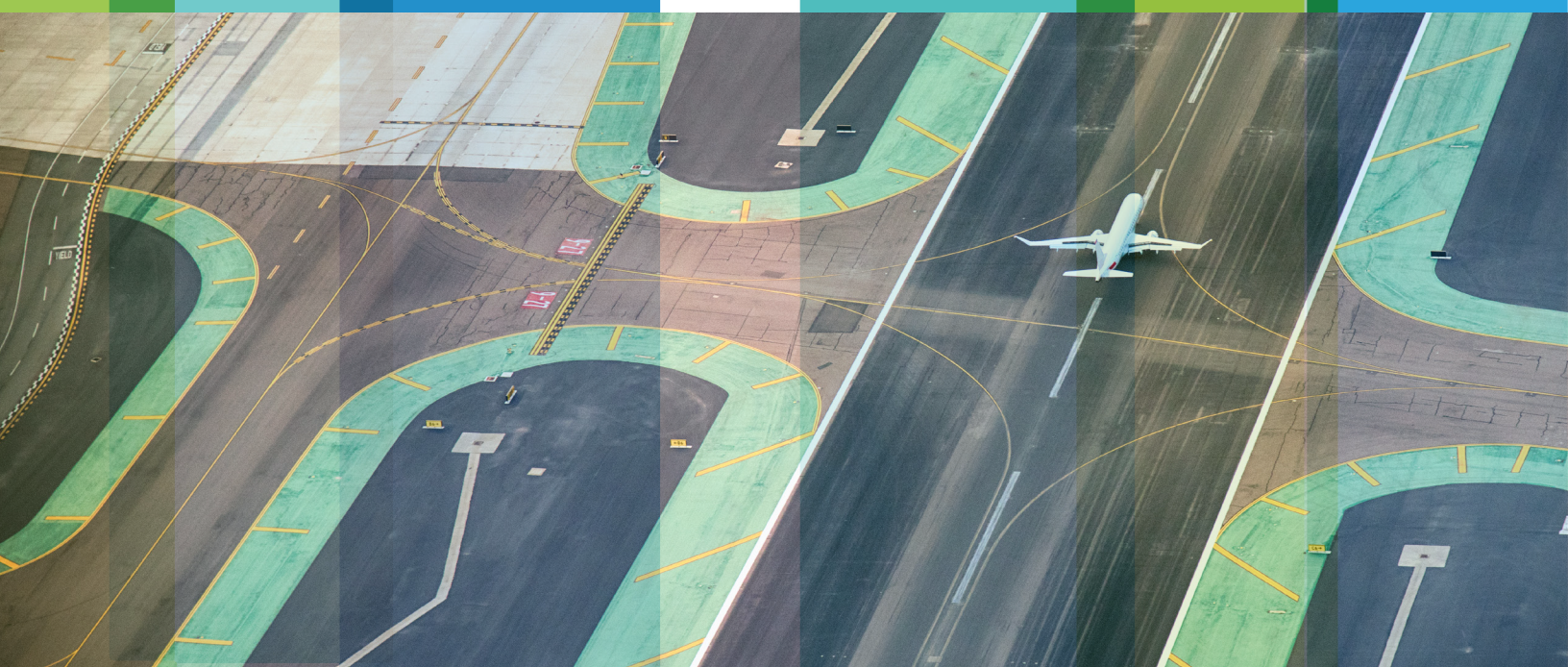




SANDIEGO
INTERNATIONAL AIRPORT

MAY 2022



14 CFR FINAL REPORT PART 150 UPDATE

NOISE EXPOSURE MAPS AND
NOISE COMPATIBILITY PROGRAM

San Diego County
Regional Airport Authority

SPONSOR'S CERTIFICATION

MAY 2022

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as provided under Section 505 of the Airport and Airway Improvement Act of 1982 as amended by the Airway Safety and Capacity Expansion Act of 1987. The contents do not necessarily reflect the views or policy of the FAA.

Acceptance of this report does not in any way constitute a commitment on the part of the United States to participate in the development depicted herein, nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public law. This document is intended to be a planning document by San Diego International Airport. Final decisions concerning implementation of the recommendations shall be made by San Diego County Regional Airport Authority.

The Noise Exposure Map and accompanying documentation for the Noise Exposure Maps and Noise Compatibility Program for San Diego International Airport, submitted in accordance with 14 CFR Part 150 with the best available information, are hereby certified as true and complete under penalty of 18 U.S.C. § 1001.

In addition, it is hereby certified that the airport sponsor has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of this draft noise compatibility study, draft noise exposure maps, and descriptions of forecast aircraft operations.

Signed: 
[Kim Becker \(May 12, 2022 07:51 PDT\)](#)
Kimberly J. Becker, President and CEO - San Diego County Regional Airport Authority

Email: kbecker@san.org

Dated: May 12, 2022



14 CFR PART 150 UPDATE

FINAL REPORT

Mead & Hunt 1743 Wazee Street, Suite 400
Denver, CO 80202
303-825-8844

■ Ricondo
■ Synergy
■ H.G. Consulting Group
■ BridgeNet International, a Tetra Tech Company



May 6, 2022

Sent via Email: mark.mcclardy@faa.gov

Mark A. McClardy, Director, Airports Division
Office of Airports, Western Pacific Region
Federal Aviation Administration
777 S. Aviation Blvd., Suite #150
El Segundo, CA 90245

Re: Certification of Title 14 Code of Federal Regulations (CFR) Part 150 Noise Exposure Maps (NEMs) and Noise Compatibility Program (NCP) for San Diego International Airport

Mr. McClardy:

Enclosed are copies of the Title 14 Code of Federal Regulations (CFR) Part 150 Noise Exposure Maps (NEMs) and Noise Compatibility Program (NCP), along with supporting documentation, for San Diego International Airport as submitted by the San Diego County Regional Airport Authority (SDCRAA). This is an update to the Airport's previous Part 150 Studies.

We are submitting these documents pursuant to Title 49 USC Chapter 471 and Title 14 CFR Part 150 and the applicable Federal Aviation Administration (FAA) guidelines for acceptance of the NEMs and the approval of the recommendations listed in the NCP. The maps contained in the documents are the official NEMs for the Airport. The Part 150 Land Use Guidelines were used to determine compatibility.

Both the existing and future NEM contours were generated using the required FAA Aviation Environmental Design Tool (AEDT), Version 2d. This is the approved model for generating aircraft noise contours for 14 CFR Part 150 Studies and this version was the most recent version, when the Study was initiated. The "existing condition" map, which is based on the aircraft operations data for the year that the NEMs were developed (2018), accurately represents the conditions when the Study was initiated. In addition, the "future condition" map is representative of forecasted operations in 2026, without any changes that could result from implementation of the recommendations provided in the NCP. At the onset of the COVID-19 pandemic, aircraft operations were reduced substantially at the Airport and are now in the process of recovering to pre-pandemic levels. The FAA has determined that


even though the forecasts used to inform the Part 150 Study do not take into account the COVID-19 pandemic, they are appropriate for land use compatibility efforts. Based on the pandemic recovery occurring in 2022, the Airport certifies that the 2018 NEM is representative of operations and fleet mix at the time of submission (2022). This is further discussed in Appendix L - Pandemic Forecast Analysis. Additionally, the Airport Authority has committed to updating the NEMs every five years.

It is hereby certified that the airport sponsor has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of this draft noise compatibility study, draft noise exposure maps, and descriptions of forecast aircraft operations.

Several meetings were conducted over the course of the Study, including over 14 public and stakeholder/committee meetings. A Public Hearing was also held on April 8, 2021 and the public was afforded adequate opportunity to submit both written and verbal comments from March 8th through April 21st. More information on the public involvement process is contained in the Public Coordination and Public Hearing/Comment Period Appendices in the Study. Each map and the description of consultation and opportunity for public comment are true and complete.


