



Planning Advisory Committee (PAC) Meeting #4

Pre-meeting informational packet:
Noise Compatibility Program Recommendations

PRESENTED BY
Landrum & Brown, Incorporated



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1 DLH Recommended NCP Measures

There are 3 types of mitigation measures that were examined for this Noise Compatibility Program (NCP):

1. Noise Abatement Alternatives

Purpose: To **abate** noise levels in surrounding communities

Types of Alternatives: Modification of air space, flight tracks, airport facilities, or aircraft operations, so as to reduce or shift the location of noise.

2. Land Use Mitigation Alternatives

Purpose: To **mitigate** noise levels in surrounding communities

Types of Alternatives: Two types corrective and preventative. Corrective alternatives mitigate noise levels through sound insulation and property acquisition programs. Preventative alternatives mitigate noise through land use, zoning and building code modifications, and requires the participation of controlling jurisdictions.

3. Program Management Alternatives

Purpose: To **provide** administrative and management actions to allow the airport to maintain land use compatibility in surrounding communities

Types of Alternatives: Program Management alternatives provide community outreach opportunities, and enables the airport to identify potential noise related concerns within the surrounding communities.

1.1 Recommended Noise Abatement Measures

There are no recommended noise abatement measures in the Duluth International Airport (DLH or Airport) NCP. Several measures were considered including an extension to northern end of Runway 03/21. At its current length the runway cannot support operations from certain aircraft types that frequently operate at DLH. Noise modeling was conducted on this measure and it was determined the abatement measure would not significantly reduce the number of impacts, while impacting new properties that are not currently impacted, to the south and north of runway 03/21.

1.2 Recommended Land Use Mitigation Measures

A total of ten (10) land use mitigation measures are recommended in the DLH NCP. These measures consist of a sound insulation program for single-family and multi-family residential units, a land acquisition program, and aviation easement program.

Per the discussion undertaken at the PAC Meeting on September 17, 2020, we presented two areas identified for potential residential sound insulation. These areas were labeled as Noise Mitigation Program Area (NMPA) #1 and NMPA #2. These areas are shown in **Exhibit 1-1, NMPA Boundaries and Residential Properties**.

It should be noted the AIP Handbook, Change 1, dated February 26, 2019, Appendix R. Noise Compatibility Planning/Projects, Table R-6, Noise Compatibility/Planning Requirements, Section g.(7), requires "The structure must have been built prior to October 1, 1998 unless the sponsor has demonstrated to the Airport District Office (ADO) that no published noise contours existed at that time". The previous Part 150 study for DLH had published noise contours for 1995 and 2000. As a result, if any residential units were built after October 1, 1998, they would

not be considered for mitigation treatments listed below. This guidance applies to all 64 residential units within NMPA #1 and NMPA #2.

Below are the recommended land use mitigation measures currently included in the DLH NCP:

Corrective

- **Measure M-A:** Sound insulate 64 eligible residential units within the 65+ DNL (NMPA #1) and block rounding area (NMPA #2).
- **Measure M-B:** Acquire 7 single-family homes within 70+ DNL (NMPA#1). If acquisition is declined the homes may be eligible for sound insulation or avigation easement.
- **Measure M-C:** Acquire 103 mobile homes within NMPA #1.
- **Measure M-D:** Offer avigation easement to owner-occupied single-family homes within NMPA #1 if acquisition and/or sound insulation is declined.
- **Measure M-E:** Offer avigation easement to 1 owner-occupied mobile home within NMPA #1 if acquisition is declined. No easement will be offered to the 102 mobile homes located in the Birchwood Mobile Estates.
- **Measure M-F:** Offer avigation easement to 2 owner-occupied mobile homes within NMPA #2.

Preventative

- **Measure M-G:** Review & Adopt Boundaries of Airport Land Use Management District (ALUMD). The ALUMD would encompass the area to implement Measures M-H, M-I and M-J.
- **Measure M-H:** Updated Subdivision Regulations related to increased open space, reduced development density and planned infrastructure
- **Measure M-I:** Improved Building Codes by updating codes to meet current sound insulation guidelines if not already addressed. These updated codes assist in reducing interior noise levels and would apply to any new development or major remodeling.
- **Measure M-J:** Voluntary Fair Disclosure Program would recommend all property sales to be subject to a notification related to aircraft noise and safety concerns. Formal measures would require recording of a notice either on plat of new subdivisions or notice at time of sales. Informal measure could consist of mailings of disclosure notices within community.

1.2.1 Corrective Land Use Mitigation Measures

Table 1-1, Corrective Land Use Mitigation Measures, provides a description of the recommended measures, the responsible party for implementing the measure, costs to the airport, local governments and airport users and the current implementation status of the measure. It is important that each measure is fully understood and has the support of the Planning Advisory Committee (PAC) moving forward. There is space provided after each measure for the committee member to record any notes or questions to address during the PAC meeting. **Table 1-2, Corrective Land Use Mitigation Measures Estimated Cost**, provides the estimated cost to implement the measure.

The AIP Handbook also sets forth a 2-tier eligibility process for determining the final eligibility of the 64 properties within Measure M-A:

1. Properties must be located within approved 65 DNL noise contour boundary
2. Properties must have an average interior noise value of 45 DNL or greater

This guidance includes requirements for testing methodology, equipment, and the determination of an adequate sample size, which could impact program startup and final costs and funding availability. This process would be undertaken once the NCP is approved by the FAA and the DAA chooses to implement a sound insulation program (Measure M-A).

