

**FINDING OF NO SIGNIFICANT IMPACT**  
**FOR**  
**UNDERGROUND STORAGE TANK REMOVAL**

**AGENCY:** Department of the Air Force

**PROPOSED ACTION:** Underground Storage Tank Removal

Under this alternative, Grand Forks AFB would permanently close approximately 4 power production underground storage tanks (USTs) by removal according to NDAC 33-24-08-61 and 40 CFR Parts 280 and 281. Tanks at buildings 443, 634 and 635 would be removed because they are no longer needed due to power production generators no longer being located there. The tank at building 606 is a heating oil tank for the heating, ventilation, and air conditioning. Building 606 is being pickled for future demolition and the heating will no longer be required. Under state mandate, the USTs must be removed within one year of last service.

**ALTERNATIVES CONSIDERED:**

The second alternative would close the USTs by abandoning them in-place (leave in the ground), which could impact future development of the property. The USTs would be cleaned and filled with an inert material. Alternative 3, no action alternative, would leave the USTs in place. Non-closure of USTs would be against both state and federal regulations and there could be legal ramifications such as fines for non-compliance.

**ENVIRONMENTAL CONSEQUENCES:**

**Air Quality** - Air Quality is considered good and the area is in attainment for the all criteria pollutants. The fugitive emissions are expected to be below the regulatory threshold and would be managed in accordance with NDAC 33-15-17-03. Best management practices to reduce fugitive emissions would be implemented to reduce the amount of these emissions.

**Biological Resources** - The construction area has been previously disturbed. Best management practices and control measures would be implemented to ensure that impacts to biological resources be kept to a minimum. The amount of vegetation disturbed would be kept to the minimum required to complete the action. Few wildlife are located in the construction area and any wildlife disturbed would be able to find similar habitat in the local area.

**Geological Resources** - Sediments located at the proposed construction site would be temporarily disturbed during construction. Best management practices would be implemented to prevent erosion and subsequent siltation of nearby surface waters and wetlands.

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Hazardous Waste Generation - The minimal increase in hazardous and solid wastes from construction related activities would be temporary. Construction debris would have to be disposed of in approved location.

Noise - Short-term operation of heavy equipment in the construction area would generate additional noise. These noise impacts would exist only during construction and would cease after completion.

Socioeconomics - Implementation of the proposed action will provide a short-term, beneficial impact to local retailers during the construction phase of the project.

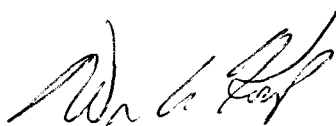
Transportation - Roadways adjacent to and on Grand Forks AFB are quite capable of accommodating existing traffic flows.

Water Resources - Surface water quality could degrade in the short-term during actual construction due to the possible erosion contributing to the turbidity of runoff. Ground disturbance could increase soil erosion from water runoff and wind, having a short-term adverse impact on aquatic resources at sites where open waters are nearby.

No adverse environmental impact to any of the areas identified by the AF Form 813 is expected by the proposed action, Production Tank Removal.

## **CONCLUSION:**

Based on the Environmental Assessment performed for Production Tank Removal, no significant environmental impact is anticipated from the proposed action. Based upon this finding, an Environmental Impact Statement is not required for this action. This document and the supporting AF Form 813 fulfill the requirements of the National Environmental Policy Act (NEPA), the Council of Environmental Quality (CEQ) regulations implementing NEPA, and Air Force Instruction 32-7061, which implements the CEQ regulations.



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Date: 24 Feb 03

**Environmental Assessment (EA)**

**Underground Storage Tank Removal**

**At**

**Grand Forks AFB**

**4 Dec 02**

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## **SECTION 1.0**

### **PURPOSE OF AND NEED FOR PROPOSED ACTION**

This Environmental Assessment (EA) examines the potential for impacts to the environment resulting from the removal of production tanks at Grand Forks Air Force Base (AFB). The environmental assessment provides analysis of the potential environmental impacts from both the proposed action and its alternatives.

#### **1.1 PURPOSE AND NEED FOR ACTION**

Located in northeastern North Dakota (ND), Grand Forks AFB is the first core refueling wing in Air Mobility Command (AMC) and home to 48 KC-135R Stratotanker aircraft. The 319<sup>th</sup> Air Refueling Wing (ARW) provides air refueling and airlift capability support to Air Force operations anywhere in the world, at any time. Organizational structure of the 319<sup>th</sup> ARW consists primarily of an operations group, maintenance group, mission support group, and medical group.

Tanks at buildings 443, 634, and 635 are no longer needed due to power production generators no longer being located there. The heating oil tank at building 606 is a heating oil tank for the heating, ventilation, and air conditioning. Building 606 is being pickled for future demolition and heat will no longer be required at this facility. Under state mandate, the USTs must be removed within one year of last service. NDAC 33-24-08-61 and 40 CFR Parts 280 and 281 state that the tanks must be permanently closed by removal or abandonment in place. Prompt removal minimizes the potential for adverse effects to the environment. Non-closure of the USTs would be against both state and federal regulations and could result in legal ramifications such as fines for non-compliance.

#### **1.2 LOCATION OF THE PROPOSED ACTION**

The location of the proposed action (and the alternative actions) would be at Grand Forks AFB, ND. Grand Forks AFB covers approximately 5,420 acres of government-owned land and is located in northeastern North Dakota, about 14 miles west of Grand Forks, along US Highway 2. Grand Forks (population 49,321) is the third largest city in North Dakota. The city, and

surrounding area, is a regional center for agriculture, education, and government. It is located approximately 160 miles south of Winnipeg, Manitoba, and 315 miles northwest of Minneapolis, Minnesota. The total base population, as of September 2001, is approximately 7,832. Of that, 2,750 are military, 3,567 are military dependents, 367 civilians, and 1,148 Non-Appropriated Fund Contractors working on base (Grand Forks AFB, 2001). The host organization at Grand Forks AFB is the 319th ARW. Its mission is to guarantee global reach, by extending range in the air, supplying people and cargo where and when they are needed. Appendix A includes Location and Vicinity Maps.

### **1.3 SCOPE OF THE ENVIRONMENTAL REVIEW**

This EA identifies, describes, and evaluates the potential environmental impacts associated with the removal of production tanks. This analysis covers only those items listed in Section 1.1 above. It does not include any previous construction of facilities, parking lots, associated water drainage structures, or other non-related construction activities.

The following must be considered under the National Environmental Policy Act (NEPA), Section 102(E).

- Air Quality
- Aircraft Safety
- Airspace Compatibility
- Biological Resources
- Cultural Resources
- Geological Resources
- Hazardous and Solid Waste Generation
- Installation Restoration Program (IRP)
- Land Use
- Noise
- Pesticide Management
- Socioeconomics
- Transportation

- Water Resources

#### **1.4 APPLICABLE REGULATORY REQUIREMENTS**

These regulations require federal agencies to analyze potential environmental impacts of proposed actions and alternatives and to use these analyses in making decisions on a proposed action. All cumulative effects and irretrievable commitment of resources must also be assessed during this process. The Council on Environmental Quality (CEQ) regulations declare that an EA is required to accomplish the following objectives:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).
- Aid in an agency's compliance with NEPA when an EIS is not necessary, and facilitate preparation of an EIS when necessary.

