

HEALTH AT RISK

Potential Toxic and Noise Exposure Endangering Children at the Homestead Temporary Shelter for Unaccompanied Migrant Children

August 2019



**American Friends
Service Committee**

Introduction

Environmental conditions at the “Homestead Temporary Shelter for Unaccompanied Alien Children” posed potentially serious health and safety threats to the children who were housed there until a few days ago, including possible exposure to toxic chemicals from a neighboring Superfund site and to excessive noise from planes taking off and landing at the nearby Homestead Air Reserve Base runway. The Shelter is adjacent to the Homestead Air Force Base Superfund site (Environmental Protection Agency Site ID FL7570024037), and within two-thirds of a mile from 16 sources of contamination at eight Superfund Operable Units. The contaminants found in the soil and groundwater at these sources include metals, pesticides, semi-volatile and volatile organic compounds, and chlorinated volatile compounds resulting from leaks, spills, waste handling of hazardous materials, and other industrial and military processes. Many of these contaminants are human carcinogens and cause a variety of other serious chronic health problems including kidney failure, hemolytic anemia, and developmental damage.¹ Environmental data for groundwater, soil and air quality at the Shelter has either not been collected or is not publicly available. The widespread contamination surrounding the Shelter and the ability for many of these chemicals to travel in soil and groundwater raises considerable concern that detained children were exposed to unsafe level of hazardous chemicals both in the soil and emanating from the soil and shallow groundwater into the air.

Further, the remediation of Superfund sites surrounding the shelter is based on industrial standards, not residential use, and has only been evaluated for occupational exposure, not child residents. The EPA, U.S. Air Force, and Miami-Dade County prohibit the use of the property surrounding the Shelter for “residential re-use, hospitals, public or private schools for persons under 18 years of age, or

¹ Global Environmental Justice Project. January 2019 “Toxic Detention: The Trend of Contamination in the American Immigration System,” p. 18. University of California, Santa Barbara. Available at: https://gejp.es.ucsb.edu/sites/secure.lsit.ucsb.edu/envs.d7_gejp2/files/sitefiles/publication/GEJP%20Special%20Report%202019.pdf.

day care centers for children.”² Though intended as a temporary shelter, children were routinely held for up to several months.³

In addition, the Shelter is directly adjacent to the Homestead Air Reserve Base, which flies F-16C fighter aircrafts. Noise levels at the Shelter due to F-16 sorties are estimated to be in the 65-69 dB (decibel) range, which is “normally unacceptable” for human residence, according to the U.S. Air Force, the Federal Aviation Association, and the Department of Housing and Urban Development.⁴ Thirty percent of children exposed to 65 dB and above experience cognitive impairment, and chronic environmental noise exposure is linked to adverse and long-term effects on children’s cognition and development.⁵

We were opposed for other reasons to holding children at the Shelter in what amounted to prison-like conditions. Press reports indicate that the Shelter will remain operational to take in up to 1,200 children if needed.⁶ Given what we have learned about the potential environmental threats to children’s health there, there is more reason to affirm that no more children should be brought to the site. Moreover, it is unknown what the future plans are for the site. Therefore, we call on the government to conduct comprehensive testing to determine the safety of the site, including soil, groundwater and air sampling, a Human Health Risk Assessment, and a Noise Risk Assessment (NRA) based on child residents; and to release the results publicly.

² Air Force Civil Engineer Center for the Environmental Protection Agency. September 2016. “Third Five-Year Review Report for CERCLA Sites: SS034/OU-20, SS035/OU-21, OT022/OU-26, OT024/OU-28, OT026/OU-29, SS040/OU-30, and SS042/OU-31.” Former Homestead Air Force Base (BRAC) Miami-Dade County, Homestead, Florida USEPA ID No. FL7570024037.

³ Miriam Jordan. June 26th, 2019. “Migrant Children Are Spending Months ‘Crammed’ in a Temporary Florida Shelter,” *The New York Times*, <https://www.nytimes.com/2019/06/26/us/homestead-migrant-children-shelter.html>

⁴ Headquarters Air Force Reserve Command. October 2007. “Air Installation Compatible Use Zone (AICUZ) Study for the Homestead Air Reserve Base, Florida.” Accessible at: <https://www.homestead.afrc.af.mil/Portals/134/Documents/SusOps/AFD-071029-030.pdf>, p. 3-1.

⁵ World Health Organization. 2011. *Burden of disease from environmental noise*. Accessible at: http://www.euro.who.int/data/assets/pdf_file/0008/136466/e94888.pdf: p. 48.

⁶ Monique O. Madan. August 3rd, 2019. “All children have been moved from Homestead detention center. They’re not coming back.” *The Miami Herald* <https://www.miamiherald.com/news/local/immigration/article233488172.html>

Background

Following Hurricane Andrew, the Homestead Air Force Base underwent a Base Realignment and Closure (BRAC) process. Approximately a third of the base was transformed into the Homestead Air Reserve Base (HARB) in 1994, and the remaining two thirds were designated for reuse and redevelopment. In 1996, 40 acres were transferred to the Department of Labor for a Job Corps facility, intended to provide vocational training for up to 472 students.⁷ The Job Corps facility opened in 1999 and closed in 2015, following the murder of a student due to mismanagement by the private contractor running the facility.⁸

The former Job Corps campus was reopened as a detention center for migrant and refugee children in 2016, closed in 2017, and reopened in March of 2018 as the Homestead Temporary Shelter for Unaccompanied Alien Children. As a “temporary influx shelter” on federal land, it wasn’t regulated by the state, and until recently, it was the largest child detention facility in the country, and the only one that was run by a private, for-profit corporation.⁹

The children held there ranged from ages 13 to 17. In April of 2019, the Department of Health and Human Services (HHS) announced plans to expand bed capacity from 2,350 to 3,200,¹⁰ and the number of children recently grew to over 2,000. Public opposition and protests at the center increased. In February it was reported that children were staying in the Shelter an average of 67 days.¹¹ HHS and shelter officials refused to release to members of Congress and the press their evacuation plan in the event

⁷ Department of Labor. June 29th, 1994. “Request for Transfer of Excess Real and Related Personal Property,” Attachment #1, Item B. [Part of “Transfer letter with attachments,” p. 52 of PDF].