The NCP recommendations included in this Study represent the views of the SDCRAA. The SDCRAA approves of the recommendations (see attached resolution) and this serves as the official submittal to the FAA of the NEMs and NCP.


Sincerely,


Kim Becker (May 12, 2022 07:51 PDT)

Kimberly J. Becker kbecker@san.org
President/CEO

cc: Angela Shafer-Payne, Vice President, Chief Development Officer apayne@san.org

Brendan Reed, Director, Airport Planning & Environmental Affairs 
Brendan Reed (May 10, 2022 12:07 PDT)
breed@san.org

Sjohnna Knack, Program Manager, Airport Planning & Environmental Affairs 
Sjohnna Knack (May 10, 2022 11:07 PDT)
sknack@san.org

14 CFR PART 150 UPDATE



Contents	II
Tables	IX
Illustrations	XI
Appendices	XIV

Notes: For ease of review, the official Noise Exposure Maps are included behind the checklists, prior to Chapter 1, with duplicates of the NEMs included in the Chapter 4 (existing NEM) and Chapter 9 (future NEM). Additionally, all figures that are required per 14 CFR Part 150 to be on the 1 inch to 2,000-foot scale and the land use base map are denoted in the Table of Contents in bold GREEN type face and with a note on the map themselves denoting them as required. All other graphics are considered supplementary and are included for the use of the reader.

CONTENTS

NOISE COMPATIBILITY PROGRAM AND NOISE EXPOSURE MAP CHECKLIST.....CL.1
OFFICIAL NOISE EXPOSURE MAPS (ALSO SEE FIGURES 4.4 AND 9.1 IN THE DOCUMENT).....NEM.1

CHAPTER 1. INVENTORY

1.1 AIRPORT DETAILS. 1.2

- 1.1.1 Airside Inventory1.6
 - 1.1.1.1 Runways1.6
 - 1.1.1.2 Taxiways1.6
 - 1.1.1.3 Navigational Aids1.6
- 1.1.2 Airspace and Air Traffic Control1.8
 - 1.1.2.1 Area Airspace.....1.8
 - 1.1.2.2 Navigational Aids1.13
 - 1.1.2.3 Air Route Traffic Control Center1.13
 - 1.1.2.4 VFR Operations.....1.14
 - 1.1.2.5 IFR Operations1.14
- 1.1.3 Air Traffic Control1.15
- 1.1.4 Instrument Approach Procedures1.16

1.2 CURRENT NOISE COMPATIBILITY PROGRAM 1.18

- 1.2.1 Noise Compatibility Program1.18
- 1.2.2 Airport Noise Advisory Committee (ANAC).....1.21
- 1.2.3 Curfew Violation Review Panel1.21
 - 1.2.3.1 Restriction Details1.21
 - 1.2.3.2 Restriction Exceptions1.21
 - 1.2.3.3 Restriction Violation Penalties1.22
- 1.2.4 Fly Quiet Program1.22
 - 1.2.4.1 Scoring.....1.22



1.2.4.2 Quarterly Noise Reporting.....1.23

1.2.5 Airport Noise and Operations Monitoring System (ANOMS).....1.23

1.2.6 Quieter Home Program (QHP)1.23

1.2.7 Noise Concern Management1.23

1.3 AIRPORT ENVIRONS AND SURROUNDING COMMUNITIES..... 1.24

1.3.1 Zoning.....1.24

1.3.2 Airport Land Use Commission (ALUC).....1.24

1.3.2.1 Airport Land Use Compatibility Overlay Zone (ALUCOZ).....1.25

1.3.2.2 Airport Approach Overlay Zone (AAOZ)1.25

1.3.2.3 Airport Environs Overlay Zone (AEOZ)1.25

1.3.3 Existing Land Use.....1.31

1.3.4 Planned Land Use.....1.31

CHAPTER 2. FORECASTS

2.1 BACKGROUND..... 2.1

2.2 EXISTING OPERATIONS AND FORECASTS SUMMARY..... 2.2

CHAPTER 3. FORECASTS

3.1 CHARACTERISTICS OF SOUND..... 3.2

3.1.1 Sound Level and Frequency3.2

3.2 FACTORS INFLUENCING HUMAN RESPONSE TO SOUND 3.9

3.3 POTENTIAL EFFECTS OF NOISE..... 3.11

3.4 SOUND RATING SCALES..... 3.15

3.4.1 Single Event Metrics.....3.15

3.4.2 Cumulative Metrics3.16

3.6 NOISE/LAND USE COMPATIBILITY STANDARDS AND GUIDELINES 3.19

3.6.1 Primary Regulation.....3.19

3.6.2 Standards and Regulations Relating to Proposed Noise Abatement Alternatives.....3.21



3.6.3 Local Land Use Guidelines 3.23

3.7 NOISE ASSESSMENT METHODOLOGY 3.23

3.7.1 Aircraft Noise and Operations Management System 3.23

3.7.2 Instrumentation 3.27

3.7.3 Online Flight Tracking..... 3.27

3.8 COMPUTER MODELING 3.26

CHAPTER 4. EXISTING AND FUTURE NOISE EXPOSURE

4.1 EXISTING BASE CASE NOISE MODELING INPUTS 4.1

4.1.1 Physical Description of the Airport 4.2

4.1.2 Aircraft Operations..... 4.2

4.1.3 Aircraft Noise and Performance Characteristics 4.6

4.1.4 Runway Utilization 4.12

4.1.5 Flight Track Geometry and Use 4.12

4.1.6 Meteorological Conditions 4.19

4.1.7 Terrain Data 4.19

4.2 EXISTING AND FUTURE BASE CASE NOISE CONTOURS 4.19

CHAPTER 5. LAND USE ANALYSIS

5.1 METHODOLOGY 5.1

5.2 NON-COMPATIBLE LAND USE 5.2

5.3 EXISTING NOISE CONTOURS LAND USE ANALYSIS (2018) 5.2

5.4 FUTURE BASE CASE NOISE CONTOURS LAND USE ANALYSIS (2026)..... 5.5

CHAPTER 6. POTENTIAL NOISE ABATEMENT MEASURES

6.1 BACKGROUND 6.2

6.2 ROLES AND RESPONSIBILITIES 6.3



6.3 REGULATORY CONTEXT - NATIONAL NOISE REDUCTION EFFORTS..... 6.4

6.4 DISCUSSION OF MEASURES AVAILABLE..... 6.5

6.5 SUMMARY 6.12

CHAPTER 7. OPERATIONAL ALTERNATIVES

7.1 OPERATIONAL ALTERNATIVES - BACKGROUND 7.2

7.1.1 Air Traffic and Flight Procedure Terminology 7.2

7.1.1.1 National Airspace System (NAS)..... 7.2

7.1.1.2 Air Traffic Control in the NAS 7.3

7.1.1.3 Flight Procedure Navigation Design 7.5

7.1.1.4 Traffic Flow 7.9

7.1.2 Current Procedure and Alternatives Evaluated 7.10

7.2 NOISE ABATEMENT FLIGHT PATH ALTERNATIVES..... 7.13

7.2.1 Alternative 1 – Departures Over the Mission Bay Channel..... 7.13

7.2.1.1 Alternative 1A – Departures Over the Mission Bay Channel with Dispersion..... 7.13

7.2.1.2 Alternative 1B – Departures Over the Mission Bay Channel with Concentration..... 7.20

7.2.1.3 Alternative 1C - Departures Over the Mission Bay Channel with a Fly-Over Waypoint..... 7.26

7.2.1.4 Alternative 1D - Alternative 1D - Departures Over Mission Bay Channel with Concentration 7.32

7.2.2 Alternative 2 - Equivalent Lateral Spacing Operations (ELSO) For Departures 7.38

7.2.2.1 Alternative 2A - Equivalent Lateral Spacing Operations (ELSO) For Departures with Dispersion (285-Degree Heading) 7.38