Air Force Instruction (AFI) 32-7061 as promulgated in 32 CFR 989, specifies the procedural requirements for the implementation of NEPA and the preparation of an EA. Other environmental regulatory requirements relevant to the Proposed Action and alternatives are also in this EA. Regulatory requirements including, but not restricted to the following programs will be assessed:

- Noise Control Act of 1972
- Clean Air Act
- Clean Water Act
- National Historic Preservation Act
- Endangered Species Act
- Resource Conservation and Recovery Act (RCRA)
- Toxic Substance Control Act (TSCA) of 1970
- Occupational Safety and Health Act (OSHA)

Requirements also include compliance with Executive Order (EO) 11988, Floodplain Management; EO 11990, Protection of Wetlands; and EO 12898, Environmental Justice.

## **SECTION 2.0**

### **DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

#### **2.1 INTRODUCTION**

Based on the descriptions of the relevant environmental resources presented in Section 3 and the predictions and analyses presented in Section 4, this section presents a comparative summary matrix of the alternatives (the heart of the analysis) providing the decision maker and the public with a clear basis for choice among the alternatives.

This section has four parts:

- History and Process of the Formulation of the Alternatives
- Detailed Descriptions of the Three Alternatives Considered
- Comparison of Environmental Effects of the Proposed Action and Alternatives
- Identification of the Preferred Alternative

#### **2.2 HISTORY AND PROCESS OF THE FORMULATION OF THE ALTERNATIVES**

Three actions are available for the proposed project. The NEPA process examines the proposed action and the alternative to decide which is most suitable for implementation. This analysis focuses on the proposed action and the two action alternatives.

#### **2.3 DESCRIPTION OF ALTERNATIVES CONSIDERED IN DETAIL**

This section describes the activities that would occur under three alternatives: the proposed action and the two action alternatives. These three alternatives provide the decision maker with a reasonable range of alternatives from which to choose.

##### **2.3.1 Alternative 1 (Proposed Action): Underground Storage Tank Removal**

Under the proposed action, Grand Forks AFB would permanently close approximately 4 underground storage tanks (USTs) by removal according to NDAC 33-24-08-61 and 40 CFR Parts 280 and 281. Tanks at buildings 443, 606, 634 and 635 would be removed because they are no longer needed. Under state mandate, the USTs must be removed within one year of last service. NDAC 33-24-08-61 and 40 CFR Parts 280 and 281 state that the tanks must be permanently closed by removal or abandonment in place. Prompt removal minimizes the

potential for adverse effects to the environment. The surrounding soils would be investigated for potential contamination.

### 2.3.2 Alternative 2: (Abandon Tanks):

Under alternative 2, Grand Forks AFB would close the USTs by abandoning them in-place (leave in the ground), which could impact future development of the property. The USTs would be cleaned and filled with an inert material. Abandoning in place is not the preferred method due to redevelopment considerations.

### 2.3.3 Alternative 3 (No Action Alternative): Status Quo

The no action alternative would leave the USTs in place. Non-closure of USTs would be against both state and federal regulations and there could be legal ramifications such as fines for non-compliance.

## 2.3 COMPARISON OF ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES

<b>Table 2.4.1: Summary of Environmental Impacts</b>			
	<b>Proposed Action</b>	<b>Alternative 1</b>	<b>No Action Alternative</b>
<b>Legend: ST = short-term; LT = long-term</b>			
<b>Air Quality</b>	Minor Adverse ST Impact	Minor Adverse ST Impact	None
<b>Aircraft Safety</b>	None	None	None
<b>Airspace Compatibility</b>	None	None	None
<b>Biological Resources</b>			
Vegetation	Minor Adverse ST Impact	Minor Adverse ST Impact	None
Wildlife	Minor Adverse ST Impact	Minor Adverse ST Impact	None
Threatened and Endangered Species	None	None	None
<b>Cultural Resources</b>	None	None	None
<b>Geological Resources</b>	Minor Adverse ST Impact	Minor Adverse ST Impact	None
<b>Hazardous and Solid Waste Generation</b>	Minor Adverse ST Impact	Minor Adverse ST Impact	None
<b>Installation Restoration Program</b>	None	None	None
<b>Land Use</b>	Minor Beneficial LT Impact	None	None
<b>Noise</b>	Minor Adverse ST Impact	Minor Adverse ST Impact	None
<b>Pesticide Management</b>	None	None	None
<b>Safety and Occupational Health</b>	None	None	None

**Table 2.4.1: Summary of Environmental Impacts**

	<b>Proposed Action</b>	<b>Alternative 1</b>	<b>No Action Alternative</b>
<b>Socioeconomics</b>	Minor Beneficial ST Impact	Minor Beneficial ST Impact	None
<b>Transportation</b>	Minor Adverse ST Impact	Minor Adverse ST Impact	None
<b>Water Resources</b>			
Groundwater	Minor Adverse ST Impact	Minor Adverse ST Impact	None
Surface Water	Minor Adverse ST Impact	Minor Adverse ST Impact	None
Water Quality	Minor Adverse ST Impact	Minor Adverse ST Impact	None
Wastewater	None	None	None
Wetlands	None	None	None

## **2.5 IDENTIFICATION OF THE PREFERRED ALTERNATIVE**

The preferred action is *Alternative 1: Underground Storage Tank Removal*

## **SECTION 3.0**

### **AFFECTED ENVIRONMENT**

This section succinctly describes the operational concerns and the environmental resources relevant to the decision that must be made concerning this proposed action. Environmental concerns and issues relevant to the decision to be made and the attributes of the potentially affected environment are studied in greater detail in this section.

This descriptive section, combined with the definitions of the three alternatives in Section 2, and their predicted effects in Section 4, establish the scientific baseline against which the decision-maker and the public can compare and evaluate the activities and effects of all three alternatives.

#### **3.1 CLIMATE AND METEOROLOGY**

Grand Forks AFB has a humid continental climate that is characterized by frequent and drastic weather changes. The summers are short and humid with frequent thunderstorms. Winters are long and severe with almost continuous snow cover. The spring and fall seasons are generally short transition periods. The average annual temperature is 40°F and the monthly mean temperature varies from 5°F in January to 69°F in July. Mean annual precipitation is 19.8 inches. Rainfall is generally well distributed throughout the year, with summer being the wettest season and winter the driest. An average of 33 thunderstorm days per year is recorded, with some of these storms being severe and accompanied by hail and tornadoes. Mean annual snowfall recorded is 40.2 inches. Relative humidity averages 58 percent annually, with highest humidities being recorded in the early morning (USAF, 1997a). Climatological data is presented in the tables in Appendix B.

Wind speed averages 9.21 mph. A maximum wind speed of 72.45 mph has been recorded. Wind direction is generally from the northwest during the late fall, winter, and spring, and from the southeast during the summer.