⁸ David Ovalle. August 28th, 2015. “Classes suspended at Homestead Job Corps after machete murder of teen,” *Miami Herald*. Available at: <https://www.miamiherald.com/news/local/crime/article32657247.html>

⁹ John Burnett. February 13th, 2019. Inside the Largest and Most Controversial Shelter For Migrant Children In The U.S.,” *National Public Radio*. Accessible at: <https://www.npr.org/2019/02/13/694138106/inside-the-largest-and-most-controversial-shelter-for-migrant-children-in-the-u->

¹⁰ U.S. Department of Health and Human Services. April 1st, 2019. “Fact Sheet: Unaccompanied Alien Children sheltered at Homestead Job Corps Site, Homestead, Florida.” Accessible at: <https://www.hhs.gov/sites/default/files/Unaccompanied-Alien-Children-Sheltered-at-Homestead.pdf>.

¹¹ John Burnett, “Inside the Largest and Most Controversial Shelter For Migrant Children In The U.S.,” *National Public Radio*. Accessible at: <https://www.npr.org/2019/02/13/694138106/inside-the-largest-and-most-controversial-shelter-for-migrant-children-in-the-u->

of a hurricane, and in July 2019, under intense public pressure, they reduced the number of occupants.¹²

As of early Saturday morning, August 3, the last remaining children were relocated from the center.¹³

The Superfund Site

The Shelter is directly adjacent to the Homestead Air Force Base EPA Superfund site (EPA ID FL7570024037). Eight Superfund contaminated areas (called operable units, or OUs) are directly west, east and south of the Shelter. These contaminated OUs were once part of the Homestead Air Force Base, and were used for the storage of hazardous materials, including munitions and industrial waste, and for aircraft maintenance, testing, and disposal. The EPA reports that “additional measures are needed for long-term protectiveness from direct exposure” and that these OUs are “located in an unpopulated area, with no residences located on the site or nearby.”¹⁴ **These sites are in fact directly adjacent to a residential facility for migrant children.** Table 1 (Appendix A) describes the 16 contaminated sites and their distance and direction from the Shelter. As of 2016, remedial activities at several of these sites were ongoing.¹⁵

Contaminants and Potential Exposure

The operable units (OUs) closest to the Shelter are contaminated with chemicals including arsenic, lead, mercury, polycyclic aromatic hydrocarbons (PAHs), and trichloroethene. These contaminants cause a variety of serious chronic health problems, including kidney failure, hemolytic

¹² Monique O. Madan. July 15th, 2019. “Is Homestead calling it quits? No more additional kids to be taken to detention center,” *The Miami Herald*. Available at: https://www.miamiherald.com/news/local/immigration/article232675937.html?fbclid=IwAR3R614wLGzkz9JndIO9bHsGjULo3R1s0GzZsqChCKHXVD_hGtuFs2DDShU

¹³ Monique O. Madan. August 3rd, 2019. “All children have been moved from Homestead detention center. They’re not coming back.” <https://www.miamiherald.com/news/local/immigration/article233488172.html>

¹⁴ Air Force Civil Engineer Center/Environmental Protection Agency 2016, 26; xvi.

¹⁵ Contamination of these sites did not stop with the realignment of the base. In March of 2013, an “unlawful discharge of industrial waste to the open ground” occurred at OU-30. Air Force Civil Engineer Center/Environmental Protection Agency 2016: (xiii).

anemia, and developmental damage.¹⁶ Soil sample data from surrounding OUs show the ubiquitous extent of arsenic and PAHs in the shallow soils surrounding the Shelter. This type and concentration of soil contamination may produce particulate matter that is harmful to eat and breathe and can cause damage through dermal contact. Possibilities for toxic exposure include coming into contact with contaminated soil or groundwater via dust, flooding, or storm surge from tropical storms; vapor intrusion due to the high concentration of volatile organic chemicals; and the disturbance of surface soil as part of ongoing remedial activities. Further, normal operation of the Homestead Air Reserve Base generates “pesticides, herbicides, POL (petroleum, oil, and lubricants), flammable solvents, contaminated fuels and lubricants, paint/coating, stripping chemicals, waste oils, waste paint-related materials, and other universal wastes.”¹⁷

The two closest OUs, 20 and 21, encompass roughly two acres (83,473 square feet) directly southeast of the Shelter. Arsenic concentrations at OU-21 have generally increased over time, and two contaminated monitoring wells (MW-A and MW-16) that register an increase in arsenic are approximately 130 and 140 feet from residential buildings at the Shelter,¹⁸ suggesting that legacy contamination is not being properly contained. At OU 12, arsenic was detected in soil at concentrations as great as 2.5 mg/kg and in groundwater in concentrations as great as 8 ug/l. Lead was detected in groundwater at concentrations as great as 83 ug/l. An increase of tetrachloroethylene contamination was detected at OU-26 during a site re-evaluation in 2013.¹⁹ The most recent report from the EPA calls for additional remedial action and states that only industrial use is appropriate to ensure long-term safety at the OUs.²⁰

¹⁶ Global Environmental Justice Project. January 2019 “Toxic Detention: The Trend of Contamination in the American Immigration System,” p. 18. University of California, Santa Barbara. Available at: https://gejp.es.ucsb.edu/sites/secure.sit.ucsb.edu/envs.d7_gejp2/files/sitefiles/publication/GEJP%20Special%20Report%202019.pdf.

¹⁷ Headquarters Air Force Reserve Command. February 2007. “Environmental Assessment for 2005 Base Realignment and Closure Actions at Homestead Air Reserve Base, Florida,” 3-57.

¹⁸ Air Force Civil Engineer Center/Environmental Protection Agency 2016: 116.

¹⁹ Air Force Civil Engineer Center/Environmental Protection Agency 2016:: (xvi).

²⁰ Air Force Civil Engineer Center/Environmental Protection Agency 2016:: (xiv).

