



Duluth Airport Authority
Duluth International Airport

14 CFR Part 150 Noise Compatibility Study Update

Final
December 2021





December 17, 2021

Lindsay Butler
Federal Aviation Administration
Dakota-Minnesota Airports District Office
6020 28th Ave S, Ste 102
Minneapolis, MN 55450-2700

RE: Duluth International Airport Final Part 150 Noise Compatibility Study

Dear Ms. Butler,

On behalf of Tom Werner, Executive Director of the Duluth Airport Authority, please find below an FTP download link containing the Final 14 CFR Part 150 Noise Compatibility Program (NCP) Update Document for the Duluth International Airport (DLH) and official Noise Exposure Maps (NEMs) for the Existing (2020) and Future (2026) NEMs. The password to the FTP site will be sent via email to ensure security.

The data used to prepare the Existing (2020) NEM was captured prior to the COVID-19 public health emergency. Therefore; operating levels used to prepare the Existing (2020) NEM do not necessarily reflect conditions at the time of submittal. It was determined that the Existing NEM be labeled 2020, the year following the data collection. The forecasted data used to prepare the Future (2026) NEM was developed prior to the COVID-19 public health emergency. It is expected that aviation activity will return to previously forecast levels; although, there may be some delay in reaching operating levels forecast for the Future (2026) NEM condition.

Following careful analysis, no new or modified abatement measures are recommended for implementation at DLH. As a result, the Future (2026) Noise Exposure Map (NEM) noise contour is the same as the Future (2026) Baseline noise exposure contours.

FTP Link:

<https://fs.landrum-brown.com/fs/view/nTJK3fs8ycSxYO983BmATpKQyemnW0VF/?public=ebc1921dbf1b3e38f27bc5df8e996f2e>

The folder named *Final DLH Part 150 Noise Compatibility Study Document and NEMs* contains the following folders and files.

- Transmittal Letter
- DLH 2021 Part 150 Noise Compatibility Study Update - Full Document
 - This folder contains the full document including the official large scale NEMs and supplemental graphics at the end of the document.
- Official NEMs and Supplemental Graphics
 - This folder contains the official large scale Existing (2020) and Future (2026) NEMs and supplemental graphics only

Please do not hesitate to give me a call at (816) 225-8346 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Jesse Baker". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jesse Baker
Managing Consultant

STATEMENT OF CERTIFICATION AND PUBLIC NOTIFICATION

The Noise Exposure Maps and accompanying documentation for the Noise Exposure Maps for the Duluth International Airport submitted in accordance with 14 CFR Part 150 with the best available information, are hereby certified as true and complete to the best of my knowledge and belief. I verify that the data used to develop the Existing (2020) Noise Exposure Map and the Future (2026) Noise Exposure Map is representative of the best available information and reasonable assumptions at the time the noise modeling began. It is acknowledged that the current impacts of the COVID-19 public health emergency resulted in a decline in air travel demand and aviation activity. The data used to prepare the Existing (2020) Noise Exposure Map and the Future (2026) Noise Exposure Map was developed prior to the COVID-19 public health emergency. Therefore; operating levels used to prepare the Existing (2020) do not necessarily reflect conditions at the time of submittal. It is expected that aviation activity will return to previously forecast levels; although, there may be some delay in reaching operating levels forecast for the Future (2026) Noise Exposure Map condition.

Interested persons have been afforded adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft Noise Exposure Maps and description of the forecast of aircraft operations.