Table 1-1 Corrective Land use Mitigation Measures

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|---|---------------------------------------|---|---------------------------|---------------|--|
| CORRECTIVE LAND USE MITIGATION MEASURES | | | | | |
| <p><i>(formerly 1997 NCP Measure M-1)</i></p> <p>Measure M-A: Offer Residential Sound Insulation Program to Single- and Multi-Family Homes (47 units) within the 65+ DNL Noise Contour.</p> <p>Offer Residential Sound Insulation Program to Single-Family Homes (17 units) within the Block Rounding Area Outside of the 65 DNL Noise Contour</p> | <p>Duluth Airport Authority (DAA)</p> | <p>It is estimated 47 homes are located within the 65+ DNL noise contour plus an additional 17 homes in the block rounding area outside the 65 DNL. If 100% of all homes were eligible and participated, based on additional interior noise level testing, the cost to insulate all homes is estimated at \$4,000,000 which includes all hard costs (construction) and soft costs (administrative).</p> <p>Federal Airport Improvement Program (AIP) funding likely available (80% FAA share/20% local airport share)</p> | <p>None</p> | <p>None</p> | <p>This is a measure that was never implemented from the 1997 NCP and should be continued with modification to include all properties identified within the 65+ DNL and the properties identified in the block rounding area outside the 65 DNL.</p> |
| <p>NOTES:</p> | | | | | |
| <p>Measure M-B: Offer Land Acquisition Program to Single-Family Homes (7 homes) within the 70+ DNL Noise Contour</p> | <p>DAA</p> | <p>It is estimated at \$2,450,000 if 100% of homes participated.</p> <p>Federal AIP funding likely available (80% FAA share/20% local airport share)</p> | <p>Loss of tax base</p> | <p>None</p> | <p>This is a new measure</p> |
| <p>NOTES:</p> | | | | | |

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|---|-------------------|---|---------------------------|---------------|------------------------------|
| <p>Measure M-C: Offer Land Acquisition Program to Mobile Homes within NMPA #1 (103 Mobile Homes)</p> | <p>DAA</p> | <p>It is estimated at \$11,568,000 depending upon the level of participation. It includes the cost of the 102 mobile homes and loss of income for owner of the mobile home park (cost of just mobile home park), and 1 mobile home property located to the east of Lavaque Bypass Road within the 65 DNL contour (cost of single mobile home and property).</p> <p>Federal AIP funding likely available (80% FAA share/20% local airport share)</p> | <p>Loss of tax base</p> | <p>None</p> | <p>This is a new measure</p> |

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|--|------------|---|-------------|-------------|------------------------------|
| <p>Measure M-D: Offer avigation easement to owner occupied single-family homes within NMPA #1 and NMPA #2 if acquisition and/or sound insulation is declined.</p> | <p>DAA</p> | <p>The estimated cost of each avigation easement is \$3,000 per home. Since the final cost of the measure is dependent on the number of property owners that decline acquisition and/or sound insulation an estimated overall total was not calculated.</p> <p>Federal AIP funding likely available (80% FAA share/20% local airport share)</p> | <p>None</p> | <p>None</p> | <p>This is a new measure</p> |
|--|------------|---|-------------|-------------|------------------------------|

NOTES:

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|--|-------------------|---|---------------------------|---------------|------------------------------|
| <p>Measure M-E: Offer avigation easement to 1 owner-occupied mobile home within NMPA #1 if acquisition is declined.</p> | <p>DAA</p> | <p>The estimated cost of the avigation easement is up to \$3,000. Federal AIP funding likely available (80% FAA share/20% local airport share)</p> | <p>None</p> | <p>None</p> | <p>This is a new measure</p> |

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|--|------------|---|-------------|-------------|------------------------------|
| <p>Measure M-F: Offer avigation easement to 2 owner-occupied mobile homes within NMPA #2.</p> | <p>DAA</p> | <p>The estimated cost of each avigation easement is up to \$3,000 per home. Federal AIP funding likely available (80% FAA share/20% local airport share)</p> | <p>None</p> | <p>None</p> | <p>This is a new measure</p> |
|--|------------|---|-------------|-------------|------------------------------|

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Table 1-2 Corrective Land use Mitigation Measures Estimated Cost

| TYPE OF MEASURE | DIRECT COST (TOTAL) | DIRECT COST TO FAA (80% SHARE) | DIRECT COST TO AIRPORT (20% SHARE) | DIRECT COST TO LOCAL GOVERNMENT | DIRECT COST TO USERS |
|--|--|--|---|---------------------------------|----------------------|
| Measure M-A: Sound insulate 64 eligible single-& multi-family housing units (cost assumes 100% of homes were eligible and participated) | \$4,000,000 | \$3,200,000 | \$800,000 | None | None |
| Measure M-B: Acquire 7 eligible single-family housing units | \$2,450,000 | \$1,960,000 | \$490,000 | Potential loss of tax base | None |
| Measure M-C: Acquire (102) mobile homes located in Birchwood Mobile Estates | \$8,017,200 (mobile homes) \$3,420,000 (mobile home property) | \$6,413,760 (mobile homes) \$2,736,000 (mobile home property) | \$1,603,440 (mobile homes) \$684,000 (mobile home property) | Potential loss of tax base | None |
| Measure M-C: Acquire 1 mobile home and property located east of Lavaque Bypass Road within NMPA #1 | \$130,800 | \$104,640 | \$26,160 | Potential loss of tax base | None |
| Measure M-D, M-E & M-F: Offer avigation easement to owner-occupied single-family homes and 3 mobile homes if acquisition and/or sound insulation is declined | Up to \$3,000 per property | \$2,400 | \$600 | None | None |
| SUBTOTAL | \$17,580,500 (not including cost of easements, assumes acquisition of all 7 homes) | \$14,064,400 (not including cost of easements, assumes acquisition of all 7 homes) | \$3,516,100 (not including cost of easements, assumes acquisition of all 7 homes) | None | None |

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1.2.1.1 Noise Mitigation Program Areas

The following section describes the areas within the Noise Mitigation Program Areas (NMPA) that would be potentially eligible for corrective mitigation measures described previously. These areas are shown in **Exhibit 1-1, NMPA Boundaries and Residential Properties**.