Residential Restrictions

The EPA Soil Cleanup Target Level (SCTL) for these OUs is industrial, **not residential**.²¹ Residential screening levels are significantly more protective than industrial and range from three to 21 times lower than industrial screening levels. Remediation to industrial levels and evaluation against industrial standards does not provide protection for residential use, particularly for children. The maximum soil concentrations at the various source areas near the Shelter vary from 32 times to 7,500 times the protective screening levels, **suggesting that arsenic is also in the Shelter area at concentrations significantly greater than EPA screening levels**. A Public Health Assessment for the Homestead Air Reserve Base specified that “these sites have been and will continue to be used for industrial purposes, exposures to contaminated soils were and will continue to be limited. Furthermore, it is unlikely that sensitive populations, such as children and the elderly, had long-term or frequent access to these industrial sites.”²² Further, a human health risk assessments (HHRA) conducted as part of the Operable Units (OU) 18, 26, 28 and 29 Record of Decision (ROD) was conducted for occupational worker, construction worker and recreational/trespasser scenarios, which does not pertain to resident children, a very different exposure scenario.²³

Despite the presence of contaminated soil and groundwater surrounding Shelter property and ongoing remediation directly adjacent to the land that the Shelter currently occupies, no mention of the Superfund site appears in the 1996 indenture transferring the property from the Air Force to the Department of Labor.²⁴ Property surrounding the Shelter was transferred from the Air Force to Miami-Dade County in 2005, with an environmental use restrictive covenant to “protect human health and the environment with regard to residual contamination remaining on the Property.” This environmental

²¹ Air Force Civil Engineer Center/Environmental Protection Agency 2016: 8.

²² Public Health Assessment for Homestead Air Force Base Homestead AFB, Dade County, Florida CERCLIS NO. FL7570024037, September 30, 1998. Page 10.

²³ EPA. 1999. “Record of Decision, Homestead Air Force Base OUs 18, 26, 28, 29.” Department of the Air Force.

²⁴ The Air Force Base Conversion Agency’s Record of Decision does warn the Department of Labor of the presence of asbestos, polychlorinated biphenyls, radon and lead-based paint on the property. See Transfer Letter from the Air Force to the Department of Labor; p. 15: Air Force Base Conversion Agency. October 1994. “Record of Decision on the Disposal of the Homestead Air Force Base, Dade County, Florida,”

covenant for Parcels D-3, D-4, D-5, and D-6 (also known as Parcel 11) states that: “in order to prevent human exposure to arsenic in soils on the Property above 10 ppb, **the Grantee shall not use the Property for permanent residential purposes, hospitals for human care, public or private schools for persons under 18 years of age, or day care centers for children.**”²⁵ The covenant also states that groundwater on these parcels is contaminated with arsenic, and that the Grantee is “prohibited from consuming, causing exposure to or otherwise using the underlying groundwater for any purpose whatsoever.”²⁶ Parcel D-4 is 211.02 acres, directly north of what is now the Shelter (beginning below 280th St. and 127th Ave. and including what is now Camillus House and the Community Partnership for the Homeless). Parcel D-5 is 56.71 acres directly south of the shelter, between OU 22 and OU-26.

A 2011 Environmental Assessment Report for construction of headquarters for the Special Operations Command South (SOCSOUTH) on an 84.2-acre plot of land directly south of the Shelter stipulated that future use must “avoid accidental exposure to arsenic contamination in soils and groundwater onsite,” and prohibits “**permanent residential structures, hospitals, public or private schools, or day care centers.**” This report further stipulates that it is prohibited to “consume, cause exposure to, or otherwise use the underlying groundwater for any purpose.”²⁷ The SOCSOUTH building is farther from OUs 20, 21, 26, 28, 29, 30, and 31 than the Shelter.

²⁵ Clerk of the Court, Miami-Dade County. September 30th, 2004. “Indenture between the United States of America and Miami-Dade County Regarding Parcel D-4,” CFN 2005R0212582, Recorded 03/03/2005, Harvey Ruvin, Clerk of the Court, Miami-Dade County, Florida. Page 5.

²⁶ Clerk of the Court, Miami-Dade County. September 30th, 2004. “Indenture between the United States of America and Miami-Dade County Regarding Parcel D-3.” See also CFN 2005R0212582 (D-4); CFN 2005R0212583 (D-6), CFN 2005R0212584 (D-5), CFN 2005R0212585 (D-5). Recorded 03/03/2005, Harvey Ruvin, Clerk of the Court, Miami-Dade County, Florida. Environmental use restrictive covenant on page 5 of each document.

²⁷ U.S. Army Corps of Engineers. June 2011. “Final Environmental Assessment, Construction and Operation of U.S. Special Operations Command South Headquarters Adjacent to Homestead Air Reserve Base”, p. ES-8. Accessible at: <https://apps.dtic.mil/dtic/tr/fulltext/u2/a611154.pdf>.

Noise Exposure

The Shelter is directly adjacent to the Homestead Air Reserve Base runway. Miami Dade County defines a Land Use Restriction Area according to the likelihood of accidents and noise exposure (called Accident Potential Zones and Noise Contour Zones). Noise Contour Zones are defined as land areas in which noise exposure is measured at a Day-Night Noise Level (DNL) of 65 decibels (dB) or greater. The Shelter is encompassed in the Homestead Air Reserve Base Noise Contour Zone.²⁸

A 2017 memorandum from Miami-Dade County places the Shelter partially in the 65dB zone. However, the County uses a 2007 Air Installation Compatible Use Zone Planning (AICUZ) study to designate Noise Contour Zones.²⁹ **An updated, 2017 AICUZ study places the Shelter almost completely in the 65-69 dBA zone due to expanded aircraft use at the Homestead Air Reserve Base** (see Appendix C).³⁰ According to the USAF, the FAA, and the U.S. Department of Housing and Urban Development (HUD), residential units and other noise-sensitive land uses are, “normally unacceptable” in regions exposed to noise between DNL 65 and 75 dBA.³¹ A World Health Organization report includes an exposure-risk graph demonstrating that the percentage of children cognitively impaired increases from 10% at 55 dB DNL to 30% exposed to 65 dB DNL (and 55% at 75 dB DNL).³² The EPA recommends a noise of 70 dB(A) over 24-hour period as an average exposure limit for adults. However, this approximation is based on a general population, *not children residents*.³³

²⁸ Miami-Dade County. January 24th, 2017. “Memorandum: Ordinance pertaining to zoning and real property transactions in the vicinity of Homestead Air Reserve Base (HARB)...”, Agenda Item No. 7C. To the Honorable Chairman Estevan L. Bovo, Jr. and Members, Board of County Commissioners. From Abigail Price-Williams, County Attorney. Pages 8; 10; for map, see Figure 2 on p. 20.