Tom Werner
Executive Director
Duluth Airport Authority



Date _____

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AIRPORT NAME: Duluth International Airport

REVIEWER: _____

	Yes / No / NA	Page No.\Other Reference
I. IDENTIFICATION AND SUBMISSION OF MAP DOCUMENT:		
A. Is this submittal appropriately identified as one of the following, submitted under 14 CFR Part 150:		
1. a NEM only	No	Letter of Transmittal
2. NEM and NCP together?	Yes	Letter of Transmittal
3. a revision to NEMs which have previously been determined by FAA to be in compliance with Part 150?	Yes	Letter of Transmittal
B. Is the airport name and qualified airport operator's identified?	Yes	Letter of Transmittal & Chapter 1, Page 1-1
C. Is there a dated cover letter from the airport operator which indicates the documents are submitted under Part 150 for appropriate FAA determinations?	Yes	Letter of Transmittal
II. CONSULTATION: [150.23]		
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
B. Identification:		
1. are the consulted parties identified?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
2. Do they include all those required by 150.21(b) and A150.105(a)?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b)?	Yes	Sponsor's Certification
D. Does the document indicate whether written comments were received during consultation and, if there were comments, that they are on file with the FAA region?	Yes	Appendix G will contain the responses to comments made at the public hearing

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	Yes / No / NA	Page No.\Other Reference
<p>III. GENERAL REQUIREMENTS: [150.21]</p> <p>A. Are there two maps, each clearly labeled on the face with year (existing condition year and 5-year)</p> <p>B. Map currency:</p> <p>1. Does the existing condition map year match the year on the airport operator's submittal letter?</p> <p>2. Is the 5-year map based on reasonable forecasts and other planning assumptions and is it for the fifth calendar year after the year of submission?</p> <p>3. If the answer to 1 and 2 above is no, has the airport operator verified in writing that data in the documentation are representative of existing condition and 5-year forecast conditions as of the date of submission?</p> <p>C. If the NEM and NCP are submitted together:</p> <p>1. Has the airport operator indicated whether the 5-year map is based on 5-year contours without the program vs. contours in the program is implemented?</p> <p>2. If the 5-year map is based on program implementation:</p> <p>a. Are the specific program measures which are reflected on the map identified</p> <p>b. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the maps?</p> <p>3. If the 5-year NEM does not incorporate program implementation, has the airport operator included an additional NEM for FAA determination after the program is approved which shows program implementation conditions and which is intended to replace the 5-year NEM as the new official 5-year plan?</p>	<p>Yes</p> <p>No</p> <p>Yes</p> <p>N/A</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>N/A</p>	<p>Exhibits NEM-1 & NEM-2</p> <p>Letter of Transmittal & Exhibit NEM-1, See comment below for explanation</p> <p>Chapter 1, Pages 1-2 to 1-4, Chapter 3, Page 3-2 , Appendix F, Page F-1</p> <p>N/A</p> <p>Letter of Transmittal & Chapter 4, Page 4-1 to 4-2</p> <p>Letter of Transmittal</p> <p>Chapter 4</p> <p>Chapter 4</p> <p>N/A</p>

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	Yes / No / NA	Page No.\Other Reference
<p>IV. MAP SCALE, GRAPHICS, AND DATA REQUIREMENTS: [A150.101, A150.103, A150.105, 150.21(a)]</p> <p>A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 8,000'), and is the scale indicated on the maps?</p> <p>B. Is the quality of the graphics such that required information is clear and readable?</p> <p>C. Depiction of the airport and its environs</p> <p>1. Is the following graphically depicted to scale on both the existing condition and 5-year maps:</p> <p>a. airport boundaries</p> <p>b. runway configurations with runway end numbers</p> <p>2. Does the depiction of the off-airport data include:</p> <p>a. a land use base map depicting streets and other identifiable geographic features</p> <p>b. the area within the 65 Ldn (or beyond, at local discretion)</p> <p>c. clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the 65 Ldn (or beyond, at local discretion)</p> <p>D. 1. Continuous contours for at least the Ldn 65, 70, and 75</p> <p>2. Based on current airport and operational data for the existing condition year NEM, and forecast data for the 5-year NEM?</p> <p>E. Flight tracks for the existing condition and 5-year forecast time frames (these may be on supplemental graphics which must use the same land use base map as the existing condition and 5-year NEM), which are numbered to correspond to accompanying narrative?</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p>	<p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Exhibits NEM-1 & NEM-2</p> <p>Letter of Transmittal, Exhibits NEM-1 & NEM-2, See comment below</p> <p>Appendix C, Exhibits C-11 to C-23</p>

