

CHAPTER 5 ENVIRONMENTAL OVERVIEW

MASTER PLAN UPDATE BISMARCK MUNICIPAL AIRPORT

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Table of Contents

CHAPTER 5 ENVIRONMENTAL OVERVIEW 5-1

5.1 Environmental Concerns 5-2

5.2 Anticipated Environmental Processing 5-5

5.2.1 Short-Term Capital Improvements..... 5-5

5.2.2 Intermediate-Term Capital Improvements 5-6

5.2.3 Long-Term Capital Improvements..... 5-8

5.3 Agency Coordination 5-9

List of Tables

Table 5-1 Environmental Impact Categories5-3

CHAPTER 5

ENVIRONMENTAL OVERVIEW

This chapter provides an overview of the environmental documentation necessary to implement the major development items identified in the Airport Capital Improvement Program (ACIP). This chapter does not replace the completion of an environmental analysis in compliance with National Environmental Policy Act (NEPA) guidelines, but rather identifies the likely required studies.

Required environmental analysis can take the form of one of three formats prescribed by NEPA, briefly explained below, and identified in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *Airport Environmental Handbook*. Identification of an environmental process in this chapter does not preclude the possibility that the environmental study may result in the requirement for additional environmental processing. Therefore, it is recommended that all environmental processing be completed well in advance of the anticipated construction date but not so far in advance that an unforeseen delay in construction would result in the requirement for revalidation of the environmental study.

- **Categorical Exclusion** – Categorical exclusions are Federal actions that meet the criteria contained in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, Paragraphs 307 through 312. These are actions that, based on historical experience, the FAA has found do not normally require an environmental assessment or environmental impact statement. As part of this format, the FAA requires the submission of a Categorical Exclusion Checklist.

Federal processing for a categorical exclusion can typically be completed within three to six months. The actual processing time is dependent upon the scope of the proposed project and the level of agency coordination required. In addition, if federal, state, or local permits are required the process may take additional time.

- **Environmental Assessment** – At a minimum, an environmental assessment (EA) must be prepared when the proposed action: 1) is not categorically excluded, 2) is normally categorically excluded but involves at least one extraordinary circumstance, or 3) the action is not known to require an environmental impact statement but is not categorically excluded. Following the submission and acceptance of the EA, the FAA will issue a Finding of No Significant Impact (FONSI).

Upon completion and the issuance of a FONSI, an EA is considered a federal document. Processing for the EA normally takes 12 to 18 months. The processing time varies dependent upon the scope of the proposed project, the level and responsiveness of agency coordination efforts, and the public involvement process. Additional federal, state, or local permitting and agency review time may also impact the typical timeframe.

An EA is assumed valid for a period of three years. If major steps towards the implementation of all project phases have not commenced within three years, a written reevaluation from the responsible FAA official may be required.

- **Environmental Impact Statement** – An environmental impact statement (EIS) is required when the proposed action, including mitigation, would continue to have a significant impact on the environment. Following the publication of the accepted EIS in the Federal Register, the FAA will issue a Record of Decision (ROD).

Federal processing for an EIS is largely dependent upon the nature of the proposed project and the environmental category that required the preparation of an EIS. Time variances may also result from the scope of the proposed project, the depth of analysis required, and the public involvement process.

Similar to an EA, the final decision on an EIS is considered valid for a period of three years. If major steps towards the implementation of all project phases have not commenced within three years, a written reevaluation from the responsible FAA official may be required at each major approval phase.

5.1 ENVIRONMENTAL CONCERNS

The identification of areas of environmental concern associated with master plan projects enables the City of Bismarck to implement a plan for airport development that will minimize conflicts with the environment. The areas identified in this section are recognized environmental concerns and should be avoided, or where avoidance is impossible, future impacts should be minimized. This list is not exclusive and other, currently unknown, areas of environmental concerns may become apparent with the passage of time or unforeseen circumstances.

In FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, the FAA has identified 18 potential environmental impact categories. These categories must be evaluated as part of an environmental analysis according to the guidelines and thresholds identified.

Table 1-1 provides a list of the 18 impact categories, a brief explanation of applicable thresholds, and a ranking based on the likeliness of occurring in the vicinity of the Bismarck Municipal Airport. The rankings refer to the impact category occurrence in the airport environs and have been listed as “yes”, “no”, or “uncertain”. Those categories receiving a “yes” are known to exist in the area and will likely require mitigation if affected. Those categories receiving a “no” do not exist in the area and will not be affected under any circumstances. The remaining categories were listed as “uncertain” and will require further analysis and/or coordination with Federal, state, and local agencies based on the development project. A brief overview of those categories known to exist in the airport environs is provided in Chapter 1.

Table 5-1
ENVIRONMENTAL IMPACT CATEGORIES

Category	Threshold	In Airport Environ
Air Quality	Areas listed by the EPA as non-attainment areas and have development projects that will exceed one or more of the National Ambient Air Quality Standards for the six criteria pollutants require analysis. The Airport is not located in a non-attainment area and impacts to air quality resulting from airport improvements are unlikely.	No
Coastal Resources	The State of North Dakota does not have a coastal zone management program in effect.	No
Compatible Land Use	Determination of compatible land use in the vicinity of the Airport is required based on the identified traffic patterns and noise analysis completed as part of a formal environmental analysis.	Uncertain
Construction Impacts	All construction related to future airport development projects will comply with guidelines set forth in FAA AC 150/5370-10A, <i>Standards for Specifying the Construction of Airports</i> . This category is inevitable with any new development; however, all construction will adhere with applicable regulations and guidelines and typically there are no significant adverse impacts.	Yes
Section 4(f) Land	Coordination with affected jurisdictions should be conducted regarding the potential of planned airport development to affect existing or planned parks, recreational facilities, historic resources, wildlife refuges, or any other Section 4(f) properties.	Uncertain
Farmlands	It is recommended that contact be made with the local branch of the United States Department of Agriculture (USDA) to determine if prime or unique farmland exists in the vicinity of the Airport. Acquisition or conversion of prime or unique farmland becomes a significant impact when the combined score on Form AD 1006 ranges between 200 and 260 points.	Uncertain
Fish, Wildlife, and Plants	While future development at the Airport is unlikely to jeopardize the continued existence of any species found in the area, determination of impacts on fish, wildlife, and plant resources will require careful coordination with applicable agencies as part of a formal environmental analysis.	Uncertain
Floodplains	Federal insurance rate maps indicate the presence of floodplains in close proximity to the existing airport property line. Floodplain impacts would be significant pursuant to NEPA if resulting in a notable impact. All future development plans should avoid or minimize impacts to the drainage in the area.	Yes
Hazardous Materials, Pollution Prevention, and Solid Waste	A complete analysis of hazardous materials, chemicals, substances, and waste should be completed as part of a formal environmental analysis. This analysis should include identification of any known or likely sites and appropriate review regarding the hazardous nature of any materials or wastes to be used, generated, or disturbed by airport development.	Uncertain