7.2.2.2 Alternative 2B - Equivalent Lateral Spacing Operations (ELSO) For Departures with Concentration (285-Degree Heading) 7.44

7.2.2.3 Alternative 2C - Equivalent Lateral Spacing Operations (ELSO) for Departures with Dispersion (287-Degree Heading) 7.50

7.2.2.4 Alternative 2D - Equivalent Lateral Spacing Operations (ELSO) for Departures with Concentration (287-Degree Heading) 7.56

7.2.3 Alternative 3 – Three SIDS for Runway 27 7.62

7.2.3.1 Alternative 3A – Three SIDS for Runway 27 - Northbound Departure Split 7.63

7.2.3.2 Alternative 3B – Three SIDS for Runway 27 - Eastbound Departure Split..... 7.70



7.3 OPERATIONAL DISTRIBUTION ALTERNATIVE 7.76

7.3.1 Alternative 4 - Nighttime (10:00 p.m. to 6:30 a.m.) Eastbound Departures on ZZ000 RNAV SID.....7.76

7.4 NOISE ABATEMENT DEPARTURE PROCEDURE (NADP) ALTERNATIVE 7.81

7.4.1 Background7.81

7.4.2 Departure Procedure Profiles7.83

7.4.2.1 Existing Conditions: Distant NADP (ICAO B) – 1,000-foot Cutback Departure (Stand. Departure) 7.83

7.4.2.2 NADP Alternative: Close-in NADP (ICAO A) – 1,500-foot Cutback Departure7.83

7.4.3 Analysis Results7.89

7.5 SUMMARY 7.90

CHAPTER 8. FACILITY, LAND USE, PROGRAM MANAGEMENT ALTERNATIVES

8.1 FACILITY MEASURES 8.5

8.1.1 Noise Barriers8.6

8.1.2 Ground-Based Augmentation System (GBAS).....8.12

8.2 REMEDIAL LAND USE MEASURES 8.14

8.2.1 Sound Attenuation of Eligible Non-Residential Noise Sensitive Buildings8.15

8.2.2 Sound Attenuation of Eligible Residential Units8.16

8.3 LAND USE PLANNING/CONTROL MEASURES 8.18

8.3.1 Prevent New Non-Compatible Land Use Development8.18

8.3.2 San Diego County Airport Land Use Commission.....8.19

8.3.3 Support Compatibility Planning Process8.20

8.4 PROGRAM MANAGEMENT MEASURES 8.21

8.4.1 Aircraft Noise Office and Program Manager8.22

8.4.2 Airport Noise and Operations Monitoring System (ANOMS).....8.23

8.4.3 Portable Noise Monitoring.....8.24

8.4.4 Fly Quiet Program8.25

8.4.5 Airport Noise Advisory Committee (ANAC).....8.27

8.4.6 Communicate Noise Issues with Airlines8.28



8.4.7 Administer Airport Use Regulations (AURs)8.29

8.4.8 California Quarterly Noise Reports8.30

8.4.9 Update Noise Exposure Map.....8.30

8.4.10 Update Noise Compatibility Program8.31

CHAPTER 9. ISSUES, ACTIONS, AND RECOMMENDATIONS

9.1 FUTURE NOISE EXPOSURE MAP..... 9.1

9.2 RECOMMENDATIONS..... 9.7

9.2.1 Existing Actions – Previous Part 150 Study NCP.....9.9

9.2.2 Noise Abatement Recommendation.....9.9

 9.2.2.1 Noise Abatement Recommendation 1: Voluntary Noise Abatement Departure Profile (NADP).....9.9

9.2.3 Facility Management Recommendation9.10

 9.2.3.1 Facility Management Recommendation 1: Ground Based Augmentation System (GBAS)9.10

9.2.4 Remedial Land Use Recommendations.....9.11

 9.2.4.1 Remedial Land Use Recommendation 1: Sound Attenuation of Eligible Non-Residential Noise Sensitive Buildings9.11

 9.2.4.2 Remedial Land Use Recommendation 2: Sound Attenuation of Eligible Residential Units9.17

9.2.5 Land Use Planning/Control Recommendations9.18

 9.2.5.1 Land Use Planning/Control Recommendation 1: Prevent New Non-Compatible Land Use Development9.18

 9.2.5.2 Land Use Planning/Control Recommendation 2: San Diego County Airport Land Use Commission (ALUC).....9.19

 9.2.5.3 Land Use Planning/Control Recommendation 3: Support Compatibility Planning Process9.20

9.2.6 Program Management Recommendations9.20

 9.2.6.1 Program Management Recommendation 1: Aircraft Noise Office and Program Manager9.21

 9.2.6.2 Program Management Recommendation 2: Airport Noise and Operations Monitoring System (ANOMS)9.21

 9.2.6.3 Program Management Recommendation 3: Portable Noise Monitoring9.22

 9.2.6.4 Program Management Recommendation 4: Fly Quiet Program.....9.23



9.2.6.5 Program Management Recommendation 5: Airport Noise Advisory Committee (ANAC)9.23

9.2.6.6 Program Management Recommendation 6: Communicate Noise Issues with Airlines.....9.24

9.2.6.7 Program Management Recommendation 7: Administer Airport Use Regulations (AURs)9.25

9.2.6.8 Program Management Recommendation 8: California Quarterly Noise Reports.....9.25

9.2.6.9 Program Management Recommendation 9: Update Noise Exposure Maps (NEMs).....9.26

9.2.6.10 Program Management Recommendation 10: Update Noise Compatibility Program (NCP)9.26

CHAPTER 10. CONSULTATION

10.1 COMMITTEES 10.1

10.2 PUBLIC MEETINGS AND COMMENTS 10.5

10.3 COORDINATION REQUIREMENTS 10.5



TABLES

Table 1.1 RUNWAY 09/27 SUMMARY1.8

Table 1.2 IFR OPERATIONS1.15

Table 1.3 INSTRUMENT APPROACH PROCEDURES.....1.17

Table 1.4 ILS CATEGORY DEFINITIONS.....1.17

Table 1.5 NOISE COMPATIBILITY PROGRAM RECOMMENDATIONS (2010)1.19

Table 1.6 SURROUNDING ZONING1.29

Table 2.1 SUMMARY OF FORECASTED AIRCRAFT OPERATIONS BY AIRCRAFT CATEGORY.....2.2

Table 3.1 NOISE ANALYSIS SECTIONS3.1

Table 3.2 FACTORS THAT AFFECT INDIVIDUAL ANNOYANCE TO NOISE3.10

Table 4.1 RUNWAY DATA4.2

Table 4.2 FORECAST OF AIRCRAFT OPERATIONS (2018 AND 2026)4.3

Table 4.3 MODELED AVERAGE DAILY AIRCRAFT OPERATIONS BY GENERALIZED
AIRCRAFT TYPE (2018)4.4

Table 4.4 MODELED AVERAGE DAILY AIRCRAFT OPERATIONS BY GENERALIZED
AIRCRAFT TYPE (2026)4.5

Table 4.5 STAGE LENGTH USE BY AIRCRAFT TYPE (2018).....4.7

Table 4.6 STAGE LENGTH USE BY AIRCRAFT TYPE (2026).....4.11

Table 4.7 FLIGHT TRACK UTILIZATION (2018).....4.13

Table 4.8 FLIGHT TRACK UTILIZATION (2026).....4.14

Table 5.1 PUBLIC FACILITIES WITHIN EXISTING NOISE CONTOURS (2018)5.3