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	Yes / No / NA	Page No.\Other Reference
F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map as the official NEMs)	Yes	Exhibits NEM-1 & NEM-2
G. Noncompatible land use identification:		
1. Are noncompatible land uses within at least the 65 Ldn depicted on the maps?	Yes	Exhibits NEM-1 & NEM-2, Appendix D
2. Are noise sensitive public buildings identified?	Yes	Chapter 2, Exhibit 2-3 & Table 2-1, Appendix D
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend	Yes	Exhibits NEM-1 & NEM-2
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?	N/A	N/A
V. NARRATIVE SUPPORT OF MAP DATA: [150.21(a), A150.1, A150.101, A150.103]		
A.1. Are the technical data, including data sources, on which the NEMs are based adequately described in the narrative?	Yes	Chapter 3, Appendix C
2. Are the underlying technical data and planning assumptions reasonable	Yes	Chapter 3, Appendix C
B. Calculation of Noise Contours		
1. Is the methodology indicated?		
a. is it FAA approved?	Yes	Chapter 3, Chapter 4, Appendix D
b. was the same model used for both maps?	Yes	Chapter 3, Chapter 4, Appendix D
c. has AEE approval been obtained for use of a model other than those which have previous blanket FAA approval?	N/A	N/A

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	Yes / No / NA	Page No.\Other Reference
<p>2. Correct use of noise models:</p> <p>a. does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another?</p> <p>b. if so, does this have written approval from AEE?</p> <p>3. If Noise monitoring was used, does the narrative indicate the Part 150 guidelines were followed?</p> <p>4. For noise contours below 65 Ldn, does the supporting documentation include explanation of local reasons? (Narrative explanations highly desirable but not required by Rule.)</p>	<p>No</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
<p>C. Noncompatible Land Use Identification</p> <p>1. Does the narrative give estimates of the number of people residing in each of the contours (Ldn 65, 70, and 75 at a minimum) for both the existing condition and 5-year maps?</p>	<p>Yes</p>	<p>Chapter 3, Table 3-3 & Table 3-4</p>
<p>2. Does the documentation indicate whether Table 1 of Part 150 was used by the airport operator?</p> <p>a. If a local variation to Table 1 was used:</p> <p>(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?</p> <p>(2) Does the narrative include the airport operator's complete substitution for Table 1?</p>	<p>Yes</p> <p>N/A</p> <p>N/A</p>	<p>Appendix A, Table A-1</p> <p>N/A</p> <p>N/A</p>
<p>3. Does the narrative include information on self-generated or ambient noise where compatible/noncompatible land use identifications consider non-airport/aircraft sources?</p>	<p>N/A</p>	<p>N/A</p>
<p>4. Where normally noncompatible land uses not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?</p>	<p>N/A</p>	<p>N/A</p>

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	Yes / No / NA	Page No.\Other Reference
5. Does the narrative describe how forecasts will affect land use compatibility? VI. MAP CERTIFICATIONS: [150.21(b), 150.21(e)]	Yes	Chapter 3, Page 3-3, Appendix C
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecast?	Yes	Sponsor's Certificate
B. Has the operator certified in writing each map and description of consultation and opportunity for public comment are true and complete?	Yes	Sponsor's Certificate
Comments: The data used to prepare the Existing (2020) NEM was captured prior to the COVID-19 public health emergency. Therefore; operating levels used to prepare the Existing (2020) NEM do not necessarily reflect conditions at the time of submittal. It was determined to label the existing condition contour 2020, the year following the data collection.		