#### **3.2 AIR QUALITY**

Air pollutants include Ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), lead (Pb), and particulate matter. Ground disturbing activities create PM<sub>10</sub> and PM<sub>2.5</sub> particulate matter. Combustion creates CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> particulate matter and

the precursors (VOC and NO<sub>2</sub>) to O<sub>3</sub>. Only small amounts of Hazardous Air Pollutants (HAP) are generated from internal combustion processes or earth-moving activities. The Grand Forks AFB Final Emissions Survey Report (USAF, 1996) reported that Grand Forks AFB only generated small levels HAPs, 10.3 tons per year of combined HAPs and 2.2 tpy maximum of a single HAP (methyl ethyl ketone).

Grand Forks County is included in the ND Air Quality Control Region. This region is in attainment status for all criteria pollutants. In 1997, the North Dakota Department of Health (NDDH) conducted an Air Quality Monitoring Survey that indicated that the quality of ambient air in North Dakota is generally good (NDDH, 1998).

The United States Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS), which define the maximum allowable concentrations of pollutants that may be reached, but not exceeded within a given time period. The NAAQS regulates the following criteria pollutants: Ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), lead (Pb), and particulate matter. The North Dakota Ambient Air Quality Standards (NDAAQS) were set by the State of North Dakota. These standards are more stringent and emissions for operations in North Dakota must comply with the Federal or State standard that is the most restrictive. There is also a standard for hydrogen sulfide (H<sub>2</sub>S) in North Dakota. NAAQS and NDAAQS for the six criteria pollutants are presented in Appendix C.

Prevention of significant deterioration (PSD) regulations establish SO<sub>2</sub> and total suspended particles (TSP) that can be emitted above a premeasured amount in each of three class areas. Grand Forks AFB is located in a PSD Class II area where moderate, well-controlled industrial growth could be permitted. Class I areas are pristine areas and include national parks and wilderness areas. Significant increases in emissions from stationary sources (100 tpy of CO, 40 tpy of NO<sub>x</sub>, VOCs, or SO<sub>x</sub>, or 15 tpy of PM<sub>10</sub>) and the addition of major sources requires compliance with PSD regulations.

### **3.3 AIRCRAFT SAFETY**

Bird Airstrike Hazard (BASH) is a major safety concern for military aircraft. Collision with birds may result in aircraft damage and aircrew injury, which may result in high repair costs or loss of the aircraft. A BASH hazard exists at Grand Forks AFB and its vicinity, due to resident



and migratory birds. Daily and seasonal bird movements create various hazardous conditions. Although BASH problems are minimal, Kelly's Slough National Wildlife Refuge (NWR) is a major stopover for migratory birds. Canadian Geese and other large waterfowl have been seen in the area (USAF, 2001b).

### **3.4 AIRSPACE COMPATIBILITY**

The primary objective of airspace management is to ensure the best possible use of available airspace to meet user needs and to segregate requirements that are incompatible with existing airspace or land uses. The Federal Aviation Administration has overall responsibility for managing the nation's airspace and constantly reviews civil and military airspace needs to ensure all interests are compatibly served to the greatest extent possible. Airspace is regulated and managed through use of flight rules, designated aeronautical maps, and air traffic control procedures and separation criteria.

### **3.5 BIOLOGICAL RESOURCES**

#### **3.5.1 Vegetation**

Plants include a large variety of naturally occurring native plants. Because of the agrarian nature of Grand Forks County, cropland is the predominant element for wildlife habitat. Pastures, meadows, and other non-cultivated areas are overgrown with grasses, legumes, and wild herbaceous plants. Included in the grasses and legumes vegetation species are tall wheat grass, brome grass, sweet clover, and alfalfa. Herbaceous plants include little bluestem, goldenrod, green needle grass, western wheat grass, and bluegrass. Shrubs such as junberry, dogwood, hawthorn, and snowberry also are found in the area. In wetland areas, predominant species include smartweed, wild millet, cord grass, bulrushes, sedges, and reeds. These habitats for upland wildlife and wetland wildlife attract a variety of species to the area and support many aquatic species.

Various researchers, most associated with the University of North Dakota, have studied current native floras in the vicinity of the base. Prior to 1993 field investigations, ten natural communities occurring in Grand Forks County were identified in the ND Natural Heritage Inventory (1994). Of these, only one community, Lowland Woodland, is represented within the base boundaries. Dominant trees in this community are elm, cottonwood, and green ash. Dutch

elm disease has killed many of the elms. European buckthorn (a highly invasive exotic species), chokecherry, and wood rose (*Rosa woodsii*) are common in the understory in this area. Wood nettle (*Laportea canadensis*), stinging nettle (*Urtica dioica*), beggars' ticks (*Bidens frondosa*), and waterleaf (*Hydrophyllum virginianum*) are typical forbes.

One hundred and forty two total taxa, representing less than a third of the known Grand Forks County plant taxa, were identified in the ND Natural Heritage Inventory. No rare plants species are known to exist on Grand Forks AFB.

### **3.5.2 Wildlife**

Grand Forks County is primarily cropland although there are wildlife areas located within the county. Kelly's Slough NWR is located a couple miles northeast of Grand Forks AFB. In addition to being a wetland, it is a stopover point for migratory birds. The Prairie Chicken Wildlife Management Area is located north of Mekinock and contains 1,160 acres of habitat for deer, sharp-tailed grouse, and game birds. Wildlife can also be found at the Turtle River State Park, The Bremer Nature Trail, and the Myra Arboretum.

There is minimal habitat for wildlife on Grand Forks AFB due to extensive development. White tail deer, eastern cottontail, and ring-neck pheasant can be found on base. The proposed project area only provides low-quality foraging habitat for small animals.

### **3.5.3 Threatened and Endangered Species**

According to the 1994 ND Natural Heritage Inventory, "There are no known federally threatened or endangered species populations on or adjacent to Grand Forks AFB." The base does have infrequent use by migratory threatened and endangered species, such as the bald eagle and peregrine falcon, but there are no critical or significant habitats for those species present. The inventory also indicated that red-breasted nuthatch and moose are two special concern species. They have been observed on base near Turtle River. The inventory also indicated that there is no habitat on or near Grand Forks AFB to sustain a moose population. Red-breasted nuthatches prefer woodland habitats dominated by conifers. These birds are transients and pose no particular concern. The Endangered Species Act does require that Federal Agencies not jeopardize the existence of a threatened or endangered species nor destroy or adversely modify designated critical habitat for threatened or endangered species.

### **3.6 CULTURAL RESOURCES**

According to the Grand Forks AFB Cultural Resources Management Plan, there are no archeological sites that are potentially eligible for the National Register of Historic Places (NRHP). A total of six archeological sites and six archeological find spots have been identified on the base. None meet the criteria of eligibility of the NRHP established in 36 CFR 60.4. There is no evidence for Native American burial grounds, or other culturally sensitive areas. Paleosols (soil that developed on a past landscape) remain a management concern requiring Section 106 compliance. Reconnaissance-level archival and archeological surveys of Grand Forks AFB conducted by the University of North Dakota in 1989 indicated that there are no facilities (50 years or older) that possess historical significance. The base is currently consulting with the North Dakota Historical Society on the future use of eight Cold War Era facilities. These are buildings 313, 606, 703-707, and 714.