NMPA #1 was defined as the area within the 65 DNL contour that is proposed for sound insulation, acquisition, or avigation easement. This area included 45 single-family residential units and 2 multi-family residential units. NMPA #1 also includes 102 mobile homes that are part of the acquisition program, and 1 mobile home included in the acquisition or avigation easement program. These mobile homes are not included in the sound insulation measures recommended in the NCP. The boundary of NMPA #1 was extended from the 65 DNL in the area near the Birchwood Mobile Estates (102 mobile homes), south of the airport, in order to capture the entire mobile home parcel within the NMPA #1 boundary.

NMPA #2 is defined as the block rounding area and is shown as the blue cross-hatched area located outside of the 65 DNL noise contour. The purpose of the block rounding was “to include parcels contiguous to the project area” and where the “DNL 65 dB contour does not have a reasonable end point.” It is desire of the DAA to expand the noise mitigation area to include these areas outside the 65 DNL noise contour, per FAA policy¹. Where possible, block rounding was used to prevent the noise mitigation area from splitting a block. This area includes 17 single-family residential units that are located in close proximity to the 65 DNL noise contour. NMPA #2 also includes 2 mobile homes that are not included in the recommended block rounding area for sound insulation. However, these 2 mobile homes outside of the 65 DNL are in the recommended block rounding area for avigation easement offer in the NCP.

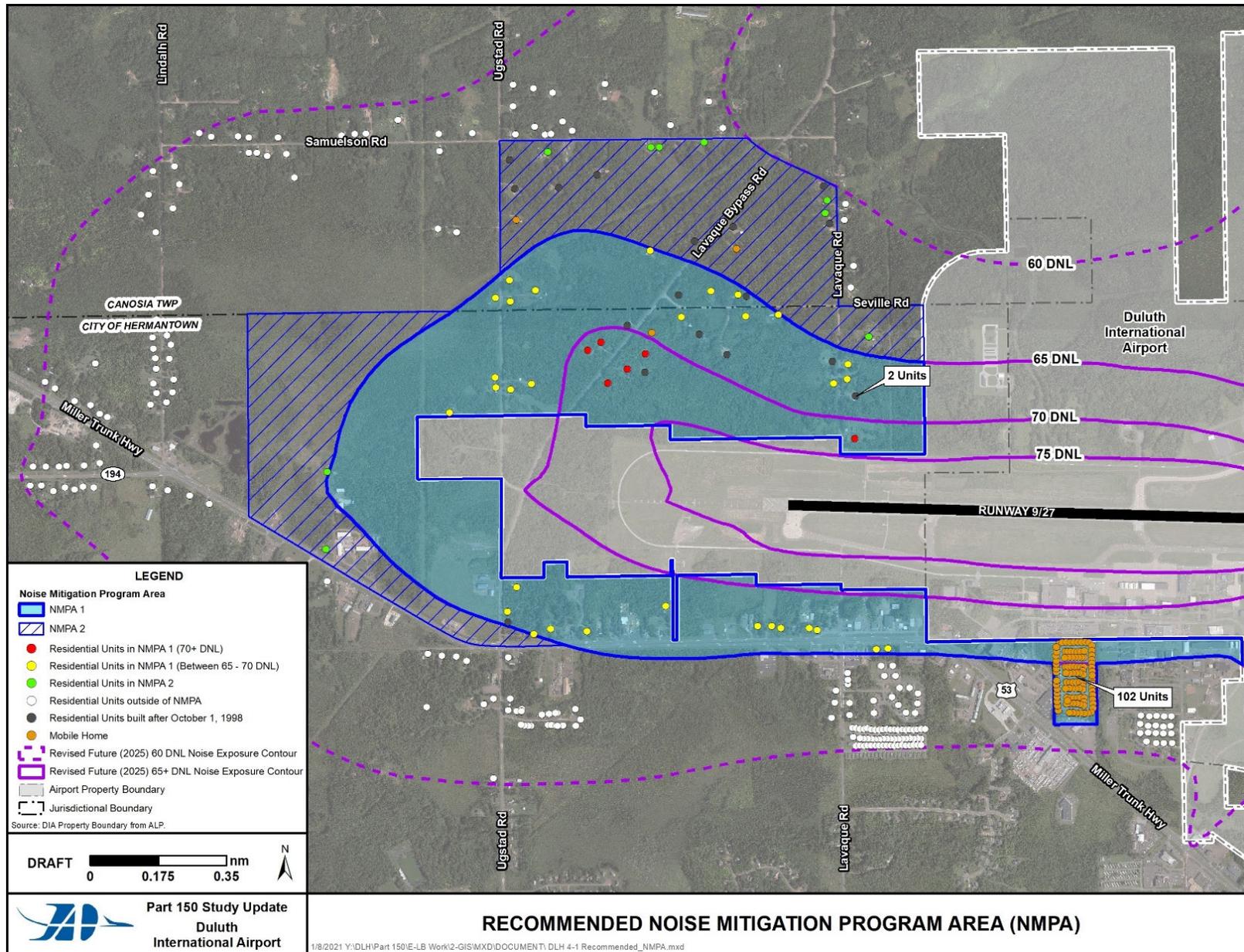
NMPA #1 and NMPA #2 are shown in **Exhibit 1-1, NMPA Boundaries and Residential Properties**.

