order to maintain Airport, U.S. Department of Agriculture (USDA), and U.S. Army Corps of Engineers (USACE) maintenance and operational activities.

The existing vehicle service road currently circles the airport perimeter and provides access for airport operations, USDA wildlife management and mitigation, and the USACE. Each group uses the road for different reasons but tied to their operational mission. Airport operations use the road to perform perimeter checks, maintenance operations, and wildlife management activities in accordance with their Part 139 certificate. The USDA uses the road as a part of their agreement with the City of Cleveland and the USACE to perform wildlife management and mitigation related to the activities associated with both the Combined Disposal Facilities and the proximity to Lake Erie. Lastly, the USACE uses portions of the vehicle service road to access the Combined Disposal Facility operation. This is the only land access to the operation. Three portions of the road will require relocation or closure to remove it out of the standard RSA. However there is a need to maintain roadway access to the extent practicable in order to maintain Airport, USDA, and USACE maintenance and operational activities. In correspondence provided in Appendix A, *Coordination and Comments*, the USDA states they are opposed to road closures and that the roadways should be relocated out of the standard RSA and remain operational for safety purposes. Therefore, the purpose of the Proposed Action is to maintain roadway access by relocating the vehicle service road out of the RSA to the extent practicable.

⁸ Prepared for Cleveland Airport System by Ricondo & Associates, Inc. *Burke Lakefront Airport Runway Safety Area Practicability Study*, August 2006.

The need to provide ancillary development to support the safety area improvement project.

With any development project, there is a need for support facilities and infrastructure improvements to ensure the Proposed Action integrates with the existing facilities. The purpose of the Proposed Action is to provide the necessary development for the completion of the Safety Area Improvements Project. These developments include: relocation of existing FAA Navigational Aids (NAVAIDS)⁹ (including Runway End 6L REILS, automated weather observing system (AWOS), and the addition of in-ground runway lights in the shift/extension), and new runway markings/stripping.

2.2 FORECAST SENSITIVITY ANALYSIS

A sensitivity analysis was conducted to review the aircraft operation projections in the FAA's 2011 Terminal Area Forecast (TAF)¹⁰ versus the 2008 forecasts prepared in the Draft Master Plan Update¹¹. For comparison purposes, 2015 has been selected for discussion because it represents the timeframe for the first full year of anticipated project implementation and 2020 represents five-years past implementation.

The Draft 2008 Master Plan Update forecasts represented market-driven demand for air service and therefore were considered "unconstrained". For purposes of estimating future demand, the Draft 2008 Master Plan Update forecasts assumed that aviation facilities can be provided to the level required to meet the needs of future users of the Airport. The Draft 2008 Master Plan Update forecasts were used to evaluate the capacity of the existing airfield and landside facilities and determine the extent, if any, of additional facilities needed in the future.

The FAA TAF includes a forecast of enplanements and operations for BKL on an annual basis. TAF forecasts are based on historical trends and future socioeconomic and aviation trends. The TAF is used to plan the staff and equipment needs at airport traffic control towers and serves as the foundation for many airport capacity improvements. The 2011 TAF forecast and the 2008 Master Plan Update forecast are provided in **Table 2-1**.

⁹ The existing Runway End 6L and Runway End 24R visual approach slope indicator (VASI) lights on the side of the runway threshold that provides visual descent guidance information during the approach will be replaced as part of a separate FAA project. The VASIs will be replaced by a Precision Approach Path Indicator (PAPI) which consists of four sets of lights in a line perpendicular to the runway, usually mounted to the left side of the runway. These have a similar purpose to the VASI, but the additional lights serve to show the pilot how far off the glide slope the aircraft is.

¹⁰ The FAA's Terminal Area Forecast (TAF) system is the official forecast of aviation activity at FAA facilities. FAA's most recent TAF was published in January 2012.

¹¹ City of Cleveland Department of Port Control, Cleveland Burke Lakefront Airport Draft Master Plan Update, February 2008.

**Table 2-1
2011 TAF VERSUS DRAFT 2008 MASTER PLAN UPDATE FORECAST
Burke Lakefront Airport**

| YEAR | 2011 TAF | DRAFT 2008 MASTER PLAN UPDATE FORECAST | DIFFERENCE FROM 2011 TAF |
|-------------|-----------------|---|---|
| 2015 | 53,880 | 51,460 | -4% |
| 2020 | 55,325 | 56,848 | 3% |

Note: The Draft 2008 Master Plan Update forecast did not include the analysis year for 2015 and 2020; therefore operations numbers were interpolated for this analysis.

Source: *FAA APO Terminal Area Forecast Summary Report*, FAA Forecast and Performance Analysis Division, Office of Aviation Policy and Plans. Forecast issued January 2012. Landrum & Brown, 2012.

The FAA standard for determining acceptable forecast consistency is when a non-FAA forecast is within 10 percent of the TAF for the five-year projection and 15 percent for the 10-year projection.¹² In this case, the Draft 2008 Master Plan Update forecast of aircraft operations are within four percent for the 2015 timeframe, well within the 10 percent consistency standard. The 2020 projection is within three percent for the forecast projections. Operations and category of aircraft remain substantially the same from the Draft 2008 Master Plan Update forecast to the FAA's 2011 TAF.

Because the 2011 TAF includes more operations than the Draft 2008 Master Plan Update forecast for 2015, the 2011 TAF will be used in this EA as it represents the more conservative case from an environmental impact perspective.

2.3 TIME FRAME

Initiation of the proposed Safety Area Improvements Project would occur when the FAA has issued a finding on this EA for the modification of the Airport Layout Plan (ALP). Subject to a Finding of No Significant Impact (FONSI), design and construction of the safety area improvement project is expected to begin in 2013 and would continue into 2014. Completion of the Proposed Action would occur before September 30, 2014. Should this EA indicate the potential for significant environmental impacts, an Environmental Impact Statement (EIS) would be conducted prior to implementation of any portion of the project.

¹² FAA Order 5100.38C *Airport Improvement Program Handbook*, paragraph 428.a. Aviation Forecasting. June 2005.

Chapter Three

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CHAPTER THREE ALTERNATIVES

3.1 BACKGROUND

The Federal Aviation Administration (FAA), in accordance with FAA Order 5200.8 (Runway Safety Area Program), informed the City of Cleveland, Department of Port Control (DPC) owner and operator of Burke Lakefront Airport (BKL or Airport) that the Runway Safety Area (RSA) for Runway 6L/24R at BKL does not meet the standards contained in FAA Advisory Circular (AC) 150/5300-13, *Airport Design*. FAA Order 5200.8 established the FAA RSA Program and the procedures that FAA employees follow in implementing the program. The objective of the RSA Program is to ensure that all RSAs at federally obligated airports and all RSAs at airports certificated under 14 Code of Federal Regulations (CFR) Part 139 conform to the standards contained in AC 150/5300-13, *Airport Design*, to the extent practicable. In response, the DPC conducted a Runway Safety Area Study¹ for Runway 6L/24R (2011 RSA Study) to determine the best way to provide standard RSAs to the extent practicable (based on Federal Regulations) while maintaining current operational capability at BKL.²

BKL is designated a general aviation reliever airport for Cleveland Hopkins International Airport (CLE) and has the longest runway of all CLE reliever airports. Traffic at BKL includes extensive corporate/business related travel, fixed wing emergency medical service (EMS) flights, professional sports team charters, flight training, business charters, as well as traffic observations, news reporting, police patrol, and recreational flights.

An operational fleet mix was prepared as part of the Draft Master Plan Update³. The forecast was reviewed by the FAA and conditionally approved in September of 2007. There have been no significant changes to fleet mix or number of operations at BKL since 2007. (See Chapter Two, *Purpose and Need* Section 2.2 *Forecast Sensitivity Analysis*.)

The itinerant fleet mix information was collected from airport records and FAA data, as well as, fixed-based operators (FBO) and flight school operators. The Airport's operational fleet mix was projected using national FAA forecasts for general aviation (GA) operations plus local trends and considerations. Itinerant jet operations are expected to grow the fastest reflecting the business nature of the Airport. Non-jet itinerant operations will grow more slowly than the jet operations.

¹ City of Cleveland Department of Port Control. *Runway Safety Area Study for Runway 6L/24R*. Prepared by Landrum & Brown and McGuiness Unlimited, Inc., 2011. Errata Summary February 2012.

² March 16, 2012 Letter from Stephanie R. Swann, FAA to Ricky D. Smith, Department of Port Control concurring with the recommendation in the RSA Study. (See Appendix A)

³ City of Cleveland Department of Port Control, Cleveland Burke Lakefront Airport Draft Master Plan Update, February 2008.

Local operations are generally a mix of single engine piston aircraft and a small number of jet aircraft, principally involved in pilot training, and traffic and business helicopters serving the downtown area. Jet and helicopter operations are projected to continue their growth trend and piston aircraft will continue to represent an ever smaller percentage of the fleet.

Based on the Airport's current fleet mix at BKL, the Airport Reference Code (ARC) is C-II. Therefore, in order to comply with AC 150/5300-13, *Airport Design*, the RSA at BKL must extend 1,000 feet beyond the runway end with a width of 500 feet.⁴

3.2 INITIAL ALTERNATIVE SCREENING

The Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) requires that the FAA, as Federal decision-maker for this project, perform the following tasks when preparing an Environmental Assessment (EA):

- Evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the Federal agency, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- Devote substantial treatment to each alternative considered in detail, including the No-Build/No-Action Alternative and the Proposed Action, so that reviewers may evaluate their comparative merits.

Federal and state guidelines concerning the environmental review process require that all prudent, feasible, reasonable, and practicable alternatives that might accomplish the objectives of a project be identified and evaluated. Federal agencies may consider the applicant's purposes and needs and common sense realities of a given situation in the development of alternatives⁵. Federal agencies may also afford substantial weight to the alternative preferred by the applicant, provided there is no substantially superior alternative from an environmental standpoint.

This EA was prepared to identify and evaluate all potential adverse impacts on the natural and human environments that are expected to result from implementation of the Proposed Action and the No Action Alternative. Numerous other alternatives were considered during the planning phases of the project, but were eliminated from further detailed environmental review if it reduced existing runway capability for the current and projected aircraft fleet or resulted in extreme economic or environmental impacts as discussed in detail later in this Chapter. Based on the results of the runway length analysis provided in Appendix B, *Runway Length*

⁴ Per FAA AC 150/5300-13 the RSA length may be reduced from 1,000 feet to 600 feet prior to the landing threshold with the installation of a standard Engineered Materials Arresting System (EMAS) and declared distances are provided. Also for a runway designated Airport Reference Code C-I and C-II, an RSA width of 400 feet instead of 500 feet is permissible.

⁵ Guidance Regarding NEPA Regulations, CEQ, 48 *Federal Register* 34263 (July 28, 1983).

Requirements, a runway length of no less than 6,198 feet for takeoff distance is recommended for BKL. The alternatives are categorized as either airfield alternatives or roadway alternatives. Both categories of alternatives are described in the following sections. **Table 3-1**, located at the end of this chapter, provides a summary of the airfield alternatives screening analysis.

3.2.1 AIRFIELD ALTERNATIVES

As part of the 2011 RSA Study at BKL a range of alternatives to address RSA deficiencies were developed based on FAA Order 5200.8 and evaluated based on a wide range of criteria including potential cost, environmental issues, and projected impact on current and proposed aircraft operations.

FAA Order 5200.8 – *RSA Program, Appendix 2 (Supporting Documentation for RSA Determinations)*, establishes various alternative concepts to be considered for obtaining or correcting RSAs. The alternatives vary depending on the unique factors and location of a specific airport. The first alternative is always constructing the traditional graded area surrounding the runway. However when this is not practical the other alternatives include:

- a) Relocation, shifting, or realignment of the runway;
- b) Reduction in runway length where the existing runway length exceeds that which is required for the existing or projected design aircraft;
- c) A combination of runway relocation, shifting, grading, realignment, or reduction;
- d) Declared distances; and
- e) Engineered Materials Arresting Systems (EMAS).

In evaluating these various alternative concepts BKL's constrained location had to be taken into account. The Airport is located in downtown Cleveland and is bordered by Lake Erie, the U.S. Army Corps of Engineers (USACE) Confined Disposal Facilities (CDFs), and by North Marginal Road and the Cleveland Memorial Shoreway. There is not enough existing land area to simply add additional runway pavement to meet the RSA standard and maintain sufficient runway length. There are also operational constraints that have to be considered. There are large smoke stacks located to the north and east of the Airport, generally aligned with the approach to Runway 24R. The location and height of these stacks makes it impossible to shift the approach end of Runway 24R to the northeast and maintain the only instrument approach into the Airport. Additional runway pavement can be constructed northeast of Runway 24R for departures to use, but the landing point for Runway 24R would have to remain at its current location.

BKL is served by a wide variety of aircraft. If BKL's runway length was reduced and became unavailable for use by presently-based aircraft and itinerant operators that routinely fly into BKL, then these tenants and users would have to find an alternative facility that would meet certain minimum facility capabilities--most importantly of which is runway length. A runway length analysis⁶ was conducted to determine the takeoff runway length needed for the different types of aircraft that operate at BKL. The Runway Length Analysis is provided in Appendix B, *Runway Length Requirements*.

While the typical turboprop aircraft that operate at BKL generally require between 2,000- to 3,000-feet of runway for takeoff and the single-engine piston aircraft generally requires 1,500- to 3,000-feet of takeoff runway length,⁷ the majority of the BKL jet aircraft fleet require greater runway lengths. Virtually all jet aircraft weighing more than 20,000 pounds require runway lengths of 5,000 feet or more. The aircraft fleet mix at BKL is a combination of business jets such as the Global Express, Boeing Business Jet, Challengers, Lears, and Gulfstreams, and charter aircraft for the local sports team which include the B757, B737, and DC-9. Based on extensive review and analysis of the take-off and landing requirements for the family of aircraft that use BKL, it was determined the Airport needs to maintain landing length of at least 6,000 feet using the Runway 24R approach and a take-off length of at least 6,198 feet to maintain the existing operational capability. This will allow BKL to continue to serve the existing fleet mix as well as the sports teams and special charters that use the Airport today.^{8,9}

Alternative Screening

The DPC undertook an extensive planning effort to determine the best alternative to meet the RSA standards and meet the purpose and need of the project as described in Chapter 2, *Purpose and Need*. A multi-step evaluation process took place to evaluate the various alternative concepts.

The airfield alternatives were evaluated against the following criteria:

- Does the alternative comply with FAA RSA requirements and other airport design standards?
- Does the alternative maintain existing runway length, most importantly takeoff distance to the extent practicable for the existing and forecast aircraft fleet at BKL?

⁶ City of Cleveland Department of Port Control. *Burke Lakefront Airport Runway Safety Area Study for Runway 6L/24R* prepared by Landrum & Brown and McGuiness Unlimited, 2011.

⁷ Runway length requirements obtained from Jane's *All the World's Aircraft*, based on standard day temperatures at maximum takeoff weight.

⁸ City of Cleveland Department of Port Control. *Burke Lakefront Airport Runway Safety Area Study for Runway 6L/24R* prepared by Landrum & Brown and McGuiness Unlimited, 2011.

⁹ City of Cleveland, Interim Airport Layout Plan (September 2012) recommends the implementation of declared distances. Based on planning information, the Landing Distance Available for Runway 24R will be 5,987 feet, however, the Runway 6L EMAS design is currently being developed. While changes to specific EMAS and LDA dimensions are anticipated with finalization of the Proposed Action design, the changed lengths are expected to be within the footprint analyzed in the environmental assessment.

- Does the alternative maintain existing capability for providing instrument landing capabilities?
- Is the alternative reasonable/feasible from an economic and environmental perspective?

The following documents the various options that were analyzed in the 2011 RSA Study and the recommendation of the alternative for further detailed environmental study in this EA. This EA evaluates 11 development alternatives to enhance the RSA for Runway 6L/24R.

Alternative 1

Alternative 1 would construct a full 1,000-foot long RSA to the south of Runway 6L, which results in a fully compliant RSA to existing Runway 6L. However, in order to accomplish this, approximately 485,800 cubic yards of land reclamation (fill in Lake Erie) would be required.

Pros

- Provides full length standard RSA for aircraft operations in both directions
- Maintains existing runway length in both directions
- Maintains existing capability to provide instrument landing capabilities with some modifications to the Runway 24R localizer

Cons

- Extensive land reclamation is required off the end of Runway 6L (high cost associated with reclamation)
- Reclamation potentially impacts lake and harbor currents, which could impact sensitive wildlife and their habitat

Conclusion

Alternative 1 would comply with FAA RSA requirements and other airport design standards, would maintain existing runway length, most importantly takeoff distance, and would maintain existing capability for providing instrument landing capabilities. Alternative 1 was not carried forward for detailed environmental study because of the extensive economic and environmental issues as compared to the other alternatives.

Alternative 2

Alternative 2 would comply with the RSA requirements by declaring the southern 400 feet of runway as RSA for aircraft departing on Runway 24R. This would reduce the available length of Runway 24R departures by 665 feet. Operations on Runway 6L would not be affected by this alternative. Approximately 103,600 cubic yards of land reclamation (fill in Lake Erie) would be required off the southern end of Runway 6L/24R.

Pros

- Provides full length standard RSA for aircraft operations in both directions
- Maintains existing capability to provide instrument landing capabilities with some modifications to the Runway 24R localizer

Cons

- Degrades the level of service provided by the airport by reducing available runway length in the primary direction of operation; reduces Runway 24R Accelerate-stop distance available (ASDA) from 6,198 feet to 5,533 feet.
- Extensive land reclamation is required off the end of Runway 6L (high cost associated with reclamation)

Conclusion

Alternative 2 would comply with FAA RSA requirements and other airport design standards and would maintain existing capability for providing instrument landing capabilities. Alternative 2 was not carried forward for detailed environmental study because of the extensive economic and environmental issues as compared to the other alternatives and because it would not maintain existing runway length, most importantly takeoff distance (ASDA was reduced) for the existing and forecast aircraft fleet.

Alternative 3

Alternative 3 would displace the Runway 6L landing threshold 335 feet north of its current location and declare that portion of the runway as RSA for operations in both directions. This alternative would result in a reduction in ASDA and Landing Distance Available (LDA) for Runway 24R operations and a reduction in LDA for Runway 6L operations. The LDA in the Runway 24R direction (the primary direction of flow at BKL) would be reduced by 600 feet to 5,598 feet. A non-standard 600-foot RSA would remain for Runway 24R departures when calculating ASDA.

Pros

- No land reclamation required

Cons

- Would not meet standard RSA requirements (non-standard 600-foot RSA length for Runway 24R)
- Degrades the level of service provided by the airport by reducing available runway length in both directions of operation; reduces Runway 24R ASDA from 6,198 feet to 5,598 feet; reduces Runway 6L LDA from 6,198 feet to 5,598 feet.

Conclusion

Alternative 3 would maintain existing capability for providing instrument landing capabilities and would not result in extensive economic and environmental issues as compared to the other alternatives. Alternative 3 was not carried forward for detailed environmental study because it would not comply with FAA RSA requirements and other airport design standards and would not maintain existing runway length, most importantly takeoff distance (ASDA was reduced) for the existing and forecast aircraft fleet.

Alternative 4

Alternative 4 would displace the Runway 6L landing threshold 335 feet north of its current location and declare that portion of the runway as RSA for operations in both directions. Through the use of declared distance, a full 1,000-foot RSA on each runway end would be obtained. However, to accomplish this, this alternative would result in a reduction in ASDA and LDA for Runway 24R operations and a reduction in LDA for Runway 6L operations. The LDA in the Runway 24R direction of operation would be reduced by 1,000 feet in this alternative down to 5,198 feet.

Pros

- Provides full length standard RSA for aircraft operations in both directions,
- No land reclamation required

Cons

- Degrades the level of service provided by the airport by reducing available runway length in both directions of operation; reduces Runway 24R ASDA from 6,198 feet to 5,198 feet; reduces Runway 6L LDA from 6,198 feet to 5,598 feet. The 6,198-foot ASDA indicated is based upon the fact that no declared distances are in place at the time of this RSA study.

Conclusion

Alternative 4 would comply with FAA RSA requirements and other airport design standards, would maintain existing capability for providing instrument landing capabilities, and would not result in extensive economic and environmental issues as compared to the other alternatives. Alternative 4 was not carried forward for detailed environmental study because it would not maintain existing runway length, most importantly takeoff distance (ASDA was reduced) for the existing and forecast aircraft fleet.

Alternative 5

Alternative 5 would include the same actions as Alternative 4, but would also include shifting Runway 6L/24R to the east by 40 feet. The runway shift would allow for a standard 500-foot wide RSA. Because BKL is designated a C-II airport, the standard RSA may be reduced to 400 feet wide. FAA has accepted this reduction and will consider a 400-foot wide RSA as standard. As a result, this alternative does not provide any additional benefits over Alternative 4.

Conclusion

Alternative 5 would comply with FAA RSA requirements and other airport design standards and would maintain existing capability for providing instrument landing capabilities. Alternative 5 was not carried forward for detailed environmental study because it would result in extensive economic issues as compared to the other alternatives it would not maintain existing runway length, most importantly takeoff distance (ASDA was reduced) for the existing and forecast aircraft fleet.

Alternative 6a

Alternative 6a would displace the Runway 6L landing threshold 365 feet north of its current location and declare that portion of the runway as RSA for operations in both directions. This would result in a non-standard 835-foot RSA south of Runway 6L. In addition, a 600-foot long by 150-foot wide runway extension would be constructed on the end of Runway 24R. This alternative would result in an 835-foot reduction in LDA for Runway 24R operations, as well as a reduction in LDA for Runway 6L by 365 feet.

Conclusion

Alternative 6a would maintain existing capability for providing instrument landing capabilities and would not result in extensive economic and environmental issues as compared to the other alternatives. While it would maintain existing runway length, most importantly takeoff distance for the existing and forecast aircraft fleet, Alternative 6a was not carried forward for detailed environmental study because it would not comply with FAA RSA requirements and other airport design standards.

Alternative 6b

Alternative 6b would include the same actions as Alternative 6a, but would add a 200-foot EMAS bed on Runway 6L. Because a 200-foot EMAS bed would not provide the stopping capability for the EMAS design aircraft (Boeing BBJ with a 70kt runway exit speed), it would be considered a non-standard RSA. Therefore, this alternative would not provide any additional benefits over Alternative 6a, but would include additional costs for the EMAS.

Conclusion

Similar to Alternative 6a, Alternative 6b would maintain existing capability for providing instrument landing capabilities and would not result in extensive economic and environmental issues as compared to the other alternatives. While it would maintain existing runway length, most importantly takeoff distance for the existing and forecast aircraft fleet, Alternative 6b was not carried forward for detailed environmental study because it would not comply with FAA RSA requirements and other airport design standards.

Alternative 7

Alternative 7 would displace the Runway 6L landing threshold 335 feet north of its current location and declare that portion of the runway as RSA for operations in both directions. In addition, an 800-foot long by 150-foot wide runway extension would be constructed on the end of Runway 24R. This alternative would result in a 200-foot reduction in ASDA and a 1,000-foot reduction in LDA for Runway 24R operations, an increase in take-off distances in both directions, an increase in the ASDA for Runway 6L operations, and maintain the LDA for Runway 6L operations. To accomplish this alternative, there would be impacts to former Aviation High School, as well as additional costs for paving.

Pros

- Provides full length standard RSA for aircraft operations in both directions
- Additional runway length gained in Runway 6R departure flow
- No land reclamation would be required

Cons

- Degrades the level of service provided by the airport by reducing available runway length in the primary direction of operation; reduces Runway 24R ASDA from 6,198 feet to 5,998 feet and LDA from 6,198 to 5,198.
- Compared to other alternatives, this alternative includes additional costs for pavement and impacts to former Aviation High School.

Conclusion

Alternative 7 would comply with FAA RSA requirements and other airport design standards, would maintain existing runway length, most importantly takeoff distance, and would maintain existing capability for providing instrument landing capabilities. Alternative 7 was not carried forward for detailed environmental study because of the extensive economic and environmental issues including impacts to former Aviation High School as compared to the other alternatives.

Alternative 8

Alternative 8 would displace the Runway 6L landing threshold 335 feet north of its current location and declare that portion of the runway as RSA for operations in both directions. In addition, a 1,000-foot long by 150-foot wide runway extension would be constructed on the end of Runway 24R. This alternative would result in a 1,000-foot reduction in LDA for Runway 24R operations, an increase to the takeoff distance in both directions, an increase in the ASDA for Runway 6L operations, and maintain the LDA for Runway 6L operations. To accomplish this alternative, there would be impacts to former Aviation High School, as well as additional costs for paving.

Pros

- Provides full length standard RSA for aircraft operations in both directions
- Additional runway length gained in Runway 6R departure flow
- No land reclamation would be required

Cons

- Degrades the level of service provided by the airport by reducing available runway length in the primary direction of operation; reduces Runway 24R LDA from 6,198 to 5,198.
- Compared to other alternatives, this alternative includes additional costs for pavement and impacts to former Aviation High School. The Sponsor does not want to impact former Aviation High School in order to preserve that area for potential future development and revenue generation.

Conclusion

Alternative 8 would comply with FAA RSA requirements and other airport design standards, would maintain existing runway length, most importantly takeoff distance, and would maintain existing capability for providing instrument landing capabilities. Alternative 8 was not carried forward for detailed environmental study because of the extensive economic and environmental issues including impacts to former Aviation High School as compared to the other alternatives.

Alternative 9 (Proposed Action)

Alternative 9 would employ EMAS as a means to comply with RSA requirements. The elements would include a 400-foot EMAS bed on Runway 6L, a 35-foot setback from the EMAS bed, and a shift in the Runway 6L threshold by 165 feet to the north. Taken together, this 600-foot area that includes EMAS would provide the equivalent of 1,000 feet of RSA and thereby satisfy FAA RSA requirements. Alternative 9 also includes a 600-foot extension to Runway 24R. This alternative provides full RSA coverage on both ends of the runway. However, there would be a 211-foot reduction in LDA for Runway 24R arrivals. While not preferred, this reduction in Landing Distance Available would be marginally acceptable for the aircraft design group that utilizes BKL. While this alternative reduces LDA, this

alternative provides for full RSA coverage on both ends of the runway and maintains the existing level of service provided by BKL for departures in the primary direction of operation. This alternative initially included a small area of reclamation (fill in Lake Erie) to complete the RSA. After evaluating the benefits versus the cost of filling this portion of Lake Erie, FAA determined that an analysis could include unique geographical constraints to the RSA. The FAA has determined alternatives that require land reclamation or fill in Lake Erie is not environmentally feasible, when other alternatives are available to provide for an equivalent level of safety. Therefore, while additional costs would occur for paving, it would be less than the other alternatives that include a runway extension. This alternative would have no impacts to former Aviation High School.

Pros

- Provides full RSA coverage on both ends of runway (600-foot RSA with 400-foot EMAS on Runway end 6L and 1,000-foot RSA on Runway end 24R)
- Runway length preserved in both directions for departures
- No land reclamation would be required with the acceptance of a 400-wide RSA for ARC C-II

Cons

- Degrades the level of service provided by the airport by reducing available runway length for arrivals in primary direction of operation; reduces Runway 24R LDA from 6,198 feet to 5,987 feet.

Conclusion

Alternative 9 would comply with FAA RSA requirements and other airport design standards, would maintain existing runway length, most importantly takeoff distance to the extent practicable for the existing and forecast aircraft fleet at BKL, would maintain existing capability for providing instrument landing capabilities, and is reasonable and feasible from an economic and environmental perspective. It would minimize cost and impact to former Aviation High School as compared to other runway extension alternatives.

Alternative 10

Alternative 10 would have the same elements as Alternative 9 on the Runway 6L end, but includes a 1,000-foot extension on Runway 24R. As compared to Alternative 9, the additional 400 feet of runway on 24R would not improve the loss of LDA on Runway 24R. However, this alternative would result in additional cost for paving and impacts to former Aviation High School. The Sponsor does not want to impact former Aviation High School in order to preserve that area for potential future development and revenue generation.

Conclusion

Alternative 10 would comply with FAA RSA requirements and other airport design standards, would maintain existing runway length, most importantly takeoff distance, and would maintain existing capability for providing instrument landing capabilities. Alternative 10 was not carried forward for detailed environmental study because of the extensive economic and environmental issues including impacts to former Aviation High School as compared to the other alternatives.

3.2.2 ROADWAY ALTERNATIVES

Chapter Two, *Purpose and Need*, also identifies the need to maintain to the extent practicable the vehicle service road that circles the Airport perimeter and provides access for airport operations, U.S. Department of Agriculture (USDA) wildlife management and mitigation, and the USACE. The road is used for a variety of purposes by multiple users to complete their mission. Airport operations use the road to perform perimeter checks, maintenance operations, and wildlife management activities in accordance with their Part 139 certificate. The USDA uses the road as a part of their agreement with the City of Cleveland and the USACE to perform wildlife management and mitigation related to the activities associated with both the Combined Disposal Facilities and the proximity to Lake Erie. Lastly, the USACE uses portions of the vehicle service road to access the Combined Disposal Facility operation. This is the only land access to the operation.

All of the airfield alternatives described above would require portions of the vehicle service road to be closed or relocated. However, roadway alternatives will only be evaluated for Alternative 9 because that was the only alternative carried forward from the airfield alternatives screening process described above.

Three portions of the road would require relocation. Various options were reviewed in order to find the best roadway alternative that meets the need to maintain roadway access to the extent practicable in order to maintain Airport, USDA, and USACE maintenance and operational activities. For each of the areas a no action alternative (leaving the roadways where there are today) was developed. In some cases this option was not feasible because there are alternatives that would meet the purpose and need. Another option was to remove the roadways with no replacement. However this was considered not reasonable. The City of Cleveland, along with the users (USACE, USDA Wildlife Services, and the DPC) provided documentation regarding the use and necessity of the road to provide access to all areas of the airfield. Alternatives presented that recommend maintaining a perimeter road in the RSA must be carefully evaluated by the FAA to ensure the RSA is improved to the greatest extent practicable. The DPC, USACE, and USDA Wildlife Services have stated their objections to removing the roadways without any replacement. A copy of their coordination is included in Appendix A, *Coordination and Comments*.

South End

Approximately 530 feet of the vehicle service road on the southwest end of the Airport would need to be relocated. This roadway is located adjacent to the Aircraft Rescue and Firefighting (ARFF) station. Due to the location of this roadway it was able to be relocated out of the FAA safety areas and would maintain existing access. This is the preferred roadway alternative to be incorporated into the Proposed Action.

West Side Service Road

Currently, the vehicle service road runs the full length of Runway 6L/24R. Two areas of this road would be affected by the Proposed Action.

Southern portion

The existing southern portion of the perimeter road is proposed to remain as it is today. Approximately 1,700 square feet of the road is located within the existing runway safety area. As this portion of the road is being maintained for airport operations, safety, emergency response, and wildlife management, then additional requirements and approvals regarding the use and operation of the road will be required by the FAA, including but not limited to airfield marking and signage; drivers training; operational procedures; and ATCT coordination.

Middle portion

Approximately 3,480 feet of the vehicle service road adjacent to the CDF Dike 10B would be located within the RSA. Two options were evaluated for the relocation of this road.

The first was to place the road on the berm of the USACE's CDF 10B. Discussions with USACE found that this was not feasible because the berm could not in its current state support a road, and construction of a permanent road on top of the berm would result in loss of operational area for the dredging operation. As a result, placing the vehicle service road on the berm was eliminated from further evaluation.

The second option was to place the vehicle service road into the current storm water drainage area that is located along the south perimeter of CDF Dike 10B. The storm water functions of the drainage ditch would be reconstructed as part of the road relocation. Coordination with USACE found that this would not conflict with their operation and would be an acceptable approach. This option is the preferred roadway alternative to be incorporated into the Proposed Action. A portion of this roadway would still be located in the object free area and would require a modification to standards from the FAA.

North End

Approximately 2,200 feet of the vehicle service road on east side of the Airport by the former Aviation High School and CDF Dike 12 would be directly impacted by the project or it would be located within the RSA. As a result, the service road in this area would be relocated and would be placed outside of the RSA. A portion of this roadway would still be located in the object free area and would require a modification to standards from the FAA. This is the preferred roadway alternative to be incorporated into the Proposed Action.

3.3 ALTERNATIVES CARRIED FORWARD FOR DETAILED EVALUATION

Alternative 1: No Action

To satisfy the intent of NEPA, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*; FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*; and other special purpose environmental laws, a No Action Alternative is carried forward in the analysis of environmental consequences provided in Chapter Five, *Environmental Consequences*. With the No Action Alternative, the existing conditions would remain in place. The No Action does not meet the stated purpose and need for this project. Although not always reasonable, feasible, prudent, nor practicable, the No Action Alternative is a potential alternative under NEPA and serves as the baseline for the assessment of impacts associated with the Proposed Action.

Alternative 2: Proposed Action (Previously identified as Alternative 9)

As a result of the alternative screening described above, the only development alternative that meets the purpose and need and is reasonable, feasible, prudent, and practicable is the Proposed Action. Alternative 2 previously identified as Alternative 9 will be identified as the Preferred Alternative from this point forward. Therefore, the Proposed Action is carried forward for detailed environmental evaluation. The Proposed Action is the Preferred Alternative. The Proposed Action, as discussed in Chapter One, *Proposed Action* includes the following:

- Construction of a 400-foot EMAS bed on Runway End 6L
- Displace landing threshold of Runway 6L 165 feet to the east
- An approximate 600-foot eastern extension to Runway End 24R
- Modifications to existing vehicle service road
- Construction/extension of taxiways
- Relocation of existing FAA navigational aids (NAVAIDS) (including Runway End 6L Runway End Identifier Lights (REILS), Automated Weather Observing System (AWOS), and the addition of in-ground runway lights in the extension)
- New runway marking/stripping

**Table 3-1
SUMMARY OF AIRFIELD ALTERNATIVES SCREENING
Burke Lakefront Airport**

| Alternative | Description | Provides Standard RSA | Maintains Runway Length and Capability¹ | Economically and Environmentally Reasonable |
|---|---|--------------------------------------|---|--|
| Alternative 1 | Full RSA through Lake Erie land reclamation | Yes | Yes | No |
| Alternative 2 | Full RSA through shortening runway and Lake Erie land reclamation | Yes | No | No |
| Alternative 3 | 600-foot non-standard RSA length on Runway 6L | No | No | Yes |
| Alternative 4 | Full RSA through shortening runway | Yes | No | Yes |
| Alternative 5 | Full RSA through shortening runway and shifting runway centerline 40-foot south | Yes | No | No |
| Alternative 6a | 835-foot non-standard RSA length on Runway 6L and 600-foot runway extension on Runway 24R | No | Yes | Yes |
| Alternative 6b | 600-foot non-standard RSA length on Runway 6L with EMAS and 600-foot runway extension on Runway 24R | No | Yes | Yes |
| Alternative 7 | Full RSA through shortening runway and 800-foot runway extension on Runway 24R | Yes | Yes | No |
| Alternative 8 | Full RSA through shortening runway and 1,000-foot runway extension on Runway 24R | Yes | Yes | No |
| Alternative 9 (Proposed Action – Alt. 2) | Full RSA through EMAS on Runway 6L and 600-foot extension on Runway 24R | Yes | Yes | Yes |
| Alternative 10 | Full RSA through EMAS on Runway 6L and 1,000-foot extension on Runway 24R | Yes | Yes | No |

¹ Runway Length refers to takeoff distance and capabilities refers to ILS capabilities.

Source: City of Cleveland Department of Port Control. Runway Safety Area Study for Runway 6L/24R. Prepared by Landrum & Brown and McGuiness Unlimited, Inc., 2011. Errata Summary February 2012.

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Chapter Four

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CHAPTER FOUR AFFECTED ENVIRONMENT

Pursuant to the environmental documentation requirements of Federal Aviation Administration (FAA) Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and 1050.1E, *Environmental Impacts, Policies, and Procedures*, this affected environment section succinctly describes existing environmental conditions of the potentially affected geographic area.

4.1 PROJECT SITE

Burke Lakefront Airport (BKL or Airport) is owned and operated by the City of Cleveland, Department of Port Control. BKL is situated on approximately 450 acres in Cleveland, Ohio. BKL is located at an elevation of 583 feet above mean sea level (MSL). It is bordered by Lake Erie, North Marginal Road, and East 9th Street. BKL is protected by a dike consisting of large rock riprap. Regional access to BKL is provided from the Cleveland Memorial Shoreway from I-90.

There are two parallel runways at BKL; Runway 6L/24R is 6,198 feet long and 150 feet wide and Runway 6R/24L is 5,197 feet long and 100 feet wide. The parallel runways are separated by a lateral distance of 510 feet. Runway 6L operates with a 265-foot displaced threshold¹ and Runway 6R operates with a 267-foot displaced threshold.

For the purposes of this Environmental Assessment (EA), areas that may be potentially affected are shown on **Exhibit 4-1, Areas of Potential Disturbance**.

4.2 EXISTING ENVIRONMENTAL RESOURCES

The No Action and Proposed Action do not have the potential to affect the following environmental resource categories: U.S. Department of Transportation (DOT) Section 303(c) Resources (formerly Section 4(f)); farmlands; natural resources and energy supply, and wild and scenic rivers. Therefore, no discussion of the existing conditions related to these categories is included in this chapter. Chapter 5, *Environmental Consequences*, provides a discussion of all of the resource categories and documents whether there are impacts to the category or not.

The Proposed Action has the potential to include impacts to the following resource categories: air quality; coastal resources; compatible land use; fish, wildlife, and plants; floodplains; hazardous materials and solid waste; noise; secondary

¹ A displaced threshold is located at a point on the runway other than the designated beginning of the runway. This threshold is designated for arriving aircraft. The physical beginning of the runway can be used for departing aircraft.

(induced) impacts; socioeconomic conditions; water quality; and wetlands and waters of the U.S. The current conditions for each of these resource categories are described in the following sections.

4.2.1 AIR QUALITY

BKL is located in the Greater Metropolitan Cleveland Intrastate Air Quality Control Region (Cleveland AQCR).² The Cleveland AQCR does not meet the Federal standard for fine particulate matter (PM_{2.5}).³ In the past, Cuyahoga County was designated as nonattainment for ozone, carbon monoxide (CO), Sulfur Dioxide (SO₂), and Coarse Particulate Matter (PM₁₀); however the U.S. Environmental Protection Agency (USEPA) determined the Cleveland AQCR had attained the standard for these pollutants and the region was re-designated to attainment. The area now operates under a maintenance plan for ozone, CO, SO₂, and PM₁₀.⁴ Additional information on BKL's air quality designation is located in Appendix C, *Air Quality*.

4.2.2 COASTAL RESOURCES

The Federal Coastal Zone Management Act of 1972 established the Federal Coastal Zone Management Program to encourage and assist states in preparing and implementing management programs to "preserve, protect, develop, and, where possible, to restore or enhance the resources of the nation's coastal zone."

Pursuant to the Act, the State of Ohio has developed its Coastal Zone Management Program, which is designed to protect the Lake Erie coastal area. BKL and the Areas of potential disturbance are located within the Ohio Lake Erie Coastal Management Area (CMA).

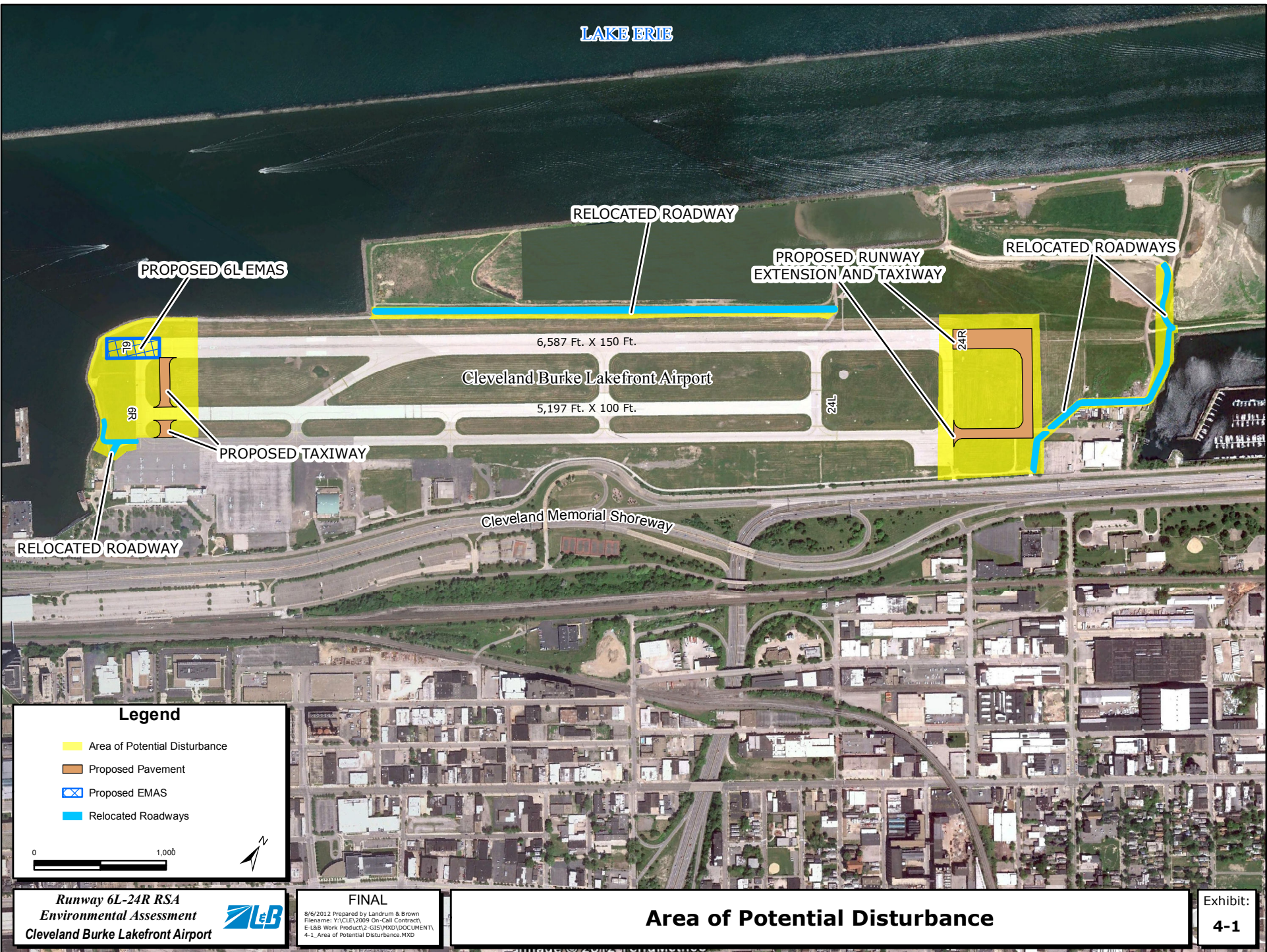
4.2.3 COMPATIBLE LAND USE

The Proposed Action site is located in an urbanized area in downtown Cleveland. The Airport is surrounded by Lake Erie, the Cleveland Memorial Shoreway, I-90, and commercial/industrial development. Harbor dredging comprises the northeastern portions of the Airport property within the U.S. Army Corps of Engineers (USACE) five (5) Confined Disposal Facilities (CDFs). The land uses in the BKL area are shown in **Exhibit 4-2, Existing Land Use**.

² U.S. Environmental Protection Agency (USEPA), 40 CFR Part 81, Section 81.22, *Greater Metropolitan Cleveland Intrastate Air Quality Control Region* (e-CFR data current as of May 30, 2012).

³ A portion of Cuyahoga County, the area that is bounded on the west by Washington Park Blvd./Crete Ave./East 49th St., on the east by East 71st St., on the north by Fleet Ave., and on the south by Grant Avenue is designated nonattainment for the lead standard. However Burke Lakefront Airport is not within that portion of Cuyahoga County.

⁴ The 8-hour concentration of ozone was redesignated to moderate maintenance September 15, 2009. CO was redesignated to moderate maintenance March 7, 1994. SO₂ was redesignated to maintenance February 28, 2005. PM₁₀ was redesignated to moderate maintenance January 10, 2001.



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4.2.4 FISH, WILDLIFE, AND PLANTS

Section 7 of the Endangered Species Act (ESA), as amended, applies to Federal agency actions and sets forth requirements for consultation to determine if a proposed action could potentially affect a Federally-endangered or threatened species. If an agency determines that an action may affect a Federally-threatened or endangered species, Section 7(a)(2) of the ESA requires consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS), as appropriate, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally-listed, endangered, or threatened species or result in the destruction or adverse modification of Critical Habitat.

The USFWS and the Ohio Department of Natural Resources (ODNR) reported that BKL is within the range of a number of threatened or endangered species as shown in **Table 4-1**. Coordination with these agencies is located in Appendix A, *Coordination and Comments*.

An on-site habitat assessment was conducted in May 2012 to identify any special-concern species which may be within the areas of potential disturbance. A copy of the report is provided in Appendix D, *Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report*. 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 have been identified within one mile of the airport.

While a number of species typically found along the lakeshore and or inhabiting open space were observed, none of the state or Federal threatened or endangered 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 out of the areas of disturbance in the USACE's CDF located in the northeastern portion of the Airport.

**Table 4-1
STATE AND FEDERAL THREATENED AND ENDANGERED SPECIES
Burke Lakefront Airport**

| COMMON NAME | SCIENTIFIC NAME | FEDERAL STATUS | STATE STATUS |
|--------------------------------|-----------------------------------|----------------|--------------|
| PLANT SPECIES | | | |
| American Beach Grass | <i>Ammophila breviligulata</i> | n/a | T |
| Inland Sea Rocket | <i>Cakile edentula</i> | n/a | P |
| Wild Calla | <i>Calla palustris</i> | n/a | P |
| Grass-pink | <i>Calopogon tuberosus</i> | n/a | T |
| Bebb's Sedge | <i>Carex bebbii</i> | n/a | P |
| Tufted Fescue Sedge | <i>Carex brevior</i> | n/a | T |
| Louisiana Sedge | <i>Carex louisianica</i> | n/a | E |
| Pale Sedge | <i>Carex pallescens</i> | n/a | P |
| American Chestnut | <i>Castanea dentata</i> | n/a | P |
| Leather-leaf | <i>Chamaedaphne calyculata</i> | n/a | P |
| Spotted Coral-root | <i>Corallorhiza maculata</i> | n/a | P |
| Round-leaved Dogwood | <i>Cornus rugosa</i> | n/a | P |
| Schweinitz' Umbrella-sedge | <i>Cyperus schweinitzii</i> | n/a | T |
| Showy Lady's-slipper | <i>Cypripedium reginae</i> | n/a | T |
| Bearded Wheat Grass | <i>Elymus trachycaulus</i> | n/a | T |
| Simple Willow-herb | <i>Epilobium strictum</i> | n/a | T |
| Green Cotton-grass | <i>Eriophorum viridicarinatum</i> | n/a | P |
| Seaside Spurge | <i>Euphorbia polygonifolia</i> | n/a | P |
| Marsh Bedstraw | <i>Galium palustre</i> | n/a | E |
| Fringed Gentian | <i>Gentianopsis crinita</i> | n/a | P |
| Water Avens | <i>Geum rivale</i> | n/a | P |
| Canada Hawkweed | <i>Hieracium umbellatum</i> | n/a | T |
| Flat-leaved Rush | <i>Juncus platyphyllus</i> | n/a | E |
| Ground Juniper | <i>Juniperus communis</i> | n/a | E |
| Tamarack | <i>Larix laricina</i> | n/a | P |
| Cow-wheat | <i>Melampyrum lineare</i> | n/a | T |
| Dotted Horsemint | <i>Monarda punctata</i> | n/a | E |
| Large-leaved Mountain-rice | <i>Oryzopsis asperifolia</i> | n/a | T |
| Long Beech Fern | <i>Phegopteris connectilis</i> | n/a | P |
| Lurking Leskea | <i>Plagiothecium latebricola</i> | n/a | T |
| ssp. languida Weak Spear Grass | <i>Poa saltuensis</i> | n/a | P |
| Richardson's Pondweed | <i>Potamogeton richardsonii</i> | n/a | P |
| Marsh Five-finger | <i>Potentilla palustris</i> | n/a | P |
| Virginia Meadow-beauty | <i>Rhexia virginica</i> | n/a | P |
| Deer's-tongue Arrowhead | <i>Sagittaria rigida</i> | n/a | P |

**Table 4-1 Continued
STATE AND FEDERAL THREATENED AND ENDANGERED SPECIES
Burke Lakefront Airport**

| COMMON NAME | SCIENTIFIC NAME | FEDERAL STATUS | STATE STATUS |
|----------------------------|--------------------------|----------------|--------------|
| Canada Buffalo-berry | Shepherdia canadensis | n/a | P |
| Northern Blue-eyed-grass | Sisyrinchium montanum | n/a | T |
| Dusty Goldenrod | Solidago puberula | n/a | E |
| Leafy Goldenrod | Solidago squarrosa | n/a | T |
| Shining Ladies'-tresses | Spiranthes lucida | n/a | P |
| Purple Sand Grass | Triplasis purpurea | n/a | P |
| Hobblebush | Viburnum alnifolium | n/a | T |
| Netted Chain Fern | Woodwardia areolata | n/a | P |
| NON-PLANT SPECIES | | | |
| Indiana Bat | Myotis sodalis | E | E |
| Kirtland's warbler | Dendroica kirtlandii | E | E |
| Piping plover | Charadrius melodus | E | E |
| Canada darner | Aeshna canadensis | n/a | E |
| Upland Sandpiper | Bartramia longicauda | n/a | T |
| Caddisfly | Chimarra socia | n/a | E |
| Spotted Turtle | Clemmys guttata | n/a | T |
| Star-nosed Mole | Condylura cristata | n/a | SC |
| Tiger Spiketail | Cordulegaster erronea | n/a | SC |
| Muskellunge | Esox masquinongy | n/a | SC |
| Peregrine Falcon | Falco peregrinus | n/a | T |
| Bald Eagle | Haliaeetus leucocephalus | n/a | T |
| Dark-eyed Junco | Junco hyemalis | n/a | T |
| Bobcat | Lynx rufus | n/a | E |
| Bigmouth Shiner | Notropis dorsalis | n/a | T |
| Yellow-crowned Night-heron | Nyctanassa violacea | n/a | T |
| Smooth Greensnake | Opheodrys vernalis | n/a | SC |
| Great Lakes Crayfish | Orconectes propinquus | n/a | SC |
| Channel Darter | Percina copelandi | n/a | T |
| King rail | Rallus elegans | n/a | E |
| Longnose Dace | Rhinichthys cataractae | n/a | SC |
| Yellow-bellied sapsucker | Sphyrapicus varius | n/a | E |
| Bewick's Wren | Thryomanes bewickii | n/a | E |
| Black Bear | Ursus americanus | n/a | E |
| Golden-winged Warbler | Vermivora chrysoptera | n/a | E |

E = Endangered; **T** = Threatened; **P** = Potentially Threatened; **C** = Candidate; **SC** = Species of Concern

Source: US Fish & Wildlife Service and Ohio Department of Natural Resources records, 2012.

4.2.5 FLOODPLAINS

Executive Order (EO) 11988, *Floodplain Management*, directs Federal agencies to take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains. U.S DOT Order 5650.2, *Floodplain Management and Protection*, contains DOT policies and procedure for implementing EO 11988. Agencies are required to make a finding that there is no practicable alternative before taking action that would encroach on the 100-year base flood elevation (7 CFR Part 650.25).⁵

EO 11988 defines floodplains as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year” (i.e., the area inundated by a 100-year flood).⁶ The 100-year flood has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for floodplain management purposes. FEMA uses the 500-year flood (i.e., a 0.2 percent annual chance of occurrence) to indicate additional areas of flood risk. EO 11988 requires Federal agencies to determine whether a proposed action will occur in a floodplain and, if the encroachment is significant, determine if the proposed action is the only practicable alternative before proceeding. If the Federal agency finds that the only practicable alternative requires siting in a floodplain, EO 11988 and DOT Order 5650.2 require that the proposed action be designed or modified to reduce adverse floodplain impacts. FEMA maps are the primary reference for determining the extent of the base floodplain. The 100-year floodplains for BKL and the surrounding areas are shown in **Exhibit 4-3, Floodplain Map**. The area of potential disturbance for the Proposed Action is not within the 100-year floodplain.

4.2.6 HAZARDOUS MATERIALS AND SOLID WASTE

Portions of the Airport were built on top of a closed solid waste disposal facility (former Cleveland Municipal Dump), therefore it is subject to Ohio Administrative Code (OAC) 3745-27-13 (Rule 13) OAC Rule 3745-27-13 requiring authorization from the Director of the Ohio Environmental Protection Agency (EPA) before engaging in filling, grading, excavating, building, drilling, or mining on land where a solid waste facility was operated.


In 1987, the Ohio EPA completed a preliminary assessment of the former Cleveland Municipal Dump. The purpose of the screening was to prioritize sites for additional investigation under the National Contingency Plan (40 CFR Part 300). The Cleveland Municipal Dump site, including BKL, was on the Federal government’s Comprehensive Environmental Response, Compensation, and Liability

⁵ FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures, Section 9. Floodplains*. Dated March 20, 2006.

⁶ 42 Federal Register 26951, Executive Order No. 11988, *Floodplain Management*, May 24, 1977.



Legend

 ZONE AE:
100-Year Floodplain

SOURCE: FEMA
Map Panels
39035C0064E and 39035C0068E
Effective Date 12/03/2010

0 100'



Runway 6L-24R RSA
Environmental Assessment
Cleveland Burke Lakefront Airport



FINAL

8/6/2012 Prepared by Landrum & Brown
Filename: \\CBLAA\2009 On-Call Contract\
E-L&B Work Product\2-GIS\MXD\
4-2_Floodplain Map.mxd

Floodplain Map

Exhibit:
4-3

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Information System (CERCLIS) list. However, the Ohio EPA found that the area of the Dump “poses a low threat for groundwater contamination (‘silts and clays yield little water’) and for surface water contamination (‘previous dumping of debris encroached the Lake Erie shoreline’)” and recommended a low priority for State and Federal activities. This meant that the area would not be considered by the US EPA for remedial action. The Ohio EPA concluded that they could not find evidence of any hazardous material ever being disposed of at this location, and that most of the material was construction and demolition debris, mixed with some garbage. The Ohio EPA found that only about 22 acres within BKL property contained solid waste and the remainder is dredge fill and some construction and demolition debris.⁷

4.2.7 HISTORIC, ARCHAEOLOGICAL, ARCHITECTURAL, AND CULTURAL RESOURCES

As previously stated BKL was built on top of a closed solid waste disposal facility; therefore, no archaeological or cultural resources are expected to exist within the site of the Airport. There is one historic resource listed on the National Register of Historic Places (NRHP), the USS Cod Submarine, located adjacent to the Airport but not in the area of potential disturbance. (See Exhibit 4-2 for the location of the USS Cod Submarine).

4.2.8 LIGHT EMISSIONS AND VISUAL IMPACTS

BKL is located in an urbanized area in downtown Cleveland and is consistent with its environment. Existing lighting at the Airport consists of runway lighting aids that provide pilots with critical takeoff and landing information concerning runway alignment, lateral displacement, rollout operations, and distance. Navigational aids (NAVAIDs) are visual or electronic devices that provide point-to-point guidance information or position data to aircraft in flight.

Runway 6L has a visual approach and Runway 24R is equipped with a Category I Instrument Landing System (ILS). An ILS provides both vertical and horizontal guidance which allows for precision approaches to an airport in poor weather conditions. The Category I ILS for Runway 24R consists of a Medium Intensity Approach Lighting System with Sequenced Flashing Lights (MALSF), an electronic localizer (provides horizontal guidance), a glide slope facility (provides vertical guidance), and middle and outer markers (to identify distance from the runway). Runway 6L/24R is equipped with High Intensity Runway Edge Lights (HIRL), a 4-box Visual Approach Slope Indicator (VASI) on each of the approaches, and Runway End Identifier Lights (REILs) on the end of Runway 6L.

⁷ Gruber, William M. Ondrey Gruber and Joanne Kaufman, *Burke Lakefront Airport: A Report on its History, Its Current Status and Its Future*, September 18, 2002.

4.2.9 NOISE

The analysis of existing noise exposure around BKL was prepared using the latest version of the *Integrated Noise Model (INM)*, Version 7.0c. Inputs to the INM include runway definition, number of aircraft operations during the time period evaluated, the types of aircraft flown, the time of day when they are flown, how frequently each runway is used for arriving and departing aircraft, the routes of flight used when arriving to and departing from the runways, and helicopter activity. The INM calculates noise exposure for the area around the airport and outputs contours of equal noise exposure. For this EA, equal noise exposure contours for the levels of 65, 70, and 75 Day-Night Average Sound Level (DNL) were calculated for the existing conditions.

The Airport currently has two parallel runways, designated Runway 6L/24R and Runway 6R/24L, which are spaced 510 feet apart and oriented in a northeast-southwest direction. The current runways, including total length and runway end coordinates, at BKL are listed below:

| <u>Runway</u> | <u>Length (feet)</u> |
|---------------|----------------------|
| 6L/24R | 6,198 |
| 6R/24L | 5,197 |

| <u>Runway</u> | <u>Latitude</u> | <u>Longitude</u> |
|---------------|-----------------|------------------|
| 6L | 41.513850 | --81.692656 |
| 24R | 41.522885 | --81.673484 |
| 6R | 41.512688 | --81.691686 |
| 24L | 41.520264 | --81.675608 |

Helicopter activity occurring at BKL includes Cleveland Police Aviation Unit helicopters, and typically operates at the general aviation ramp on the southeast side of the airfield. Helicopter activity also occurs on the northwest corner of the City ramp by Precision Helicopter, on the north ramp or north east corner of the City ramp by Petroleum Helicopters, and from the business aircraft ramp by Channel 19 and Fox 8 news. Helicopter take-offs and landings were modeled at the following coordinates:

| <u>Latitude</u> | <u>Longitude</u> |
|-----------------|------------------|
| 41.512406 | -81.686967 |

The number of operations included in the Existing (2012) Baseline noise exposure contour is based on data obtained from the FAA's Air Traffic Activity System (ATADS) for the period from March 2011 through February 2012. During that period, 55,805 total annual operations occurred at BKL, which results in 152.47 average-annual day operations.⁸ Specific aircraft types were developed from the Draft 2008 Master Plan Forecast and the FAA's Enhanced Traffic Management System Counts (ETMS). **Table 4-2** provides a summary of the average daily operations and fleet mix that was modeled for the Existing (2012) Baseline noise exposure contour.

**Table 4-2
DISTRIBUTION OF AVERAGE DAILY OPERATIONS BY AIRCRAFT TYPE
EXISTING (2012) BASELINE CONDITIONS
Burke Lakefront Airport**

| INM ID | ARRIVALS | | DEPARTURES | | TOTAL |
|--------------------|----------|-----------|------------|-----------|--------|
| | DAYTIME | NIGHTTIME | DAYTIME | NIGHTTIME | |
| Jet Aircraft | | | | | |
| CL600 | 3.44 | 0.07 | 3.44 | 0.07 | 7.02 |
| CNA560U | 6.20 | 0.13 | 6.20 | 0.13 | 12.66 |
| LEAR35 | 7.41 | 0.15 | 7.41 | 0.15 | 15.12 |
| MU3001 | 1.88 | 0.04 | 1.88 | 0.04 | 3.85 |
| Subtotal | 18.93 | 0.39 | 18.93 | 0.39 | 38.64 |
| Turboprop Aircraft | | | | | |
| CNA208 | 12.35 | 0.25 | 12.35 | 0.25 | 25.21 |
| CNA441 | 15.10 | 0.31 | 15.10 | 0.31 | 30.81 |
| Subtotal | 27.45 | 0.56 | 27.45 | 0.56 | 56.02 |
| Piston Aircraft | | | | | |
| BEC58P | 7.32 | 0.07 | 7.32 | 0.07 | 14.79 |
| CNA172 | 0.64 | 0.01 | 0.64 | 0.01 | 1.31 |
| GASEPV | 1.28 | 0.03 | 1.28 | 0.03 | 2.62 |
| Subtotal | 9.25 | 0.11 | 9.25 | 0.11 | 18.72 |
| Helicopters | | | | | |
| S76 | 19.55 | 0.00 | 19.55 | 0.00 | 39.10 |
| Subtotal | 19.55 | 0.00 | 19.55 | 0.00 | 39.10 |
| Grand Total | 75.18 | 1.06 | 75.18 | 1.06 | 152.47 |

Note: Daytime = 7:00 a.m. to 9:59 p.m., Nighttime = 10:00 p.m. to 6:59 a.m.

Totals might not equal sum due to rounding.

Source: FAA ATADS, FAA ETMSC, Landrum & Brown, 2012.