### **3.7 GEOLOGICAL RESOURCES**

#### **3.7.1 Physiography and Topography**

The topography of Grand Forks County ranges from broad, flat plains to gently rolling hills that were produced mainly by glacial activity. Local relief rarely exceeds 100 feet in one mile, and, in parts of the lake basin, less than five feet in one mile.

Grand Forks AFB is located within the Central Lowlands physiographic province. The topography of Grand Forks County, and the entire Red River Valley, is largely a result of the former existence of Glacial Lake Agassiz, which existed in this area during the melting of the last glacier, about 12,000 years ago (Stoner et al., 1993). The eastern four-fifths of Grand Forks County, including the base, lies in the Agassiz Lake Plain District, which extends westward to the Pembina escarpment in the western portion of the county. The escarpment separates the Agassiz Lake Plain District from the Drift Plain District to the west. Glacial Lake Agassiz occupied the valley in a series of recessive lake stages, most of which were sufficient duration to produce shoreline features inland from the edge of the lake. Prominent physiographic features of the Agassiz Lake Plain District are remnant lake plains, beaches, inter-beach areas, and delta plains. Strandline deposits, associated with fluctuating lake levels, are also present and are

indicated by narrow ridges of sand and gravel that typically trend northwest-southwest in Grand Forks County.

Grand Forks AFB lies on a large lake plain in the eastern portion of Grand Forks County. The lake plain is characterized by somewhat poorly drained flats and swells, separated by poorly drained shallow swells and sloughs (Doolittle et al., 1981). The plain is generally level, with local relief being less than one foot. Land at the base is relatively flat, with elevations ranging from 880 to 920 feet MSL and averaging about 890 feet MSL. The land slopes to the north at less than 12 feet per mile.

### **3.7.2 Soil Type Condition**

Soils consist of the Gilby loam series, which are characterized by deep, somewhat poorly drained, moderately to slowly permeable soils in areas between beach ridges. The loam can be found from 0 to 12 inches. From 12 to 26 inches, the soil is a mixture of loam, silt loam, and very fine sandy loam. From 26 to 60 inches, the soil is loam and clay loam.

## **3.8 HAZARDOUS WASTE AND SOLID WASTE GENERATION**

Hazardous wastes, as listed under the RCRA, are defined as any solid, liquid, contained gaseous, or combination of wastes that pose a substantive or potential hazard to human health or the environment. On-base hazardous waste generation involves three types of on-base sites: an accumulation point (90-day), satellite accumulation points, and spill cleanup equipment and materials storage (USAF, 2001c). Discharge and emergency response equipment is maintained in accessible areas throughout Grand Forks AFB. The Fire Department maintains adequate fire response and discharge control and containment equipment. Equipment stores are maintained in buildings 523 and 530. Petroleum contaminated soils generated from excavations throughout the base can be treated at the land treatment facility located on base. These solid wastes are tilled or turned several times a year to remediate the soils to acceptable levels.

Hardfill, construction debris, and inert waste generated by Grand Forks AFB are disposed of at a permitted off-base landfill. All on-base household garbage and solid waste is collected by a contractor and transported to the Grand Forks County Landfill, which opened in 1982 and was scheduled to close in 2000; however, an extension has been issued for two years and the landfill will continue to be used until the opening of a new facility. The county is currently siting and

permitting a new landfill that should be available for base and regional use by the time of current landfill closure.

Recyclable materials from industrial facilities are collected in the recycling facility, off the southeast corner of building 408. Paper, glass, plastics, cardboard, and wood are collected in separate storage bins. Curbside containers are used in housing for recyclable materials. A contractor collects these materials and transports them off base.

### **3.9 INSTALLATION RESTORATION PROGRAM**

The Installation Restoration Program (IRP) is the Air Force's environmental restoration program based on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA provides for Federal agencies with the authority to inventory, investigate, and clean up uncontrolled or abandoned hazardous waste sites. There are seven IRP sites at Grand Forks AFB. These sites are identified as potentially impacted by past hazardous material or hazardous waste activities. They are the Fire Training Area/Old Sanitary Landfill Area, New Sanitary Landfill Area, Strategic Air Ground Equipment (SAGE) Building 306, Explosive Ordnance Detonation Area, Refueling Ramps and Pads, Base Tanks Area, and POL Off-Loading Area (USAF, 1997b). Grand Forks AFB is not on the National Priorities List (NPL).

### **3.10 LAND USE**

Land use in Grand Forks County consists primarily of cultivated crops with remaining land used for pasture and hay, urban development, recreation, and wildlife habitat. Principal crops are spring wheat, barley, sunflowers, potatoes, and sugar beets. Turtle River State Park, developed as a recreation area in Grand Forks County, is located about five miles west of the base. Several watershed protection dams are being developed for recreation activities including picnicking, swimming, and ball fields. Wildlife habitat is very limited in the county. Kelly's Slough NWR (located about two miles east of the base) and the adjacent National Waterfowl Production Area are managed for wetland wildlife and migratory waterfowl, but they also include a significant acreage of open land wildlife habitat.

The main base encompasses 5,420 acres, of which 4,830 acres are owned by the Air Force and another 590 acres are lands containing easements, permits, and licenses. Improved grounds, consisting of all covered area (under buildings and sidewalks), land surrounding base buildings,

the 9-hole golf course, recreational ballfields, and the family housing area, encompass 1,120 acres. Semi-improved grounds, including the airfield, fence lines and ditch banks, skeet range, and riding stables account for 1,390 acres. The remaining 2,910 acres of the installation consist of unimproved grounds. These areas are comprised of woodlands, open space, and wetlands, including four lagoons (180.4 acres) used for the treatment of base wastewater. Agricultural outleased land (1,040 acres) is also classified as unimproved. Land use at the base is solely urban in nature, with residential development to the south and cropland, hayfields, and pastures to the north, west, and east.

### **3.11 NOISE**

Because military installations attract development in proximity to their airfields, the potential exists for urban encroachment and incompatible development. The Air Force utilizes a program known as Air Installation Compatible Use Zone (AICUZ) to help alleviate noise and accident potential problems due to unsuitable community development. AICUZ recommendations give surrounding communities alternatives to help prevent urban encroachment. Noise contours are developed from the Day-Night Average A-Weighted Sound Level (DNL) data which defines the noise created by flight operations and ground-based activities. The AICUZ also defines Accident Potential Zones (APZs), which are rectangular corridors extending from the ends of the runways. Recommended land use activities and densities in the APZs for residential, commercial, and industrial uses are provided in the AICUZ study.

### **3.12 PESTICIDE MANAGEMENT**

Pesticides are handled at various facilities including Pest Management, Golf Course Maintenance, and Grounds Maintenance. Other organizations assist in the management of pesticides and monitoring or personnel working with pesticides. Primary uses are for weed and mosquito control. Herbicides, such as Round-up, are used to maintain areas adjacent to roadways. Military Public Health and Bioenvironmental Engineering provide information on the safe handling, storage, and use of pesticides. Military Public Health maintains records on all pesticide applicators. The Fire Department provides emergency response in the event of a spill, fire, or similar type incident.