The explanation of the colored dots on the exhibits are as follows:

- Red – Residential units in NMPA #1 and in the 70+ DNL noise contours (6 properties)
- Yellow – Residential units in NMPA #1 and between 65 - 70 DNL noise contours (31 properties)
- Green – Residential units in NMPA #2 (9 properties)
- White – Residential units outside of NMPA #1 and NMPA #2 (No property count provided)
- Gray – Residential units in NMPA #1 (10 properties) and NMPA #2 (8 properties) potentially built after October 1, 1998. The 8 properties in NMPA #2 built after October 1, 1998 are identified in Table 2. The single gray dot within the 70+ DNL contour while potentially not eligible for sound insulation would still be eligible for acquisition in the NCP recommendations.
- Orange – Mobile home residences located in NMPA #1 (103 properties) and NMPA #2 (2 properties)

¹ FAA Order 5100.38D, *Airport Improvement Program Handbook, Change 1, dated February 26, 2019, Appendix R. Noise Compatibility Planning/Projects, Section R-9., Block Rounding*

Exhibit 1-1 NMPA Boundaries and Residential Properties



Source: Saint Louis County Assessor, <https://www.stlouiscountymn.gov/departments-a-z/assessor/property-information>

As noted above, the boundaries of the proposed NMPA #2 were developed in an effort to provide noise mitigation assistance to areas outside of the 65+ DNL contour. NMPA #2 covers the areas to the northwest of the airport and west of the airport on the Runway 09 approach end. These areas are impacted by direct overflights from military departure, low approach arrivals, and touch-and-go operations. Any increase in the number of military operations, flight patterns or fleet mix in this area has the potential to significantly increase the size and shape of the 65+ DNL contour and the number of impacted homes.

In contrast, areas to the south and southwest of the airport are not included in NMPA #2 and are impacted by lateral noise from military operations and not direct overflights. Due to the natural break points and the minimal effects that lateral noise from military operations has on the size of the contour, to the south and southwest of the airport, the NMPA #2 boundaries do not extend south from the 65+ DNL contour. Additionally, areas to the east of the airport are also not included in the NMPA #2 due to no impacted residential or noise sensitive locations. If the 65 DNL noise contour, to the east of the airport, is extended to the next logical break point at Rice Lake Road, the additional area only includes agricultural and open space and does not include any additional residences.

NMPA Housing Counts

The housing counts for both NMPA #1 and NMPA #2 are summarized in **Table 1, NMPA Housing Counts**. We propose defining NMPA #2 as a block rounding area to include the additional 17 single-family residences for sound insulation, acquisition, or avigation easement and the additional 2 mobile homes for avigation easement in our land use mitigation recommendations for the NCP at DLH.

For all property included in NMPA #1 and NMPA #2, excluding the Birchwood Mobile Estates (102 mobile homes), avigation easements shall be considered if acquisition and/or sound insulation is declined. Residences offered sound insulation shall grant an avigation easement as a condition to be included in the mitigation program. If sound insulation is declined by a property owner, avigation easement shall be offered. The use of avigation easements does not reduce the noise impacts on people or by itself does not change noncompatible land uses to compatible land uses. However, use of avigation easements constitutes a suitable compatibility measure according to Federal guidelines.

As noted previously eligible structures must have been built prior to October 1, 1998 and meet the FAA’s interior noise level requirements to be consider for sound insulation treatment. The determination of eligibility would occur during the testing phase of an implemented sound insulation program.

Table 1 NMPA Housing Counts

| LAND USE | NMPA #1 | | NMPA #2 | | TOTAL | |
|---------------------------|---------------------|------------|---------------------|------------|---------------------|------------|
| | TOTAL HOUSING UNITS | POPULATION | TOTAL HOUSING UNITS | POPULATION | TOTAL HOUSING UNITS | POPULATION |
| Single-Family Residential | 45 | 93 | 17 | 40 | 62 | 133 |
| Multi-Family Residential | 2 | 4 | 0 | 0 | 2 | 4 |
| Mobile Homes (Brown dots) | 103 | 193 | 2 | 5 | 105 | 198 |
| Total | 150 | 290 | 19 | 45 | 169 | 335 |

Source: Saint Louis County Assessor, <https://www.stlouiscountymn.gov/departments-a-z/assessor/property-information>

NMPA Boundary Definition

In order to assist in understanding the block rounding boundaries and associated residential properties, NMPA #2 was divided into 2 areas for the purpose of this memo. The area to the north of the 65+ DNL is considered NMPA #2.a and the area west of the 65+ DNL is considered NMPA #2.b.

Exhibit 1-2, NMPA #1 Boundary depicts the boundary of the area, as noted the NMPA #1 boundary is based on the 65+ DNL contour with the exception of the Birchwood Mobile Estates property south of the airport. **Exhibit 1-3, NMPA #2.a Boundary** and **Exhibit 1-4, NMPA #2.b Boundary** depict the boundaries for the NMPA #2 and highlights the geographical features used to delineate those boundaries.

Below is a written description of the boundaries for each of the NMPA boundaries previously mentioned:

NMPA #1

1. Begins at the airport property line south of Seville Road and extends west along 65 DNL contour
2. Continues along the 65 DNL contour until intersecting property line of Birchwood Mobile Estates
3. Continues south to extent of southern parcel boundary for mobile home park
4. Continues east to the extent of the eastern parcel boundary for the mobile home park
5. Continues north to the intersection of the mobile home park parcel boundary and the 65 DNL contour
6. Continues east along the 65 DNL until intersecting the airport property boundary

