CHAPTER 7
GLOSSARY AND ABBREVIATIONS

Many specialized terms and expressions are used in this EA. This section provides definitions of commonly used words and terms and spells out the acronyms used in the document.

7.1 GLOSSARY

This glossary and list of abbreviations have been prepared for the use of the many persons reviewing the document. The definitions were compiled from various sources, including government publications such as Federal Aviation Administration advisory circulars and orders.

A-WEIGHTED SOUND LEVEL (dBA) —The ear does not respond equally to sound frequencies. It is less efficient at low and high frequencies than it is at medium or speech-range frequencies. Thus, to obtain a single number representing the sound level of a noise having a wide range of frequencies in a manner representative of the ear’s response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibels (dB); hence, the abbreviation is dBA. The A-weighted sound level is also called the noise level. Sound level meters have an A-weighting network for measuring A-weighted sound level.

AIRCRAFT OPERATION—An aircraft arrival (landing) or an aircraft departure (takeoff) represents one aircraft operation. A low approach below traffic pattern altitudes or a touch-and-go operation is counted as both a landing and a takeoff, that is, as two operations. Aircraft operations are recorded by the FAA in four categories: air carrier, air taxi, general aviation, and military.

AIRPORT LAYOUT PLAN (ALP)—A plan for an airport showing boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed nonaviation areas and improvements. The ALP is a required element of an airport master plan.

AIRPORT MASTER PLAN—An assembly of appropriate documents and drawings covering the development of a specific airport from a physical, economic, social, and political jurisdictional perspective. The airport master plan includes an airport land use plan, airport layout plan airport approach and runway protection zone layout plan, terminal area plan, airport access and parking plan, staging plan, and financial plan.

AIRPORT SPONSOR—A public agency or tax-supported entity, such as an airport authority, that is authorized to own and operate an airport, to obtain property interests, to obtain funds, and to be legally, financially, and otherwise able to meet all applicable requirements of current laws and regulations.

AMBIENT NOISE—The total of all noise in a system or situation, independent of the presence of the specific sound to be measured. In acoustical measurements, strictly speaking, ambient
noise means electrical noise in the measurement system. However, in popular usage, ambient noise is also used to mean “background noise” or “residual noise.”

**APRON**—A paved area that provides the connection between the terminal buildings and the airfield. The apron includes aircraft parking areas (i.e., ramps) and aircraft circulation and taxiing areas for access to these ramps. On the ramp, aircraft park in locations typically designated as gate positions or gates.

**AVIATION SAFETY AND NOISE ABATEMENT ACT OF 1979**—Public Law 96-193, enacted February 18, 1980. The purpose of the Act is to provide assistance to airport sponsors in preparing and carrying out noise compatibility programs and in assuring continued safety for aviation. The Act also contains the requirement for certain types of aircraft to comply with FAR Part 36, *Noise Standards: Aircraft Type and Airworthiness Certification*.

**BACKGROUND NOISE**—See AMBIENT NOISE.

**BMP (BEST MANAGEMENT PRACTICE)**—Best Management Practices are measures taken as part of designing or operation of a project to enhance environmental quality or reduce the potential adverse effects of the project. BMPs may be employed even if mitigation is not required to reduce environmental impact to less than significant levels.

**CEQ (COUNCIL ON ENVIRONMENTAL QUALITY) REGULATIONS**—CEQ Regulations implementing the National Environmental Policy Act of 1969 (NEPA) were published in the Federal Register on November 29, 1978. References to the Regulations in FAA Order 5050.4A (*Airport Environmental Handbook*) identify a given section, e.g., CEQ 1500 or CEQ 1508.8.

**DAY-NIGHT AVERAGE SOUND LEVEL (DNL)**—A method for predicting, by a single number rating, cumulative aircraft noise that affects communities in airport environs. The DNL value represents decibels of noise as measured by an A-weighted sound-level meter. In the DNL procedure, the noise exposure from each aircraft takeoff or landing at ground level around an airport is calculated, and these noise exposures are accumulated for a typical 24-hour period. (The 24-hour period often used is the average day of the peak month for aircraft operations during the year being analyzed.) Daytime and nighttime noise exposures are considered separately. A weighting factor equivalent to a penalty of 10 decibels is applied to operations between 10 p.m. and 7 a.m. to account for the increased sensitivity of people to nighttime noise. The DNL values can be expressed graphically on maps using either contours or grid cells. DNL may also be used for measuring other noise sources, such as automobile traffic, to determine combined noise effects.

**dBA**—See A-WEIGHTED SOUND LEVEL.

**DECIBEL (dB)**—A unit for measuring the volume of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound.

**de minimis**—Below the level of significance requiring formal determination of project conformity.
FAA ORDER 5050.4B—This document, entitled National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, April 28, 2006. It contains all of the essential information an airport sponsor needs to meet both procedural and substantive environmental requirements.