### **3.13 SAFETY AND OCCUPATIONAL HEALTH**

Safety and occupational health includes asbestos/radiation/chemical exposure, explosives safety quantity-distance, and bird/wildlife aircraft hazard. Aircraft Safety includes information on birds/wildlife aircraft hazards and the BASH program. Safety and occupational health concerns could impact personnel working on the project and in the surrounding area.

### **3.14 SOCIOECONOMICS**

Grand Forks County is primarily an agricultural region and, as part of the Red River Valley, is one of the world's most fertile. Cash crops include sugar beets, beans, corn, barley, and oats. The valley ranks first in the nation in the production of potatoes, spring wheat, sunflowers, and durum wheat. Grand Forks County's population in 2000 was 66,109, a decrease of 6.5 percent from the 1990 population of 70,638 (ND State Data Center, No Date). Grand Forks County's annual mean wage in Oct 2001 was \$26,715 (Job Service of North Dakota, 2001).

### **3.15 TRANSPORTATION**

There would be a short-term impact to transportation along US Highway 2 and ND County Road B3, due to construction vehicles utilizing the highway to gain access to the construction site. Seven thousand vehicles per day travel ND County Road B3 from Grand Forks AFB's east gate to the US Highway 2 Interchange (Clayton, 2001). Two thousand vehicles per day use the off-ramp from US Highway 2 onto ND County Road B3 (Dunn, 2001). US Highway 2, east of the base interchange, handles 10,800 vehicles per day. (Kingsley and Kuntz, 2001). A four lane arterial road has a capacity of 6,000 vehicles per hour and a two lane, 3,000, based on the average capacity of 1,500 per hour per lane. Roadways adjacent to Grand Forks AFB are quite capable of accommodating existing traffic flows (USAF, 2001a).

### **3.15 WATER RESOURCES**

#### **3.15.1 Groundwater**

Chemical quality of groundwater is dependent upon the amount and type of dissolved gases, minerals, and organic material leached by water from surrounding rocks as it flows from recharge to discharge areas. The water table depth varies throughout the base, from a typical 1-3 feet to 10 feet or more below the surface.

Even though the Dakota Aquifer has produced more water than any other aquifer in Grand Forks County, the water is very saline and generally unsatisfactory for domestic and most industrial uses. Its primary use is for livestock watering. It is a sodium chloride type water with total dissolved solids concentrations of about 4,400 parts per million. The water generally contains excessive chloride, iron, sulfate, total dissolved solids, and fluoride. The water from the Dakota is highly toxic to most domestic plants and small grain crops, and in places, the water is too highly mineralized for use as livestock water (Hansen and Kume, 1970).

Water from wells tapping the Emerado Aquifer near Grand Forks AFB is generally of poor quality due to upward leakage of poor quality water from underlying bedrock aquifers. It is sodium sulfate type water with excessive hardness, chloride, sulfate, and total dissolved solids.

Water from the Lake Agassiz beach aquifers is usually of good chemical quality in Grand Forks County. The water is a calcium bicarbonate type that is relatively soft. The total dissolved content ranges from 308 to 1,490 PPM. Most water from beach aquifers is satisfactory for industrial, livestock, and agricultural uses (Hansen and Kume, 1970).

Grand Forks AFB draws 85 to 90 percent of its water for industrial, commercial and housing functions from the City of Grand Forks and 10 to 15 percent from Agassiz Water.

### **3.15.2 Surface Water**

Natural surface water features located on or near Grand Forks AFB are the Turtle River and Kelly's Slough NWR. Drainage from surface water channels ultimately flows into the Red River.

The Turtle River, crossing the base boundary at the northwest corner, is very sinuous and generally flows in a northeasterly direction. It receives surface water runoff from the western portion of Grand Forks AFB and eventually empties into the Red River of the North that flows north to Lake Winnipeg, Canada. The Red River drainage basin is part of the Hudson Bay drainage system. At Manvel, North Dakota, approximately 10 miles northeast of Grand Forks AFB, the mean discharge of the Turtle River is 50.3 ft<sup>3</sup>/s. Peak flows result from spring runoff in April and minimum flows (or no flow in some years) occur in January and February.



NDDH has designated the Turtle River to be a Class II stream, it may be intermittent, but, when flowing, the quality of the water, after treatment, meets the chemical, physical, and bacteriological requirements of the NDDH for municipal use. The designation also states that it is of sufficient quality to permit use for irrigation, for propagation of life for resident fish species, and for boating, swimming, and other water recreation.

Kelly's Slough NWR occupies a wide, marshy flood plain with a poorly defined stream channel, approximately two miles east and downstream of Grand Forks AFB. Kelly's Slough NWR receives surface water runoff from the east half of the base and effluent from the base sewage lagoons located east of the base. Surface water flow of the slough is northeasterly into the Turtle River Drainage from surface water channels ultimately flowing into the Red River.

Floodplains are limited to an area 250 feet on either side of Turtle River (about 46 acres on base). Appendix D contains a map depicting floodplains. Any development in or modifications to floodplains must be coordinated with the Corps of Engineers and the Federal Emergency Management Agency.

Surface water runoff leaves Grand Forks AFB at four primary locations related to identifiable drainage areas on base. The four sites are identified as northeast, northwest, west, and southeast related to the base proper. These outfalls were approved by the NDDH as stated in the Grand Forks AFB North Dakota Pollutant Discharge Elimination System (NDPDES) Permit NDR02-0314 Stormwater Discharges from Industrial Activity. Of the four outfall locations, the west and northwest sites flow into the Turtle River, the northeast site flows to the north ditch and the southeast outfall flows into the south ditch. The latter two flow to Kelly's Slough and then the Turtle River. All drainage from these surface water channels ultimately flows into the Red River. The Bioenvironmental Engineering Office samples the four outfall locations during months when de-icing activities occur on base.

### **3.15.3 Wastewater**

Grand Forks AFB discharges its domestic and industrial wastewater to four stabilization lagoons located east of the main base. The four separate treatment cells consist of one primary treatment cell, two secondary treatment cells, and one tertiary treatment cell. Wastewater effluent is discharged under North Dakota Permit ND0020621 into Kelly's Slough. Wastewater discharge

occurs for about one week, sometime between mid-April through October. Industrial wastewater at the base comprises less than ten percent of the total flow to the treatment lagoons.

#### **3.15.4 Water Quality**

According to the National Water Quality Inventory Report (USEPA, 1995), ND reports the majority of rivers and streams have good water quality. Natural conditions, such as low flows, can contribute to violations of water quality standards. During low flow periods, the rivers are generally too saline for domestic use. Grand Forks AFB receives water from Grand Forks and Lake Agassiz Water. The city recovers its water from the Red River and the Red Lake River, while the water association provides water from aquifers. The water association recovers water from well systems within glacial drift aquifers (USAF, 1999). The 319th Civil Engineering Squadron tests the water received on base daily for fluorine and chlorine. The 319th Bioenvironmental Flight collects monthly bacteriological samples to be analyzed at the ND State Laboratory.