²⁹ Ibid, Figure 2, p. 20. For the 2007 AICUZ study, see: Headquarters Air Force Reserve Command. October 2007. “Air Installation Compatible Use Zone (AICUZ) Study for the Homestead Air Reserve Base, Florida.” Accessible at: <http://www.homestead.afrc.af.mil/Portals/134/Documents/SusOps/AFD-071029-030.pdf>, p. 3-1. See Appendix B.

³⁰ ESRI ArcGIS. 2017. “Noise Study Air Installation Compatible Use Zone (AICUZ) Informational (Public Access): 2014 to 2017 Noise Study Comparison, Homestead Air Reserve Base.” Accessible at: <https://arcg.is/1O05yv>

³¹ Headquarters Air Force Reserve Command. October 2007. “Air Installation Compatible Use Zone (AICUZ) Study for the Homestead Air Reserve Base, Florida.” Accessible at: <https://www.homestead.afrc.af.mil/Portals/134/Documents/SusOps/AFD-071029-030.pdf>, p. 3-1.

³² World Health Organization. 2011. *Burden of disease from environmental noise*. Accessible at http://www.euro.who.int/data/assets/pdf_file/0008/136466/e94888.pdf, p. 48.

³³ EPA. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Accessible at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF>

According to a 2017 noise contour study of the Homestead Air Reserve Base, the Shelter is in violation of Miami-Dade County land use regulation.³⁴ Miami Dade County use restrictions in Noise Contour Zones of 65 to 75 dBA include a prohibition on “schools, hospitals, barracks, apartment buildings and religious facilities or other buildings of public assembly.”³⁵ Certain residential uses are also prohibited, including “residential uses in excess of 1 dwelling unit per 5 acres.”³⁶ All new uses within the 65 dB DNL and greater Noise Contour zones must incorporate “least a 25-decibel outdoor-to-indoor Noise Level Reduction (NLR) into the design and construction of the structure.”³⁷ There are no records that the Shelter, which is partially composed of tents and currently designated as in the 65 dB zone, has taken such measures. The Homestead Air Reserve Base is currently in line to replace their F-16 fighter aircraft with the F-35 aircraft, which is four times louder than the F-16.³⁸

Epidemiological studies provide evidence of adverse effects on cognitive abilities and other health consequences in children exposed to aircraft noise pollution at and above 65dB, including cognitive performance and reading comprehension.³⁹ The World Health Organization concludes that “reliable evidence indicates the adverse effects of chronic noise exposure on children’s cognition,” particularly related to tasks involving central processing and language, such as reading comprehension,

³⁴ ESRI ArcGIS. 2017. “Noise Study Air Installation Compatible Use Zone (AICUZ) Informational (Public Access): 2014 to 2017 Noise Study Comparison, Homestead Air Reserve Base.” Accessible at: <https://arcg.is/1O05yv>

³⁵ Miami-Dade County. January 24th, 2017. “Memorandum: Ordinance pertaining to zoning and real property transactions in the vicinity of Homestead Air Reserve Base (HARB)...” Section 33-295: Use Restrictions, (c): page 18).

³⁶ Ibid: Section 33-295: Use Restrictions, (e): page 18.

³⁷ Ibid: Section 33-295: (e): page 18.

³⁸ Miami-Dade County. July 5th, 2018. “Urban Expansion Area Task Force Final Report: Urban Expansion Area Task Force Meeting Summary, December 1st, 2017. Scheduled Presentation VI: Military Compatibility, Homestead Air Reserve Base” by Lawrence Ventura, Environmental Flight Chief, USAF, HARB. Stephen P. Clark Center 111 NW 1 Street, Room 18-3, Miami, FL 33128. Page 13 [p. 148 of PDF]. See also United States Air Force. September 2013. Final Environmental Impact Statement for USAF F-35 Operational Basing. Available at: <https://www.miamidade.gov/planning/library/reports/uea-final-report.pdf>

³⁹ M.M. Haynes et al. 2001. “Chronic aircraft noise exposure, stress responses, mental health and cognitive performance in school children.” *Psychological Medicine* 31(2): p. 265-277. <https://www.cambridge.org/core/journals/psychological-medicine/article/chronic-aircraft-noise-exposure-stress-responses-mental-health-and-cognitive-performance-in-school-children/0C77FCC4B56A8DB4E5506A13BF8536F5>

memory, and attention.⁴⁰ Exposure to chronic noise during critical periods of learning can potentially “impair development and have a lifelong effect on educational attainment.”⁴¹

Conclusion

According to the EPA, the U.S. Air Force, and Miami-Dade County, the property surrounding the Homestead Temporary Shelter for Unaccompanied Alien Children is contaminated and unsuitable for residential use, schools, childcare, or hospitals. The Shelter is directly adjacent to active Superfund site Operable Units that remain contaminated at levels exceeding what is allowed even for industrial use. Given the lack of samples collected within the Shelter area, the decades-long presence of harmful contaminants, the acknowledged poor handling of toxic materials and pesticides, and the storage of dangerous contaminants directly adjacent to the Shelter, we are concerned that hazardous materials at unsafe concentrations are present in the Shelter area.

Noise levels at the Shelter are estimated to be in the 65-69 dBA (decibel) range, which is “normally unacceptable” for human residence. Thirty percent of children exposed to 65-69 dB DNL noise experience cognitive impairment. We do not know if the buildings used to house detained children were adequately soundproofed, as required by Miami-Dade County. Moreover, child detainees were spending large parts of their days in tents, where noise exposure is potentially greater.