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	Yes / No / NA	Page No.\Other Reference
I. IDENTIFICATION AND SUBMISSION OF PROGRAM:		
A. Submission is properly identified:		
1. 14 CFR Part 150 NCP?	Yes	Letter of Transmittal
2. NEM and NCP together?	Yes	Letter of Transmittal
3. Program revision?	Yes	Letter of Transmittal
B. Airport and Airport Operator's name identified?	Yes	Letter of Transmittal & Chapter 1, Page 1-1
C. NCP transmitted by airport operator cover letter?	Yes	Letter of Transmittal
II. CONSULTATION: [150.23]		
A. Documentation includes narrative of public participation and consultation process?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
B. Identification of consulted parties:		
1. all parties in 150.23(c) consulted?		Chapter 1, pages 1-6 to 1-8 and Appendix G
2. public and planning agencies identified?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
3. agencies in 2., above, correspond to those indicated on the NEM?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
C. Satisfies 150.23(d) requirements:		
1. documentation shows active and direct participation of parties in B., above?	Yes	Exhibits NEM-1 & NEM-2
2. active and direct participation of general public?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
3. participation was prior to and during development of NCP and prior to submittal to FAA?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
4. indicates adequate opportunity afforded to submit views, data, etc.?	Yes	Chapter 1, pages 1-6 to 1-8 and Appendix G
D. Evidence included of notice and opportunity for a public hearing on NCP?	Yes	Appendix G, pages G-263 to G-277
E. Documentation of comments:		
1. includes summary of public hearing comments, if hearing was held?	Yes	Appendix G, pages G-305 to G-313

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2. includes copy of all written material submitted to operator?	Yes	Appendix G, pages G-307 to G-309
3. includes operator's responses / disposition of written and verbal comments?	Yes	Appendix G, pages G-311 to G-313
F. Informal agreement received from FAA on flight procedures?	N/A	N/A
III. NOISE EXPOSURE MAPS: [150.23, B150.3; 150.35(f)] (This section of the checklist is not a substitute for the Noise Exposure Map checklist. It deals with maps in the context of the Noise Compatibility Program submission.)		
A. Inclusion of NEMs and supporting documentation:		
1. Map documentation either included or incorporated by reference?	Yes	Attached to Checklist, Exhibits NEM-1 & NEM-2, Appendix C
2. Maps previously found in compliance by FAA?	Yes	Letter of Transmittal
3. Compliance determination still valid?	Yes	Letter of Transmittal
4. Does 180-day period have to wait for map compliance finding?	Yes	None
B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal)		
1. Revised NEMs included with program?	Yes	Attached to Checklist, Exhibits NEM-1 & NEM-2
2. Has airport operator requested FAA to make a determination on the NEM(s) when NCP approval is made?	Yes	Letter of Transmittal

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	Yes / No / NA	Page No.\Other Reference
C. If program analysis uses noise modeling:		
1. AEDT or FAA-approved equivalent?	Yes	Appendix C
2. Monitoring in accordance with A150.5?	Yes	Appendix B
D. Existing condition and 5-year maps clearly identified as the official NEMs?	Yes	Attached to Checklist, Exhibits NEM-1 & NEM-2
IV. CONSIDERATION OF ALTERNATIVES: [B150.7, 150.23(e)]		
A. At a minimum, are the alternatives below considered?		
1. land acquisition and interests therein, including air rights, easements, and development rights?	Yes	Chapter 4, Measure M-B, M-C, M-D, M-E, M-F
2. barriers, acoustical shielding, public building soundproofing	Yes	Appendix E, page E-7
3. preferential runway system	Yes	Appendix E, page E-6
4. flight procedures	Yes	Appendix E, page E-6
5. restrictions on type/class of aircraft (at least one restriction below must be checked)		
a. deny use based on Federal standards	No	N/A
b. capacity limits based on noisiness	No	N/A
c. noise abatement takeoff/approach procedures	Yes	Appendix E, page E-6
d. landing fees based on noise or time of day	No	N/A
e. nighttime restrictions	No	N/A
6. other actions with beneficial impact	Yes	Chapter 4, Appendices E & F
7. other FAA recommendations	No	N/A