Average-annual day runway end utilization was derived primarily from analysis of previous studies, including the Draft 2008 Master Plan. According to the Draft 2008 Master Plan, BKL and Airport Traffic Control Tower (ATCT) staff indicated that the Airport operates in southwest flow (arrivals to and departures from Runway 24R and Runway 24L) approximately 80 percent of the time. Runway 6L/24R is the longer of the two runways and has an instrument approach capability. Therefore, it is considered the main runway. Runway 6R/24L is the secondary runway. It was assumed to be used by piston aircraft approximately four percent of the time.

⁸ Note: average annual day operations calculated by dividing total annual operations by 366 days (to account for leap year).

The runway use that was modeled for the Existing (2012) Baseline noise exposure contour is shown in **Table 4-3**.

Table 4-3
RUNWAY END UTILIZATION - EXISTING (2012) BASELINE
Burke Lakefront Airport

| AIRCRAFT CATEGORY | RUNWAY END | | | |
|--------------------|------------|----|-----|-----|
| | 6L | 6R | 24L | 24R |
| Jet Aircraft | 20% | 0% | 0% | 80% |
| Piston Aircraft | 19% | 1% | 3% | 77% |
| Turboprop Aircraft | 20% | 0% | 0% | 80% |

Source: Landrum & Brown, 2012.

Flight tracks primarily follow straight-in and straight-out paths to and from the runways. Approximately 40 percent of piston operations were modeled as touch-and-go procedures, which follow a circular pattern with turns northward after departure to overfly Lake Erie. The INM flight tracks modeled for the Existing (2012) Baseline conditions are shown on **Exhibit 4-4, Existing (2012) Baseline INM Flight Tracks**.

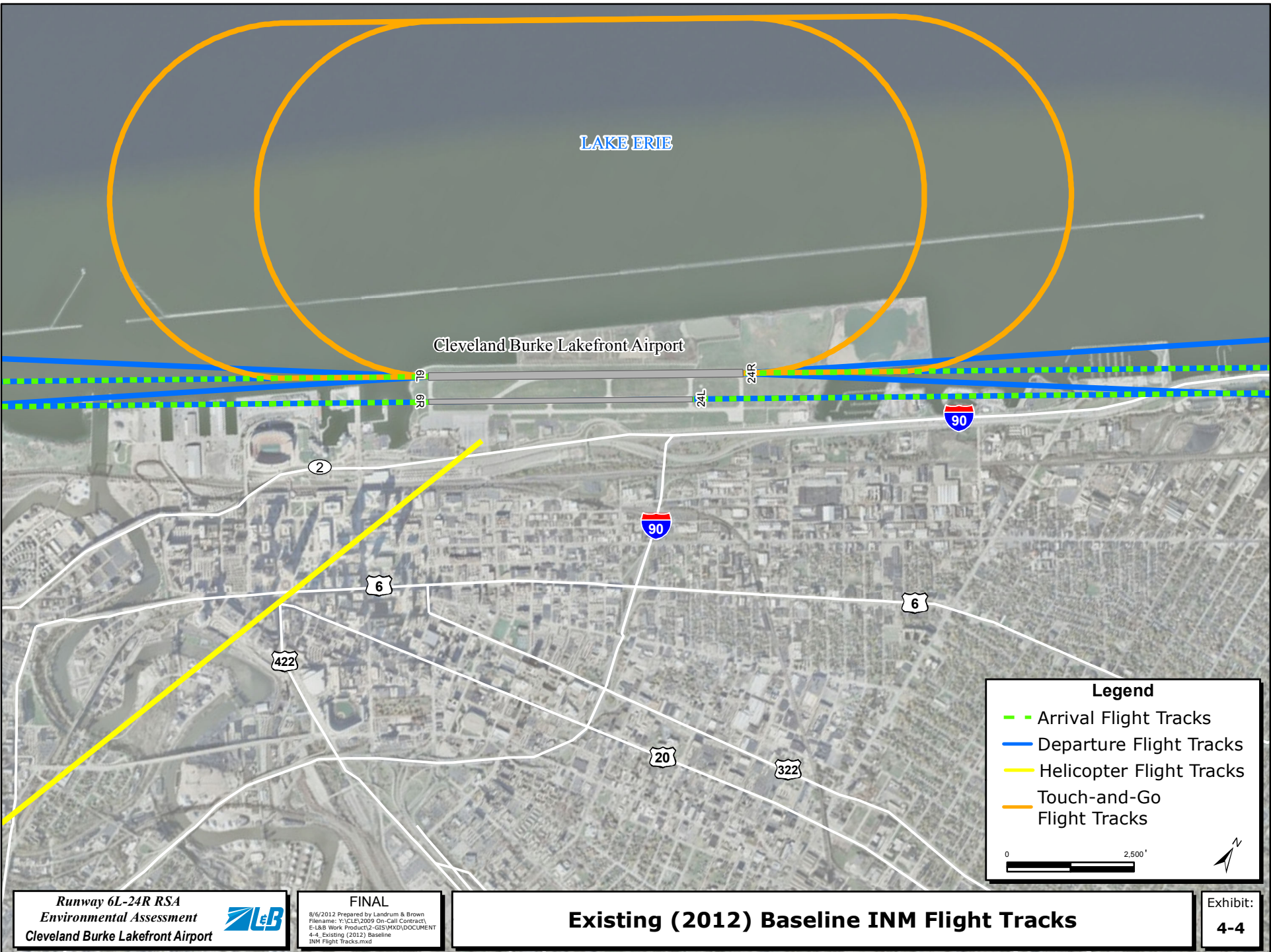
The Existing (2012) Baseline noise exposure contour, showing contour bands of 65, 70, and 75 DNL levels, is presented on **Exhibit 4-5, Existing (2012) Noise Exposure Contour**. The area within each five-decibel noise exposure contour is shown in **Table 4-4**. Approximately 0.29 square miles are within the 65+ DNL of the Existing (2012) Baseline noise exposure contour. The noise exposure contour extends outward from Runway 6L/24R because it is the more heavily used of the two parallel runways at BKL. A small contour area is visible to the southeast of Runway 6R due to the helicopter operations that occur on the general aviation ramp in this area. The 65 DNL of the Existing (2012) Baseline noise exposure contour is located over airport property, the right-of-way for State Route 2, and an adjacent surface parking lot. As a result, there are no noise-sensitive land uses (residential, schools, churches, hospitals, libraries, or nursing homes) located within the 65+ DNL noise contours for the Existing (2012) Baseline.

Table 4-4
AREA EXPOSED TO VARIOUS NOISE LEVELS (IN SQUARE MILES)
EXISTING (2012) BASELINE NOISE EXPOSURE CONTOUR
Burke Lakefront Airport

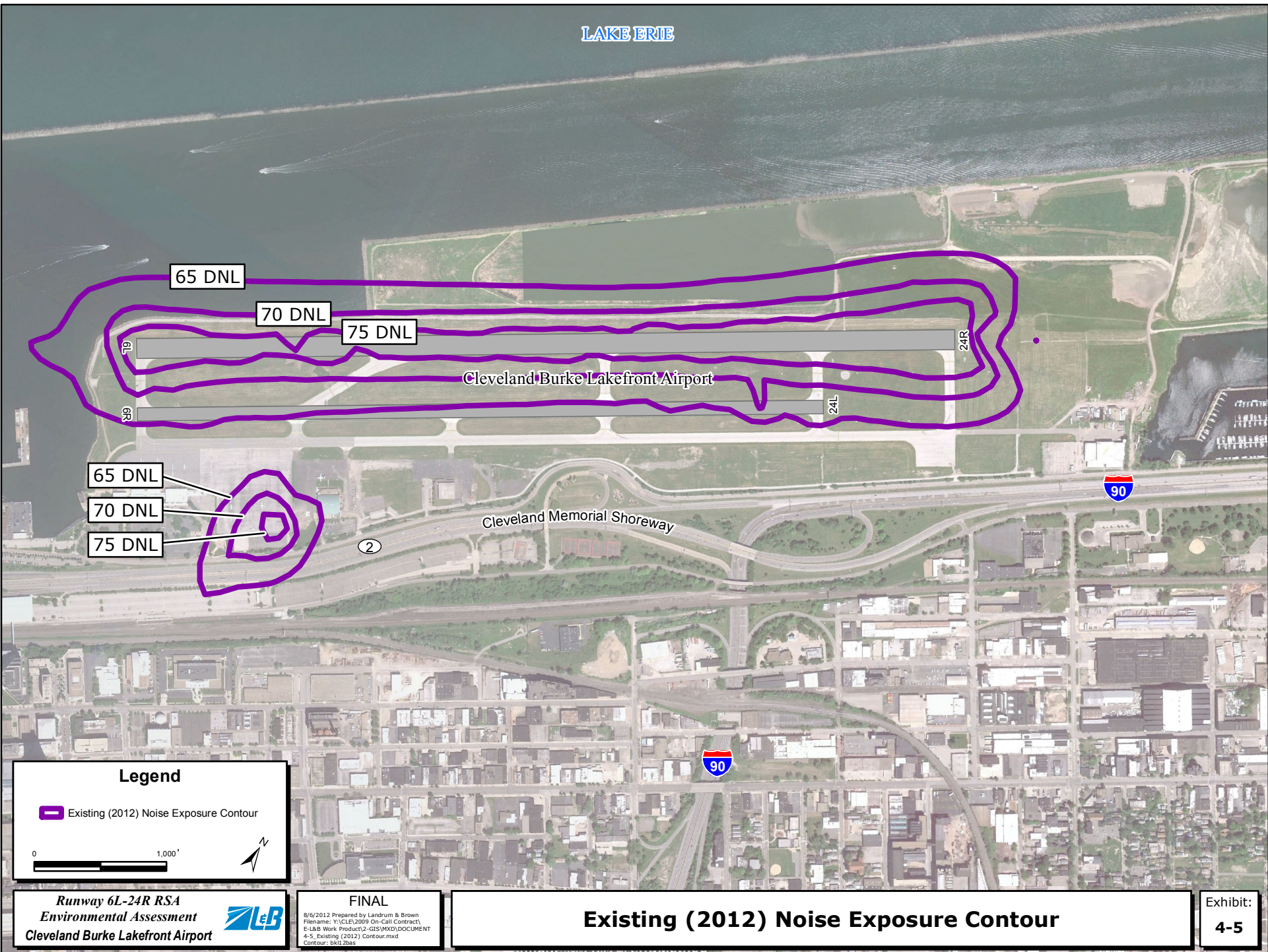
| CONTOUR RANGE | EXISTING (2012) BASELINE |
|---------------|-----------------------------|
| 65-70 DNL | 0.14 |
| 70-75 DNL | 0.08 |
| 75 + DNL | 0.07 |
| 65 + DNL | 0.29 |

Note: 65+ DNL contour area does not equal sum due to rounding.

Source: Landrum & Brown, 2012.



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4.2.10 SURFACE TRANSPORTATION

Access to the Airport is provided from North Marginal Road. There is also a vehicle service road that currently circles the airport perimeter and provides access for the FAA, airport operations, USDA wildlife management and mitigation, and the USACE.

4.2.11 SOCIOECONOMIC

BKL is located within the City of Cleveland, which is located within Cuyahoga County, Ohio. According to the U.S. Census Bureau, the total population of the City of Cleveland was 396,815 in 2010. As shown in **Table 4-5**, the population of the City of Cleveland decreased by 8.2 percent from 478,403 in 2000. During that same timeframe, the population of Cuyahoga County decreased by 17.1% from 1,393,978 in 2000 to 1,280,122 in 2010.

**Table 4-5
LOCAL POPULATION
Burke Lakefront Airport**

| GEOGRAPHY | 2000 | 2010 | CHANGE FROM 2000 TO 2010 |
|-------------------|-------------|-------------|---------------------------------|
| Cuyahoga County | 1,393,978 | 1,280,122 | -8.2% |
| City of Cleveland | 478,403 | 396,815 | -17.1% |

Source: U.S. Census Bureau, 2012

BKL is owned and operated by the City of Cleveland, which provides basic public services to the Airport, including police protection, which is provided by the Cleveland Police Department, and fire protection, which is provided by the Aircraft Rescue and Fire Fighting (ARFF) unit. The ARFF facilities are located on Airport property to the northwest of the terminal building. The ARFF facility meets or exceeds FAR Part 139 regulations related to equipment, facilities, and incident response times.

4.2.12 WATER QUALITY

BKL is adjacent to and built entirely on fill placed in Lake Erie. The Ohio EPA Division of Surface Water is tasked with ensuring surface waters in Ohio, including Lake Erie, are in compliance with the Federal Clean Water Act.

Basic Stormwater Handling

The Airport collects Stormwater and discharges it per Industrial Storm Water General Permit 3GR01518*DG, through a series of storm sewer pipes and manholes.

Combined Sanitation/Stormwater Pipes (Perpendicular to Runway)

The City of Cleveland has five (5) combined sewer overflow (CSO) pipes which currently bisect the existing runways at BKL. They originate off Airport property and are placed underground terminating at Lake Erie. During a rain storm, water runoff can quickly overflow existing utilities. Control devices allow some of the flow to overflow into Lake Erie to prevent urban flooding and damage to wastewater treatment facilities. The Northeast Ohio Regional Sewer District has five permitted locations, known as outfalls (CSO-099, CSO-098, CSO-097, CSO-096, CSO-095), adjacent to the Airport.

Drainage along Confined Disposal Facility 10B

Drainage was required for Airport lands that drain into the USACE's CDF 10B. With the construction of the USACE CDF berm wall along the north edge of the Airport, a long flat low area resulted where water collects and must be drained. The only outlet for any ponded water in the retention area is via infiltration.

4.2.13 WETLANDS AND STREAMS

EO 11990, Order DOT 5660.1A, Section 10 of the Rivers and Harbors Act (RHA) of 1899; and Section 404 of the Clean Water Act (CWA), 1972, as amended in 1979, address activities in waters of the U.S., including wetlands. EO 11990 requires Federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. Order DOT 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands.

This section describes habitat within the areas of potential disturbance that exhibit characteristics indicative of "wetlands" and "other surface waters." Existing wetland/surface water conditions within the areas of potential disturbance vary in terms of habitat value; wetland quality; level of intrusion by exotic, invasive, and nuisance species; and degree of geographical isolation.

In May 2012, a wetland delineation survey was conducted to verify the presence of any wetland or streams in the areas of potential disturbance. A copy of the report is provided in Appendix D. **Table 4-6** details the wetland acreages in the areas of potential disturbance. According to this report there are non-jurisdictional wetlands in the areas of potential disturbance as shown on **Exhibit 4-6, Wetlands and Waters of the U.S.** The preliminary jurisdictional status is currently under review by the USACE.

**Table 4-6
EXISTING WETLANDS
Burke Lakefront Airport**

| WETLAND ID | VEGETATIVE COVERAGE | ISOLATED, ADJACENT, ABUTTING | RECEIVING WATERS | ORAM SCORE CATEGORY (1,2,3) | WETLAND TYPE (COWARDIN ET AL. 1979) | EST. TOTAL SIZE (AC.) |
|------------|---|------------------------------------|---------------------|-----------------------------------|---|--------------------------|
| Wetland 1 | <i>Agrostis stolonifera, Eleocharis erythropoda, Phalaris arundinacea</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.180 |
| Wetland 2 | <i>Agrostis stolonifera, Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.066 |
| Wetland 3 | <i>Agrostis stolonifera, Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.005 |
| Wetland 4 | <i>Agrostis stolonifera, Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.029 |
| Wetland 5 | <i>Agrostis stolonifera, Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.032 |

Source: ASC Group, 2012.

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Chapter Five

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CHAPTER FIVE

ENVIRONMENTAL CONSEQUENCES

5.1 BACKGROUND

Pursuant to the environmental documentation requirements of Federal Aviation Administration (FAA) Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and 1050.1E, *Environmental Impacts, Policies and Procedures*, this chapter describes the anticipated impacts of the Proposed Action upon each of the following environmental resource categories:

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act Section 303(c) (Formerly Section 4(f) Resources)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers

With the No Action Alternative, the existing conditions would remain in place. Therefore, there would be no impacts not already occurring or expected to occur in any of the environmental resource categories.

5.2 CATEGORIES WHERE NO IMPACTS OCCUR

Due to the nature of the Proposed Action or the lack of resources in or near the project site, there are a number of categories that were evaluated and found to have no significant impacts. Each of these is described in the following sections.

5.2.1 COASTAL RESOURCES

Portions of the Proposed Action area are included in existing Submerged Lands Lease File Number SUB-0514-CU issued to the City of Cleveland Department of Port Control (DPC). This Lease authorizes the use and occupation of the previously submerged lands of Lake Erie for airport expansion, confined disposal facility and port development. The Proposed Action is consistent with the lease as the purpose of the Proposed Action is to address FAA safety requirements. Ohio Department of Natural Resources (ODNR) will require the DPC to obtain a Submerged Land Lease construction approval prior to construction. The Proposed Action would not include the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie; therefore an ODNR Shore Structure Permit (ORC 1506.40) would not be required. If however during the design phase of the Proposed Action construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie is required, DPC would submit an application for an ODNR Shore Structure Permit (ORC 1506.40).

Similarly written approval from the Director, Ohio Department of Natural Resources would be requested if the Proposed Action includes improvements to the existing facilities, construction of new facilities or any change in use to the area included in existing Submerged Lands Lease File Number SUB-0514-CU.

The Proposed Action would be located within the Ohio Lake Erie Coastal Management Area (CMA). According to the Combined Coastal Management Program and Final Environmental Impact Statement for the State of Ohio, the Ohio Coastal Management Program (OCMP) only affects those activities considered to have a direct and significant impact on coastal lands, waters and resources. The OCMP defines "direct and significant impact" as the result of any action causing or likely to cause (1) changes in the manner in which land, water or other coastal resources are used, (2) changes in the environmental quality of coastal resources, or (3) limitations on the range of uses of coastal resources.

The Proposed Action would not change the manner the land is used nor will it limit the range of uses of coastal resources. Additionally, the findings detailed in the other sections of this Environmental Assessment (EA) demonstrate that the Proposed Action would not change the environmental quality of the coastal resources. Due to this fact, the Proposed Action would be consistent with OCMP. Therefore, no significant impact will occur to a Coastal Management Zone as a result of the Proposed Action or the No Action Alternative.

5.2.2 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(F)

The Federal statute that governs impacts in this category is commonly known as the Department of Transportation (DOT) Act of 1966, Section 4(f) provisions. Section 4(f) of the DOT Act was recodified and renumbered as Section 303(c) of 49 USC. FAA Order 5050.4B continues to refer to this statute as Section 4(f) to avoid confusion. Section 4(f) provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly-owned land such as a public park, recreation area, or wildlife/waterfowl refuge of national, state, or local significance or land from an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use. A direct use of land occurs when land from a 4(f) site is permanently incorporated into a transportation facility. A constructive use occurs when proximity impacts of a project on a 4(f) property are so severe that the activities, features, or attributes that qualify the property or resources for protection under Section 4(f) are substantially impaired.

There are no publicly-owned lands within the areas of potential disturbance. The USS Cod Submarine, a National Register of Historic Places (NRHP) listed site, is located adjacent to the Airport. However, as discussed in Section 5.2.6, there would be no impacts to this site. Therefore, no direct or constructive use impacts to Section 4(f) resources would result from the Proposed Action or the No Action Alternative.

5.2.3 FARMLANDS

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of field, fertilizer, pesticides, and labor, and without intolerable soil erosion. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber.¹ Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply need to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods.²

There are no prime or unique farmlands located within the areas of potential disturbance and there would be no impacts to farmlands due to the Proposed Action or the No Action Alternative.

¹ U.S. Department of Agriculture, *Farmland Protection Policy Act*, Subtitle I, Section 2(c) (1) (A) June 17, 1994.

² U.S. Department of Agriculture, *Farmland Protection Policy Act*, Subtitle I, Section 2(c) (1)(B) June 17, 1994.

5.2.4 FLOODPLAINS

As described in Chapter Four, *Affected Environment*, the area of potential disturbance for the Proposed Action is not within the 100-year floodplain. There would be no impacts to floodplains due to the Proposed Action or the No Action Alternative.

5.2.5 HAZARDOUS MATERIALS AND SOLID WASTE

FAA Order 1050.1E, Appendix A, *Analysis of Environmental Impact Categories*, does not provide a specific threshold of significance for hazardous material and solid waste impacts. However, the Order does offer that actions involving property listed (or potentially listed) on the National Priorities List (NPL) would be considered significant. In other cases, only an unresolved issue may warrant the preparation of an Environmental Impact Statement (EIS). The Order further states that if remediation is required and the magnitude of the remediation and costs are significant, then the preparation of an EIS is justified.

The Ohio Environmental Protection Agency (EPA) granted a “blanket” Rule 13 permit for authorization to excavate and backfill (OAC 3745-27-13) construction activities via a letter dated April 6, 1993. The Proposed Action would be covered under that authorization. Ohio EPA confirmed that was correct and that the conditions of construction would have to be followed. (See Appendix A) In addition to the construction activities approved in the April 6, 1993 Ohio EPA letter, the Proposed Action must also conform to City of Cleveland Ordinance Chapter 3116 *Construction and Post-Construction Site Storm Water Runoff Control*. Pursuant to the terms of the permit, neither the Proposed Action nor the No Action Alternative would result in unique or major impacts to hazardous materials.

The Proposed Action would create a temporary increase in solid waste from construction debris generated during construction and operation. However, the Proposed Action would neither generate an unmanageable volume of solid waste nor affect the Airport’s existing solid waste management program. The increase in solid waste produced by the Proposed Action would not exceed the capability of the waste management system currently in place at Burke Lakefront Airport (BKL). Therefore neither the Proposed Action nor the No Action Alternative would result in unique or major impacts to solid waste management.

5.2.6 HISTORIC, ARCHAEOLOGICAL, ARCHITECTURAL, AND CULTURAL RESOURCES

Determination of Area of Potential Effect

As described in 36 CFR 800.4(a)(1) and in 36 CFR 800.16(d) the Area of Potential Effect (APE) for historic resources including structures and archaeological sites, is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.”

For direct impacts, the APE would be considered to be the area of potential disturbance as shown on Exhibit 4-1, *Area of Potential Disturbance*. There is one historic resource listed on the NRHP, the USS Cod Submarine, located adjacent to the Airport but not in the area of potential disturbance. (See Exhibit 4-2, *Existing Land Use*, for the location of the USS Cod Submarine). There are no other known historic resources in close proximity to the Airport. As previously stated BKL was built on top of a closed solid waste disposal facility; therefore, no archaeological or cultural resources are expected to exist within the site of the Airport.

For indirect impacts, such as noise or changes in view, the only modification due to the Proposed Action that could cause changes in the character or use of a historic property is related to changes in aircraft noise levels.

Consultation

Consultation concerning historical, architectural, archaeological, and cultural resources is located in Appendix A.

Assessment of Effect for the Proposed Action

Construction and operation of the Proposed Action would not physically destroy or alter any historic properties or remove any properties from its historic location. Therefore there would be no direct impacts due to the Proposed Action. As described in Section 5.3.5, *Noise*, the Proposed Action would not result in significant noise impacts on incompatible land use. The Proposed Action would not introduce an atmospheric, audible, or visual feature to the area that would diminish the integrity of any property's setting or through transfer, sale, or lease, diminishes the long-term preservation of any property's historic significance that Federal ownership or control would otherwise ensure. Therefore, there would be no indirect impacts for the APE.

The USS Cod Submarine is outside any noise contours. Therefore, no NRHP historic structures or historic properties would be directly or indirectly impacted by the Proposed Action. A historical or cultural resource survey is not necessary in accordance with 36 CFR 800.4 and 36 CFR 800.5 "No historic properties affected." There would be no impacts to historical, architectural, archaeological, or cultural resources with the Proposed Action. If however during construction activities any historic, architectural, archaeological, or cultural resource items are uncovered, immediate consultation with the State Historic Preservation Officer (SHPO) would occur.

5.2.7 LIGHT EMISSIONS AND VISUAL IMPACTS

Only in unusual circumstances (i.e. when high-intensity strobe lights would shine directly into people's homes) would the impact of light emissions be considered sufficient to warrant special study and a more detailed examination of alternatives in an EA. As directed by FAA Order 1050.1E, light emissions are assessed to the "...extent to which any lighting associated with an action will create an annoyance among people in the vicinity or interfere with their normal activities".

The Proposed Action does not include high-intensity strobe lights that would shine directly into residences. Therefore, as discussed above, no special lighting study is warranted.

Visual, or aesthetic, impacts are inherently more difficult to define because of the subjectivity involved. Aesthetic impacts deal more broadly with the extent that the development contrasts with the existing environment and whether the jurisdictional agency considers this contrast objectionable.

The Proposed Action would not significantly alter the lighting at the Airport. The existing approach lights would be replaced by in pavement lights in the area of the runway extension. The location of the other light stations would remain as they are today; however, they would be adjusted to meet the new light plane and or FAR Part 77 surface. There would be no adverse impacts from light emissions or visual impacts with construction and operation of the Proposed Action or the No Action Alternative.

5.2.8 NATURAL RESOURCES AND ENERGY SUPPLY

FAA Order 1050.1E suggests that an EA identify if the Proposed Action would significantly deplete the local supply of natural resources and if the local supply of energy will be sufficient to handle any increase in demand. The Cleveland Metropolitan Area, being an urbanized area, has access to a vast supply of energy resources and the types of natural resources that would be needed for the Proposed Action.

No unusual energy uses that would indicate that the power companies or fuel suppliers would have difficulty providing adequate capacity to meet the demand of Airport facilities were identified, or that any natural resources used during construction would be in short supply.

Based on these findings, it is anticipated neither the Proposed Action nor the No Action Alternative would result in significant adverse impacts to the supply of energy or adversely affect the supply of natural resources.

5.2.9 SECONDARY (INDUCED) IMPACTS

Major development proposals often involve the potential for secondary or induced impacts on surrounding communities. Examples may include shifts in population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by proposed airport development. Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use, or direct social impacts.

The Proposed Action would not adversely affect regional growth and development trends, nor would it negatively impact local employment levels.

5.2.10 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomic impacts are assessed to determine the effect that the proposed airport development would have on the social and economic fabric of the surrounding communities. The types of socioeconomic impacts that typically arise from airport development are:

- Extensive relocation of residents without the availability of sufficient replacement housing;
- Extensive relocation of community businesses that would create severe economic hardship for the affected communities;
- Disruptions of local traffic patterns that would substantially reduce the levels of service of the roads serving the airport and its surrounding communities; and
- A substantial loss in community tax base.

Relocation of Residences

Neither the Proposed Action nor the No Action Alternative would result in the acquisition or the conversion of residential properties to Airport property. Therefore, no impacts to socioeconomic resources would occur as a result of relocation of residences.

Relocation of Businesses

The construction and operation of the Proposed Action would not result in significant adverse impacts to businesses located on or off-Airport. Therefore, no adverse impacts to socioeconomic resources would occur as a result of relocation of businesses.

Disruptions of Local Traffic Patterns

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, states that an EA should determine if disruptions of local traffic patterns, that would substantially reduce the levels of service of the roads serving the Airport and its surrounding communities, would occur as a result of implementing the Proposed Action. For the projects being assessed in this EA, there are no proposed modifications to off-Airport roadways and there is no anticipated increase in surface traffic other than a temporary increase during construction. As discussed previously the Proposed Project was designed to maintain to the extent practicable the vehicle service road that circles the Airport perimeter and provides access for the FAA, airport operations, U.S. Department of Agriculture (USDA) wildlife management and mitigation, and the U.S. Army Corps of Engineers (USACE). Therefore, there would be no significant disruption of local traffic patterns as a result of the Proposed Action or the No Action Alternative.

Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requires all Federal agencies to address disproportionate and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The EO also directs Federal agencies to incorporate environmental justice as part of their overall mission by conducting their programs and activities in a manner that provides minority and low-income populations an opportunity to participate in agency programs and activities.

The USDOT and the White House Office of Environmental Justice define minority as “individuals who are Black/African-American, Hispanic, Asian, Pacific Islander, American Indian, Eskimo, Aleut, or other non-white persons”. The Office of Environmental Justice indicates that for populations to be considered as a minority, the minority composition should either exceed 50 percent, or be greater than the minority population percentage in the general population of the geographic area under analysis. The appropriate unit of geographic analysis may be a governing body’s jurisdiction, a neighborhood, a census tract, or other similar unit.

FAA Order 1050.1E provides guidance for the preparation of environmental justice analysis in support of an EA. Section 16.2a (1) of the Order states that EAs should discuss the significant impact that a project would cause, and then identify affected populations. If a significant impact would affect low income or minority populations at a disproportionately higher level than it would other population segments, an environmental justice issue is likely.

In order to determine if there is a potential for significant impacts to low income or minority populations, a review of those impact categories that relate to the Airport’s neighboring communities was conducted. These impact categories include, air quality, noise, compatible land use, light emissions and visual impacts, and socioeconomic impacts. According to the applicable sections in this EA, there are no significant impacts to any of the impact categories listed above; therefore, it can be concluded that the Proposed Action would not disproportionately impact any minority populations within the Airport environs.

Children’s Environmental Health and Safety Risks

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires all Federal agencies (a) to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Based on a review of available data conducted as part of this EA, the Proposed Action would not result in an elevated risk related to health or safety concerns for children. Typically, the primary children’s health concern is asthma and related lung disorders. In order to determine whether the Proposed Action would increase

the likelihood of children contracting these health problems, the air quality analysis conducted in this chapter was examined. According to the analysis the Proposed Action would not create air quality conditions that would worsen breathing conditions for children. In addition, the Proposed Action would not result in the release of harmful agents into surface or groundwater resources above levels permitted by the State of Ohio and Federal regulations.

Based on the analyses conducted in this EA, neither the Proposed Action nor the No Action Alternative would result in the release of, or exposure to significant levels of harmful agents in the water, air, or soil that would affect children's health or safety.

5.3 CATEGORIES WHERE IMPACTS MAY OCCUR

The remaining portion of this chapter evaluated categories where no significant impacts were found as a result of the Proposed Action.

5.3.1 AIR QUALITY

The air quality assessment provides an evaluation of the potential for significant adverse impacts to air quality in Cuyahoga County due to the Proposed Action. A complete discussion of applicable laws and guidelines relied upon in the assessment is provided in Appendix C, *Air Quality*.

Two primary laws apply to air quality, the Clean Air Act, including the 1990 Amendments (CAA) and the NEPA. This section evaluates the conformity of the Proposed Action with the CAA, NEPA, and relevant state air quality requirements. The FAA has the responsibility under NEPA to prepare an air quality assessment of sufficient scope and depth to disclose the potential for significant adverse air quality impacts due to the Proposed Action.³

To evaluate net emissions due to the Proposed Action, an emission inventory was prepared for the No Action Alternative and for the development envisioned by the Proposed Action. The comparative evaluation of the emission inventories determined the net emissions increase due to the Proposed Action, and reflects the relative emissions impact of the Proposed Action.

For the emission inventory, the FAA-required and USEPA-approved Emissions and Dispersion Modeling System (EDMS) version 5.1.3 computer program released in November 2010 was used. EDMS is an emissions inventory and air dispersion model designed specifically to estimate emissions and calculate pollutant concentrations from airport specific sources.

The results of the emission inventory for the Proposed Action are provided in **Table 5-1**. Appendix C provides more detail on the methodology, input data, and results for the air quality analysis.

**Table 5-1
PROPOSED ACTION NET EMISSIONS INVENTORY
Burke Lakefront Airport**

| ALTERNATIVES | ANNUAL EMISSIONS (tons per year) | | | | | |
|-----------------------------|-------------------------------------|-------------|-----------------|-----------------|------------------|-------------------|
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| 2013* Proposed Action | 0.16 | 0.00 | 0.28 | 0.00 | 0.03 | 0.03 |
| NET EMISSIONS | 0.16 | 0.00 | 0.28 | 0.00 | 0.03 | 0.03 |
| 2014* Proposed Action | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 | 0.01 |
| NET EMISSIONS | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 | 0.01 |
| 2015 No Action | 167.99 | 56.05 | 13.24 | 2.55 | 7.22 | 7.21 |
| 2015 Proposed Action | 173.60 | 59.28 | 13.46 | 2.64 | 7.25 | 7.25 |
| NET EMISSIONS | 5.60 | 3.22 | 0.23 | 0.09 | 0.04 | 0.04 |
| de minimis THRESHOLD | 100 | 100 | 100 | 100 | 100 | 100 |

* 2013 and 2014 represent construction years.

Total emissions may not sum exactly due to rounding.

Source: EDMS version 5.1.3, L&B Analysis, 2012.

The air quality assessment demonstrates that construction and operation of the Proposed Action would not cause an increase in air emissions above the applicable de minimis thresholds established by the USEPA for the criteria pollutants. As such, the analysis of the Proposed Action at BKL demonstrates there would be no potential for significant adverse air quality impacts in Cuyahoga County. Consequently, further analysis such as dispersion modeling to demonstrate compliance to the National Ambient Air Quality Standards (NAAQS) would be unnecessary. The Proposed Action is therefore assumed to comply with the provisions of the Ohio State Implementation Plan (SIP) and meets all the relevant requirements under NEPA and the CAA. Further, the Proposed Action complies with CAA Section 176(c) (1) and would not:

- Cause or contribute to new violations of any NAAQS;
- Increase the frequency or severity of existing violations of any NAAQS; or,
- Delay the timely attainment of any NAAQS or any required interim emission reductions or milestones.

No further analysis or reporting is required under NEPA or the CAA with regard to air quality impacts and no mitigation measures are required with the No Action or Proposed Action.

³ FAA, *Environmental Impacts: Policies and Procedures (Order 1050.1E)*, March 20, 2006; Appendix A, *Analysis of Environmental Impact Categories*, Section 2, *Air Quality*, Paragraph 2.2a.

5.3.2 COMPATIBLE LAND USE

As stated in Chapter Four site is located in an urbanized area in downtown Cleveland. The Airport is surrounded by Lake Erie, the Cleveland Memorial Shoreway, I-90, and commercial/industrial development. Harbor dredging comprises the northeastern portions of the Airport property within the USACE's five (5) Confined Disposal Facilities (CDFs).

The Proposed Action would not change the current land use designation of the Airport and would be compatible with existing zoning and surrounding area land use plans. The Proposed Action would not change the urban characteristics of the existing land uses and would not change any of the physical characteristics of the Airport. Therefore, neither the Proposed Action nor the No Action would result in an adverse land use impact and no mitigation measures are required.

5.3.3 CONSTRUCTION IMPACTS

Construction impacts are the short-term effects of the construction process that can usually be mitigated with proper construction management and the use of a Stormwater Pollution Prevention Plan (SWPPP) and best management practices (BMPs), as outlined in FAA Advisory Circular (AC) 150/5370-10F, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*.⁴

FAA Order 1050.1E, Appendix A, states that construction impacts alone are rarely significant pursuant to NEPA. However, the Order refers to the other relevant impact categories for thresholds of significance. Potential construction-related impacts resulting from the Proposed Action could temporarily affect noise levels, air quality, surface waters, and hazardous and solid waste.

Construction—Noise

Noise levels would temporarily increase during the construction period due to the construction vehicles and equipment being operated at the project site. However, the areas of potential disturbance are located more than one mile from the nearest residential development, and potential construction noise is not expected to be distinguishable from general background Airport and existing traffic noise. Therefore, no significant adverse construction impacts relative to noise would occur.

Construction—Air Quality

Impacts to air quality would occur due to the use of mostly diesel-powered equipment and fugitive dust. Construction emissions would be temporary and minimized by maintaining traffic flow during construction periods. The discharge of fugitive dust at the construction site could be minimized by the use of BMPs such as

⁴ FAA, *Standards for Specifying Construction of Airports*, Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control, AC 150/5370-10F (September 30, 2011).

ground sprinkling practices during high-dust generating activities or extended dry periods. Dust from construction and materials delivery vehicles could be minimized by the use of cargo-covering tarps and wet-downs, when possible.

Emissions from construction vehicles would temporarily impact local air quality; however, annual emissions from construction equipment would not equal or exceed the *de minimis* thresholds defining insignificant and negligible emissions. Therefore, no significant adverse construction impacts would occur relative to air quality.

Construction—Water Quality

Temporary impacts to surface water quality could result from erosion and siltation born from site disturbance activities. Cut and fill operations in the areas of potential disturbance may contribute to siltation during construction activities. Sediment transport would be temporary during the construction process. This risk of impact to water quality would be minimized to the fullest extent possible through the use of SWPPP and BMPs. Therefore, no significant adverse construction impacts would occur relative to surface waters. All necessary construction and water quality permits would be obtained as appropriate.

Construction—Hazardous and Solid Waste

Construction activities associated with the Proposed Action are expected to include the short-term use or generation of hazardous and non-hazardous materials and waste common to construction including petroleum hydrocarbon-based fuels, lubricants, and oils, paints, and cleaning solvents for the construction equipment. Appropriate materials management measures would be followed to prevent pollution to Lake Erie and to minimize the use and manage disposal of hazardous and non-hazardous substances. Therefore, no significant adverse construction impacts would occur relative to hazardous or solid wastes.

5.3.4 FISH, WILDLIFE, AND PLANTS

This section discusses the potential impacts to any species on the Airport listed as threatened or endangered pursuant to the *Endangered Species Act of 1973* (ESA), and describes the habitat necessary to support these species. “Threatened” means that surviving populations of the species are so small that the species could become extinct without protection, while “endangered” means that the entire species is in danger of extinction. In addition, other species that hold a special status either through other Federal laws or through State of Ohio protection are assessed for potential impacts.

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures* provides guidance regarding FAA policies and procedures for achieving compliance with NEPA and regulations issued by the Council on Environmental Quality for all FAA-administered projects. The Order provides requirements the FAA must meet in respect to analyzing project-related impacts to fish, wildlife, and plant species under NEPA and determining whether project-related impacts are significant.

A significant impact to Federally-listed threatened and endangered species would occur when the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) determines that the proposed action would be likely to jeopardize the continued existence of the species in question, or would result in the destruction or adverse modification of Federally-designated critical habitat in the affected area. The involvement of Federally-listed threatened or endangered species and the possibility of impacts as potentially serious as extinction, destruction, or adverse modification of designated critical habitat, are factors weighing in favor of a finding of significance. However, an action need not involve a threat of extinction to Federally-listed species to meet the NEPA standard of significance. Lesser impacts including impacts on non-listed species could also constitute a significant impact.

As described in Chapter Four, the USFWS and the ODNR reported that BKL is within the range of a number of threatened or endangered species. Coordination with these agencies is located in Appendix A.

An on-site habitat assessment was conducted in May 2012 to identify any special-concern species which may be within the areas of potential disturbance. A copy of the report is provided in Appendix D, *Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report*.

While a number of species typically found along the lakeshore and or inhabiting open space were observed, none of the state or Federal threatened or endangered species were observed during the habitat assessment. One state species of special interest, the ruddy duck (*Oxyura jamaicensis*), was observed at the Airport, however, this was in the USACE's Confined Disposal Facility (CDF) that was at the time artificially flooded. The Proposed Action would not affect the USACE's CDF operations.

The Proposed Action is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. However, no tree removal is proposed, therefore the project is not likely to impact this species. The project is within the range of the piping plover (*Charadrius melodus*). However, according to ODNR the project is not likely to have an impact on these species.

The Proposed Action is within the range of the bald eagle (*Haliaeetus leucocephalus*), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area. The Proposed Action is within the range of the black bear (*Ursus americanus*), a state endangered species, and the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of these species, ODNR has stated that the project is not likely to have an impact on these species.

The Proposed Action is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. However this type of vegetation would not be destroyed due to the Proposed Action and therefore the Proposed Action is not likely to impact this species.

The Proposed Action is within the range of the yellow-bellied sapsucker (*Sphyrapicus varius*), a state endangered bird. However, no tree removal is proposed, therefore the project is not likely to impact this species.

The ODNR, Ohio Biodiversity Database has a record at BKL for the Upland Sandpiper (*Bartramia longicauda*), a state threatened bird. However none were observed during the on-site survey. The project is also within the range of the Canada darner (*Aeshna canadensis*), a state endangered dragonfly. This state endangered dragonfly was not observed during the on-site survey. The Canada darner prefers wooded lakes and ponds with abundant vegetation, as well as marshy and boggy lakes, and slow sluggish streams often associated with beaver ponds. The Proposed Action site consists mostly of disturbed mowed lawn areas, very small areas of disturbed wetlands (less than half an acre) and wasteground areas. This area would not be considered prime habitat for the Canada darner. In addition, while wetland impacts are expected, mitigation through either restoration or participating in wetland banks would likely result in higher quality wetlands than exist today on the Airport. The FAA does not support restoration of wetlands on airport property due to the FAA's safety restrictions regarding the creation of potential wild life attractants near airports.

Due to the reasons listed, neither the Proposed Action nor the No Action would adversely impact any Federal-listed or state-listed endangered, threatened, or special concern species and no mitigation measures are required.

5.3.5 NOISE

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, Section 14.3, a significant noise impact would occur if analysis shows that the proposed action will cause noise sensitive areas to experience an increase in noise of Day-Night Average Sound Level (DNL) 1.5 dB or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe. The Integrated Noise Model (INM) was used to calculate the difference in noise exposure levels between the Future (2015) No Action and the Future (2015) Proposed Action noise exposure contours.

No Action Alternative

Under the No Action alternative, no changes to runway configuration would occur at BKL by 2015; therefore the runway layout discussed for the Existing (2012) Baseline condition in Chapter Four would remain the same for the Future (2015) No Action conditions.

The 2015 operating levels are based upon the FAA's 2011 Terminal Area Forecast (TAF). The 2011 TAF includes 53,880 annual operations, or 147.62 average-annual day operations, in 2015. No major changes in the aircraft fleet mix are expected at BKL by 2015. Therefore the fleet mix modeled for the Future (2015) conditions remains similar to the fleet mix modeled for the Existing (2012) Baseline condition. **Table 5-2** provides a summary of the average daily operations and fleet mix modeled for the Future (2015) No Action noise exposure contour.

**Table 5-2
DISTRIBUTION OF AVERAGE DAILY OPERATIONS BY AIRCRAFT TYPE
FUTURE (2015) NO ACTION CONDITIONS
Burke Lakefront Airport**

| INM ID | Arrivals | | Departures | | Total |
|--------------------|----------|-----------|------------|-----------|--------|
| | Daytime | Nighttime | Daytime | Nighttime | |
| Jet Aircraft | | | | | |
| CL600 | 3.78 | 0.08 | 3.78 | 0.08 | 7.72 |
| CNA560U | 6.82 | 0.14 | 6.82 | 0.14 | 13.92 |
| LEAR35 | 8.15 | 0.17 | 8.15 | 0.17 | 16.63 |
| MU3001 | 2.07 | 0.04 | 2.07 | 0.04 | 4.23 |
| Subtotal | 20.82 | 0.42 | 20.82 | 0.42 | 42.49 |
| Turboprop Aircraft | | | | | |
| CNA208 | 11.62 | 0.24 | 11.62 | 0.24 | 23.72 |
| CNA441 | 14.20 | 0.29 | 14.20 | 0.29 | 28.99 |
| Subtotal | 25.83 | 0.53 | 25.83 | 0.53 | 52.70 |
| Piston Aircraft | | | | | |
| BEC58P | 6.29 | 0.05 | 6.29 | 0.05 | 12.69 |
| CNA172 | 0.55 | 0.01 | 0.55 | 0.01 | 1.12 |
| GASEPV | 1.10 | 0.02 | 1.10 | 0.02 | 2.25 |
| Subtotal | 7.94 | 0.09 | 7.94 | 0.09 | 16.06 |
| Helicopters | | | | | |
| S76 | 18.18 | 0.00 | 18.18 | 0.00 | 36.36 |
| Subtotal | 18.18 | 0.00 | 18.18 | 0.00 | 36.36 |
| Grand Total | 72.77 | 1.04 | 72.77 | 1.04 | 147.62 |

Note: Daytime = 7:00 a.m. to 9:59 p.m., Nighttime = 10:00 p.m. to 6:59 a.m.
Totals might not equal sum due to rounding.

Source: FAA ATADS, FAA ETMSC, Landrum & Brown, 2012.

Under the No Action alternative, no changes to the average-annual day runway end utilization are expected to occur; therefore, the runway use percentages for the Future (2015) No Action remain the same as discussed for the Existing (2012) Baseline.

No changes to flight tracks locations or densities are expected to occur by the No Action alternative; therefore flight track locations and percentage of touch-and-go operations modeled for the Existing (2012) Baseline remain the same for the Future (2015) No Action conditions.

The Future (2015) No Action noise exposure contour, showing contour bands of 65, 70, and 75 DNL levels, is presented on **Exhibit 5-1, Future (2015) No Action Noise Exposure Contour**. The area within each five-decibel noise exposure contour is shown in **Table 5-3**. Approximately 0.30 square miles are within the 65+ DNL of the Future (2015) No Action noise exposure contour. The 65 DNL of the Future (2015) No Action noise exposure contour retains a similar size and shape as the Existing (2012) Baseline noise exposure contour due to similar runway use patterns expected in 2015 and the minimal change in operating levels forecasted for 2015. The 65 DNL of the Future (2015) No Action noise exposure contour is located over airport property, the right-of-way for State Route 2, and an adjacent surface parking lot.

**Table 5-3
AREA EXPOSED TO VARIOUS NOISE LEVELS (IN SQUARE MILES)
FUTURE (2015) NO ACTION NOISE EXPOSURE CONTOUR
Burke Lakefront Airport**

| CONTOUR RANGE | FUTURE (2015) NO ACTION |
|---------------|----------------------------|
| 65-70 DNL | 0.15 |
| 70-75 DNL | 0.08 |
| 75 + DNL | 0.07 |
| 65 + DNL | 0.30 |

Note: 65+ DNL contour area does not equal sum due to rounding
Source: Landrum & Brown, 2012.

Proposed Action

Under the Proposed Action alternative, the following changes to the runway configuration at BKL would occur:

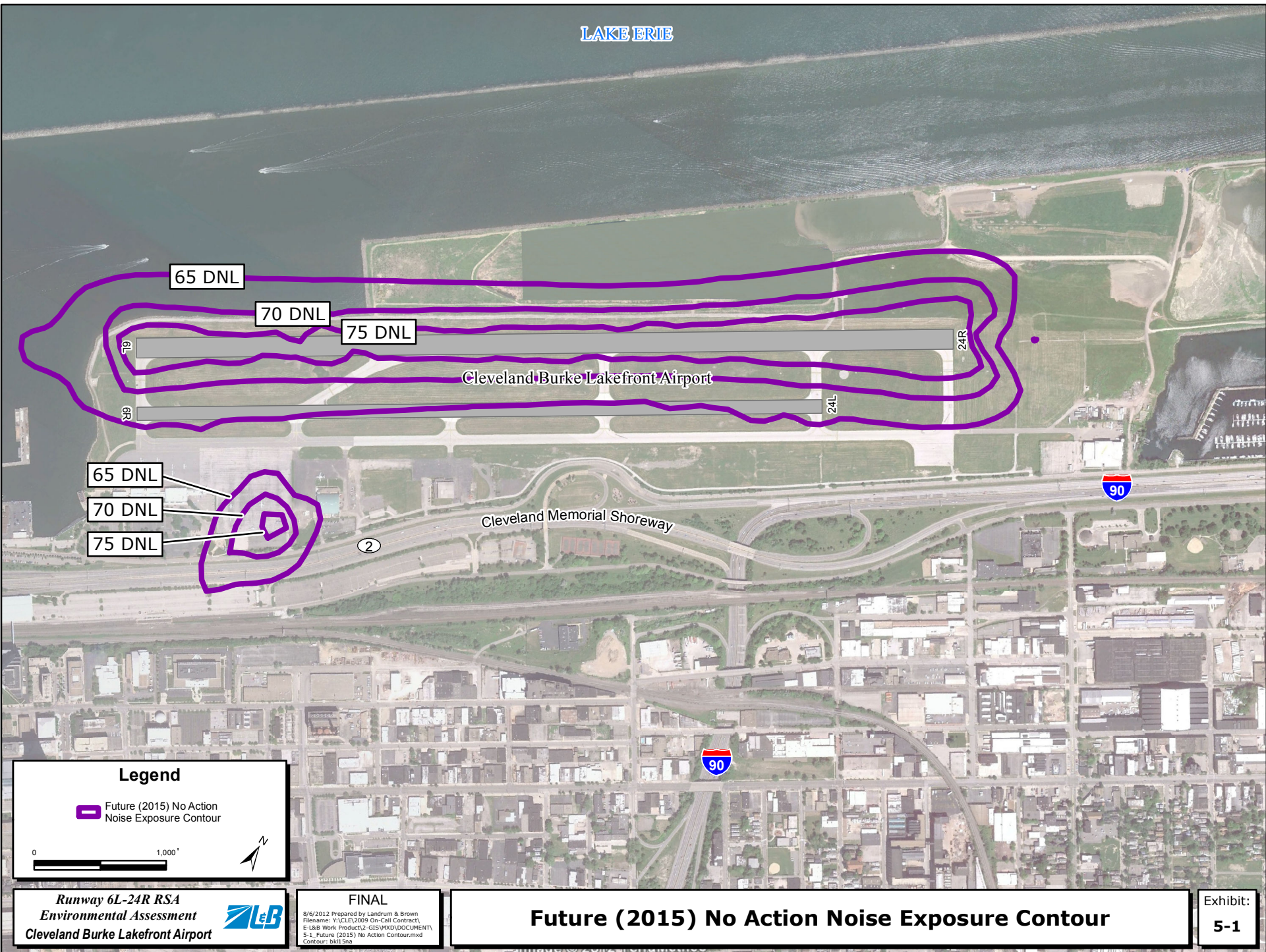
- Construction of an approximate 400-foot Engineered Materials Arresting System (EMAS) bed on Runway End 6L
- Displaced landing threshold of Runway 6L 165 feet to the east
- An approximate 600-foot eastern shift to Runway End 24R for departures (Note: The landing threshold for Runway 24R would remain in its current location).

If this alternative is selected, it is anticipated that these changes would be implemented by 2015; therefore the runway layout modeled for the Future (2015) Proposed Action condition includes these changes. No change to the length or location of Runway 6R/24L would occur. The runway end coordinates that were modeled for the Future (2015) Proposed Action noise exposure contour are shown below.

| <u>Runway</u> | <u>Latitude</u> | <u>Longitude</u> |
|---------------|-----------------|------------------|
| 6L | 41.514105 | -81.692114 |
| 24R | 41.523760 | -81.671628 |
| 6R | 41.512688 | -81.691686 |
| 24L | 41.520264 | -81.675608 |

There would be no change to operating levels and fleet mix as a result of the Proposed Action. Therefore, the fleet mix modeled for the Future (2015) Proposed Action noise exposure contour would remain the same as discussed for the Future (2015) No Action condition.

Under the Proposed Action alternative, no changes to the average-annual day runway end utilization are expected to occur. Therefore, the runway use percentages for the Future (2015) Proposed Action remain the same as discussed for the Existing (2012) Baseline and the Future (2015) No Action conditions.



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Under the Proposed Action, flight tracks locations would shift relative to the proposed shift in the Runway 6L threshold. Flight track locations modeled for the Future (2015) Proposed Action are shown in **Exhibit 5-2, Future (2015) Proposed Action INM Flight Tracks**. No change to flight track utilization densities are expected as a result of the Proposed Action.

The Future (2015) Proposed Action noise exposure contour, showing contour bands of 65, 70, and 75 DNL levels, is presented on **Exhibit 5-3, Future (2015) Proposed Action Noise Exposure Contour**. The area within each five-decibel noise exposure contour is shown in **Table 5-4**. There is approximately 0.31 square miles within the 65+ DNL of the Future (2015) Baseline noise exposure contour. The Future (2015) Proposed Action noise exposure contour retains a similar size and shape as the Future (2015) No Action noise exposure contour, although the contour shifts to the northeast due to the extension of Runway 6L/24R to the northeast and the shifted landing threshold on Runway 6L. The 65 DNL of the Future (2015) Proposed Action noise exposure contour is located over airport property, the right-of-way for State Route 2, and an adjacent surface parking lot.

**Table 5-4
AREA EXPOSED TO VARIOUS NOISE LEVELS (IN SQUARE MILES)
FUTURE (2015) PROPOSED ACTION COMPARED TO FUTURE (2015) NO
ACTION NOISE EXPOSURE CONTOUR
Burke Lakefront Airport**

| CONTOUR RANGE | FUTURE (2015) NO ACTION | FUTURE (2015) PROPOSED ACTION | DIFFERENCE |
|---------------|----------------------------|----------------------------------|------------|
| 65-70 DNL | 0.15 | 0.15 | 0.00 |
| 70-75 DNL | 0.08 | 0.09 | 0.01 |
| 75 + DNL | 0.07 | 0.07 | 0.00 |
| 65 + DNL | 0.30 | 0.31 | 0.01 |

Source: Landrum & Brown, 2012.

Potential Impacts

The Future (2015) Proposed Action noise exposure contour compared to the Future (2015) No Action noise exposure contour is shown on **Exhibit 5-4, Future (2015) Proposed Action Compared to Future (2015) No Action Noise Exposure Contour**. As shown in **Exhibit 5-5, Future (2015) Proposed Action Area of 1.5 dB Increase**, an increase in noise levels of DNL 1.5 dB would occur from the Proposed Action in 2015; however, the area of DNL 1.5 dB increase within the 65 DNL would occur entirely over airport property and would not impact any noise-sensitive land uses. Since no noise-sensitive land uses would experience an increase of noise levels at or above DNL 1.5 dB within the 65 DNL, no significant noise impacts would occur as a result of the Proposed Action and no mitigation measures are required.

5.3.6 WATER QUALITY

To determine significant impacts, FAA Order 1050.1E states that water quality regulations and issuance of permits will normally identify any deficiencies in the proposal with regard to water quality. It goes on to state that if consultation or analysis shows that there is the potential for exceeding water quality standards, identifies water quality problems that cannot be avoided or mitigated, or indicates difficulties in obtaining permits, then it may be concluded that the project would result in a significant impact.

As discussed in Chapter Four, BKL is adjacent to and built entirely on fill placed in Lake Erie. The Ohio EPA Division of Surface Water is tasked with ensuring surface waters in Ohio, including Lake Erie, are in compliance with the Federal Clean Water Act.

Basic Stormwater Handling

The Airport collects storm water and discharges it per Industrial Storm Water General Permit 3GR01518*DG, through a series of storm sewer pipes and manholes. One section of the 42 inch storm sewer pipe located beyond the Runway 6L end would need to be relocated due to the proposed EMAS bed. The proposed pipe relocation would be within the area of potential disturbance as provided in Chapter Four, *Affected Environment*. During the design phase for the Proposed Action, the exact location of the pipe and the need for additional storm sewer pipes and manholes would be determined.

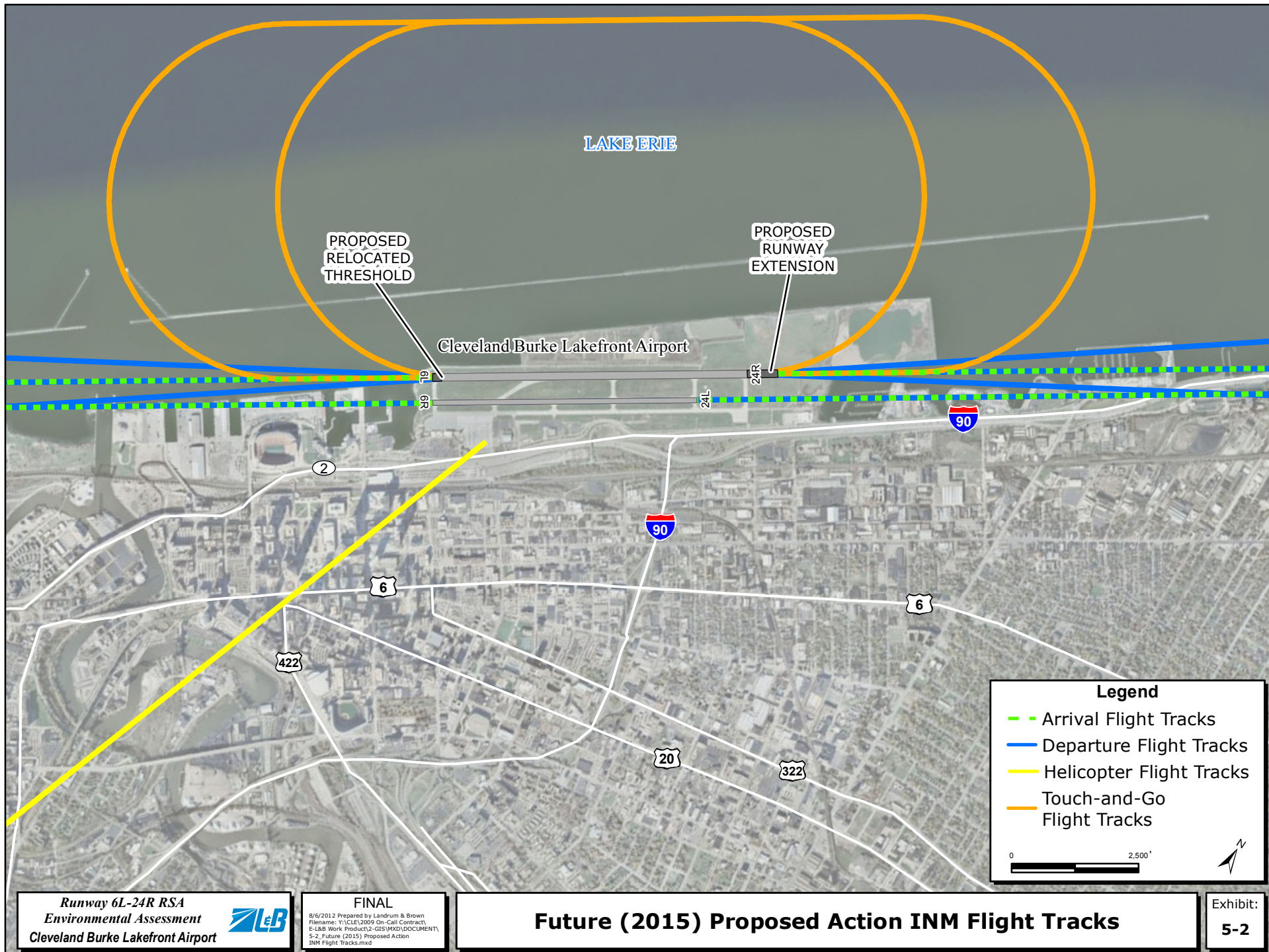
Combined Sanitation/Stormwater Pipes (Perpendicular to Runway)

The City of Cleveland has five (5) combined sewer pipes which currently bisect the existing runways at BKL. It is expected that the construction of the proposed section of runway/taxiway would not alter or affect four of the pipes leading to the Northeast Ohio Regional Sewer District's outfalls (CSO-098, CSO-097, CSO-096, and CSO-095). The combined sewer pipe that leads to CSO-099 is in the area underneath the runway construction. Coordination will be ongoing with the City of Cleveland and the Northeast Ohio Regional Sewer District to make sure all of the pipes are not damaged or put out of commission by construction activities including the roadway relocation.