Table 5.2 EXISTING LAND USE WITHIN EXISTING NOISE CONTOURS (2018).....5.4

Table 5.3 PUBLIC FACILITIES WITHIN FUTURE NOISE CONTOUR (2026)5.6

Table 5.4 LAND USE WITHIN FUTURE NOISE CONTOURS (2026)5.7

Table 6.1 APPLICABILITY OF MEASURES – 14 CFR PART 150 REQUIRED ALTERNATIVES6.7



Table 7.1 RNAV LEG TYPE EXAMPLES7.8

Table 7.2 LIST OF OPERATIONAL NOISE ABATEMENT ALTERNATIVES7.12

Table 7.3 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 1A7.19

Table 7.4 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 1B7.25

Table 7.5 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 1C7.31

Table 7.6 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 1D7.37

Table 7.7 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 2A7.43

Table 7.8 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 2B7.49

Table 7.9 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 2C7.55

Table 7.10 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 2D7.61

Table 7.11 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 3A7.69

Table 7.12 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 3B7.75

Table 7.13 COMPARISON OF HOUSING UNITS AND POPULATION FOR ALTERNATIVE 47.81

Table 7.14 85 LMAX DBA GRID POINTS7.91

Table 7.15 85 LMAX DBA POPULATION COUNT7.91

Table 8.1 FACILITY, LAND USE, AND PROGRAM MANAGEMENT MEASURES.....8.3

Table 8.2 QUIETER HOME PROGRAM SOUND ATTENUATION COSTS8.17

Table 9.1 EXISTING LAND USE WITHIN FUTURE NOISE EXPOSURE MAP CONTOURS9.3

Table 10.1 TECHNICAL ADVISORY COMMITTEE10.2

Table 10.2 CITIZENS ADVISORY COMMITTEE10.3

Table 10.3 AIRPORT NOISE ADVISORY COMMITTEE10.3



ILLUSTRATIONS

Figure NEM.1 EXISTING NOISE EXPOSURE MAP (NEM) NEM.1

Figure NEM.2 FUTURE NOISE EXPOSURE MAP (NEM) 2026 NEM.2

Figure 1.1 AIRPORT LOCATION1.3

Figure 1.2 AIRPORT VICINITY1.4

Figure 1.3 GENERALIZED AIRPORT LAYOUT1.5

Figure 1.4 AIRSPACE/NAVAIDS SUMMARY1.10

Figure 1.5 SAN DIEGO CLASS B AIRSPACE1.11

Figure 1.6 EXISTING ZONING1.27

Figure 1.7 EXISTING LAND USE..... 1.33

Figure 1.8 PLANNED LAND USE.....1.34

Figure 3.1 FREQUENCY WEIGHTED CONTOURS (dBA, dBC)3.4

Figure 3.2 EXAMPLES OF VARIOUS SOUND ENVIRONMENTS3.5

Figure 3.3 ATMOSPHERIC ATTENUATION - HOW NOISE CHANGES OVER DISTANCE BASED
ON HUMIDITY AND TEMPERATURE3.7

Figure 3.4 QUALITY OF SPEECH IN RELATION TO THE DISTANCE BETWEEN THE TALKER AND
THE LISTENER3.12

Figure 3.5 CAUSES OF REPORTED AWAKENINGS.....3.13

Figure 3.6 SAMPLE OF SLEEP DISTURBANCE3.14

Figure 3.7 EXAMPLES OF LMAX, SENEL, LEQ & CNEL NOISE LEVELS.....3.18

Figure 3.8 FAA PART 150 LAND USE COMPATIBILITY MATRIX.....3.20

Figure 3.9 NOISE MONITORING TERMINAL LOCATIONS (WEST)..... 3.25

Figure 3.10 NOISE MONITORING TERMINAL LOCATIONS (EAST) 3.26

Figure 4.1 EXISTING FLIGHT TRACKS - FIXED WING ARRIVALS..... 4.15

Figure 4.2 EXISTING FLIGHT TRACKS - FIXED WING DEPARTURES 4.16

Figure 4.3 EXISTING FLIGHT TRACKS - ROTARY WING 4.17

Figure 4.4 EXISTING NOISE EXPOSURE MAP (NEM)..... 4.21

Figure 4.5 EXISTING CNEL NOISE CONTOURS 2018 (1:3000).....4.22



Figure 4.6 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 (1:2000)4.23

Figure 4.7 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 (1:3000)4.24

Figure 5.1 WINDSHIELD SURVEY OF NOISE SENSITIVE LOCATIONS (WITHIN FUTURE 65 CNEL)5.9

Figure 7.1 COMPARISON OF ROUTES FOLLOWING CONVENTIONAL VERSUS RNAV PROCEDURES7.7

Figure 7.2 COMPARISON OF FLY-BY AND FLY-OVER WAYPOINTS7.8

Figure 7.3 ALTERNATIVE 1A – DEPARTURES OVER THE MISSION BAY CHANNEL WITH DISPERSION7.14

Figure 7.4 ALTERNATIVE 1A NOISE MODEL TRACKS7.17

Figure 7.5 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 1A COMPARISON7.18

Figure 7.6 ALTERNATIVE 1B – DEPARTURES OVER THE MISSION BAY CHANNEL
WITH CONCENTRATION7.21

Figure 7.7 ALTERNATIVE 1B NOISE MODEL TRACKS7.23

Figure 7.8 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 1B COMPARISON7.24

Figure 7.9 ALTERNATIVE 1C – DEPARTURES OVER THE MISSION BAY CHANNEL WITH
FLY-OVER WAYPOINT7.27

Figure 7.10 ALTERNATIVE 1C NOISE MODEL TRACKS7.29

Figure 7.11 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 1C COMPARISON7.30

Figure 7.12 ALTERNATIVE 1D – DEPARTURES OVER THE MISSION BAY CHANNEL WITH CONCENTRATION
(ALTERNATIVE 1B WITH NIGHTTIME [10:00 P.M. TO 6:30 A.M] ONLY OPERATIONS)7.33

Figure 7.13 ALTERNATIVE 1D NOISE MODEL TRACKS7.35

Figure 7.14 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 1D COMPARISON7.36

Figure 7.15 EQUIVALENT LATERAL SPACING OPERATIONS (ELSO) FOR DEPARTURES
WITH DISPERSION (285-DEGREE HEADING)7.39

Figure 7.16 ALTERNATIVE 2A NOISE MODEL TRACKS7.41

Figure 7.17 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 2A COMPARISON7.42

Figure 7.18 EQUIVALENT LATERAL SPACING OPERATIONS (ELSO) FOR DEPARTURES
WITH CONCENTRATION (285-DEGREE HEADING)7.45

Figure 7.19 ALTERNATIVE 2B NOISE MODEL TRACKS7.47

Figure 7.20 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 2B COMPARISON7.48

Figure 7.21 EQUIVALENT LATERAL SPACING OPERATIONS (ELSO) FOR DEPARTURES
WITH DISPERSION (287-DEGREE HEADING)7.51



Figure 7.22 ALTERNATIVE 2C NOISE MODEL TRACKS7.53

Figure 7.23 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 2C COMPARISON7.54

Figure 7.24 EQUIVALENT LATERAL SPACING OPERATIONS (ELSO) FOR DEPARTURES
 WITH CONCENTRATION (287-DEGREE HEADING)7.57

Figure 7.25 ALTERNATIVE 2D NOISE MODEL TRACKS.....7.59

Figure 7.26 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 2D COMPARISON7.60