Table 5-1 (cont'd)
ENVIRONMENTAL IMPACT CATEGORIES

Category	Threshold	In Airport Environ
Historical, Architectural, Archeological, and Cultural Resources	Coordination with the North Dakota State Historic Preservation Office in accordance with Section 106 of the National Historic Preservation Act is required as part of the complete environmental analysis.	Uncertain
Light Emissions and Visual Impacts	Normally, improvements or relocations to lighting systems used at the Airport will not have a negative impact on people or property located in the vicinity of the Airport. Future aesthetics at the Airport should attempt to adhere to existing design, art, and architecture at the Airport and in the vicinity in order to minimize any perceived negative impacts.	Uncertain
Natural Resources and Energy Supply	Coordination with natural resource and energy supply companies may be recommended prior to the construction of new facilities requiring these services.	Uncertain
Noise	A significant noise impact would occur if noise sensitive areas were to experience an increase in the day/night noise level (DNL) of 1.5 decibels or more at or above a DNL of 65 decibels when compared to the no action alternative for the same timeframe. Detailed noise analysis is recommended as part of an environmental analysis as appropriate.	Uncertain
Secondary (Induced)	Typically impacts are not considered significant unless there are also significant impact in other categories, especially noise, land use, or direction socioeconomic impacts.	Uncertain
Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risks	If proposed airport development requires land acquisition it is necessary to evaluate the impacts of the acquisition on the adjacent community. If the proposed development would result in relocation or community disruptions further analysis is required. If there are significant impacts that would occur as a result of the development, a determination regarding whether these significant impacts disproportionately affect low income or minority populations needs to be addressed. A discussion of the affects of the development on children's environmental health and safety is required.	Uncertain
Water Quality	Early coordination with federal, state, and local agencies responsible for the implementation of water quality regulations and the issuance of permits is recommended for any development affecting bodies of water. Further permits also may be required depending on the type of waterway that is affected. It is recommended that all future airport development projects coordinate proposed improvements with local or state agencies as appropriate.	Uncertain
Wetlands	The National Wetlands Inventory and previous field observations and delineations have indicated the possible presence of wetland-like areas on and around airport property. Formal delineation of wetlands in planned development areas and coordination with the U.S. Army Corps of Engineers is required as part of the NEPA process.	Yes
Wild and Scenic Rivers	There are no eligible wild and scenic rivers in North Dakota. Thus, future development at the Airport will not affect any rivers included in the National Wild and Scenic River System.	No

5.2 ANTICIPATED ENVIRONMENTAL PROCESSING

The following section provides an overview of the anticipated environmental processing required during each environmental phase: short-term, intermediate-term, and long-term. Each section provides a brief description of the project and anticipated environmental processing required.

5.2.1 Short-Term Capital Improvements

Short-term capital improvements include those development items that will need environmental analysis within the next five years. These projects primarily include the rehabilitation of existing infrastructure and the acquisition of needed maintenance and snow removal equipment.

5.2.1.1 Rehabilitation of Taxiways B, C, and D and General Aviation Apron

This project rehabilitates Taxiways B, C, and D and the northwest general aviation apron. Rehabilitation includes measures to return the pavement to its original strength and design characteristics.

Normally construction or repair of existing taxiways and aprons, including extension, strengthening, reconstruction, resurfacing, marking grooving, fillets, and jet blast facilities, that do not create environmental impacts outside of airport property and do not result in any extraordinary circumstances is categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.2.1.2 Construction of South Side Service Road and B Hangar Area Access Road

This project constructs a private, on-airport service road along the south perimeter of the Airport; constructs a public and on-airport access road to the t-hangars located in the northeast corner of the Airport.

Normally access road construction and construction, relocation, or repair of entrance and service roadways that do not reduce the level of service on local traffic systems below acceptable levels and do not result in any extraordinary circumstances is categorically excluded from further environmental processing. Therefore, these projects will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310a).

5.2.1.3 Construction of Cargo Apron and Parallel Taxiway System

The proposed project will construct a cargo apron on the northeast side of the primary runway, north of the crosswind runway. This apron will be constructed to meet the demands of the cargo tenant. In addition to the apron, a full-length parallel taxiway and connector taxiways will be constructed to serve the primary runway on the east side.

Normally construction or repair of existing taxiways and aprons, including extension, strengthening, reconstruction, resurfacing, marking grooving, fillets, and jet blast facilities, that do not create environmental impacts outside of airport property and do not result in any extraordinary circumstances is categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.2.2 Intermediate-Term Capital Improvements

Intermediate-term capital improvements include those development items that are anticipated to be constructed within the next 10 years. The environmental processing detailed below will need to be completed within the same timeframe to allow for project completion in accordance with applicable environmental rules and regulations.