#### **3.15.5 Wetlands**

About 246,900 acres in the county are drained wetland Type I (wet meadow) to Type V (open freshwater). Approximately 59,500 acres of wetland Type I to V are used for wetland habitat. Wetland Types IV and V include areas of inland saline marshes and open saline water. Kelly's Slough NWR occupies a wide, marshy flood plain with a poorly defined stream channel, approximately two miles east and downstream of Grand Forks AFB. Kelly's Slough NWR is the most important regional wetland area in the Grand Forks vicinity. Executive Order 11990 requires zero loss of wetlands. Grand Forks AFB has 49 wetlands, covering 23.9 acres of wetlands (see Appendix E), including 33 jurisdictional wetlands covering 12.2 acres. Wetlands on Grand Forks AFB occur frequently in drainage ways, low-lying depressions, and potholes. Wetlands are highly concentrated in drainage ways leading from the wastewater treatment lagoons to Kelly's Slough National Wildlife Refuge. The majority of wetland areas occur in the northern and central portions of base, near the runway, while the remaining areas are near the eastern boundary and southeastern corner of base. Development in or near these areas must include coordination with the ND State Water Commission and the US Army Corps of Engineers.

## **SECTION 4.0**

### **ENVIRONMENTAL CONSEQUENCES**

The effects of the proposed action and the alternatives on the affected environment are discussed in this section. The project involves removal of production tanks.

#### **4.1 AIR QUALITY**

##### **4.1.1 Alternative 1 (Proposed Action)**

Construction activities would result in a minimal increase of criteria air pollutants, as fuel (gasoline and diesel) that is burned by internal combustion engine power construction and earth-moving equipment. Heavy construction equipment would generate the most emissions. The constituents of exhaust include CO, NO<sub>x</sub>, and VOCs. Earth moving activities would generate fugitive dust (PM<sub>10</sub>). Fugitive dust emissions and construction vehicle exhaust would be generated by all phases of construction, but the dust would be controlled to the maximum extent possible by utilizing wind barriers and stabilizing the exposed soil. Best management practices to reduce fugitive emissions, such as daily watering of the disturbed ground and replacing ground cover in disturbed areas as quickly as possible, would be implemented to the maximum extent possible to reduce the amount of these emissions. This short-term increase in combustion related pollutants would occur only during construction and impacts to air quality would not be significant. Air Quality in North Dakota is considered good and the area is in attainment for all criteria pollutants.

##### **4.1.2 Alternative 2**

Impacts would be similar to those generated under the proposed action.

##### **4.1.3 Alternative 3 (No Action)**

The no action alternative would have no impact on air quality.

#### **4.2 AIRCRAFT SAFETY**

##### **4.2.1 Alternative 1 (Proposed Action)**

The proposed action would have no impact on aircraft safety.

#### **4.2.2 Alternative 2**

The action would have no impact on aircraft safety.

#### **4.2.3 Alternative 3 (No Action)**

The no action alternative would have no impact on aircraft safety.

### **4.3 AIRSPACE COMPATIBILITY**

#### **4.3.1 Alternative 1 (Proposed Action)**

The proposed action would have no impact on airspace compatibility.

#### **4.3.2 Alternative 2**

The action would have no impact on airspace compatibility.

#### **4.3.3 Alternative 3 (No Action)**

The no action alternative would have no impact on airspace compatibility.

### **4.4 BIOLOGICAL RESOURCES**

#### **4.4.1 Alternative 1 (Proposed Action)**

Vegetation: Construction would not disturb habitat or previously undisturbed land. Best management practices and control measures, including silt fences and covering of stockpiles, would be implemented to ensure that impacts to biological resources be kept to a minimum. The amount of vegetation disturbed would be kept to the minimum required to complete the action. Disturbed areas would be re-established.

Wildlife: The construction area was previously disturbed, during construction of the facility and installation of the tanks. Any wildlife disturbed would be able to find similar habitat in the local area.

Threatened or Endangered Species: According to the 1994 ND Natural Heritage Inventory (1994), "There are no known federally threatened or endangered species populations on or adjacent to Grand Forks AFB." The construction area does not include optimal habitat for any of the transient federal-or state-listed species that may occur in Grand Forks County.

#### **4.4.2 Alternative 2**

Impacts would be similar to those generated under the proposed action but to a lesser extent.

#### **4.4.3 Alternative 3 (No Action)**

The no action alternative would have no impact on biological resources.

### **4.5 CULTURAL RESOURCES**

#### **4.5.1 Alternative 1 (Proposed Action)**

The proposed action has little potential to impact cultural resources since the area was previously disturbed during construction of the facility and installation of the tanks. In the unlikely event any such artifacts were discovered during the construction activities, the contractor would be instructed to halt construction and immediately notify Grand Forks AFB civil engineers who would contact the State Historic Preservation Officer.

#### **4.5.2 Alternative 2**

Impacts would be similar to those generated under the proposed action but to a lesser extent.

#### **4.5.3 Alternative 3 (No Action)**

The no action alternative would have no impact on cultural resources.

### **4.6 GEOLOGICAL RESOURCES**

#### **4.6.1 Alternative 1 (Proposed Action)**

Any sediments located at the proposed construction site would be temporarily disturbed during construction. Underlying geology in some areas could be affected by construction activities. Best management practices would be implemented to prevent erosion. The hazard of wind erosion is moderate and considerable erosion could occur on stockpiled soils. Best management practices, such as daily watering and revegetating soils as soon as possible would reduce the impacts of erosion. At the conclusion of construction, the disturbed soils would be rolled and reseeded.

#### **4.6.2 Alternative 2**

Impacts would be similar to those generated under the proposed action but to a lesser extent.

#### **4.6.3 Alternative 3 (No Action)**

The no action alternative would have no impact on geological resources.

### **4.7 HAZARDOUS AND SOLID WASTE GENERATION**

#### **4.7.1 Alternative 1 (Proposed Action)**

The increase in hazardous and solid wastes from construction related activities would be temporary. Construction debris would be disposed of in approved location, such as the Grand Forks Municipal Landfill, which is located within 12 miles of the construction site. Concrete would be stored on base for future concrete recycling.

#### **4.7.2 Alternative 2**

Impacts would be similar to those generated under the proposed action.

#### **4.7.3 Alternative 3 (No Action)**

The no action alternative would have no impact on hazardous or solid waste generation.

### **4.8 INSTALLATION RESTORATION PROGRAM**

#### **4.8.1 Alternative 1 (Proposed Action)**

There are no IRP sites located in the area of the proposed action.

#### **4.8.2 Alternative 2**

There are no IRP sites located in the area of the action.

#### **4.8.3 Alternative 3 (No Action)**

There are no IRP sites located in the area of the action.

### **4.9 LAND USE**

#### **4.9.1 Alternative 1 (Proposed Action)**

The proposed construction would make the land available for future development.

#### **4.9.2 Alternative 2**

Alternative 2 would not have an impact on land use.

#### **4.9.3 Alternative 3 (No Action)**

The no action alternative would have no impact on land use.