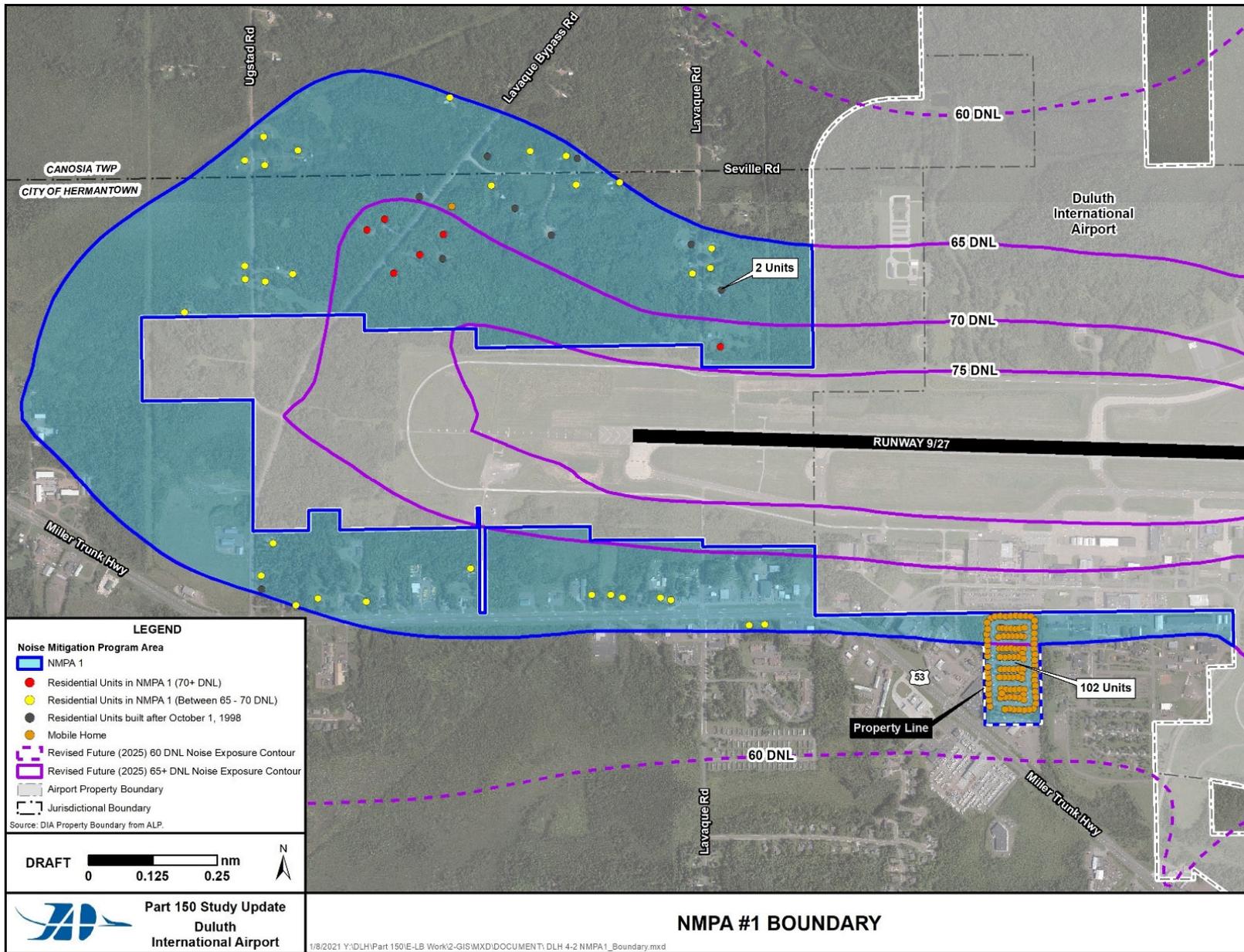
NMPA #2.a

1. Begins at intersection of the 65 DNL noise contour and the western airport property line south of Seville Road
2. Continues north along the property line until the intersection of Seville Road
3. Continues west along Seville Road until the intersection with Lavaque Road
4. Continues north along Lavaque Road until the intersection with the 60 DNL noise contour
5. Continues west along the 60 DNL noise contour until the intersection with Samuelson Road
6. Continues west along Samuelson Road until the intersection with Ugstad Road
7. Continues south along Ugstad Road until the intersection with the 65 DNL noise contour

