

Appendix D

BRANDYWINE AND DAVIDSONVILLE LANDING ZONES

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BRANDYWINE AND DAVIDSONVILLE LANDING ZONES

The Brandywine and Davidsonville sites are communication sites supporting the 89th Airlift Wing at Andrews AFB. Brandywine is located ten miles south of Andrews AFB and Davidsonville is located approximately 20 miles northeast of the Base. Brandywine covers 1,635 acres, most of which are undeveloped. Davidsonville, which has over 900 acres, is in a mix of developed, semi-developed, and wooded land.

Aircrews from the 1st Helicopter Squadron (1 HS) at Andrews AFB operate UH-1N aircraft and use the landing zones (LZs) at Davidsonville and Brandywine to practice unimproved landing area operations. An “unimproved landing area” is defined as no runway. The two sites are used because they afford the opportunity for the aircrews to maintain proficiency in unimproved landing area operations while remaining close to Andrews AFB, a requirement necessary for them to meet the response times associated with the 1 HS mission.

The sites have been surveyed as helicopter LZs in accordance with Air Force Instruction (AFI) 13-217 (*Drop Zone and Landing Zone Operations*) and establishment of clear zones (CZs) and accident potential zones (APZs) (see Subsection 4.6) is not required. Additionally, operations at the LZs are accomplished in accordance with AFI 11-202, Volume 3 (*General Flight Rules*) and AFI 13-217 regarding aircraft safety and flight rules.

NOISEMAP Version 7.296 was used to calculate and plot the DNL noise contours based on the average busy-day aircraft operations data collected in May 2007 and described in the Brandywine and Davidsonville sections below. The noise levels presented in this appendix are A-weighted (see Subsection 4.4).

D.1 Brandywine

Aircraft Operations

Aircraft arrive at Brandywine from Andrews AFB and return to the Base using standardized flight tracks depicted in Figures 3.1 and 3.2. Figure D.1 depicts the closed pattern flight tracks for the Brandywine LZs.

1st Helicopter Squadron aircrews fly 740 annual and 2.85 average busy day sorties at Brandywine, which has four LZs. Sorties are flown 260 days per year and about 21 percent of the sorties are at night (10:00 p.m. to 7:00 a.m.). Each aircraft is at Brandywine for about 30 minutes and accomplishes two to four closed patterns per sortie. Annual and average busy day closed pattern operations are 4,440 and 17.08 operations, respectively. Patterns are flown at 300 feet above ground level (AGL). Aircraft remain within 1 mile of the landing zone (LZ) when conducting operations. The elevations of the LZs range from 180 to 260 feet above mean sea level (MSL).

Noise Exposure

Figure D.2 shows the DNL noise contours plotted in 5 dB increments, ranging from DNL 45 dB to DNL at or above 60 dB. Table D.1 shows the off-installation noise exposure within the DNL 45 dB and greater noise exposure area for aircraft operations at Brandywine in terms of acreage and estimated population. The discussions in Subsection 4.4 concerning DNL as a measure of the noise environment and the process used to determine the population within the noise zones apply to Brandywine.

Table D.1 Area and Population within DNL 45 dB and Greater Noise Exposure Area, Brandywine (Off-Installation)

DNL Noise Zone	Acres	Population
45-49	1,364	239
50-54	630	168
55-59	0	0
60+	0	0
Total	1,994	407

From Table D.1, a total of 1,994 acres and 407 persons are expected to be in the off-installation area within the DNL 45 dB and greater noise exposure area. The largest affected population is within the DNL 45–49 dB noise zone. This area is estimated to contain 1,364 acres in off-installation land area (68 percent of the total) and an estimated population of 239 persons (59 percent of the total) based on the calculated population densities for the area.

Incompatible Land Use

As previously mentioned, CZs and APZs are not established for the LZs at Brandywine. Additionally, as depicted in Figure D.2, the noise from helicopter operations at the Brandywine LZs does not exceed DNL 65 dB, the lowest level used for incompatible land use evaluation resulting from aircraft noise. For these reasons, there is no incompatible land use due to the helicopter operations at the Brandywine LZs when considering the CZ, APZ, and noise zone criteria in Table 4.3 in Subsection 4.6.3.2.