	Yes / No / NA	Page No.\Other Reference
B. Responsible implementing authority identified for each considered alternative?	Yes	Chapter 4, Appendices E & F
C. Analysis of alternative measures:		
1. measures clearly described?	Yes	Chapter 4, Appendices E & F
2. measures adequately analyzed?	Yes	Chapters 4, Appendices E & F
3. adequate reasoning for rejecting alternatives?	Yes	Appendices E & F
D. Other actions recommended by the FAA: Should other actions be added? (list separately on back of this form actions and discussions with airport operator to have them included prior to the start of the 180-day cycle)	No	N/A
V. ALTERNATIVES RECOMMENDED FOR IMPLEMENTATION: [150.23(e), B150.7(c); 150.35(b), B150.5]		
A. Document clearly indicates:		
1. alternatives recommended for implementation?	Yes	Chapter 4
2. final recommendations are airport operator's not those of consultant or third party?	Yes	Letter of Transmittal
B. Do all program recommendations:		
1. relate directly or indirectly to reduction of noise and noncompatible land uses?	Yes	Chapter 4
2. contain description of contribution to overall effectiveness of program?	Yes	Chapter 4
3. noise/land use benefits quantified to extent possible?	Yes	Chapter 4
4. include actual/anticipated effect on reducing noise exposure within noncompatible area shown on NEM?	Yes	Chapter 4
5. effects based on relevant and reasonable expressed assumptions?	Yes	Chapter 4
6. have adequate supporting data to support its contribution to noise/land use compatibility?	Yes	Chapter 4