Figure 7.27 ALTERNATIVE 3A – THREE SIDS FOR RUNWAY 27 – NORTHBOUND DEPARTURE SPLIT7.64

Figure 7.28 ALTERNATIVE 3A/3B NOISE MODEL TRACKS7.67

Figure 7.29 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 3A COMPARISON7.68

Figure 7.30 ALTERNATIVE 3A – THREE SIDS FOR RUNWAY 27 – EASTBOUND DEPARTURE SPLIT7.71

Figure 7.31 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 3B COMPARISON7.73

Figure 7.32 ALTERNATIVE 4 – NIGHTTIME (10:00 P.M. TO 6:30 A.M.) EASTBOUND DEPARTURES
 ON ZZOOO RNAV SID7.78

Figure 7.33 FUTURE BASE CASE CNEL NOISE CONTOURS 2026 AND ALTERNATIVE 4 COMPARISON7.79

Figure 7.34 LOCATION-BASED NOISE ABATEMENT7.83

Figure 7.35 MODELED FLIGHT PERFORMANCE OF CLOSE-IN AND DISTANT NADP7.86

Figure 7.36 THRUST VS CUMULATIVE GROUND DISTANCE7.87

Figure 7.37 NADP CONTOUR CLOSE IN & DISTANT - 75-80-85 LMAX – STANDARD PROFILE
 (EXISTING CONDITION)7.89

Figure 8.1 POTENTIAL NOISE BARRIER LOCATIONS8.7

Figure 8.2 NOISE BARRIER LMAX MODELING RESULTS8.11

Figure 8.3 GBAS ARCHITECTURE8.12

Figure 9.1 FUTURE NOISE EXPOSURE MAP (NEM) 2026 9.5

Figure 9.2 COMPARISON OF EXISTING 2018 AND FUTURE 2026 NEMS (65 CNEL)9.6

Figure 9.3 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY9.13

Figure 9.4 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY –
 WEST OF AIRPORT9.14

Figure 9.5 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY –
 EAST OF AIRPORT.....9.15



APPENDICES

APPENDIX A. **ACRONYM LIST**

APPENDIX B. **FAA APPROVALS**

APPENDIX C. **ANAC RECOMMENDATIONS**

APPENDIX D. **FORECAST**

APPENDIX E. **NOISE**

APPENDIX F. **AIRCRAFT STAGES**

APPENDIX G. **2026 NON-RESIDENTIAL LAND USES**

APPENDIX H. **ALTERNATIVES DEVELOPMENT SCREENING MEMO**

APPENDIX I. **FAA NOISE SHIFTING LETTER**

APPENDIX J. **PUBLIC COORDINATION**

APPENDIX K. **PUBLIC HEARING/COMMENT PERIOD**

APPENDIX L. **PANDEMIC FORECAST ANALYSIS**



14 CFR PART 150 UPDATE

NOISE COMPATIBILITY PROGRAM AND NOISE EXPOSURE MAP CHECKLISTS



The Noise Compatibility Program and Noise Exposure Maps that are being prepared as are part of this 14 CFR Part 150 Update for SDIA are subject to FAA review. The review involves the identification of the necessary components of the NCP and NEM submissions. The following tables were developed by the FAA to serve as checklists for their internal review of Part 150 documentation.

PART 150 NOISE COMPATIBILITY PROGRAM CHECKLIST

NCP CHECKLIST

<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
I. IDENTIFICATION AND SUBMISSION OF PROGRAM:			
A. Submission is properly identified:			
1. 14 C.F.R Part 150 NCP?	X		Cover, flysheet and cover letter
2. NEM and NCP together?	X		Cover, flysheet and cover letter
3. Program revision? (To what extent has it been revised?)	X		Yes, Cover, flysheet, full NCP/NEM Update
B. Airport and Airport Operator's name identified?	X		Yes, Cover and flysheet
C. NCP transmitted by airport operator's cover letter?	X		Yes, Cover letter
II. CONSULTATION (including public participation): [150.23]			
A. Documentation includes narrative of public participation and consultation process?	X		10.1-10.5, Consultation, Appendix K & J
B. Identification of consulted parties:			
1. All parties in 150.23(c) consulted?	X		10.1-10.5, Consultation, Appendix K & J
2. Public and planning agencies identified?	X		10.1-10.5, Consultation, Appendix K & J
3. Agencies in 2., above, correspond to those affected by the NEM noise contours?	X		10.1-10.5, Consultation, Appendix K & J
C. Satisfies 150.23(d) requirements:			
1. Documentation shows active and direct participation of parties in B, above?	X		10.1-10.5, Consultation, Appendix K & J
2. Active and direct participation of general public and opportunity to submit their views, data, and comments on the formulation and adequacy of the NCP?	X		10.1-10.5, Consultation, Appendix K & J
3. Participation was prior to and during development of NCP and prior to submittal to FAA?	X		10.1-10.5, Consultation, Appendix K & J
4. Indicates adequate opportunity afforded to all consulted parties to submit views, data, etc.?	X		10.1-10.5, Consultation, Appendix K & J
D. Evidence included of notice and opportunity for a public hearing on the final NCP?	X		10.1-10.5, Consultation, Appendix K



<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
E. Documentation of comments:			
1. Includes summary of public hearing comments, if hearing was held?	X		10.1-10.5, Consultation, Appendix K
2. Includes copy of all written material submitted to operator?	X		10.1-10.5, Consultation, Appendix J & K
3. Includes operator's responses/disposition of written and verbal comments?	X		10.1-10.5, Consultation, Appendix K
F. Informal agreement received from FAA on flight procedures?	-	-	Not Applicable
III. NOISE EXPOSURE MAPS: [150.23, B150.3, B150.35 (f)] (The following 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?	X		4.1-4.21 (existing), 9.1-9.5 (future)
2. Maps previously found in compliance by FAA?	X		Appendix B, Previous NCP Record of Approval
3. FAA compliance determination still valid? (a) Existing condition NEM represents conditions at the airport at the time of submittal of the NCP for FAA approval? (b) Forecast condition NEM represents conditions at the airport at least 5 years into the future from the date of submittal of the NCP to the FAA for approval? (c) Sponsor letter confirming elements (a) and (b), above, if date of submission is either different than the year of submittal of the previously approved NEMs or over 12 months from the date shown on the face of the NEM? (d) If (a) through (c) cannot be validated, the NEMs must be redone and resubmitted as per 150.21.	X		Appendix B, Previous NCP Record of Approval
4. Does 180-day period have to wait for map compliance finding?	X		
B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal. Report the applicable findings in the spaces below after a full review using the NEM checklist and narrative.)			
1. Revised NEMs included with program?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5 (document)
2. Has airport operator requested in writing that FAA make a determination on the NEM(s), showing NCP measures in place, when NCP approval is made?	X		Cover letter



<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
C. If program analysis uses noise modeling:			
1. INM, HNM, or FAA-approved equivalent?	X		4.1-4.25
2. Monitoring in accordance with A150.5?			N/A
D. Existing condition and 5-year maps clearly identified as the official NEMs?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5 (document)
IV. CONSIDERATION OF ALTERNATIVES: [B150.7, 150.23 (e)(2)]			
A. At a minimum, are the alternatives below considered or if they were rejected was the reason for rejection reasonable and based on accurate technical information and local circumstances?			
1. Land acquisition and interest therein, including air rights, easements, and development rights?	X		6.9
2. Barriers, acoustical shielding, public building soundproofing	X		8.5, 8.15-8.18
3. Preferential runway system	X		6.10
4. Voluntary flight procedures	X		Chapter 7
5. Restrictions described in B150.7 (taking into account Part 161 requirements)	X		6.7-6.11, Chapter 7
6. Other actions with beneficial impact not listed in the regulation	X		Chapter 8
7. Other FAA recommendations (see D, below)		X	
B. Responsible implementing authority identified for each considered alternative?	X		9.1-9.27
C. Analysis of alternative measures:			
1. Measures clearly described?	X		Chapter 6, 7 and 8
2. Measures adequately analyzed?			
3. Adequate reasoning for rejecting alternatives?			
D. Other actions recommended by the FAA: As the FAA staff person familiar with the local airport circumstances, determine whether other actions should be added? (List separately, or on back, actions and describe discussions with airport sponsor to have them included prior to the start of the 180-day cycle. New measures recommended by the airport sponsor must meet applicable public participation and consultation with officials before they can be submitted to the FAA for action. See E., below.)		X	