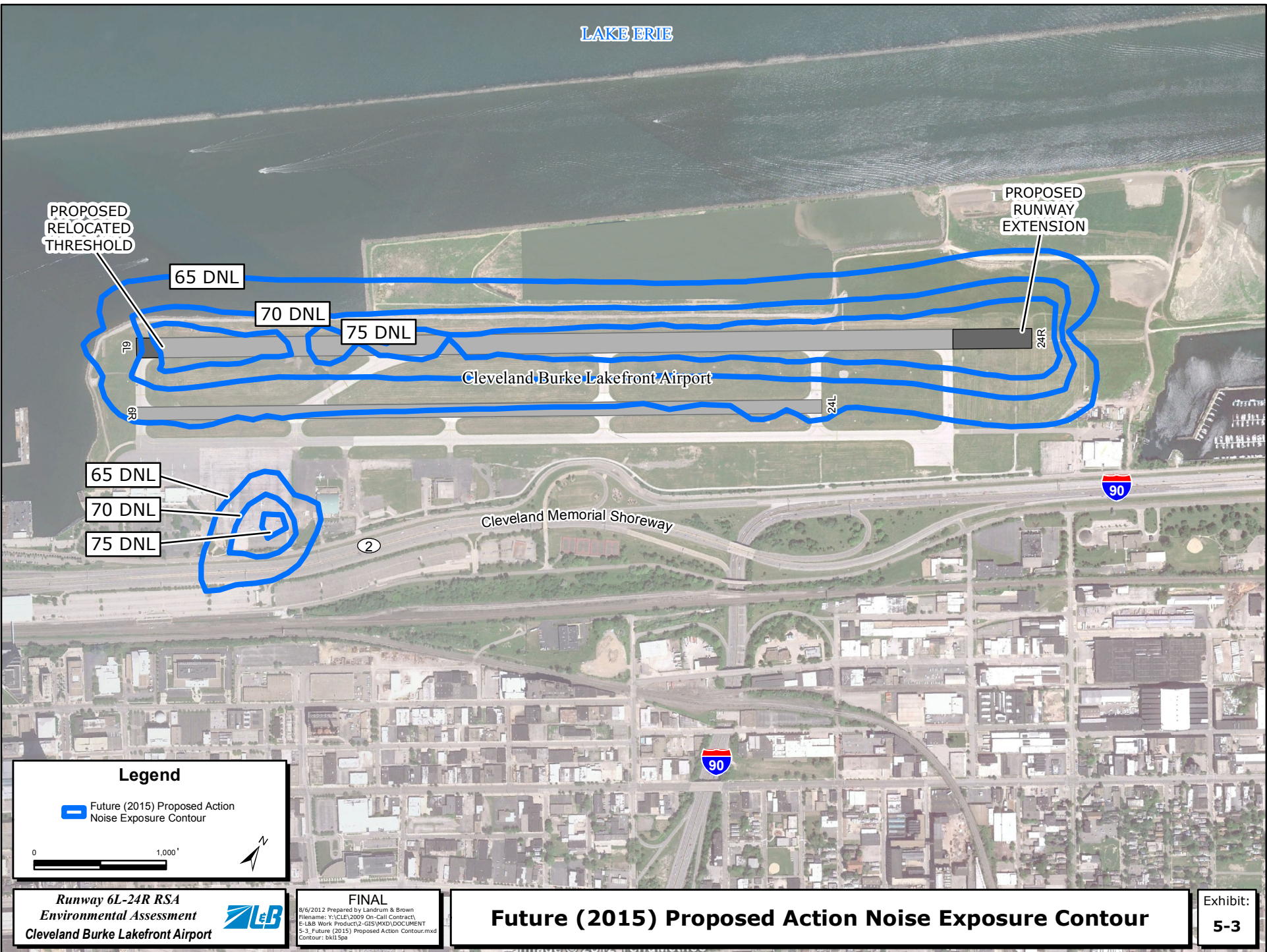
Drainage along Confined Disposal Facility 10B

With the proposed roadway relocation into that long flat low drainage area, the existing drainage into the USACE's CDF 10B will need to be replaced. Currently there are the several elevated manhole/access points in the drainage area which will also need to be relocated. The exact location of the manhole/access points and the type of drainage system will be defined during the design process.

Due to the reasons listed no significant water quality impacts would occur as a result of the Proposed Action or the No Action Alternative. The Proposed Action it is not anticipated to exceed water quality standards.



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LAKE ERIE

PROPOSED
RELOCATED
THRESHOLD

65 DNL

70 DNL

75 DNL

Cleveland Burke Lakefront Airport

PROPOSED
RUNWAY
EXTENSION

65 DNL

70 DNL


75 DNL

Cleveland Memorial Shoreway

90

90

Legend

 Future (2015) Proposed Action
Noise Exposure Contour

0 1,000'



Runway 6L-24R RSA
Environmental Assessment
Cleveland Burke Lakefront Airport

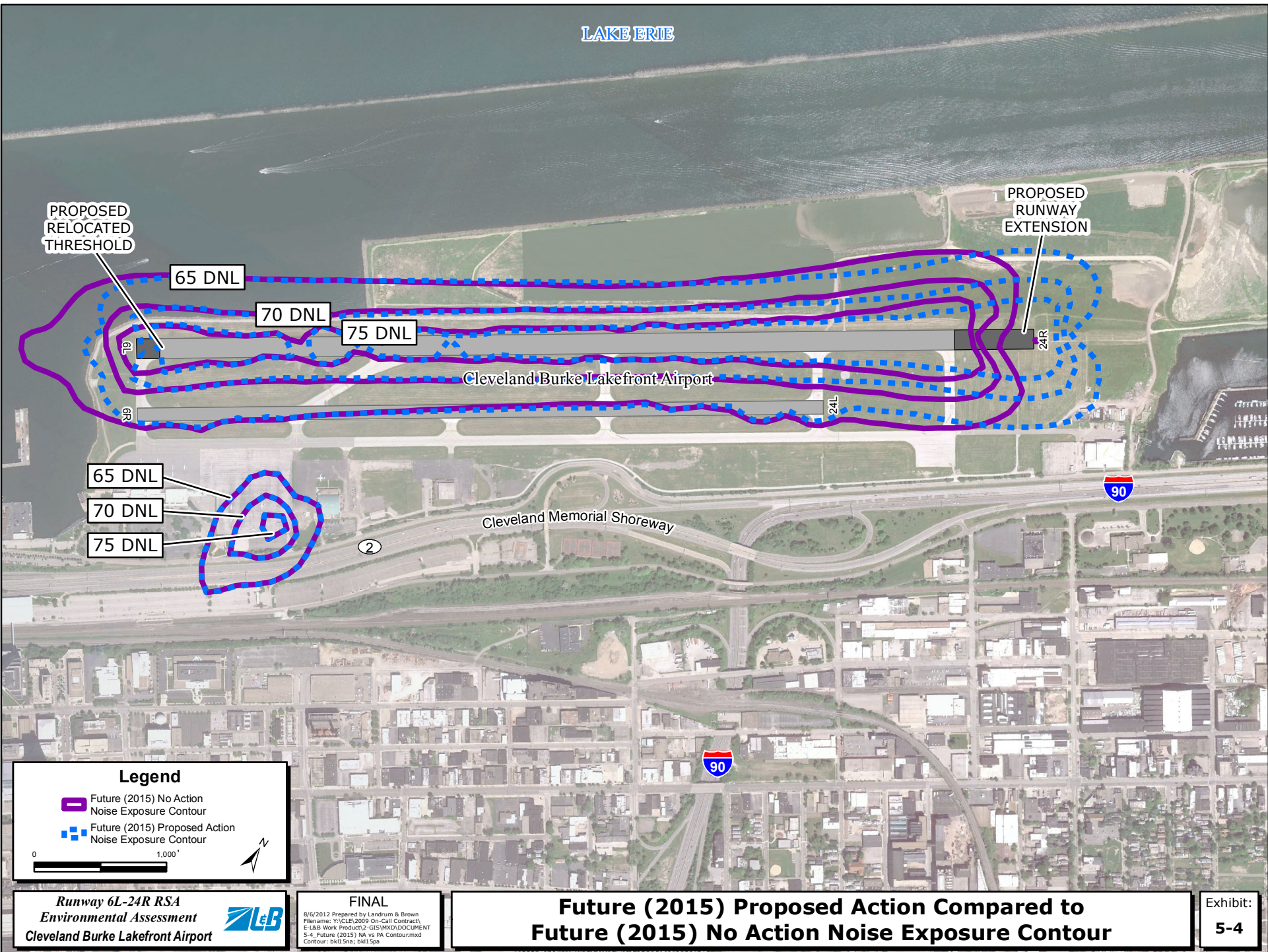


FINAL
8/6/2012 Prepared by Landrum & Brown
Filename: Y:\CLE\2009 On-Call Contract\
E-LAB Work Product\2-GIS\MXD\DOCUMENT
5-3_Future (2015) Proposed Action Contour.mxd
Contour: bk115pa

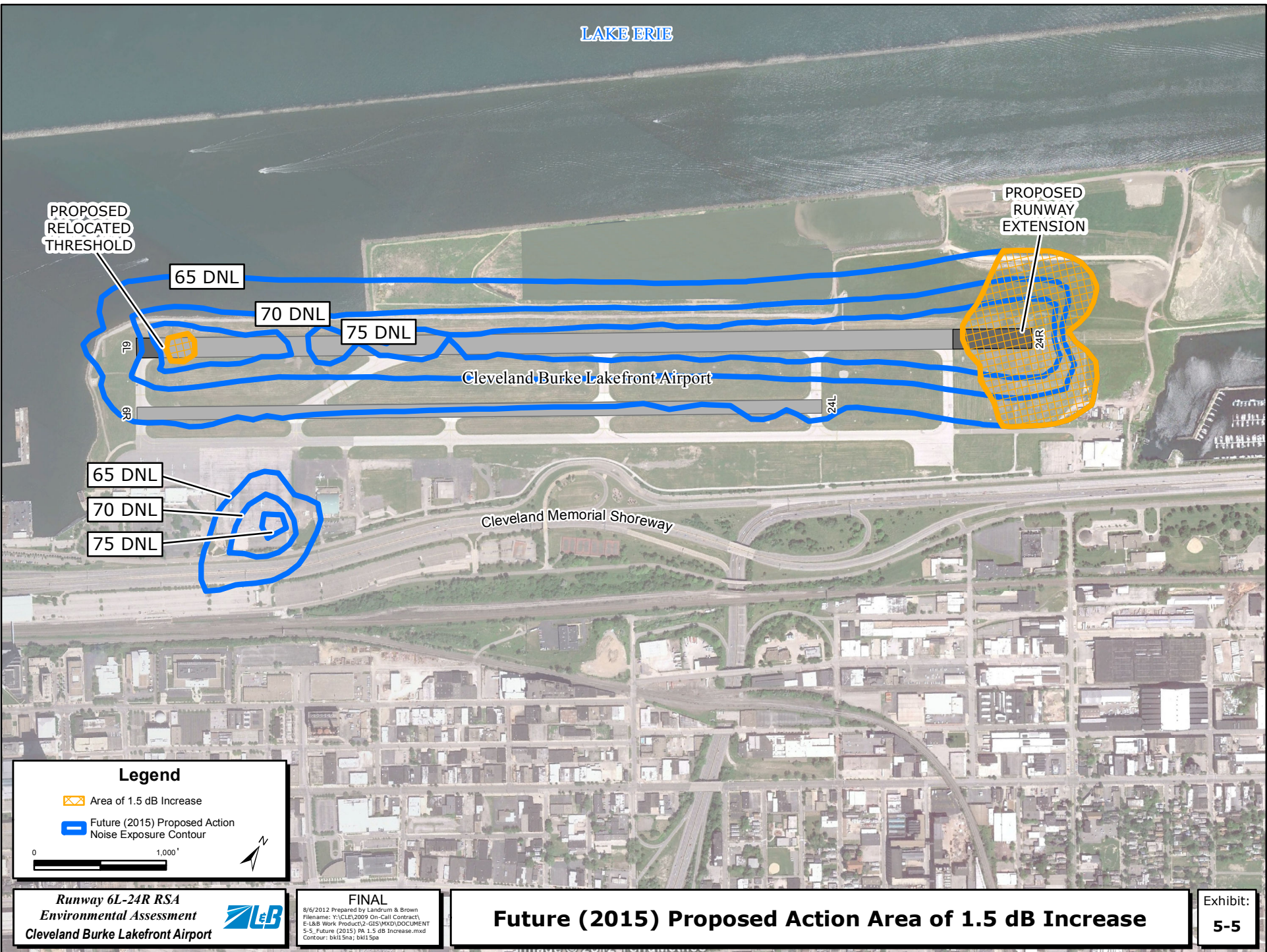
Future (2015) Proposed Action Noise Exposure Contour

Exhibit:
5-3

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LAKE ERIE

PROPOSED
RELOCATED
THRESHOLD

65 DNL

70 DNL

75 DNL

Cleveland Burke Lakefront Airport

PROPOSED
RUNWAY
EXTENSION

24R



65 DNL

70 DNL

75 DNL

Cleveland Memorial Shoreway

Legend

-  Area of 1.5 dB Increase
-  Future (2015) Proposed Action Noise Exposure Contour

0 1,000'



Runway 6L-24R RSA
Environmental Assessment
Cleveland Burke Lakefront Airport



FINAL

8/6/2012 Prepared by Landrum & Brown
Filename: Y:\CLE\2009 On-Call Contract\
E-L&B Work Product\2-GIS\MXD\DOCUMENT
5-5_Future (2015) PA 1.5 dB Increase.mxd
Contour: bkl15na; bkl15pa

Future (2015) Proposed Action Area of 1.5 dB Increase

Exhibit:
5-5

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5.3.7 WETLANDS AND STREAMS

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, a significant impact occurs if the proposed action would:

- Adversely affect the function of a wetland to protect the quality or quantity of municipal water supplies, including sole source, potable water aquifers;
- Substantially alter the hydrology needed to sustain the functions and values of the affected wetland or any wetlands to which it is connected;
- Substantially reduce the affected wetland's ability to retain floodwaters or storm associated runoff, thereby threatening public health, safety or welfare (this includes cultural, recreational, and scientific resources important to the public, or property);
- Adversely affect the maintenance of natural systems that support wildlife and fish habitat or economically-important timber, food, or fiber resources in the affected or surrounding wetlands;
- Promote development of secondary activities or services that would affect the resources mentioned in items (1) through (4) in this section; or
- Be inconsistent with applicable State wetland strategies.

As described in Chapter Four there are potential wetlands in the area of potential disturbance. While all of the wetlands may not be destroyed by the actual construction of the Proposed Action, for this analysis all of the potential wetlands in the areas of potential disturbance are assumed to be impacted. **Table 5-5** lists the acreage of the wetlands potentially impacted by the Proposed Action. The preliminary jurisdictional status is currently under review by the USACE.

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 EPA and require either a General or Individual Isolated Wetland Permit for dredge and fill activities. The preliminary jurisdictional status is currently under review by the USACE.

The FAA follows the "avoid, minimize, mitigate" policy regarding wetland impacts. Any remaining impacts to wetlands that cannot be avoided or minimized will require mitigation. Impacts and mitigation related to the Proposed Action will be identified and coordinated with the applicable agency.

**Table 5-5
WETLAND IMPACTS
Burke Lakefront Airport**

| Wetland ID | Vegetative Coverage | Isolated, Adjacent, Abutting | Receiving Waters | ORAM Score Category (1,2,3) | Wetland Type (Cowardin et al. 1979) | Est. Total Size (ac.) |
|------------|---|------------------------------|------------------|-----------------------------|-------------------------------------|-----------------------|
| Wetland 1 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> , <i>Phalaris arundinacea</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.180 |
| Wetland 2 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.066 |
| Wetland 3 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.005 |
| Wetland 4 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.029 |
| Wetland 5 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | Isolated | N/A | 19 (Cat 1) | PEM | 0.032 |

Source: ASC Group, 2012.

Avoidance

Avoidance refers to keeping away from the resource, resulting in no impact. For this project, wetland and Waters of the U.S. areas in or near construction staging areas will be avoided to the extent practicable. It is assumed that materials and equipment would be stored away from wetland areas and construction workers would avoid wetland areas at these construction staging locations through the use of sedimentation and erosion techniques. Where possible, wetland areas also will be fenced with signs reminding workers not to enter the areas.

Minimization

Minimization reduces potential impacts. As discussed in Chapter Three, *Alternatives*, the Proposed Action has been carefully selected to avoid and minimize impacts to the higher quality natural resources such as Lake Erie present within the project site.

Mitigation

The Proposed Action would result in the filling of wetlands. Those unavoidable impacts would need to be mitigated in accordance with EO 11990. Due to the FAA's restrictions regarding the creation of potential wild life attractants near airports, mitigation in this case refers to compensating for the potential impacts. The appropriate amount of wetland creation/restoration and/or preservation credits for impacts to non-jurisdictional wetlands would be coordinated with Ohio EPA but

is assumed to be at a 1:1 ratio based on the size, location, and quality of the wetlands. Potential credits are available at one or more of the following locations: wetland creation and restoration in the Cuyahoga Valley National Recreation Area, Cuyahoga and Summit Counties, Ohio; the Chagrin River Land Conservancy at the Chip Hess Consolidated Mitigation Bank; or wetland creation and restoration through Cleveland Metroparks.

DPC would be able to purchase wetland mitigation credits from an approved bank. The credits would have to be purchased and proof provided to Ohio EPA before impacts to the wetlands may occur. With the mitigation there would not be a significant impact to wetlands or streams due to the Proposed Action or the No Action Alternative.

5.4 SUMMARY OF IMPACTS

This section summarizes the environmental impacts and/or benefits associated with the implementation of the Proposed Action and the No Action alternative. **Table 5-6** summarizes the potential direct and secondary (induced) impacts.

**Table 5-6
SUMMARY OF IMPACTS
Burke Lakefront Airport**

| IMPACT CATEGORY | ALTERNATIVE | |
|--|---|--|
| | NO ACTION | PROPOSED ACTION |
| AIR QUALITY | Cuyahoga County nonattainment for PM _{2.5} ; Maintenance for ozone, CO, SO ₂ , and PM ₁₀ | Complies with Ohio State Implementation Plan and CAA Section 176(c)(1) |
| COASTAL RESOURCES | Consistent with OCMP | Consistent with OCMP |
| COMPATIBLE LAND USE | No Land Use/Zoning Change | No Land Use/Zoning Change |
| CONSTRUCTION | No Impact | Temporary Impacts |
| DOT SECTION 4(f) LANDS (RECODIFIED AS 303(c)) | No Direct or Constructive Use Impacts | No Direct or Constructive Use Impacts |
| FARMLANDS | No Impact | No Impact |
| FISH, WILDLIFE, & PLANTS | | |
| Federally-Listed Species & Critical Habitats | No Adverse Impact | No Adverse Impact |
| State – Listed Species | No Adverse Impact | No Adverse Impact |
| Essential Fish Habitat | No Adverse Impact | No Adverse Impact |
| FLOODPLAINS | No Impact | No Impact |

**Table 5-6, Continued
SUMMARY OF IMPACTS
Burke Lakefront Airport**

| | | |
|---|--|--|
| HAZARDOUS WASTE/SOLID WASTE | | |
| Hazardous Materials | No Impacts | No Impact if constructed according to OEPA Permit and City of Cleveland Ordinance |
| Solid Waste | No Impacts | Temporary increases can be met by current solid waste management system |
| HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, & CULTURAL RESOURCES | No Direct or Indirect Impacts No Historic Properties Affected | No Direct or Indirect Impacts No Historic Properties Affected |
| LIGHT EMISSIONS & VISUAL IMPACTS | No Impact | No Impact |
| NATURAL RESOURCES AND ENERGY | No Impact | Increases in demand for materials during construction can be met by local suppliers. |
| NOISE | No Significant Impact | No Significant Impact |
| SECONDARY INDUCED | No Adverse Impact | No Adverse Impact |
| SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS | No Impact | No impact |
| Relocation of Residences | No Impact | No Impact |
| Relocation of Businesses | No Impact | No Impact |
| Disruption of Local Traffic Patterns | No Impact | No Impact |
| Environmental Justice | No Impact | No Impact |
| Children's Environmental Health and Safety | No Impact | No Impact |
| WATER QUALITY | Impacts Would Not Exceed Standards | Impacts Would Not Exceed Standards |
| WETLANDS | No Impact | 0.312 acres (Non-Jurisdictional) |
| WILD & SCENIC RIVERS | No impact | No impact |

Source: ASC Group, Inc. and Landrum & Brown, 2012.

5.5 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1508.7) define a cumulative impact as "...the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time."

Cumulative impacts must be evaluated relative to the direct and indirect effects of the proposed action for each environmental category discussed previously in this chapter. As with the environmental consequences discussion, the No Action alternative serves as the reference point against which potentially significant cumulative impacts are evaluated. Significant cumulative impacts are determined according to the same thresholds of significance used in the evaluation of each environmental category in the environmental consequences discussion. For the Proposed Action under review in this EA, the categories where impacts would occur include air quality; water quality; wetlands; and hazardous materials and solid waste. Below is a list of the projects near the Airport that have the potential to include impacts in these environmental categories. When combined with the impacts from the Proposed Action in this EA they could result in significant cumulative impacts.

Relocation of USS Cod Submarine

The USS Cod Submarine is listed on the National Register of Historic Places and currently located southwest of the Airport (See Exhibit 4-2, for a map showing the location). There are plans to expand the green space along the lakefront that may require the relocation of the USS Cod Submarine from its current location to another site on the lake. At this time, no known relocation site has been identified and no timeline for relocation has been set. Because the USS Cod Submarine is a self-contained historic site that has no relationship to its current location, it is not anticipated that the specific location of the ship would result in significant impacts to its historic value. No other environmental impacts would be anticipated with this project.

USACE Capacity Confined Disposal Facility Enhancement Project

The USACE operates a CDF immediately northeast of the Airport. This facility accepts and processes dredge material from nearby rivers. The USACE foresees the need to increase the capacity of the CDF to accommodate demand in the future. The USACE anticipates preparing an EA in late 2012 to disclose any environmental impacts with the project. While it is unknown what the EA will find, it is likely that there would be impacts associated with increased air emissions and fuel consumption for the construction and operation of the enhanced facility.

Cleveland Innerbelt Plan

The Federal Highway Administration (FHWA) and the Ohio Department of Transportation (ODOT) as joint lead agencies are proposing the major rehabilitation and reconstruction of the Cleveland Innerbelt Freeway system infrastructure to address operational, design, safety, and access shortcomings that severely impact the Freeway's ability to function in an acceptable manner. The Innerbelt Freeway system provides for the collection and distribution of traffic between the radial freeway system (I-71, I-90, I-77, SR 2, I-490, and SR 176) and the local street system, and it also moves traffic between each of the radial freeways, within the City of Cleveland Central Business District (CBD) area.

One portion of this project is located adjacent to the Airport and is anticipated to occur between the years 2022 - 2027. A Final EIS and Record of Decision were prepared for the project. The following was stated in the Final EIS regarding potential impacts to the Airport.

During project development, ODOT and FHWA have coordinated with the City of Cleveland Airport System regarding impacts to BKL. In addition, coordination has been conducted with the FAA under FAA Order 5000.3C. The project has been in development since 1999, including coordination with City of Cleveland officials. The Cleveland Airport System developed a proposed Master Plan that did not take into consideration the proposed project. Therefore, the project is not consistent with the proposed Master Plan, which has not yet been approved. There would be only minor impacts on airport property and no impacts on facilities. In their comments on the Draft EIS (DEIS), the Airport identified several concerns that are summarized as follows.

The primary concern appears to be impacts to property intended for economic development to produce a revenue stream for the Airport. The Airport expressed concerns with the uncertainty of the compensation that will be provided for that property, as well as the economic viability of the remainder of the development area on their property. Property impacts will be better quantified during detailed design, with compensation issues resolved during right-of-way acquisition as they would be for any impacted land owner, as required by the Federal Real Property Acquisition and Uniform Relocation Act. In addition, any property acquisition will require FAA approval in the form of a land release. This land release will require a revision to the Airport Layout Plan (ALP).

The Airport would prefer a design option that would reconfigure the State Route 2 interchange adjacent to the airport, which is the first interchange west of the Innerbelt Curve and services South Marginal Road. This option would allow the Airport to reclaim property. This option was considered and dismissed. It was determined that reconfiguration of this nearby interchange was beyond the scope of the current action and would need to be considered as an independent project, rather than as mitigation.

The Airport also expressed concerns related to operational impacts on the aircraft hold pad adjacent to the project. They noted the need for a blast fence to protect vehicles on the North Marginal Road from jet blast on the hold pad. ODOT acknowledges the need for design and construction of a blast fence. These costs are eligible cost of the project as mitigation. FAA, in their comments on the DEIS, acknowledged the need for continuing coordination with the Airport to resolve these concerns. FAA comments on the DEIS also noted the requirement for an FAA land release for acquired property, the need for a revision to the ALP, and the requirement to file notice prior to construction near the airport (per 14 CFR Part 77). ODOT acknowledges the need for an FAA land release, required studies by FAA, and the timeline that may be required for that effort. Based upon the anticipated construction schedule for that portion of the project, ample time is available to resolve right-of-way acquisition issues. If laws and regulations should change prior to implementation of the project in this area, ODOT and FHWA will comply with such rules.

In terms of environmental impacts, the Final EIS found the following regarding the project:

- Hazardous materials at 23 properties
- Increased air and noise emissions during construction
- Historic/Section 4(f) impacts to Broadway Mills, Marathon Gas Station, Distribution Terminal Warehouse

5.6 CONSISTENCY WITH APPROVED PLANS OR LAWS

The Proposed Action would be consistent with environmental plans, laws, or administrative determinations relating to the environment of Federal, state, regional, or local agencies.

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Chapter Six

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CHAPTER SIX LIST OF PREPARERS

To aid the reader, this section lists the individuals who assisted in the preparation of this Environmental Assessment (EA).

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Meenakshi Singh, Planning Manager
Hugh Holley, P.E., Engineering Manager
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Shaune Skinner, President
Len Mikles, Principal Ecologist, PWS
Andrew Campbell, Project Manager/Environmental Specialist

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Appendix A

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APPENDIX A

COORDINATION AND COMMENTS

Appendix A, *Coordination and Comments*, contains copies of agency coordination letters and comments, and public coordination and comments listed below.

- 1) Copies of the initial coordination letter sent to the agencies and interested parties;
- 2) Copies of the comments received from agencies;
- 3) Agenda, Presentation, Meeting Summary, and Sign-In sheet from an agency coordination meeting held March 7, 2012 in Cleveland, OH;
- 4) Copy of the follow up coordination email sent to the agencies and interested parties;
- 5) Copies of the comments received from agencies;
- 6) Agenda, Presentation, Meeting Summary, and Sign-In sheet from an agency coordination meeting with the USACE held May 9th, 2012 in Buffalo, NY; and,
- 7) Agenda, Presentation, Meeting Summary, and Sign-In sheet from an agency coordination meeting with ODNR held June 29th, 2012 in Cleveland, OH; and,
- 8) Responses to the Scoping comments received from the agencies.
- 9) Notice of Availability, Public Workshop and Hearing materials.
- 10) Copies of the comments received on the Draft EA and the responses.

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From: Camacho, Renato [<mailto:rcamacho@clevelandairport.com>]

Sent: Friday, February 17, 2012 3:43 PM

To: westlake.kenneth@epa.gov; melissa.j.tarasiewicz@usace.army.mil; mepstein@ohiohistory.org; john.watkins@dnr.state.oh.us; randy.j.outward@aphis.usda.gov; thouser@cuyahogawcd.org; ciaccia@neorsd.org; laurie.stevenson@epa.state.oh.us; kurt.princic@epa.state.oh.us; tallan@ccbh.net; dbickett@cuyahogacounty.us; mary_m_knapp@fws.gov; myron.pakush@dot.state.oh.us; terri.barnhart@dot.state.oh.us; dritter@mpo.noaca.org; palsenas@cuyahogacounty.us; mike.hanke@fema.dhs.gov; mike.hanke@dhs.gov; furio.brooke@epamail.epa.gov

Cc: Smith, Ricky D.; Dangerfield, Percy; Brown, Darnell; Harper, Maureen; McCall, Valarie; McGowan, Jenita; Silliman, Ken; Warren, Christopher; Taylor, Andrea; council18@clevelandcitycouncil.org; pbritt@clevelandcitycouncil.org; council13@clevelandcitycouncil.org; council19@clevelandcitycouncil.org; council5@clevelandcitycouncil.org; council3@clevelandcitycouncil.org; Brown, Robert; Henrichsen, Linda; Rybka, Edward; Nichols, Tracey (Director); Wasik, Jomarie; kbutler@city.cleveland.oh.us; Stubbs, Paul; gbaker@city.cleveland.oh.us; Clark, Traci; Singh, Meenakshi; Ibos, Michael; Babroski, Gerald; katherine.s.delaney@faa.gov; Stephanie.Swann@faa.gov

Subject: Runway 6L-24R Safety Improvement Project at Cleveland's Burke Lakefront Airport - Resource Agency Letter & Meeting on March 7, 2012

Importance: High

Dear Resource Agency Participant:

Please see attached letter and Exhibit pertaining to the Environmental Assessment (EA) associated with the subject project at Cleveland's Burke Lakefront Airport. An original letter will follow via certified mail. As indicated in the letter, please make every attempt to attend the resource agency meeting to be held on March 7, 2012 at Burke Lakefront Airport. If unable to attend this meeting, then kindly submit any comments to the Cleveland Airport System's Planning Manager, Meenakshi Singh (contact info provided in the attached). Your active participation is essential to the successful implementation of this project.

Respectfully submitted,

Ren Camacho, P.E., PTOE
Chief of Planning & Engineering
Department of Port Control
Cleveland Airport System
5300 Riverside Drive
P.O. Box 81009
Cleveland, OH 44181-0009

P: (216) 265-6793

F: (216) 265-6185

M: (216) 857-7621

E: rcamacho@clevelandairport.com



CLE CLEVELAND HOPKINS
INTERNATIONAL AIRPORT

BKL CLEVELAND BURKE
LAKEFRONT AIRPORT

February 17, 2012

RESOURCE AGENCY NOTIFICATION

Subject: Environmental Assessment for Improving the Runway 6L/24R Safety Area at Burke Lakefront Airport, Cleveland, OH
WBS#: A1-J242

Dear Resource Agency Representative:

The City of Cleveland Department of Port Control (DPC) and the Federal Aviation Administration (FAA) are notifying your agency that an Environmental Assessment (EA) is being prepared to determine any potential environmental impacts associated with improving the Runway Safety Area (RSA) for the existing Runway 6L/24R at Burke Lakefront Airport (BKL) in Cleveland, Ohio. This EA will investigate, analyze, and disclose any potential environmental impacts of the Proposed Action and their reasonable alternatives. The FAA is the lead agency and, as such, the document will be prepared in accordance with FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and the FAA's Environmental Desk Reference for Airport Actions.

Invitation to Agency Scoping Meeting

The FAA formally invites your agency to participate in an agency scoping meeting to be held at Burke Lakefront Airport, Cleveland, OH **on Thursday, March 7, 2012 from 9:30AM to 12:00PM EDT** at the main terminal building. To confirm your attendance, please RSVP by Friday, February 24, 2012 to the contact information provided at the end of this letter.

Purpose and Need of the Proposed Action

The purpose of the Proposed Action is to comply with FAA Runway Safety Area design standards for Runway 6L/24R at BKL. The FAA's RSA standards are included in FAA AC 150/5300-13, *Airport Design*, and are required by P.L. 109-115 to enhance the level of safety provided by RSAs at the Airport. RSAs are designed and maintained to enhance safety in the event that an aircraft undershoots, overruns, or veers off the runway, and to provide greater accessibility for firefighting and rescue equipment during such incidents. The City of Cleveland has also identified the need to maintain the

Cleveland Hopkins International Airport
P.O. Box 81009
Cleveland, OH 44181-0009
1 216 265 6000

Cleveland Burke Lakefront Airport
1501 North Marginal Road
Cleveland, OH 44114-3759
1 216 781 6411

existing 6L/24R runway length so that the operational capability of the Airport is not reduced by addressing the RSAs.

Description of the Proposed Action

The Proposed Action as shown on the attached **Exhibit 1, *Proposed Action***, contains the following elements:

- Construction of a 400-foot Engineered Materials Arrestor System (EMAS) bed on Runway End 6L
- Displace landing threshold of Runway 6L by approximately 165 feet to the east
- An approximate 600-foot eastern extension of Runway End 24R
- Construction/extension of taxiways
- Relocation of existing FAA navigational aids
- New runway marking/stripping
- Roadway modifications: relocation/extension of the perimeter/vehicle service roads on the east side of the Airport; the northerly relocation of the vehicle service road north of Runway 6L/24R; and relocation of the ARFF Road/vehicle service road on the west end of the Airport

Environmental Categories where Potential Impacts May Occur

The Proposed Action would physically alter portions of the Airport property. Although Best Management Practices (BMPs) will be adopted to minimize and reduce any potential impacts, the following categories have been identified where potential environmental impacts may occur as a result of the Proposed Action:

- Air Quality – Construction emissions are anticipated and will be addressed through the EA.
- Coastal Resources – BKL is located adjacent to Lake Erie. Coordination will be conducted to determine if a structured shore permit will be required and if submerged land leases will need to be modified.
- Fish, Wildlife, and Plants – No Federal or state protected species are known to reside in the project area, but surveys for species and habitat will be conducted.
- Floodplains – The project area is not within the 100-year floodplain. BMPs will be employed to insure no impacts occur during construction.
- Hazardous Materials – A portion of BKL was constructed on top of the former Cleveland Municipal Landfill and is subject to Ohio Administrative Code 3745-27-13 (Rule 13).
- Water Quality – Additional impervious surfaces will result from the Proposed Action.

- Wetlands and Streams – Wetland delineations will be conducted to determine the presence/non-presence of wetlands or streams within the project area.

Environmental Categories with No Anticipated Impacts

Due to the nature of the Proposed Action or the lack of resources in or near the project site, there are a number of environmental resource categories where no adverse significant impacts will occur:

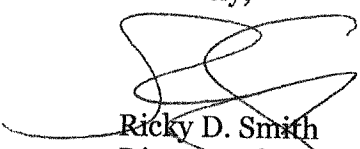
- Compatible Land Use
- Farmlands
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supplies
- Noise
- Wild and Scenic Rivers

The City of Cleveland's DPC and the FAA would appreciate your assistance in forwarding copies of this information to the appropriate staff within your organization. If you are unable to attend the scoping meeting, then we encourage you to submit written comments and recommendations by ***Thursday, March 29, 2012 at 5PM EDT*** to the following address:

Meenakshi Singh, Manager of Planning
Cleveland Airport System
5300 Riverside Drive
P.O. Box 81009
Cleveland, OH-44181-0009
msingh@clevelandairport.com

To RSVP to the March 7th meeting, or to request additional information on this project, please contact Meenakshi Singh of my staff at (216) 265-2722 or msingh@clevelandairport.com. Your anticipated participation at the scoping meeting and subsequent input through the EA process is essential to the successful implementation and completion of this project.

Sincerely,



Ricky D. Smith
Director of Airports

Attachment
Exhibit 1: Proposed Action

cc: D. Brown, City of Cleveland, Chief Operating Officer
M. Harper, City of Cleveland, Chief of Communications
V. McCall, City of Cleveland, Chief of Government Affairs
J. McGowan, City of Cleveland, Chief of Sustainability
K. Silliman, City of Cleveland, Chief of Staff
C. Warren, City of Cleveland, Chief of Regional Development
A. Taylor, City of Cleveland, Press Secretary
M. Sweeney, President, Cleveland City Council
P. Britt, Clerk of Council, Office of Cleveland City Council
K. Kelley, Vice Chair, Finance Committee, Cleveland City Council
M. Keane, Chair, Aviation & Transportation Committee, Cleveland City Council
P. Cleveland, Chair, City Planning Committee, Cleveland City Council
J. Cimperman, Ward 3 Councilman
R. Brown, Director, Cleveland City Planning Commission
L. Henrichsen, Cleveland City Planning Commission
E. Rybka, City of Cleveland, Director, Building & Housing
T. Nichols, City of Cleveland, Director, Economic Development
J. Wasik, City of Cleveland, Director, Capital Projects
K. Butler, City of Cleveland, Director, Public Health
P. Stubbs, City of Cleveland, Chief of Fire, Division of Fire
G. Baker, City of Cleveland, Commissioner, Division of Air Quality
P. Dangerfield, DPC Chief of Staff
R. Camacho, DPC Chief of Planning & Engineering
T. Clark, DPC Deputy Chief of Planning & Engineering
M. Singh, DPC Planning Manager
M. Ibos, DPC Project Manager
G. Babroski, DPC Program Supervisor – Design Services
K. Delaney, FAA Detroit ADO

Lead Agency

Detroit Airports District Office

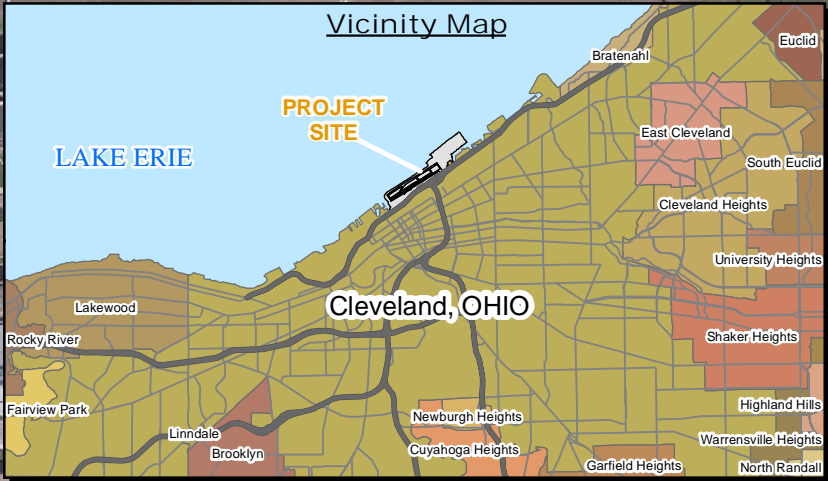
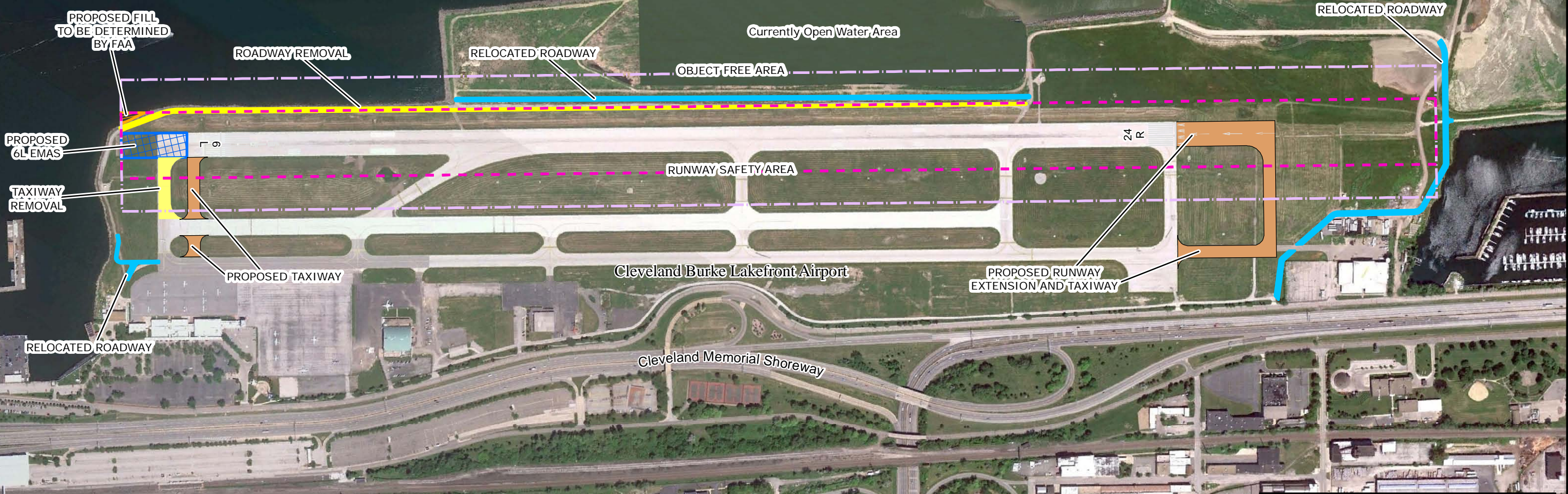
11677 South Wayne Road, Suite 107

Romulus, Michigan 48174

S. Swann, FAA Detroit ADO

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Elevation
ORDINARY HIGH WATER MARK
LAKE ERIE 573.4 Ft. MSL
EXISTING RUNWAY END 24R
ELEVATION 582.4 Ft. MSL
EXISTING RUNWAY END 6L
ELEVATION 580.7 Ft. MSL



- Proposed Action
- Construct 400 Ft. EMAS Bed on Runway 6L
 - Relocate Runway 6L Threshold 165 Ft. to the East
 - Extend Runway 24R 600 Ft. to the East
 - Construction/Extension of Taxiways
 - Relocation of FAA Navigational Aids
 - Runway Marking/Striping
 - Roadway Modifications
 - Land Reclamation to be Determined by FAA

Legend

- Proposed Road
- Runway Safety Area
- Object Free Area
- Proposed Fill
- Proposed EMAS
- Proposed Runway and Taxiways
- Proposed Demolition

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

FEB 23 2012

REPLY TO THE ATTENTION OF:

E-19J

Katherine Delaney
Federal Aviation Administration
Detroit Airports District Office, DET-ADO-600
11677 South Wayne Road, Suite 107
Romulus, Michigan 48174

Re: Environmental Assessment for Improving the Runway 6L/24R Safety Area at Burke Lakefront Airport, Cleveland OH

Dear Ms. Delaney:

The U.S. Environmental Protection Agency has reviewed the referenced agency scoping document prepared by the Cleveland Airport System for the Federal Aviation Administration (FAA) pursuant to our authorities under the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act.

The Burke Lakefront Airport (BKL) does not currently meet Runway Safety Area (RSA) design standards for Runway 6L/24R, per FAA AC 150/5300-13 and P.L. 109-115. The project sponsor proposes to remedy the existing RSA deficiencies by performing the following actions:

1. Construct a 400-foot Engineered Materials Arrestor System bed on Runway End 6L;
2. Displace landing threshold of Runway 6L by approximately 165 feet to the east;
3. Extend Runway End 24R approximately 600 feet east of the existing Runway End 24R;
4. Extend the existing eastern taxiway termini east and north, and shift the existing western taxiway termini east and north;
5. Relocate existing FAA navigational aids;
6. Add new runway marking/stripping;
7. Relocate/extend the perimeter/vehicle service roads on the east side of the airport;
8. Relocate the vehicle service road north of Runway 6L/24R; and
9. Relocate the ARFF Road/vehicle service road on the west end of the Airport.

Additionally, the proposed project will require a permit, under Section 404 of the Clean Water Act, for fill placement into waters of the United States (Lake Erie).

Based on our review, we have comments relating to consultation records, environmental justice, and stormwater management, as stated below:

Consultation Records

EPA recommends attaching consultation documents regarding historic resources (Ohio Historic Preservation Office), wetlands (U.S. Army Corps of Engineers), and endangered species (U.S. Fish and Wildlife Service and the Ohio Department of Natural Resources) to the draft Environmental Assessment (EA).

Environmental Justice

EPA's Geographic Information System-based environmental justice tracking program, EJAssist, indicates that multiple communities located immediately southeast of Interstate 90/Ohio Highway 2 are communities living with environmental justice concerns. We suggest FAA analyze any potential impacts to these communities that may cause undue hardship.

Stormwater Management

The proposed project will increase non-permeable surfaces. Any stormwater runoff should be drained away from Lake Erie. Additionally, we strongly encourage on or off-site use of bioretention.

EPA is available to discuss these comments to the agency scoping document at your convenience. Please feel free to contact Mike Sedlacek of my staff at 312-886-1765, or by email at sedlacek.michael@epa.gov to discuss these comments.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Meenakshi Singh, Cleveland Airports System

J 242



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

February 29, 2012

Meenakshi Singh, Manager of Planning
Cleveland Airport System
5300 Riverside Drive
P.O. Box 81009
Cleveland, OH 44181-0009

TAILS#: 03E15000-2012-TA-0496

Re: Burke Lake Front Airport
Runway 6L/24R Safety Area
Cleveland, Cuyahoga County, Ohio

Dear Ms. Singh:

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. Best management practices should be utilized to minimize erosion and sedimentation.

Lake Erie and its shoreline provide internationally valuable habitat for fish, birds, and wildlife. Nearshore areas provide essential spawning and nursery habitat for interjurisdictional fish species, and help to support the local sport fishing industry. The shoreline provides essential resting, feeding, and nesting habitat for waterfowl, colonial nesting waterbirds, and migratory birds. Placing fill in the Lake and along the shore disturbs these important habitats. The Service strongly recommends that the applicant avoid and minimize impacts to Lake Erie and shoreline habitat. The Applicant should justify the need for Lake Erie fills, and describe how avoidance and minimization are addressed in this project. **No in-water work should occur between April 15 and June 30 to protect fish spawning activities.**

ENDANGERED SPECIES COMMENTS: Due to the project type, size, and location, we do not anticipate any impact on federally listed endangered, threatened, or candidate species, or their habitats. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have additional questions or require further assistance with your project proposal, please contact me at (614) 416-8993, ext.12. I would be happy to discuss the project in further detail with you and provide additional assistance if necessary. In addition, you can find more information on natural resources in Ohio by visiting our homepage at: <http://www.fws.gov/midwest/ohio>.

Sincerely,

Mary Knapp, Ph.D.
Field Supervisor

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BURKE LAKEFRONT AIRPORT ENVIRONMENTAL ASSESSMENT AGENCY SCOPING MEETING

March 7, 2012
9:30 a.m. to 12:00 p.m.

AGENDA

Welcome *Ren Camacho, City of Cleveland Department of Port Control*
Stephanie Swann, Federal Aviation Administration

- I. Background
- II. Purpose and Need
- III. Proposed Action
- IV. EA Process
- V. Environmental Categories where Potential Impacts May Occur
- VI. Environmental Categories with No Anticipated Impacts
- VII. Permitting Activities
- VIII. Airfield Tour
- IX. Schedule and Next Steps in the EA Process

* * * * *

AIRPORT CONTACT: Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181
Email: msingh@clevelandairport.com

FAA CONTACT: Ms. Katherine S. Delaney
Federal Aviation Administration
Detroit Airports District Office
11677 South Wayne Road, Suite 107
Romulus, Michigan 48174
Email: Katherine.s.delaney@faa.gov

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Burke Lakefront Airport Environmental Assessment

Agency Coordination Meeting

*March 7, 2012
9:30 a.m. to 12:00 p.m.*

*City of Cleveland
Department of Port Control (DPC)
And the
Federal Aviation Administration*



WELCOME

INTRODUCTIONS



AGENDA

- I. BACKGROUND**
- II. PURPOSE AND NEED**
- III. PROPOSED ACTION**
- IV. EA PROCESS**
- V. ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR**
- VI. ENVIRONMENTAL CATEGORIES WITH NO ANTICIPATED IMPACTS**
- VII. PERMITTING ACTIVITIES**
- VIII. AIRFIELD TOUR**
- IX. SCHEDULE AND NEXT STEPS IN THE EA PROCESS**

BACKGROUND

- ❑ **Burke Lakefront Airport (BKL) owned and operated by the City of Cleveland Department of Port Control**
- ❑ **BKL has two parallel runways**
 - **Primary Runway 6L/24R (6,198 ft x 150 ft)**
 - **Secondary Runway 6R/24L (5,197 ft x 100 ft)**
- ❑ **Designated as a General Aviation (GA) reliever airport helping to divert activity from larger scheduled service airports**
- ❑ **Provides important services to the local community**
(Various corporate activity, emergency medical transport, flight training facilities, Labor Day Air show)
- ❑ **Runway End 6L currently does not meet FAA Runway Safety Area design standards**

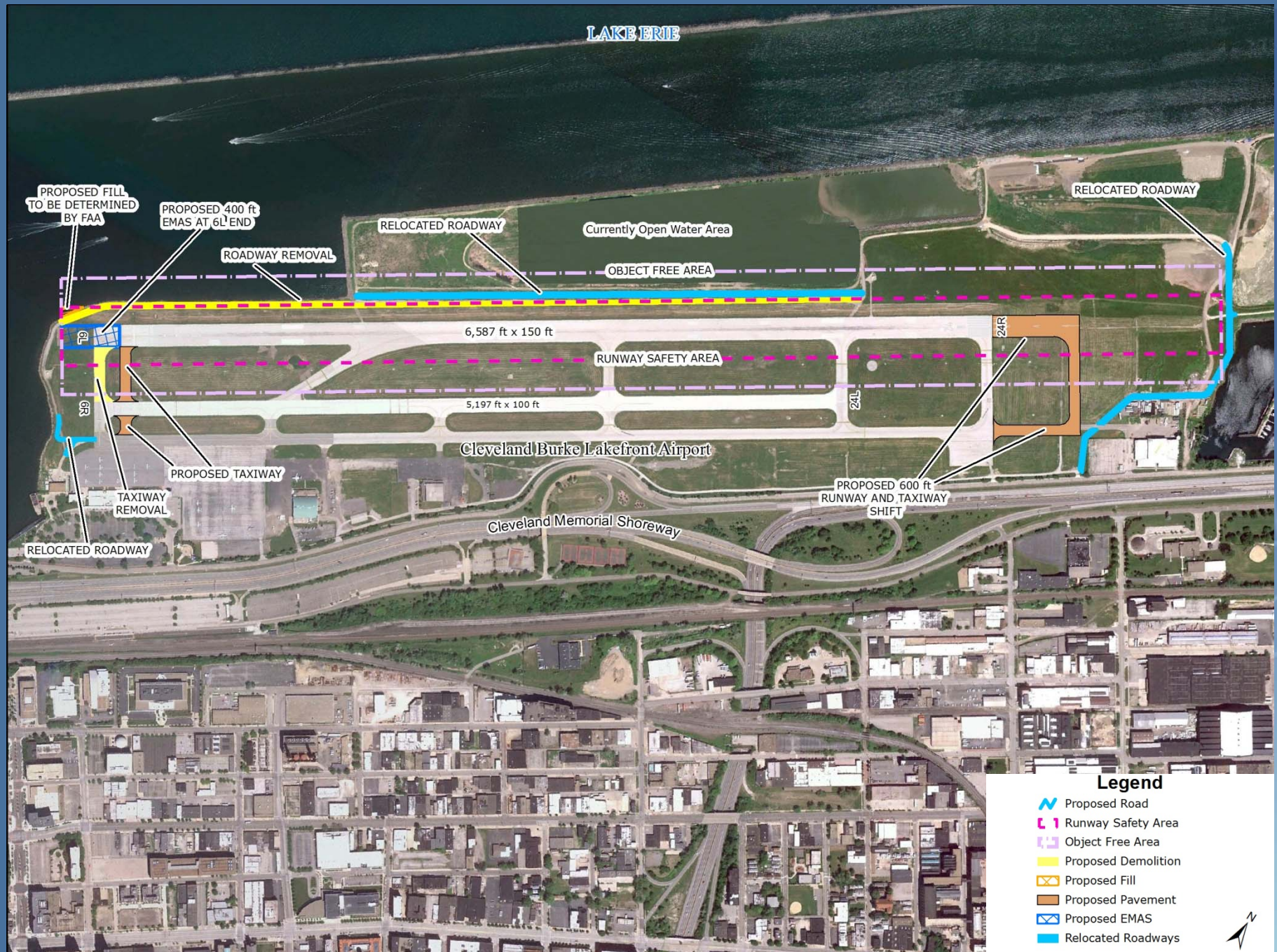
EXISTING AIRPORT



PURPOSE AND NEED

- ❑ **Project shall comply with FAA Runway Safety Area design standards**
(Required by Public Law 109-115, which requires Airport Operators to meet RSA standards not later than December 31, 2015)
- ❑ **Airport needs to maintain sufficient runway length to accommodate current and future fleet**

PROPOSED ACTION



PROPOSED ACTION

Comply with FAA Requirements for Runway Safety Areas

- ❑ Construction of a 400-foot Engineered Materials Arrestor System (EMAS) bed on Runway End 6L
- ❑ Displace landing threshold of Runway 6L by approximately 165 feet to the east

Maintain existing runway length

- ❑ An approximate 600-foot eastern shift of Runway End 24R

PROPOSED ACTION

Supporting Elements

- ☐ Construction/shift of taxiways
- ☐ Relocation of existing FAA navigational aids
- ☐ New runway marking/stripping
- ☐ On-Airport roadway modifications including:
 - ✓ Relocation/extension of the perimeter/vehicle service road on the northeast side of the Airport (north of Runway End 24R);
 - ✓ Relocation of the vehicle service road north of the runway and next to the CDF; and
 - ✓ Relocation of the ARFF Road/vehicle service road on the southwest end of the Airport (east of Runway End 6R).

ENVIRONMENTAL ASSESSMENT

- ❑ Concise document used to describe a Proposed Action's anticipated environmental impacts
- ❑ Identifies any significant impacts
- ❑ Provides sufficient evidence and analysis for a Federal determination (FONSI or prepare EIS)
- ❑ Requires coordination with local, state, and Federal regulatory agencies

REGULATORY BACKGROUND

Environmental documentation will be prepared to comply with:

- ☐ **Requirements of the National Environmental Policy Act (NEPA)**
- ☐ **FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures***
- ☐ **FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions***
- ☐ **Other laws relating to the quality of the natural and human environments**

ROLE OF THE REGULATORY AGENCIES

- ☐ Review and comment on EA findings
- ☐ Determine if impacts are significant
- ☐ Issue environmental permits
- ☐ Approve proposed mitigation strategies if necessary
- ☐ Ensure compliance with local, state, and Federal environmental regulations

ENVIRONMENTAL RESOURCE CATEGORIES

- ☐ Air Quality
- ☐ Coastal Resources
- ☐ Compatible Land Use
- ☐ Construction
- ☐ DOT Section 303(c)
Formerly Section 4(f)
- ☐ Farmlands
- ☐ Fish, Wildlife, and Plants
- ☐ Floodplains
- ☐ Hazardous Material,
Pollution Prevention, and
Solid Waste
- ☐ Historic, Architectural,
Archaeological, and
Cultural resources
- ☐ Light emissions and visual
impacts
- ☐ Natural resources and
Energy
- ☐ Noise
- ☐ Secondary (Induced)
- ☐ Socioeconomic impacts,
Environmental Justice,
and Children's Health and
Safety Risks
- ☐ Water Quality
- ☐ Wetlands and Streams
- ☐ Wild and Scenic Rivers
- ☐ Cumulative Impacts

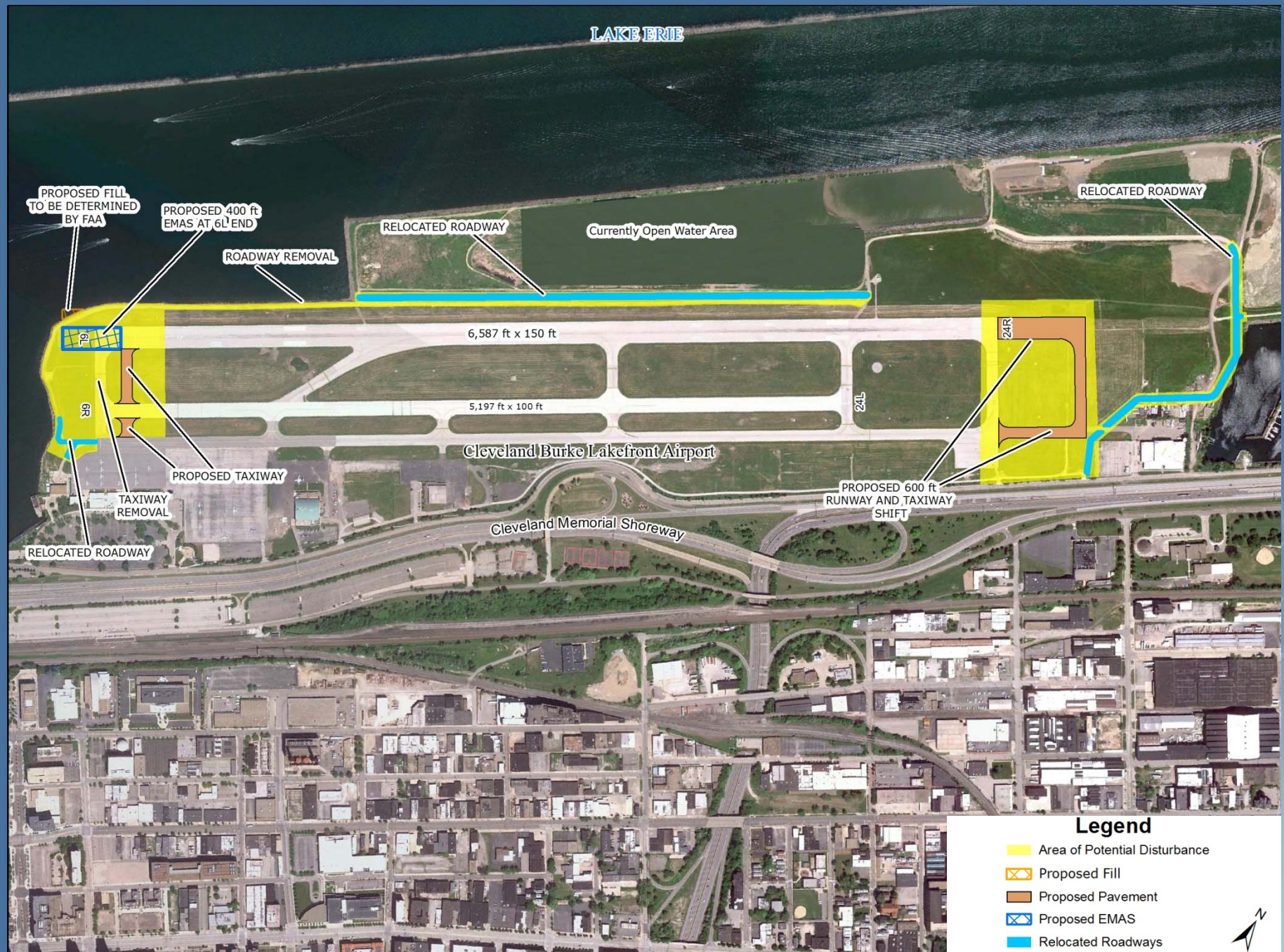
ASSESSING ENVIRONMENTAL IMPACTS

Proposed Action would have direct and indirect environmental impacts

- ❑ **Determine Areas of Potential Disturbance**



AREAS OF POTENTIAL DISTURBANCE



ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Air Quality

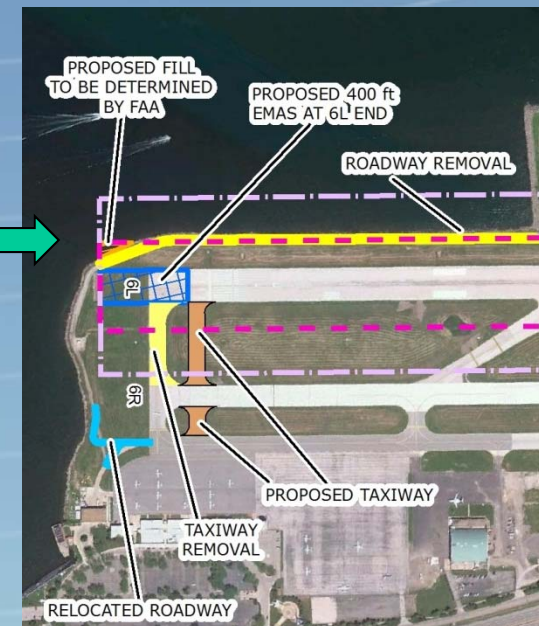
- ☐ Emissions are expected from the use of construction equipment
- ☐ Emissions inventory will be prepared to quantify impacts
- ☐ Conduct Clean Air Act General Conformity Determination



ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Coastal Resources

- ❑ Located adjacent to Lake Erie
- ❑ Review shore permit and submerged land leases
- ❑ If land reclamation in Lake Erie is needed coastal resource impacts would be disclosed



ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

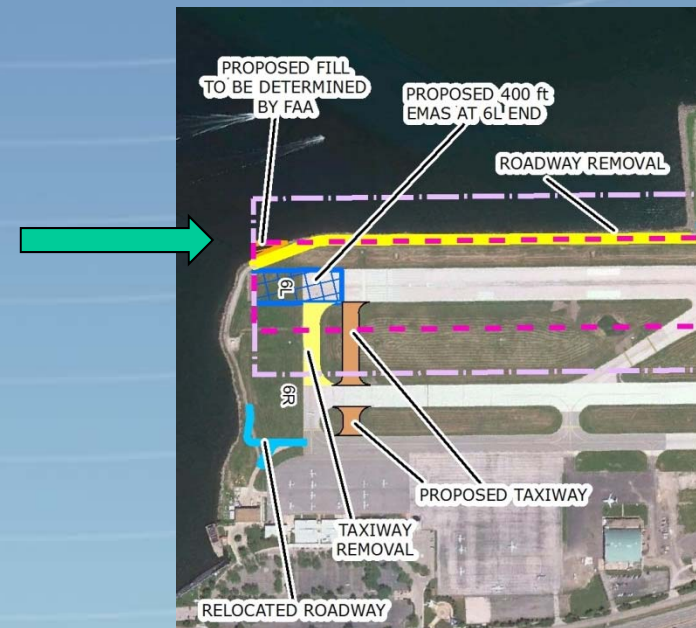
Fish, Wildlife, and Plants

- ☐ **No Federal or state protected species known to reside in project area**
- ☐ **Surveys for species and habitat will be conducted**

ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Floodplains

- ❑ Proposed Action not within 100 year floodplain
- ❑ If land reclamation in Lake Erie is needed floodplain impacts would be disclosed



ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Hazardous Materials

- ☐ Airport constructed on top of Cleveland Municipal Landfill
- ☐ Subject to Ohio Administrative Code 3745-27-13
- ☐ Construction of the project is authorized pursuant to terms and conditions described in OEPA letter dated April 6, 1993

ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Water Quality

- ☐ Proposed Action would increase impervious surface
- ☐ Identify impacts to storm water management
- ☐ Coordinate with appropriate agencies to identify permit requirements

ENVIRONMENTAL CATEGORIES WHERE POTENTIAL IMPACTS MAY OCCUR

Wetlands

- ❑ Field investigation will be performed to determine if any wetlands are within the areas of potential disturbance



ENVIRONMENTAL CATEGORIES WITH NO ANTICIPATED IMPACTS

- ☐ **Compatible Land Use**
- ☐ **Farmlands**
- ☐ **Light Emissions and Visual Impacts**
- ☐ **Natural Resources and Energy Supplies**
- ☐ **Noise**
- ☐ **Wild and Scenic Rivers**

Proposed Action site is located in an urbanized area in downtown Cleveland

PERMITTING ACTIVITIES

- ☐ **Identify/address agency concerns and issues early in process**
- ☐ **Address permit requirements if possible during EA analysis and documentation**
- ☐ **Acquire agency approval of wetland delineation and jurisdictional lines**
- ☐ **Develop mitigation for unavoidable impacts**

Burke Lakefront Airport (BKL) Environmental Assessment

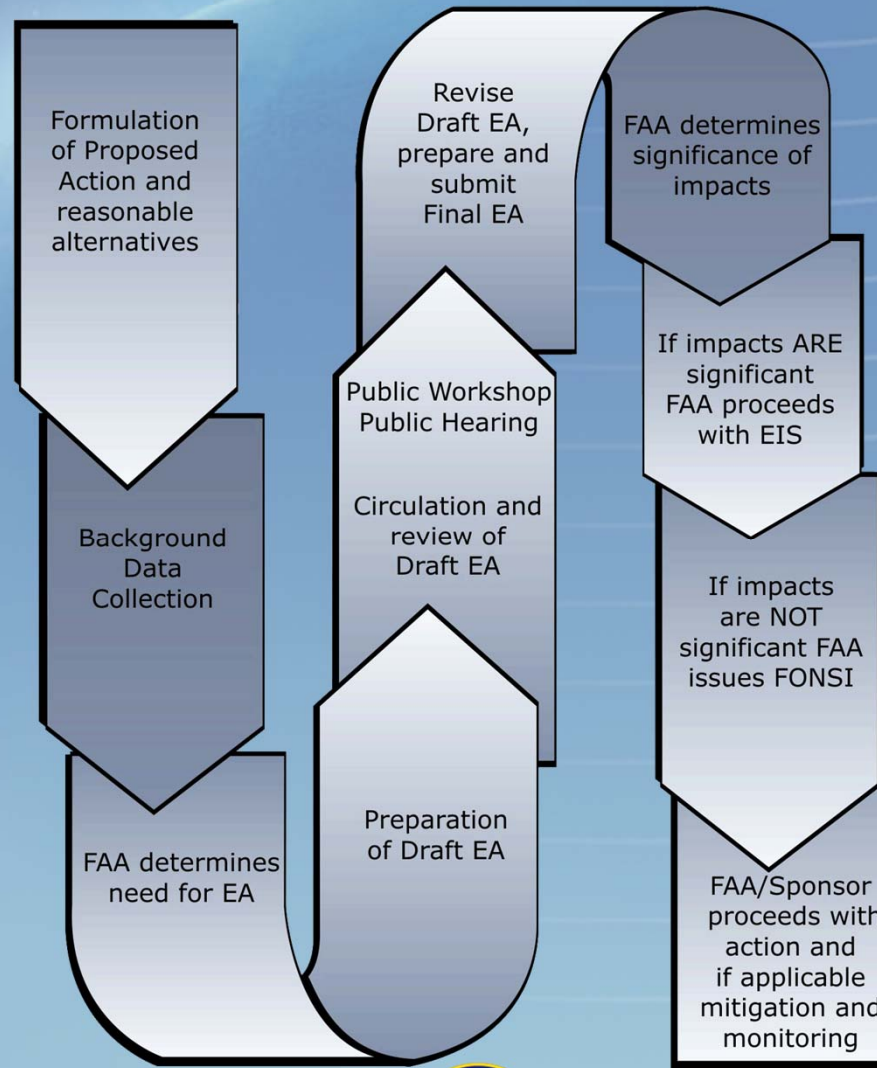
GRAB YOUR COATS **AIRFIELD TOUR**



Agency Coordination Meeting



SCHEDULE AND NEXT STEPS



SCHEDULE AND NEXT STEPS

- ❑ EA analysis to determine impacts (Includes field investigations where necessary) – Now thru June 2012
- ❑ Publish Draft EA - June 2012
- ❑ Agency Comments needed on Draft – June/July 2012
- ❑ Public Workshop/Public Hearing – Middle of July 2012
- ❑ Publish Final EA- August 2012
- ❑ Anticipated Federal Finding – End of August 2012
- ❑ Design/Bid/ Permitting process - 2013
- ❑ Construction- May 2013 thru Fall December 2014

CONTACT INFORMATION

AIRPORT CONTACT:

Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181
Email: msingh@clevelandairport.com

FAA CONTACT:

Ms. Katherine S. Delaney
Federal Aviation Administration
Detroit Airports District Office
11677 South Wayne Road,
Suite 107
Romulus, Michigan 48174
Email: Katherine.s.delaney@faa.gov

**QUESTIONS,
COMMENTS,
AND
OPEN DISCUSSION**

AND THANK YOU!