Ultimately, the burden of proof with respect to health and safety of children at the Shelter belongs to HHS, the government agency responsible for the custody of the children. Even though all children have been removed from the shelter, it is incumbent upon HHS to evaluate the health risks to the children who were held at the Shelter and to any children who may be held at the Shelter in the future since the Shelter is said to remain open. It is important as well to conduct a comprehensive evaluation to determine appropriate future use of the site. Thus we call for HHS, or another agency of the federal government on behalf of HHS, to conduct, and publicly release the results of:

⁴⁰ World Health Organization. 2011. *Burden of disease from environmental noise*. Accessible at http://www.euro.who.int/data/assets/pdf_file/0008/136466/e94888.pdf. p. 52

⁴¹ Ibid, p. 45

- 1. Comprehensive soil, groundwater and air sampling at the Shelter, including dormitories, the outdoor play area and tents;**
- 2. A Human Health Risk Assessment (HHRA) that takes into account child residents and an exposure scenario that includes time in tents and outdoors and in the event of flooding;**
- 3. A Noise Risk Assessment (NRA) based on children residents.**

APPENDIX A:

Location of Detention Center and Sources of Contamination

Sources of Contamination Close to the Detention Center

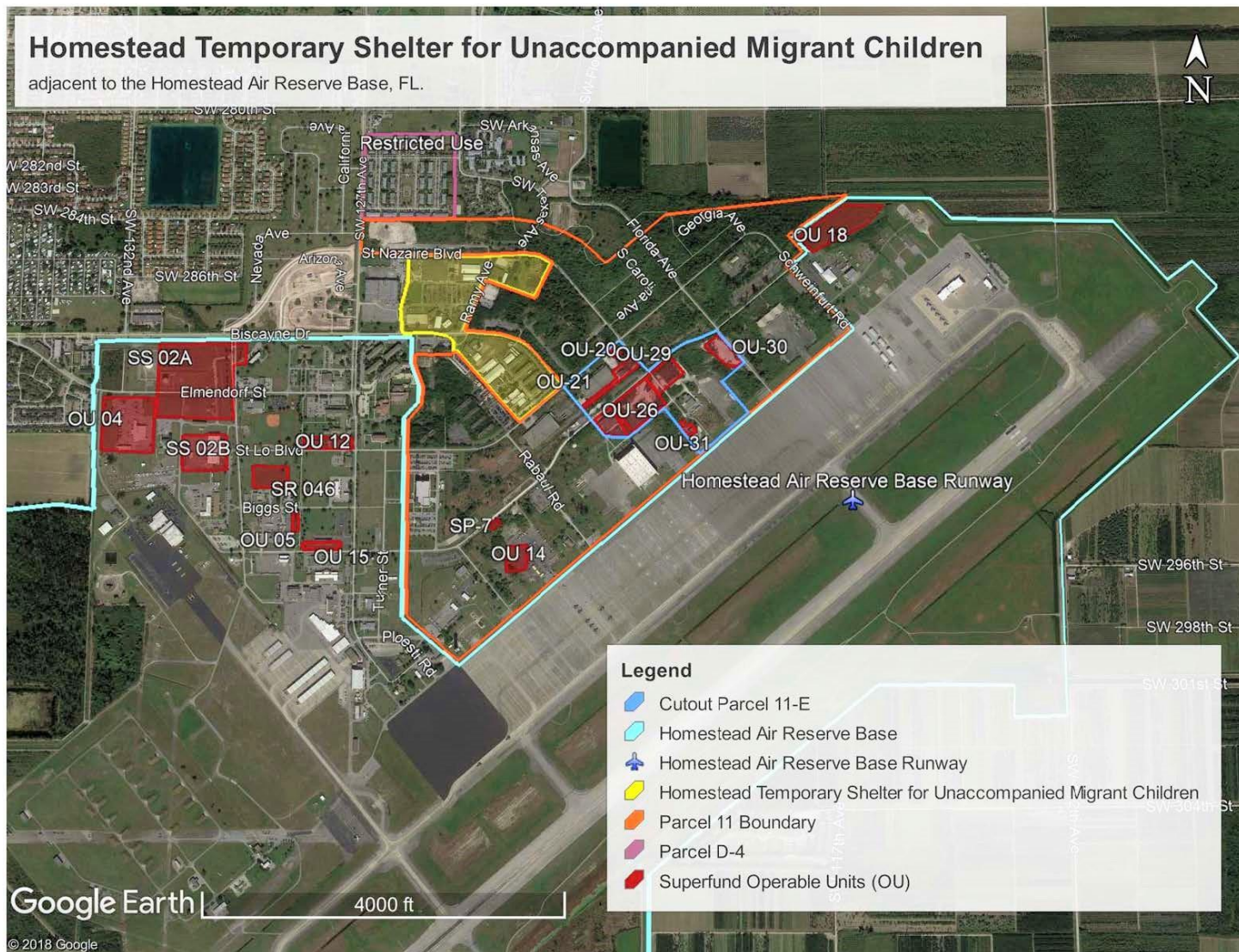


Figure 1. Location of Detention Center and Sources of Contamination

Table 1. Sources of Contamination Close to the Detention Center

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 04	2300W	Oil Leakage Behind the Motor Pool (SS-08)	The motor pool in use since 1960 for cleaning, servicing, and repairing utility vehicles. Two 550-gallon above-ground storage tanks and batteries have leaked and spilled.	Soil/sediment - PAHs, Beryllium	Deed restriction, fencing, groundwater monitoring	U.S. Department of Health and Human Services, 1998
OU 05	980SW	Electroplating Waste Disposal Area (WP-01)	In use between 1946 and 1953. Spent plating baths and rinses containing chromium, nickel, copper, and sulfuric and hydrochloric acid were poured on the ground.	Soil - Arsenic and Benzo(a)pyrene. Groundwater - Arsenic, lead, other metals and Bis(2-ethylhexyl) phthalate	In 1995, contaminated soils and sediments were excavated	U.S. Department of Health and Human Services, 1998
OU 12	0W	Entomology Storage Shop, Building 371 (OT-25)	From the 1940s through the mid-1980s, a wide variety of organochlorine pesticides, other chemicals, and small equipment were stored in a wooden building with a concrete floor.	Soil - PAHs, arsenic, pesticides and beryllium. Groundwater - VOCs, pesticides and metals	None -retained by air force	U.S. Department of Health and Human Services, 1998