Airport: San Diego International Airport		Reviewer:		
Program Requirement	Yes	No	Supporting Pages/ Review Comments	
V. ALTERNATIVES RECOMMENDED FOR IMPLEMENTATION: [150.23 (e), B150.7 (c), B150.35 (b), B150.5]				
A. Document clearly indicates:				
1. Alternatives recommended for implementation?	X		Chapter 9, Recommendations	
2. Final recommendations are airport operator's, not those of consultant or third party?	X		Cover Letter	
B. Do all program recommendations:				
1. Relate directly or indirectly to reduction of noise and non-compatible land uses? (Note: All program recommendations, regardless of whether previously approved by the FAA in an earlier Part 150 study, must demonstrate a noise benefit if the airport sponsor wants FAA to consider the measure for approval in a program update. See E., below)	X		Chapter 9, 9.1-9.27	
2. Contain description of contribution to overall effectiveness of program?	X		Chapter 9, 9.1-9.27	
3. Noise/land use benefits quantified to extent possible?	X		Chapter 7, 8 and 9	
4. Include actual/anticipated effect on reducing noise exposure within noncompatible area shown on NEM?	X		Chapter 7, 8, 9, as applicable	
5. Effects based on relevant and reasonable expressed assumptions?	X		Chapter 9, 9.1-9.27	
6. Have adequate supporting data to support its contribution to noise/land use compatibility?	X		Chapter 7, 8 and 9	
C. Analysis appears to support program standards set forth in 150.35 (b) and B150.5?	X		Chapter 9, 9.1-9.27	
D. When use restrictions are recommended for approval by the FAA:				
1. Does (or could) the restriction affect Stage 2 or Stage 3 aircraft operations (regardless of whether they presently operate at the airport)? (If restriction affects Stage 2 helicopters, Part 161 also applies.)			N/A	
2. If the answer to D1. is yes, has the airport operator complete the Part 161 process and received FAA Part 161 approval for a restriction affecting Stage 3 aircraft? For restrictions affecting only Stage 2 analysis and consultation process required by Part 161?			N/A	



Airport: San Diego International Airport		Reviewer:	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
3. Are non-restrictive alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions can be made?			N/A
4. Did the FAA regional or ADO reviewer coordinate the use restriction with APP-400 prior to making determination on start of 180-days?			N/A
E. Do the following also meet Part 150 analytical standards:			
1. Formal recommendations which continue existing practices and that are submitted for FAA re-approval?	X		Chapter 9, 9.1-9.27
2. New recommendations or changes proposed at end of Part 150 process?	X		Chapter 9, 9.1-9.27
F. Documentation indicates how recommendations may change previously adopted noise compatibility plans, programs, or measures?	X		Chapter 9, 9.1-9.27
G. Documentation also:			
1. Identifies agencies which are responsible for implementing each recommendation?	X		Chapter 9, 9.1-9.27
2. Indicates whether those agencies have agreed to implement?	X		Chapter 9, 9.1-9.27
3. Indicates essential government actions necessary to implement recommendations?	X		Chapter 9, 9.1-9.27
H. Timeframe:			
1. Includes agreed-upon schedule to implement alternatives?	X		Chapter 9, 9.1-9.27
2. Indicates period covered by the program?	X		Cover Letter
I. Funding/Costs:			
1. Includes costs to implement alternatives?	X		Chapter 9, 9.1-9.27
2. Includes anticipated funding sources?	X		Chapter 9, 9.1-9.27
VI. PROGRAM REVISION: [150.23 (e) (9)]			
Supporting documentation includes provision for revision? (Note: Revision should occur when it is likely a change has taken place at the airport that will cause a significant increase or decrease in the DNL noise contour of 1.5 dB or greater over noncompatible land uses. See §150.21(d))	X		9.26-9.27

SOURCE: Mead & Hunt, May 2021



PART 150 NOISE EXPOSURE MAP CHECKLIST

TABLE 1.1 NEM CHECKLIST

<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
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. 14 C.F.R Part 150 NEM only		X	NEM and NCP
2. NEM and NCP together?	X		Cover letter
3. A revision to NEMs which have previously been determined by FAA to be in compliance with Part 150?	X		Cover letter
B. Airport and Airport operator's name identified?	X		Cover, Cover letter
C. NCP transmitted by airport operator cover letter, describing it as a Part 150 submittal and requesting appropriate FAA determination?	X		Cover letter
II. CONSULTATION: [150.21 (b), A150.105(a)]			
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?			
	X		10.1-10.5, Appendix J & K
B. Identification of consulted parties:			
1. Are the consulted parties identified?	X		10.1-10.5, Appendix J & K
2. Do they include all those required by 150.21(b) and A150.105(a)?	X		10.1-10.5, Appendix J & K
3. Agencies in 2., above, correspond to those affected by the NEM noise contours?	X		10.1-10.5, Appendix J & K
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 view, data, and comments during map development and in accordance with 150.21 (b)?	X		Cover letter, Fly Sheet, 10.1-10.5, Appendix J & K
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 regional airports division manager?	X		10.1-10.5, Appendix K



<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
III. GENERAL REQUIREMENTS: [150.21]			
A. Are there two maps, each clearly labeled on the face with year (existing condition year and 5-year)?			
B. Map currency:			
1. Does the existing condition map year match the year on the airport operator's NEM submittal letter?		X	No, Cover Letter, 4.21
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?		X	No, Cover letter, 9.5
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?	X		Yes, Cover letter
C. If the NEM and NCP are submitted together:			
1. Has the airport operator indicated whether the forecast year map is based on either forecast conditions without the program or forecast conditions if the program is implemented?	X		Forecast conditions without recommendations, 9.1
2. If the forecast year map is based on program implementation:			N/A
a. Are the specific program measures which are reflected on the map identified?			N/A
b. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the map?			N/A
3. If the forecast year NEM does not model program implementation, the airport operator must either submit a revised forecast NEM showing program implementation conditions [B150.3(b), 150.35(f)] or the sponsor must demonstrate the adopted forecast year NEM with approved NCP measures would not change by plus/minus 1.5 CNEL? (150.21(d))		X	No as no operational alternatives that are recommended would materially change the 65 CNEL or greater
IV. MAP SCALE, GRAPHICS, AND DATA REQUIREMENTS: [A150.101, A150.103, A150.105, 150.21 (a)]			
A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000') and is the scale indicated on the maps?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5 (document)
B. Is the quality of the graphics such that required information is clear and readable?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5 (document)