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BURKE LAKEFRONT AIRPORT ENVIRONMENTAL ASSESSMENT AGENCY SCOPING MEETING

March 7, 2012
9:30 a.m. to 12:00 p.m.

MEETING SUMMARY

Meeting Attendees- See attached sign-in sheet

Ren Camacho, City of Cleveland Department of Port Control opened the meeting by welcoming everyone and introducing staff from the City.

Stephanie Swann, FAA, thanked everyone for their participation and introduced the FAA team.

Rob Adams, L&B, began the presentation by reviewing the agenda and having everyone introduce themselves and the agencies they represent. Rob described Burke Lakefront Airport, its role in the community, and the fact that one runway end (6L) did not currently meet FAA Runway Safety Area design standards. Rob detailed the purpose and need and the various components of the Proposed Action.

Chris Babb, L&B, described the environmental assessment process and how the document would be prepared. A map was shown to depict the areas of potential disturbance. Chris went over the environmental categories where potential impacts may occur and the categories where no anticipated impacts are expected. At this point the group was escorted out on the airfield to see the areas where the Proposed Action would occur. At the end of the airfield tour the group reassembled and Rob reviewed the Environmental Assessment and the Proposed Action schedule and identified the FAA and City points of contact.

The following is a summary of questions and responses that were asked during or after the presentation.

USDA Wildlife Services Comment: The presentation stated that there was no Federal or State threatened or endangered species residing at the Airport when several state species are known to land at the Airport at times.

Response: A survey for species and habitat will be conducted at the Airport for the Proposed Action. Information from that survey will be disclosed in the EA document.

USDA Wildlife Services Question: Will there be a road on the north side of the Airport?

Response: Yes, for safety reasons there is a need for the road on the north side of the Airport.

USDA Wildlife Services Comment: Gulls and lack of access are a concern with the Proposed EMAS bed. The gulls land there now in the thousands in certain weather conditions. The birds may cause damage to the EMAS and it may be harder to access this runway end to keep them out of this area.

BURKE LAKEFRONT AIRPORT ENVIRONMENTAL ASSESSMENT AGENCY SCOPING MEETING

March 7, 2012
9:30 a.m. to 12:00 p.m.

MEETING SUMMARY

Response: Comment noted. A bird repellent may be applied to keep the birds off the EMAS. Currently research and development is being done to improve EMAS bird repellents.

Ohio EPA Comment: When discussing Solid and Hazardous Waste, the Ohio EPA confirmed the City would need to follow the terms and conditions described in the Ohio EPA letter dated April 6, 1993.

Response: Comment noted.

Ohio EPA Comment: When discussing the potential roadway relocation on the north side of the Airport, the Ohio EPA requested early coordination when various alternatives are considered and when the presence of wetlands in the area is determined.

Response: Comment noted and agreed.

Ohio EPA Comment: There are 5-6 combined sewer overflows that cross the Airport.

Response: Comment noted.

Cuyahoga Soil and Water Conservation District Question: Is the Proposed Action within the footprint for the existing Airport permit? Would the Airport need a new permit?

Response: The Ohio EPA granted a blanket permit for excavation and backfilling construction activities in 1993. The Proposed Action would be covered under that authorization. Ohio EPA confirmed that was correct and that the conditions of construction would have to be followed.

Cuyahoga Soil and Water Conservation District Comment: In addition to the construction activities approved in the 1993 Ohio EPA letter, the Proposed Action must also conform to City of Cleveland Ordinance Chapter 3116 *Construction and Post-Construction Site Storm Water Runoff Control*.

Response: Comment noted.

The meeting concluded. A follow up email will be sent in about a week to see if any agency had further comments or questions concerning the Proposed Action.

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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| AGENCY / DIVISION / FIRM | |
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**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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| NAME (Please Print) | James Bjorkman |
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Aviation Planning at the Leading Edge

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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INTERNATIONAL AIRPORT

BKL CLEVELAND BURKE
LAKEFRONT AIRPORT

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Aviation Planning at the Leading Edge

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Jim White
Director, Sustainable Infrastructure Program

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**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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| NAME (Please Print) | RANDY OUTWARD |
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Scott J. Nally, Director
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AGENCY SCOPING MEETING
March 7, 2012
9:30 a.m. to 12:00 p.m.**

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Frank G. Jackson, Mayor

Jenita McGowan
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From: Camacho, Renato [mailto:rcamacho@clevelandairport.com]

Sent: Wednesday, March 14, 2012 3:04 PM

To: westlake.kenneth@epa.gov; melissa.j.tarasiewicz@usace.army.mil; mepstein@ohiohistory.org; john.watkins@dnr.state.oh.us; randy.j.outward@aphis.usda.gov; thouser@cuyahogascwd.org; ciaccia@neorsd.org; laurie.stevenson@epa.state.oh.us; kurt.princic@epa.state.oh.us; tallan@ccbh.net; dbickett@cuyahogacounty.us; mary_m_knapp@fws.gov; myron.pakush@dot.state.oh.us; terri.barnhart@dot.state.oh.us; dritter@mpo.noaca.org; palsenas@cuyahogacounty.us; mike.hanke@fema.dhs.gov; mike.hanke@dhs.gov; furio.brooke@epamail.epa.gov; Melilli, Vito C LRB (Vito.C.Melilli@usace.army.mil); Douglas.Smith@usace.army.mil; 'William.Friedman@portofcleveland.com'; 'Sandra.Livingston@portofcleveland.com'; 'Brian.Lynch@portofcleveland.com'; 'James.White@portofcleveland.com'; Joshua.J.Feldmann@usace.army.mil

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Subject: RE: Runway 6L-24R Safety Improvement Project at Cleveland's Burke Lakefront Airport - Resource Agency Letter & Meeting on March 7, 2012

Importance: High

Dear Resource Agency Participant:

As a follow-up to the subject meeting held last Wednesday, March 7th at Cleveland's Burke Lakefront Airport (BKL), we are requesting those agencies that have additional comments on the BKL 6L-24R Runway Safety Improvements Project to kindly submit them on or before 5PM next Wednesday, March 21, 2012. Comments can be submitted to the Cleveland Airport System's Planning Manager, Meenakshi Singh (contact info provided in the attached).

Your anticipated cooperation with this important initiative is greatly appreciated.

Regards,

Ren Camacho, P.E., PTOE
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Department of Port Control
Cleveland Airport System
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Project: Runway Safety Area Improvements for Runway 6L/24R at Burke Lakefront Airport (BKL) in Cleveland, OH

Issues: Proposed Roadway Relocation on North side between Runway 6L/24R and the US Army Corps of Engineers (USACE) Confined Disposal Facility (CDF) 10B and EMAS bed at end of Runway 6L.

History: Since 2003 USDA, APHIS, Wildlife Services (WS) and the City of Cleveland's Department of Port Control have maintained a Cooperative Service Agreement (CSA). Under this CSA WS conducts operational control activities to reduce wildlife hazards to aircraft utilizing BKL. A full-time WS Wildlife Biologist has been stationed at BKL since 2003. Since 2006, WS and the USACE have maintained annual Interagency Agreements (IA) to also conduct operational activities in the CDFs adjacent to BKL to minimize wildlife hazards created by the CDFs.

In order to reduce the wildlife threats to aviation safety at BKL and the CDFs, WS implements an Integrated Wildlife Damage Management (IWDM) program. IWDM is the simultaneous application of several practical methods of prevention and control to reduce damage by wildlife. The methods selected are those which minimize the harmful effects of management measures on humans, other species, and the environment. The IWDM program used by WS generally consists of three action approaches: habitat management, physical exclusion (including harassment and dispersal), and wildlife population management. Within each approach numerous methods or tactics are used.

Wildlife Services Recommendation and Justification: Wildlife Services is opposed to closure of the roadway located between Runway 6L/24R and the USACE CDF 10B. Wildlife Services also recommends that wildlife repellency is taken into consideration with the EMAS bed installation. Wildlife Services recommends that the roadway be relocated out of the Runway Safety Area and remain operational. Additionally, WS recommends that in relocating the roadway, the poorly drained ditch that is between the current roadway and southern berm of CDF 10B be filled and/or that proper drainage structures be installed to ensure that the ditch does not retain water. Access to CDF 10B is critical for WS to continue managing the hazardous wildlife attracted to this CDF.

Each day that WS is present at BKL, both the airport and CDFs are observed for wildlife activity. At a minimum this observation includes a complete drive around the perimeter of BKL and the CDFs. Only when direct action is conducted for wildlife management are these perimeter patrols recorded as a person-day visit. WS estimates that each day that a person-day visit is recorded, the roadway in question is traversed no less than 3 times. WS has recorded 1,350 person-day visits at BKL from 2003 to 2011. WS has recorded 822 person-day visits of the CDFs from 2006 to 2011. The combined 2,172 person-day visits correlate to driving the roadway no less than 6,516 times. In the course of these person-day visits, WS has dispersed an estimated 3,160,987 animals. During inclement weather when gulls are forced off of Lake Erie onto land, they frequently seek shelter in the proposed 6L EMAS location. Single flocks of more than 10,000 gulls have been observed in this area. Most wildlife dispersal or harassment is conducted with pyrotechnics which cannot be used around EMAS beds. The design of the EMAS bed must take this gull abundance and inability to use pyrotechnics into consideration.

During wildlife dispersal activities, WS enhances pyrotechnic use through the utilization of gull effigies and propane exploders. During active dredge material deposition into the CDFs, WS will position one or two propane exploders as additional noise deterrents. Dead gull effigies (fresh carcasses and taxidermy specimens) suspended as visual frightening devices are also used in and around the CDFs. These methods are important supplemental techniques in an IWDM program and would not be possible without road access to the CDFs. Since 2006, WS has deployed 71 gull effigies in the CDFs.

The wet ditch along the existing road is a wildlife attractant that lies within the critical Runway Safety Area. During spring and early summer, mallards and Canada geese attempt to nest in the ditch. Presently, WS is able to drive along the south side of the ditch and any waterfowl encountered are dispersed to the north, away from the runways. Additionally, if it becomes necessary to lethally remove any persistent waterfowl, WS can safely use firearms north of the perimeter road and away from the runways. If the proposed roadway is relocated to the north without removing the ditch, the management of the hazardous wildlife in the ditch will be compromised as will safety. Such a situation would require driving north of the ditch and any waterfowl in the ditch may then be inadvertently dispersed toward the runways. Firearm safety would also be compromised.

To supplement habitat management and non-lethal methods, WS also lethally removes animals to meet the objective of reducing wildlife strikes at BKL. Trapping and shooting with firearms are the lethal methods used at BKL. Firearm use on the EMAS beds would not be possible. All traps used must be checked daily and can therefore be labor intensive so road access is again critical for this method. In the CDFs alone since 2006, WS has accrued 354 trap nights. Access to most trap locations was via the roadway on the north side of BKL. Without dedicated road access, these important management tools would be compromised.

Consequences of No Action: It would be irresponsible to remove road access to a hazardous habitat (CDF 10B) adjacent to BKL. It would also be a safety hazard to not remove the wet ditch within the RSA of Runway 6L/24R when roadway relocation could simultaneously preserve road access and remove the ditch. An EMAS bed without some “built-in” wildlife repellency would be equally hazardous. A consequence of failure to relocate the roadway and not remove the ditch would result in delayed response time to wildlife hazards, compromised ability to conduct wildlife hazard mitigation activities and possibly an increase in strikes at BKL.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

March 23, 2012

Operations Branch

Ms. Meenakshi Singh, Manager of Planning
Cleveland Airport System.
5300 Riverside Drive
P.O. Box 81009
Cleveland OH, 44181-0009

Dear Ms. Singh:

This letter is in response to the Resource Agency Notification letter dated February 17, 2012, requesting comments and recommendations on the Cleveland Burke Lakefront Airport Runway 6L-24R Safety Area Improvements Project. The Resource Notification letter and attachments were received by email from Ren Camacho of your office on March 12, 2012. The following comments are offered:

1. Regulatory Branch Comments

- a. Under Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has regulatory authority over construction, excavation, or deposition of materials in, over, or under navigable waters of the United States (WOUS). Under Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the United States. Certain types of activities, such as landclearing using mechanized equipment and/or sidecasting, in a jurisdictional water would likely be regulated under Section 404 of the Clean Water Act. The USACE has no definitive maps of federally regulated wetlands or waterways. Therefore, we are often unable to determine USACE jurisdiction based solely on an in-house review. A preliminary review of in-office resources, which included the assessment of numerous aerial photographs, determined that there may be wetlands, streams, or other WOUS on the subject site. The USACE recommends you conduct further investigation to determine if potentially regulated waterways, including freshwater wetlands and/or streams exist on the subject site. The USACE recommends an individual familiar with the USACE 1987 Wetland Delineation manual and the Northeast/Northcentral Regional Supplement perform a delineation for the subject site. The delineation and complete application package should then be submitted to USACE for review. A blank application package has been provided to Ms. Katherine Delaney of the Detroit Airports District Office for your use. Please ensure your application package includes clearly legible drawings in black and white 8 ½" by 11" format. Specifically, please provide a clearly legible project location map, existing site conditions drawing, proposed project plans, and cross section drawings, etc. Please submit

your Corps application package to: U.S. Army Corps of Engineers, Regulatory Branch, attn: Ms. Melissa Tarasiewicz, 1776 Niagara Street, Buffalo, NY, 14207.

- b. The USACE understands that the proposed project may involve placement of fill in Lake Erie. Lake Erie is considered a navigable waterway regulated by the USACE under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Any work including placement of fill, or excavation, or placement of structures below the ordinary high water (OHW) 573.4 feet International Great Lakes Datum (IGLD), 1985, would require a permit from USACE. Please ensure your project plans accurately depict and label the OHW 573.4 feet IGLD, 1985. Additionally, please ensure your application clearly identifies the quantity (cubic yards) and area (square feet or acreage) of fill and/or excavation, etc., proposed below the Lake Erie OHW 573.4 feet IGLD, 1985.
- c. The United States Environmental Protection Agency (USEPA) Guidelines at Title 40 of the Code of Federal Regulations Part 230 (404(b)(1) guidelines) state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. USACE requires that impacts to WOUS be first avoided and then minimized to the maximum extent practicable, and lastly mitigated.
- d. Coordination between the USACE and U.S. Fish and Wildlife Service under Section 7 the Endangered Species Act may be required for the proposed project.
- e. Coordination between the USACE and Ohio State Historic Preservation Office under Section 106 of the National Historic Preservation Act may be required for the proposed project.

2. Operations Branch Comments

- a. CSO Piping at CDF 10B and ASOS at CDF 12
The CDF 10B drawings (attached) show the approximate locations of four existing CSO pipes that extend underneath the CDF, including the locations of the tie-in points. Manholes for these pipes are visible in the field where they extend above existing grade along the southern boundary of the CDF. Provisions for protection of these manholes and associated piping may need to be incorporated into the project as it appears they are within the project footprint. The CDF 12 drawing (attached) shows the location of an Automated Surface Observing Station (ASOS) that also appears to be within the project area. Note that the ASOS, and the manholes and piping are not owned, operated, or maintained by USACE. The airport should coordinate separately with the agencies responsible for these facilities to determine what measures may be required to accommodate their presence.
- b. Moving the north service road located on airport property to the crest of the south berm of CDF 10B will require discussions with the USACE's Real Estate section

to insure an agreement is in place as this property is currently under USACE control for the purpose of O&M of the CDF.

- c. Modifications to the CDF berms that lower them have the potential to impact the ability to retain dredged material within the CDF, or to place additional dredged material into the CDF. This could potentially be a severe impact since remaining space for storage of dredged material at Cleveland harbor is very limited.
- d. It appears that the proposed roadway construction may impact the existing storm water retention ditch along the south perimeter of CDF 10B. If so, alternate measures will need to be incorporated into the project to provide for management of storm water from the areas of the airport and the CDF that drain to this ditch.

3. Construction Branch Comments

- a. Relocated roadway on east side:
 - i. Roadway cuts through Dike 12. Details will be required as to how the berms will be cut down, stabilization of roadway foundation, and measures to ensure that material contained within the berms is not released.
 - ii. The roadway is very close to water's edge and stability of shoreline is a concern. Please address the need for measures that to stabilize the foundation for the roadway and fill along the water's edge.
 - iii. Please provide a cross sectional detail showing dimensions and materials proposed for the roadway construction.
- b. Relocated roadway on north side:
 - i. Roadways appear to cut through the Dike 10B drainage ditch and into Dike 10B berms. This area is currently under USACE control, and agreements would need to be established to allow.
 - ii. Please provide details as measures that will be incorporated into the project to stabilize this roadway, provide positive drainage for the adjacent areas, ensure that integrity of the sewer lines is not compromised, ensure that the integrity of the Dike 10B berms is not compromised, and ensure that material contained within the CDF is not released.
 - iii. Please provide a cross sectional detail showing dimensions and materials proposed for the roadway construction.
 - iv. How will this roadway connect to existing roadways to east? It appears that roadways to the west will be eliminated and there will be no access. This could impact the ability of USACE to access areas of the CDF for O&M purposes.
- c. Proposed Fill To Be Determined by FAA
 - i. Please provide details as to the nature of this fill and how it will be protected from wind and wave action. The effect of this fill on navigation

will need to be addressed, including the impact on the ability of vessels such as the USCG Neah Bay to maneuver in this area.

- d. Roadway Removal:
 - i. Please provide details as to the proposed disposition of material removed from the roadway, and measures that will be taken to reclaim and stabilize the former roadway areas,
- e. Object Free Area:
 - i. Please advise as to whether changes to the Object Free Area are proposed. This is a concern to USACE since it could impact our ability to put equipment into or perform maintenance on CDF 10B.
- f. Airspace Restrictions on Vessel Navigation:
 - i. Please provide details as to any changes to airspace restrictions that are proposed as part of this project. This is a concern because USACE operates a floating crane in this area and our operations could be negatively impacted if there is a reduction in available airspace. Similarly, airspace restrictions could potentially impact normal commercial navigation of vessels within the port, restricting or requiring additional coordination and reporting of vessel movements with the airport.

4.Design Branch Comments

- a. Regarding the elevations provided on Exhibit 1; does MSL refer to the North American Vertical Datum of 1988 (NAVD 88)? Please identify the specific vertical datum used.
- b. How will the runway changes affect the sloped transitional surfaces off the runway sides and ends? Please provide drawings showing the current transitional surfaces and the new transitional surfaces.
- c. What is involved in the planned relocation of FAA navigational aids? Please provide information about which navigational aids are being moved and where they will be moved to.
- d. Will the ILS be relocated or altered? If so, please identify any proposed changes to the ILS.

5.Environmental Analysis Comments

- a. The Corps of Engineers is currently working on developing a plan to optimize capacities through mounding dredged sediment at CDFs 10B, 9 and 12. Close coordination with FAA will take place if this plan is selected as the preferred plan

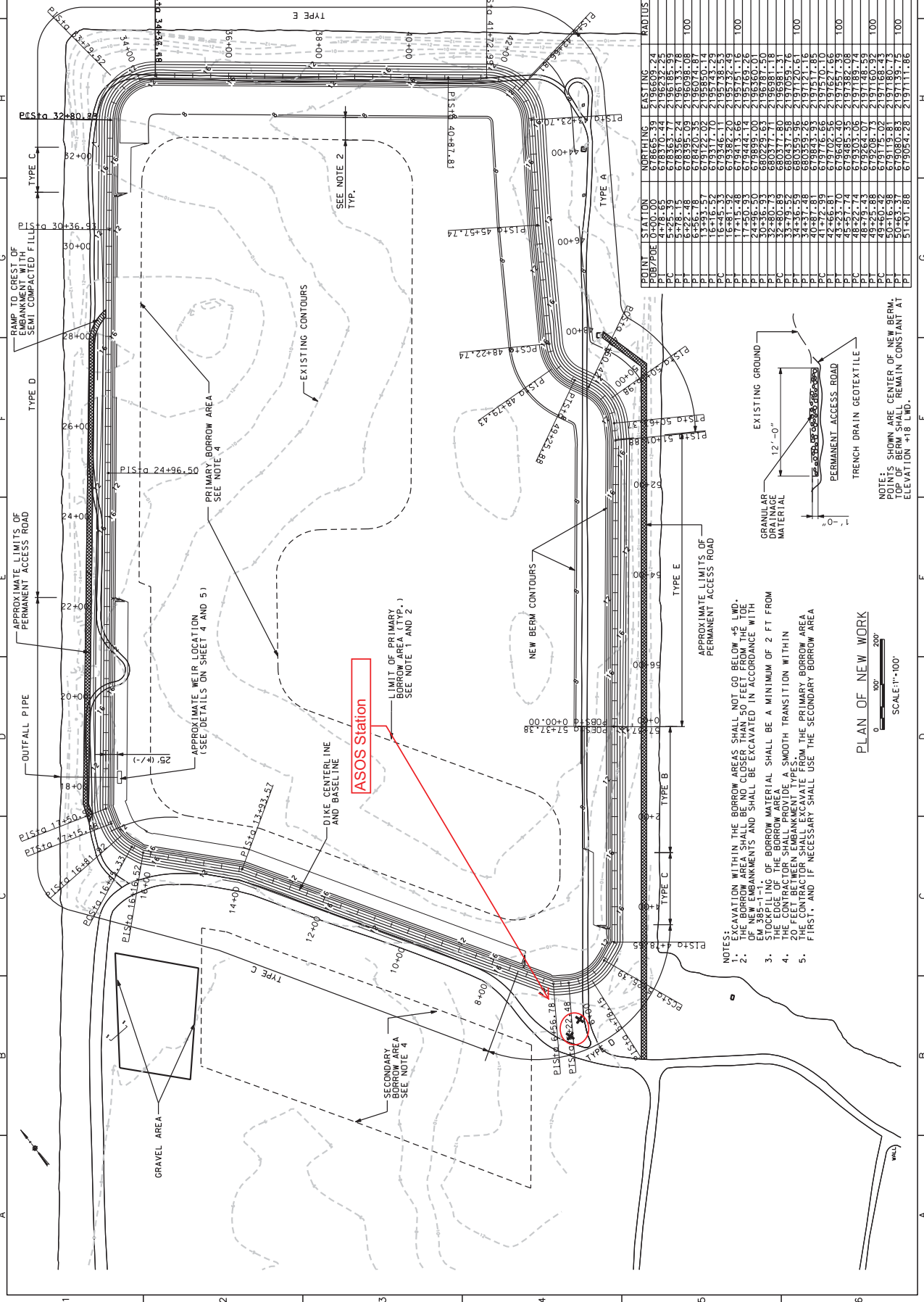
6.Real Estate Comments

- a. CDF 12 has been turned over to the City of Cleveland. USACE is currently using this facility under a Right of Entry agreement.
- b. USACE approval or disapproval of proposals affecting CDF 12 would come through the procedures and approvals that are outlined in the O&M manual that was provided to the City of Cleveland when the CDF was turned over to them for O&M.
- c. CDF 10B: If the proposed roadway changes impact our ability to access areas of the facility that we need for continuing O&M work, then the City will be required to provide USACE with another route which we can use.
- d. If agreement can be reached between the airport and USACE as to appropriate uses, measures, and safeguards, a partial turnover agreement could potentially be drawn up to return areas of CDF 10B that are no longer being used back to the City of Cleveland. Such an agreement would likely require Division approval.
- e. The individual responsible for Buffalo District Real Estate was absent from the office during the short response time requested for comments. We are therefore not able to provide a copy of the current real estate boundaries for CDF 10B and CDF 12 with this letter. We will forward a copy of these boundaries to you upon their return to the District.

The USACE Buffalo District would like to thank you for the opportunity to provide these comments. It is understood that the submission we received for comment is necessarily schematic due to the early stage of project development. However, this does limit our ability to provide meaningful comment on the proposal. We therefore request that we be copied with and provided the opportunity to provide comments on the more detailed drawings and reports that will be prepared as this project progresses.

Sincerely,


Joshua Feldmann, P.E., PMP
Chief, Operations Branch



| POINT | STATION | NORTHING | EASTING | RADIUS (FT) |
|-------|----------|-----------|------------|-------------|
| PC | 4+00.00 | 678555.33 | 215639.73 | 100 |
| PB | 4+00.00 | 678555.33 | 215639.73 | 100 |
| PI | 5+25.39 | 678363.77 | 215618.59 | 100 |
| PI | 5+74.35 | 678356.24 | 215633.87 | 100 |
| PI | 6+55.78 | 678200.35 | 215607.37 | 100 |
| PI | 13+33.57 | 679122.02 | 215850.14 | 100 |
| PI | 16+35.32 | 679346.11 | 215935.39 | 100 |
| PI | 18+81.92 | 679382.20 | 215935.39 | 100 |
| PI | 17+45.46 | 679313.65 | 215925.16 | 100 |
| PI | 24+36.50 | 678989.00 | 215636.01 | 100 |
| PI | 30+36.93 | 680229.63 | 215618.50 | 100 |
| PI | 33+10.69 | 680371.40 | 215658.17 | 100 |
| PI | 34+19.52 | 680343.58 | 215705.98 | 100 |
| PI | 34+36.59 | 680559.96 | 2157120.16 | 100 |
| PI | 37+36.59 | 680559.96 | 2157120.16 | 100 |
| PI | 40+37.81 | 679843.53 | 215711.05 | 100 |
| PC | 41+42.99 | 679776.66 | 2157376.10 | 100 |
| PC | 42+57.90 | 679776.66 | 2157376.10 | 100 |
| PI | 43+57.90 | 679776.66 | 2157376.10 | 100 |
| PI | 45+57.74 | 679488.35 | 2157382.08 | 100 |
| PI | 48+52.74 | 679503.06 | 2157183.74 | 100 |
| PI | 49+52.88 | 679503.06 | 2157183.74 | 100 |
| PI | 49+52.88 | 679503.06 | 2157183.74 | 100 |
| PC | 49+50.42 | 679175.02 | 2157166.32 | 100 |
| PI | 50+56.39 | 679080.31 | 215711.86 | 100 |
| PI | 51+01.88 | 679054.28 | 215711.86 | 100 |

NOTE: POINTS SHOWN ARE CENTER OF NEW BERM. TOP OF BERM SHALL REMAIN CONSTANT AT ELEVATION +18 LWD.

PLAN OF NEW WORK



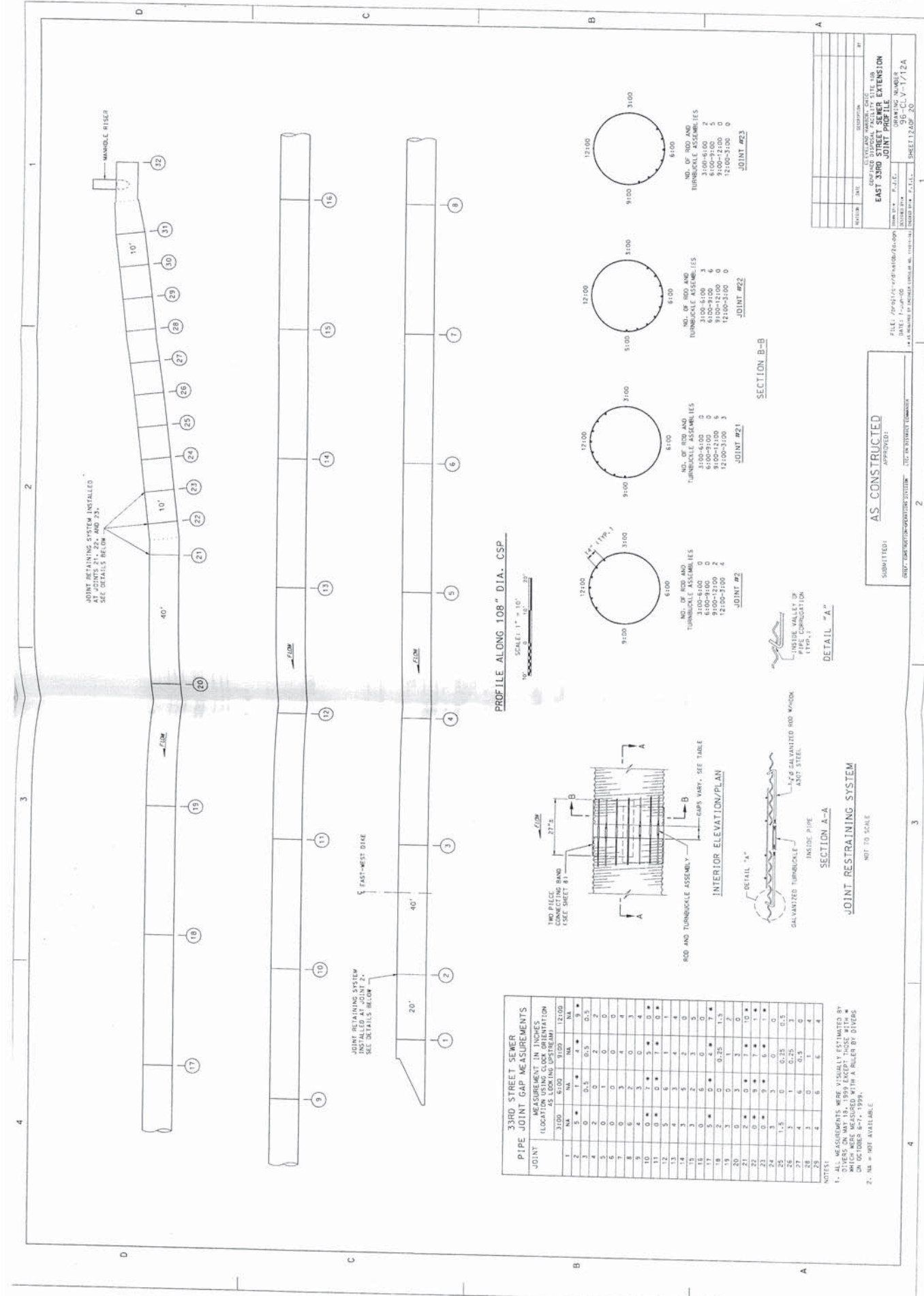
SCALE: 1" = 100'

1. NOTES: EXCAVATION WITHIN THE BORROW AREAS SHALL NOT GO BELOW +5' L.O.D.
2. THE BORROW AREAS SHALL BE NO CLOSER THAN 50 FEET FROM THE TOE OF THE EMBANKMENTS AND SHALL BE EXCAVATED IN ACCORDANCE WITH THE ERM 385-1.1.
3. STOCKPILING OF BORROW MATERIAL SHALL BE A MINIMUM OF 2 FT FROM THE EXCAVATION.
4. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION WITHIN 20 FEET OF THE EMBANKMENT TYPEFACE FROM THE PRIMARY BORROW AREA TO THE SECONDARY BORROW AREA.
5. FILLING, IF NECESSARY SHALL USE THE SECONDARY BORROW AREA.

Sheet
Reference
Number:
C-103

| | | | |
|-------------------------|------|-------|----------|
| Designated by: | KHAY | Date: | 09-12-78 |
| Crossed by: | JEL | Date: | 08-08-78 |
| Submitted by: | DOT | Date: | 07-09-78 |
| Technical Approval: | | Date: | |
| Approved: | | Date: | |
| 1st Technical Examiner: | | Date: | |

[illegible]



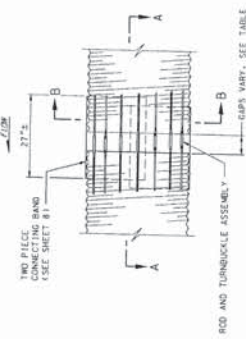
PROFILE ALONG 108" DIA. CSP



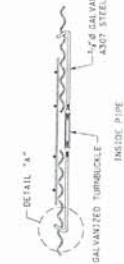
33RD STREET SEWER
PIPE JOINT GAP MEASUREMENTS
MEASUREMENT IN INCHES
(LOCATED AS LOOKING UPSTREAM)

| JOINT | 3100 | 6100 | 9100 | 12100 | NA |
|-------|------|------|------|-------|-----|
| 1 | NA | NA | NA | NA | NA |
| 2 | NA | NA | NA | NA | NA |
| 3 | 0 | 0.5 | 0.5 | 0.5 | 0.5 |
| 4 | 2 | 0 | 2 | 2 | 2 |
| 5 | 0 | 1 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 |
| 8 | 6 | 2 | 0 | 3 | 3 |
| 9 | 4 | 3 | 0 | 4 | 4 |
| 10 | 0 | 7 | 5 | 0 | 0 |
| 11 | 0 | 0 | 7 | 0 | 0 |
| 12 | 0 | 0 | 1 | 1 | 1 |
| 13 | 4 | 3 | 4 | 1 | 1 |
| 14 | 3 | 5 | 2 | 0 | 0 |
| 15 | 3 | 2 | 3 | 5 | 5 |
| 16 | 0 | 6 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 |
| 18 | 3 | 0 | 0 | 0 | 7 |
| 19 | 3 | 0 | 0.25 | 1.5 | 1.5 |
| 20 | 0 | 3 | 2 | 0 | 0 |
| 21 | 2 | 0 | 7 | 10 | 10 |
| 22 | 0 | 9 | 7 | 1 | 1 |
| 23 | 0 | 3 | 0 | 0 | 0 |
| 24 | 3 | 3 | 0 | 0 | 0 |
| 25 | 1.5 | 0 | 0.25 | 0.5 | 0.5 |
| 26 | 2 | 1 | 0.25 | 3 | 3 |
| 27 | 4 | 6 | 0.5 | 0 | 0 |
| 28 | 3 | 0 | 1 | 4 | 4 |
| 29 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 31 | 0 | 0 | 0 | 0 | 0 |
| 32 | 0 | 0 | 0 | 0 | 0 |

NOTES:
1. ALL MEASUREMENTS WERE VISUALLY ESTIMATED BY DIVERS ON MAY 18, 1999 EXCEPT THOSE WITH * WHICH WERE MEASURED WITH A RULER BY DIVERS.
2. NA = NOT AVAILABLE.



INTERIOR ELEVATION/PLAN



SECTION A-A

JOINT RETAINING SYSTEM

NOT TO SCALE



DETAIL "B"

NO. OF ROD AND TURNBUCKLE ASSEMBLIES

| | |
|------------|---|
| 3100-6100 | 0 |
| 6100-9100 | 2 |
| 9100-12100 | 2 |
| 12100-3100 | 4 |

JOINT #2

NO. OF ROD AND TURNBUCKLE ASSEMBLIES

| | |
|------------|---|
| 3100-6100 | 0 |
| 6100-9100 | 6 |
| 9100-12100 | 6 |
| 12100-3100 | 3 |

JOINT #21

NO. OF ROD AND TURNBUCKLE ASSEMBLIES

| | |
|------------|---|
| 3100-6100 | 3 |
| 6100-9100 | 6 |
| 9100-12100 | 0 |
| 12100-3100 | 0 |

JOINT #22

NO. OF ROD AND TURNBUCKLE ASSEMBLIES

| | |
|------------|---|
| 3100-6100 | 2 |
| 6100-9100 | 5 |
| 9100-12100 | 0 |
| 12100-3100 | 0 |

JOINT #23

SECTION B-B

| | |
|------------|-------------------|
| DATE | 10/2/00 |
| BY | J.E.C. |
| CHECKED BY | J.E.C. |
| APPROVED | |
| PROJECT | 33RD STREET SEWER |
| SHEET | 12 OF 20 |

AS CONSTRUCTED

DATE: 10/2/00

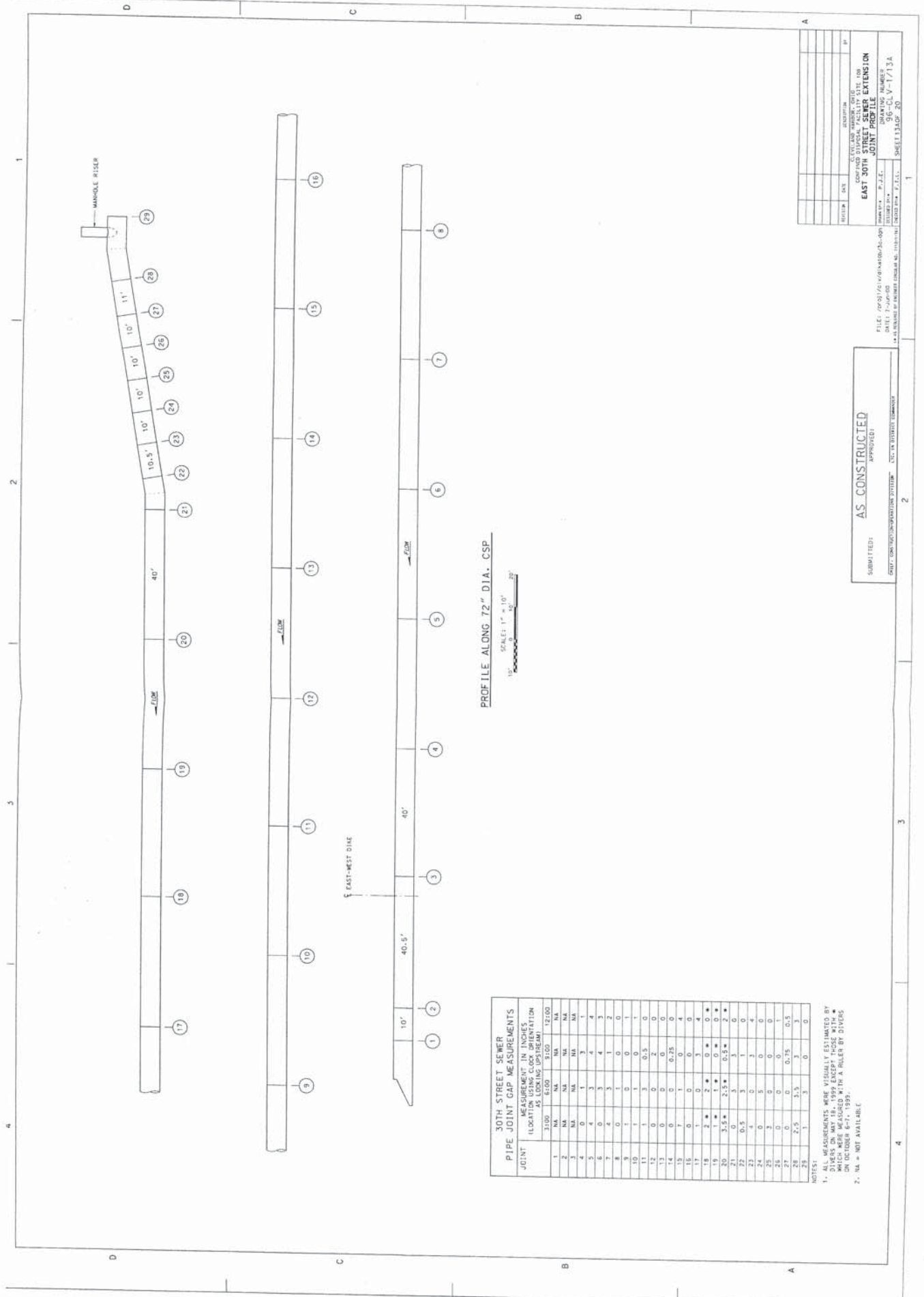
BY: J.E.C.

CHECKED BY: J.E.C.

APPROVED:

PROJECT: 33RD STREET SEWER

SHEET: 12 OF 20



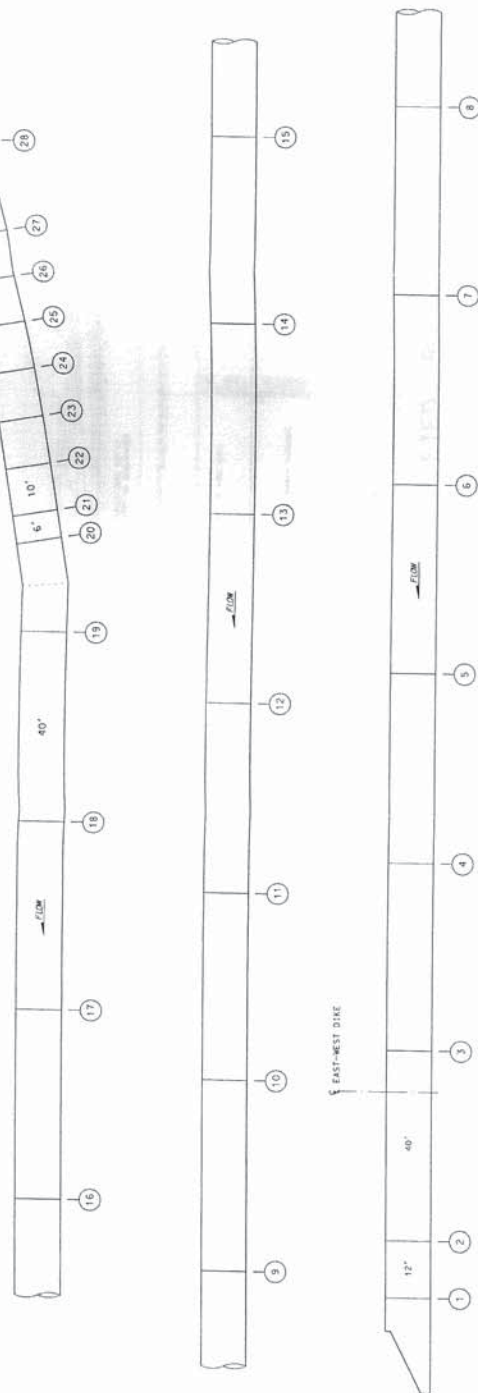
PROFILE ALONG 72" DIA. CSP

| 30TH STREET SEWER | | PIPE JOINT GAP MEASUREMENTS | |
|----------------------------------|-----|-----------------------------|------|
| JOINT | | MEASUREMENT IN INCHES | |
| LOCATION USING CLOCK ORIENTATION | | MEASUREMENT IN INCHES | |
| DATE | | DATE | |
| 1 | NA | NA | NA |
| 2 | NA | NA | NA |
| 3 | NA | NA | NA |
| 4 | NA | NA | NA |
| 5 | NA | NA | NA |
| 6 | 0 | 3 | 4 |
| 7 | 4 | 3 | 4 |
| 8 | 0 | 1 | 0 |
| 9 | 0 | 1 | 0 |
| 10 | 1 | 1 | 0 |
| 11 | 1 | 3 | 0.5 |
| 12 | 0 | 0 | 2 |
| 13 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0.25 |
| 15 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 |
| 17 | 1 | 0 | 3 |
| 18 | 2 | 2 | 0 |
| 19 | 3 | 1 | 0 |
| 20 | 3.5 | 2.5 | 0.5 |
| 21 | 0 | 3 | 0 |
| 22 | 0.5 | 3 | 1 |
| 23 | 4 | 0 | 2 |
| 24 | 0 | 5 | 0 |
| 25 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0.75 |
| 28 | 2.5 | 3.5 | 3 |
| 29 | 1 | 3 | 0 |

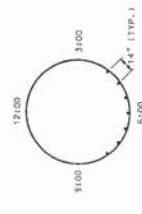
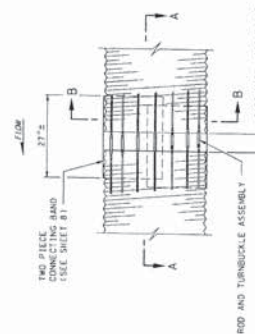
NOTES:
 1. ALL MEASUREMENTS WERE VISUALLY ESTIMATED BY THE FIELD PERSONNEL.
 2. NA = NOT AVAILABLE

SUBMITTED: **AS CONSTRUCTED**
 APPROVED: _____
 DATE: _____

| | |
|----------------|-----------------------------|
| PROJECT NO. | 1709102-0004050-30-000 |
| DATE | 10/13/13 |
| PROJECT NAME | 30TH STREET SEWER EXTENSION |
| DRAWING NUMBER | 30-CL-V-1/13A |
| SHEET NUMBER | 1 |
| SHEET TOTAL | 28 |



PROFILE ALONG 114" DIA. CSP

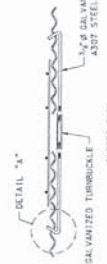


| NO. OF ROD AND TURNBUCKLE ASSEMBLIES | JOINT #26 |
|--------------------------------------|-----------|
| 3:00-6:00 | 3 |
| 6:00-9:00 | 4 |
| 9:00-12:00 | 0 |
| 12:00-3:00 | 0 |

SECTION 8-8



DETAIL "A"



SECTION A-A

JOINT RESTRAINING SYSTEM

NOT TO SCALE

| JOINT | 26TH STREET SEWER | | | | PIPE CAP MEASUREMENTS | | | |
|-------|-----------------------|-------|----------|--------|-----------------------|-------|----------|--------|
| | MEASUREMENT IN INCHES | | | | MEASUREMENT IN INCHES | | | |
| | LOCATING | | UPSTREAM | | LOCATING | | UPSTREAM | |
| | 31100 | 61500 | 91100 | 121000 | 31100 | 61500 | 91100 | 121000 |
| 1 | 0.25 | 2 | 0 | 0 | | | | |
| 2 | 0 | 0 | 0 | 3 | 4 | | | |
| 3 | 0 | 0 | 0 | 3 | 4 | | | |
| 4 | 0 | 0 | 0 | 3 | 4 | | | |
| 5 | 0.25 | 0.5 | 2 | 2 | 2 | | | |
| 6 | 0 | 1 | 0.5 | 0 | 1 | | | |
| 7 | 0.75 | 2 | 3 | 3 | 3 | | | |
| 8 | 0 | 0 | 4 | 3 | 4 | | | |
| 9 | 0 | 0 | 4 | 3 | 4 | | | |
| 10 | 0.25 | 1 | 0 | 0 | 1.5 | | | |
| 11 | 1 | 5 | 6 | 2 | | | | |
| 12 | 1.5 | 0.5 | 0 | 2 | | | | |
| 13 | 4.5 | 5 | 3 | 3 | | | | |
| 14 | 1 | 1.5 | 1 | 0 | 1 | | | |
| 15 | 0 | 1.5 | 2 | 0 | 2 | | | |
| 16 | 0 | 1.5 | 2 | 0 | 2 | | | |
| 17 | 0 | 2 | 2 | 2 | 2 | | | |
| 18 | 0 | 3 | 0 | 0 | 0 | | | |
| 19 | 0 | 1 | 0 | 0 | 0 | | | |
| 20 | 0 | 4 | 0.25 | 0 | 0 | | | |
| 21 | 0 | 1.5 | 0 | 0 | 0 | | | |
| 22 | 0 | 1 | 0.25 | 0 | 0 | | | |
| 23 | 0 | 0.25 | 1 | 1 | 1 | | | |
| 24 | 1 | 1 | 0 | 0 | 0 | | | |
| 25 | 0 | 0 | 0 | 0 | 0 | | | |
| 26 | 2 | 0 | 2 | 2 | 2 | | | |

NOTES:
1. ALL MEASUREMENTS WERE VISUALLY ESTIMATED BY DIVERS ON MAY 18, 1999 EXCEPT THOSE WITH * WHICH WERE MEASURED WITH A RULER BY DIVERS ON OCTOBER 6-7, 1999.

AS CONSTRUCTED

SUBMITTED: _____
APPROVED: _____
DATE: _____
BY: _____

| | |
|-------------------------------|--------------------------------|
| FILE: /proj/civ/cive0d/ag-agn | DRAWING NUMBER 96-CLV-1/14A |
| DATE: 7-JUN-00 | |
| | |
| | |

20
0-GLV-17148

17.10



NOTES:

1. ALL MEASUREMENTS WERE VISUALLY ESTIMATED BY DIVERS ON MAY 18, 1999 EXCEPT THOSE WITH * WHICH WERE MEASURED WITH A RULER BY DIVERS ON OCTOBER 6-7, 1999.
2. NA = NOT AVAILABLE

[illegible]

From: Kurko, Jennifer [<mailto:jennifer.kurko@epa.state.oh.us>]
Sent: Tuesday, April 03, 2012 6:02 PM
To: Singh, Meenakshi
Cc: Katherine.S.Delaney@faa.gov; Princic, Kurt; Camacho, Renato
Subject: RE: OEPA Comments.

Hi Meena,

I am confirming that the information you provided below is what I relayed over the phone.

We appreciate DPC and FAA's coordination efforts to ensure the runway project goes smoothly. As I noted at the agency scoping meeting and over the phone, it's best for Ohio EPA to be involved as early as possible when different design options are being considered. It enables us to provide feedback on potential issues that might not be readily evident, which helps entities focus their efforts toward the most viable options from the outset.

Continue to use me as the initial Ohio EPA contact for this project, and I'll gather the appropriate program staff as needed.

Please let me know if you need anything else,

--Jennifer

Jennifer L. Kurko
Assistant District Chief
Ohio EPA – Northeast District Office
(330) 963-1253
jennifer.kurko@epa.state.oh.us

From: Singh, Meenakshi [<mailto:msingh@clevelandairport.com>]
Sent: Tuesday, April 03, 2012 2:29 PM
To: Kurko, Jennifer
Cc: Katherine.S.Delaney@faa.gov; Princic, Kurt; Camacho, Renato
Subject: OEPA Comments.
Importance: High

Jennifer,

I received your phone message following the Agency Coordination Meeting scheduled on 3/7/12. I have transcribed the voice message as outlined below:

1. OEPA has no additional comments
2. DPC & FAA should continue coordination with all agencies
3. Surface water issue is being explored by DPC
4. Access road relocation, the options should be explored and required authorization followed
5. The proposed improvement and activities are covered under the 1993 blanket Rule 13 issued to DPC.

Please confirm the above statement, please edit to include any further comments or information. These comments shall be confirmed as formal comments from the OEPA.

Thanks,

Meena



Meenakshi Singh M. RCPL, B.Arch.

Planning Manager

Cleveland Airport System

5300 Riverside Drive

P.O. Box 81009

Cleveland, OH-44181-0009

Phone: 216.265.2722

Fax: 216.265.6185

msingh@clevelandairport.com

From: James White [\[mailto:James.White@portofcleveland.com\]](mailto:James.White@portofcleveland.com)
Sent: Thursday, April 05, 2012 9:47 AM
To: Singh, Meenakshi
Cc: Brian Lynch
Subject: RE: BKL RSA-EA: Agency Comments.

Meena-

Thanks for including the Port of Cleveland in the review of your Burke RSA plans.

As you may know dredge material will continue to be placed at CDFs 9/10b and 12. Our plans always carefully respect FAA and Burke Airport airspace restrictions. We expect that there will be shift from hydraulic (pumped) placement of material to mechanical placement in the CDFs over the next few years. This change in process will add significant capacity to the CDFs. Also, the shift to mechanical placement will eliminate the lagoons of standing water which the Corps of Engineers uses to settle sediments. We believe elimination of these lagoon will increase safety at the airport by reducing the risk of exposure to migrating waterfowl which find the lagoons to be appealing rest stops.

We see no problems with the planned safety zone and related runway relocation.

If there were opportunities to jointly develop a shared access road we would be glad to discuss it.

Mutual respect for our civic responsibilities for these adjacent facilities is very important and we appreciate the opportunity to comment. Please keep us informed on the progress of your project and we will do the same.

Kind regards,
JW

Jim White
Director, Sustainable Infrastructure Programs
Cleveland - Cuyahoga County Port Authority
216-377-1337

THIS PAGE INTENTIONALLY LEFT BLANK

From: Mitch, Brian [<mailto:Brian.Mitch@dnr.state.oh.us>]
Sent: Monday, April 16, 2012 1:02 PM
To: Singh, Meenakshi
Subject: 12-230; Burke Lakefront Airport Runway Extension



ODNR COMMENTS TO Meenakshi Singh, Manager of Planning, Cleveland Airport System, 5300 Riverside Drive, P.O. Box 81009, Cleveland, Ohio 44181

Project: The proposed project involves the construction of a 400' Engineered Materials Arrestor System (EMAS) bed on Runway End 6L, displace landing threshold of Runway 6L by approximately 165' to the east, construction of an approximate 600' eastern extension of Runway End 24R, construction/extension of taxiways, relocation of existing FAA navigational aids, new runway marking/stripping and various roadway modifications.

Location: The project is located at the Burke Lakefront Airport, Cleveland, Cuyahoga, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do 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.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees of the species listed above with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees of the species listed above with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the piping plover (*Charadrius melodus*), a state and federally endangered bird species, and the Kirtland's warbler (*Setophaga kirtlandii*), a state and federally endangered species. These species do not nest in the state but only utilize stopover habitat as they migrate through the region. Therefore, the project is not likely to have an impact on these species.

The project is within the range of the bald eagle (*Haliaeetus leucocephalus*), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area.

The project is within the range of the Canada darner (*Aeshna canadensis*), a state endangered dragonfly. Wetland impacts should be avoided in order to avoid this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species, and the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of these species, the project is not likely to have an impact on these species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. Therefore, if this type of habitat will be impacted, construction must be avoided in this habitat during the species' nesting period of May 1 to August 1. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the yellow-bellied sapsucker (*Sphyrapicus varius*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Yellow-bellied sapsuckers occupy wet deciduous forests or the margins of bogs where yellow birch, beech and aspen are prevalent. Therefore, if tree removal is proposed in this type of habitat, tree removal must not occur during the species' nesting period of May 1 to July 1. If no tree removal is proposed, the project is not likely to impact this species.

The ODNR, Ohio Biodiversity Database has a record at Burke Lakefront Airport for the Upland Sandpiper (*Bartramia longicauda*), a state threatened bird. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within the 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.

Coastal Management: The ODNR, Office of Coastal Management comments that based on the information provided, it appears that the project may include the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie and therefore may require an ODNR Shore Structure Permit (ORC 1506.40). Additionally, portions of the proposed project area are included in existing Submerged Lands Lease File Number SUB-0514-CU issued to the City of Cleveland which authorizes the use and occupation of the previously submerged lands of Lake Erie for airport expansion, confined disposal facility and port development. Pursuant to the provisions within the Lease any future improvements to the existing facilities, construction of new facilities or any change in use requires the prior written approval of the Director, Ohio Department of Natural Resources. The Proposed Action on the attached Exhibit 1 will require this prior written approval.

Pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding federal regulations, a Federal Consistency review by ODNR may be required for certain federal activities (i.e. permits, funding, etc.) related to the proposed project. For additional information on Federal Consistency, please contact Steve Holland at (419) 626-7980 or steven.holland@dnr.state.oh.us.

Geological Survey: The ODNR, Division of Geological Survey comments that the area to be filled is small and is unlikely to contain a significant amount of uncontaminated sediment of sand-size or larger. Geological Survey has no concerns based on the preliminary information provided.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6715 if you have questions about these comments or need additional information.