5.2.2.1 Rehabilitation of Runway 13/31, 3/21, Taxiway C, Service Road, and Terminal Parking Lot

This project rehabilitates Runway 13/31, Runway 3/21, Taxiway C, the on-airport service road, and the terminal parking lot. Rehabilitation includes measures to return the pavement to its original strength and design characteristics.

Normally construction or repair of pavement, including extension, strengthening, reconstruction, resurfacing, marking grooving, fillets, and jet blast facilities, that do not create environmental impacts outside of airport property and do not result in any extraordinary circumstances is categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310a/e/f).

5.2.2.2 Construction of General Aviation Terminal and FIS

This project will construct a general aviation terminal and expand the existing commercial service terminal building to accommodate Federal Inspection Services. Both buildings will be constructed on existing airport property.

Normally construction of on-site structures and minor development that receive federal financial assistance, are on an approved airport layout plan, and do not result in any extraordinary circumstances are categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310f).

5.2.2.3 Extension and Widening of Runway 3/21

The proposed project will provide for a 600-foot extension on Runway 3 and widen the runway to 150 feet. In addition, this project includes the extension of the parallel taxiway and connector taxiway system to coincide with the new runway threshold.

A major runway extension requires an environmental assessment (FAA Order 1050.1E, Paragraph 401k). Compliance with FAA and environmental regulations will be required. Complete evaluation of the ability for the extension to increase air traffic is a key component of the environmental review process for this project.

5.2.2.4 Expansion of General Aviation Apron

This project expands the existing general aviation apron to meet tenant facility requirements. This project is demand driven and its development will occur when demand warrants expansion. The actual size of the apron expansion is also demand driven and will be based on facility needs.

Provided the expansion of the general aviation apron does not create environmental impacts outside of airport property and does not result in any extraordinary circumstances it is likely that

this action will require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.2.2.5 Expansion of B Hangars and Extension of Service Road

This project consists of the construction of additional t-hangars located adjacent to the existing t-hangars located in the northeast corner of the Airport. The project will also require the extension of the on-airport perimeter service road to accommodate the new t-hangars.

Normally access road construction that does not reduce the level of service on local traffic systems below acceptable levels and construction of on-site structures that receive federal financial assistance, are on an approved airport layout plan, and do not result in any extraordinary circumstances are categorically excluded from further environmental processing. Therefore, these projects will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310a/e/f).

5.2.2.6 Runway 13/31 Extension

The proposed project extends Runway 31 by approximately 1,206 feet. In addition, this project includes the extension of the parallel and connector taxiway system to coincide with the new runway threshold, and the relocation of the approach lighting system and related visual and navigational aids.

Typically minor runway and taxiway extensions and installation of visual approach aids that do not affect the surrounding non-airport property and do not result in any extraordinary circumstances are categorically excluded from environmental processing (FAA Order 1050.1E, Paragraph 309b). However, considering the complexity of the proposed project, including the relocation of the existing approach lighting system, and impacts to public roadways it is likely that the project will require the preparation of an Environmental Assessment (FAA Order 1050.1E, Paragraph 401i).

5.2.2.7 Commercial and General Aviation Ramp Rehabilitation

This project rehabilitates the existing commercial and general aviation ramps. Rehabilitation includes measures to return the pavement to its original strength and design characteristics.

Normally construction or repair of pavement, including extension, strengthening, reconstruction, resurfacing, marking grooving, fillets, and jet blast facilities, that do not create environmental impacts outside of airport property and do not result in any extraordinary circumstances is categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.2.2.8 Construction of Deicing Pad

This project consists of the construction of deicing pads and appropriate treatment facilities. FAA and environmental regulations must be complied with. This project should include a Deicing Facility Study to analyze current deicing practices at the Airport, including locations and disposal of spent aircraft deicing fluid. Future deicing related regulations should be investigated and various deicing locations and treatment options should be evaluated in order to comply with these regulations.