Airport: San Diego International Airport		Reviewer:	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
C. Depiction of the airport and its environs:			
1. Is the following graphically depicted to scale on both the existing condition and forecast maps:			
a. Airport boundaries	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
b. Runway configurations with runway end numbers	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
2. Does the depiction of the off-airport data include:			
a. A land use base map depicting streets and other identifiable geographic features	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
b. The area within the 65 CNEL (or beyond, at local discretion)	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
c. Clear delineation of geographic boundaries and the names of all jurisdictions with the 65 CNEL (or beyond, at local discretion)	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
D. 1. Continuous contours for at least the CNEL 65, 70, and 75 dB?			
2. Has the local land use jurisdiction(s) adopted a lower local standard and if so, has the sponsor depicted this on the NEMs?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
3. Based on current airport and operational data for the existing condition year NEM, and forecast data representative of the selected year for the forecast NEM?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
E. Flight tracks for the existing condition and forecast year timeframes (these may be on supplemental graphics which must use the same land use base map as the existing condition and forecast year NEM), which are numbered to correspond to accompanying narrative?			
	X		4.15-4.17
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)			
	X		3.25, 3.26, 4.21, 9.5
G. Noncompatible land use identification:			
1. Are noncompatible land uses within at least the 65 CNEL depicted on the maps?	X		NEM.1 and NEM.2 (front)/4.21 and 9.5
2. Are noise sensitive public buildings and historic properties identified?	X		9.12-9.14, NEM.1 and NEM.2 (front)/4.21 and 9.5
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?	X		9.12-9.14, 4.21, 9.5



<u>Airport:</u> San Diego International Airport		<u>Reviewer:</u>	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?	X		9.16-9.18
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?	X		Chapter 2, 3 and 4
2. Are the underlying technical data and planning assumptions reasonable?	X		Chapter 2, 3 and 4
B. Calculation of Noise Contours:			
1. Is the methodology indicated?	X		Cover letter, Chapter 4
a. Is it FAA approved?	X		Cover letter, Chapter 4
b. Was the same model used for both maps?	X		Cover letter, Chapter 4
c. Has AEE approval been obtained for use of a model other than those which have previous blanket FAA approval?	X		Chapter E, Noise Appendix, non standard inputs approved by HQ
2. Correct use of noise models:	X		Cover letter, Chapter 4
a. Does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another?	X		Cover letter, Chapter 4, Chapter E, Noise Appendix
b. If so, does this have written approval from AEE?	X		Appendix E, Noise Appendix
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?			N/A
4. For noise contours below 65 CNEL, does the supporting documentation include explanation of local reasons? (Narrative explanation is highly desirable but not required by the Rule.)	X		9.8-9.10
C. Noncompatible Land Use Information:			
1. Does the narrative give estimates of the number of people residing in each of the contours (CNEL 65, 70, and 75, at a minimum) for both the existing condition and forecast year maps?	X		Chapter 5
2. Does the documentation indicate whether Table 1 of Part 150 was used by the airport operator?	X		Chapter 3, 3.20



Airport: San Diego International Airport		Reviewer:	
Program Requirement	Yes	No	Supporting Pages/ Review Comments
a. If a local variation to Table 1 was used:			
(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?	X		CNEL
(2) Does the narrative include the airport operator's complete substitution for Table 1?		X	
3. Does the narrative include information of self-generated or ambient noise where compatible/noncompatible land use identifications consider non-airport/aircraft sources?			N/A
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?			N/A
5. Does the narrative describe how forecasts will affect land use compatibility?	X		Chapter 5
VI. MAP CERTIFICATIONS: [150.21 (b), 150.21 (e)]			
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 forecasts?	X		Cover letter, Fly Sheet, 10.1-10.5, Appendix K
B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete?	X		Cover letter, Fly Sheet, 10.1-10.5, Appendix K





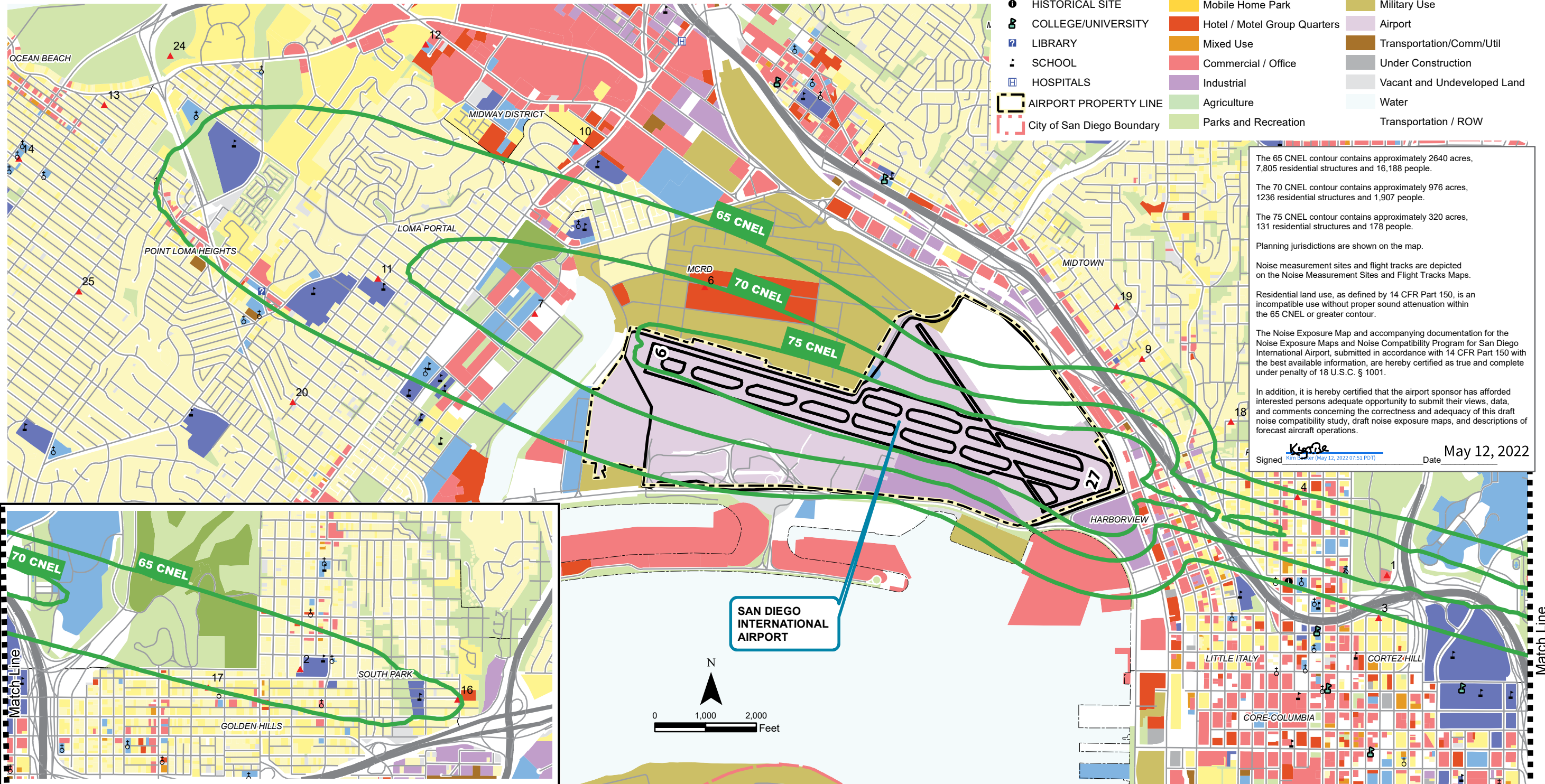
■ NOISE EXPOSURE
MAPS



14 CFR
PART 150
UPDATE

Legend

- | | | |
|----------------------------|------------------------------|-----------------------------|
| 2018 CNEL Contours | LAND USE | Golf |
| Noise Monitoring Terminal | Single Family Residential | Public Service |
| RELIGIOUS SITE | Multi Family Residential | Education |
| HISTORICAL SITE | Mobile Home Park | Military Use |
| COLLEGE/UNIVERSITY | Hotel / Motel Group Quarters | Airport |
| LIBRARY | Mixed Use | Transportation/Comm/Util |
| SCHOOL | Commercial / Office | Under Construction |
| HOSPITALS | Industrial | Vacant and Undeveloped Land |
| AIRPORT PROPERTY LINE | Agriculture | Water |
| City of San Diego Boundary | Parks and Recreation | Transportation / ROW |



The 65 CNEL contour contains approximately 2640 acres, 7,805 residential structures and 16,188 people.