D.2 Davidsonville






Aircraft Operations

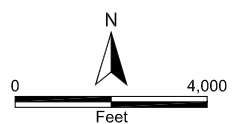
Aircraft arrive at Davidsonville from Andrews AFB and return to the Base using standardized flight tracks depicted in Figures 3.1 and 3.2. Figure D.3 depicts the closed pattern flight tracks for the Davidsonville LZ.



Andrews Air Force Base 2007 AICUZ

LEGEND

-  Flight Track
-  Brandywine Site
-  Roadway
-  Landing Zone
-  City Limits











Helicopter Flight Tracks, Brandywine

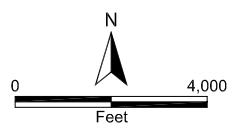
Figure D.1



Andrews Air Force Base 2007 AICUZ

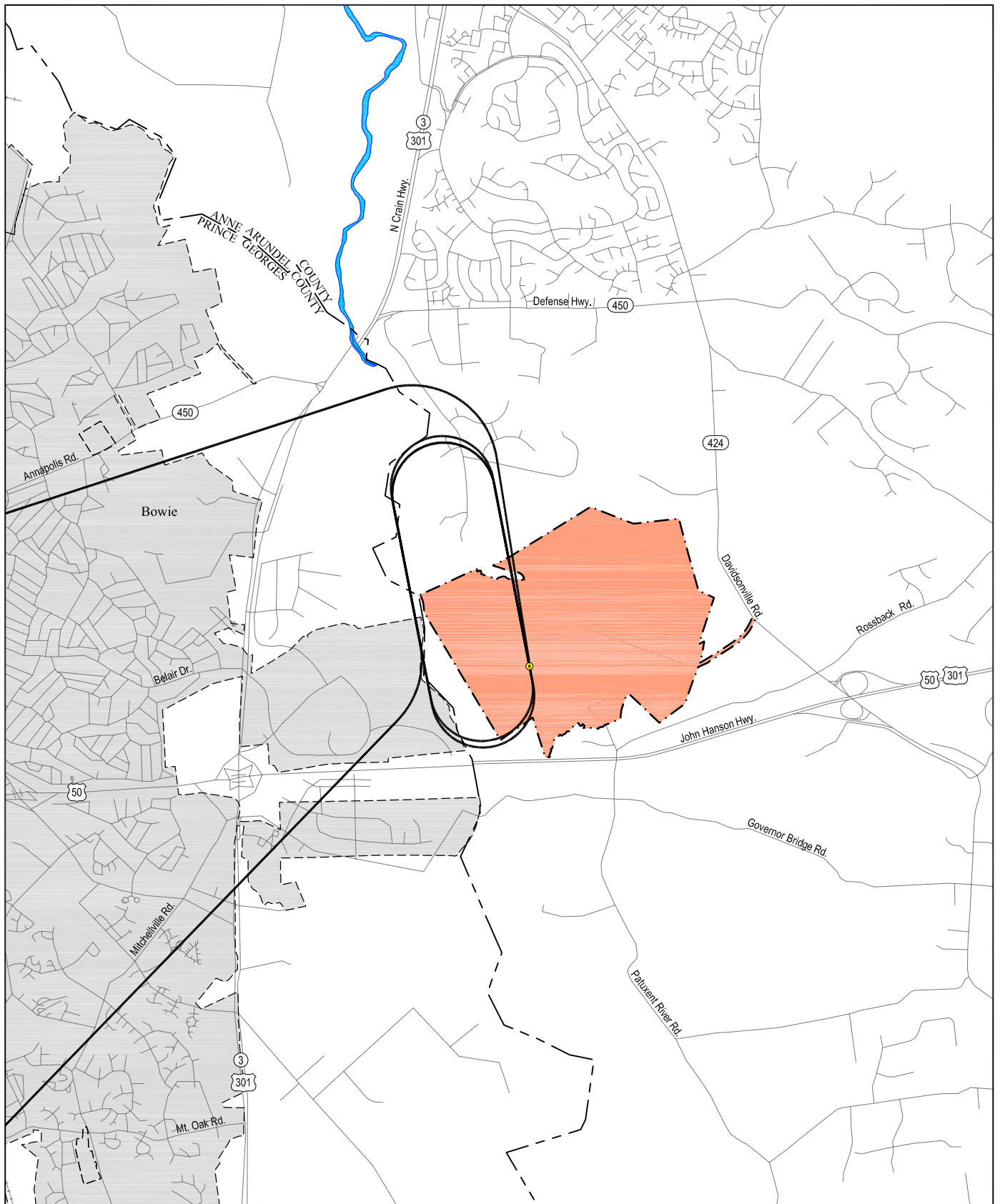
LEGEND

- | | | | |
|---|--------------|---|-----------------|
|  | DNL 45-49 dB |  | Brandywine Site |
|  | DNL 50-54 dB |  | Roadway |
|  | DNL 55-59 dB |  | City Limits |
|  | DNL 60+ dB |  | Landing Zone |



Average Busy-Day Noise Contours for 2007, Brandywine

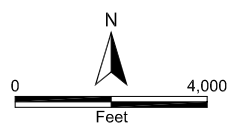
Figure D.2



Andrews Air Force Base 2007 AICUZ

LEGEND

- Flight Track
- Roadway
- City Limits
- Davidsonville Site
- Landing Zone



Helicopter Flight Tracks, Davidsonville

Figure D.3

1st Helicopter Squadron aircrews fly 977 annual and 3.76 average busy day sorties at Davidsonville, which has one LZ. Sorties are flown 260 days per year and about 21 percent of the sorties are at night (10:00 p.m. to 7:00 a.m.). Each aircraft is at Davidsonville for about 30 minutes and accomplishes two to four closed patterns per sortie. Annual and average busy day closed pattern operations are 5,862 and 22.55 operations, respectively. Patterns are flown at 300 feet AGL. Aircraft remain within 1 mile of the LZ when conducting operations. The LZ is 122 feet above MSL.

Noise Exposure

Figure D.4 shows the DNL noise contours plotted in 5 dB increments, ranging from DNL 45 dB to DNL at or above 60 dB. Table D.2 shows the off-installation noise exposure within the DNL 45 dB and greater noise exposure area for aircraft operations at Davidsonville in terms of acreage and estimated population. The discussions in Subsection 4.4 concerning DNL as a measure of the noise environment and the process used to determine the population within the noise zones apply to Davidsonville.