#### **4.10 NOISE**

##### **4.10.1 Alternative 1 (Proposed Action)**

The short-term operation of heavy equipment in the construction area would generate additional noise. These noise impacts would exist only during construction and would cease after completion. The increase in noise from construction activities would be negligible.

##### **4.10.2 Alternative 2**

Impacts would be similar to those generated under the proposed action but to a lesser extent.

##### **4.10.3 Alternative 3 (No Action)**

The no action alternative would have no impact on noise.

#### **4.11 PESTICIDE MANAGEMENT**

##### **4.11.1 Alternative 1 (Proposed Action)**

No pesticides would be used as part of the proposed action.

##### **4.11.2 Alternative 2**

No pesticides would be used as part of the action.

##### **4.11.3 Alternative 3 (No Action)**

No pesticides would be used as part of the no action alternative.

#### **4.12 SAFETY AND OCCUPATIONAL HEALTH**

##### **4.12.1 Alternative 1 (Proposed Action)**

If soil is contaminated, personnel should be warned and/or protected when handling soil. If the tanks are removed using power tools, there may be a noise hazard.

##### **4.12.2 Alternative 2**

Alternative 2 would have no impact on safety and occupational health.

#### **4.12.3 Alternative 3 (No Action)**

The no action alternative would not impact safety and occupational health.

### **4.13 SOCIOECONOMICS**

#### **4.13.1 Alternative 1 (Proposed Action)**

Contractors would remove the tanks. Secondary retail purchases would make an additional contribution to the local communities. The implementation of the proposed action, therefore, would provide a short-term, beneficial impact to local retailers during the construction phase of the project.

#### **4.13.2 Alternative 2**

Impacts would be similar to those generated under the proposed action but to a lesser extent.

#### **4.13.3 Alternative 3 (No Action)**

The no action alternative would have no impact on socioeconomics.

### **4.14 TRANSPORTATION**

#### **4.14.1 Alternative 1 (Proposed Action)**

Roadways on and adjacent to Grand Forks AFB are quite capable of accommodating existing traffic flows. Impacts to the on-base transportation system would be short-term and minimal.

#### **4.14.2 Alternative 2**

Impacts would be similar to those generated under the proposed action.

#### **4.14.3 Alternative 3 (No Action)**

The action would have no impact on transportation.

### **4.15 WATER RESOURCES**

#### **4.15.1 Alternative 1 (Proposed Action)**

Groundwater: Excavation would potentially intercept the water table. If the excavated area fills with groundwater, water could be directly exposed to contaminants released from construction equipment or contamination left behind from tank operation. Control devices, such as secondary



containment, would have to be included in design (if required by law). Provided best management practices are followed, there would be minimal impacts on ground water.

Surface Water: Surface water quality could degrade in the short-term, during actual tank removal, due to possible erosion contributing to turbidity of runoff and due to possible contamination from spills, leaks from construction equipment, or residual contamination in stock piled soils. Surface water could be impacted if, due to storm water inflow to the excavation, the contractor would need to pump out the excavation. The contractor shall utilize effective methods to control surface water runoff and to minimize erosion. Proper stabilization and seeding the site immediately upon completion of the construction would provide beneficial vegetation to control erosion. Provided best management practices are utilized during removal, negative surface water impacts should be minimal.

Water Quality: Provided all containment needs are met and best management practices are used, the proposed action would have minimal impact to water quality.

Wastewater: The proposed action would have no impact on wastewater.

Wetlands: The proposed action would have no impact on wetlands.

#### **4.15.2 Alternative 2**

Impacts would be similar to those generated under the proposed action.

#### **4.15.3 Alternative 3 (No Action)**

The no action alternative would impact water resources in that a possible contamination source would be left in place.

### **4.16 CUMULATIVE IMPACTS**

There are no site-specific direct, indirect, or cumulative impacts associated with the proposed action although Grand Forks AFB has several construction and demolition projects occurring each year.

### **4.17 ENVIRONMENTAL JUSTICE**

EO 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities

on minority and low-income populations. There are no minority or low-income populations in the area of the proposed action or alternatives, and, thus, there would be no disproportionately high or adverse impact on such populations.

#### **4.18 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Implementation of the proposed action would permanently close four tanks complying with state and federal law and making the land available for future development.

#### **4.19 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Under the proposed action, fuels, manpower, and costs related to the removal of the tanks would be irreversibly lost.

## **SECTION 5.0**

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## SECTION 6.0

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## **SECTION 7.0**

### **ACRONYMS**

AFB	Air Force Base
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
APZs	Accident Potential Zones
ARW	Air Fueling Wing
BASH	Bird Aircraft Strike Hazard
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response and Liability Act
CFR	Code of Federal Regulations
DNL	Day-Night Average A-Weighted Sound Level
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	Finding of No Significant Impact
HAP	Hazardous Air Pollutants
IRP	Installation Restoration Program
NAAQS	National Ambient Air Quality Standards
ND	North Dakota
NDAAQS	North Dakota National Ambient Air Quality Standards
NDDH	North Dakota Department of Health
NDPDES	North Dakota Pollutant Discharge Elimination System
NEPA	National Environmental Policy Act
NPL	National Priorities List
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
OSHA	Occupational Safety and Health Act

PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
TPY	Tons Per Year
TSCA	Toxic Substance Control Act
TSP	Total Suspended Particulates
USAF	United States Air Force
USEPA	United States Environmental Protection Agency

**APPENDIX A**  
**LOCATION AND VICINITY MAPS**



# Grand Forks AFB, ND

## Location Map



State Boundary

**APPENDIX B**  
**CLIMATOLOGICAL DATA**

TABLE 1: CLIMATE, GRAND FORKS AFB, ND

Average annual temperature	40° F
January mean temperature	5° F
February mean temperature	11° F
March mean temperature	24° F
April mean temperature	42° F
May mean temperature	55° F
June mean temperature	64° F
July mean temperature	69° F
August mean temperature	67° F
September mean temperature	57° F
October mean temperature	45° F
November mean temperature	27° F
December mean temperature	11° F
Average wind speed	9.2 mph

TABLE 2: AVERAGE PRECIPITATION, GRAND FORKS AFB

The mean annual precipitation is 19.8 inches

The mean annual snowfall is 40.2 inches

January mean precipitation	0.7 inches
February mean precipitation	0.5 inches
March mean precipitation	1.0 inches
April mean precipitation	1.5 inches
May mean precipitation	2.5 inches
June mean precipitation	3.0 inches
July mean precipitation	2.7 inches
August mean precipitation	2.6 inches
September mean precipitation	2.3 inches
October mean precipitation	1.4 inches
November mean precipitation	0.7 inches
December mean precipitation	0.6 inches

Source: Integrated Natural Resource Management Plan. 1997a.