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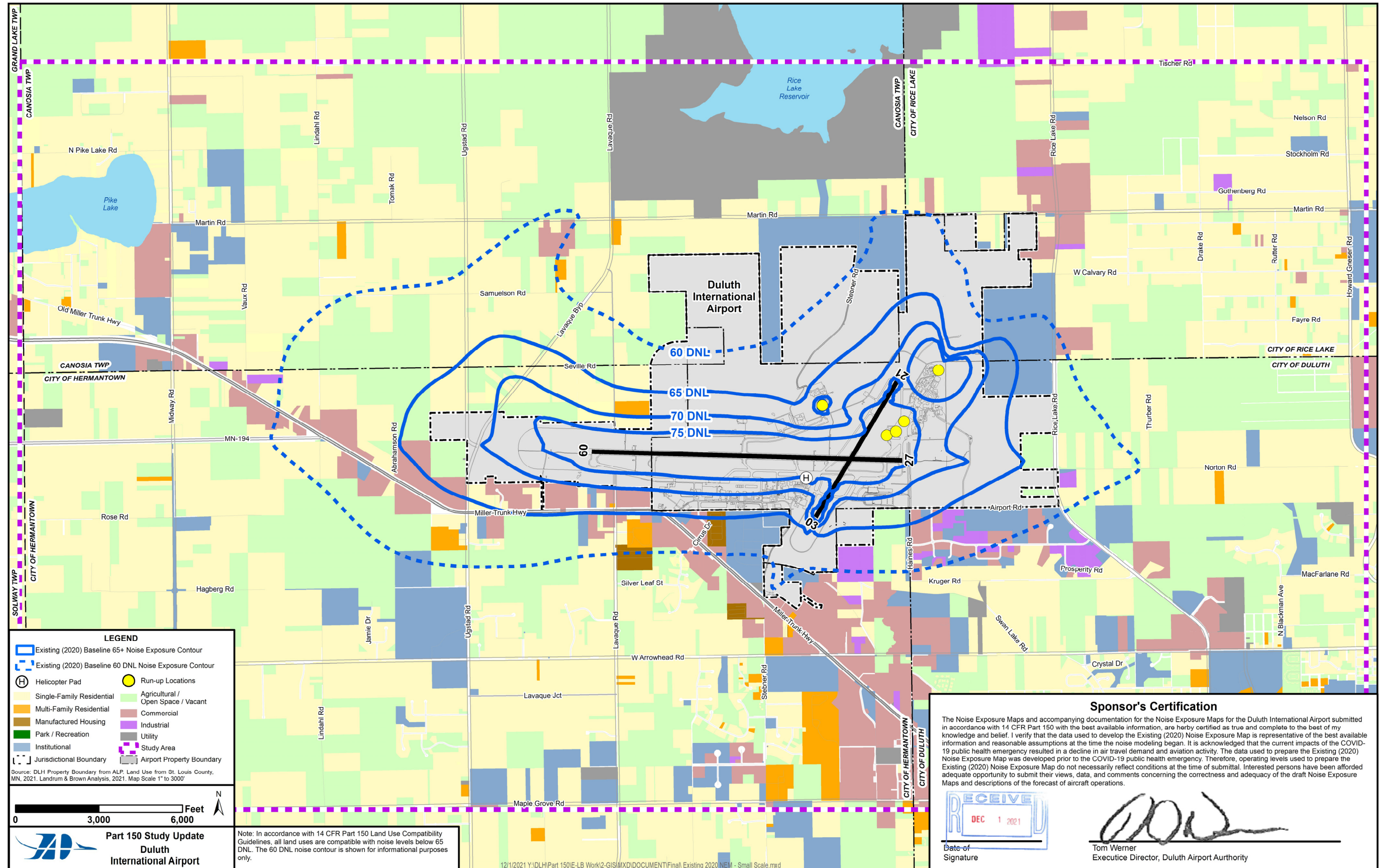
	Yes / No / NA	Page No.\Other Reference
C. Analysis appears to support program standards set forth in 150.35(b) and B150.5?	Yes	Chapter 4
D. When use restrictions are recommended:		
1. Are alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions can be made?	N/A	N/A
2. Use restriction coordinated with APP-600 prior to making determination on start of 180-days?	N/A	N/A
E. Do the following also meet Part 150 analytical standards:		
1. formal recommendations which continue existing practices?	Yes	Chapter 4
2. new recommendations or changes proposed at end of Part 150 process?	Yes	Chapter 4, Appendix F
F. Documentation indicates how recommendations may change previously adopted plans?	Yes	Chapter 4, Appendix F
G. Documentation also:		
1. identifies agencies which are responsible for implementing each recommendation?	Yes	Chapter 4, Table 4-2
2. indicates whether those agencies have agreed to implement.	Yes	Letter of Transmittal
3. Indicates essential government actions necessary to implement recommendations.	Yes	Chapter 4
H. Timeframe:		
1. includes agreed-upon schedule to implement alternatives?	Yes	Chapter 4, Page 4-41
2. indicates period covered by the program?	Yes	Chapter 4, Page 4-41
I. Funding/Costs:		
1. includes costs to implement alternatives?	Yes	Chapter 4, Table 4-2 and Table 4-5
2. includes anticipated funding sources?	Yes	Chapter 4
VI. PROGRAM REVISION: [150.23(e)(9)] Supporting documentation includes provision for revision?	Yes	Chapter 4, Measure P-C and Page 4-41