Brian Mitch, Compliance Coordinator
ODNR Division of Wildlife
2045 Morse Road, Building G-2
Columbus, Ohio 43229-6693
(614) 265-6715

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**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

**U.S. ARMY CORPS OF ENGINEERS
BUFFALO DISTRICT**

May 9th, 2012

AGENDA

- I. Background
- II. Purpose and Need
- III. Proposed Action
- IV. USACE Comments (Comment Matrix)
- V. Schedule and Next Steps in the EA Process
- VI. Timing requirements from the USACE

* * * * *

AIRPORT CONTACT: Ms. Meenakshi Singh
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Burke Lakefront Airport Environmental Assessment

***U.S. Army Corps of Engineers
Buffalo District
Agency Coordination Meeting***

May 9, 2012

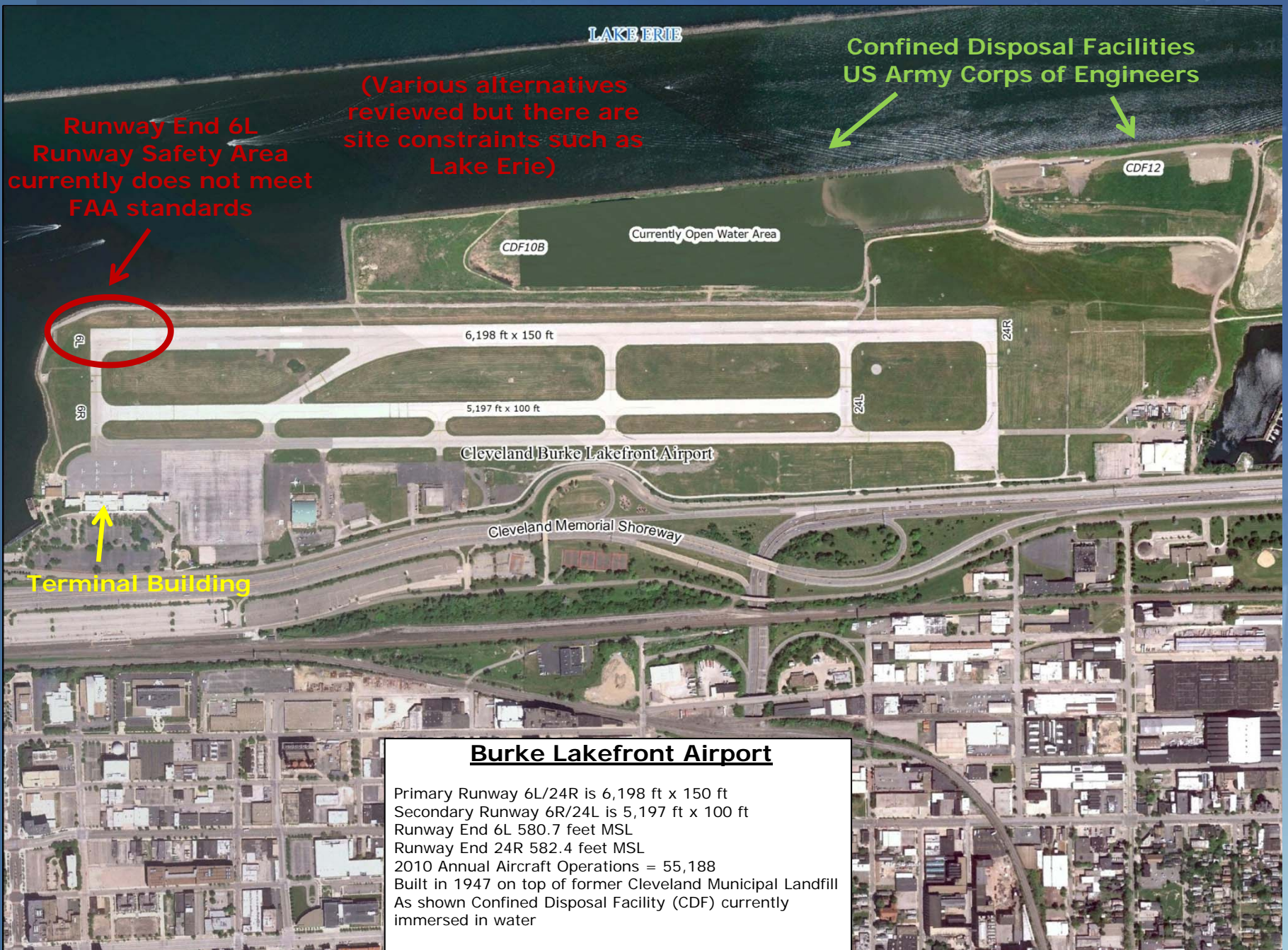
***City of Cleveland
Department of Port Control (DPC)
And the
Federal Aviation Administration***



BACKGROUND

- ❑ Burke Lakefront Airport (BKL) owned and operated by the City of Cleveland Department of Port Control
- ❑ BKL has two parallel runways
 - Primary Runway 6L/24R (6,198 ft x 150 ft)
 - Secondary Runway 6R/24L (5,197 ft x 100 ft)
- ❑ Designated as a General Aviation (GA) reliever airport helping to divert activity from larger scheduled service airports
- ❑ Provides important services to the local community
(Various corporate activity, emergency medical transport, flight training facilities, Labor Day Air show)
- ❑ Runway End 6L currently does not meet FAA Runway Safety Area design standards

EXISTING AIRPORT



PURPOSE AND NEED

❑ Need for Project:

The Burke Lakefront Airport Runway 6L/24R does not meet current FAA airport design standards for runway safety areas.

❑ Purpose of Project:

To enhance and improve the RSA to the extent practicable while maintaining the following airside requirements:

- Maintain existing runway length and IFR approach to Runway 24R
- Maintain perimeter road access to the north side of the airfield for operations, wildlife management and mitigation, and USCAE maintenance operations
- Maintain or improve (through moments of opportunity) the existing airfield conditions for the runway to include: relocation of affected NAVAIDs (including REILs 6L, AWOS, replacement of 6L VASI with PAPI, and the addition of in-ground runway lights in the extension, and limit the number of modification to design standards required at this site to achieve compliant RSA's and other airport design standards.

ALTERNATIVES

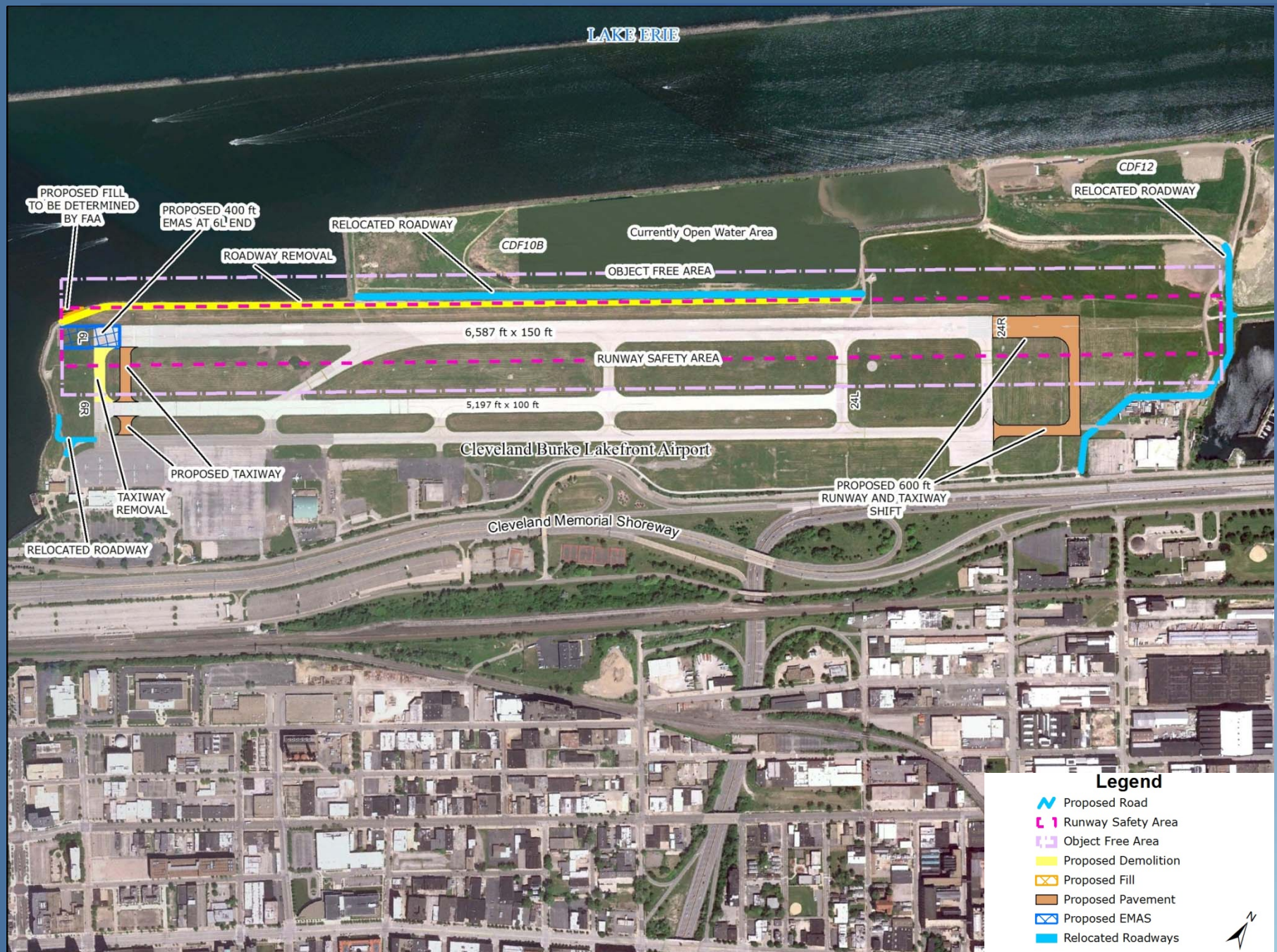
RUNWAY ALTERNATIVES

- ❑ A range of runway alternatives were studied to mitigate the deficiencies in the safety areas
- ❑ Alternatives were not carried forward for detailed environmental analysis in this EA if they did not:
 - Result in a standard RSA;
 - Resulted in extraordinary environmental and/or economic impact;
 - Resulted in a shorter length of runway available for takeoffs and/or aborted takeoffs; or,
 - Was not able to maintain current runway capability.

ROADWAY ALTERNATIVES

- ❑ Multiple options for portions of the roadways impacted are being examined.

PROPOSED ACTION



PROPOSED ACTION

Comply with FAA Requirements for Runway Safety Areas

- ❑ Construction of a 400-foot Engineered Materials Arrestor System (EMAS) bed on Runway End 6L
- ❑ Displace landing threshold of Runway 6L by approximately 165 feet to the east

Maintain existing runway length

- ❑ An approximate 600-foot eastern shift of Runway End 24R

PROPOSED ACTION

Supporting Elements

- ☐ Construction/shift of taxiways
- ☐ Relocation of existing FAA navigational aids
- ☐ New runway marking/stripping

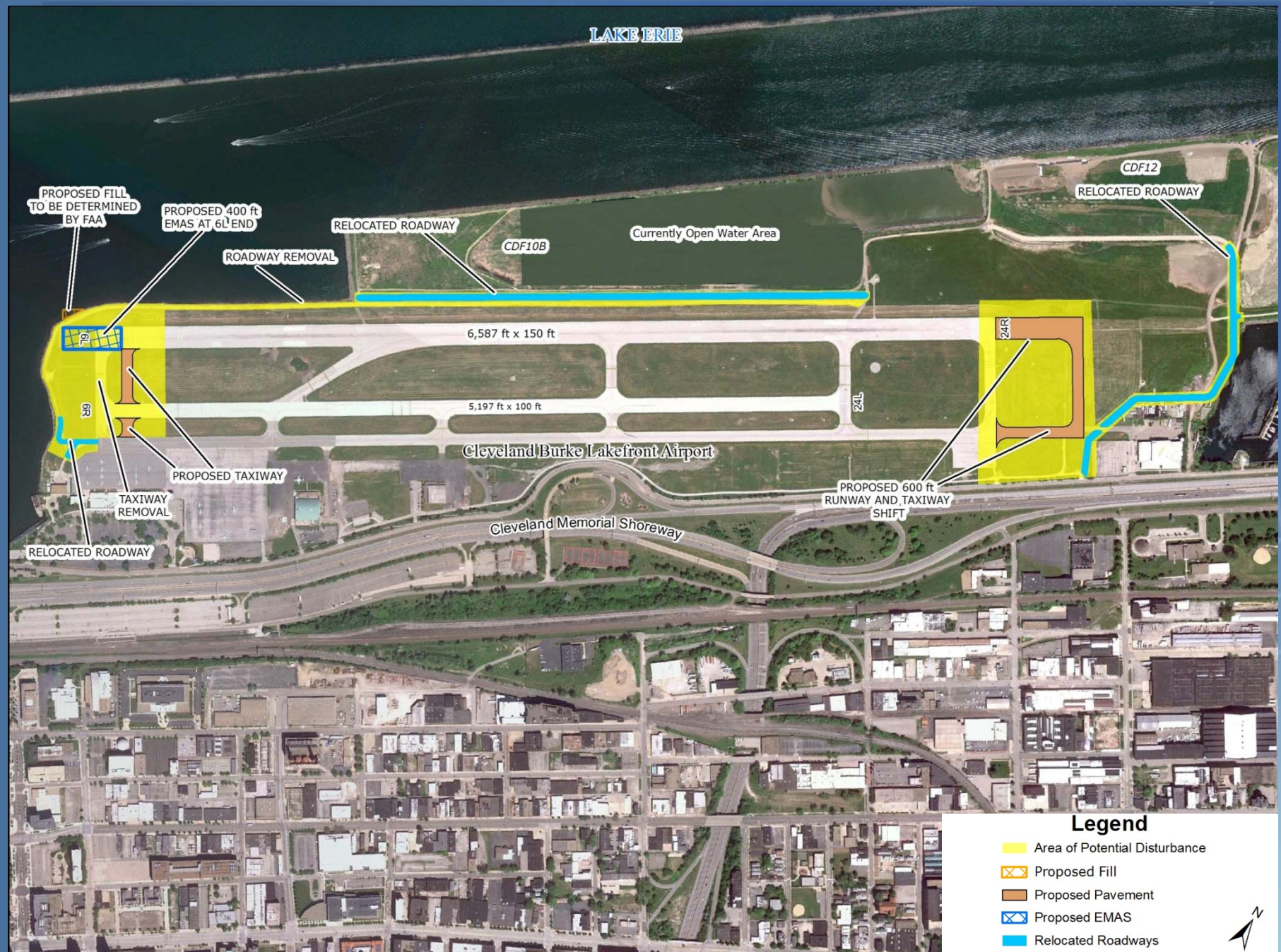
PROPOSED ACTION

Supporting Elements also includes:

☐ Roadway modifications

- ✓ Relocation/extension of the perimeter/vehicle service road on the northeast side of the Airport (north of Runway End 24R) near CDF 12;
- ✓ Relocation of the vehicle service road north of the runway and next to CDF 10B; and
- ✓ Relocation of the ARFF Road/vehicle service road on the southwest end of the Airport (east of Runway End 6R).

AREAS OF POTENTIAL DISTURBANCE



REVIEW OF USACE COMMENTS AND RESPONSES



The City of Cleveland Department of Port Control (DPC), in cooperation with the FAA, completed a number of scoping activities to determine the range of issues to be analyzed, and to what magnitude they were to be treated in the Environmental Assessment for the Runway 6L/24R Safety Improvement Project at Burke Lakefront Airport in Cleveland, Ohio.

In an effort to identify potential issues associated with the Proposed Action, coordination letters were mailed to key agencies responsible for resource protection and public policy. These letters requested responses from Federal, State, and local agencies which might have information pertaining to natural and human resources and their locations within the study area. The DPC and the FAA received comments from the U.S. Army Corps of Engineers (USACE) dated March 23, 2012. The following are the summarized comments and the responses.

| | | |
|------------------|--|--|
| USACE 1.a | The USACE recommends you conduct further investigation to determine if potentially regulated waterways, including freshwater wetlands and/or streams exist on the subject site. The USACE recommends an individual familiar with the USACE 1987 Wetland Delineation manual and the Northeast/Northcentral Regional Supplement perform a delineation for the subject site. The delineation and complete application package should then be submitted to USACE for review. | Wetland delineation field investigations have been conducted in accordance with the USACE Wetland Delineation Manual and the Northeast/Northcentral Regional Supplement. Preliminary results indicated that there are areas with wetland features on the project site. There will be on-going coordination with USACE on how to incorporate this information into the EA document and to determine potential permit requirements. |
| USACE 1.b | Any work including placement of fill, or excavation, or placement of structures below the ordinary high water (OHW) 573.4 feet International Great Lakes Datum (IGLD), 1985, would require a permit from USACE. | To be discussed at May 9th Meeting. If placement of fill, or excavation, or placement of structures below the ordinary high water is necessary, the DPC will submit a request from the USACE for the permit. |
| USACE 1.c | USACE requires that impacts to WOUS be first avoided and then minimized to the maximum extent practicable, and lastly mitigated. | <p>The FAA follows the "avoid, minimize, mitigate" policy regarding wetland impacts. Any impacts to wetlands that cannot be avoided or minimized will require mitigation. Impacts and mitigation related to the Proposed Action will be identified and coordinated with the USACE.</p> <p>The DPC and the FAA have already conducted a screening analysis for various alternatives. Alternatives that placed even greater amounts of fill into Lake Erie were rejected from further consideration.</p> |

| | | |
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| USACE 1.d | Coordination between the USACE and U.S. Fish and Wildlife Service under Section 7 the Endangered Species Act may be required for the proposed project. | Coordination has been initiated with the U.S. Fish and Wildlife Service. All coordination efforts will be included in the Draft EA. |
| USACE 1.e | Coordination between the USACE and Ohio State Historic Preservation Office under Section 106 of the National Historic Preservation Act may be required for the proposed project. | Coordination has been initiated with the Ohio State Historic Preservation Office. All coordination efforts will be included in the Draft EA. |
| USACE 2.a | The CDF 10B drawings (provided) show the approximate locations of four existing CSO pipes that extend underneath the CDF, including the locations of the tie-in points. Manholes for these pipes are visible in the field where they extend above existing grade along the southern boundary of the CDF. Provisions for protection of these manholes and associated piping may need to be incorporated into the project as it appears they are within the project footprint. The CDF 12 drawing (provided) shows the location of an Automated Surface Observing Station (ASOS) that also appears to be within the project area. Note that the ASOS, and the manholes and piping are not owned, operated, or maintained by USACE. The airport should coordinate separately with the agencies responsible for these facilities to determine what measures may be required to accommodate their presence. | The FAA and DPC are coordinating separately with the agencies responsible for these facilities. |
| USACE 2.b | Moving the north service road located on airport property to the crest of the south berm of CDF 10B will require discussions with the USACE's Real Estate section to insure an agreement is in place as this property is currently under USACE control for the purpose of O&M of the CDF. | To be discussed at May 9th Meeting. The DPC and the FAA requested the May 9 th meeting in order to discuss the issues with all of the necessary USACE sections. For the analysis in the EA, various alternatives for the portions of the roadways in the safety areas are being considered. To satisfy the intent of NEPA, a No Action Alternative is carried forward; therefore the EA includes leaving the perimeter access road where it is today. The EA is also considering removing the roadway in the safety areas with no replacement, and two options to relocate the roadway out of the safety areas. |

| | | |
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| USACE 2.c | Modifications to the CDF berms that lower them have the potential to impact the ability to retain dredged material within the CDF, or to place additional dredged material into the CDF. This could potentially be a severe impact since remaining space for storage of dredged material at Cleveland harbor is very limited. | To be discussed at May 9th Meeting. The exact locations of the two options for the potential relocated roadways have not yet been determined. The two primary options to relocate approximately 3,480 feet of the vehicle service road (east portion) next to the confined disposal facilities (CDF) Dike 10B include: 1) Relocate the roadway into the current drainage ditch area along the south perimeter of CDF Dike 10B, or 2) Fortify and widen the existing USACE access route on top of the berm for CDF Dike 10B although at this point it has yet to be determined if that will reduce the capacity of CDF Dike 10B. |
| USACE 2.d | It appears that the proposed roadway construction may impact the existing storm water retention ditch along the south perimeter of CDF 10B. If so, alternate measures will need to be incorporated into the project to provide for management of storm water from the areas of the airport and the CDF that drain to this ditch. | To be discussed at May 9th Meeting. The exact locations of the two relocated roadway options have not yet been determined. However, if the drainage ditch is impacted, the management of storm water will be designed into the project. |
| USACE 3.a.i | Roadway cuts through Dike 12. Details will be required as to how the berms will be cut down, stabilization of roadway foundation, and measures to ensure that material contained within the berms is not released. | To be discussed at May 9th Meeting. At this time the roadway relocation options were developed to not impact CDF 12 or the Lake Erie shoreline. While the exact position of the relocated roadways is still being finalized, during the design process the final runway location will be determined and will be positioned to avoid impacts to CDF 12 and the Lake Erie shoreline. |
| USACE 3.a.ii | The roadway is very close to water's edge and stability of shoreline is a concern. Please address the need for measures that to stabilize the foundation for the roadway and fill along the water's edge. | To be discussed at May 9th Meeting. Once the exact location of the roadways is determined all potential measures needed for mitigation will be disclosed and coordinated with the USACE. However at this time it is anticipated that there would be no potential impacts to the Lake Erie shoreline. |
| USACE 3.a.iii | Please provide a cross sectional detail showing dimensions and materials proposed for the roadway construction. | The cross sectional detail showing dimensions and materials proposed for the roadway construction will be provided to the USACE once a decision is made on the final location of the roadways. However, a typical cross section will be provided at the May 9 th meeting. |

| | | |
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| USACE 3.b.i | Roadways appear to cut through the Dike 10B drainage ditch and into Dike 10B berms. This area is currently under USACE control, and agreements would need to be established to allow. | To be discussed at May 9th Meeting. For the analysis in the EA, various alternatives for the roadway in the safety areas are being considered. The EA analysis includes leaving the perimeter access road where it is today. The EA is also considering removing the roadway in the safety areas with no replacement, and two options to relocate the roadway out of the safety areas. The two primary options to relocate approximately 3,480 feet of the vehicle service road (east portion) next to the confined disposal facilities (CDF) Dike 10B include: 1) Relocate the roadway into the current drainage ditch area along the south perimeter of CDF Dike 10B, or 2) Fortify and widen the existing USACE access route on top of the berm for CDF Dike 10B although at this point it has yet to be determined if that will reduce the capacity of CDF Dike 10B. |
| USACE 3.b.ii | Please provide details as measures that will be incorporated into the project to stabilize this roadway, provide positive drainage for the adjacent areas, ensure that integrity of the sewer lines is not compromised, ensure that the integrity of the Dike 10B berms is not compromised, and ensure that material contained within the CDF is not released. | To be discussed at May 9th Meeting. Once the exact locations of the roadways are determined the details requested will be provided. |
| USACE 3.b.iii | Please provide a cross sectional detail showing dimensions and materials proposed for the roadway construction. | The cross sectional detail showing dimensions and materials proposed for the roadway construction will be provided to the USACE once a decision is made on the final location of the roadways. However, a typical cross section will be provided at the May 9 th meeting. |

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| USACE 3.b.iv | How will this roadway connect to existing roadways to east? It appears that roadways to the west will be eliminated and there will be no access. This could impact the ability of USACE to access areas of the CDF for O&M purposes. | While the exact locations of the options for the relocated roadways have not yet been determined, the Proposed Action is expected to retain roadway access to the CDFs for operation and maintenance purposes. The existing roadway to the east is proposed to be relocated and will connect with the existing roadway near CDF 12. This will maintain access to the CDFs for the USACE. In addition, two options in the EA include the relocation of the vehicle service road next to the CDF 10B to maintain access to CDF 10B. |
| USACE 3.c.i | Please provide details as to the nature of this fill and how it will be protected from wind and wave action. The effect of this fill on navigation will need to be addressed, including the impact on the ability of vessels such as the USCG Neah Bay to maneuver in this area. | It has yet to be determined if the Proposed Action includes the placement of fill into Lake Erie. If the FAA determines it is necessary to place fill into Lake Erie, a design study will be conducted to determine how the fill will be protected and to determine potential impacts of the fill including impacts to navigation. |
| USACE 3.d.i | Please provide details as to the proposed disposition of material removed from the roadway, and measures that will be taken to reclaim and stabilize the former roadway areas. | The disposition of material removed from the roadway will be disclosed in the Draft EA. It is anticipated that any roadway material removed from the site would be taken to an appropriate landfill or concrete recycling center. All construction would be conducted pursuant to guidelines included in FAA, <i>Standards for Specifying Construction of Airports</i> . |
| USACE 3.e.i | Please advise as to whether changes to the Object Free Area are proposed. This is a concern to USACE since it could impact our ability to put equipment into or perform maintenance on CDF 10B. | The Object Free Area (OFA) is not expected to change south of CDF 10B. On the eastern end of the runway by Runway End 24R, the OFA will be shifted approximately 600 feet to the east. This would put the eastern existing roadway within the OFA. Therefore, the majority of the current roadway is proposed to be relocated out of the OFA. However there will be one section of roadway that cannot be relocated out of the OFA due to the location of Lake Erie. It is anticipated that the FAA will grant a modification to standards for use of the section of roadway within the OFA. Therefore there would be no anticipated change in how the USACE uses the roadway. |

| | | |
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| USACE 4.a | Regarding the elevations provided on Exhibit 1; does MSL refer to the North American Vertical Datum of 1988 (NAVD 88)? Please identify the specific vertical datum used. | MSL does refer to the North American Vertical Datum of 1988 (NAVD 88). Elevations will also be provided in the International Great Lakes Datum of 1985 (IGLD 85) as the vertical datum. |
| USACE 4.b | How will the runway changes affect the sloped transitional surfaces off the runway sides and ends? Please provide drawings showing the current transitional surfaces and the new transitional surfaces. | The transitional surfaces would remain the same in size and dimension but would be extended east due to the runway shift and extension. The proposed new transitional surfaces are not expected to change any operation or maintenance activities of the USACE. The existing and proposed new transitional surfaces can be provided to USACE when the update to the Airport Layout Plan is approved by the FAA. |
| USACE 4.c | What is involved in the planned relocation of FAA navigational aids? Please provide information about which navigational aids are being moved and where they will be moved to. | <p>As part of the Proposed Action, several FAA navigational aids will be relocated. On the west end of the runway by Runway end 6L, the existing VASI equipment will be replaced with PAPI equipment. The change will not alter operation or maintenance activities of the USACE.</p> <p>On the east end of the Airport by Runway end 24R, the existing approach lights will need to be replaced by in pavement lights at the runway 24 proposed displaced threshold and at the area or in-pavement, if preferred, off the extended runway. The horizontal locations of the light stations would remain but the vertical location of the lights would have to be adjusted to meet the new light plane and/or FAR Part 77 surface. However these changes by Runway end 24R will not alter operation or maintenance activities of the USACE.</p> <p>In order to maintain safety areas the ASOS will have to be relocated as part of the Proposed Action. The FAA will require a siting study be conducted to determine the best location for the ASOS but it is expected that the ASOS will be relocated to an area that will not alter operation or maintenance activities of the USACE.</p> |

| | | |
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| USACE 4.d | Will the ILS be relocated or altered? If so, please identify any proposed changes to the ILS. | The Proposed Action is not expected to alter or involve relocation of the Instrument Landing System. The ILS localizer and glide slope equipment will remain in its current location. |
| USACE 5.a | The Corps of Engineers is currently working on developing a plan to optimize capacities through mounding dredged sediment at CDFs 10B, 9 and 12. Close coordination with FAA will take place if this plan is selected as the preferred plan. | To be discussed at May 9th Meeting. There will be on-going coordination with USACE to determine any cumulative impacts of the USACE's plan to optimize capacities through mounding dredged sediment at CDFs 10B, 9 and 12 on the Proposed Action. |
| USACE 6.a | CDF 12 has been turned over to the City of Cleveland. USACE is currently using this facility under a Right of Entry agreement. | Comment Noted. |
| USACE 6.b | USACE approval or disapproval of proposals affecting CDF 12 would come through the procedures and approvals that are outlined in the O&M manual that was provided to the City of Cleveland when the CDF was turned over to them for O&M. | At this time the Proposed Action would not impact CDF 12. We do not anticipate any changes to CDF 12. |
| USACE 6.c | CDF 10B: If the proposed roadway changes impact our ability to access areas of the facility that we need for continuing O&M work, then the City will be required to provide USACE with another route which we can use. | To be discussed at May 9th Meeting. While the exact locations of the options for the relocated roadways have not yet been determined, the Proposed Action is expected to retain roadway access to the CDFs for operation and maintenance purposes. |
| USACE 6.d | If agreement can be reached between the airport and USACE as to appropriate uses, measures, and safeguards, a partial turnover agreement could potentially be drawn up to return areas of CDF 10B that are no longer being used back to the City of Cleveland. Such an agreement would likely require Division approval. | Comment Noted. |
| USACE 6.e | The individual responsible for Buffalo District Real Estate was absent from the office during the short response time requested for comments. We are therefore not able to provide a copy of the current real estate boundaries for CDF 10B and CDF 12 with this letter. We will forward a copy of these boundaries to you upon their return to the District. | To be discussed at May 9th Meeting. The DPC and the FAA would like to discuss the current real estate boundaries for CDF 10B and CDF 12 at the May 9 th meeting and as such request that a representative from the Real Estate section be present. |

WETLANDS

- ❑ Field investigation has been performed to determine if any wetlands are within the areas of potential disturbance
- ❑ Potential wetlands were identified on the project site
- ❑ Need to discuss incorporating wetland impacts into the EA



ROADWAY ALTERNATIVES

❑ 3 Distinct Roadway Areas

- ✓ Area 1: Near Runway end 24R adjacent to CDF 12
- ✓ Area 2: South edge of CDF 10B, north of Runway 6L/24R
- ✓ Area 3: West of CDF 10B, north of Runway 6L/24R

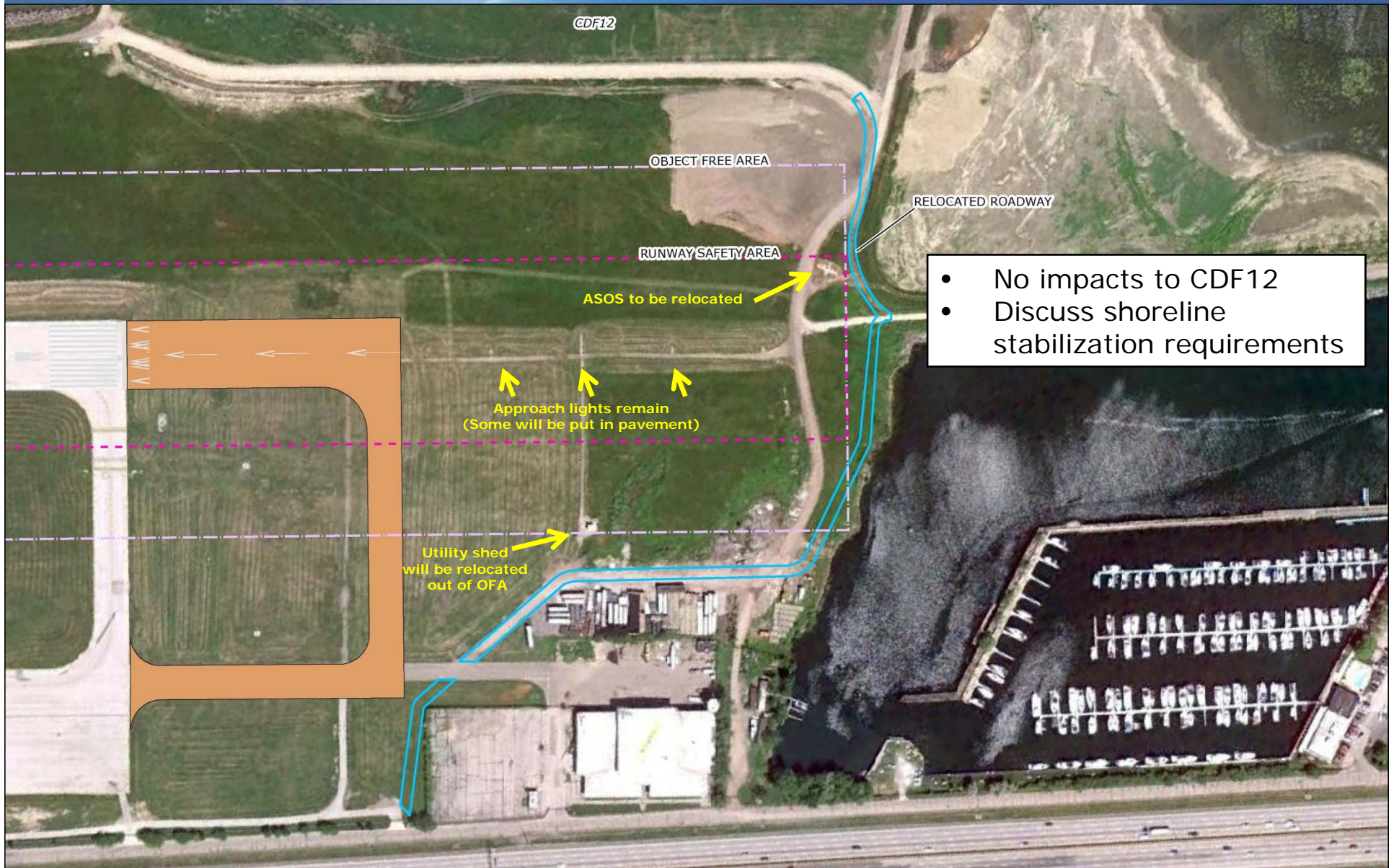
❑ EA will evaluate the following for each area

- ✓ Alternative 1: No Action (leaving the roadways where they are today)
 - This may not be feasible in some areas due to FAA safety requirements
- ✓ Alternative 2: Remove roadways with no replacement
 - This is not reasonable because it leaves USACE, USDA Wildlife Services, and City without necessary access

❑ EA will also evaluate various relocation alternatives for each area

ROADWAY RELOCATION ALTERNATIVES

AREA 1: RUNWAY END 24R



ROADWAY RELOCATION ALTERNATIVES

AREA 2: SOUTH OF CDF 10B

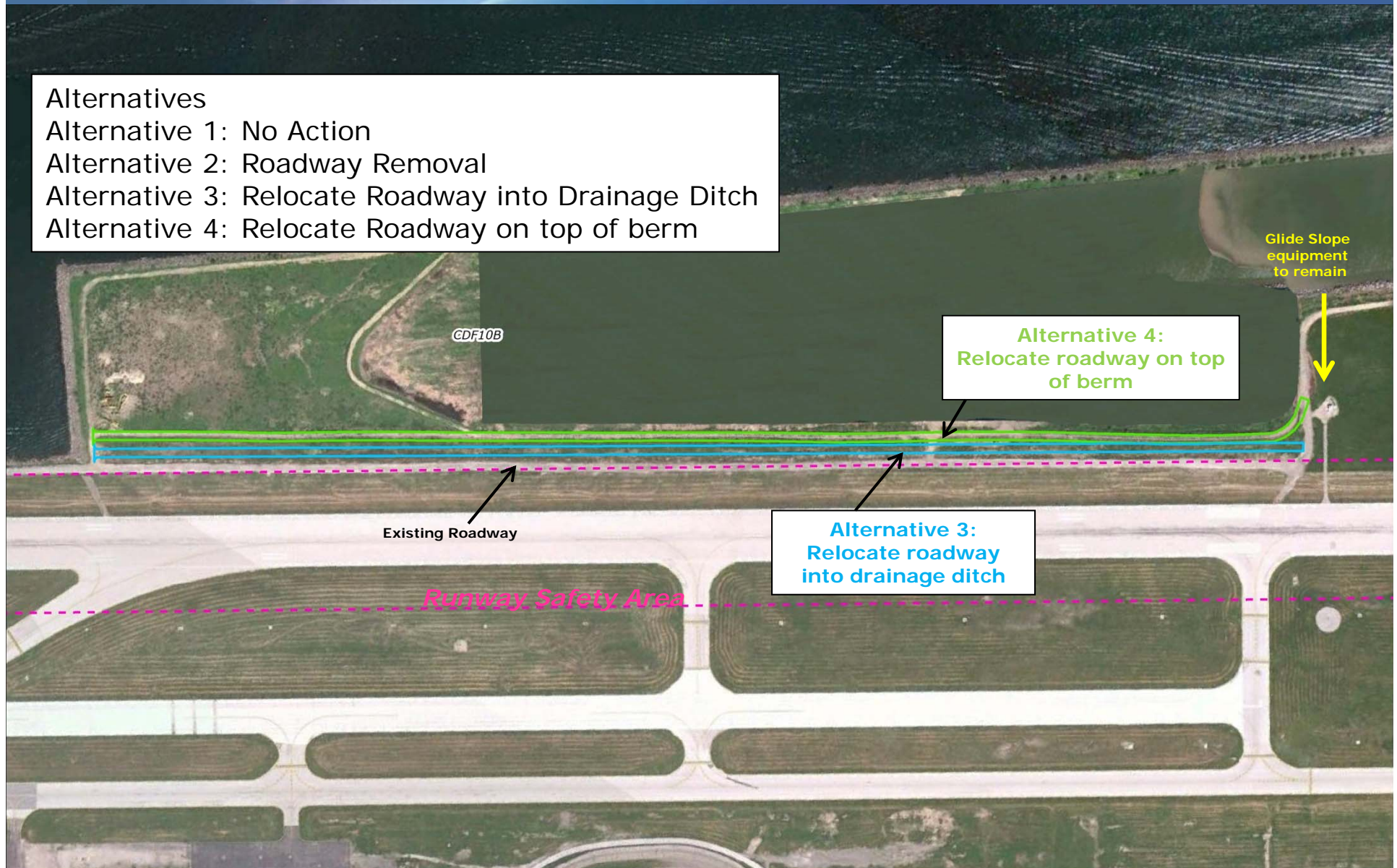
Alternatives

Alternative 1: No Action

Alternative 2: Roadway Removal

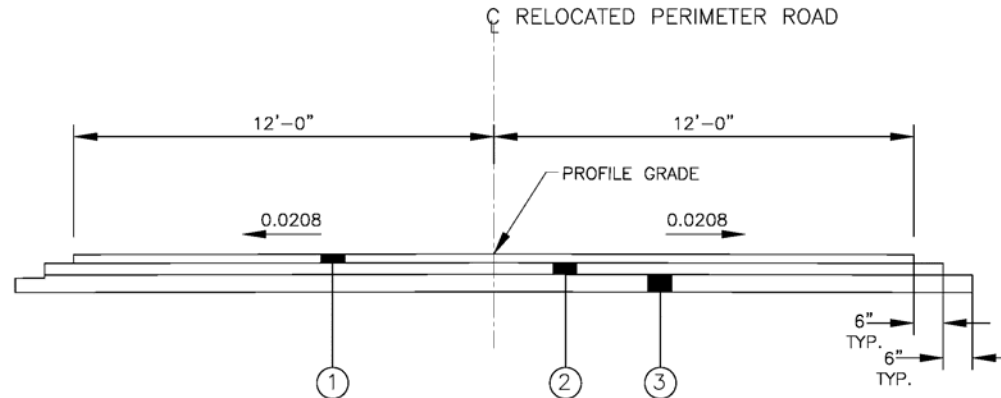
Alternative 3: Relocate Roadway into Drainage Ditch

Alternative 4: Relocate Roadway on top of berm



CROSS SECTION OF TYPICAL ROADWAY

Cross section for asphalt roadway provided for most conservative approach. Final roadway may be gravel.



TYPICAL SECTION - PERIMETER ROAD

LEGEND

- ① 2" ASPHALT CONCRETE SURFACE COURSE (P-403)
- ② 4" ASPHALT CONCRETE INTERMEDIATE COURSE (P-403)
- ③ 8" CRUSHED AGGREGATE BASE COURSE (P-209)

LAKE ERIE FILL BEING CONSIDERED



SCHEDULE AND NEXT STEPS

- ❑ EA analysis to determine impacts (Includes field investigations where necessary) – Now thru June 2012
- ❑ Publish Draft EA - June 2012
- ❑ Agency Comments needed on Draft – June/July 2012
- ❑ Public Workshop/Public Hearing – Middle of July 2012
- ❑ Publish Final EA- August 2012
- ❑ Anticipated Federal Finding – End of August 2012
- ❑ Design/Bid/ Permitting process - 2013
- ❑ Construction- May 2013 thru Fall 2014

USACE TIME REQUIREMENTS

- ❑ **USACE Review of Materials**
- ❑ **Incorporating Information into the Environmental Assessment**
- ❑ **Permitting Timeframes**
 - **Permit for placement of fill, or excavation, or placement of structures below the ordinary high water**
 - **Section 404 Permit**

CONTACT INFORMATION

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**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

**U.S. ARMY CORPS OF ENGINEERS
BUFFALO DISTRICT**

May 9, 2012

MEETING SUMMARY

Josh Feldmann, USACE opened the meeting by welcoming everyone and introducing staff from the USACE. Stephanie Swann, FAA, thanked everyone for their participation. Everyone then introduced themselves, the agencies/firms they represent and their role in the project. See attached sign-in sheet for list of attendees. (Vito Melilli and Matt Snyder USACE participated by phone.)

Rob Adams, L&B, reviewed the agenda and began the power point presentation. The following is a summary of issues discussed during the presentation.

The BKL Team asked about timing for a wetland jurisdictional determination from the USACE. The USACE suggested submitting the delineation as soon as possible. Determinations typically take 60-90 days. USACE will probably schedule a site visit to Burke Lakefront Airport after delineation is submitted.

USACE can adopt FAA environmental decision document for permitting actions, as long as the USFWS, SHPO, and NEPA laws are met. Coordination should be included as part of the EA document.

The "ditch" adjacent to CDF 10B is part of an active USACE CDF operation (operational feature) and thus is not regulated.

Discussion on turnover of the property, timing, responsibilities

- A partial turnover was discussed – this would need to include 2-3 months for USACE HQ approval. Would need Memorandum of Agreement for the following items to be resolved – Who would be responsible for O&M of the road, what type of modification is required between the USACE and City regarding the right of entry.
- USACE currently uses western entrance when there is snow or when other gate is closed. If west road closed then eastern portion would need to be maintained/plowed
- USACE would want assurance that Eastern portion is always available

BURKE LAKEFRONT AIRPORT ENVIRONMENTAL ASSESSMENT AGENCY MEETING

U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT

May 9, 2012

MEETING SUMMARY

Placement of fill, or excavation or placement of structures below the ordinary high water mark

- Could be Nationwide 39 permit -60 days from complete application

Potential impacts to Wetlands and Waters of the U.S.

- If potential mitigation is needed for impacts to wetlands, a wetland bank within the same watershed would be acceptable.

Relocation of road to the CDF berm

- The berm is not structurally stable to support regular vehicle traffic, it is about 10 feet wide and stabilizes yearly (losing 3/10 to 7/10 of a foot a year)
- Berm is constructed out of dredged sediment
- Placing a road on the berm makes the boundaries (height) of the berm fixed. Does not meet the purpose and need of the USACE's mission
- Most recent road built by USACE was to CDF 9 – road constructed with about 16,000 vehicle trips/year

Relocation of road to the storm water drainage feature between BKL and CDF

- Element is part of an active CDF
- OEPA does not have jurisdiction over the element
- When the USACE turns the property over to the City, the City will be responsible for any environmental features that are established
- The storm water drainage feature is not a part of the jurisdictional determination, it is on USACE property
- Need to account for storm water function. Currently, it is in filtration. Change to roadway may require SPDES for new storm water discharge
- On the power point slide with label for CDF 12 should be changed to CDF 9

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

**U.S. ARMY CORPS OF ENGINEERS
BUFFALO DISTRICT**

May 9, 2012

MEETING SUMMARY

Potential Future USACE projects/Cumulative Impacts in the EA

- USACE discussed their potential future plans for CDFs. They are looking at different ways of increasing capacity of the CDFs.
- Options to increase capacity also include ways to reduce wildlife attractants
- Mechanical movement (trucks, bulldozers, cranes) removes water volume
- One of the options would increase the height of the CDFs berm
- Need FAA review of airspace issues to give constraints
- BKL Team to send transitional surfaces and approaches to USACE for use in their capacity alternatives analysis
- Environmental for this --- EA potentially in October 2012

Other items discussed

- USACE requested a comparative exhibit that showed current RSA/OFA and the future proposed RSA/OFA.
- USACE will require a legal agreement to continue access to the CDF via the relocated road
- It is anticipated the road will be constructed while the area is owned by the USACE with a turnover to happen at a later date (Details to be worked out with real estate persons within the USACE, FAA, and City)
- USACE will require reliable access from the east side (Marginal Road and Aviation High School) of the airport to access the CDF (one suggestion was installation of a card reader at the gate)
- Construction of any road will require a look at storm water requirements and drainage to maintain the drainage elements of the existing ditch. May need to look at an infiltration ledge, ability to tie the road drainage into the existing CSO's
- Prior to the USACE starting the CDF operation, the City was required to obtain all appropriate approvals, including the required submerged land lease from the ODNR to the limits of the final CDF
- It is anticipated that the FAA will not place fill in Lake Erie (reference the small triangle on the Runway 6L end)

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

**U.S. ARMY CORPS OF ENGINEERS
BUFFALO DISTRICT**

May 9, 2012

MEETING SUMMARY

- USACE provided the FAA and City with the USACE real estate contact information

USACE Primary Point of Contact
Vic Kotwicki
Real Estate Contracting Officer
Detroit, Buffalo, and Chicago Districts
313-226-3480
Victor.I.kotwicki@usace.army.mil

USACE Secondary Point of Contact
Robert Jameson
Real Estate Specialist
Detroit, Buffalo, and Chicago Districts
313-226-2767
robert.jameson@usace.army.mil

Road Decision at conclusion of meeting – The preferred option of the USACE is to have the perimeter road be relocated towards the existing storm water drainage ditch. Final engineering dimensions need to be completed. The USACE will provide the largest vehicle to use the road to the City for design purposes; the City will compare it to the ARFF vehicle and the road will be constructed to the appropriate strength. FAA will contact USACE real estate to begin next steps for partial turnover option.

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

OHIO DEPARTMENT OF NATURAL RESOURCES

June 21, 2012

AGENDA

- I. Background
- II. Purpose and Need
- III. Proposed Action
- IV. Schedule and Next Steps in the EA Process
- V. Airfield Tour

* * * * *

AIRPORT CONTACT: Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181
Email: msingh@clevelandairport.com

FAA CONTACT: Ms. Katherine S. Delaney
Federal Aviation Administration
Detroit Airports District Office
11677 South Wayne Road, Suite 107
Romulus, Michigan 48174
Email: Katherine.s.delaney@faa.gov

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Burke Lakefront Airport Environmental Assessment

*Ohio Department of Natural
Resources
Agency Coordination Meeting*

June 21, 2012

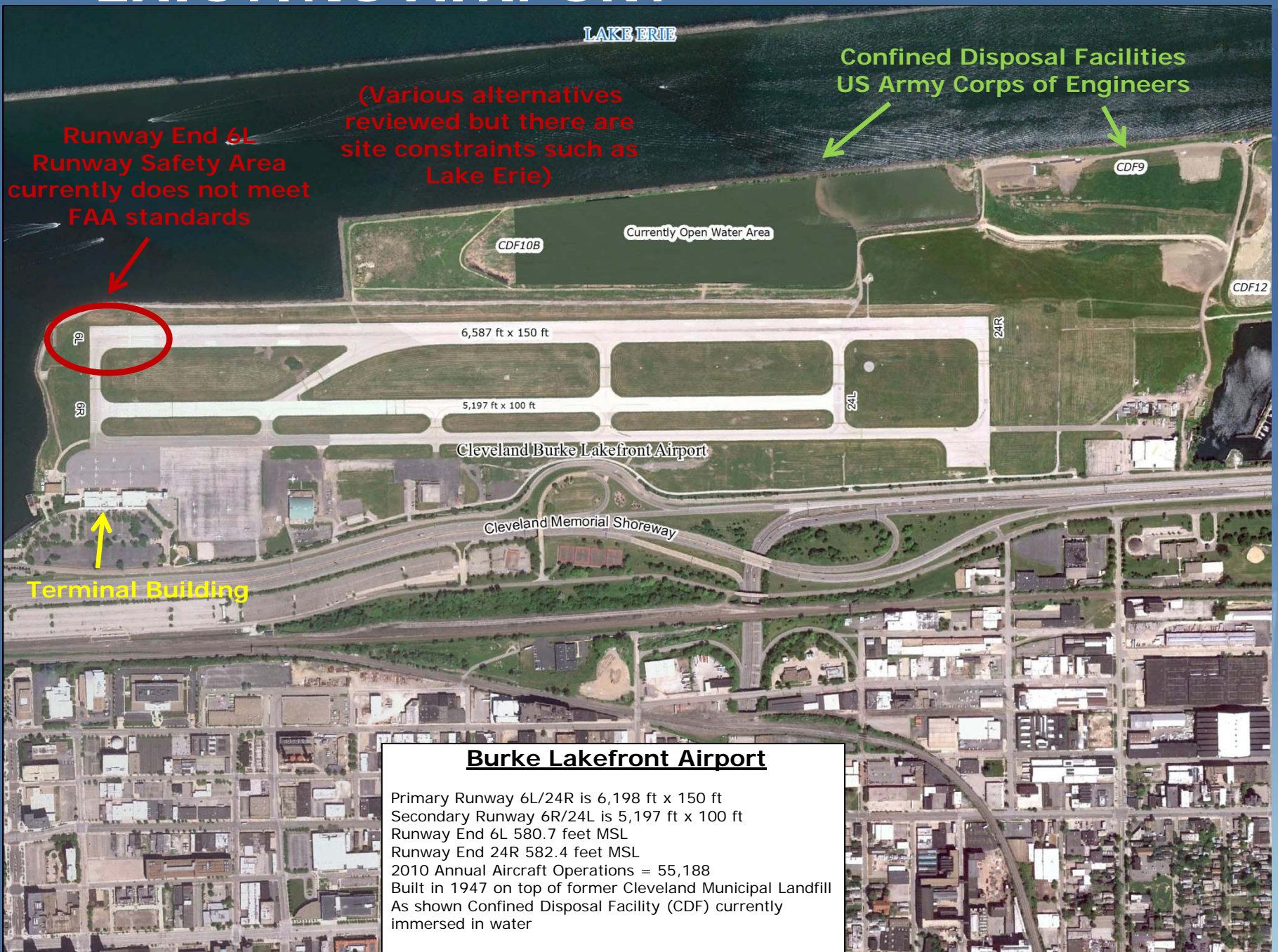
*City of Cleveland
Department of Port Control (DPC)
And the
Federal Aviation Administration*



BACKGROUND

- ❑ **Burke Lakefront Airport (BKL) owned and operated by the City of Cleveland Department of Port Control**
- ❑ **BKL has two parallel runways**
 - **Primary Runway 6L/24R (6,198 ft x 150 ft)**
 - **Secondary Runway 6R/24L (5,197 ft x 100 ft)**
- ❑ **Designated as a General Aviation (GA) reliever airport helping to divert activity from larger scheduled service airports**
- ❑ **Provides important services to the local community**
(Various corporate activity, emergency medical transport, flight training facilities, Labor Day Air show)
- ❑ **Runway End 6L currently does not meet FAA Runway Safety Area design standards**

EXISTING AIRPORT



PURPOSE AND NEED

❑ Need for Project:

The Burke Lakefront Airport Runway 6L/24R does not meet current FAA airport design standards for runway safety areas.

❑ Purpose of Project:

To enhance and improve the RSA to the extent practicable while maintaining the following airside requirements:

- Maintain existing runway length and IFR approach to Runway 24R
- Maintain perimeter road access to the north side of the airfield for operations, wildlife management and mitigation, and USCAE maintenance operations
- Maintain or improve (through moments of opportunity) the existing airfield conditions for the runway to include: relocation of affected NAVAIDs (including REILs 6L, AWOS, replacement of 6L VASI with PAPI, and the addition of in-ground runway lights in the extension, and limit the number of modification to design standards required at this site to achieve compliant RSA's and other airport design standards.

ALTERNATIVES

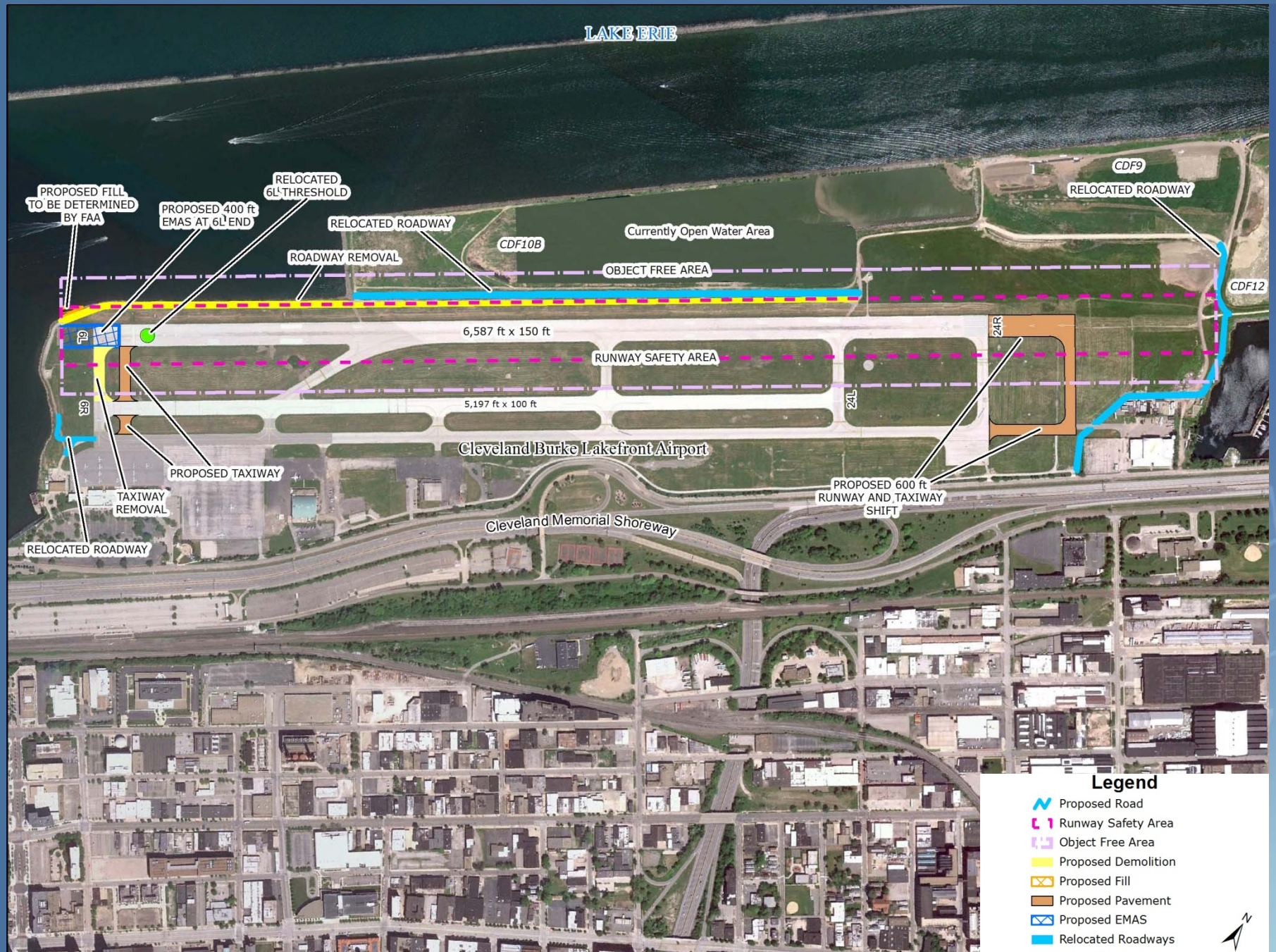
RUNWAY ALTERNATIVES

- ❑ A range of runway alternatives were studied to mitigate the deficiencies in the safety areas
- ❑ Alternatives were not carried forward for detailed environmental analysis in this EA if they did not:
 - Result in a standard RSA;
 - Resulted in extraordinary environmental and/or economic impact;
 - Resulted in a shorter length of runway available for takeoffs and/or aborted takeoffs; or,
 - Was not able to maintain current runway capability.

ROADWAY ALTERNATIVES

- ❑ Multiple options for portions of the roadways impacted are being examined.

PROPOSED ACTION



PROPOSED ACTION

Comply with FAA Requirements for Runway Safety Areas

- ❑ Construction of a 400-foot Engineered Materials Arrestor System (EMAS) bed on Runway End 6L
- ❑ Displace landing threshold of Runway 6L by approximately 165 feet to the east

Maintain existing runway length

- ❑ An approximate 600-foot eastern shift of Runway End 24R

PROPOSED ACTION

Supporting Elements

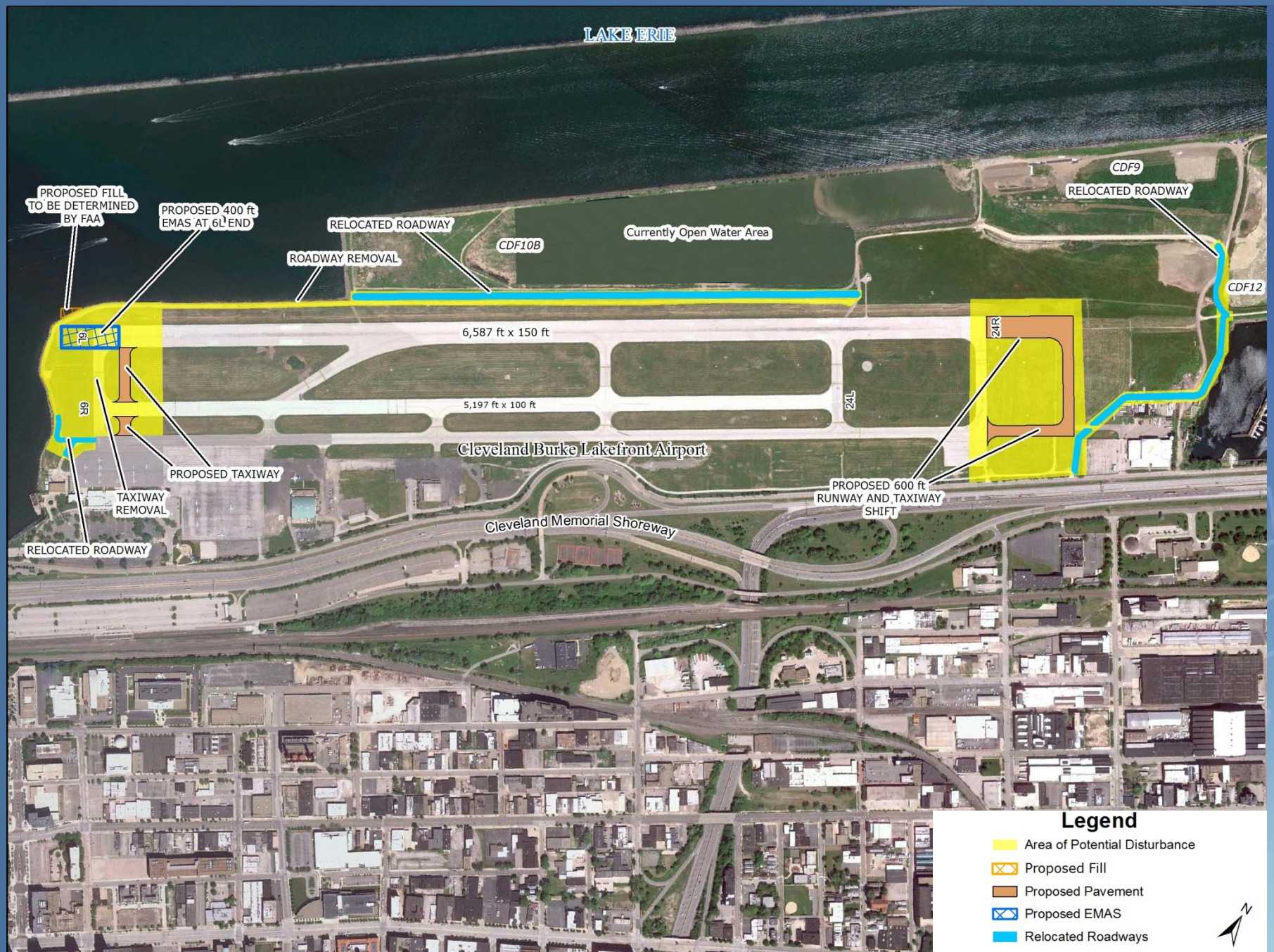
- ☐ Construction/shift of taxiways
- ☐ Relocation of existing FAA navigational aids
- ☐ New runway marking/stripping

PROPOSED ACTION

Supporting Elements also includes:

- ❑ **Roadway modifications**
 - ✓ Relocation/extension of the perimeter/vehicle service road on the northeast side of the Airport (north of Runway End 24R) near CDF 12;
 - ✓ Relocation of the vehicle service road north of the runway and next to CDF 10B; and
 - ✓ Relocation of the ARFF Road/vehicle service road on the southwest end of the Airport (east of Runway End 6R).