The 70 CNEL contour contains approximately 976 acres, 1236 residential structures and 1,907 people.

The 75 CNEL contour contains approximately 320 acres, 131 residential structures and 178 people.

Planning jurisdictions are shown on the map.

Noise measurement sites and flight tracks are depicted on the Noise Measurement Sites and Flight Tracks Maps.

Residential land use, as defined by 14 CFR Part 150, is an incompatible use without proper sound attenuation within the 65 CNEL or greater contour.

The Noise Exposure Map and accompanying documentation for the Noise Exposure Maps and Noise Compatibility Program for San Diego International Airport, submitted in accordance with 14 CFR Part 150 with the best available information, are hereby certified as true and complete under penalty of 18 U.S.C. § 1001.

In addition, it is hereby certified that the airport sponsor has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of this draft noise compatibility study, draft noise exposure maps, and descriptions of forecast aircraft operations.

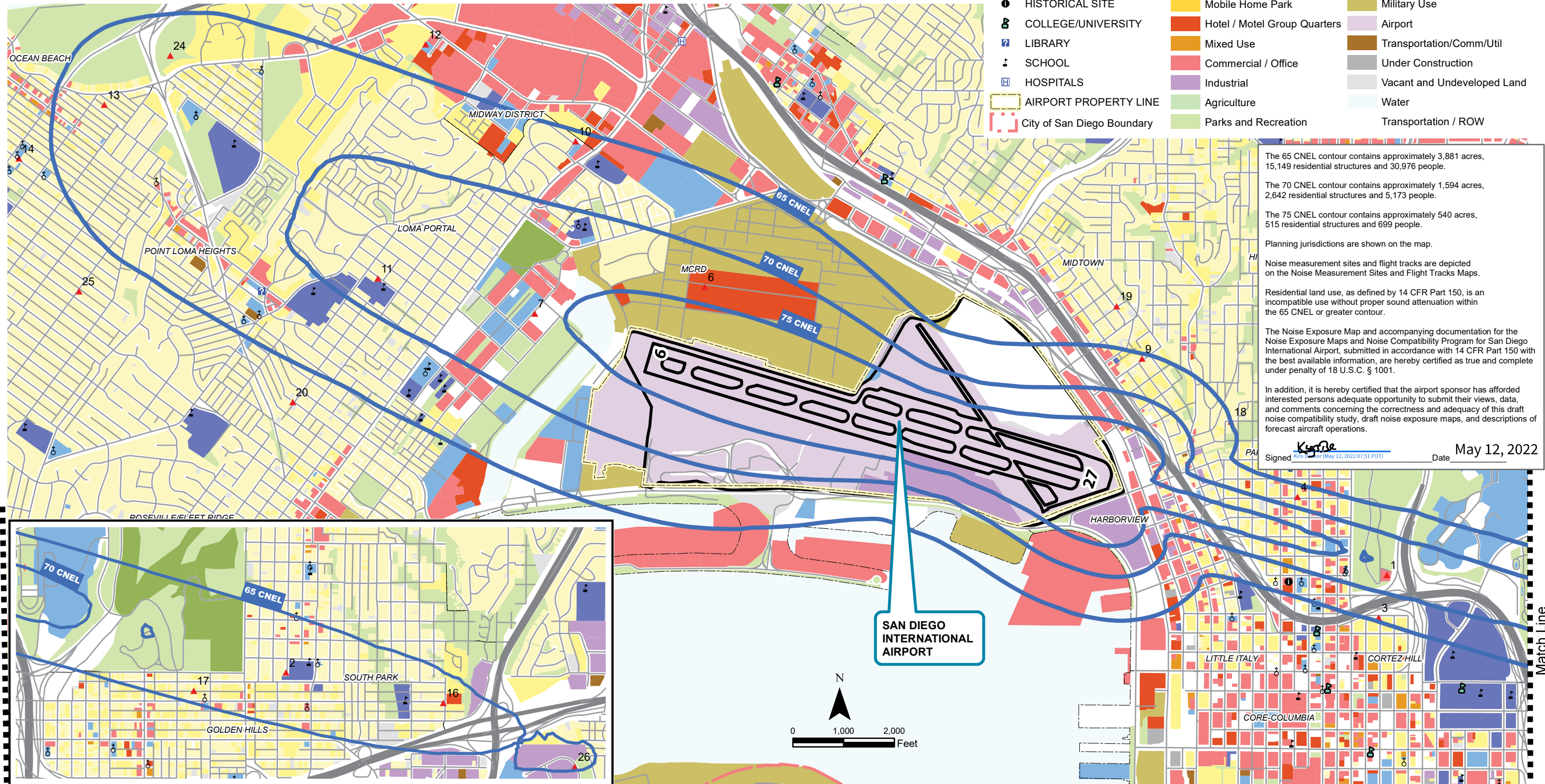
Signed Date **May 12, 2022**

SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.
 2. SDIA ADP EIR 2019 and associated appendices.

FIGURE NEM-1 EXISTING 2018 NOISE EXPOSURE MAP (NEM) **14 CFR PART 150 REQUIRED MAP**

Legend

- | | | | | | |
|--|----------------------------|-----------------|------------------------------|------|-----------------------------|
| | FUTURE BASE CASE (2026) | LAND USE | | Golf | |
| | Noise Monitoring Terminal | | Single Family Residential | | Public Service |
| | RELIGIOUS SITE | | Multi Family Residential | | Education |
| | HISTORICAL SITE | | Mobile Home Park | | Military Use |
| | COLLEGE/UNIVERSITY | | Hotel / Motel Group Quarters | | Airport |
| | LIBRARY | | Mixed Use | | Transportation/Comm/Util |
| | SCHOOL | | Commercial / Office | | Under Construction |
| | HOSPITALS | | Industrial | | Vacant and Undeveloped Land |
| | AIRPORT PROPERTY LINE | | Agriculture | | Water |
| | City of San Diego Boundary | | Parks and Recreation | | Transportation / ROW |



The 65 CNEL contour contains approximately 3,881 acres, 15,149 residential structures and 30,976 people.

The 70 CNEL contour contains approximately 1,594 acres, 2,642 residential structures and 5,173 people.

The 75 CNEL contour contains approximately 540 acres, 515 residential structures and 699 people.

Planning jurisdictions are shown on the map.

Noise measurement sites and flight tracks are depicted on the Noise Measurement Sites and Flight Tracks Maps.

Residential land use, as defined by 14 CFR Part 150, is an incompatible use without proper sound attenuation within the 65 CNEL or greater contour.

The Noise Exposure Map and accompanying documentation for the Noise Exposure Maps and Noise Compatibility Program for San Diego International Airport, submitted in accordance with 14 CFR Part 150 with the best available information, are hereby certified as true and complete under penalty of 18 U.S.C. § 1001.

In addition, it is hereby certified that the airport sponsor has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of this draft noise compatibility study, draft noise exposure maps, and descriptions of forecast aircraft operations.

Signed Date May 12, 2022
Kim R. Kim (May 12, 2022 07:51 PDT)

SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE NEM-2 FUTURE NOISE EXPOSURE MAP (NEM) 2026

14 CFR PART 150 REQUIRED MAP