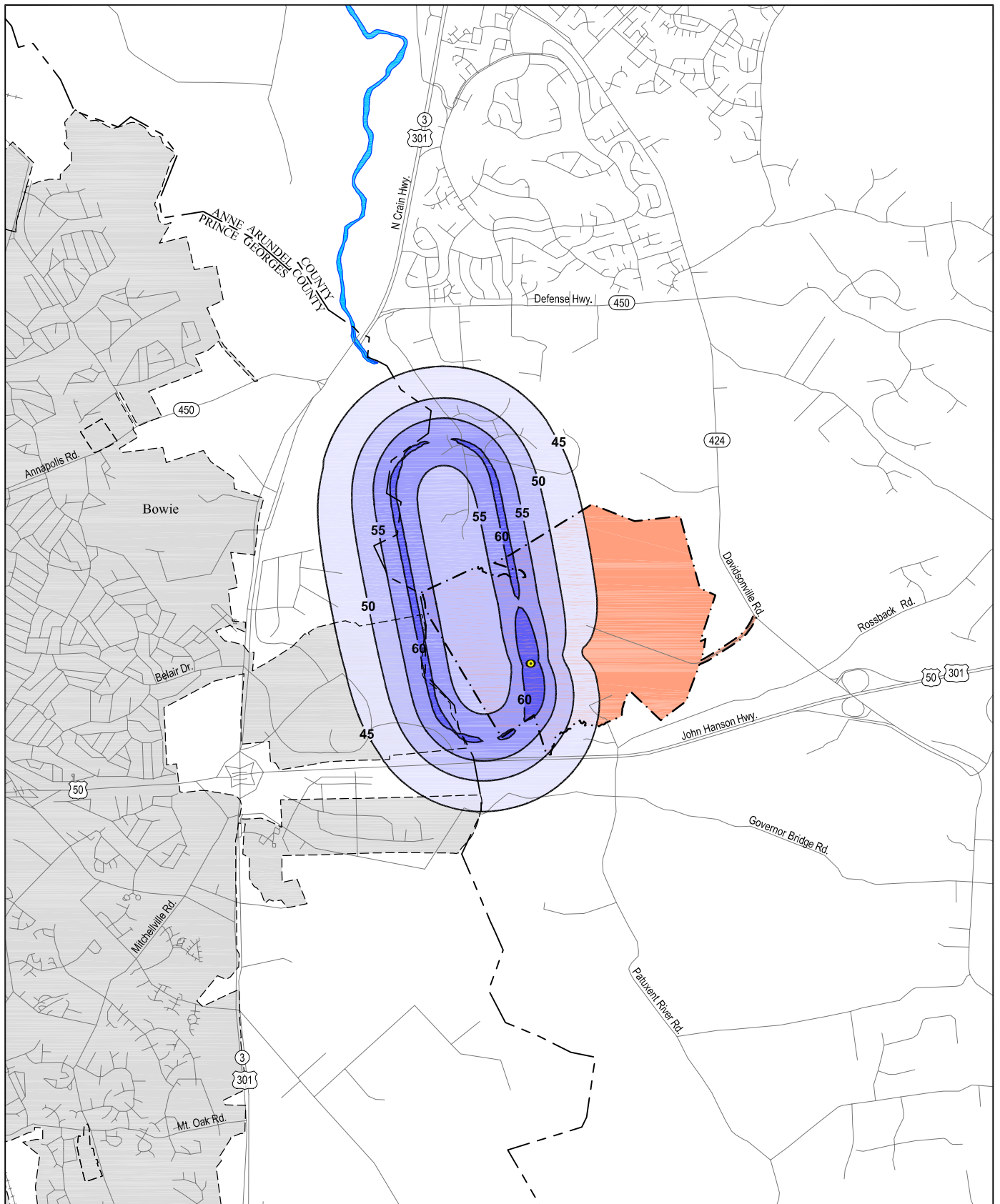
Table D.2 Area and Population within DNL 45 dB and Greater Noise Exposure Area, Davidsonville (Off-Installation)

DNL Noise Zone	Acres	Population
45-49	561	145
50-54	436	109
55-59	395	104
60+	61	17
Total	1,453	375

From Table D.2, a total of 1,453 acres and 375 persons are expected to be in the off-installation area within the DNL 45 dB and greater noise exposure area. The largest affected population is within the DNL 45–49 dB noise zone. This area is estimated to contain 561 acres in off-installation land area (39 percent of the total) and an estimated population of 145 persons (39 percent of the total) based on the calculated population densities for the area.

Incompatible Land Use

As previously mentioned, CZs and APZs are not established for the LZs at Davidsonville. Additionally, as depicted in Figure D.4, the noise from helicopter operations at the Davidsonville LZ does not exceed DNL 65 dB, the lowest level used for incompatible land use evaluation resulting from aircraft noise. For these reasons, there is no incompatible land use due to the helicopter operations at the Davidsonville LZ when considering the CZ, APZ, and noise zone criteria in Table 4.3 in Subsection 4.6.3.2.



Andrews Air Force Base 2007 AICUZ

LEGEND

	DNL 45-49 dB		Davidsonville Receiver Station
	DNL 50-54 dB		Roadway
	DNL 55-59 dB		City Limits
	DNL 60+ dB		Landing Zone

Average Busy-Day Noise Contours for 2007, Davidsonville

Figure D.4

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