AREAS OF POTENTIAL DISTURBANCE



ROADWAY ALTERNATIVES

❑ 3 Distinct Roadway Areas

- ✓ Area 1: Near Runway end 24R adjacent to CDF 12
- ✓ Area 2: South edge of CDF 10B, north of Runway 6L/24R
- ✓ Area 3: West of CDF 10B, north of Runway 6L/24R

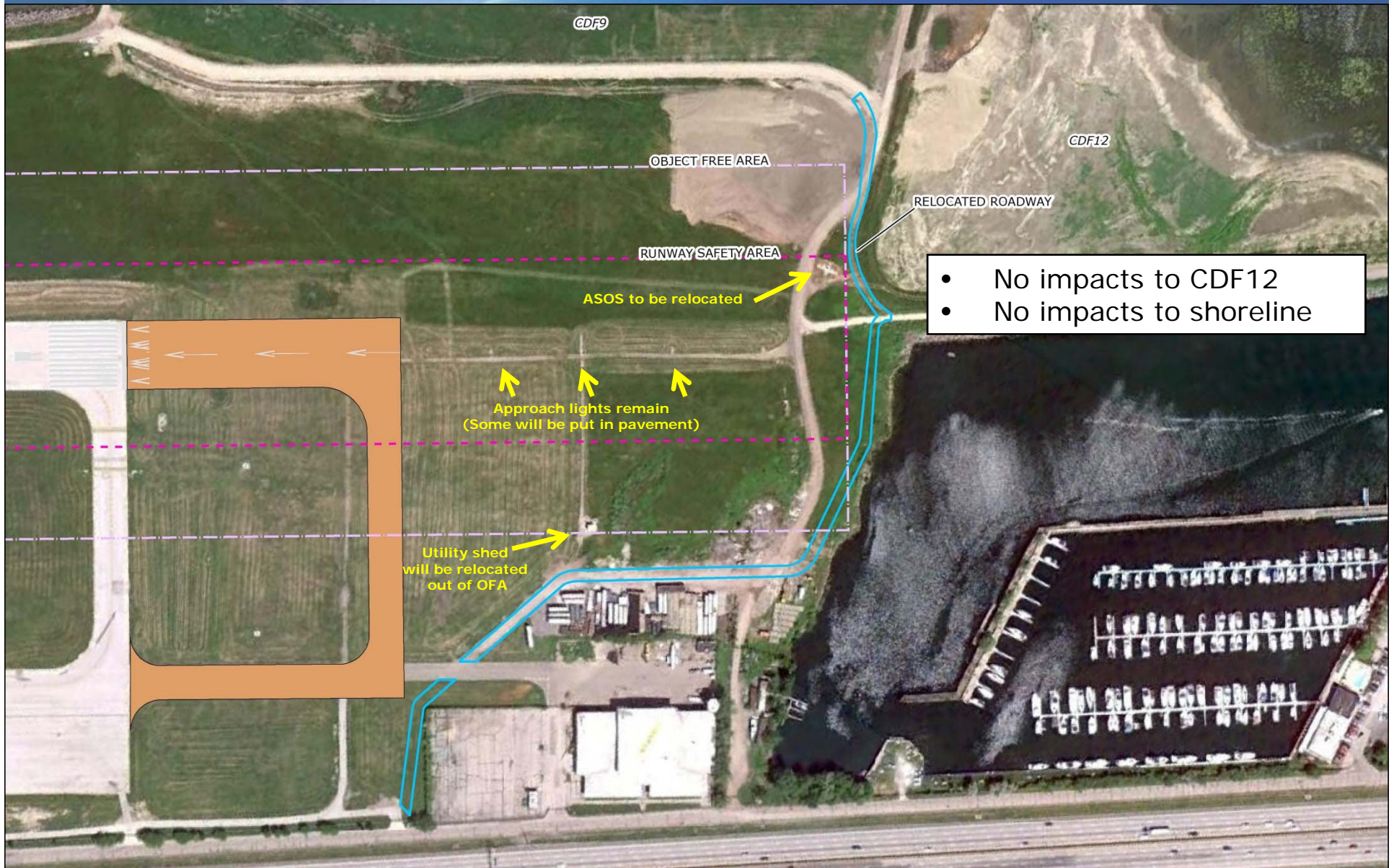
❑ EA will evaluate the following for each area

- ✓ Alternative 1: No Action (leaving the roadways where they are today)
 - This may not be feasible in some areas due to FAA safety requirements
- ✓ Alternative 2: Remove roadways with no replacement
 - This is not reasonable because it leaves USACE, USDA Wildlife Services, and City without necessary access

❑ EA will also evaluate various relocation alternatives for each area

ROADWAY RELOCATION ALTERNATIVES

AREA 1: RUNWAY END 24R



ROADWAY RELOCATION ALTERNATIVES

AREA 2: SOUTH OF CDF 10B

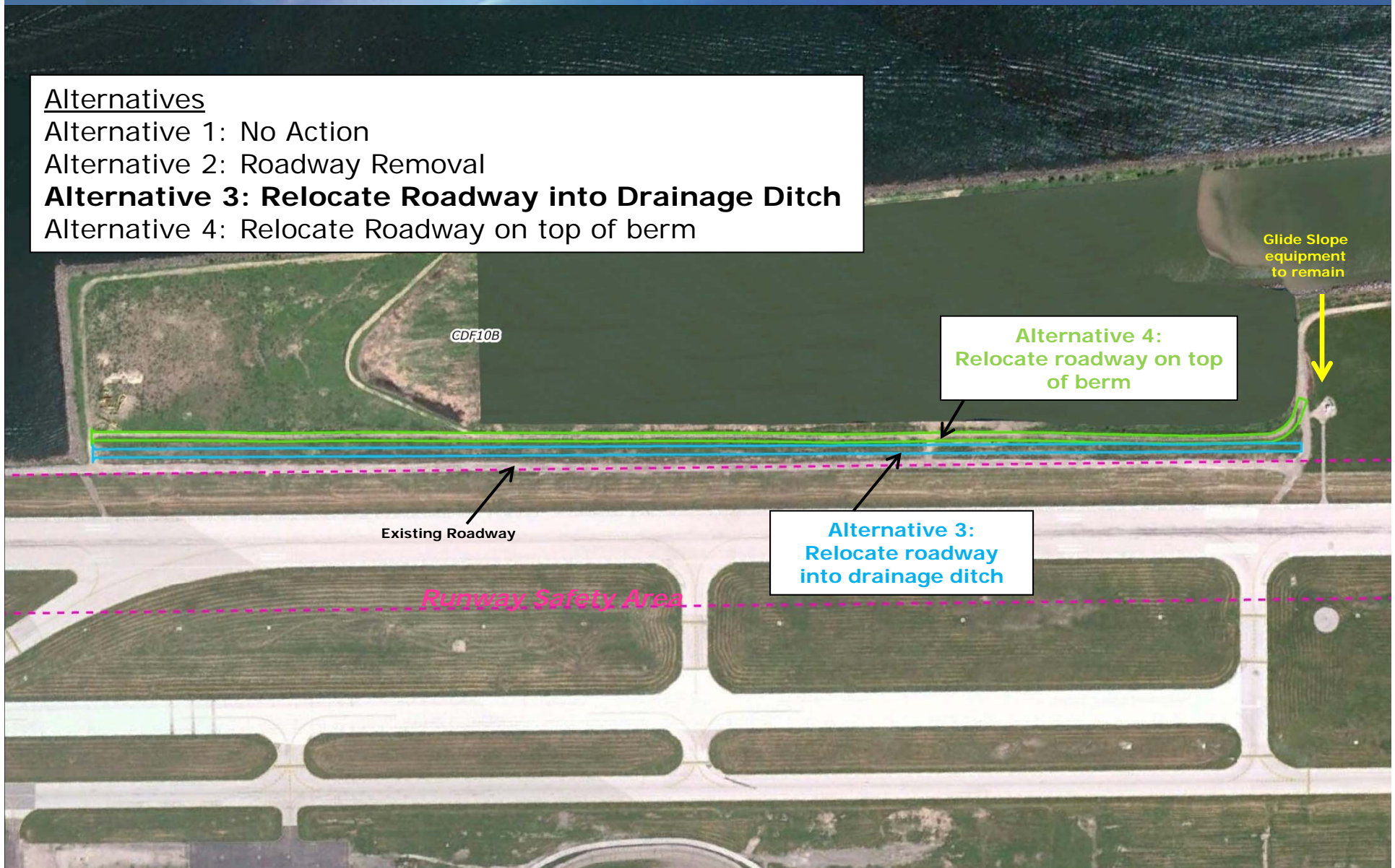
Alternatives

Alternative 1: No Action

Alternative 2: Roadway Removal

Alternative 3: Relocate Roadway into Drainage Ditch

Alternative 4: Relocate Roadway on top of berm



REVIEW OF ODNR COMMENTS AND RESPONSES



Species of Concern

☐ **ODNR Identified the Following Species of Concerns:**

- ✓ **Indiana bat**
- ✓ **piping plover**
- ✓ **bald eagle**
- ✓ **Canada darner**
- ✓ **black bear**
- ✓ **Bobcat**
- ✓ **king rail**
- ✓ **yellow-bellied sapsucker**
- ✓ **Upland Sandpiper**

☐ **None of these species are known to occur at BKL**

☐ **EA will report findings of field surveys**

LAKE ERIE FILL BEING CONSIDERED

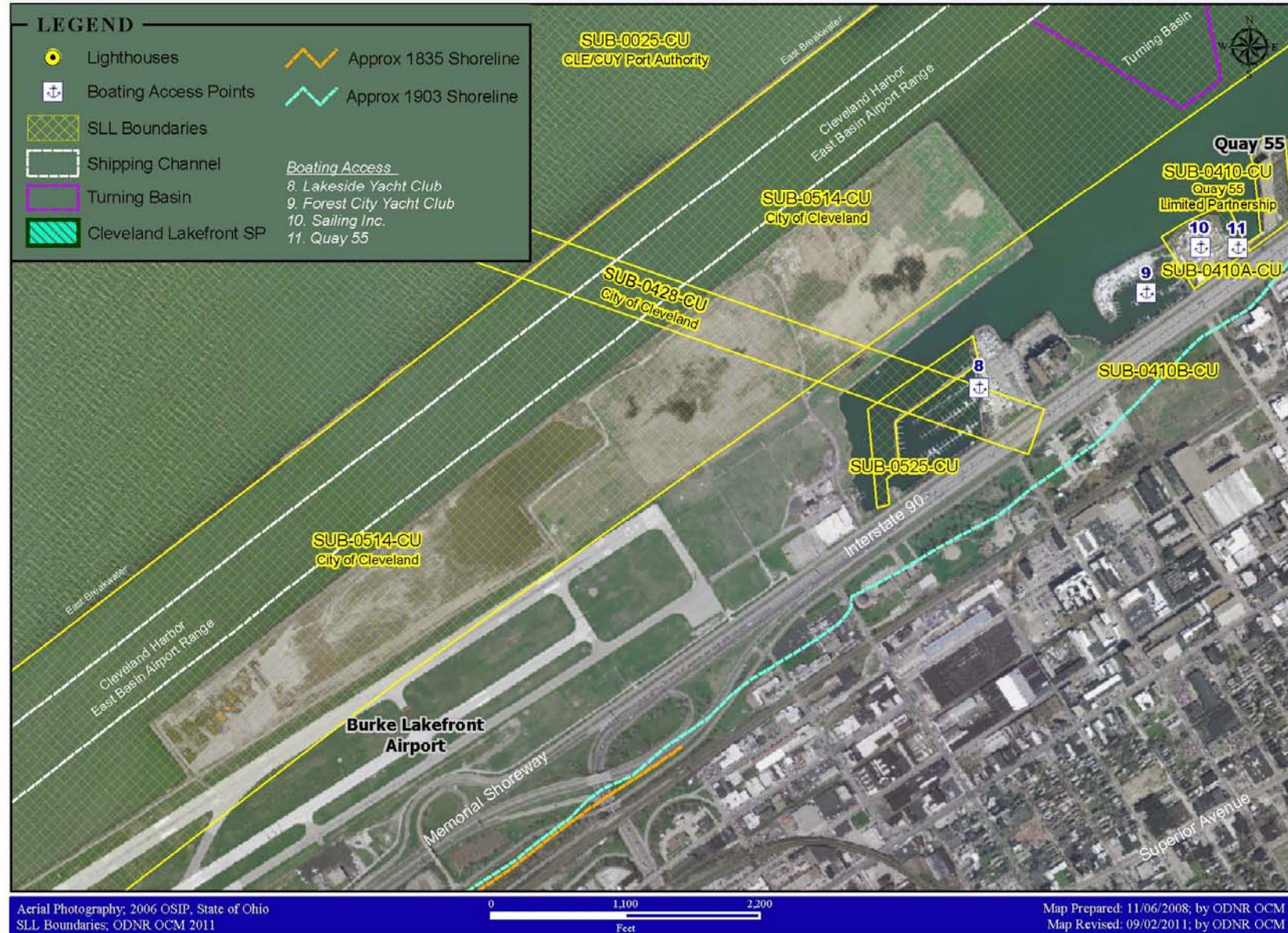


PROPOSED ACTION

- ☐ **EMAS**
- ☐ **Construction Phasing**
- ☐ **Required Permits**
- ☐ **Boundaries and Surveys**

SUBMERGED LAND LEASE

CLEVELAND HARBOR - BURKE LAKEFRONT INSET



SUBMERGED LAND LEASE

CLEVELAND HARBOR - NORTH COAST HARBOR INSET



Burke Lakefront Airport (BKL) Environmental Assessment

AIRFIELD TOUR



Agency Coordination Meeting



SCHEDULE AND NEXT STEPS

- ❑ EA analysis to determine impacts (Includes field investigations where necessary) – Now thru July 2012
- ❑ Publish Draft EA – July 2012
- ❑ Agency Comments needed on Draft – July/August 2012
- ❑ Public Workshop/Public Hearing – August 2012
- ❑ Publish Final EA- End of August 2012
- ❑ Anticipated Federal Finding – End of August 2012
- ❑ Design/Bid/ Permitting process - 2013
- ❑ Construction- May 2013 thru Fall 2014

CONTACT INFORMATION

AIRPORT CONTACT:

Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181
Email: msingh@clevelandairport.com

FAA CONTACT:

Ms. Katherine S. Delaney
Federal Aviation Administration
Detroit Airports District Office
11677 South Wayne Road,
Suite 107
Romulus, Michigan 48174
Email: Katherine.s.delaney@faa.gov

BURKE LAKEFRONT AIRPORT ENVIRONMENTAL ASSESSMENT AGENCY MEETING

OHIO DEPARTMENT OF NATURAL RESOURCES

June 21, 2012

MEETING SUMMARY

The meeting began and everyone introduced themselves, the agencies/firms they represent and their role in the project. See attached sign-in sheet for list of attendees. Patrick Ernst represented ODNR, however, John Kesler would now be the contact for the EA for ODNR. Rob Adams, L&B, began the power point presentation. The following is a summary of issues discussed during the presentation.

Submerged Land Leases (SLL)

- Improvements on land covered by an SLL need approval prior to construction.
- Pre-Application should be submitted to ODNR:
 - Conceptual in nature
 - EA will likely have the information needed (exhibits and narrative discussion of Proposed Action)
 - ODNR will review/comment within 30 days
- Application is required:
 - 90% design needed.
 - ODNR typically responds within 90 days (not statutory)
- Maintenance and Safety Improvements are considered separately and do not require water dependency and discussion.
- Discussion about bringing entire Airport under the SLL. This will be looked at separately from the EA.

Fill in Triangle

- If part of project, would require SLL review and shore structure permit.
- Not water dependent if for safety. Need justification to demonstrate this.

**BURKE LAKEFRONT AIRPORT
ENVIRONMENTAL ASSESSMENT
AGENCY MEETING**

OHIO DEPARTMENT OF NATURAL RESOURCES

June 21, 2012

MEETING SUMMARY

In Water Work (Other Requirements)

- Shore structure permit per ORC 1506.40 required for in water (North and triangle area)
- Coastal design manual (on ODNR website) to see design standards
- EA must address Federal Coastal Zone requirements
- 90% design should tell them if they need to stabilize the shore.

BKL MEETING WITH ODNR

6-21-12

| NAME | EMAIL | PHONE |
|-----------------------|---------------------------------|----------------|
| Rob Adams (LEB) | Radams@Landrum-Kohn.com | 513 530 1201 |
| PATRICK ERNST (ODNR) | PATRICK.ERNST@DNR.STATE.OH.US | 419.626.7980 |
| LINDSAY GUTILLA (FAA) | lindsay.gutilla@faa.gov | 847294.7723 |
| Katy Delaney | Katherine.S.Delaney@faa.gov | (734) 299-9558 |
| Meenakshi Singh. | msingh@clevelandair.com | 216-265-2722 |
| Jack Arnold | jarold@ " " | 216 898 5232 |
| K. Bohrer | | 216-781-6411 |
| GEN CANACIO | RCANACIO@ " " | (216) 265-6493 |
| Gerald Babroski | g.babroski@clevelandairport.com | (216) 898-5215 |
| Hugh L Holley | hholley@clevelandairport.com | 216 265 6898 |
| PA SINGLETON | psingleton@clevelandairport.com | 216 265 6121 |
| Traci Clark | TCCLARK@Clevelandairport.com | 216-265-6048 |
| Michael Ibois | mibois@clevelandairport.com | (216) 898-5228 |

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SCOPING COMMENTS AND RESPONSES

The City of Cleveland Department of Port Control (DPC), in cooperation with the Federal Aviation Administration (FAA), completed a number of scoping activities to determine the range of issues to be analyzed, and to what magnitude they were to be treated in this Environmental Assessment (EA).

In an effort to identify potential issues associated with the Proposed Action, a coordination letter was mailed to key agencies responsible for resource protection and public policy. The letter requested responses from Federal, State, and local agencies which might have information pertaining to natural and human resources and their locations within the study area.

The following are the summarized comments and the responses.

| | | |
|----------------|--|---|
| USEPA 1 | The proposed project will require a permit under Section 404 of the Clean Water Act, for fill placement into waters of the United States. (Lake Erie) | It has yet to be determined if the Proposed Action included the placement of fill into Lake Erie. If placement of fill into Lake Erie is necessary, the DPC will submit a request for the Section 404 Permit. |
| USEPA 2 | Consultation Records - Environmental Protection Agency (EPA) recommends attaching consultation documents regarding historic resources (Ohio Historic Preservation Office), wetlands (U.S. Army Corp of Engineers), and endangered species (U.S. Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources) to the draft EA. | All coordination will be attached as part of the EA document. |
| USEPA 3 | Environmental Justice - EPA's Geographic Information System-based environmental justice tracking program, EJAssist, indicates that multiple communities located immediately southeast of Interstate 90/Ohio Highway 2 are communities living with environmental justice concerns. We suggest FAA analyze any potential impacts to these communities that may cause undue hardship. | Environmental Justice impacts due to the Proposed Action will be considered in accordance with Executive Order 12898. Chapter Five, <i>Environmental Consequences</i> of the Draft EA contains the evaluation of environmental justice impacts. |
| USEPA 4 | Stormwater Management- The proposed project will increase non-permeable surfaces. Any stormwater runoff should be drained away from Lake Erie. Additionally, we strongly encourage on or off-site use of bioretention. | Comment Noted. |

| | | |
|--|--|--|
| Cuyahoga Soil and Water Conservation District 1 | In addition to the construction activities approved in the 1993 Ohio EPA letter, the Proposed Action must also conform to City of Cleveland Ordinance Chapter 3116 <i>Construction and Post-Construction Site Storm Water Runoff Control</i> . | Comment Noted. |
| USDA APHIS Wildlife Services 1 | Wildlife Services is opposed to closure of the roadway located between Runway 6L/24R and the USACE Confined Disposal Facilities (CDF) 10B. It would be irresponsible to remove road access to a hazardous habitat (CDF 10B) adjacent to Burke Lakefront Airport (BKL). | At this time the Proposed Action includes the relocation of the vehicle service road located between Runway 6L/24R and the USACE CDF 10B. |
| USDA APHIS Wildlife Services 2 | Wildlife Services also recommends that wildlife repellency is taken into consideration with the Engineered Materials Arrestor System (EMAS) bed installation. An EMAS bed without some "built-in" wildlife repellency would be hazardous. | A bird repellent may be applied to keep the birds off the EMAS. Currently research and development is being done to improve EMAS bird repellents. |
| USDA APHIS Wildlife Services 3 | USFWS recommends that the roadway be relocated out of the Runway Safety Area (RSA) and remain operational. | At this time the Proposed Action includes the relocation out of the RSA of the vehicle service road located between Runway 6L/24R and the USACE CDF 10B. |
| USDA APHIS Wildlife Services 4 | Additionally, USFWS recommends that in relocating the roadway, the poorly drained ditch that is between the current roadway and southern berm of CDF 10B be filled and/or that proper drainage structures be installed to ensure that the ditch does not retain water. It would be a safety hazard to not remove the wet ditch within the RSA of Runway 6L/24R when roadway relocation could simultaneously preserve road access and remove the ditch. A consequence of failure to relocate the roadway and not remove the ditch would result in delayed response time to wildlife hazards, compromised ability to conduct wildlife hazard mitigation activities and possibly an increase in strikes at BKL. | The exact location of the relocated roadway has not yet been determined. Relocation of the roadway into the current storm water drainage area along the south perimeter of CDF Dike 10B is still being considered. |
| Ohio EPA 1 | Ohio EPA has no additional comments at this time. | Comment Noted. |

| | | |
|---|---|---|
| Ohio EPA 2 | DPC & FAA should continue coordination with all agencies | Comment Noted. |
| Ohio EPA 3 | Surface water issue is being explored by DPC | Comment Noted. |
| Ohio EPA 4 | Access road relocation, the options should be explored and required authorization followed | The exact location of the relocated roadway has not yet been determined. |
| Ohio EPA 5 | The proposed improvement and activities are covered under the 1993 blanket Rule 13 issued to DPC. | Comment Noted. See Chapter Five, <i>Environmental Consequences</i> for additional information concerning Rule 13. |
| Cleveland - Cuyahoga County Port Authority 1 | We expect that there will be shift from hydraulic (pumped) placement of material to mechanical placement in the CDFs over the next few years. This change in process will add significant capacity to the CDFs. Also, the shift to mechanical placement will eliminate the lagoons of standing water which the USACE uses to settle sediments. We believe elimination of these lagoon will increase safety at the airport by reducing the risk of exposure to migrating waterfowl which find the lagoons to be appealing rest stops. We see no problems with the planned safety zone and related runway relocation. If there were opportunities to jointly develop a shared access road we would be glad to discuss it. | Comment Noted. |
| Ohio Department of Natural Resources 1 | The project is within the range of the Indiana bat (<i>Myotis sodalis</i>), a state and federally endangered species. If suitable trees occur within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site | Comment Noted. |

| | | |
|---|--|----------------|
| | containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species. | |
| Ohio Department of Natural Resources 2 | The project is within the range of the piping plover (<i>Charadrius melodus</i>). The project is not likely to have an impact on these species | Comment Noted. |
| Ohio Department of Natural Resources 3 | The project is within the range of the bald eagle (<i>Haliaeetus leucocephalus</i>), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area. The project is within the range of the Canada darner (<i>Aeshna canadensis</i>), a state endangered dragonfly. Wetland impacts should be avoided in order to avoid this species. | Comment Noted. |
| Ohio Department of Natural Resources 4 | The project is within the range of the black bear (<i>Ursus americanus</i>), a state endangered species, and the bobcat (<i>Lynx rufus</i>), a state endangered species. Due to the mobility of these species, the project is not likely to have an impact on these species. | Comment Noted. |
| Ohio Department of Natural Resources 5 | The project is within the range of the king rail (<i>Rallus elegans</i>), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. Therefore, if this type of habitat will be impacted, construction must be avoided in this habitat during the species' nesting period of May 1 to August 1. If this type of habitat will not be impacted, the project is not likely to impact this species. | Comment Noted. |
| Ohio Department of Natural Resources 6 | The project is within the range of the yellow-bellied sapsucker (<i>Sphyrapicus varius</i>), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Yellow-bellied sapsuckers occupy wet deciduous forests or the margins of bogs where yellow birch, beech and | Comment Noted. |

| | | |
|--|---|--|
| | <p>aspen are prevalent. Therefore, if tree removal is proposed in this type of habitat, tree removal must not occur during the species' nesting period of May 1 to July 1. If no tree removal is proposed, the project is not likely to impact this species.</p> | |
| <p>Ohio Department of Natural Resources 7</p> | <p>The Ohio Department of Natural Resources (ODNR), Ohio Biodiversity Database has a record at BKL for the Upland Sandpiper (<i>Bartramia longicauda</i>), a state threatened bird. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within the 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.</p> | <p>Comment Noted.</p> |
| <p>Ohio Department of Natural Resources 8</p> | <p>The ODNR, Office of Costal Management comments that based on the information provided, it appears that the project may include the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie and therefore may require an ODNR Shore Structure Permit (ORC 1506.40). Additionally, portions of the proposed project area are included in existing Submerged Lands Lease File Number SUB-0514-CU issued to the City of Cleveland which authorizes the use and occupation of the previously submerged lands of Lake Erie for airport expansion, confined disposal facility and port development. Pursuant to the provisions within the Lease any future improvements to the existing facilities, construction of new facilities or any change in use requires the prior</p> | <p>If the Proposed Action includes the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie DPC would submit an application for an ODNR Shore Structure Permit (ORC 1506.40).</p> <p>Similarly if written approval from the Director, Ohio Department of Natural Resources would be requested if the Proposed Action includes improvements to the existing facilities, construction of new facilities or any change in use to the area included in existing Submerged Lands Lease File Number SUB-0514-CU.</p> |

| | | |
|---|--|----------------|
| | written approval of the Director, Ohio Department of Natural Resources. The Proposed Action on the attached Exhibit 1 will require this prior written approval. Pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding federal regulations, a Federal Consistency review by ODNR may be required for certain federal activities (i.e. permits, funding, etc.) related to the proposed project. | |
| Ohio Department of Natural Resources 9 | The ODNR, Division of Geological Survey comments that the area to be filled is small and is unlikely to contain a significant amount of uncontaminated sediment of sand-size or larger. Geological Survey has no concerns based on the preliminary information provided. | Comment Noted. |



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

RECEIVED

AUG 24 2012

AUG 21 2012

FAA, DETROIT ADO

REPLY TO THE ATTENTION OF:

E-19J

Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181

**Re: Draft Environmental Assessment for Improving the Runway 6L/24R Safety Area at
Burke Lakefront Airport, Cleveland, Cuyahoga County, Ohio**

Dear Ms. Singh:

The U.S. Environmental Protection Agency has reviewed the referenced draft Environmental Assessment (EA) prepared by Landrum & Brown, Incorporated, consultant to the Cleveland Airport System and the Federal Aviation Administration (FAA) pursuant to our authorities under the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act.

The Burke Lakefront Airport (BKL) does not currently meet Runway Safety Area (RSA) design standards for Runway 6L/24R. The project sponsor proposes to remedy the existing RSA deficiencies by performing the following actions:

1. Construct a 400-foot Engineered Materials Arrestor System bed on Runway End 6L;
2. Displace landing threshold of Runway 6L by approximately 165 feet to the east;
3. Extend Runway End 24R approximately 600 feet east of the existing Runway End 24R;
4. Extend the existing eastern taxiway termini east and north, and shift the existing western taxiway termini east and north;
5. Relocate existing FAA navigational aids;
6. Add new runway marking/stripping;
7. Relocate/extend the perimeter/vehicle service roads on the east side of BKL;
8. Relocate the vehicle service road north of Runway 6L/24R; and
9. Relocate the ARFF Road/vehicle service road on the west end of BKL.

Additionally, the proposed project is expected to require a permit, under Section 404 of the Clean Water Act, for fill placement into waters of the United States (Lake Erie). Based on our review, we have comments relating to stormwater management and energy efficiency, as stated below:

Stormwater Management

The EA indicates surface waters, under the preferred alternative, will be discharged to Lake Erie via combined sewer overflow (CSO) during periods of high precipitation. We understand the proposed project area at BKL exhibits slow infiltration rates because BKL was built upon a former landfill site. We encourage FAA to analyze other methods of stormwater management, including off-site bioretention.

Energy Efficiency

We recommend FAA consider installing energy-efficient navigational aids, providing doing so would result in both energy savings and needed levels of safety.

EPA is available to discuss these comments to the draft Environmental Assessment at your convenience. Please feel free to contact Mike Sedlacek of my staff at 312-886-1765, or by email at sedlacek.michael@epa.gov to discuss these comments.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Katherine Delaney, Federal Aviation Administration
Mark Mann, Ohio Environmental Protection Agency, Division of Surface Water
Lauren McEleney, Ohio Environmental Protection Agency, Division of Surface Water



Notice of Availability & Public Hearing



The City of Cleveland, Department of Port Control will conduct a Public Workshop and Hearing to present the Environmental Assessment (EA) for the proposed Runway Safety Area (RSA) Improvements at Burke Lakefront Airport. Details are as follows:

Date:
Wednesday, September 5, 2012

Time:
3:00 pm- 6:00 pm
(Free Parking is available)

Location:
Burke Lakefront Airport
1501 North Marginal Road
Cleveland, Ohio 44114

The Department of Port Control has completed the Draft Environmental Assessment Report. The report is available for review during normal business hours, beginning Monday, August 6, 2012 at the following locations:

Burke Lakefront Airport
Khalid Bahhur
1501 North Marginal Road
Cleveland, Ohio 44114

**City of Cleveland
Planning Department**
Robert Brown
601 Lakeside Avenue, Room 501
Cleveland, Ohio 44114

**Cleveland Hopkins International Airport
Planning & Engineering**
Meenakshi Singh
19501 Five Points Road
Cleveland, Ohio 44135

**Cleveland Public Library
Main Office
Science & Technology Department**
325 Superior Avenue
Cleveland, Ohio 44114

The public will have an opportunity to review and offer comments on the Draft EA. These comments will become part of the final report submitted to the Federal Aviation Administration (FAA) for review and approval. In addition, airport staff and consultants will be available to answer questions. The report is also available for review at www.burkeairport.com, and comments may be e-mailed to: BKLEAcomments@landrum-brown.com.

Comments on the Draft EA may also be mailed to:

Ms. Meenakshi Singh
Planning Manager
Cleveland Airport System
5300 Riverside Drive
P.O. Box 81009
Cleveland, Ohio 44181

The DEADLINE FOR ALL COMMENTS IS **WEDNESDAY, SEPTEMBER 12, 2012**.

For questions or information please contact Meenakshi Singh, Planning Manager, Cleveland Airport System at 216-265-2722. For special accommodations at the Workshop/Hearing, please call Ms. Singh one week prior to the scheduled date of this Workshop/Hearing.

State of Ohio ss.

Cuyahoga County

Notice of Availability & Public Hearing
The City of Cleveland, Department of Port Control will conduct a Public Workshop and Hearing to present the Environmental Assessment (EA) for the proposed Runway Safety Area (RSA) improvements at Burke Lakefront Airport. Details are as follows:
Date:
Wednesday,
September 5, 2012
Time:
3:00 pm- 6:00 pm
(Free Parking is available)
Location:
Burke Lakefront Airport
1501 North Marginal Road
Cleveland, Ohio 44114
The Department of Port Control has completed the Draft Environmental Assessment Report. The report is available for review during normal business hours, beginning Monday, August 6, 2012 at the following locations:
Burke Lakefront Airport
Khalid Bahur
1501 North Marginal Road
Cleveland, Ohio 44114
City of Cleveland
Planning Department
Robert Brown
601 Lakeside Avenue, Room 501
Cleveland, Ohio 44114
Cleveland Hopkins International Airport
Planning & Engineering
Meenakshi Singh
19501 Five Points Road
Cleveland, Ohio 44135
Cleveland Public Library
Main Office
Science & Technology
Department
325 Superior Avenue
Cleveland, Ohio 44114
The public will have an opportunity to review and offer comments on the Draft EA. These comments will become part of the final report submitted to the Federal Aviation Administration (FAA) for review and approval. In addition, airport staff and consultants will be available to answer questions. The reports also available for review at: www.burkeairport.com, and comments may be e-mailed to: BKLEAcomments@landrum-brown.com.
Comments on the Draft EA may also be mailed to:
Ms. Meenakshi Singh
Planning Manager
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181
The DEADLINE FOR ALL COMMENTS IS WEDNESDAY, SEPTEMBER 12, 2012.
For questions or information please contact Meenakshi Singh, Planning Manager, Cleveland Airport System at 216-265-2722. For special accommodations at the Workshop/Hearing, please call Ms. Singh one week prior to the scheduled date of this Workshop/Hearing.
p.d.aug.5.2012 2844175

I, Pauline Shanklin, being duly sworn, do upon my oath, depose and say that I am a **ACCOUNTS RECEIVABLE REPRESENTATIVE** of The Plain Dealer Publishing company, publisher of The Plain Dealer, a newspaper printed in said county, and general circulation in Ashtabula, Geauga, Lake, Lorain, Medina, Portage, Summit and Trumbull counties, in addition to said county; the requirements of Section 7/12 of the Revised Code of Ohio as amended September 14, 1957, relating to publication and distribution are fulfilled by said newspaper; and the advertisement attached was published in said newspaper on the following day, or days in a type size larger than agate. Insertion dates as follows:

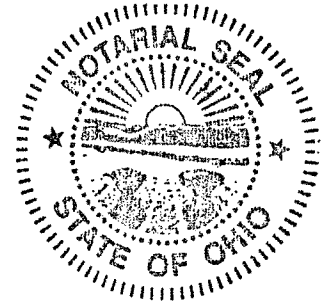
August 5, 2012

Sworn to and subscribed before me this day of Aug 6 20 12

Pauline Shanklin

Brenda B Jordan

Brenda G. Jordan
Notary Public, STATE OF OHIO
My Commission Expires Sept. 4, 2016
(Recorded in Cuyahoga County)





Welcome to the Public Hearing

Welcome to the public hearing/public workshop for the Environmental Assessment (EA) for improving the Runway 6L/24R Safety Area at Burke Lakefront Airport (BKL). This meeting provides citizens an opportunity to comment on the potential environmental impacts associated with the Proposed Action. Comments received will become part of the public record.

What is an Environmental Assessment?

An Environmental Assessment is a disclosure document prepared for a proposed Federal or Federally-funded action, in compliance with the requirements set forth by the Council on Environmental Quality (CEQ) in its regulations implementing the *National Environmental Policy Act of 1969* (NEPA), as amended (40 Code of Federal Regulations (CFR) 1500-1508). The purpose of this EA is to investigate, analyze, and disclose the potential impacts of a Proposed Action and its reasonable alternatives. Depending upon whether certain environmental thresholds of significance are exceeded or not, this EA may either lead to a Finding of No Significant Impact (FONSI) or to the requirement for the preparation of an Environmental Impact Statement (EIS).

What is the Proposed Action?

The Proposed Action which is the subject of this EA, consists of the following elements:

- Construction of a 400-foot EMAS bed on Runway End 6L
- Displace landing threshold by 165 feet to the east for Runway 6L
- An approximate 600-foot eastern extension to Runway End 24R
- Modifications to existing vehicle service road
- Construction/extension of taxiways
- Relocation of existing FAA navigational aids (NAVAIDS) (including Runway End 6L Runway End Identifier Lights (REILS), Automated Surface Observing System (ASOS), and the addition of in-ground runway lights in the extension)
- New runway marking/stripping

Environmental Categories Addressed in the Environmental Assessment

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act Section 303(c) (Formerly Section 4(f) Resources)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands and Streams
- Wild and Scenic Rivers
- Cumulative Impacts

What are the Findings of the Draft EA?

The EA investigated all of the required environmental resource categories to determine the beneficial and adverse impacts due to the Proposed Action. Resources that require permitting and or mitigation strategies include:

Construction - Best management practices (BMPs), as outlined in FAA Advisory Circular (AC) 150/5370-10F, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control* must be followed.

Hazardous Material - Ohio EPA Permit and City of Cleveland Ordinance must be followed.

Water Quality - All applicable stormwater management plans and permits must be obtained.

Wetlands and Waters of the U.S. - The Proposed Action may impact wetlands and Waters of the U.S. All impacts must be mitigated and approved by the U.S. Army Corps of Engineers/Ohio EPA.

The Proposed Action had no impact or impacts that were determined to be insignificant or temporary on all other environmental resources. The analysis contained in this Draft EA did not identify any significant environmental impacts as a result of improving the Runway 6L/24R Safety Area at Burke Lakefront Airport.

Locations to Review the Draft EA

The EA is available for public review at the following locations until the end of the comment period, which is September 12, 2012. Copies of the EA have also been provided to the relevant federal, state, and local agencies.

Burke Lakefront Airport

Khalid Bahhur
1501 North Marginal Road
Cleveland, Ohio 44114

City of Cleveland

Planning Department

Robert Brown
601 Lakeside Avenue, Room 501
Cleveland, Ohio 44114

**Cleveland Hopkins International Airport
Planning & Engineering**

Meenakshi Singh
19501 Five Points Road
Cleveland, Ohio 44135

**Cleveland Public Library
Main Office**

Science & Technology Department
325 Superior Avenue
Cleveland, Ohio 44114

And on the Web

<http://www.burkeairport.com/>

How do you Submit Comments on the Draft EA?

If you wish to provide your comments orally, please sign-in at the registration table to receive your time to speak on the record to the Court Reporter. People will speak in the order they registered. If you do not wish to present oral testimony, comment forms are available. You may either complete the forms today and leave them in the Comment Box or take them with you and mail them to the following address by midnight on September 12, 2012: Ms. Meenakshi Singh, ATTN: BKL EA, Cleveland Airport System, 5300 Riverside Drive, Cleveland, Ohio 44181. Comments may also be emailed to BKLEAcomments@landrum-brown.com. All comments received by this date, whether oral or written, will be included in the Final EA document.

**COMMENT FORM
PUBLIC HEARING AND PUBLIC WORKSHOP**

**ENVIRONMENTAL ASSESSMENT
For Improving The Runway 6L/24R Safety Area At
Burke Lakefront Airport**

SEPTEMBER 5, 2012

Welcome to the Public Hearing and Public Workshop for the Proposed Runway 6L/24R Safety Area Improvement Project at Burke Lakefront Airport. This comment form is provided to receive your input and ensure that your concerns are considered as part of this Environmental Assessment. Please use this form to submit written comments, attaching additional pages if necessary. Either place the form in the comment box, provided here at the meeting, mail, email, or fax to the address below postmarked **by midnight September 12, 2012.**

Submit comments postmarked by midnight September 12, 2012 to:

**Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181**

**Email:
BKLEAcomments@landrum-brown.com**

FROM (Please Print):

Name: _____

Address: _____

ENVIRONMENTAL ASSESSMENT

IMPROVING THE RUNWAY 6L/24R SAFETY AREA AT BURKE LAKEFRONT AIRPORT

PUBLIC HEARING AND PUBLIC WORKSHOP / September 5, 2012 / 3 P.M - 6 P.M.

SIGN-IN SHEET

| Name (Please Print) | Address | Phone Number or Email (Please include area code) |
|------------------------|---|---|
| CONNIE LUHTA | 1WASM 12253 RT 608 CONCORD OH 44077 | 440-352-3228 angreedy@aol.com |
| DAN BIGGS | 191R SHAW SUITE 168 SUMMIT 44114 | 216 781-0747 DBIGGS@CLEVELANDAIRSHOW.COM |
| REN CAMPACHO | 5300 RIVERSIDE DR. CLEVELAND OH 44129 | (216) 265-6793 REMYX@CLEVELANDAIRPORT.COM |
| Hugh Holley | DPC 5300 Riverside Cleveland OH 44122 | 216 265 6848 holley@demeland.com |
| Meena Singh | 5300 Riverside Drive | 216-265-2722 |
| Jack Arnold | 5300 Riverside Drive | 216-898-5232 |
| SHARI L. CHOCH | 5300 RIVERSIDE DR. | 216-898-5209 |
| Shannon Barnhart | " | 216-265-6610 |
| MARC GOSFAR | 1601 N. MARGINAL | 216-298-9060 X 102 |
| Richard Newenhisen | 1601 N. Marginal Rd. | (216) 298-9060 X 103 |

ENVIRONMENTAL ASSESSMENT

IMPROVING THE RUNWAY 6L/24R SAFETY AREA AT BURKE LAKEFRONT AIRPORT

PUBLIC HEARING AND PUBLIC WORKSHOP / September 5, 2012 / 3 P.M - 6 P.M.

SIGN-IN SHEET

| Name (Please Print) | Address | Phone Number or Email (Please include area code) |
|------------------------|-------------------------|---|
| Katherine Delaney | FAA | 734-229-2400 |
| STEPHANIE SWANN | FAA | 734-229-2900 |
| John Kessler | ODNR | john.kessler@dnr.state.oh.us |
| PATRICK BRIST | OHIO DNR CAPTAIN WRIGHT | PATRICK.BRIST@DNR.STATE.OH.US |
| Jamie Hockutt | Athletes Aviation - BKL | 440-283-7799 jamie.h@athletes.com |
| John Mottl | ODOT DIST. 12 | john.mottl@dot.state.oh.us |
| RANDY OUTWARD | BKL | RANDY.J.OUTWARD@ATHIS.USDA.GOV |
| | | |
| | | |
| | | |

ENVIRONMENTAL ASSESSMENT

IMPROVING THE RUNWAY 6L/24R SAFETY AREA AT BURKE LAKEFRONT AIRPORT

PUBLIC HEARING AND PUBLIC WORKSHOP / September 5, 2012 / 3 P.M - 6 P.M.

SIGN-IN SHEET

| Name (Please Print) | Address | Phone Number or Email (Please include area code) |
|------------------------|-------------------------|---|
| Debbie Mayo | CLE | 43503 |
| Gerald Baboski | CLE | x 5215 |
| TOBY PAYNE | CLE | x 6790 |
| TIM PRICE | 1601 N. MARGINAL RD | 216-861-2030 |
| JUANITA HEWLETT | 2325 E. 74TH ST | 216-361-1497 O.B.A.P. |
| Joyce K. Johnson | 1120 Chester Ave Cle OH | 216-621-2189 |
| Jon KATHMAN | CLE | 216-999-5184 |
| | | |
| | | |
| | | |

Fold Here

Place
Stamp
Here

BKL RSA EA
(c/o) Meenakshi Singh
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181



What is an Environmental Assessment (EA)?



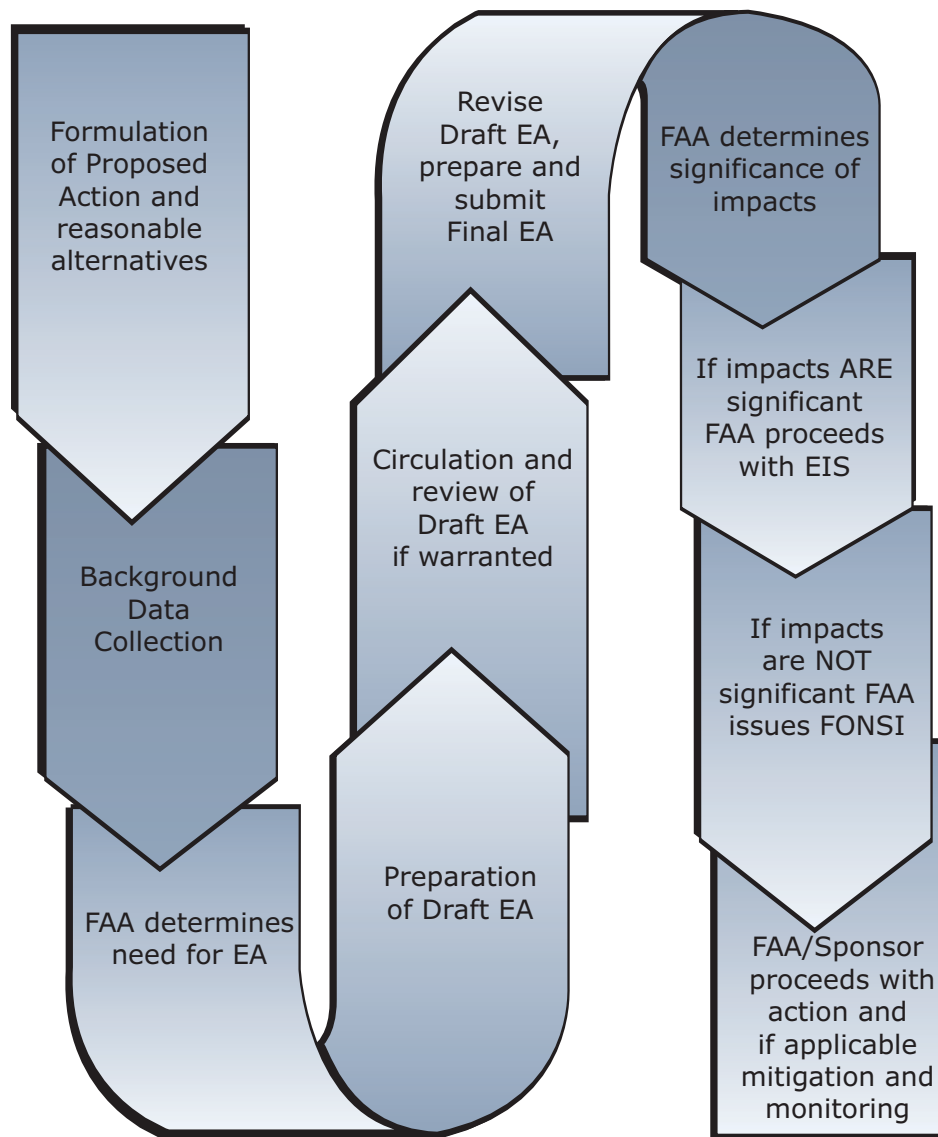
- A concise document used to describe a Proposed Action's anticipated environmental impacts.
- Discloses impacts and identifies if any significant impacts would result from the implementation of the Proposed Action.
- Provides sufficient evidence and analysis for a federal determination whether to prepare an Environmental Impact Statement (EIS) or issue a Finding of No Significant Impact (FONSI).
- Requires coordination with local, state, and federal regulatory agencies.
- May include a public workshop / public hearing to provide information to the public and to provide a forum for the public to present their comments as it pertains to the Proposed Action.

The National Environmental Policy Act (NEPA) and FAA Orders 5050.4B/1050.1E require all major Federal actions (including FAA actions) to be environmentally reviewed.





Environmental Assessment Process





Background



Burke Lakefront Airport (BKL) owned and operated by the City of Cleveland Department of Port Control

BKL has two parallel runways

- Primary Runway 6L/24R (6,198 ft x 150 ft)
- Secondary Runway 6R/24L (5,197 ft x 100 ft)

Designated as a General Aviation (GA) reliever airport helping to divert activity from larger scheduled service airports

Provides important services to the local community

- Various corporate activity, emergency medical transport, flight training facilities, Labor Day Air show

Runway End 6L currently does not meet FAA Runway Safety Area design standards





Purpose and Need



Need for Project:

- Need to comply with FAA Runway Safety Area (RSA) Standards.
- Need to maintain sufficient runway length to the extent practicable and to maintain existing instrument landing system (ILS) capabilities to accommodate the current and projected fleet.
- Need to maintain roadway access to the extent practicable.
- Need to provide ancillary development to support the safety area improvement.

Purpose of Project:

- To enhance and improve the RSA to the extent practicable.
- Maintain existing runway length and ILS capabilities.
- Maintain perimeter road access to the north side of the airfield for Airport operations, wildlife management and mitigation, and USACE maintenance operations.
- Provide support facilities and infrastructure to accommodate the Proposed Action including: Relocation of affected NAVAIDs, the addition of in-ground runway lights in the shift/extension, and new runway markings / stripings.



Proposed Action





Proposed Action



Comply with FAA Requirements for Runway Safety Areas

- Construction of a 400-foot Engineered Materials Arrestor System (EMAS) bed on Runway End 6L
- Displace landing threshold of Runway 6L by approximately 165 feet to the east

Maintain Existing Runway Length

- An approximate 600-foot eastern shift of Runway End 24R

Supporting Elements

- Construction/shift of taxiways
- Relocation of existing FAA navigational aids
- New runway marking/stripping
- Roadway modifications
 - Relocation/extension of the perimeter/vehicle service road on the northeast side of the Airport (north of Runway End 24R) near CDF 12
 - Relocation of the vehicle service road north of the runway and next to CDF 10B
 - Relocation of the ARFF Road/vehicle service road on the southwest end of the Airport (east of Runway End 6R).



Area of Potential Wetlands

Lake Erie

CD#108

SEE INSET

6,198 Ft. X 150 Ft.

5,197 Ft. X 100 Ft.

Cleveland Burke Lakefront Airport

Cleveland Memorial Shoreway

WETLANDS INSET

#1

#2

#3

#4

24R

Legend

Wetlands

Area of Potential Effect

0 100 200

Image © 2012 TerraMetrics



Summary of Impacts



| IMPACT CATEGORY | NO ACTION | ALTERNATIVE | PROPOSED ACTION |
|---|---|-------------|---|
| AIR QUALITY | Cuyahoga County nonattainment for PM _{2.5} ; Maintenance for ozone, CO, SO ₂ , and PM ₁₀ | | Complies with Ohio State Implementation Plan and CAA Section 176(c)(1) |
| COASTAL RESOURCES | Consistent with OCMF | | Consistent with OCMF |
| COMPATIBLE LAND USE | No Land Use/Zoning Change | | No Land Use/Zoning Change |
| CONSTRUCTION | No Impact | | Temporary Impacts |
| DOT SECTION 4(f) LANDS (RECODIFIED AS 303(c)) | No Direct or Constructive Use Impacts | | No Direct or Constructive Use Impacts |
| FARMLANDS | No Impact | | No Impact |
| FISH, WILDLIFE, & PLANTS | | | |
| Federally-Listed Species & Critical Habitats | No Adverse Impact | | No Adverse Impact |
| State - Listed Species | No Adverse Impact | | No Adverse Impact |
| FLOODPLAINS | No Impact | | No Impact |
| HAZARDOUS WASTE/SOLID WASTE | | | |
| Hazardous Waste | No Impacts | | No Impact if constructed according to OEPA Permit and City of Cleveland Ordinance |
| Solid Waste | No Impacts | | Temporary increases can be met by current solid waste management system |
| HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, & CULTURAL RESOURCES | No Direct or Indirect Impacts | | No Direct or Indirect Impacts |
| LIGHT EMISSIONS & VISUAL IMPACTS | No Historic Properties Affected | | No Historic Properties Affected |
| NATURAL RESOURCES AND ENERGY | No Impact | | No Impact |
| NOISE | No Impact | | Increases in demand for materials during construction can be met by local suppliers |
| SECONDARY INDUCED | No Significant Impact | | No Significant Impact |
| SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS | No Adverse Impact | | No Adverse Impact |
| Relocation of Residences | No Impact | | No Impact |
| Relocation of Businesses | No Impact | | No Impact |
| Disruption of Local Traffic Patterns | No Impact | | No Impact |
| Environmental Justice | No Impact | | No Impact |
| Children's Environmental Health and Safety | No Impact | | No Impact |
| WATER QUALITY | Impacts Would Not Exceed Standards | | Impacts Would Not Exceed Standards |
| WETLANDS AND STREAMS | No Impact | | 0.312 acres (Non-Jurisdictional) |
| WILD & SCENIC RIVERS | No impact | | No impact |
| CUMULATIVE IMPACTS | No Significant Impact | | No Significant Impact |





Public Hearing Protocol



The purpose of the hearing is to give all interested people the opportunity to put their comments and questions regarding this Proposed Action and potential impacts on the record. There will be no attempt to formally respond to comments or questions tonight.

People wishing to make comments on the Draft Environmental Assessment can do so by writing their comments on a form, making an oral statement to the court reporter, emailing, or mailing to the indicated address. All comments must be received postmarked by midnight September 12, 2012.

Ms. Meenakshi Singh
Cleveland Airport System
5300 Riverside Dr
Cleveland, Ohio 44181
Email: BKLEAcomments@landrum-brown.com

People wanting to have their comments taken by the court reporter must register at the sign-in table. Please be courteous and respect the rights of others.

Each person will be allotted 3 minutes with the court reporter.

People desiring more time may register to speak again. They will be given another opportunity to speak after all other registered people have had their chance.

Written responses to all comments and questions will be prepared for the record and will be available for public review when the Final Environmental Assessment document is printed.





CITY OF CLEVELAND
Mayor Frank G. Jackson

PUBLIC HEARING AND PUBLIC WORKSHOP / September 5, 2012 / 3 P.M - 6 P.M.

SPEAKER REGISTRATION FORM

[illegible]

- - - - -

PUBLIC WORKSHOP/PUBLIC HEARING

SEPTEMBER 5, 2012

- - - - -

Public Workshop/Public Hearing hearing taken before

me, the undersigned, Darlene Vance, a Registered

Professional Reporter, Certified Livenote Reporter

and Notary Public within and for the State of Ohio,

taken at the Burke Lakefront Airport, 1501 N.

Marginal Road, Cleveland Ohio, commencing at 3:00

p.m. the day and date above set forth.

1 the Organization of Black Airline Pilots,
2 someone that's lived in Cleveland for a long
3 time, Mr. Johnny Dent (phonetic), which was our
4 emcee, he went to the International Airport,
5 which is why our program was late. So a lot of
6 people don't really know that Burke Lake
7 Airport is here.

8 I see some children taking tours here. I
9 think it should be part of the educational
10 curriculum and syllabus for the Cleveland
11 Public Schools. There's a lot of history here.
12 And particularly, the school named after --
13 okay, Mr. Todd, this may be one I need you to
14 help me with -- yes, Benjamin Davis, there was
15 a school there and he is also a Cleveland and
16 from my alumni school. I think the more they
17 know about the public school system and how
18 many of those people came through our Cleveland
19 Public School Systems and went on to do
20 other -- I think those are the people we should
21 be looking for and profiling and put a wall up
22 so that they can come and educate themselves
23 about their history of Cleveland. I think more
24 should be done as far as addressing and more or
25 less attacking that avenue of education.

1 I am very thankful for the Burke Lake
2 Airport being here. It has trained many of the
3 pilots. They do a lot of things, the TV
4 people, the helicopters. There's a lot here,
5 an awful lot here, and I think we have been
6 lost in the sauce -- that's not a good phrase,
7 but I think we have been lost in the sauce by
8 media outside of Cleveland putting a story out
9 there and not really knowing the history of
10 Cleveland.

11 I guess we should let more opportunities
12 for people like myself who are associated with
13 aviation, I think the market should capture all
14 those people. Like today, we're all here, Mr.
15 Todd and the young lady that brought me in
16 here, and the Women's Museum, I think it should
17 be more of that where that particular category
18 or group of people should come together and
19 concentrate on the educational aspects because
20 the education for these young people -- if we
21 don't educate them, okay, then our future of
22 the economics of the world, we are just going
23 to be some dirt poor people.

24 Is there anything else? Okay.

25 (4:08 p.m.)

1 HEARING OFFICER: This is Rob
2 Adams. I'm officially closing the hearing on
3 the Burke Lakefront Environmental Assessment.

4 (Hearing concluded at 5:54 p.m.)
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CERTIFICATE

I, Darlene Vance, do hereby certify that the foregoing is a true, correct and complete transcript of my stenotype notes which were taken at the time and place in the foregoing caption.

I do further certify that I am not a relative, counsel or attorney any of the parties or otherwise interested in the event of this action.

Darlene Vance, Notary Public
within and for the State of Ohio.
My Commission expires March 25, 2017.

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U.S. Department
of Transportation
**Federal Aviation
Administration**

**Detroit Airports District Office
Metro Airport Center
11677 South Wayne Road
Suite 107
Romulus, MI 48174**

March 16, 2012

Mr. Ricky D. Smith
Director of Airports
Cleveland Airport System
Cleveland Hopkins International Airport
P.O. Box 81009
Cleveland, OH 44181-0009

Dear Mr. Smith:

Burke Lakefront Airport (BKL), Cleveland, OH
Review of the Burke Lakefront Airport Runway Safety Area Study for Runway 6L/24R

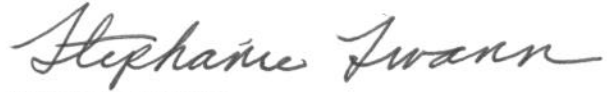
The Runway Safety Area Study for Runway 6L/24R received in the Detroit ADO on June 22, 2011 with an errata sheet, dated February 2012, prepared by Landrum & Brown for the Burke Lakefront Airport, Cleveland, Ohio, has been reviewed and meets the criteria set forth in FAA Order 5200.8 Runway Safety Area Program and FAA Order 5200.9 Financial Feasibility and Equivalency of Runway Safety Area Improvements and Engineered Material Arresting Systems.

The information in the study verified the findings rendered in the Runway Safety Area Determination made by the Federal Aviation Administration (FAA) on September 21, 2000 and provided feasible design concepts, recommendations and cost estimates. The study recommended Alternative 9 as the highest rated, preferred alternative.

Based on our concurrence with the above referenced study, this project will commence with fiscal year 2012 funding for the environmental assessment and design, if possible. The environmental assessment has been scoped and is currently underway. This project will be phased over two construction seasons. At the completion of the Runway 6L/24R Safety Area project, the Burke Lakefront Airport will be improved to the greatest extent practicable. A new RSA determination will be issued at the completion of the project.

Should you have any questions or comments, please do not hesitate to contact my staff at 734-229-2900.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Swann".

Stephanie Swann
Assistant Manager

cc: Renato Camacho, Chief of Planning & Engineering, CLE
Traci Clark, Deputy Chief of Planning & Engineering, CLE
Meenaskhi Singh, Planning Manager, CLE
Monica Geygan, Landrum & Brown
AGL-620

September 10, 2012

Meenakshi Singh
Planning Manager
Cleveland Airport System
5300 Riverside Drive
Cleveland, Ohio 44181

Submitted via: BKLEAcomments@landrum-brown.com

RE: Draft Environmental Assessment for Improving the Runway 6L/24R Safety Area at Burke Lakefront Airport in Cleveland, Ohio

Dear Ms. Singh,

Thank you for providing the Northeast Ohio Regional Sewer District (NEORS) the opportunity to review the Draft Environmental Assessment for improving the Runway 6L/24R Safety Area at Burke Lakefront Airport.

NEORS has five (not four as noted on page 4-22 of the Draft Environmental Assessment) permitted outfalls, CSO-095, CSO-096, CSO-097, CSO-098, and CSO-099 adjacent to the airport. There is a potential for the sewer pipe that leads to CSO-099 to be impacted by the proposed construction activity. NEORS is responsible for the management of CSO discharges. It is critical that the outfalls be protected to ensure that both stormwater and CSO flows continue to be routed to these outfalls. The airport plans to coordinate with the City of Cleveland to make sure that this pipe is not damaged or put out of commission by any of the construction activities. It is requested that the airport include NEORS in this coordination.

Please contact Elizabeth Toot-Levy (toot-levye@neorsd.org) of my staff for this coordination or if you have any questions.

Sincerely,



Frank Greenland

Director of Watershed Programs

cc: Robin Halperin, Manager of Regulatory Compliance
Elizabeth Toot-Levy, Senior Environmental Specialist

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**Environmental
Protection Agency**

John R. Kasich, Governor

Mary Taylor, Lt. Governor

Scott J. Nally, Director

September 11, 2012

RE: BURKE LAKFRONT AIRPORT
CLEVELAND, CUYAHOGA COUNTY
ENVIRONMENTAL ASSESSMENT
FOR IMPROVING THE
RUNWAY 6L/24R SAFETY AREA

Ms. Meenakshi Singh
Planning Manager
Cleveland Airport System
5300 Riverside Drive
P.O. Box 81009
Cleveland, Ohio 44181

Dear Ms. Singh:

In response to your letter and environmental assessment for the improvements to runway 6L/24R safety area, the Ohio EPA has the following comments.

- Any impacts to isolated wetlands will require a permit from Ohio EPA's Division of Surface Water.
- Any construction disturbance in excess of 1-acre will require a general National Pollutant Discharge Elimination System (NPDES) permit for construction activity.

If you have any further questions, please feel free to contact me at (330) 963-1253.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Kurko".

Jennifer Kurko
Assistant District Chief
Northeast District Office

JK/ams

ec: BKLEAcomments@landrum-brown.com

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RECEIVED

SEP 12 2012

FAA, DETROIT ADO

September 7, 2012

Katherine Delaney
Federal Aviation Administration
11677 S Wayne Road, Ste 107
Romulus, MI 48174

Ms. Delaney:

Re: Proposed Runway 6L/24R Safety Area Improvement Project, Burke Lakefront Airport,
Cleveland, Cuyahoga County, Ohio

This is in response to correspondence dated August 3, 2012, regarding the above referenced project. My comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

We cannot complete our review of your project at this time. While previously documented historic properties located in the indirect Area of Potential Effects are identified in the Draft Environmental Assessment, no evaluation is provided regarding whether the subject property, Burke Lakefront Airport, is eligible for listing in the National Register of Historic Places (NRHP). Please provide our office with the following information about the proposed project in order to meet the minimum information requirements of 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act:

- ☐ **Assessment of NRHP eligibility** for any properties greater than fifty years old that may be subject to effects from the proposed project, as described in 36 CFR 800.4(c). Burke Lakefront Airport's website states that it was "...the first downtown airport as well as the first municipally-owned-and-operated airport in the United States." Please provide an evaluation of eligibility of the airport and associated properties, including contextual information about why it was constructed, historic uses and if any significant events or people are associated with it. If the airport is found to be historically significant, please provide a description of alterations made to the property over the years and an assessment as to whether it retains sufficient integrity to be eligible for listing in the NRHP.
- ☐ **Assessment of effect** for the project, taking into consideration evaluation of eligibility of Burke Lakefront Airport:
 - ☐ "No historic properties affected"
This means that either that there are no historic properties present in the APE, or that the historic properties that are present will not be affected by the project.
 - ☐ "No adverse effect"
This means that there are historic properties within the APE, but that the effects of the project on the historic properties are negligible and won't diminish their historic characteristics.