NMPA #2.b

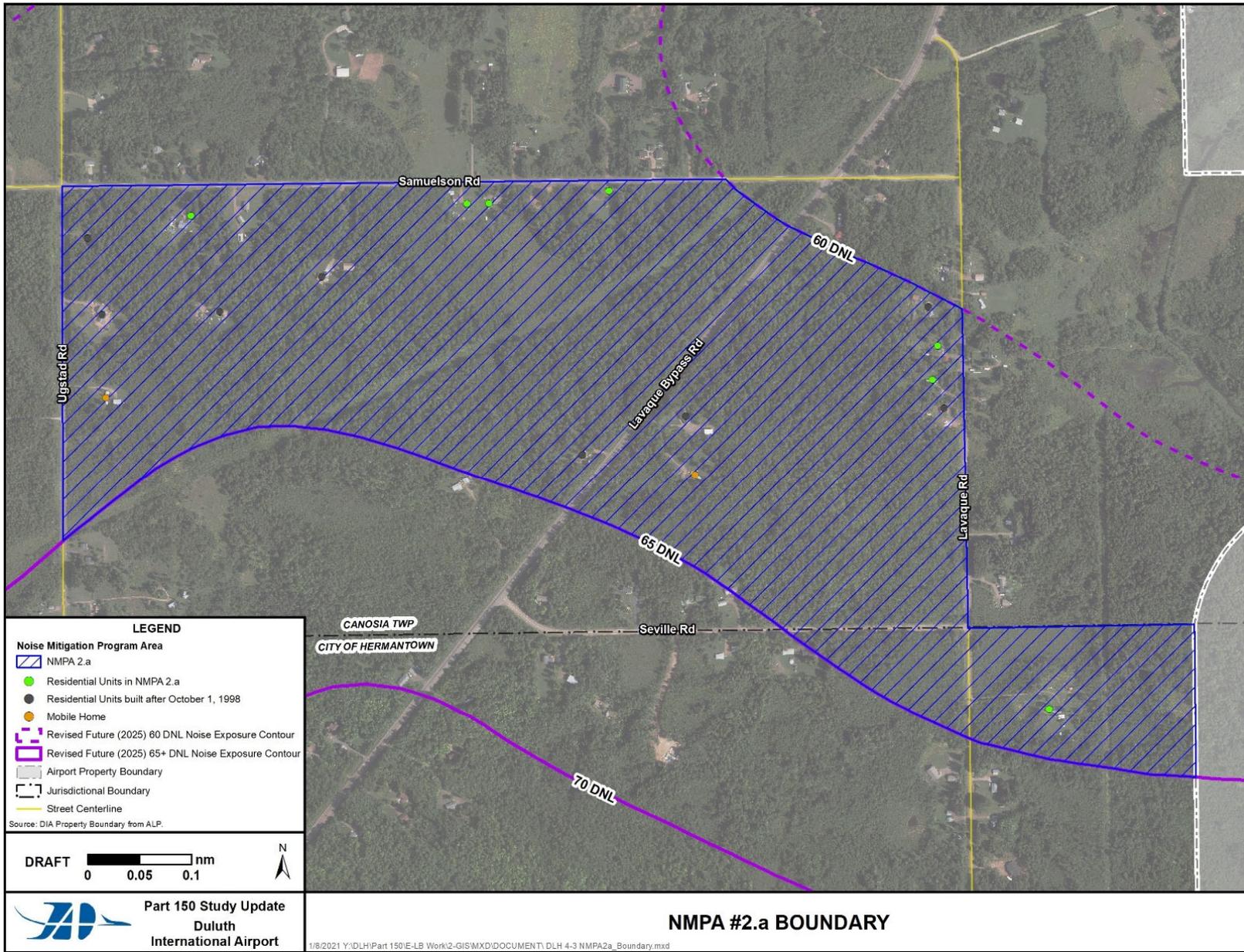
1. Begins at the intersection of the Canosia Township/City of Hermantown jurisdictional boundary and the 65 DNL contour and extends west to the extent of the parcel's property line.
2. Continues south along the parcel property line until the intersection of Miller Trunk Highway
3. Continues southeast along Miller Trunk Highway until the intersection of the 65 DNL contour

Exhibit 1-2 NMPA #1 Boundary



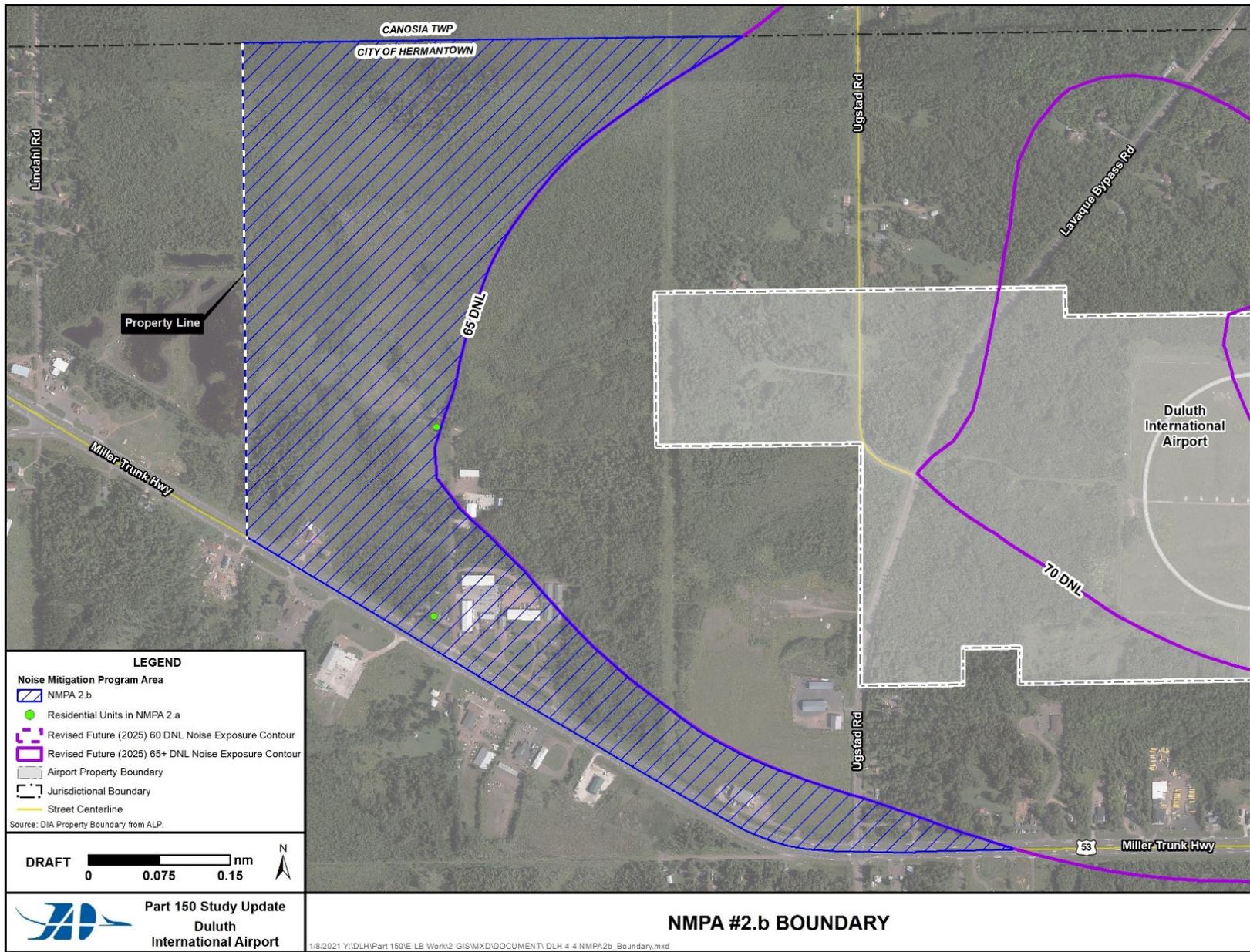
Source: Saint Louis County Assessor, <https://www.stlouiscountymn.gov/departments-a-z/assessor/property-information>