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 14	1200S	Drum Storage Area, Building 720 (SS-26)	In the first half of the 1980s, a drum storage area for paint and solvent-related wastes.	Soil - PAHs, and arsenic. Groundwater - arsenic	None - Deeded to Dade County Aviation Dept. for industrial use	U.S. Department of Health and Human Services, 1998
OU 15	1020SW	Building 153: Hazardous Waste Storage (SS-30)	From 1973 to 1976, Building 153 was used as a hazardous material storage area for small containers of chemicals, including battery electrolytes, paint thinners, hydraulic fluids, and motor oils. Expired chemicals were routinely dumped from the loading dock onto the ground next to the building.	Soil - PAHs, and arsenic. Groundwater - arsenic and other metals	none -retained by air force	U.S. Department of Health and Human Services, 1998

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 18	3300NE	Contractor Storage Area/Former Construction Debris Landfill [Post-Andrew Site]	This 2.5-acre area has been used since the 1980s to store various materials, including pipes, equipment, cans of paints, empty containers, and tools. Housekeeping was reportedly poor, although no spills are known to have occurred. The Former Construction Debris Landfill was used for disposal of crushed asphalt, most likely generated from the occasional resurfacing of runways. Oil staining and paint spillage were noted in 1993.	Soil/sediment - PAHs, arsenic, pesticides, antimony, and beryllium. Groundwater - PAHs, arsenic, other metals, pesticides. Surface water - arsenic	Deeded to Dade County	U.S. Department of Health and Human Services, 1998

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 20	700E	Buildings 618 and 619 Parking Lot/Outdoor Staging Area [Post-Andrew Site]	14,000 square feet of paved parking lot were used as a staging area for hazardous wastes collected since Hurricane Andrew. Drums labeled "Tar and Gravel" were observed in 1993; aboveground storage tanks were placed in the lot; staining was observed in 1993.	Soil - Arsenic and beryllium. Groundwater arsenic	None - Deeded to Dade County Aviation Dept. for industrial use	U.S. Department of Health and Human Services, 1998
OU 21	400E	#32, Building, 619 Parking Lot/Base Supply Hazardous Materials Storage Facility, [Post-Andrew Site]	This 2,400 square feet site was used to store flammables chemicals, acids and hazardous waste.	Soil - Arsenic and beryllium. Groundwater arsenic	None - Deeded to Dade County Aviation Dept. for industrial use	U.S. Department of Health and Human Services, 1998

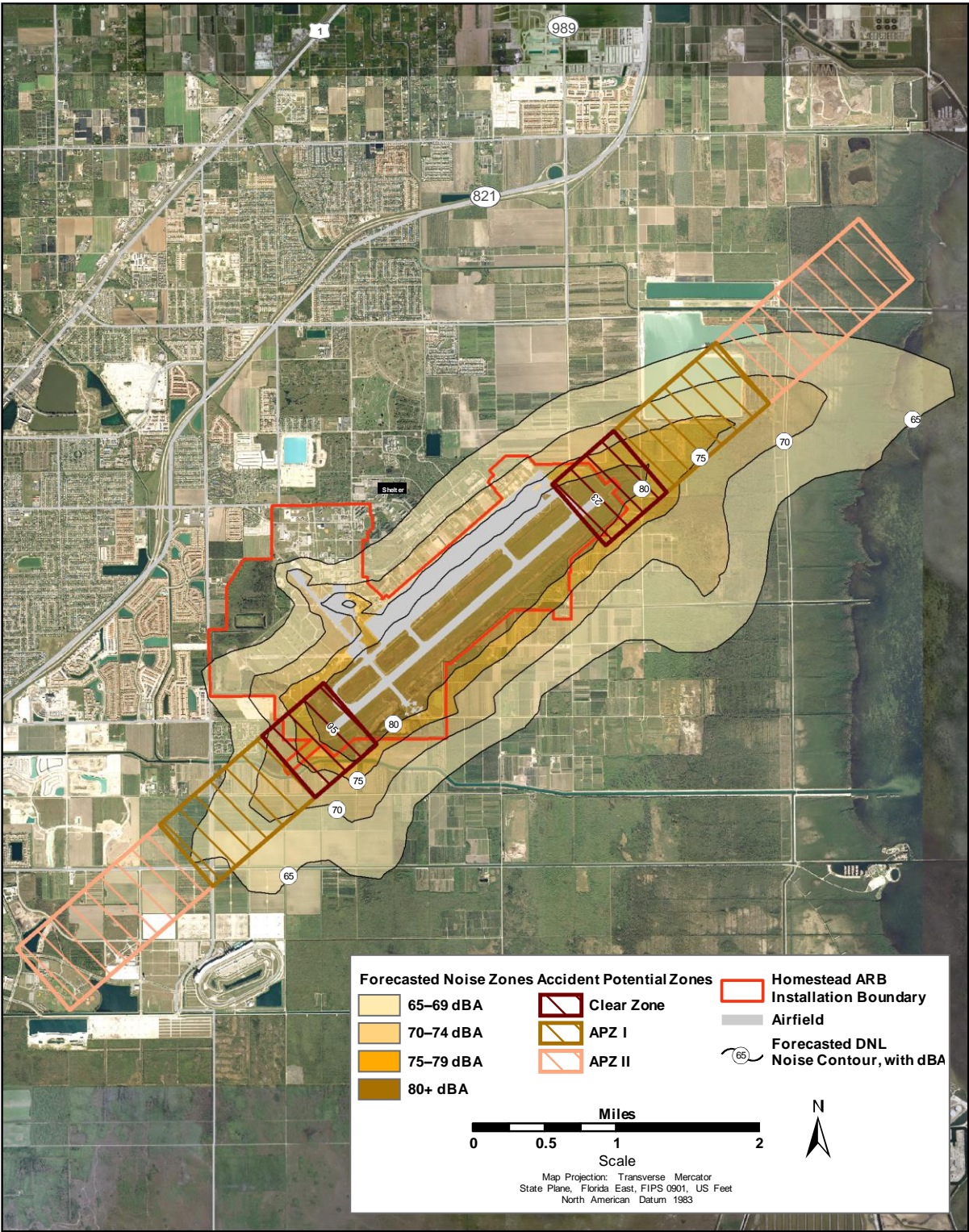
Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 26	700E	Building 745, Aircraft Fabrication (Metal Working) Facility [Post- Andrew Site]	The building was used for maintenance of aircraft skin and hydraulics; wastes generated at the facility included PD-680 and hydraulic fluid. A battery shop with floor staining was observed in 1993.	Soil: PAHs, arsenic, and lead (18.8-551 ppm) were detected above CVs. Groundwater: VOCs, pesticides, and metals	Deeded to Dade County Aviation Dept. for industrial use	U.S. Department of Health and Human Services, 1998
OU 28	800E	Building 750, Propulsion (Engine) Maintenance Facility [Post- Andrew Site]	Beginning in 1950, Building 750 was used for jet engine teardown, rebuilding, inspection and repair since approximately 1950. Waste oils were previously collected in an above ground storage tank; an oil-water separator and sump and five underground storage tanks associated with electroplating operations were located at this site	Soil - PAHs, arsenic, lead and other metals. Groundwater - VOCs and beryllium	None	U.S. Department of Health and Human Services, 1998