Typically FAA installation of deicing facilities that comply with National Pollutant Discharge Elimination Systems permits or other permits protecting the quality of receiving waters, and for which related water detention or retention facilities are designed not to attract wildlife hazardous to aviation and do not result in any extraordinary circumstances are categorically excluded from further environmental processing. However, with the establishment of a new treatment system installed by the Airport it is likely that an Environmental Assessment will be required (FAA Order 10501.1E, Paragraph 401f).

5.2.3 Long-Term Capital Improvements

Long-term capital improvements include those development items that demand warrants within the final 10 years of the master planning horizon. Projects include development items that will support the long-term growth and viability of the airfield.

5.2.3.1 ATCT Relocation

This project will construct a new air traffic control tower adjacent to the existing facility. The project provides for a modernized facility that allows needed equipment expansion and facility that will enable a clear line of sight to all aircraft operating areas.

Normally the relocation of an air traffic control tower requires the preparation of an Environmental Assessment (FAA Order 1050.1E, Paragraph 401g). However, given that the new facility will be constructed immediately adjacent to the existing facility and is essentially a replacement of the existing structure, it is likely that the preparation of a Categorical Exclusion will be sufficient for the proposed project (FAA Order 1050.1E, Paragraph 310v).

5.2.3.2 Perimeter Service Road Extension

This project completes the private, on-airport perimeter service road. The completion of the perimeter service road will significantly decrease the probability of aircraft and vehicle incursions by effectively removing non-essential vehicles from movement areas controlled by the air traffic controllers.

Normally construction, relocation, or repair of service roadways that do not reduce the level of service on local traffic systems below acceptable levels and do not result in any extraordinary circumstances are categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.2.3.3 Construction of High Speed Exit

This project consists of the construction of a high speed exit taxiway from the primary runway to the commercial passenger terminal area. While high speed exits are often added to increase the capacity of the airfield, the construction of the proposed exit taxiway will increase the level of service provided at the Airport, but is not anticipated to have direct impacts on the number of operations on the airfield.

Normally construction of taxiways, including extension, strengthening, reconstruction, resurfacing, marking, and grooving, that do not create environmental impacts outside of airport property and do not result in any extraordinary circumstances are categorically excluded from further environmental processing. Therefore, this project will likely require the preparation of a Categorical Exclusion Checklist (FAA Order 1050.1E, Paragraph 310e).

5.3 AGENCY COORDINATION

Acceptance of Federal grant funding requires compliance with the requirements set forth in the Council of Environmental Quality regulations for implementing the provisions of the National Environmental Policy Act of 1969, 40 Code of Federal Regulations Parts 1500 through 15088, Department of Transportation Order DOT 5610.1C, and other related statutes and directives. The likely environmental processing identified in this chapter does not eliminate the possibility of additional or more detailed environmental processing. Careful coordination with the responsible FAA official should be conducted for every project utilizing federal funds. In addition, it is recommended that coordination with the following agencies also be conducted as part of development actions utilizing federal funding or requiring environmental processing:

- Applicable Parks and Recreation Departments concerning planned public parks and recreational areas
- Natural Resource Conservation District if land currently used for agricultural purposes becomes necessary
- United States Fish and Wildlife Service and other applicable agencies concerning impacts to flora or fauna and biotic communities associated with proposed development
- North Dakota State Historic Preservation Officer in accordance with Section 106 of the National Historic Preservation Act
- Natural resource and energy suppliers prior to construction of new facilities requiring an extension of those services
- Federal, state, and local agencies responsible for the implementation of water quality regulations and issuance of permits.
- Completion of a wetland delineation for the proposed development areas and coordination with the U.S. Army Corps of Engineers

While the guidelines identified in this chapter are in compliance with the National Environmental Policy Act requirements, additional coordination and environmental processing may be necessary with state and/or local agencies to comply with their rules and regulations.