Exhibit 1-3 NMPA #2.a Boundary



Source: Saint Louis County Assessor, <https://www.stlouiscountymn.gov/departments-a-z/assessor/property-information>

Exhibit 1-4 NMPA #2.b Boundary



Source: Saint Louis County Assessor, <https://www.stlouiscountymn.gov/departments-a-z/assessor/property-information>

1.2.2 Preventative Land Use Mitigation Measures

Table 1-3, *Preventative Land Use Mitigation Measures*, provides a description of the recommended measures, the responsible party for implementing the measure, costs that would be incurred by the airport, local governments and airport users and the current implementation status of the measure. It is important that each measure is fully understood and has the support of the PAC moving forward. There is space provided after each measure for the committee member to record any notes or questions to address during the PAC meeting. **Table 1-4, *Preventative Land Use Mitigation Measures Estimated Cost***, provides the estimated cost to implement the measure. **Exhibit 1-5, *Recommended Airport Land Use Management District (ALUMD)*** depicts the boundary of the ALUMD that is recommended as a land use mitigation measure in the NCP.

Table 1-3 Preventative Land Use Mitigation Measures

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|---|--|---------------------------------|---------------------------|---------------|-----------------------|
| CORRECTIVE LAND USE MITIGATION MEASURES | | | | | |
| <i>(formerly 1997 NCP Measure M-1)</i> Measure M-G: Develop an ALUMD | DAA, Cities of Duluth, Hermantown, Rice Lake, Saint Louis County | Minimal costs of up to \$50,000 | None | None | This is a new measure |

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|--|--|---------------------------------|------------------|------|-----------------------|
| Measure M-H: Adopt Updated Subdivision Regulations | DAA, Cities of Duluth, Hermantown, Rice Lake, Saint Louis County | Minimal costs of up to \$50,000 | Loss of tax base | None | This is a new measure |
|--|--|---------------------------------|------------------|------|-----------------------|

NOTES:

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|--|--|---------------------------------|------------------------------|---------------|-----------------------|
| Measure M-I: Adopt Improved Building Codes | DAA, Cities of Duluth, Hermantown, Rice Lake, Saint Louis County | Minimal costs of up to \$50,000 | Minimal administrative costs | None | This is a new measure |

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| Measure M-J: Develop a Voluntary Fair Disclosure Program | Duluth Board of Realtors, Lake Superior Area Realtors, Cities of Duluth, Hermantown, Rice Lake, Saint Louis County | Minimal costs of up to \$50,000 | Minimal administrative costs | None | This is a new measure |
|--|--|---------------------------------|------------------------------|------|-----------------------|

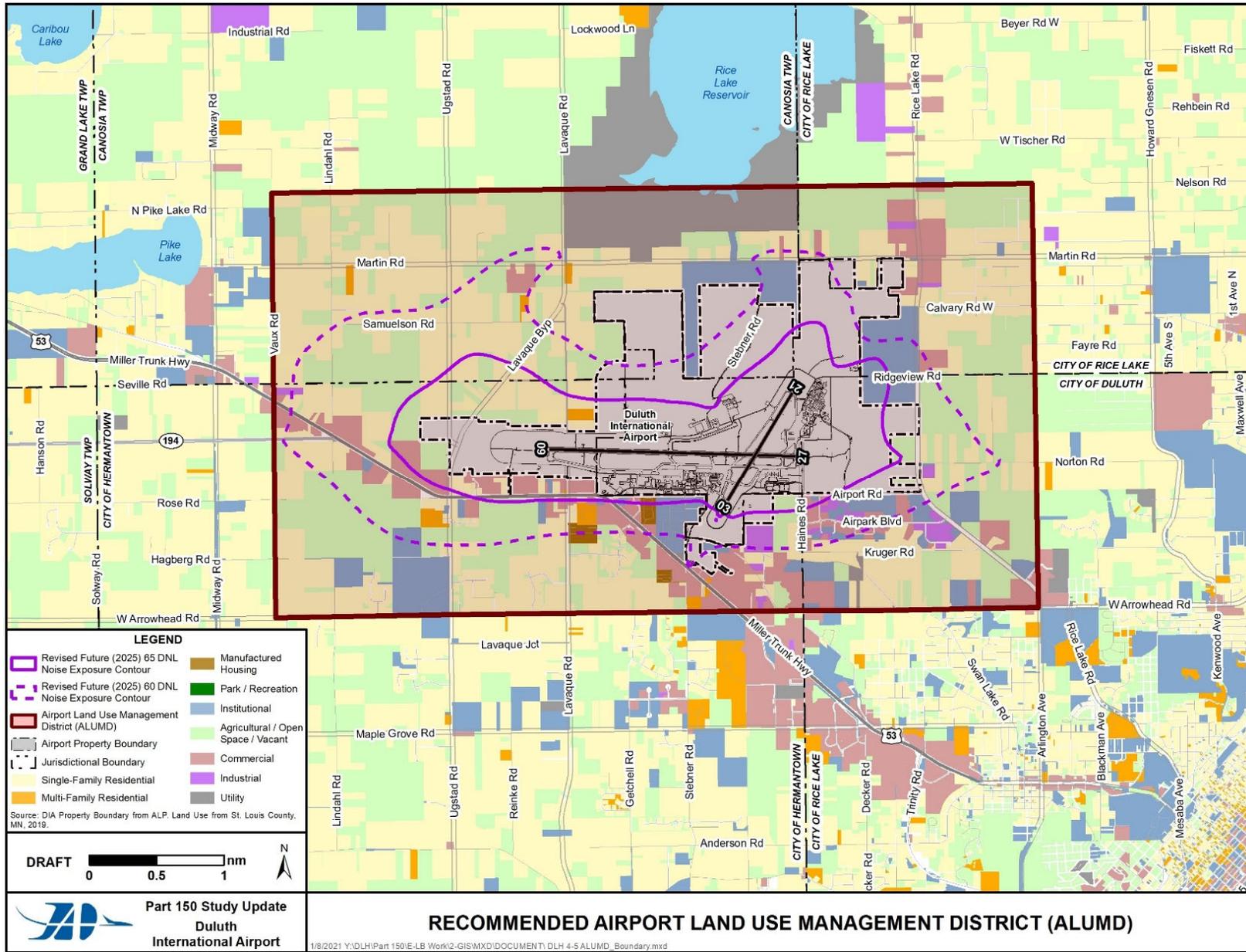
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Table 1-4 Preventative Land Use Mitigation Measures Estimated Costs