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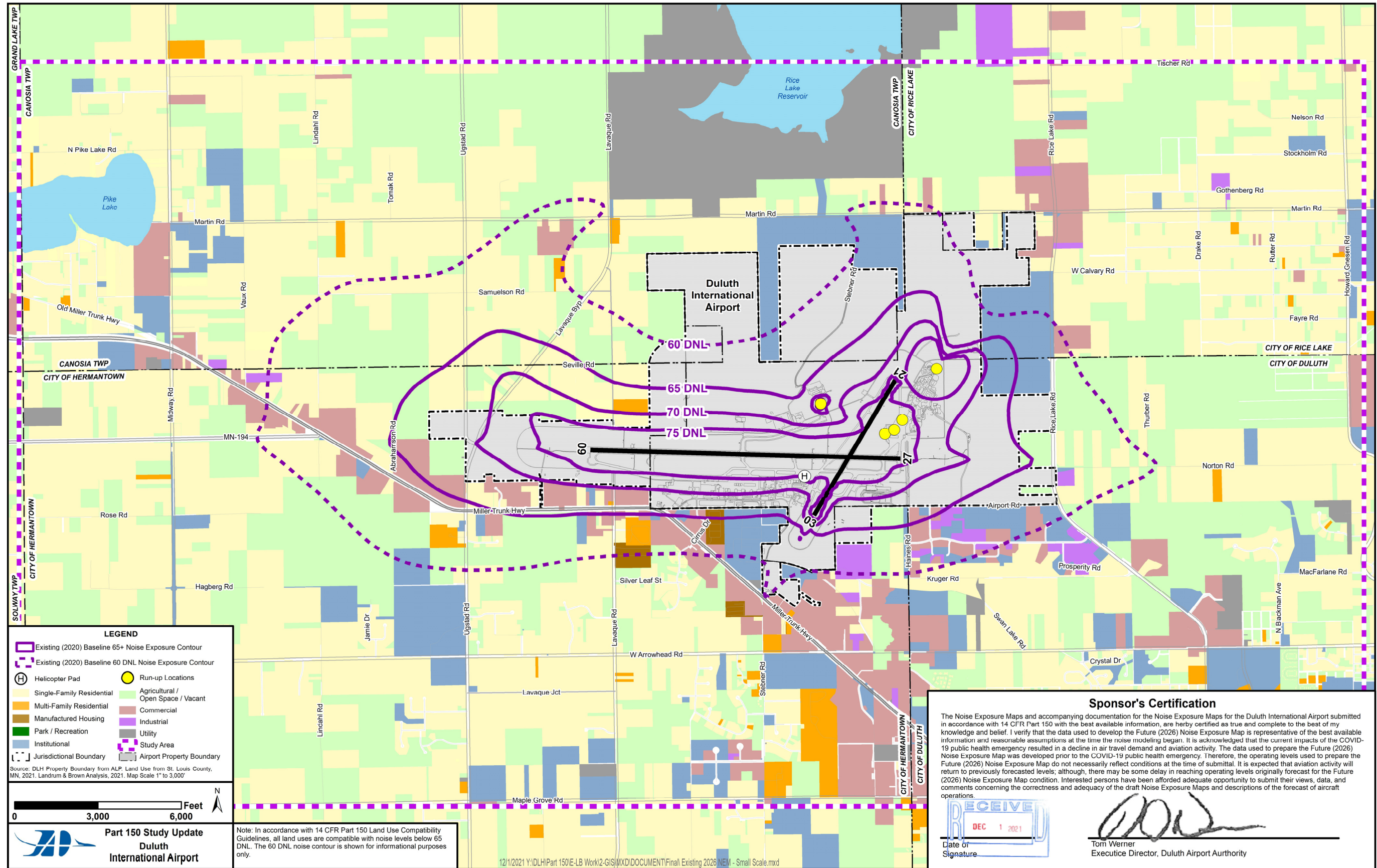
OFFICIAL NOISE EXPOSURE MAPS

The following pages contain small-scale representations of the official Noise Exposure Maps (NEMs) for Existing (2020) and Future (2026) conditions and supporting maps for the Duluth International Airport. The official NEMs and supplemental maps, at a scale of 1 inch equals 2,000 feet, are included at the back of this document. The Existing (2020) NEM is based on data developed between 2018 and 2020 as further explained in this document in **Chapter 3, *Baseline Noise Exposure*** and **Appendix C, *Noise Modeling Methodology***.

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14 CFR Part 150 Noise Compatibility Program Update

Duluth International Airport

Final – December 2021

PREPARED FOR
Duluth Airport Authority

PRESENTED BY
Landrum & Brown, Incorporated



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