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 29	1000E	Building 760 [Post-Andrew Site)	Building 760 was used as an Avionics Aerospace Ground Equipment shop, a Tactical Electronic Warfare System shop and housed various associated testing shops. The building was heavily damaged during Hurricane Andrew. An oil/water separator was located by the building and effluent was discharged to the sewer; an underground storage tank was used to store diesel fuel for a generator in the building.	Soil - PAHs, arsenic, lead. Groundwater VOCs.	None	U.S. Department of Health and Human Services, 1998
OU 30	1800E	Building 767 and 769 and parking lots	The parking lot contained underground and above-ground storage tanks and had debris dumped on it.	Soil - PAHs, arsenic, Groundwater - arsenic	Some soil excavation and building demolition	Homestead AFB Remedial Investigation/Baseline Risk Assessment, OUs 20/21, OU30, OU31, 1998

Source	Dist.(ft)/Dir	Site	Description	Contaminants	Remediation	Reference
OU 31	1600E	Building 755	This site is a non-destructive inspection lab that had waste oil, waste dye penetrant and waste emulsifier	Soil - PAHs, VOCs, and Arsenic. Groundwater - arsenic, PAHs and 2-Butanone	Underground storage tank removal	Homestead AFB Remedial Investigation/Baseline Risk Assessment, OUs 20/21, OU30, OU31, 1998
Parcel D4	400NW	Bldg. DRMO 604	Storage of hazardous material	Soil - PAHs, arsenic, chromium, copper, and lead. Groundwater - MEK, benzoic acid, 4-methylphenol, and arsenic	Deeded to Miami-Dade County	Parcel D4 Indenture, 2004
SS-02A	1270W	Above ground tanks 330-334	Tanks containing petroleum fuels	Total Recoverable Petroleum Hydrocarbons (TRPH) and its constituents in soil and groundwater	Soil removal	Remedial Action Plan Addendum, 2010
SP-7	810S	Aircraft Wash rack (SP-7)	Oil spill at wash rack resulting in a light non-aqueous phase liquids (LNAPL) plume	Soil - liquid-phase hydrocarbons with high oil and grease content	Removed LNAPL	Remedial Action Plan, Geraghty & Miller, 1989

APPENDIX B:

2007 Noise Contour Map

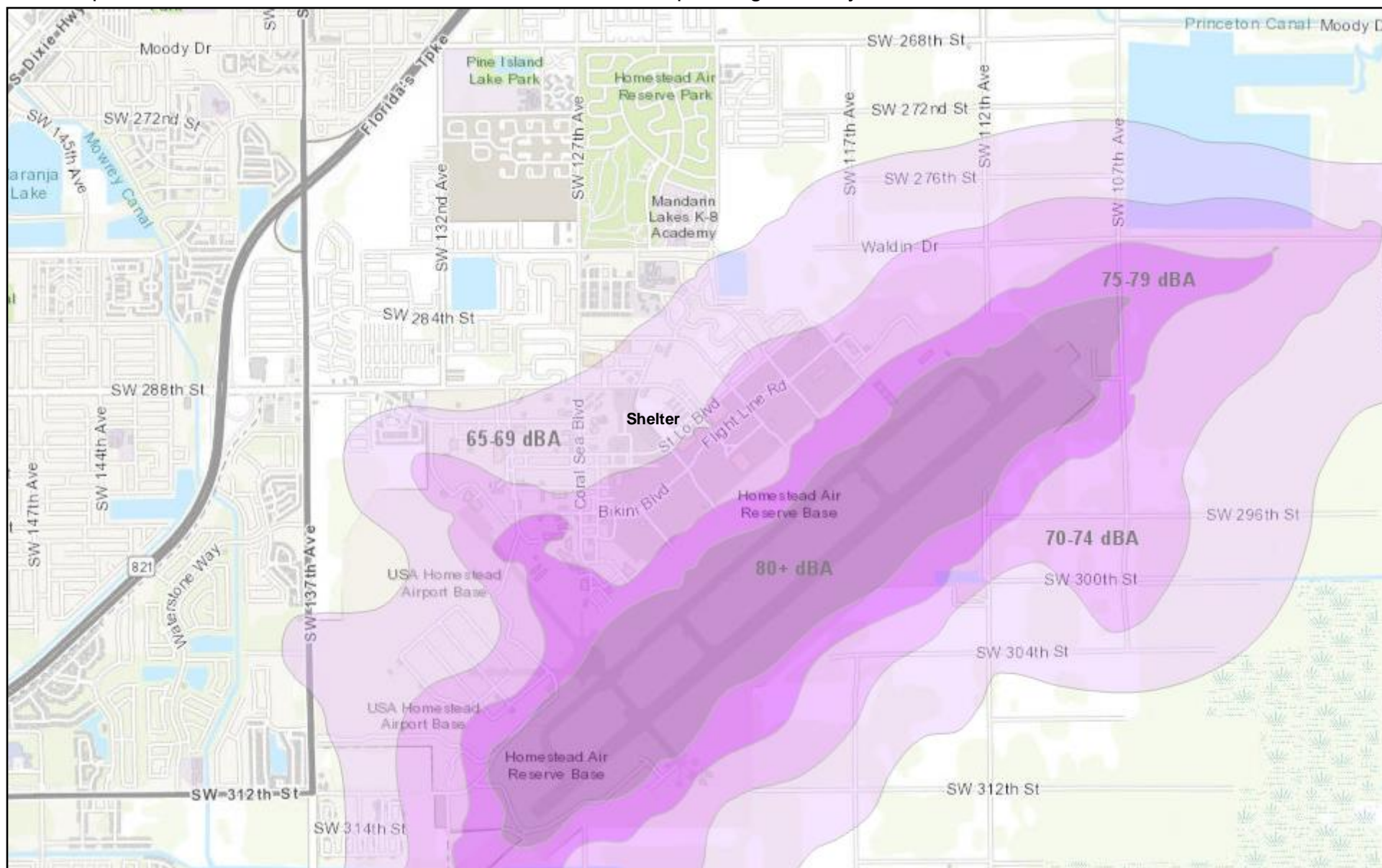


Sources: Forecasted Noise Zones: Homestead ARB BRAC Scenario.06.18, Contour Lines.shp
Accident Potential Zones and December 2006 Aerial Photography: 482 FW 2006

Figure 3-1. Accident Potential Zones and Forecasted Noise Zones

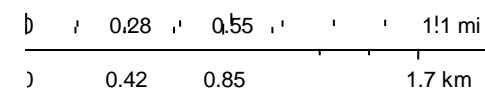
APPENDIX C:

2017 AICUZ Study

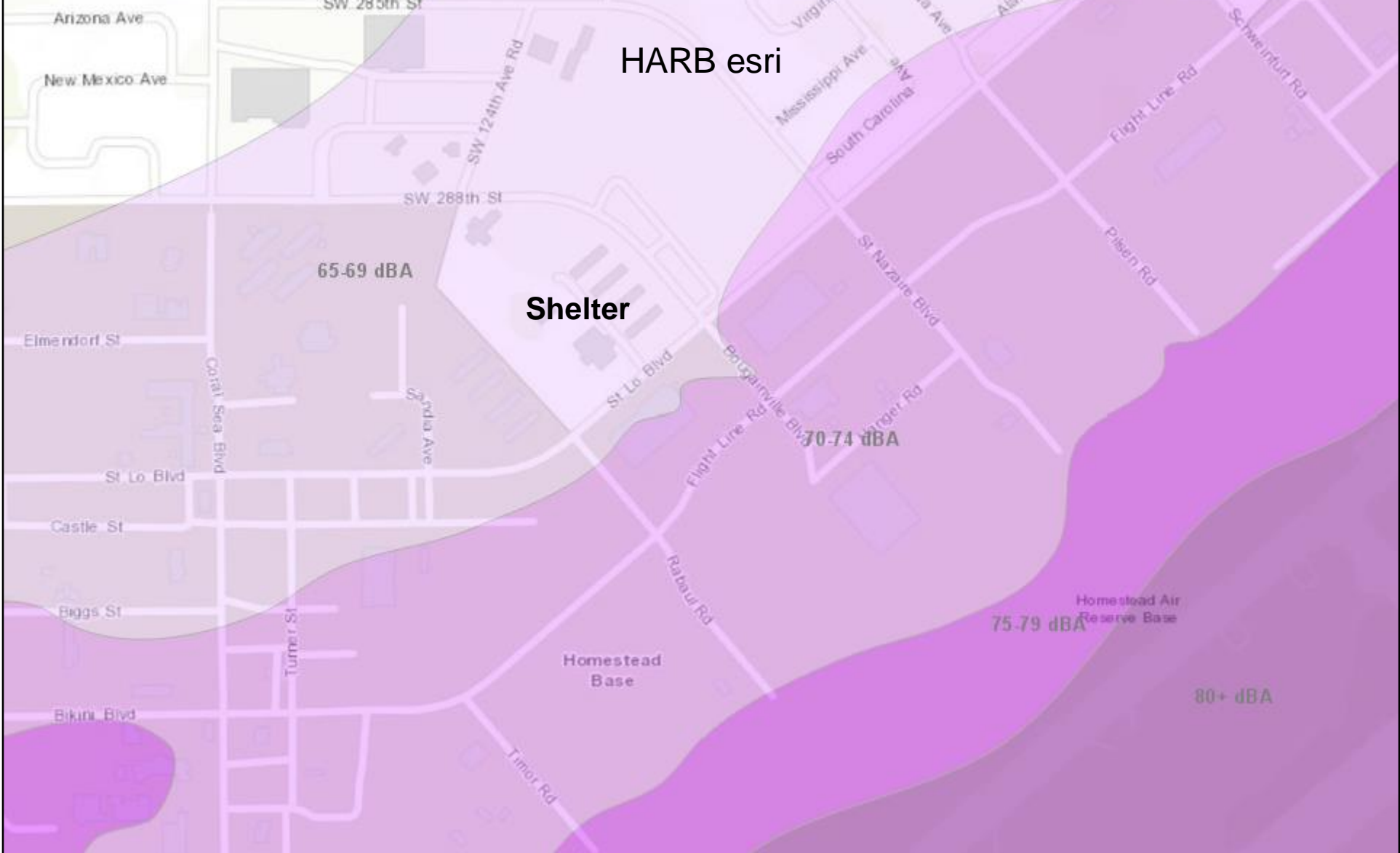


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1:36,112



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,



May 9, 2019