| TYPE OF MEASURE | DIRECT COST (TOTAL) | DIRECT COST TO FAA (80% SHARE) | DIRECT COST TO AIRPORT (20% SHARE) | DIRECT COST TO LOCAL GOVERNMENT | DIRECT COST TO USERS |
|--|---|---|--|--|----------------------|
| Measure M-G: Develop an ALUMD | \$50,000 | \$40,000 | \$10,000 | Minimal | None |
| Measure M-H: Adopt Updated Subdivision Regulations | \$50,000 | \$40,000 | \$10,000 | Minimal | None |
| Measure M-I: Adopt Improved Building Codes | \$50,000 | \$40,000 | \$10,000 | Minimal | None |
| Measure M-J: Develop a Voluntary Fair Disclosure Program | Minimal | Minimal | Minimal | Minimal | None |
| SUBTOTAL | \$150,000 plus administrative costs | \$120,000 plus administrative costs | \$30,000 plus administrative costs | Minimal administrative costs; plus loss of tax base | None |

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Exhibit 1-5 Recommended Airport Land Use Management District (ALUMD)



1.3 Recommended Program Management Measures

There are three (3) recommended Program Management measures recommend in the DLH NCP:

- **Measure P-A:** Continued logging of noise complaints and develop a more formal procedure for logging noise complaints by both DAA and Minnesota air National guard (MnANG) staff.
- **Measure P-B:** Initiate community roundtable or noise abatement committee.
- **Measure P-C:** Perform regular updates to NEM's and review of NCP.

Table 1-5, *Program Management Measures*, provides a description of the recommended measures, the responsible party for implementing the measure, costs that would be incurred by the airport, local governments and airport users and the current implementation status of the measure. It is important that each measure is fully understood and has the support of the PAC moving forward. There is space provided after each measure for the committee member to record any notes or questions to address during the PAC meeting. **Table 1-6, *Program Management Measures Estimated Cost***, provides the estimated cost to implement the measure.

Table 1-5 Program Management Measures

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|---|-------------------|---|---------------------------|---------------|---|
| CORRECTIVE LAND USE MITIGATION MEASURES | | | | | |
| <i>(formerly 1997 NCP Measure A-1)</i> Measure P-A: Continue Logging of Noise Complaints | DAA and MnANG | Minimal administrative costs to answer telephones and to log noise complaints | None | None | This is a continuation of the existing process with a slight modification to be undertaken by the DAA and MnANG |

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| <i>(formerly 1997 NCP Measure A-2)</i> Measure P-B: Initiate Community Roundtable or Noise Abatement Committee | DAA | Minimal administrative costs to participate on a regular basis | Minimal administrative costs to participate on a regular basis | None | This is considered a new measure since it was never implemented in the previous NCP. |
|---|-----|--|--|------|--|

NOTES:

| MEASURE | RESPONSIBLE PARTY | COST TO AIRPORT | COST TO LOCAL GOVERNMENTS | COST TO USERS | IMPLEMENTATION STATUS |
|--|--|---------------------------------|------------------------------|---------------|-----------------------|
| Measure P-C: Perform regular Updates to NEMs and Review of NCP | DAA, Cities of Duluth, Hermantown, Rice Lake, Saint Louis County | Minimal costs of up to \$50,000 | Minimal administrative costs | None | This is a new measure |

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Table 1-6 Program Management Measures Estimated Costs

| TYPE OF MEASURE | DIRECT COST (TOTAL) | DIRECT COST TO FAA (80% SHARE) | DIRECT COST TO AIRPORT (20% SHARE) | DIRECT COST TO LOCAL GOVERNMENT | DIRECT COST TO USERS |
|---|---|---|---|--|----------------------|
| Measure P-A: Continue Logging of Noise Complaints | Minimal Administrative Costs | None | Minimal Administrative Costs | None | None |
| Measure P-B: Initiate Community Roundtable or Noise Abatement Committee | Minimal Administrative Costs | None | Minimal Administrative Costs | None | None |
| Measure P-C: Perform regular updates to the NEM's and review of NCP | NEM Only \$350,000 to \$400,000 NEM and NCP \$650,000 to \$750,000 | NEM Only \$280,000 to \$320,000 NEM and NCP \$520,000 to \$600,000 | NEM Only \$70,000 to \$80,000 NEM and NCP \$130,000 to \$150,000 | None | None |
| SUBTOTAL | \$350,000 to \$750,000 plus administrative costs | \$280,000 to \$600,000 plus administrative costs | \$70,000 to \$150,000 plus administrative costs | Minimal administrative costs; plus loss of tax base | None |

NOTES: