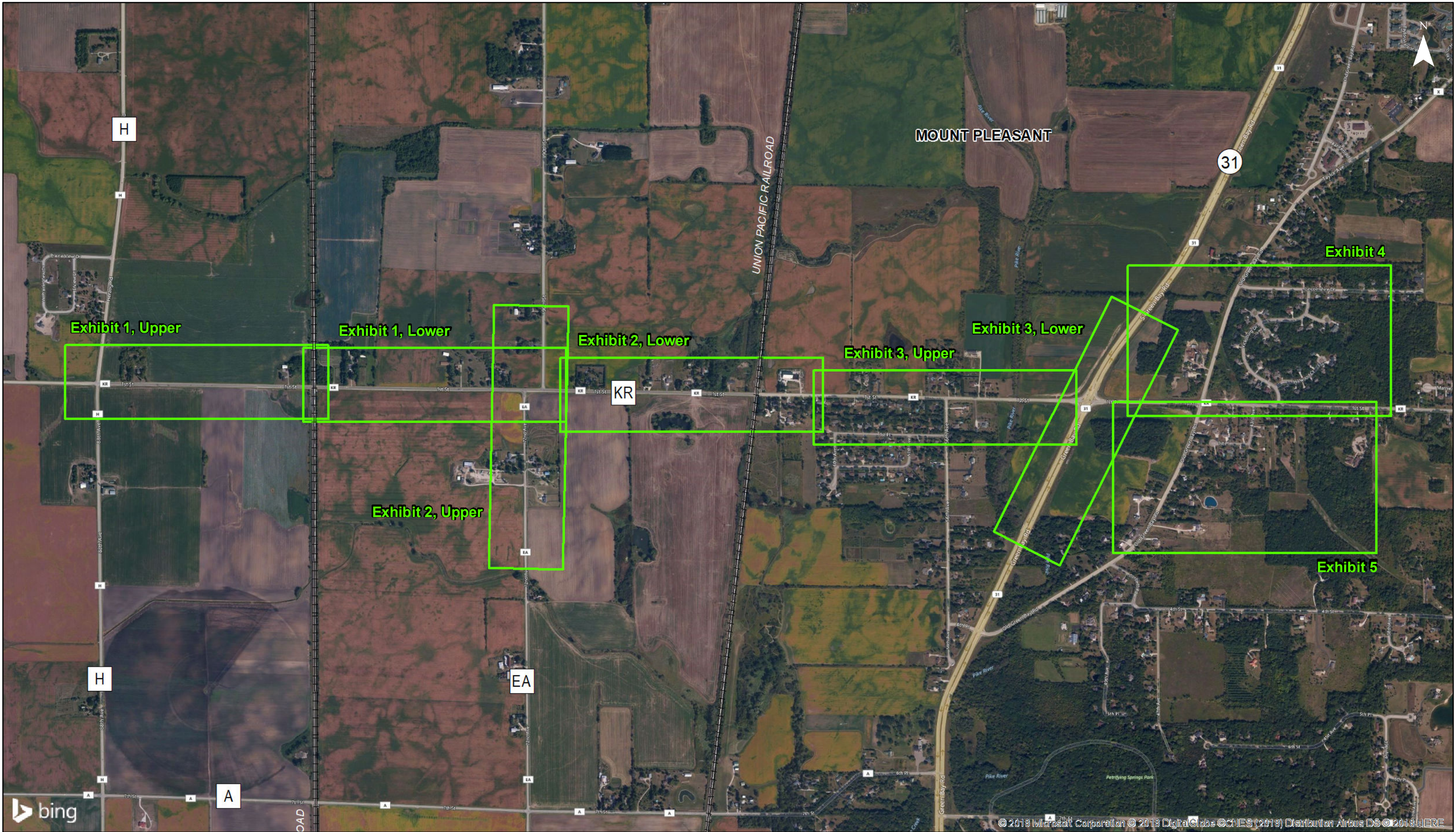


Appendix G

Noise Reference Materials and Exhibits



Name

Existing Noise Level, dBA

Future Noise Level, dBA

N1,

70,

72

● Noise Receptor

● Noise Receptor Impacted

● Relocation

● Relocations from Another Project

0

500

1,000

2,000

Feet

1 inch = 1,100 feet

County KR-Phase 2

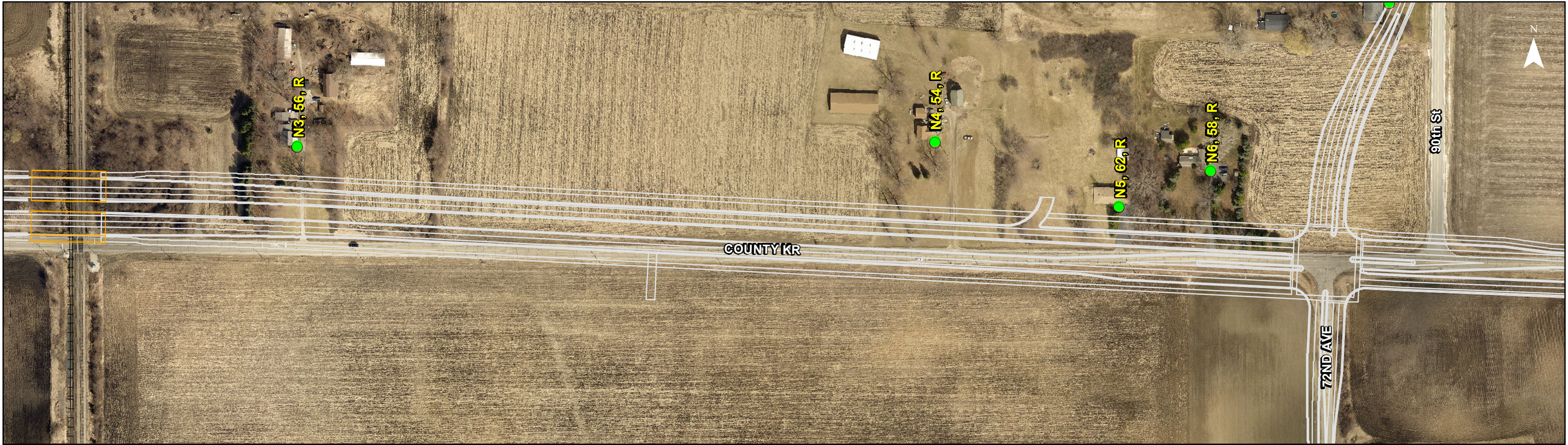
County H to Old Green Bay Road

Project ID 3763-00-04

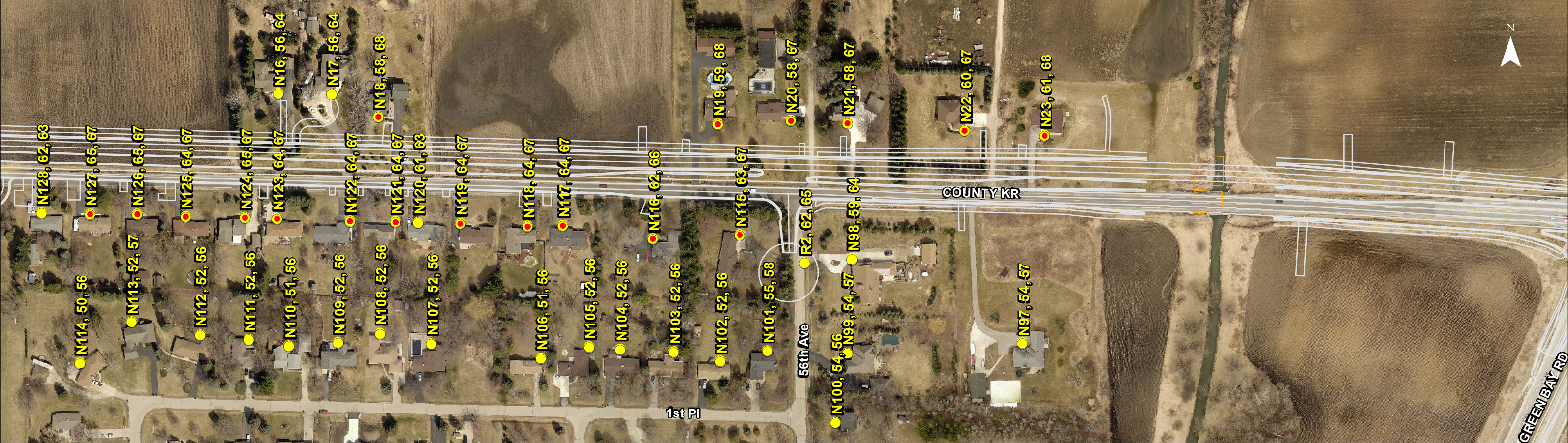
Traffic Noise Evaluation

EXHIBIT D-3-0

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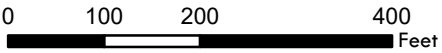




Name
Existing Noise Level, dBA
Future Noise Level, dBA

N1, 70, 72

- Noise Receptor
- Noise Receptor Impacted
- Relocation
- Relocations from Another Project



1 inch = 200 feet



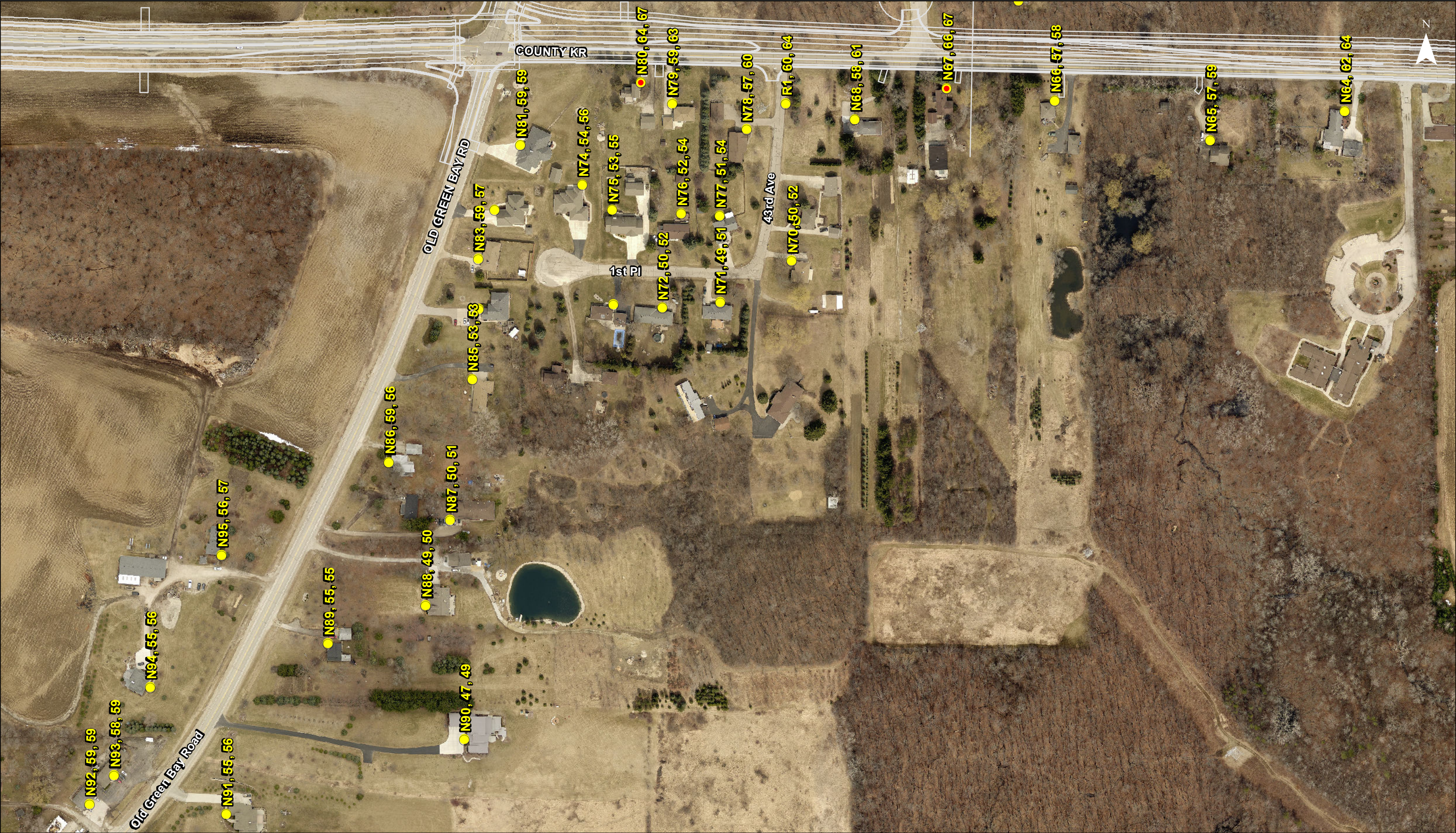
Name
↓
N1, 70, 72
↑
Future Noise Level, dBA

- Noise Receptor
- Noise Receptor Impacted

- Relocation
- Relocations from Another Project

0 100 200 400
Feet

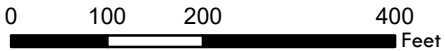
1 inch = 200 feet



Name
↓
N1, 70, 72
↑
Future Noise Level, dBA

- Noise Receptor
- Noise Receptor Impacted

- Relocation
- Relocations from Another Project



1 inch = 200 feet

Noise Measurements and Validation

Existing noise level measurements were conducted on August 8, 2018 at two representative sites in the project area. A 20-minute measurement was taken at each site. The measurements were made in accordance with FHWA and WisDOT guidelines using an integrating sound level analyzer meeting ANSI and IEC Type 1 specifications. Traffic volumes were counted and classified from the measurement locations with each noise measurement. The data collected at the two sites are presented in Table G-1.

Table G-1: Measured Existing Noise Levels

| Field Site # | Site Description | Date | Start Time | Duration (Minutes) | Traffic ¹⁾ | | | | | | | Noise Level, dBA L _{eq} (h) |
|--------------|---|--------|------------|--------------------|-----------------------|------|-----------|-------------|-------|----|-------------|--------------------------------------|
| | | | | | Roadway | Auto | Med Truck | Heavy Truck | Buses | MC | Speed (mph) | |
| 1 | 43 rd Avenue, 90 feet south of County KR on east side of road. Aligned with northeast corner of garage on west side of street. | 8/8/18 | 10:28 a.m. | 20 | EB County KR | 39 | 2 | 1 | 0 | 0 | 40-45 | 56 |
| | | | | | WB County KR | 48 | 2 | 2 | 0 | 0 | 40-45 | |
| 2 | 56 th Avenue, 135 feet south of County KR on east side of road. Aligned with southern edge of driveway and right-of-way. | 8/8/18 | 10:58 a.m. | 20 | EB County KR | 27 | 3 | 1 | 0 | 0 | 45-50 | 56 |
| | | | | | WB County KR | 52 | 0 | 2 | 0 | 1 | 45-50 | |

1) Autos defined as 2-axle, 4-tire; medium trucks as 2-axle, 6-tire; heavy trucks as 3 or more axles; buses as vehicles designed to carry more than 9 passengers; and motorcycles as vehicles with two or three axles.

Source: HNTB Corporation, August 8, 2018

FHWA's Traffic Noise Model, version 2.5 (TNM@ 2.5) was used to validate the predicted noise levels through comparison with the measured and predicted noise levels. The traffic data from the two sites in Table G-1 were converted to hourly volumes for the validation modeling. The site by site comparison is presented in Table G-2. Both the field sites modeled data compared within 0-3 dB of the measured noise levels. Having both field sites validate represents reasonable correlation, since the human ear can barely distinguish a 3 dBA change in the L_{eq}(1h) noise level in the urban environment.

Table G-2: Comparison of Measured and Predicted Noise Levels

| Field Site | Noise Level, dBA L _{eq} (h) | | Difference in Noise Level, dBA L _{eq} (h) (Predicted Minus Measured) |
|------------|--------------------------------------|-----------|---|
| | Measured | Predicted | |
| FS-1 | 56 | 56 | 0 |
| FS-2 | 56 | 55 | -1 |