OHIO HISTORICAL SOCIETY

Ohio Historic Preservation Office

1982 Velma Avenue, Columbus, Ohio 43211-2497 ph: 614.298.2000 fx: 614.298.2037
www.ohiohistory.org

☐ "Adverse effect"

The project may have substantial effects on historic properties that should be avoided, reduced or mitigated.

Please include documentation, including *high quality color photographs*, to support your findings.

We recommend that you use the Project Summary Form (PSF) as a guide in your preparation of the requested information. This document is available on our website at <http://www.ohiohistory.org/ohio-historic-preservation-office/federal-and-state-reviews/submitting-projects-for-section-106-reviews>. The PSF provides agencies, applicants, and their consultants with a form designed to assist them in compiling a level of documentation sufficient to meet the requirements established in 36 CFR Section 800.11. The instructions available for download at the website referenced above also provide valuable guidance regarding how to complete the form and assemble the necessary supporting documentation.

We will complete our review of the proposed undertaking when the requested information is provided. If you have questions, please contact me at (614) 298-2000 or by e-mail at jbertram@ohiohistory.org.

Sincerely,



Jamie Bertram, Project Reviews Manager
Resource Protection and Review

Cc: Meenakshi Singh, Manager of Planning, Cleveland Airport System, 5300 Riverside Drive, P.O. Box 81009, Cleveland, OH 44181-0009

From: Katherine.S.Delaney@faa.gov [mailto:Katherine.S.Delaney@faa.gov]
Sent: Thursday, September 13, 2012 5:20 PM
To: jbertram@ohiohistory.org
Subject: Burke Lakefront Airport - Cleveland, OH

Jamie,

I received your letter, dated September 7, 2012 on September 12, 2012, regarding the Proposed Runway 6L/24R Safety Area Improvement Project, Burke Lakefront Airport, Cleveland, Cuyahoga County, Ohio.

I am seeking some clarification regarding your comments.

I am attaching the Exhibit that details the Area of Potential Effect (Exhibit 4-1 in the Draft EA). Historically, the FAA has identified a direct effects APE and an indirect effects APE. The direct effects takes into account the physical location and impact area of the proposed project. Whereas, the indirect APE is typically based on Integrated Noise Model noise contours and defined by the 65 day-night level (DNL) contour. We used this same rationale in determining the direct and indirect APE for this project. Based on this approach, we determined there to be no properties greater than 50 years old that may be subject to effects from the proposed project.

(See attached file: 4-1_Area Of Potential Disturbance.pdf)

As stated in the Draft EA, the airport is built upon a closed landfill. The project area is located on the far north side of the facility and is not in the vicinity of buildings greater than 50 years old. Additionally, the runway environment abuts a U.S. Army Corps of Engineers Combined Disposal Facility (CDF). The CDF has been under construction and modification since 1986. The CDF's were coordinated under NEPA and Section 106 in both 1986 and 1989. The OHPO stated "it is my opinion that the proposed undertaking will have no effect on any property that is either listed in or eligible for the National Register of Historic Places."

(See attached file: USACE SHPO Letters 1986-1989.pdf)

Airports are an ever changing facility. The airport design and safety standards that existed when airports were first constructed have been improved and enhanced to allow for a safer aviation environment. The facility as it looks today is not the same facility it was when first constructed. This project is very important to the FAA. The RSA Programs primary goal is to enhance the level of safety provided by safety areas and to comply with standards included in FAA Advisory Circular 150/5300-13, Airport Design, as required by Public Law 109-115.

Public Law 109–115 states: “Provided further, that not later than December 31, 2015, the owner or operator of an airport certificated under 49 U.S.C. 44706 shall improve the airport’s runway safety areas to comply with the Federal Aviation Administration design standards required by 14 CFR part 139: Provided further, That the Federal Aviation Administration shall report annually to the Congress on the agency’s progress toward improving the runway safety areas at 49 U.S.C. 44706 airports.”

In order to continue our forward progress the FAA needs to make a final environmental finding by the end of our fiscal year, September 30, 2012, in order to keep our design and construction on schedule.

I look forward to talking with you regarding our concerns.

Thank you,
Katy

Katherine S. Delaney
Community Planner
Detroit Airports District Office
Phone: (734) 229-2958

LAKE ERIE

RELOCATED ROADWAYS

PROPOSED RUNWAY
EXTENSION AND TAXIWAY

RELOCATED ROADWAY

6,587 FT. X 150 FT.

Cleveland Burke Lakefront Airport

5,197 FT. X 100 FT.

Cleveland Memorial Shoreway

PROPOSED 6L EMAS

PROPOSED TAXIWAY

RELOCATED ROADWAY

Legend

- Area of Potential Disturbance
- Proposed Pavement
- Proposed EMAS
- Relocated Roadways



Runway 6L-24R RSA
Environmental Assessment
Cleveland Burke Lakefront Airport

FINAL
8/6/2012 Prepared by: aedrum & Brown
E-LAB Work Product 02-GESMXX00 DOCUMENT
4-L Area of Potential Disturbance MKD

Area of Potential Disturbance

Exhibit:
4-1

Ohio Historic Preservation Office

1985 Velma Avenue
Columbus, Ohio 43211
614 466-1500

REC'D. HIST. OAS
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OHIO
HISTORICAL
SOCIETY
SINCE 1885

August 8, 1986

District Commander
U.S. Army Engineer District, Buffalo
1776 Niagara Street
Buffalo, NY 14207
Attn: Mr. William MacDonaald

Dear Mr. MacDonald:

Re: Cleveland, Ohio - Construction of a New Confined Disposal
Facility for Polluted Dredged Material

This letter is in response to your correspondence dated July 18, 1986 concerning the project noted above. My staff has reviewed the information you provided. Based on their recommendation, it is my opinion that the proposed undertaking will have no effect on any property that is either listed in or eligible for the National Register of Historic Places. No further coordination with our office is required for this project unless the scope of the undertaking changes.

If you have any questions about this matter, please contact Richard Bolsvert or Catherine Stroup at 466-1500, extension 470 or 480. Thank you for your cooperation.

Sincerely,

W. Ray Luce
State Historic Preservation Officer

WRL/CAS:cs

Ohio Historic Preservation Office

1982 Velma Avenue
Columbus, Ohio 43211
614/297-2470



OHIO
HISTORICAL
SOCIETY
SINCE 1885

November 27, 1989

District Commander
U.S. Army Engineer District, Buffalo
1776 Niagara Street
Buffalo, NY 14207-3199
Attn: Environmental Analysis Branch,
Mr. Timothy Daly

10-03 99 09
HISTORICAL SOCIETY

Dear Sir:

Re: New Confined Disposal, Cleveland Harbour

This is in response to your letter dated October 23, 1989 concerning the proposed project. Based on the information provided it is my opinion that no properties listed or eligible for the National Register of Historic Places will be affected by the proposed undertaking. No further coordination for this project is necessary unless the scope of the work changes.

If you have questions, please contact Julie Kime at (614) 297-2470. Thank you for your cooperation.

Sincerely,

W. Ray Luce

W. Ray Luce
State Historic Preservation Officer

WRL/JAK:jk

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ODNR COMMENTS TO: Cleveland Airport System; Meenaksi Singh, BKLEAcomments@landrum-brown.com

Project: Improving the Runway 6L/24R Safety Area at Burke Lakefront Airport

Location: Burke Lakefront Airport, Cleveland

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do 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.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees of the species listed above with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees of the species listed above with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the piping plover (*Charadrius melodus*), a state and federally endangered bird species, and the Kirtland's warbler (*Setophaga kirtlandii*), a state and federally endangered species. These species do not nest in the state but only utilize stopover habitat as they migrate through the region. Therefore, the project is not likely to have an impact on these species.

The project is within the range of the Canada darner (*Aeshna canadensis*), a state endangered dragonfly. Wetland impacts should be avoided in order to avoid this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to impact this species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Nests for

this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. Therefore, if this type of habitat will be impacted, construction must be avoided in this habitat during the species' nesting period of May 1 to August 1. If this type of habitat will not be impacted, the project is not likely to impact this species.

The ODNR, Ohio Biodiversity Database has a record at Burke Lakefront Airport for the Upland Sandpiper (*Bartramia longicauda*), a state Endangered bird. Based on the photos and illustrations of the proposed work, it appears the improvements are to take place on the west end of the facility. The wetland/grassland complex on site appears to be on the east end. If the habitat on the east end is not directly impacted, then the project is not likely to impact this species.

We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within the 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.

Coastal Management: The Office of Coastal Management offers the following comments.

Based on the information provided within the draft Environmental Assessment (Chapter 5.2.1 *Coastal Resources*), it appears that the project may include the construction of structures that will act to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie and therefore may require an ODNR Shore Structure Permit (ORC 1506.40).

Portions of the proposed project area are included in existing Submerged Lands Lease File Number SUB-0514-CU issued to the City of Cleveland which authorizes the use and occupation of the previously submerged lands of Lake Erie for airport expansion, confined disposal facility and port development. Pursuant to the provisions within the Lease any future improvements to the existing facilities, construction of new facilities or any change in use requires the prior written approval of the Director, Ohio Department of Natural Resources. The relocation of roadways, taxiways and navigational aids will require this prior written approval.

The proposed in-water work southwest of Runway 6L does not appear to be water dependent and pursuant to Ohio Administrative Code Section 1501-6-03(D)(1), at the time of application, the City of Cleveland will need to provide an alternative design or request that the Director make an exception by demonstrating that the proposed in-water work is required for the general public's health, safety or welfare. Note that the Director has granted exceptions in the past for the benefit of the general public's health safety and welfare.

There is occupation and use of the submerged lands of Lake Erie lakeward of the natural shoreline. OCM requests that the City of Cleveland obtain authorization through a Submerged Lands Lease Modification for the entirety of these areas covered by Burke Lakefront Airport.

Pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding federal regulations, a Federal Consistency review by ODNR may be required for certain federal activities (i.e. permits, funding, etc.) related to the proposed project.

Geological Survey: The Division of Geological Survey offers the following comments.

The area to be filled is small and unlikely to contain a significant amount of uncontaminated sediment of sand-size or larger. Geological Survey has no other concerns based on the preliminary information provided.

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler, P.E.
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Rd., Columbus, OH 43229-6605
phone: 614-265-6621
email: john.kessler@dnr.state.oh.us

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RECEIVED
SEP 18 2012
FAA, DETROIT ADO

September 17, 2012

Katherine Delaney
Federal Aviation Administration
11677 S Wayne Road, Ste 107
Romulus, MI 48174

Ms. Delaney:

Re: Proposed Runway 6L/24R Safety Area Improvement Project, Burke Lakefront Airport,
Cleveland, Cuyahoga County, Ohio

This is in response to correspondence dated August 3, 2012, regarding the above referenced project. Additional information was received by email on September 13, 2012. My comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

The Federal Aviation Administration (FAA) and City of Cleveland Department of Port Control (DPC) propose to improve the Runway Safety Area at Runway 6L/24R at Burke Lakefront Airport in Cleveland, Cuyahoga County, Ohio. The proposed improvements include:

- Construction of a 400' EMAS bed on Runway End 6L
- Displace landing threshold of Runway 6L 165' to the east
- Approximate 600' eastern extension to Runway End 24R
- Modification to existing vehicle service road
- Extension of taxiways
- Relocation of existing FAA navigational aids, Automated Weather Observing System, and addition of in-ground runway lights in the extension
- New runway marking/stripping

36 CFR Section 800.4 charges the federal agency with the responsibility of identifying historic properties. While you state in your submission that no properties greater than 50 years old are located in the APE, it is my understanding that the runway in question was constructed along with the associated airport in the mid 1940s. Evaluation of eligibility for listing in the National Register of Historic Places (NRHP) should not be conducted in a vacuum, looking only at the runway which is being directly affected, but rather should include the associated airport since it is part of the same property and historic use.

In addition, please note for future reference that it is not sufficient to rely on previous determinations from the State Historic Preservation Office as demonstration of the agency's identification of historic properties or consideration of effects. The two letters you referenced, dated 1986 and 1989, were written well before Burke reached 50 years old and are not relevant to the current proposal. 36 CFR Section 800.4(c)(1) accounts for "[t]he passage of time, changing perceptions of significance, or incomplete prior evaluations..." when evaluating eligibility.

OHIO HISTORICAL SOCIETY

Ohio Historic Preservation Office

800 East 17th Avenue, Columbus, Ohio 43211 ph: 614.298.2000 fx: 614.298.2037

www.ohiohistory.org

Burke Lakefront Airport's website states that it was "...the first downtown airport as well as the first municipally-owned-and-operated airport in the United States." Based on this limited information, it seems that Burke may be eligible for listing in the NRHP as a historic district. If the airport is found to be eligible, the runway would be a contributing resource associated with its historic function. However, additional information regarding the significance and integrity of the airport, including all of its associated buildings, structures and objects, would be required to make a formal determination of eligibility. It is my opinion, though, that due to the limited impact of the proposed undertaking, it will not have an adverse effect on historic properties assuming Burke Lakefront Airport is eligible for listing in the NRHP.

We recommend that you use the Project Summary Form (PSF) as a guide in your preparation of future project submissions to avoid delays resulting from requests for additional information. This document is available on our website at <http://www.ohiohistory.org/ohio-historic-preservation-office/federal-and-state-reviews/submitting-projects-for-section-106-reviews>. The PSF provides agencies, applicants, and their consultants with a form designed to assist them in compiling a level of documentation sufficient to meet the requirements established in 36 CFR Section 800.11. In addition, the National Register Bulletin *Guidelines for Evaluating and Documenting Historic Aviation Properties* is a useful tool to assist in the evaluation of eligibility of aviation-related resources.

No further coordination with this office is necessary regarding this undertaking unless there is a change in the project scope. If additional historic properties are identified during implementation of the project, this office must be notified pursuant to 36 CFR Section 800.13.

If you have questions, please contact me at (614) 298-2000 or by e-mail at jbertram@ohiohistory.org. Thank you.

Sincerely,



Jamie Bertram, Project Reviews Manager
Resource Protection and Review

Cc: Meenakshi Singh, Manager of Planning, Cleveland Airport System, 5300 Riverside Drive, P.O. Box 81009, Cleveland, OH 44181-0009

DRAFT EA COMMENTS AND RESPONSES

The Draft EA was made available to the public on August 6, 2012. Comments on the Draft EA were accepted until the close of the official comment period on September 12, 2012, a period of 38 days from the publication of the Draft EA. Comments were received on the Draft EA from Federal, state, and local agencies as well as the public. They included emails, letters, and oral testimony provided at the September 5, 2012 public workshop and public hearing. A response was prepared for all substantive comments received on the Draft EA. The summarized comments and responses are provided below. Copies of all comments received during the official comment period are provided in this appendix.

| | | |
|------------------------|--|--|
| U.S. EPA 1 | <u>Stormwater Management</u> The EA indicates surface waters, under the preferred alternative, will be discharged to Lake Erie via combined sewer overflow (CSO) during periods of high precipitation. We understand the proposed project area at BKL exhibits slow infiltration rates because BKL was built upon a former landfill site. We encourage FAA to analyze other methods of stormwater management, including off-site bioretention. | There would be no change to the existing combined sewer pipes which currently bisect the existing runways at BKL. With the proposed roadway relocation into that long flat low drainage area, the existing drainage into the USACE's CDF 10B will need to be replaced. Currently there are the several elevated manhole/access points in the drainage area which will also need to be relocated. The exact location of the manhole/access points and the type of drainage system will be defined during the design process. All potential methods of stormwater management will be considered. |
| U.S. EPA 2 | <u>Energy Efficiency</u> – We recommend FAA consider installing energy-efficient navigational aids, providing doing so would result in both energy savings and needed levels of safety. | The Proposed Action includes relocation of existing FAA Navigational Aids (NAVAIDS). The FAA will consider energy efficiency but must comply with all orders and regulations in regards to NAVAIDS in order to maintain safety. |
| Juanita Hewlett | I believe wholeheartedly that the Burke Lake Airport should be where it is. I also feel strongly that our organization that I'm involved with can help as far as bringing awareness about the Burke Lake Airport. I am very thankful for the Burke Lake Airport being here. It has trained many of the pilots. | Comment Noted. The Proposed Action was found to have no significant environmental impacts to Burke Lakefront Airport. |

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| Northeast Ohio Regional Sewer District 1 | NEORSD has five (not four as noted on page 4-22 of the Draft Environmental Assessment) permitted outfalls, CSO-095, CSO-096, CSO-097, CSO-098, and CSO-099 adjacent to the airport. There is a potential for the sewer pipe that leads to CSO-099 to be impacted by the proposed construction activity. NEORSD is responsible for the management of CSO discharges. It is critical that the outfalls be protected to ensure that both stormwater and CSO flows continue to be routed to these outfalls. The airport plans to coordinate with the City of Cleveland to make sure that this pipe is not damaged or put out of commission by any of the construction activities. It is requested that the airport include NEORSD in this coordination. | The text on page 4-22 was revised to state that "The Northeast Ohio Regional Sewer District has five permitted locations, known as outfalls (CSO-099, CSO-098, CSO-097, CSO-096, CSO-095), adjacent to the Airport." Coordination will be ongoing with the City of Cleveland and the Northeast Ohio Regional Sewer District to make sure all of the pipes are not damaged or put out of commission by construction activities including the roadway relocation. |
| Ohio EPA 1 | Any impacts to isolated wetlands will require a permit from Ohio EPA's Division of Surface Water. | Comment Noted. Potential wetlands were identified in the area of potential disturbance. While all of the wetlands may not be destroyed by the actual construction of the Proposed Action, for this analysis all of the potential wetlands in the areas of potential disturbance are assumed to be impacted. The preliminary jurisdictional status is currently under review by the USACE. If the potential wetlands are considered non-jurisdictional by the USACE, the City of Cleveland would submit an application to obtain either a General or Individual Isolated Wetland Permit for dredge and fill activities from Ohio EPA prior to construction of the Proposed Action. |
| Ohio EPA 2 | Any construction disturbance in excess of 1-acre will require a general National Pollutant Discharge Elimination System (NPDES) permit for construction activity. | Prior to construction of the Proposed Action, the City of Cleveland would submit an application to obtain a general National Pollutant Discharge Elimination System (NPDES) permit for construction activity. |
| Ohio Historic Preservation Office 1 | We cannot complete our review of your project at this time. While previously documented historic properties located in the indirect | The FAA has identified a direct effects APE and an indirect effects APE. The direct effects takes into account the physical location and |

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| | <p>Area of Potential Effects are identified in the Draft Environmental Assessment, no evaluation is provided regarding whether the subject property, Burke Lakefront Airport, is eligible for listing in the National Register of Historic Places (NRHP). Please provide our office with the following information about the proposed project in order to meet the minimum information requirements of 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act:</p> <p>Please provide an evaluation of eligibility of the airport and associated properties, including contextual information about why it was constructed, historic uses and if any significant events or people are associated with it. If the airport is found to be historically significant, please provide a description of alterations made to the property over the years and an assessment as to whether it retains sufficient integrity to be eligible for listing in the NRHP.</p> | <p>impact area of the proposed project. Whereas, the indirect APE is typically based on Integrated Noise Model noise contours and defined by the 65 day-night level (DNL) contour. We used this same rationale in determining the direct and indirect APE for this project. Based on this approach, we determined there to be no properties greater than 50 years old that may be subject to effects from the proposed project. As stated in the Draft EA, the airport is built upon a closed landfill.</p> <p>The project area is located on the far north side of the facility and is not in the vicinity of buildings greater than 50 years old. Additionally, the runway environment abuts a U.S. Army Corps of Engineers Combined Disposal Facility (CDF). The CDF has been under construction and modification since 1986. The CDF's were coordinated under NEPA and Section 106 in both 1986 and 1989. The OHPO stated "it is my opinion that the proposed undertaking will have no effect on any property that is either listed in or eligible for the National Register of Historic Places."</p> <p>Airports are an ever changing facility. The airport design and safety standards that existed when airports were first constructed have been improved and enhanced to allow for a safer aviation environment. The facility as it looks today is not the same facility it was when first constructed. There would be no impacts to historical, architectural, archaeological, or cultural resources with the Proposed Action. If however during construction activities any historic, architectural, archaeological, or cultural resource items are uncovered, immediate consultation with the State Historic Preservation</p> |
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| | | Officer (SHPO) would occur. |
| Ohio Historic Preservation Office 2 | Please include documentation, including high quality color photographs, to support your findings. | Photographs are provided in Appendix D. |
| Ohio Historic Preservation Office 3 | We recommend that you use the Project Summary Form (PSF) as a guide in your preparation of the requested information. We will complete our review of the proposed undertaking when the requested information is provided. | Coordination with the SHPO is ongoing. Prior to construction of the Proposed Action, a Section 106 determination will be made in accordance with 36 CFR 800. |
| Ohio Historic Preservation Office 4 | It is my opinion, though, that due to the limited impact of the proposed undertaking, it will not have an adverse effect on historic properties assuming Burke Lakefront Airport is eligible for listing in the NRHP. No further coordination with this office is necessary regarding this undertaking unless there is a change in the project scope. If additional historic properties are identified during implementation of the project, this office must be notified pursuant to 36 CFR Section 800.13. | If during construction activities any historic, architectural, archaeological, or cultural resource items are uncovered, immediate consultation with the State Historic Preservation Officer (SHPO) would occur. |
| Ohio Department of Natural Resources 1 | The project is within the range of the Indiana bat (<i>Myotis sodalis</i>), a state and federally endangered species. If suitable trees occur within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species. | While a number of species typically found along the lakeshore and or inhabiting open space were observed, none of the state or Federal threatened or endangered species were observed during the habitat assessment. Tree removal is not expected as part of the Proposed Action therefore the project is not likely to impact this species. |

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| Ohio Department of Natural Resources 2 | The project is within the range of the piping plover (<i>Charadrius melodus</i>). The project is not likely to have an impact on these species | Comment Noted. |
| Ohio Department of Natural Resources 3 | The project is within the range of the bald eagle (<i>Haliaeetus leucocephalus</i>), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area. The project is within the range of the Canada darner (<i>Aeshna canadensis</i>), a state endangered dragonfly. Wetland impacts should be avoided in order to avoid this species. | Comment noted concerning the bald eagle. This state endangered dragonfly was not observed during the on-site survey. The Canada darner prefers wooded lakes and ponds with abundant vegetation, as well as marshy and boggy lakes, and slow sluggish streams often associated with beaver ponds. The Proposed Action site consists mostly of disturbed mowed lawn areas, very small areas of disturbed wetlands (less than half an acre) and wasteground areas. This area would not be considered prime habitat for the Canada darner. In addition, while wetland impacts are expected, mitigation through either restoration or participating in wetland banks would likely result in higher quality wetlands than exist today on the Airport. The FAA does not support restoration of wetlands on airport property due to the FAA's safety restrictions regarding the creation of potential wild life attractants near airports. |
| Ohio Department of Natural Resources 4 | The project is within the range of the black bear (<i>Ursus americanus</i>), a state endangered species, and the bobcat (<i>Lynx rufus</i>), a state endangered species. Due to the mobility of these species, the project is not likely to have an impact on these species. | Comment Noted. |
| Ohio Department of Natural Resources 5 | The project is within the range of the king rail (<i>Rallus elegans</i>), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. Therefore, if this type of habitat will be impacted, construction must be avoided in this habitat during the species' nesting period of May 1 to August 1. If this type of habitat will not be impacted, the project is not | The Proposed Action is within the range of the king rail (<i>Rallus elegans</i>), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. However this type of vegetation would not be destroyed due to the Proposed Action and therefore the Proposed Action is not likely to impact this species. |

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| | likely to impact this species. | |
| Ohio Department of Natural Resources 6 | The project is within the range of the yellow-bellied sapsucker (<i>Sphyrapicus varius</i>), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Yellow-bellied sapsuckers occupy wet deciduous forests or the margins of bogs where yellow birch, beech and aspen are prevalent. Therefore, if tree removal is proposed in this type of habitat, tree removal must not occur during the species' nesting period of May 1 to July 1. If no tree removal is proposed, the project is not likely to impact this species. | No tree removal is proposed, therefore the project is not likely to impact this species. |
| Ohio Department of Natural Resources 7 | The Ohio Department of Natural Resources (ODNR), Ohio Biodiversity Database has a record at BKL for the Upland Sandpiper (<i>Bartramia longicauda</i>), a state threatened bird. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within the 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. | None of the state or Federal threatened or endangered species, other rare species, or unique features were observed during the habitat assessment. |
| Ohio Department of Natural Resources 8 | The ODNR, Office of Costal Management comments that based on the information provided in the Draft EA, it appears that the project may include the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie and therefore may require an ODNR Shore Structure Permit (ORC 1506.40). | If the Proposed Action includes the construction of structures to control erosion, wave action or inundation along or near the Ohio shoreline of Lake Erie. DPC would submit an application for an ODNR Shore Structure Permit (ORC 1506.40). Similarly if written approval from the Director, Ohio Department of Natural Resources would be requested if the Proposed Action |

| | | |
|--|--|--|
| | <p>Portions of the proposed project area are included in existing Submerged Lands Lease File Number SUB-0514-CU issued to the City of Cleveland which authorizes the use and occupation of the previously submerged lands of Lake Erie for airport expansion, confined disposal facility and port development. Pursuant to the provisions within the Lease any future improvements to the existing facilities, construction of new facilities or any change in use requires the prior written approval of the Director, Ohio Department of Natural Resources. The relocation of roadways, taxiways and navigational aids will require this prior written approval.</p> <p>The proposed in-water work southwest of Runway 6L does not appear to be water dependent and pursuant to Ohio Administrative Code Section 1501-6-03(D)(1), at the time of application, the City of Cleveland will need to provide an alternative design or request that the Director make an exception by demonstrating that the proposed in-water work is required for the general public's health, safety or welfare. Note that the Director has granted exceptions in the past for the benefit of the general public's health safety and welfare. There is occupation and use of the submerged lands of Lake Erie lakeward of the natural shoreline. OCM requests that the City of Cleveland obtain authorization through a Submerged Lands Lease Modification for the entirety of these areas covered by Burke Lakefront Airport.</p> <p>Pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding federal regulations, a Federal Consistency review by ODNR may be required for certain federal activities (i.e. permits, funding, etc.) related to</p> | <p>includes improvements to the existing facilities, construction of new facilities or any change in use to the area included in existing Submerged Lands Lease File Number SUB-0514-CU.</p> |
|--|--|--|

| | | |
|---|--|----------------|
| | the proposed project. | |
| Ohio Department of Natural Resources 9 | The ODNR, Division of Geological Survey comments that the area to be filled is small and is unlikely to contain a significant amount of uncontaminated sediment of sand-size or larger. Geological Survey has no concerns based on the preliminary information provided. | Comment Noted. |

Appendix B

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APPENDIX B

RUNWAY LENGTH REQUIREMENTS

Appendix B, *Runway Length Requirements*, contains an excerpt of the Runway Safety Area (RSA) Study for Runway 6L/24R. Section 1.3, *BKL Runway Length Requirements*, was appended to this Environmental Assessment (EA) document in order to provide the takeoff runway length needed for the different types of aircraft that operate at Burke Lakefront Airport (BKL). The entire RSA study, including the referenced appendices, is available upon request.

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BURKE LAKEFRONT AIRPORT

Cleveland, Ohio



RUNWAY SAFETY AREA STUDY for RUNWAY 6L/24R 2011

**Prepared for
the City of Cleveland Department of Port Control**

Prepared by:

**Landrum & Brown, Inc.
McGuiness Unlimited, Inc.**

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measured from the arrival threshold of a runway, taking into account that full RSA and OFAs must be provided behind the arrival threshold. The LDA is measured to (1) the point where the standard RSA or OFA begins at the rollout end of the runway, or (2) the runway end, whichever yields a shorter distance. The lengths of stopways are not included in the computation of the LDA. The LDA cannot be longer than the runway, however, if obstacles on the ground prevent the airport operator from providing standard RSA or OFA to meet runway design criteria off either end of the runway, the LDA may be shorter than the runway.

Existing Declared Distances

There are no published declared distances for BKL according to the Airports Facility Directory, the 5010 web portal or the Aeronautical Information Services website. However, due to the 265-foot displaced threshold on Runway 6L there is reduced LDA. The following represents the declared distances that this RSA study will use as baseline existing conditions for Runway 6L/24R.

- TODA – 6,198'/6,198'
- TORA – 6,198'/6,198'
- ASDA – 6,198'/6,198'
- LDA – 5,933'/6,198'

1.3 BKL RUNWAY LENGTH REQUIREMENTS

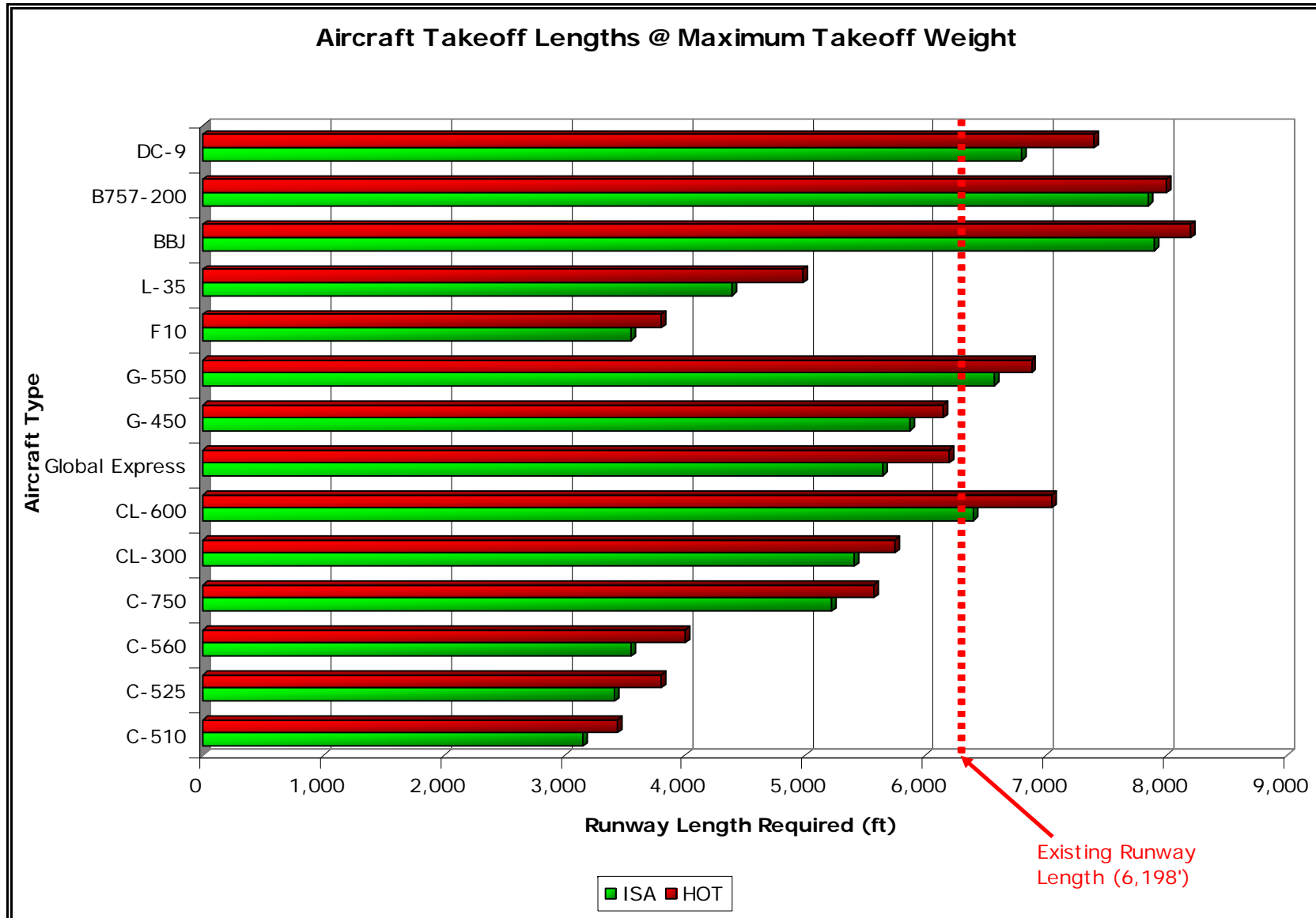
BKL is served by a wide variety of aircraft, from single-engine pistons to large air carrier jets. If BKL became unavailable for use by presently based aircraft and itinerant operators that routinely fly into BKL, these tenants and users would have to find an alternative facility that would meet certain minimum facility capabilities--most importantly of which is runway length. Takeoff runway length needs were assessed for the different types of aircraft that operate at BKL. While the typical turboprop aircraft that operate at BKL generally require between 2,000 to 3,000 feet of runway for takeoff and the single-engine piston aircraft generally requires 1,500 to 3,000 feet of takeoff runway length,⁵ the majority of the BKL jet aircraft fleet requires greater runway lengths.

Exhibit 1.3-1 presents takeoff runway length requirements and **Exhibit 1.3-2** presents landing runway length requirements for a representative mix of corporate jet aircraft. Virtually all jet aircraft weighing more than 20,000 pounds require runway lengths of 5,000 feet or more when operating at maximum takeoff weight (MTOW) under standard day conditions (59 degrees Fahrenheit with no wind). As daily temperatures increase above standard day conditions, additional runway length is typically required. Based on a customer survey conducted from January through June 2005 by one of the Airport's FBOs at the time, approximately 22 percent of surveyed customers indicated that "on occasion" they require (takeoff) runway length greater than the current 6,198 feet available at BKL, necessitating a reduction in takeoff weight.

⁵ Runway length requirements obtained from Jane's *All the World's Aircraft*, based on standard day temperatures at maximum takeoff weight.

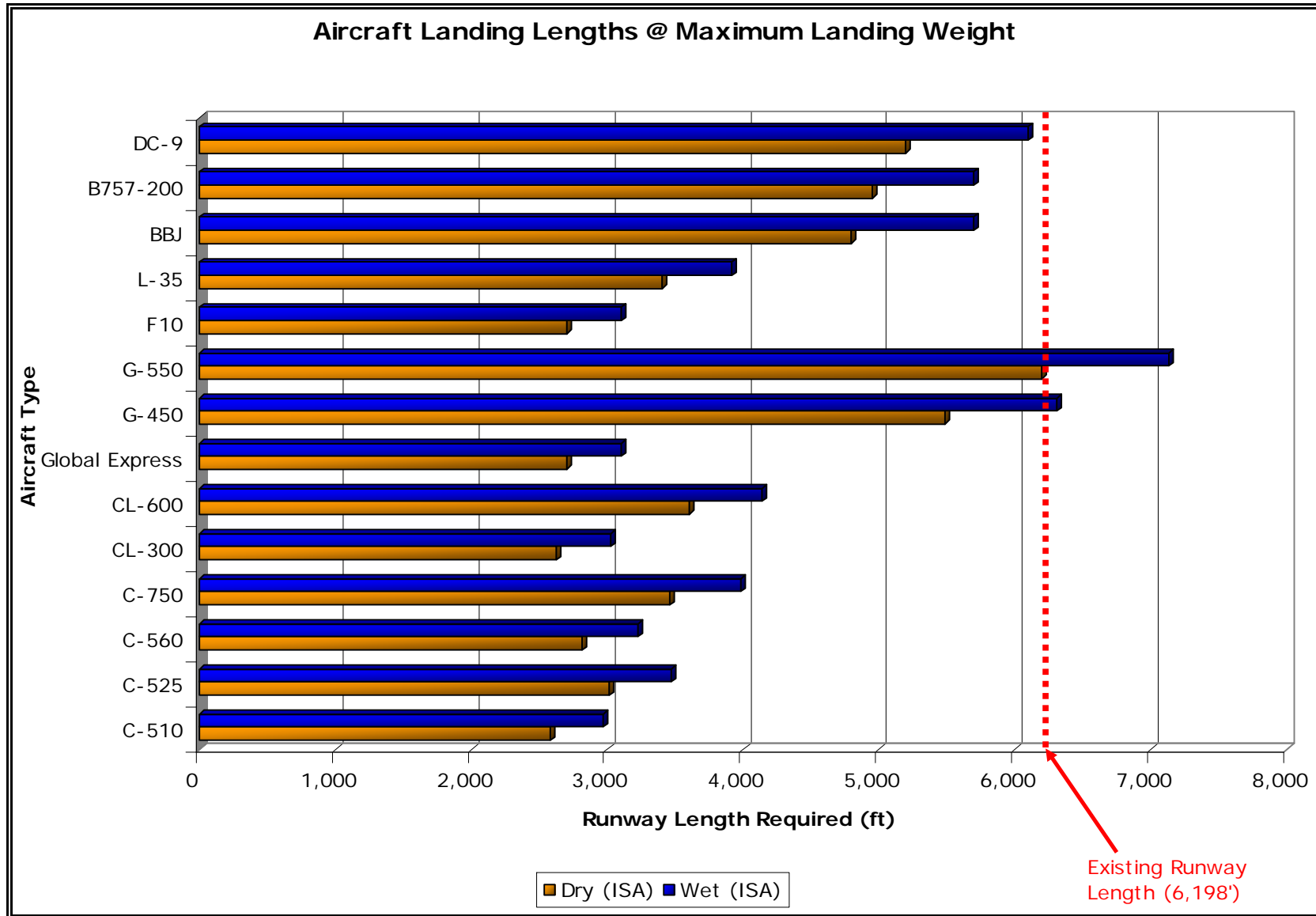
BURKE LAKEFRONT AIRPORT
RUNWAY SAFETY AREA STUDY FOR RUNWAY 6L/24R

Exhibit 1.3-1
TAKEOFF LENGTH REQUIREMENTS



BURKE LAKEFRONT AIRPORT
RUNWAY SAFETY AREA STUDY FOR RUNWAY 6L/24R

Exhibit 1.3-2
LANDING LENGTH REQUIREMENTS



In addition to the corporate jets, larger air carrier jet aircraft routinely fly in and out of BKL and are used by local and visiting professional sports teams. The large jets that use BKL include Boeing 737s, Boeing 727s, Airbus 320s, and DC-9s. These aircraft typically require longer runway lengths than corporate jets. When fully loaded, at takeoff these aircraft can require up to 10,500 feet of runway. However, at BKL these aircraft are used for professional sports teams and are typically not fully loaded; this allows the operators the flexibility to use BKL, which is better located for the teams given the proximity to a number of downtown Cleveland sporting venues.

Based on the results of this analysis, a runway length of no less than 6,198 feet is recommended; this is the existing length of Runway 6L/24R. A runway length of 6,198 feet allows the City of Cleveland to maintain the current operational capability of BKL by continuing to serve the existing fleet mix as well as the sports teams and special charters that use the airport today. Seven of the 14 aircraft analyzed in Exhibits 1.3-1 and 1.3-2 would be impacted by a runway length less than 6,000 feet; nine of the 14 aircraft analyzed would be impacted by a runway length less than 5,500 feet. These impacts would reduce the viability of BKL to serve its intended role as a reliever airport to CLE. **Appendix B** contains several letters from aircraft operators at BKL outlining the effects of reduced runway length on their operations.

If the Runway 6L arrival threshold is relocated or displaced to the east to achieve a full RSA and the Runway 24R arrival threshold is extended to east to maintain the existing runway length and BKL's intended role and viability, the Airport would lose its' existing ILS approach. The controlling obstruction is the stack on the Cleveland Municipal Power Plant. Based upon existing obstructions, the arrival threshold for 24R cannot be moved to the east and still maintain the ILS approach with existing minimums (273' - 1nm visibility).

1.4 RSA ENHANCEMENT ALTERNATIVES

The inventory of the existing Runway 6L/24R RSA identifies several deficiencies as listed below:

- Non-standard width at Runway 6L end
- Non-standard width along Combined Disposal Facility (CDF) berm wall (based on 500-foot wide RSA)
- Approximately 315 feet of available land beyond end of Runway 6L pavement
- Non-frangible Localizer (LOC) (reduces available land to 235 feet beyond end of Runway 6L pavement)
- Vehicle service roads inside the RSA

The FAA Order 5200.8 Appendix 2 identifies a range of RSA improvement concepts that are to be considered as part of any RSA improvement study, they include:

- Construct the traditional graded area surrounding the runway (where it is not practicable to obtain the entire safety area in this manner, as much as possible should be obtained)
- Relocate, shift, or realign the runway

Appendix C

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APPENDIX C AIR QUALITY

This appendix presents an assessment of the potential impacts to air quality from the Proposed Action and the No-Build/No-Action. The following subsections discuss the relevant Federal and state air quality review requirements. The results of the air quality analysis for the Existing Conditions (2012) and conditions for year 2015 are presented under both the No-Build/No-Action and the Proposed Action.

Burke Lakefront Airport (BKL) is located in the Greater Metropolitan Cleveland Intrastate Air Quality Control Region (Cleveland AQCR).¹ The Cleveland AQCR does not meet the Federal standard for fine particulate matter (PM_{2.5}).² In the past, Cuyahoga County was designated as nonattainment for ozone, carbon monoxide (CO), Sulfur Dioxide (SO₂), and Coarse Particulate Matter (PM₁₀); however the U.S. Environmental Protection Agency (USEPA) determined the Cleveland AQCR had attained the standard for these pollutants and the region was re-designated to attainment. The area now operates under a maintenance plan for ozone, CO, SO₂, and PM₁₀.³

C.1 REGULATORY BACKGROUND

This section evaluates the conformity of the Proposed Action with the Ohio State Implementation Plan (SIP) by assessing the potential impact of the Proposed Action on state efforts to achieve and maintain compliance with the National Ambient Air Quality Standards (NAAQS) established under Title I of the Clean Air Act (CAA). In addition to these CAA requirements, there are state regulations that may apply to airport projects, including an Indirect Source Review (ISR). These Federal and state air quality requirements are discussed in the following sections.

C.1.1 NATIONAL AMBIENT AIR QUALITY STANDARDS

The CAA, including the 1990 Amendments, provides for the establishment of standards and programs to evaluate, achieve, and maintain acceptable air quality in the U.S. Under the CAA, the USEPA established a set of standards, or criteria, for six pollutants determined to be potentially harmful to human health and welfare.⁴

¹ U.S. Environmental Protection Agency (USEPA), 40 CFR Part 81, Section 81.22, *Greater Metropolitan Cleveland Intrastate Air Quality Control Region* (e-CFR data current as of May 30, 2012).

² A portion of Cuyahoga County, the area that is bounded on the west by Washington Park Blvd./Crate Ave./East 49th St., on the east by East 71st St., on the north by Fleet Ave., and on the south by Grant Avenue is designated nonattainment for the lead standard. However Burke Lakefront Airport is not within that portion of Cuyahoga County.

³ The 8-hour concentration of ozone was redesignated to moderate maintenance September 15, 2009. CO was redesignated to moderate maintenance March 7, 1994. SO₂ was redesignated to maintenance February 28, 2005. PM₁₀ was redesignated to moderate maintenance January 10, 2001.

⁴ USEPA, Code of Federal Regulations, Title 40, Part 50 (40 CFR Part 50) *National Primary and Secondary Ambient Air Quality Standards* (NAAQS), July 2011.

The USEPA considers the presence of the following six criteria pollutants to be indicators of air quality:

- Ozone (O₃);
- Carbon monoxide (CO);
- Nitrogen dioxide (NO₂);
- Particulate matter (PM₁₀ and PM_{2.5});⁵
- Sulfur dioxide (SO₂); and,
- Lead (Pb).

The standards for the criteria pollutants, known as the NAAQS, are summarized in **Table C-1**. For each of the criteria pollutants, the USEPA established primary standards intended to protect public health, and secondary standards for the protection of other aspects of public welfare, such as preventing materials damage, preventing crop and vegetation damage, and assuring good visibility. Areas of the country where air pollution levels consistently exceed these standards may be designated nonattainment by the USEPA.

A nonattainment area is a homogeneous geographical area⁶ (usually referred to as an air quality control region) that is in violation of one or more NAAQS and has been designated as nonattainment by the USEPA as provided for under the CAA. Some regulatory provisions, for instance the CAA conformity regulations, apply only to areas designated as nonattainment or maintenance.

A maintenance area describes the air quality designation of an area previously designated nonattainment by the USEPA and subsequently redesignated attainment after emissions are reduced. Such an area remains designated as maintenance for a period up to 20 years at which time the state can apply for redesignation to attainment, provided that the NAAQS were sufficiently maintained throughout the maintenance period.

⁵ PM₁₀ and PM_{2.5} are airborne inhalable particles that are less than ten micrometers (coarse particles) and less than 2.5 micrometers (fine particles) in diameter, respectively.

⁶ A homogeneous geographical area, with regard to air quality, is an area, not necessarily bounded by state lines, where the air quality characteristics have been shown to be similar over the whole area. This may include several counties, encompassing more than one state, or may be a very small area within a single county.

**Table C-1
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)
Burke Lakefront Airport**

| NAAQS FOR CRITERIA POLLUTANTS | | | |
|--|---|---|---------------------|
| POLLUTANT | AVERAGING PERIOD | PRIMARY STANDARDS | SECONDARY STANDARDS |
| a) Sulfur Dioxide (SO ₂) | 1-Hour Average 3-Hour Average | 0.075 PPM None | None 0.50 PPM |
| b) Particulate Matter (PM ₁₀) | 24-Hour Average | 150 µg/m ³ | Same as Primary |
| b) Particulate Matter (PM _{2.5}) | Annual Arithmetic Mean (1997 Std) 24-Hour Average (2006 Std) | 15 µg/m ³ 35µg/m ³ | Same as Primary |
| c) Carbon Monoxide (CO) | 8-Hour Average 1-Hour Average | 9 PPM 35 PPM | None |
| d) Ozone (O ₃) | 8-Hour Average (2008 Std) | 0.075 PPM | Same as Primary |
| e) Nitrogen Dioxide (NO ₂) | 1-Hour Daily Maximum Annual Arithmetic Mean | 0.100 PPM 0.053 PPM | Same as Primary |
| f) Lead (Pb) | Rolling 3-Month Average | 0.15 µg/m ³ | Same as Primary |
| | 3-Month Arithmetic Mean | 1.5 µg/m ³ | |

- a) 75 Federal Register 35520, June 22, 2010. Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards (38 FR 25678 September 14, 1973) were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.
- b) 71 Federal Register 61144, October 2006.
- c) 76 Federal Register 54294, August 31, 2011.
- d) 73 Federal Register 16436, March 27, 2008. Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard.
- e) 75 Federal Register 6474, February 9, 2010. 61 Federal Register 52852, October 8, 1996.
- f) 73 Federal Register 66964, November 12, 2008. Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Notes: PPM is parts per million; Std is Standard.

□g/m³ is micrograms per cubic meter.

Sources: USEPA, 40 CFR Part 50.4 through Part 50.13, *National Primary and Secondary Ambient Air Quality Standards*.

According to Federal Aviation Administration (FAA) guidelines⁷ that establish procedures to meet National Environmental Policy Act (NEPA) requirements, an air quality assessment prepared pursuant to NEPA regulations should include an analysis and conclusions of a Federal action's impacts on air quality, as quoted in **Table C-2**.

**Table C-2
NEPA COMPLIANCE FOR AIRPORT FEDERAL ACTIONS
Burke Lakefront Airport**

| FAA GUIDELINES FOR AIRPORT NEPA COMPLIANCE |
|--|
| <i>Environmental Impacts: Policies and Procedures</i> FAA Order 1050.1E Change 1, Section 2, <i>Air Quality</i> |
| Paragraph 2.1(c), <i>Requirements</i>: |
| When a NEPA analysis is needed, the proposed action's impact on air quality is assessed by evaluating the impact of the proposed action on the NAAQS. The proposed action's "build" and "no-build" emissions are inventoried for each reasonable alternative. Normally, further analysis would not be required for pollutants where emissions do not exceed General Conformity [<i>de minimis</i>] thresholds. |

Source: FAA Order 1050.1E Change 1, *Environmental Impacts: Policies and Procedures*, Appendix A, Section 2, *Air Quality*, March 20, 2006.

At a minimum, an inventory would be prepared reflecting emissions under the baseline (No Action) conditions, and a separate inventory would be prepared describing emissions due to the Proposed Action. The net emissions derived from the comparison of the two inventories indicate the relative impact to air quality. Generally, when a Federal action will not result in net emissions that equal or exceed the requirements under the CAA General Conformity regulations, a comparative evaluation of the Federal action to the NAAQS, which requires dispersion analysis, is not necessary, and the Federal action is assumed to comply with the NAAQS.

C.1.2 STATE IMPLEMENTATION PLAN (SIP)

According to the CAA, each state must provide the USEPA with a SIP. The SIP must include a strategy for air quality improvement in local areas for each criteria pollutant that exceeds the NAAQS. The SIP must also include a plan to maintain acceptable air quality in areas that did not meet the NAAQS in the recent past.

C.1.3 CLEAN AIR ACT CONFORMITY REGULATIONS

The CAA Amendments of 1990 included provisions to ensure emissions from Federal actions will comply with the goals of the SIP and will not interfere with the plans to improve air quality in a nonattainment or maintenance area. Compliance to the SIP requires the sponsoring Federal agency to prepare an analytical demonstration of

⁷ FAA Order 1050.1E Change 1, *Environmental Impacts: Policies and Procedures*, Appendix A, Section 2 *Air Quality*, March 20, 2006.

the potential for significant air quality impacts from Federal actions unless the action is exempt under the CAA regulations, or is a project included in the sponsoring agency's Presumed to Conform List.⁸

The USEPA promulgated the conformity regulations on November 24, 1993⁹ to assist Federal agencies in complying with the SIP by specifying rules for two categories of Federal actions: transportation actions and general actions. The two rules have separate and distinct applicability and evaluation requirements. Transportation conformity applies to highway and transit projects, and general conformity regulations apply to all other Federal actions that are not transportation projects, such as airport improvement projects.

C.1.4 GENERAL CONFORMITY RULE APPLICABILITY

The General Conformity Rule under the CAA establishes minimum values, referred to as the *de minimis* thresholds, for the criteria and precursor pollutants¹⁰ for the purpose of:

- Identifying Federal actions with project-related emissions that are clearly negligible (*de minimis*);
- Avoiding unreasonable administrative burdens on the sponsoring agency, and;
- Focusing efforts on key actions that would have potential for significant air quality impacts.

The *de minimis* rates vary depending on the severity of the nonattainment area and further depend on whether the general Federal action is located inside an ozone transport region.¹¹ An evaluation relative to the General Conformity Rule (the Rule), published under 40 CFR Part 93,¹² is required only for general Federal actions that would cause emissions of the criteria or precursor pollutants, and are:

- Federally-funded or Federally-approved;
- Not a highway or transit project¹³;

⁸ The Final Notice for the FAA Presumed to Conform list was published in the Federal Register on July 30, 2007 (72 FR 41565) and includes airport projects that would not require evaluation under the General Conformity regulations. RSA improvements are presumed to conform unless a new road or the relocation of a road is required. Therefore, the Proposed Action at BKL is not exempt under General Conformity.

⁹ 58 FR 62188, dated November 24, 1993.

¹⁰ Precursor pollutants are pollutants that are involved in the chemical reactions that form the resultant pollutant. Ozone precursor pollutants are NO_x and VOC, whereas PM_{2.5} precursor pollutants include NO_x, VOC, SO_x, and ammonia (NH₃).

¹¹ The ozone transport region is a single transport region for ozone (within the meaning of Section 176A(a) of the CAA), comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia, as given at Section 184 of the CAA.

¹² USEPA, 40 CFR Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*, July 1, 2006.

¹³ Highway and transit projects are defined under Title 23 U.S. Code and the Federal Transit Act.

- Not identified as an exempt project¹⁴ under the CAA;
- Not a project identified on the approving Federal agency's Presumed to Conform list;¹⁵ and,
- Located within a nonattainment or maintenance area.

The Proposed Action at BKL is included in a nonattainment area for PM_{2.5} and maintenance area for ozone, CO, SO₂, and PM₁₀. Further, the Proposed Action meets the remaining criteria for requiring an evaluation under the General Conformity Rule. When the action requires evaluation under the General Conformity regulations, the net total direct and indirect emissions due to the Federal action may not equal or exceed the relevant *de minimis* thresholds unless:

- An analytical demonstration is provided that shows the emissions would not exceed the NAAQS; or
- Net emissions are accounted for in the SIP planning emissions budget; or
- Net emissions are otherwise accounted for by applying a solution prescribed under 40 CFR Part 93.158.

The Federal *de minimis* thresholds established under the CAA are given in **Table C-3**. The Proposed Action would occur in Cuyahoga County, which is designated nonattainment for PM_{2.5} and a maintenance area for ozone, CO, SO₂, and PM₁₀. Conformity to the *de minimis* thresholds is relevant only with regard to those pollutants and the precursor pollutants for which the area is nonattainment or maintenance. Notably, there are no *de minimis* thresholds to which a Federal agency would compare ozone emissions. This is because ozone is not directly emitted from a source. Rather, ozone is formed through photochemical reactions involving emissions of the precursor pollutants NO_x and volatile organic compounds (VOC) in the presence of abundant sunlight, and heat. Therefore, emissions of ozone on a project level are evaluated based on the rate of emissions of the ozone precursor pollutants, NO_x and VOC.

¹⁴ The BKL Proposed Action is not listed as an action exempt from a conformity determination pursuant to 40 CFR Part 93.153(c). An exempt project is one that the USEPA has determined would clearly have no impact on air quality at the facility, and any net increase in emissions would be so small as to be considered negligible.

¹⁵ The provisions of the CAA allow a Federal agency to submit a list of actions demonstrated to have low emissions that would have no potential to cause an exceedence of the NAAQS and are presumed to conform to the CAA conformity regulations. This list would be referred to as the "Presumed to Conform" list. The FAA Presumed to Conform list was published in the Federal Register on February 12, 2007 (72 FR 6641-6656) and includes airport projects that would not require evaluation under the General Conformity regulations. The final rule on the list has not been published.

**Table C-3
DE MINIMIS THRESHOLDS
Burke Lakefront Airport**

| CRITERIA AND PRECURSOR POLLUTANTS | TYPE AND SEVERITY OF NONATTAINMENT AREA | TONS PER YEAR THRESHOLD |
|---|--|----------------------------|
| Ozone (VOC or NO _x) ¹ | Serious nonattainment | 50 |
| | Severe nonattainment | 25 |
| | Extreme nonattainment | 10 |
| | Other areas outside an ozone transport region | 100 |
| Ozone (NO _x) ¹ | Marginal and moderate nonattainment inside an ozone transport regions ² | 100 |
| | Maintenance | 100 |
| Ozone (VOC) ¹ | Marginal and moderate nonattainment inside an ozone transport region ² | 50 |
| | Maintenance within an ozone transport region ² | 50 |
| | Maintenance outside an ozone transport region ² | 100 |
| Carbon monoxide (CO) | All nonattainment & maintenance | 100 |
| Sulfur dioxide (SO ₂) | All nonattainment & maintenance | 100 |
| Nitrogen dioxide (NO ₂) | All nonattainment & maintenance | 100 |
| Coarse particulate matter (PM ₁₀) | Serious nonattainment | 70 |
| | Moderate nonattainment and maintenance | 100 |
| Fine particulate matter (PM _{2.5}) (VOC, NO _x , NH ₃ , and SO _x) ³ | All nonattainment and maintenance | 100 |
| Lead (Pb) | All nonattainment and maintenance | 25 |

- Notes: Federal thresholds that are shaded are applicable to this project.
Code of Federal Regulations (CFR), Title 40, *Protection of the Environment*.
USEPA defines *de minimis* as emissions that are so low as to be considered insignificant and negligible. Volatile organic compounds (VOC); Nitrogen oxides (NO_x); Ammonia (NH₃); Sulfur oxides (SO_x).
- ¹ The rate of increase of ozone emissions is not evaluated for a project-level environmental review because the formation of ozone occurs on a regional level and is the result of the photochemical reaction of NO_x and VOC in the presence of abundant sunlight and heat. Therefore, USEPA considers the increasing rates of NO_x and VOC emissions to reflect the likelihood of ozone formation on a project level.
- ² An OTR is a single transport region for ozone, comprised of the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia.
- ³ For the purposes of General Conformity applicability, VOC's and NH₃ emissions are only considered PM_{2.5} precursors in nonattainment areas where either a State or USEPA has made a finding that the pollutants significantly contribute to the PM_{2.5} problem in the area. In addition, NO_x emissions are always considered a PM_{2.5} precursor unless the State and USEPA make a finding that NO_x emissions from sources in the State do not significantly contribute to PM_{2.5} in the area. Refer to 74 FR 17003, April 5, 2006.
- Sources: USEPA, 40 CFR Part 93.153(b)(1) & (2), March 25, 2008. USEPA, 40 CFR Part 51.853, March 25, 2008.

Although PM_{2.5} is sometimes emitted directly, fine particle emissions can form resulting from chemical reactions involving emissions of the PM_{2.5} precursor pollutants NO_x, VOC, SO_x, and ammonia (NH₃).¹⁶ Similar to ozone, the net emissions of PM_{2.5} and the precursor pollutants SO_x, NO_x, and VOC would be evaluated with regard to General Conformity. As such, the pollutants of concern for the project proposed at BKL are CO, NO_x, VOC, PM_{2.5}, PM₁₀, and SO_x. The relevant *de minimis* thresholds are 100 tons per year for all of these pollutants.

If the General Conformity evaluation of the Proposed Action at BKL were to show that any of these thresholds could potentially be equaled or exceeded on an annual basis, additional, more detailed analysis to demonstrate conformity would be required, which is referred to as a General Conformity Determination.¹⁷ Conversely, if the General Conformity evaluation were to show that none of the relevant thresholds were equaled or exceeded, the Proposed Action at BKL would be presumed to conform under the CAA, NEPA, and the SIP and no further analysis would be required under the CAA.

C.1.5 TRANSPORTATION CONFORMITY RULE APPLICABILITY

Although airport improvement projects are usually considered under the General Conformity regulations, there can be elements of a Federal action or its alternatives that may require an analysis to demonstrate Transportation Conformity, such as actions relating to transportation plans, programs, projects developed, funded, or approved under Title 23 United States Code (U.S.C.) or the Federal Transit Act (FTA),¹⁸ or involve Federal highways. In such cases, the sponsoring Federal agency would be required to coordinate with the Federal Highway Administration (FHWA), the state Department of Transportation (DOT), and the local metropolitan planning organization (MPO) to assist in completing a Transportation Conformity evaluation.

As with General Conformity, Transportation Conformity regulations apply only to Federal actions located within a nonattainment or maintenance area. The Proposed Action under consideration at BKL would not be developed, funded, or approved by the FHWA or FTA, and does not have a significant adverse effect on regional transportation plans or programs. Therefore, the Transportation Conformity regulations would not apply.

C.1.6 INDIRECT SOURCE REVIEW

Some states require an air quality review when a Federal action has the potential to cause an increase in net emissions from indirect sources. Indirect sources cause emissions that occur later in time or are farther removed from the Federal action. Depending on the state, indirect sources may be identified as motor vehicles on highways, parking at sports and entertainment facilities, or an increase in aircraft operations. The state requirement is referred to as the ISR and each state requiring an ISR sets thresholds for increased operation of the indirect sources.

¹⁶ Emissions of NH₃ are generally associated with commercial animal agriculture, including feeding operations. Therefore, emissions of NH₃ were not included in this analysis.

¹⁷ 40 CFR Part 93.153.

¹⁸ USEPA, 40 CFR Part 93.153, *Applicability*, July 1, 2006.

When a Federal action has the potential to exceed these thresholds, an air quality review is required to assess the character and impact of the additional emissions, which is separate from the analyses required under NEPA or the CAA. According to FAA, *Air Quality Procedures for Airports and Air Force Bases*,¹⁹ Ohio does not require an ISR.

C.2 MODELING APPROACH

In order to properly determine the potential for impact to air quality the following analyses were conducted for this assessment:

- Criteria and precursor pollutant emission inventory; and a,
- Construction equipment emissions inventory.

C.2.1 METEOROLOGY

In order to properly estimate the emissions inventories, information regarding the weather must be obtained, particularly the mixing height, temperature, barometric pressure, wind direction, ceiling height and visibility.

The calculation of emissions assumes that aircraft operate only within the mixing layer, below the mixing height, where the emissions may influence ground-based pollutant concentrations. The mixing height, combined with the angle of approach (usually 3 degrees above the horizon) and the departure angle, determines the total time an aircraft operates during approach and climbout.

The emissions inventories were prepared using the FAA-required and USEPA-approved Emissions and Dispersion Modeling System (EDMS) version 5.1.3 computer program released in November 2010. EDMS is an emissions inventory and air dispersion model designed specifically to estimate emissions and calculate pollutant concentrations from airport specific sources. EDMS requires the declaration of a mixing height when the computer study is created. The EDMS default mixing height of 3,000 feet was used in this analysis. In addition, the EDMS default value of 49 degrees Fahrenheit for temperature was used for the analysis.

C.2.2 AIRCRAFT, AUXILIARY POWER UNITS, AND GROUND SUPPORT EQUIPMENT AIRCRAFT

At all airports the number of aircraft operations directly affects emissions relative to the use of aircraft engines in arrival and departure operations, the use of aircraft engines during taxi time, and through departure queue delay time. The Proposed Action would not increase the actual number of aircraft or change the existing or projected fleet mix. Therefore, the Proposed Action would not increase the total number of aircraft operations as compared to the 2015 No-Build/No-Action. **Table C-4** shows the annual operations by aircraft category for the existing conditions and for the 2015 Proposed Action and No Action alternative.

¹⁹ FAA, *Air Quality Procedures for Civilian Airports & Air Force Bases*, Appendix J, April 1997 and Addendum September 2004.

**Table C-4
ANNUAL OPERATIONS BY AIRCRAFT CATEGORY
Burke Lakefront Airport**

| Aircraft Category | ANNUAL OPERATIONS | |
|--------------------------|--------------------------|---------------|
| | 2012 | 2015 |
| Jet | 14,104 | 15,513 |
| Turboprop | 20,440 | 19,345 |
| Multi Engine Piston | 5,475 | 4,745 |
| Single Engine Piston | 1,511 | 1,059 |
| Helicopters | 14,272 | 13,271 |
| TOTAL | 55,801 | 53,932 |

Totals may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

For the existing baseline (2012) there were a total of 55,805²⁰ annual operations. In 2015, the FAA's Terminal Area Forecast estimates there would be 53,880 annual operations.

In order to properly estimate emissions, the landing take-off cycles (LTOs) of each particular aircraft is needed. An LTO consists of the approach, landing roll, taxi to and from the gate/terminal/or parking area, idle time, takeoff, and climbout. An LTO is defined as one arrival operation and one departure operation. Therefore 55,805 annual operations in 2012 would equal 27,903 LTO's.

From the aircraft category a representative aircraft that operated at BKL was selected and then entered into EDMS with the corresponding LTOs. **Table C-5** shows the Annual LTOs per aircraft for each year in the study.

²⁰ Federal Aviation Administration's (FAA's) Air Traffic Activity System (ATADS) for the period from March 2011 through February 2012.

**Table C-5
LTOs BY AIRCRAFT
Burke Lakefront Airport**

| AIRCRAFT CATEGORY | REPRESENTATIVE AIRCRAFT | ANNUAL LANDING TAKE OFF CYCLES | |
|----------------------|----------------------------|-----------------------------------|---------------|
| | | 2012 | 2015 |
| Jet | Bombardier Challenger 600 | 1,281 | 1,409 |
| | Bombardier Learjet 35 | 2,759 | 3,037 |
| | Cessna 560 Citation Excel | 2,310 | 2,540 |
| | Mitsubishi MU-300 Diamond | 701 | 770 |
| Turboprop | Cessna 208 Caravan | 4,563 | 4,380 |
| | Cessna 441 Conquest II | 5,658 | 5,293 |
| Multi Engine Piston | Raytheon Beech Baron 58 | 2,738 | 2,373 |
| Single Engine Piston | Cessna 172 | 208 | 179 |
| | Piper PA-28 Cherokee | 548 | 350 |
| Helicopter | Sikorsky S-76 Spirit | 7,136 | 6,636 |
| TOTAL | | 27,901 | 26,966 |

Totals may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

Taxi Times

Taxi distances for BKL were developed for aircraft traveling to each runway end. A central aircraft parking area adjacent to the terminal was established and runway use percentages were used in the calculation of taxi times. The existing distance from the central aircraft parking area to Runway End 6L was determined to be approximately 2,020 feet and the distance from the central aircraft parking area to Runway End 24R was determined to be 6,485 feet. For a taxi speed of ten miles per hour, an average taxi in and taxi out time of six minutes and 35 seconds was calculated for the 2012 Existing condition and the 2015 future No Action Alternative. The total average taxi in and taxi out time for the Airport was applied to each aircraft in the fleet list for the calculation of the emissions inventory.

The proposed 600 foot shift and extension of Runway End 24R would have the potential to change average taxi time of aircraft at the Airport. The Proposed Action would increase total taxi distance and taxi time and therefore total emissions from aircraft operations. The proposed distance from the central aircraft parking area to new Runway End 6L was determined to be approximately 1,831 feet and the distance from the central aircraft parking area to new Runway End 24R was determined to be 7,092 feet. For the Proposed Action, an average taxi in and taxi out time of six minutes and 86 seconds was calculated. The total average taxi in and taxi out time was applied to each aircraft in the future fleet list for the calculation of the emissions inventory.

Particulate Matter Emissions Factors for Aircraft

EDMS does not contain particulate matter emissions factors for all aircraft. Therefore, emissions factors from the USEPA's AP42 Table II-1-9 were used in the calculations of PM₁₀ and PM_{2.5} emissions when none existed in EDMS.²¹

Auxiliary Power Unit (APU)

The larger jet aircraft use an auxiliary power unit (APU) to operate heat, air conditioning, and electric for the aircraft. The APU is also used to restart the engines before departing from the terminal/gate area. The assignments of APUs were made using the EDMS default assignments. It is assumed there would be no change in operating time of APU use from the 2015 No-Build/No-Action to the 2015 Proposed Action.

Ground Support Equipment (GSE)

The EDMS default assignments for the type and operating time of ground support equipment (GSE) for each aircraft type was used for the analysis. It is assumed there would be no change in operating time of GSE use from the 2015 No-Build/No-Action to the 2015 Proposed Action.

C.2.3 GROUND ACCESS VEHICLES (GAV)

The Proposed Action would not increase the number of ground access vehicles (GAV) on or near Airport roadways. Therefore for this analysis it is assumed there would be no change in ground access vehicle use from 2015 No-Build/No-Action to the 2015 Proposed Action

C.2.4 STATIONARY SOURCES

The Proposed Action does not involve any changes to existing stationary sources at the Airport. Therefore it is assumed there would be no change in stationary source use from 2015 No-Build/No-Action to the 2015 Proposed Action.

²¹ USEPA. *AP 42 Supplement A to Compilation of Air Pollutant Emission Factors Volume II: Mobile Sources*. Table II-1-9 Emission factors per aircraft per landing/takeoff cycle-civil aircraft. January 1991.

C.3 EXISTING CONDITIONS

The results of the emission inventory for the 2012 Existing Conditions are provided in **Table C-6**.

**Table C-6
2012 EXISTING CONDITIONS EMISSIONS INVENTORY
Burke Lakefront Airport**

| EMISSION SOURCES | ANNUAL EMISSIONS | | | | | |
|---------------------|------------------|--------------|-----------------|-----------------|------------------|-------------------|
| | (tons per year) | | | | | |
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| Aircraft | 154.53 | 53.90 | 9.86 | 2.40 | 6.93 | 6.93 |
| GSE | 28.06 | 1.08 | 4.31 | 0.08 | 0.17 | 0.16 |
| APUs | 1.26 | 0.03 | 0.22 | 0.04 | 0.04 | 0.04 |
| Total | 183.85 | 55.00 | 14.38 | 2.51 | 7.14 | 7.14 |

Total emissions may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

C.4 CONSTRUCTION

Short-term temporary air quality impacts would be caused by construction of the Proposed Action. In accordance with FAA Order 1050.1E Change 1, *Environmental Impacts: Policies and Procedures*, the impacts to the environment due to construction activities must be assessed. Final engineering for the Proposed Action is not complete. Therefore, the analysis of construction emissions was based on estimates of the type and quantity of construction activities likely to be used for the project. The use of equipment anticipated to be necessary for the construction of the Proposed Action were based on airport construction projects of similar size and scope that were successfully reviewed in previous recent airport environmental documents. Construction of the Proposed Action is planned to occur between May 2013 and November 2014.

The construction emissions inventory was calculated using the National Mobile Inventory Model (NMIM)²² for diesel-powered nonroad equipment, such as excavators and backhoes, and diesel-powered onroad vehicles typically used for construction, such as dump trucks and cement trucks.

The following procedures were used to project the emissions caused by equipment and vehicles during construction of the Proposed Action:

- Develop the list of construction equipment and materials necessary for each construction task;

²² USEPA, *NMIM*; computer modeling system for USEPA NONROAD and MOBILE 6.02 computer programs. USEPA extended the grace period until after March 2, 2013 before the Motor Vehicle Simulator model (MOVES) is required for regional emissions analyses for transportation conformity determinations.

- Calculate total operating hours for each piece of equipment required for each construction task using a Microsoft® EXCEL 2010 spreadsheet;
- Enter construction equipment information into the NMIM, which incorporates data from the USEPA NONROAD and MOBILE programs, to calculate construction emissions.

The emissions for all the individual construction tasks were added together to determine the total construction emissions for each year of construction attributable to the Proposed Action as provided in **Table C-7**.

**Table C-7
PROPOSED ACTION CONSTRUCTION EMISSIONS INVENTORY
Burke Lakefront Airport**

| Construction Year | ANNUAL EMISSIONS | | | | | |
|-----------------------------|------------------|------------|-----------------|-----------------|------------------|-------------------|
| | (tons per year) | | | | | |
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| 2013 | 0.16 | 0.00 | 0.28 | 0.00 | 0.03 | 0.03 |
| 2014 | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 | 0.01 |
| de minimis THRESHOLD | 100 | 100 | 100 | 100 | 100 | 100 |

Total emissions may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

Construction of the Proposed Action would result in short term air quality impacts from exhaust emissions from construction equipment and from fugitive dust emissions from vehicle movement and soil excavation. Fugitive dust emissions consist mostly of soil. As provided in **Table C-9**, emissions due to construction equipment would not exceed applicable thresholds.

While the construction of the Proposed Action would be expected to contribute to fugitive dust in and around the construction site, the City of Cleveland Department of Port Control (DPC) would ensure that all possible measures would be taken to reduce fugitive dust emissions during construction by requiring the construction contractor to submit a proposed method of erosion and dust control, and disposal of waste materials pursuant to guidelines included in FAA, *Standards for Specifying Construction of Airports*.²³ While the estimated annual occurrence of temporary fugitive dust emissions during construction is highly variable on a daily basis, the implementation of the measures by the DPC would result in fugitive dust emissions from construction activity being essentially nil. Methods of controlling dust and other airborne particles will be implemented to the maximum possible extent and may include, but not limited to, the following:

- Minimizing the exposed area of erodible earth;

²³ FAA, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, AC 150/5370-10F (September 30, 2011).

- Use of water sprinkler trucks for material piles and unpaved areas;
- Use of particle-trap exhaust filters;
- Reduction of idling of diesel engines;
- Use of covered haul trucks to move construction material;
- Use of dust palliatives or penetration asphalt on haul roads; and
- Use of plastic sheet coverings for material piles.

C.5 EMISSIONS INVENTORY

The results of the emission inventory for the 2015 No-Build/No-Action Conditions are provided in **Table C-8**.

Table C-8
2015 NO-BUILD/NO-ACTION EMISSIONS INVENTORY
Burke Lakefront Airport

| EMISSION SOURCES | ANNUAL EMISSIONS | | | | | |
|------------------|------------------|--------------|-----------------|-----------------|------------------|-------------------|
| | (tons per year) | | | | | |
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| Aircraft | 144.69 | 55.21 | 10.08 | 2.43 | 7.05 | 7.05 |
| GSE | 21.92 | 0.82 | 2.92 | 0.07 | 0.13 | 0.12 |
| APUs | 1.39 | 0.03 | 0.24 | 0.04 | 0.04 | 0.04 |
| Total | 167.99 | 56.05 | 13.24 | 2.55 | 7.22 | 7.21 |

Total emissions may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

The results of the emission inventory for the 2015 Proposed Action Conditions are provided in **Table C-9**.

Table C-9
2015 PROPOSED ACTION EMISSIONS INVENTORY
Burke Lakefront Airport

| EMISSION SOURCES | ANNUAL EMISSIONS | | | | | |
|------------------|------------------|--------------|-----------------|-----------------|------------------|-------------------|
| | (tons per year) | | | | | |
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| Aircraft | 150.29 | 58.43 | 10.31 | 2.52 | 7.08 | 7.08 |
| GSE | 21.92 | 0.82 | 2.92 | 0.07 | 0.13 | 0.12 |
| APUs | 1.39 | 0.03 | 0.24 | 0.04 | 0.04 | 0.04 |
| Total | 173.60 | 59.28 | 13.46 | 2.64 | 7.25 | 7.25 |

Total emissions may not sum exactly due to rounding.

Source: L&B Analysis, 2012.

C.5.1 GENERAL CONFORMITY EVALUATION

The purpose of a general conformity evaluation is to examine the results of the emissions inventories and to determine the applicability of the General Conformity Rule to the Proposed Action. A General Conformity Determination is required if the net increase in emissions resulting from the Proposed Action exceed the applicable *de minimis* thresholds. **Table C-10** shows that the estimated net emissions from construction and implementation of the Proposed Action would be less than the applicable *de minimis* thresholds. Because construction and implementation of the Proposed Action would not result in increased emissions above the applicable *de minimis* thresholds, no further analysis is required under the General Conformity (Rule 40 CFR Part 93, §93.153) and the Proposed Action is presumed to conform.

**Table C-10
GENERAL CONFORMITY EVALUATION
Burke Lakefront Airport**

| ALTERNATIVES | ANNUAL EMISSIONS (tons per year) | | | | | |
|------------------------------------|-------------------------------------|-------------|-----------------|-----------------|------------------|-------------------|
| | CO | VOC | NO _x | SO _x | PM ₁₀ | PM _{2.5} |
| 2013* Proposed Action | 0.16 | 0.00 | 0.28 | 0.00 | 0.03 | 0.03 |
| NET EMISSIONS | 0.16 | 0.00 | 0.28 | 0.00 | 0.03 | 0.03 |
| 2014* Proposed Action | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 | 0.01 |
| NET EMISSIONS | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 | 0.01 |
| 2015 No-Build/No-Action | 167.99 | 56.05 | 13.24 | 2.55 | 7.22 | 7.21 |
| 2015 Proposed Action | 173.60 | 59.28 | 13.46 | 2.64 | 7.25 | 7.25 |
| NET EMISSIONS | 5.60 | 3.22 | 0.23 | 0.09 | 0.04 | 0.04 |
| <i>de minimis</i> THRESHOLD | 100 | 100 | 100 | 100 | 100 | 100 |

* 2013 and 2014 represent construction years.
Total emissions may not sum exactly due to rounding.
Source: EDMS version 5.1.3, L&B Analysis, 2012.

C.6 CLIMATE AND GREENHOUSE GAS EMISSIONS

Greenhouse gases (GHG) are gases that trap heat in the earth's atmosphere. Both naturally occurring and man-made GHGs primarily include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as GAV.

Research has shown there is a direct correlation between fuel combustion and GHG emissions. In terms of U.S. contributions, the General Accounting Office (GAO) reports that "domestic aviation contributes about three percent of total carbon dioxide emissions, according to EPA data," compared with other industrial sources including the remainder of the transportation sector (20 percent) and power

generation (41 percent).²⁴ The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.²⁵ Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.²⁶

The scientific community is continuing efforts to better understand the impact of aviation emissions on the global atmosphere. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S. Global Change Research Program and its participating federal agencies (e.g., National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA), and Department Of Energy (DOE)), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions. FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. Similar research topics are being examined at the international level by the International Civil Aviation Organization.²⁷

A GHG emissions inventory was prepared using the EDMS version 5.1.3 computer program. Carbon dioxide from aircraft was calculated and then totals were converted from short to metric tons (1 short ton = 0.907184 metric tons). The results are provided in **Table C-11**.

²⁴ *Aviation and Climate Change*. GAO Report to Congressional Committees, (2009).

²⁵ Alan Melrose, "European ATM and Climate Adaptation: A Scoping Study," in *ICAO Environmental Report*. (2010).

²⁶ As explained by the U.S. Environmental Protection Agency, "greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment but other regions of the world as well; likewise, emissions in other countries can affect the United States." Climate Change Division, Office of Atmospheric Programs, U.S. Environmental Protection Agency, *Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act* 2-3 (2009).

²⁷ Lourdes Q. Maurice and David S. Lee. *Chapter 5: Aviation Impacts on Climate*. Final Report of the International Civil Aviation Organization (ICAO) Committee on Aviation and Environmental Protection (CAEP) Workshop. October 29th November 2nd 2007, Montreal.

**Table C-11
GREENHOUSE GAS EMISSIONS
Burke Lakefront Airport**

| Annual Metric Tons of CO ₂ | |
|---------------------------------------|---------------|
| Existing Conditions | 5,311.48 |
| 2015 No-Build/No-Action | 5,377.72 |
| 2015 Proposed Action | 5,586.00 |
| NET EMISSIONS | 208.27 |

CO₂: Carbon Dioxide

Total emissions may not sum exactly due to rounding.

Source: EDMS version 5.1.3, L&B Analysis, 2012.

Currently, there are no Federal standards for reporting GHG emissions from aviation sources, as well as no significance thresholds. The Proposed Action would increase GHG emissions by 208.27 metric tons over the No Action alternative, an increase of 3.9 percent. This increase would comprise less than 3.05×10^{-8} percent of U.S. based GHG emissions and less than 4.25×10^{-9} percent of global GHG emissions.²⁸ Therefore, it is not expected that the emissions of GHGs from this project be significant. No further consideration of GHGs is necessary.²⁹

C.8 RESULTS

The air quality assessment demonstrates that construction and implementation of the Proposed Action would not cause an increase in air emissions above the applicable *de minimis* thresholds. Therefore, the Proposed Action conforms to the SIP and the CAA and would not create any new violation of the NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is expected by construction or implementation of the Proposed Action. No further analysis or reporting is required under the CAA or NEPA.

²⁸ U.S. based GHG emission estimated at 6,821.8 million metric tons CO₂ equivalent in Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010, (April 2012) .

²⁹ FAA Order 1050.1E, Change 1, Guidance Memo#3. To: FAA Lines of Business and Managers with NEPA Responsibilities. From: Julie Marks, FAA AEE-400, Prepared by Thomas Cuddy, FAA AEE-400. Subject: Considering Greenhouse Gases and Climate Under the National Environmental Policy Act (NEPA): Interim Guidance. January 12, 2012.

ATTACHMENT 1

GLOSSARY

The Environmental Assessment (EA) process requires the use of many technical terms. Some of the most important terms are defined in this section. Terms in *italics* are defined separately in this glossary.

Air Quality Control Region (AQCR) An EPA designated interstate or intrastate geographic region that has significant air pollution or the potential for significant air pollution and, due to topography, meteorology, etc., needs a common air quality control strategy. The region includes all the counties that are affected by or have sources that contribute directly to the air quality of that region.

Attainment Area – Any area that meets the national primary or secondary ambient air quality standard for a particular criteria pollutant.

Carbon Monoxide (CO) – A *criteria pollutant* that is colorless, odorless gas produced through the incomplete combustion of fossil fuels.

CFRs – Code of Federal Regulations

Clean Air Act (CAA) – The Federal law regulating air quality. The first Clean Air Act (CAA) passed in 1967, required that air quality criteria necessary to protect the public health and welfare be developed. Since 1967, there have been several revisions to the CAA. The Clean Air Act Amendments of 1990 represent the fifth major effort to address clean air legislation.

Conformity – The act of meeting Section 176(c)(1) of the CAAA that requires Federal actions to conform to the SIP for air quality. The action may not increase the severity of an existing violation nor can it delay attainment of an standards.

Criteria Pollutants – The six air pollutants listed in the CAA for which the USEPA has established health-based limits. The six criteria pollutants are *carbon monoxide, nitrogen dioxide, lead, sulfur dioxide, particulate matter, and ozone*.

***de minimis* Thresholds** – The *de minimis* thresholds are considered the thresholds of significance relative to compliance of net emissions under Federal and state air quality regulations, and in determining the potential for significant air quality impacts caused by a Federal action. They are the minimum rates (tons per year) for the Proposed Action above which a General Conformity Determination would be required. *De minimis* is defined by the *USEPA* as emissions that are insignificant and negligible, with no potential to cause significant adverse air quality impacts. The applicable rates depend on the severity of the nonattainment designation and whether the project is located within the ozone transport region. Also applicable are rates for precursor pollutants, which are NO_x and VOC for ozone, and SO_x for emissions of PM_{2.5}.

Dispersion – The process by which atmospheric pollutants disseminate due to wind and vertical stability.

Emission Factor – The rate at which pollutants are emitted into the atmosphere by one source or a combination of sources.

Federal Aviation Administration (FAA) - The Federal agency responsible for insuring the safe and efficient use of the nation's airspace, for fostering civil aeronautics and air commerce, and for supporting the requirements of national defense.

Fugitive Dust – Dust discharged to the atmosphere in an unconfined flow stream such as that from an unpaved road, storage piles, and heavy construction operations.

Hydrocarbons (HC) – Gases that represent unburned and wasted fuel. They come from incomplete combustion of gasoline and from evaporation of petroleum fuels.

Inversion – A thermal gradient created by warm air situated above cooler air. An inversion suppresses turbulent mixing and thus limits the upward dispersion of polluted air.

Landing and Takeoff Cycle (LTO) – One aircraft LTO is equivalent to two aircraft operations (one landing and one takeoff). The standard LTO cycle begins when the aircraft crosses into the mixing zone as it approaches the airport on its descent from cruising altitude, lands and taxis to the gate. The cycle continues as the aircraft taxis back out to the runway for takeoff and climbout as its heads out of the mixing zone and back up to cruising altitude. The five specific operating modes in a standard LTO are: approach, taxi/idle-in, taxi/idle-out, takeoff, and climbout. Most aircraft go through this sequence during a complete standard operating cycle.

Maintenance Area (MA) - Any geographic area of the United States previously designated nonattainment pursuant the CAA Amendments of 1990 and subsequently redesignated to attainment.

Mixing Height - The height of the completely mixed portion of atmosphere that begins at the earth's surface and extends to a few thousand feet overhead where the atmosphere becomes fairly stable.

Mobile Source - A moving vehicle that emits pollutants. Such sources include airplanes, automobiles, trucks and ground support equipment.

National Environmental Policy Act of 1969 (NEPA) - The original legislation establishing the environmental review process for proposed Federal actions.

Nitrogen Dioxide (NO₂) – A *criteria pollutant* gas that absorbs sunlight and gives air a reddish-brown color. NO₂ is a subset of the larger set of nitrogen oxides (NO_x). The gas is reactive and forms when fuel is burned at high temperatures and high pressure.

Nitrogen Oxides (NO_x) – See NO₂.

National Ambient Air Quality Standard (NAAQS) - Air Quality standards established by the EPA to protect human health (primary standards) and to protect property and aesthetics (secondary standards).

Nonattainment Area– Any geographical area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for any particular *criteria pollutant*.

Ozone (O₃) – A *criteria pollutant* which is not directly emitted, rather, ozone is formed in the atmosphere through photochemical reaction with *nitrogen oxides* (NO_x), *volatile organic compounds* (VOC), sunlight, and heat. It is the primary constituent of smog and problems occur many miles away from the pollutant sources. Due to the fact that ozone is not directly emitted and is a regional phenomenon, emissions of NO_x and VOC are evaluated to indicate the likely formation of ozone. Ozone is not evaluated for a project-level emission inventory.

Particulate Matter (PM₁₀ & PM_{2.5}) – There are two sizes of particulate matter that account for one of the six criteria pollutants. PM₁₀, coarse particles with a diameter of 10 micrometers or less, and PM_{2.5}, fine particles with a diameter of 2.5 micrometers or less. Emissions of PM_{2.5} is a subset of emissions of PM₁₀. Particulate matter can be any particle of these sizes, including dust, dirt, and soot. Particulate matter is directly emitted by engine combustion. PM_{2.5} reacts with precursor pollutants VOC, NO_x, and SO_x gases to form secondary particles.

PPM - Parts per million.

Precursor Pollutant – Pollutant which aid in the formation of *criteria pollutants*. NO_x and VOC are precursor pollutants to *ozone* development; SO_x, NO_x, and VOC are precursors to development of PM_{2.5}.

State Implementation Plan (SIP) – A plan stating the strategy the state will use to meet and maintain the Federal air quality standards as required under the Clean Air Act (CAA, including the 1990 Amendments). A SIP includes the projected emission budgets and controls for industrial, area, and mobile sources of pollution.

Sulfur Dioxide (SO₂) – A *criteria pollutant* formed when fuel containing sulfur, like coal, oil and jet fuel, is burned and is commonly expressed as SO_x since it is a large subset of sulfur dioxides (SO₂). SO₂ is a colorless gas that is typically identified as having a strong odor. SO_x is a *precursor pollutant* to the formation of PM_{2.5} emissions.

Sulfur Oxides (SO_x) – See SO₂.

Volatile Organic Compound (VOC) – Gases that are emitted from solids or liquids, such as fuel storage, paint, and cleaning fluids. VOC include a variety of chemicals, some which can have short and long-term adverse health effects. VOCs are *precursor pollutants* that react with heat, sunlight and *nitrogen oxides* (NO_x) to form *ozone* (O₃). VOC also mix with other gases to form PM_{2.5}. VOCs are a subset of TOGs.

Appendix D

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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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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,

A handwritten signature in dark ink, appearing to read 'Len Mikles', is written over a light blue horizontal line.

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**

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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 mi², 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 mi². 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 (≥ 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 (*Potamogeton 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 last 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 |
|--------------------------------|---------------------|-------------|----------|------------|
| <i>Acalypha rhomboidea</i> | Rhombic copperleaf | X | | |
| <i>Acer negundo</i> | Box elder | X | X | |
| <i>Achillea millefolium</i> | Yarrow | X | | X |
| <i>Agrostis gigantea</i> | Redtop | | X | X |
| <i>Agrostis stolonifera</i> | Creeping bent grass | | X | X |
| <i>Alliaria petiolata</i> | Garlic mustard | X | | |
| <i>Allium vineale</i> | Field-garlic | X | | X |
| <i>Alopecurus carolinianus</i> | Carolina foxtail | | X | |
| <i>Amaranthus</i> sp. | Amaranth | X | | |
| <i>Ambrosia artemisiifolia</i> | Common ragweed | X | | |
| <i>Andropogon virginicus</i> | Broom sedge | X | | X |
| <i>Arabidopsis thaliana</i> | 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 |
|-----------------------------------|---------------------------|-------------|----------|------------|
| <i>Arctium minus</i> | Common burdock | X | | |
| <i>Artemisia vulgaris</i> | Common mugwort | X | | |
| <i>Asclepias syriaca</i> | Common milkweed | X | | X |
| <i>Aster pilosus</i> | Awl aster | X | | |
| <i>Barbarea vulgaris</i> | Spring cress | | | X |
| <i>Bromus tectorum</i> | Downy brome | X | | |
| <i>Calystegia sepium</i> | Hedge bindweed | X | | |
| <i>Capsella bursa-pastoris</i> | Shepherd's purse | X | | |
| <i>Cardamine hirsuta</i> | Hoary bitter-cress | | | X |
| <i>Carex praegracilis</i> | Freeway sedge | | | X |
| <i>Cerastium vulgatum</i> | Common chickweed | X | | X |
| <i>Chenopodium album</i> | Lambs-quarters | X | | |
| <i>Chrysanthemum leucanthemum</i> | Oxeye daisy | X | | X |
| <i>Cichorium intybus</i> | Chicory | X | | |
| <i>Cirsium arvense</i> | Canada thistle | X | | X |
| <i>Cirsium vulgare</i> | Bull thistle | X | | X |
| <i>Conium maculatum</i> | Poison hemlock | X | | |
| <i>Convolvulus arvensis</i> | Field bindweed | X | | |
| <i>Conyza canadensis</i> | Common horseweed | X | | |
| <i>Cornus amomum</i> | Knob-styled dogwood | X | X | |
| <i>Coronilla varia</i> | Crown vetch | X | | |
| <i>Cyperus strigosus</i> | False nut sedge | | X | |
| <i>Dactylis glomerata</i> | Orchard grass | | | X |
| <i>Datura stamonium</i> | Jimsonweed | X | | |
| <i>Daucus carota</i> | Wild carrot | X | | X |
| <i>Duchesnea indica</i> | Indian strawberry | | | X |
| <i>Echinochloa muricata</i> | Rough barnyard grass | X | X | |
| <i>Echinochloa crus-galli</i> | Barnyard grass | X | X | |
| <i>Elaeagnus umbellata</i> | Autumn olive | X | | X |
| <i>Eleocharis erythropoda</i> | Spike rush | | X | |
| <i>Eleusine indica</i> | Yard-grass | X | | |
| <i>Elytrigia repens</i> | Quack grass | | | X |
| <i>Epilobium coloratum</i> | Purple-leaved willow herb | X | X | |
| <i>Erigeron annuus</i> | Annual fleabane | X | | X |
| <i>Erophila verna</i> | Early whitlow grass | X | | |
| <i>Erysimum cheiranthoides</i> | Wormseed-mustard | X | | |
| <i>Euphorbia maculatum</i> | Prostrate spurge | X | | |
| <i>Festuca elatior</i> | Tall fescue | X | | X |
| <i>Galium aparine</i> | 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 |
|--|------------------------------|-------------|----------|------------|
| <i>Geranium molle</i> | Dove's-foot crane's-bill | X | | |
| <i>Glechoma hederacea</i> | Ground ivy | X | | |
| <i>Hypericum perforatum</i> | Common St. John's wort | X | | |
| <i>Juncus effuses</i> | Soft rush | | X | |
| <i>Lamium amplexicaule</i> | Henbit | X | | X |
| <i>Lamium purpureum</i> | Purple dead-nettle | X | | X |
| <i>Lepidium campestre</i> | Fieldcress | X | | X |
| <i>Linaria vulgaris</i> | Butter and eggs | X | | |
| <i>Lonicera japonica</i> | Japanese honeysuckle | X | | |
| <i>Lonicera maackii</i> | Bush honeysuckle | X | | |
| <i>Malva neglecta</i> | Cheese mallow | X | | |
| <i>Melilotus alba</i> | White sweet clover | X | | X |
| <i>Melilotus officinalis</i> | Yellow sweet clover | X | | X |
| <i>Myosotis micrantha</i> | Small flowered forget-me-not | | | X |
| <i>Oenothera biennis</i> | Evening primrose | X | | |
| <i>Oxalis stricta</i> | Yellow wood sorrel | X | | X |
| <i>Panicum dichotomiflorum</i> | Fall panic grass | | X | |
| <i>Parthenocissus quinquefolia</i> | Virginia creeper | X | | |
| <i>Pastinaca sativa</i> | Wild parsnip | X | | |
| <i>Phalaris arundinacea</i> | Reed canary grass | | X | |
| <i>Phragmites australis</i> | Common reed | X | X | |
| <i>Plantago lanceolata</i> | English plantain | | | X |
| <i>Plantago rugelii</i> | American plantain | X | | X |
| <i>Poa annua</i> | Speargrass | X | | X |
| <i>Poa pratensis</i> | Kentucky bluegrass | X | | X |
| <i>Polygonum aviculare</i> | Common knotweed | X | | X |
| <i>Polygonum cuspidatum</i> | Japanese knotweed | X | | |
| <i>Polygonum amphibium</i> var. <i>emersum</i> | Long-root smartweed | | X | |
| <i>Polygonum hydropiper</i> | Water pepper | | X | |
| <i>Populus deltoides</i> | Cottonwood | X | X | |
| <i>Potentilla recta</i> | Rough-fruited cinquefoil | | | X |
| <i>Prunella vulgaris</i> | Self-heal | X | | X |
| <i>Ranunculus sceleratus</i> | Cursed crow-foot | | X | |
| <i>Rhamnus frangula</i> | European buckthorn | | X | |
| <i>Rhus typhina</i> | Staghorn sumac | X | | |
| <i>Robinia psuedoacacia</i> | Black Locust | X | | |
| <i>Rosa multiflora</i> | Multiflora rose | X | | |
| <i>Rumex altissimus</i> | 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 |
|---|--------------------------|-------------|----------|------------|
| <i>Rumex crispus</i> | Curly dock | X | X | |
| <i>Rumex obtusifolius</i> | Bitter dock | | | X |
| <i>Salix interior</i> | Sandbar willow | X | X | |
| <i>Salix nigra</i> | Black willow | X | X | |
| <i>Sambucus canadensis</i> | Elderberry | X | | |
| <i>Schoenoplectus tabernaemontani</i> | Soft-stemmed bulrush | | X | |
| <i>Scirpus atrovirens</i> | Black bulrush | | X | |
| <i>Senecio vulgaris</i> | Common squaw-weed | | X | X |
| <i>Silene latifolia</i> | White campion | X | | X |
| <i>Sisymbrium altissimum</i> | Tall tumble mustard | X | | |
| <i>Solanum dulcamara</i> | Bittersweet nightshade | X | | |
| <i>Solidago canadensis</i> | Common goldenrod | X | | X |
| <i>Sonchus asper</i> | Prickly sow thistle | X | | |
| <i>Sonchus oleraceus</i> | Common sow thistle | X | | |
| <i>Stellaria media</i> | Common chickweed | X | | X |
| <i>Taraxacum officinale</i> | Dandelion | X | | X |
| <i>Thlaspi arvense</i> | Field pennycress | X | | |
| <i>Toxicodendron radicans</i> | Poison ivy | X | | |
| <i>Tragopogon dubius</i> | Field goat's-beard | X | | |
| <i>Trifolium pratensis</i> | Red clover | X | | X |
| <i>Trifolium repens</i> | White clover | X | | X |
| <i>Typha angustifolia</i> | Narrow-leaved cattail | | X | |
| <i>Typha latifolia</i> | Common cattail | | X | |
| <i>Urtica dioica</i> | European stinging nettle | X | | |
| <i>Verbascum thapsus</i> | Common mullein | X | | |
| <i>Veronica arvensis</i> | Corn speedwell | | | X |
| <i>Veronica peregrina</i> var. <i>peregrina</i> | Purslane speedwell | X | X | |
| <i>Veronica serpyllifolia</i> | Thyme-leaved speedwell | | | X |
| <i>Viola sororia</i> | Common blue violet | | | X |
| <i>Vitis riparia</i> | Riverbank grape | X | | |
| <i>Xanthium strumarium</i> | 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 | <i>Fulica americana</i> |
| Herring Gull | <i>Larus argentatus</i> |
| Ring-billed Gull | <i>Larus delawarensis</i> |
| Canada Goose | <i>Branta canadensis</i> |
| Red-winged Blackbird | <i>Agelaius phoeniceus</i> |
| Killdeer | <i>Charadrius vociferus</i> |
| Great Blue Heron | <i>Ardea herodias</i> |
| Double-crested Cormorant | <i>Phalacrocorax auritus</i> |
| Common Starling | <i>Sturnus vulgaris</i> |
| American Robin | <i>Turdus migratorius</i> |
| Ruddy Duck | <i>Oxyura jamaicensis</i> |
| Greater Scaup | <i>Aythya marila</i> |
| Mallard | <i>Anas platyrhynchos</i> |
| Red-shouldered Hawk | <i>Buteo lineatus</i> |
| Yellowlegs | <i>Tringa sp.</i> |
| Turkey Vulture | <i>Cathartes aura</i> |
| Blue-winged Teal | <i>Anas discors</i> |
| Northern Flicker | <i>Colaptes auratus</i> |
| Song Sparrow | <i>Melospiza melodia</i> |
| Caspian Tern | <i>Sterna caspia</i> |
| Savannah Sparrow | <i>Passerculus sandwichensis</i> |
| American Tree Sparrow | <i>Spizella arborea</i> |
| White-throated Sparrow | <i>Zonotrichia albicollis</i> |
| Chipping Sparrow | <i>Spizella passerina</i> |
| Pied-billed Grebe | <i>Podilymbus podiceps</i> |
| Short-billed Dowitcher | <i>Limnodromus griseus</i> |

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

| Scientific Name | Common Name |
|---------------------------|-------------|
| <i>Marmota monax</i> | Groundhog |
| <i>Ondatra zibethicus</i> | 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 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> , <i>Phalaris arundinacea</i> | 34 | Isolated | N/A | 19 (Cat 1) | PEM | 0.180 | 0.180 |
| Wetland 2 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | 35 | Isolated | N/A | 19 (Cat 1) | PEM | 0.066 | 0.066 |
| Wetland 3 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | 36 | Isolated | N/A | 19 (Cat 1) | PEM | 0.005 | 0.005 |
| Wetland 4 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | 37 | Isolated | N/A | 19 (Cat 1) | PEM | 0.029 | 0.029 |
| Wetland 5 | <i>Agrostis stolonifera</i> , <i>Eleocharis erythropoda</i> | 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 facilities and 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

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

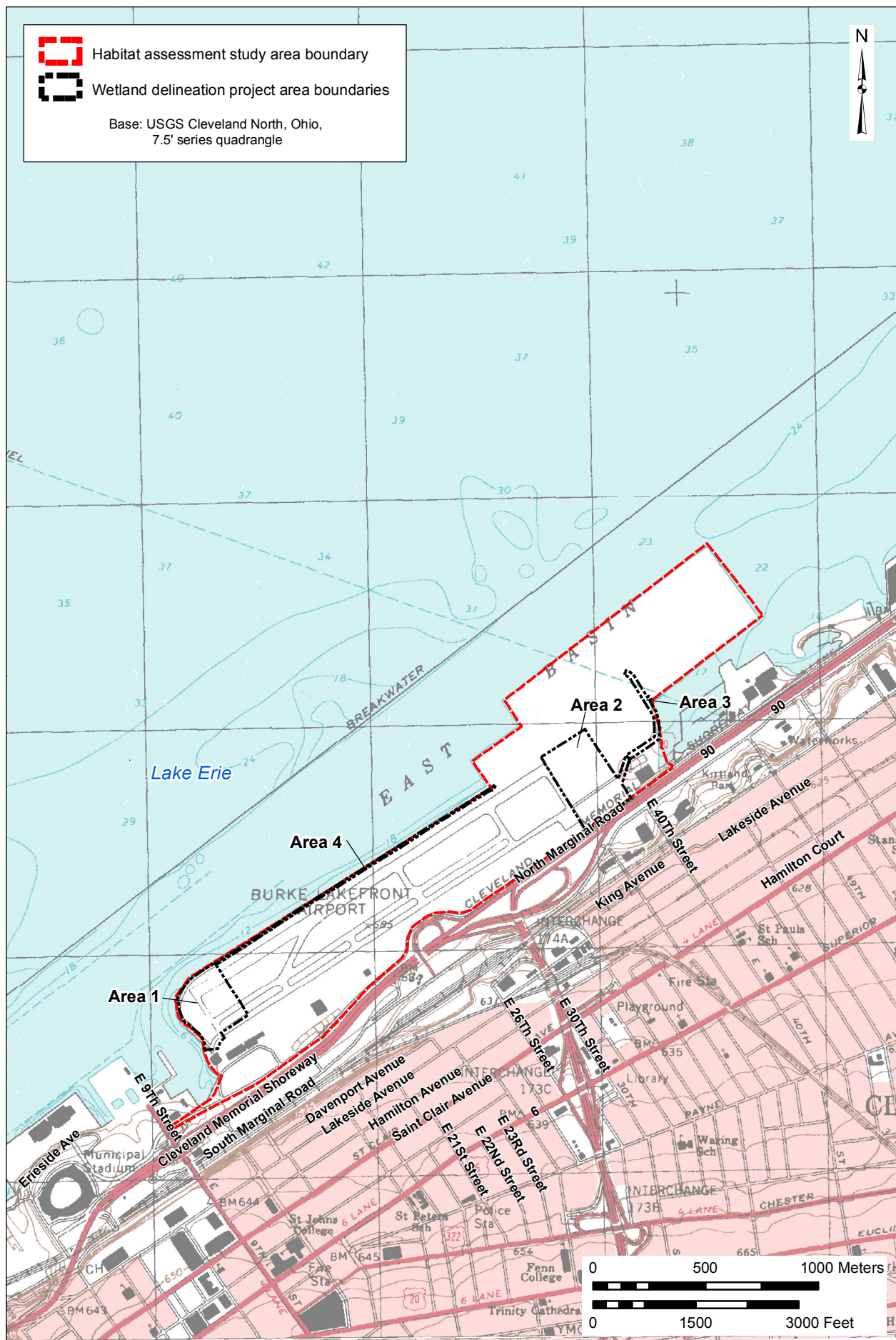


Figure 2. Portions of the 1994 Cleveland North quadrangle (USGS 7.5' topographic map) showing the Burke Lakefront Airport.



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

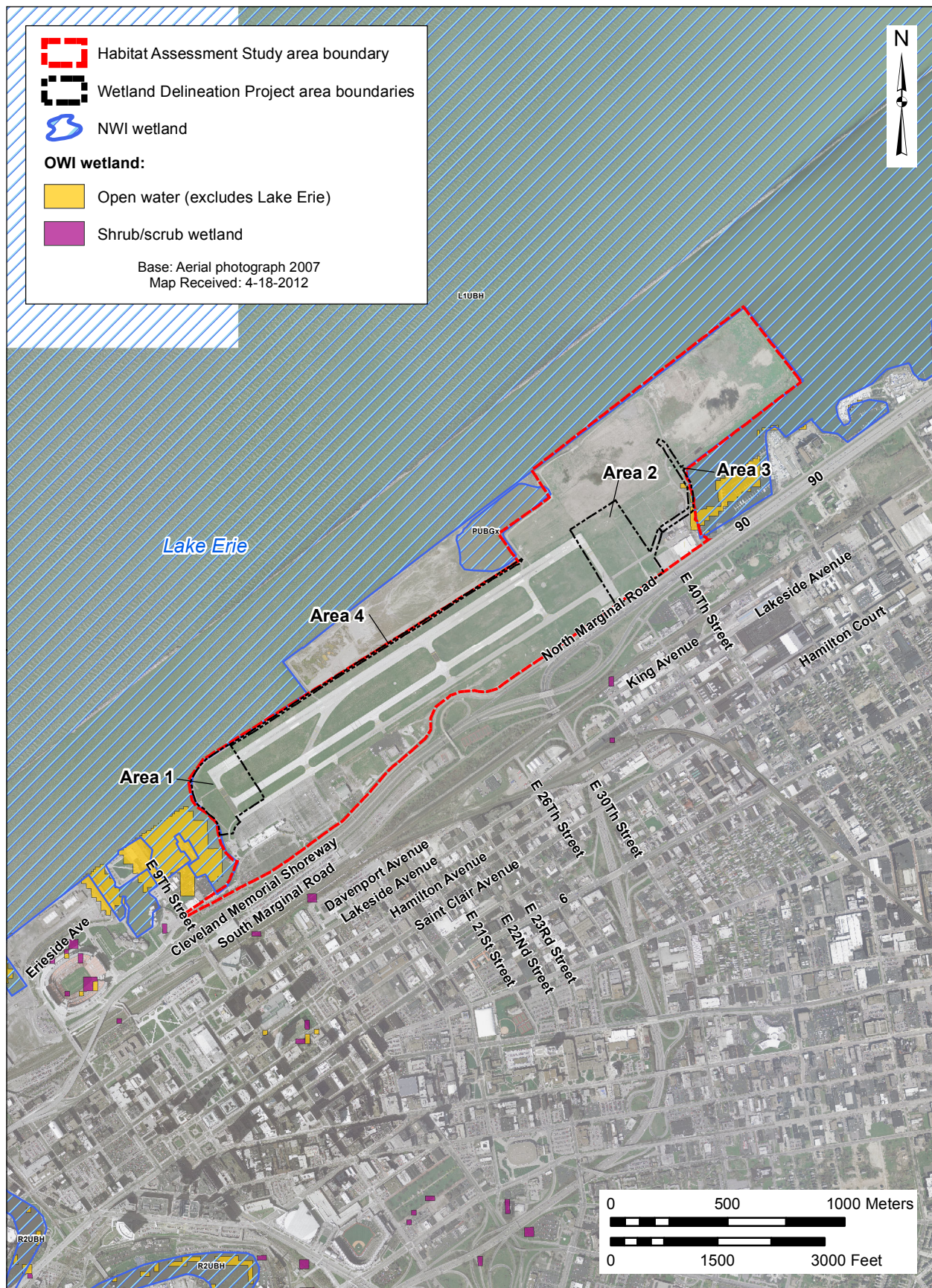


Figure 4. Ohio Wetland Inventory (ODNR 1991) and National Wetland Inventory maps (USFWS 2012b) showing the Burke Lakefront Airport.

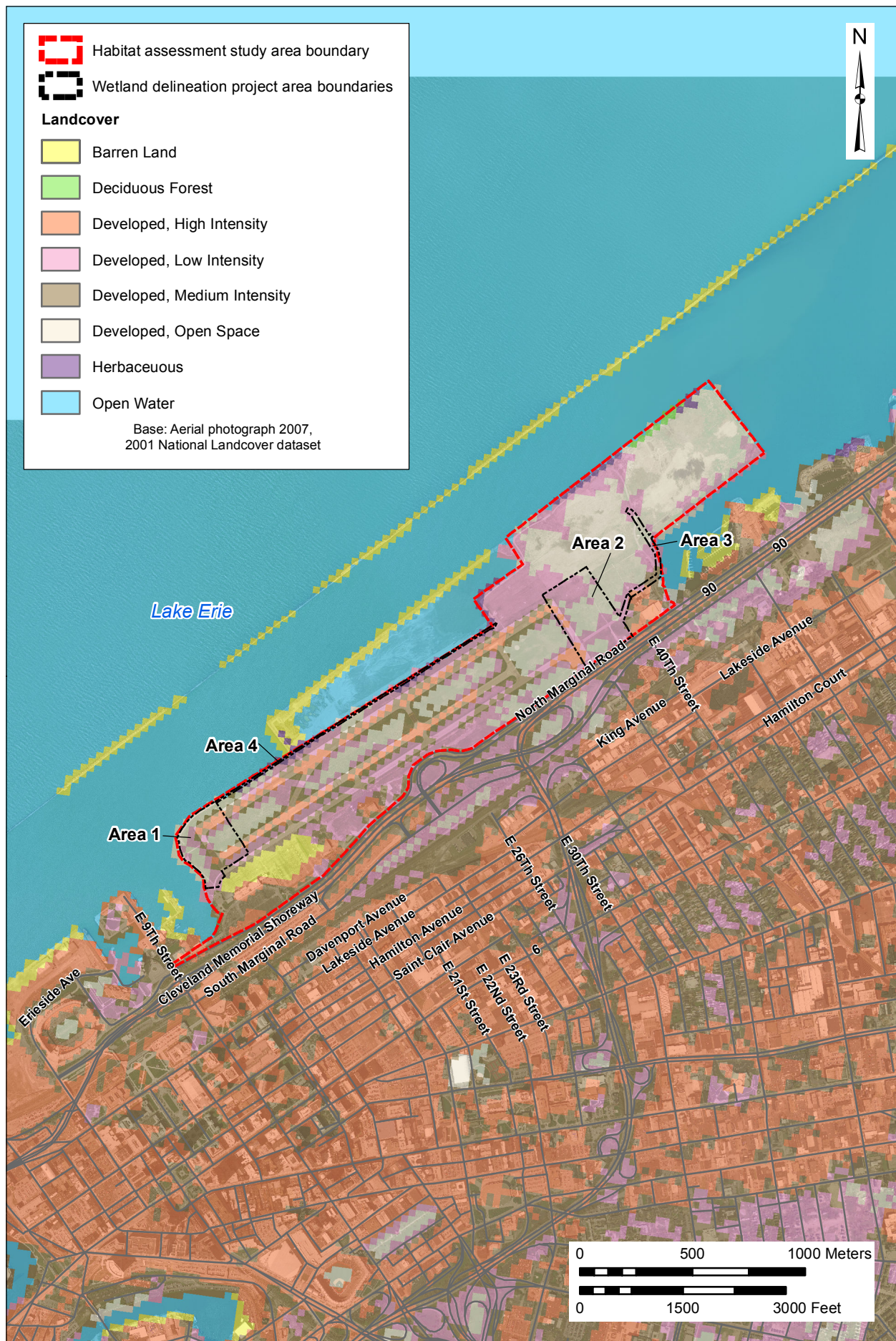


Figure 5. National Landcover map for Burke Lakefront Airport.

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



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

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APPENDIX A: PHOTOGRAPHS

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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

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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: 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | No | Is the Sampled Area Within a Wetland? Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: Wetland 1 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | <input checked="" type="checkbox"/> | No | |
| 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) High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) Drift Deposits (B3) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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) | 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No Depth (inches): 0.5 (includes capillary fringe) | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|-------------------------------|-------------------|------------------|---|
| 1. | | | | 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) |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | <i>Agrostis stolonifera</i> | 80 | Yes | FACW |
| 2. | <i>Eleocharis erythropoda</i> | 15 | No | OBL |
| 3. | <i>Phalaris arundinacea</i> | 5 | No | FACW |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 100 = Total Cover | | | | 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. |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| = Total Cover | | | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | 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. |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| = Total Cover | | | | Hydrophytic Vegetation Present? Yes X No |
| = Total Cover | | | | |
| 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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 | |

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

| Hydric Soil Indicators: | Indicators for Problematic Hydric Soils ³ : |
|--------------------------------------|--|
| Histosol (A1) | 2 cm Muck (A10) (LRR K, I, MLRA 149B) |
| Histic Epipedon (A2) | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Histic (A3) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| Hydrogen Sulfide (A4) | Dark Surface (S7) (LRR K, L, M) |
| Stratified Layers (A5) | Polyvalue Below Surface (S8) (LRR K, L) |
| Depleted Below Dark Surface (A11) | Thin Dark Surface (S9) (LRR K, L) |
| Thick Dark Surface (A12) | Iron-Manganese Masses (F12) (LRR K, L, R) |
| Sandy Mucky Mineral (S1) | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Gleyed Matrix (S4) | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| Sandy Redox (S5) | Red Parent Material (F21) |
| Stripped Matrix (S6) | Very Shallow Dark Surface (TF12) |
| Dark Surface (S7) (LRR R, MLRA 149B) | Other (Explain in Remarks) |

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

| Restrictive Layer (if observed): | Hydric Soil Present? | Yes | X | No |
|----------------------------------|----------------------|-----|---|----|
| Type: Fill | | | | |
| Depth (inches): 7 | | | | |

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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | Is the Sampled Area Within a Wetland? Yes No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: Out Point for Wetland 1 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | No | <input checked="" type="checkbox"/> | |
| 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) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 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) 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) | | | | | 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) FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe) | | | | | Wetland Hydrology Present? Yes No <input checked="" type="checkbox"/> | | | | | | | | | |
| 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test Worksheet: |
|--|------------------|-------------------|------------------|---|
| 1. | | | | Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) |
| 2. | | | | Total Number of Dominant Species Across All Strata: 2 (B) |
| 3. | | | | |
| 4. | | | | Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B) |
| 5. | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | 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) |
| 5. | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | | | | |
| 2. | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | 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. |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| = Total Cover | | | | Hydrophytic Vegetation Present? Yes No X |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | Hydrophytic Vegetation Present? Yes No X |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | Hydrophytic Vegetation Present? Yes No X |
| = Total Cover | | | | |
| 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | 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) | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | | |
| 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | No | Is the Sampled Area Within a Wetland? Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: Wetland 2 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | <input checked="" type="checkbox"/> | No | |
| 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) High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) Drift Deposits (B3) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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) | | | 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) | | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No Depth (inches): 0.5 (includes capillary fringe) | | | | | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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. | | | | 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) |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| | | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | | = Total Cover | | |
| Herb Stratum (Plot size: 5 ft) | | | | 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 |
| 1. <i>Agrostis stolonifera</i> | 80 | Yes | FACW | |
| 2. <i>Eleocharis erythropoda</i> | 15 | No | OBL | |
| 3. <i>Phalaris arundinacea</i> | 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 | | |
| 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. | | | | |

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|---|---------------|----|----------------|----|-------------------|------------------|--------------|--|
| Depth | Matrix | | Redox Features | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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 | |

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

| Hydric Soil Indicators: | Indicators for Problematic Hydric Soils ³ : |
|--------------------------------------|--|
| Histosol (A1) | 2 cm Muck (A10) (LRR K, I, MLRA 149B) |
| Histic Epipedon (A2) | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Histic (A3) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| Hydrogen Sulfide (A4) | Dark Surface (S7) (LRR K, L, M) |
| Stratified Layers (A5) | Polyvalue Below Surface (S8) (LRR K, L) |
| Depleted Below Dark Surface (A11) | Thin Dark Surface (S9) (LRR K, L) |
| Thick Dark Surface (A12) | Iron-Manganese Masses (F12) (LRR K, L, R) |
| Sandy Mucky Mineral (S1) | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Gleyed Matrix (S4) | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| Sandy Redox (S5) | Red Parent Material (F21) |
| Stripped Matrix (S6) | Very Shallow Dark Surface (TF12) |
| Dark Surface (S7) (LRR R, MLRA 149B) | Other (Explain in Remarks) |

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

| Restrictive Layer (if observed): | Hydric Soil Present? | Yes | X | No |
|----------------------------------|----------------------|-----|---|----|
| Type: Fill | | | | |
| Depth (inches): 7 | | | | |

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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | Is the Sampled Area Within a Wetland? Yes No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: Out Point for Wetland 2 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | No | <input checked="" type="checkbox"/> | |
| 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) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 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) 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) | | | | | 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) FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe) | | | | | Wetland Hydrology Present? Yes No <input checked="" type="checkbox"/> | | | | | | | | | |
| 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test Worksheet: |
|--|------------------|-------------------|------------------|---|
| 1. | | | | Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) |
| 2. | | | | Total Number of Dominant Species Across All Strata: 2 (B) |
| 3. | | | | |
| 4. | | | | Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B) |
| 5. | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | 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) |
| 5. | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | | | | |
| 2. | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | 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. |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 100 = Total Cover | | | | Hydrophytic Vegetation Present? Yes No X |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | = Total Cover |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | 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) | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | | |
| 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | No | Is the Sampled Area Within a Wetland? Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: Wetland 3 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | <input checked="" type="checkbox"/> | No | |
| 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) High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) Drift Deposits (B3) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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) | | | 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) | | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No Depth (inches): 0.5 (includes capillary fringe) | | | | | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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. | | | | 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) | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = | |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| = Total Cover | | | | 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. | |
| Herb Stratum (Plot size: 5 ft) | | | | | |
| 1. | <i>Eleocharis erythropoda</i> | 60 | Yes | | OBL |
| 2. | <i>Agrostis stolonifera</i> | 40 | Yes | | FACW |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 100 = Total Cover | | | | 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. | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |
| = Total Cover | | | | 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | 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) | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | | |
| 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | Is the Sampled Area Within a Wetland? Yes No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: Out Point for Wetland 3 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | No | <input checked="" type="checkbox"/> | |
| 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) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 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) 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) | | | | | 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) FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe) | | | | | Wetland Hydrology Present? Yes No <input checked="" type="checkbox"/> | | | | | | | | | |
| 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test Worksheet: |
|--|------------------|-------------------|------------------|---|
| 1. | | | | Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) |
| 2. | | | | Total Number of Dominant Species Across All Strata: 2 (B) |
| 3. | | | | |
| 4. | | | | Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B) |
| 5. | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | 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) |
| 5. | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | | | | |
| 2. | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | 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. |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 100 = Total Cover | | | | Hydrophytic Vegetation Present? Yes No X |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | = Total Cover |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | 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) | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | | |
| 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | No | Is the Sampled Area Within a Wetland? Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: Wetland 4 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | <input checked="" type="checkbox"/> | No | |
| 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) High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) Drift Deposits (B3) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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) | | | | | 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No Depth (inches): 0.5 (includes capillary fringe) | | | | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|------------------|-------------------|------------------|---|
| 1. | | | | 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) |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| | | = Total Cover | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 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. |
| | | | | |
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| | | | | |
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| | | | | |
| | | | | |
| | | | | |
| | | | | 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. | | | | |

SOIL

Sampling Point: 7

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|----|---|----|-------------------|------------------|---|--|
| Depth | Matrix | | Redox Features | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | Indicators for Problematic Hydric Soils ³: | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | 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 Kubitz, & 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 Within a Wetland? Yes No X If yes, optional Wetland Site ID: Out Point for Wetland 4 |
| Hydric Soils Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | No | X | |
| 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) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 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) 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) | | | | | 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) FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): (includes capillary fringe) | | | | | 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 | Dominance Test Worksheet: |
|--|----------------------------|-------------------|------------------|---|
| 1. | | | | Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) |
| 2. | | | | |
| 3. | | | | Total Number of Dominant Species Across All Strata: 2 (B) |
| 4. | | | | |
| 5. | | | | Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B) |
| = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | |
| 1. | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | <i>Festuca elatior</i> | 70 | Yes | FACU |
| 2. | <i>Plantago lanceolata</i> | 20 | Yes | UPL |
| 3. | <i>Poa pratensis</i> | 10 | No | FACU |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 100 = Total Cover | | | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | Hydrophytic Vegetation Present? Yes No X |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| = Total Cover | | | | |
| 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | Indicators for Problematic Hydric Soils³: 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) | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | | |
| 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | No | Is the Sampled Area Within a Wetland? Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: Wetland 5 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | <input checked="" type="checkbox"/> | No | |
| 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) High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) Drift Deposits (B3) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> 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) | 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) | | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No Depth (inches): 0.5 | | | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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. | | | | 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) | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| = Total Cover | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = | |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| = Total Cover | | | | 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. | |
| Herb Stratum (Plot size: 5 ft) | | | | | |
| 1. | <i>Eleocharis erythropoda</i> | 60 | Yes | | OBL |
| 2. | <i>Agrostis stolonifera</i> | 40 | Yes | | FACW |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 100 = Total Cover | | | | 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. | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |
| = Total Cover | | | | 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | Indicators for Problematic Hydric Soils ³: | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | 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 Kubitz, & 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 ☒ No (If no, explain in Remarks.)
 Are vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 | <input checked="" type="checkbox"/> | Is the Sampled Area Within a Wetland? Yes No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: Out Point for Wetland 5 |
| Hydric Soils Present? | Yes | <input checked="" type="checkbox"/> | No | |
| Wetland Hydrology Present? | Yes | No | <input checked="" type="checkbox"/> | |
| 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) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 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) 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) | | | | | 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) FAC-Neutral Test (D5) | | | | |
| Field Observations: Surface Water Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe) | | | | | Wetland Hydrology Present? Yes No <input checked="" type="checkbox"/> | | | | | | | | | |
| 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**

| Tree Stratum (Plot size: 30 ft) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test Worksheet: |
|--|----------------------------|-------------------|------------------|---|
| 1. | | | | Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) |
| 2. | | | | |
| 3. | | | | Total Number of Dominant Species Across All Strata: 2 (B) |
| 4. | | | | |
| 5. | | | | Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B) |
| = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | |
| 1. | | | | Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| = Total Cover | | | | |
| Herb Stratum (Plot size: 5 ft) | | | | |
| 1. | <i>Festuca elatior</i> | 70 | Yes | FACU |
| 2. | <i>Plantago lanceolata</i> | 20 | Yes | UPL |
| 3. | <i>Poa pratensis</i> | 10 | No | FACU |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 100 = Total Cover | | | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | |
| 1. | | | | 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. |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| = Total Cover | | | | |
| | | | | 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 | | | | Texture | Remarks |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 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: | | | Indicators for Problematic Hydric Soils ³: | | | | | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) | | | Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) X Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depression (F8) | | | | 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

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ORAM v.5.0 Field Form Quantitative Rating

Site Burke Lake Airport, Wetlands 1-5

Rater(s) Len Mikles

Date Apr 19, 2012

2 2

Metric 1. Wetland Area (size)

Select one size class and assign score.

max 6 pts. subtotal

- ☐ >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.)

6 8

Metric 2. Upland buffers and surrounding land use

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

max 14 pts. subtotal

- ☐ 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)

6 14

Metric 3. Hydrology

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

max 30 pts. subtotal

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- / ☒ 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)
- / ☒ <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)
- / ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (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.

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other |

3

17

Metric 4. Habitat Alteration and Development

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.☐ None or none apparent (4)☐ Recovered (3)☐ Recovering (2)/ ☒ 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)/ ☒ 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)/ ☒ Recent or no recovery (1)

0

17

Metric 5. Special Wetlands**Check all that apply and score as indicated.**

max 10 pts. subtotal

☐ 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, interspersions, microtopography**6a. Wetland Vegetation Communities****Score all present using 0 to 3 scale.**

- ☐ Aquatic bed
- ☒ Emergent
- ☐ 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)
- ☒ None (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)
- ☒ Absent (1)

6d. Microtopography**Score all present using 0 to 3 scale.**

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ 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 |

19

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>

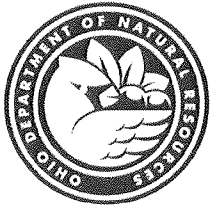
Reset Form

Print Form

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APPENDIX D: AGENCY CORRESPONDENCE

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Ohio Department of Natural Resources

JOHN R. KASICIL, 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,

A handwritten signature in cursive script that reads "Greg Schneider".

Greg Schneider, Administrator
Ohio Biodiversity Database Program



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