FAA ORDER 1050.1E, Change 1—Change 1 of this document was effective as of March 20, 2006. The change updates the FAA agency-wide policies and procedures for compliance with NEPA and implementing regulations issued by the Council on Environmental Quality (40 CFR parts 1500-1508).

FAR PART 150—Federal Aviation Regulations Part 150, Airport Noise Compatibility Planning. An FAR Part 150 Program is an FAA-assisted study designed to increase the compatibility of land and facilities in the areas surrounding an airport that are most directly affected by operation of the airport. The specific purpose is to reduce the adverse effects of noise as much as possible by implementing both on-airport noise abatement measures and off-airport noise mitigation programs. The basic products of an FAR Part 150 program typically include (1) noise exposure exposure maps for the existing condition and for 5 years in the future; (2) workable on-airport noise abatement measures, such as preferential runway use programs, new or preferential flight tracks, curfews; (3) off-airport noise mitigation measures (land use control programs and regulations), such as land acquisition, soundproofing, or special zoning; (4) an analysis of the costs and the financial feasibility of the recommended measures; and (5) policies and procedures related to the implementation of on- and off-airport programs. A community involvement program is carried on throughout all phases of program development.

FEDERAL AVIATION ADMINISTRATION (FAA)—The FAA is the agency of the U.S. Department of Transportation that is charged with (1) regulating air commerce to promote its safety and development; (2) achieving the efficient use of navigable airspace of the United States; (3) promoting, encouraging, and developing civil aviation; (4) developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and (5) promoting the development of a national system of airports.

GENERAL AVIATION (GA)—All civil aviation except that classified as air carrier or air taxi. The types of aircraft typically used in GA activities vary from multiengine jet aircraft to single-engine piston aircraft.

IMPACT—In environmental analyses, the word “impact” is used to express the extent or severity of an environmental problem, e.g., the number of persons exposed to a given noise environment. As indicated in CEQ 1500 (Section 1508.8), impacts and effects are considered to be synonymous. Effects or impacts may be ecological, aesthetic, historic, cultural, economic, social, or health related, and they may be direct, indirect, or cumulative.

INTEGRATED NOISE MODEL (INM)—A computer model developed by the FAA and required by the FAA for use in environmental assessments, environmental impact statements, and FAR Part 150 studies for developing existing and future aircraft noise exposure maps.

LAND USE COMPATIBILITY—The compatibility of land uses surrounding an airport with airport activities and particularly with the noise from aircraft operations.
LAND USE COMPATIBILITY ASSURANCE—Documentation provided by an airport sponsor to the FAA. The documentation is related to an application for an airport development grant. Its purpose is to assure that a reasonably appropriate action, including the adoption of zoning laws, has been taken or will be taken to restrict the use of land adjacent to the airport or in the immediate vicinity of the airport. Such uses are limited to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft.

LOUDNESS—The judgment of the intensity of a sound by a person. Loudness depends primarily on the sound pressure of the stimulus. Over much of the loudness range, it takes about a threefold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.

MITIGATION MEASURE—An action that can be planned or taken to alleviate (mitigate) an adverse environmental impact. Mitigation typically consists of:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing the impact by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

A proposed airport development project, or alternatives to that project, may constitute a mitigation measure.

NOISE—Any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

NOISE ABATEMENT PROCEDURES—Changes in runway use, flight approach and departure routes and procedures, and other air traffic procedures that are made to shift adverse aviation effects away from noise-sensitive areas (such as residential neighborhoods).

NOISE CONTOURS—Lines drawn on a map that connect points of equivalent DNL values. They are usually drawn in 5 dB intervals, such as connections of DNL 75 values, DNL 70 values, DNL 65 values, and so forth.

NOISE-SENSITIVE LAND USE—Land uses that can be adversely affected by high levels of aircraft noise. Residences, schools, hospitals, religious facilities, libraries, and other similar uses are often considered to be sensitive to noise.

100-YEAR FLOODPLAIN—An area subject to flooding with an annual frequency of 1:100.
PROJECT—The whole of an action that has a potential for resulting in a physical change in the environment, directly or ultimately, and that is any of the following:

(1) An activity directly undertaken by any public agency, including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100-65700.

(2) An activity undertaken by a person, which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.

(3) An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

RAMP—See APRON.

REMEDICATION—See MITIGATION MEASURE.

RUNWAY THRESHOLD—The beginning of that portion of a runway usable for landing.

SENSITIVE RECEPTORS—Relating to hazardous materials, when a site undergoes remediation, it is sometimes important to know whether people who might be especially susceptible to hazardous substances are located within the area that could be affected if a release of hazardous substances occurred as a result of remedial activities. People likely to be especially susceptible to hazardous substances include children, the elderly, and the infirm. The locations where especially sensitive individuals might be located are referred to as sensitive receptor. Residential areas are also considered sensitive receptors, as are places where people are likely to congregate.

SIGNIFICANT EFFECT ON THE ENVIRONMENT—A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself is not considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

SIGNIFICANT NOISE EXPOSURE—Exposure to aircraft noise that is likely to interfere with human activity in noise-sensitive areas; individual complaints may be expected and group action is possible. This exposure may be specified by a cumulative noise description as a level of noise exposure, such as DNL 65. (See also SEVERE NOISE EXPOSURE.)

SOUND LEVEL (NOISE LEVEL)—The weighted sound pressure level obtained by the use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.
7.2 ACRONYMS AND ABBREVIATIONS

Airport and aviation planning, the NEPA process and the environmental science employ numerous acronyms and specialized terms. Definitions of the acronyms and technical terms used in this EA follow.

AAIA – Airport and Airway Improvement Act of 1982
AIP – Airport Improvement Program
Airport – Duluth International Airport
AC – Advisory Circular
ACE-IT – Airport Construction Emission Inventory Tool
ACHP – Advisory Council on Historic Preservation
ACRP – Airport Cooperative Research Program
AIP – Airport Improvement Program
ALP – Airport Layout Plan
APE – Area of Potential Effect
ASNA – Aviation Safety and Noise Abatement Act of 1979
BMP – Best Management Practices
CAA – Clean Air Act
CEQ – Council on Environmental Quality
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
CFR – Code of Federal Regulations
CH₄ – Methane
City – City of Duluth
CO – Carbon Monoxide
CO₂ – Carbon Dioxide
Corps – U.S Army Corps of Engineers
CWA – Clean Water Act
dB – Decibel
Chapter 7 – Glossary and Abbreviations

dBA – A-Weighted Decibel
DFIRM – Digital Flood Insurance Rate Maps
DNL – Day Night Average Sound Level
DOT – Department of Transportation
EA – Environmental Assessment
EDMS – Emissions and Dispersion Modeling Systems
EIS – Environmental Impact Statement
EPA – Environmental Protection Agency
FAA – Federal Aviation Administration
FAR – Federal Aviation Regulations
FEMA – Flood Emergency Management Agency
FIRM – Flood Insurance Rate Maps
FPPA – Farmland Protection Policy Act
FWCA – Fish and Wildlife Coordination Act of 1980
GA – General Aviation
GAO – Government Accountability Office
GHG – Greenhouse Gases
GIS – Geographic Information System
HFC – Hydrofluorocarbons
HVAC – Heating, Ventilation, and Air Conditioning
INM – Integrated Noise Model
L&WCFA – Land and Water Conservation Fund Act
LOS – Level of Service
MS4 – Municipal Separate Storm Sewer System
MSL – Mean Sea Level
MSWLF – Municipal Solid Waste Landfill
MT – Metric Tons
NAAQS – National Ambient Air Quality Standards
NAS – National Airport System
NEM – Noise Exposure Map
NEPA – National Environmental Policy Act
NFIP – National Flood Insurance Program
NRL – Noise Level Reduction
NHPA – National Historic Preservation Act of 1966
NO2 – Nitrogen Dioxide
NOx – Oxides of Nitrogen
NOAA – National Oceanic and Atmospheric Administration
NPIAS – National Plan of Integrated Airport Systems
NMFS – National Marine Fisheries Service
NPDES – National Pollution Discharge Elimination System
NPL – National Priority List
NPS – National Parks Service
NRC – National Response Center
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
NRI – National Rivers Inventory
NWI – National Wetlands Inventory
OCM – Office of Coastal Management
OPA – The Oil Pollution Act of 1990
O3 – Ozone
Pb – Lead
PFCs – Perfluorocarbons
PM$_{10}$ or PM$_{2.5}$ – Particulate Matter
RCRA – Resource Conservation and Recovery Act
SAGA – Sustainable Aviation Guidance Alliance
SDWA – Safe Drinking Water Act
SF6 – Sulfur Hexafluoride
SHPO – State Historic Preservation Officer
SIP – State Implementation Plan
SLS – Short Light Single
SO$_2$ – Sulfur Dioxide
SPCC – Spill Prevention, Control, and Countermeasure Plan
SWDA – Safe Water Drinking Act
SWMU – Solid Waste Management Units
SWPPP – Storm Water Pollution Prevention Plan
TAF – Terminal Area Forecast
TSCA – Toxic Substances Control Act
USACE – U.S. Army Corps of Engineers
USAF – United States Air Force
USC – United States Code
USCG – United States Coast Guard
USDOT – U.S. Department of Transportation
FWS – U.S. Fish and Wildlife Service
VMT – Vehicle Miles Traveled
VOC – Volatile Organic Compound
WSRS – Wild and Scenic Rivers System