**APPENDIX C**  
**NAAQS AND NDAAQS**

**Table C-1  
National Ambient Air Quality Standards (NAAQS) and North Dakota Ambient Air Quality  
Standards (NDAAQS)**

Pollutant	Averaging Time	NAAQS $\mu\text{g}/\text{m}^3$ (ppm) <sup>a</sup>		NDAAQS $\mu\text{g}/\text{m}^3$ (ppm) <sup>a</sup>
		Primary <sup>b</sup>	Secondary <sup>c</sup>	
O <sub>3</sub>	1 hr	235 (0.12)	Same	Same
	8 hr <sup>e</sup>	157 (0.08)	Same	
CO	1 hr	40,000 (35)	None	40 (35)
	8 hr	10,000 (9)	None	10 (9)
NO <sub>2</sub>	AAM <sup>d</sup>	100 (0.053)	Same	Same
SO <sub>2</sub>	1 hr	None	None	715 (0.273)
	3 hr	None	1,300 (0.5)	None
	24 hr	365 (0.14)	None	260 (0.099)
	AAM	80 (0.03)	None	60 (0.023)
PM <sub>10</sub>	AAM	50	Same	Same
	24 hr	150	Same	Same
PM <sub>2.5</sub> <sup>e</sup>	AAM	65	Same	None
	24 hr	15	Same	None
Pb	¼ year	1.5	Same	Same
H <sub>2</sub> S	1 hr	None	None	280 (0.20)
	24 hr	None	None	140 (0.10)
	3 mth	None	None	28 (0.02)
	AAM	None	None	14 (10)

<sup>a</sup> $\mu\text{g}/\text{m}^3$  – micrograms per cubic meter; ppm – parts per million

<sup>b</sup>National Primary Standards establish the level of air quality necessary to protect the public health from any known or anticipated adverse effects of pollutant, allowing a margin of safety to protect sensitive members of the population.

<sup>c</sup>National Secondary Standards establish the level of air quality necessary to protect the public welfare by preventing injury to agricultural crops and livestock, deterioration of materials and property, and adverse impacts on the environment.

<sup>d</sup>AAM – Annual Arithmetic Mean.

<sup>e</sup>The Ozone 8-hour standard and the PM 2.5 standards are included for information only. A 1999 federal court ruling blocked implementation of these standards, which EPA proposed in 1997. EPA has asked the US Supreme Court to reconsider that decision (USEPA, 2000).

PM<sub>10</sub> is particulate matter equal to or less than 10 microns in diameter.

PM<sub>2.5</sub> is particulate matter equal to or less than 2.5 microns in diameter.

Source: 40 CFR 50, North Dakota Air Pollution Control Regulations – NDAC 33-15

**APPENDIX D**  
**CULTURAL RESOURCE PROBABILITY MAP**



Figure 3.5  
Survey Areas and  
Probabilities

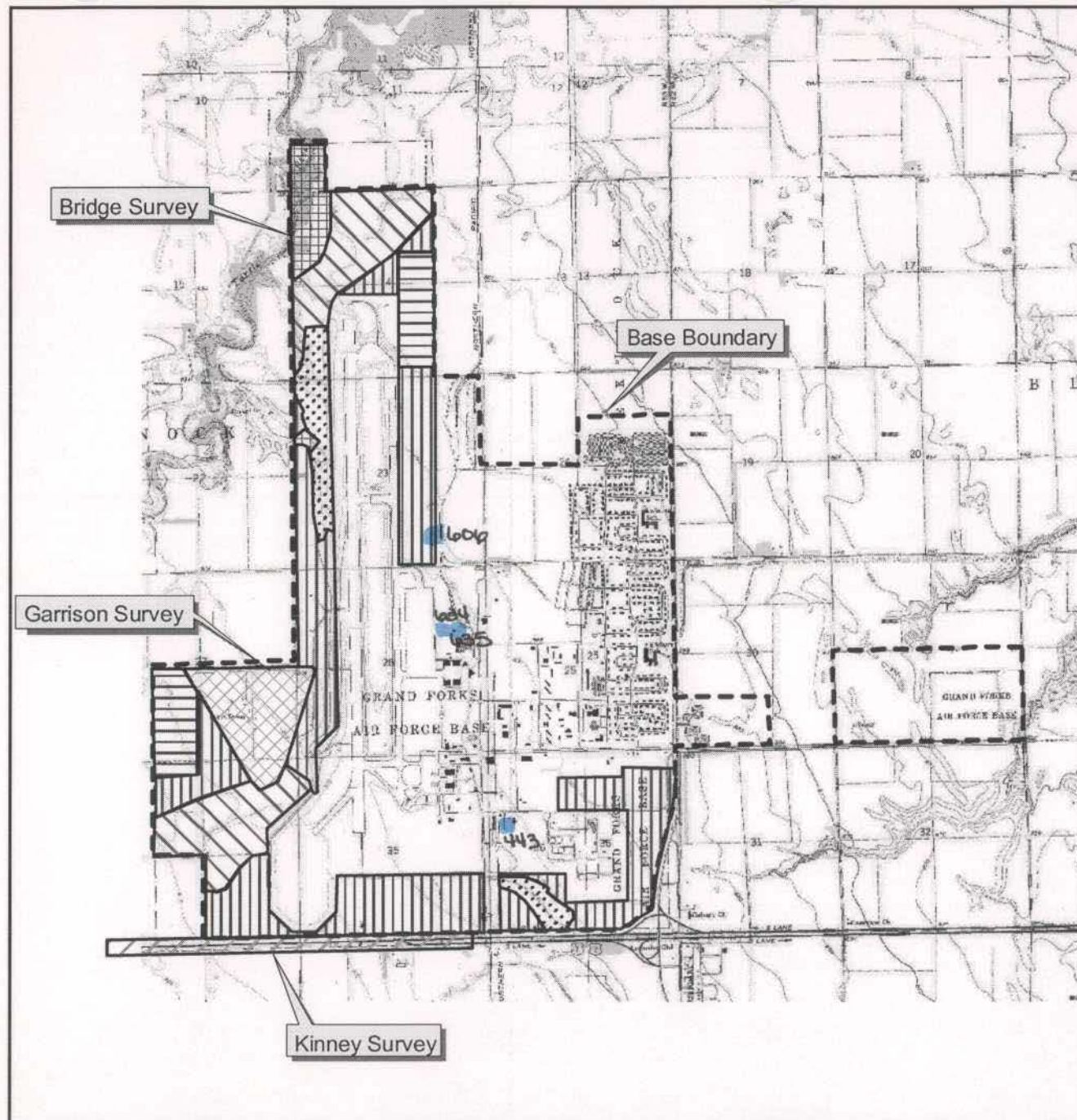
Grand Forks Air Force Base  
Cultural Resources Management Plan

Legend

- Y Historic Bridge Inventory Survey
- [ ] Base Boundary
- [ ] High Probability
- [ ] Medium Probability (near water)
- [ ] Kinney Survey
- [ ] Medium Probability (beach ridge)
- [ ] Peace Keeper Rail Garrison Survey
- [ ] Low Probability (distance from water)
- [ ] Low Probability (10% sample)
- [ ] Previously Disturbed

2000 0 2000 4000 Feet

Scale: 1:50000  
Created By: rp/bc  
File: y:\projects\Federal\air force\grand forks...  
Date: 5-16-02  
Figure Number: 3.5  
Page Number: 3-18



**APPENDIX E**  
**ENVIRONMENTAL SITE MAP**



# Grand Forks AFB Environmental Sites (NW)

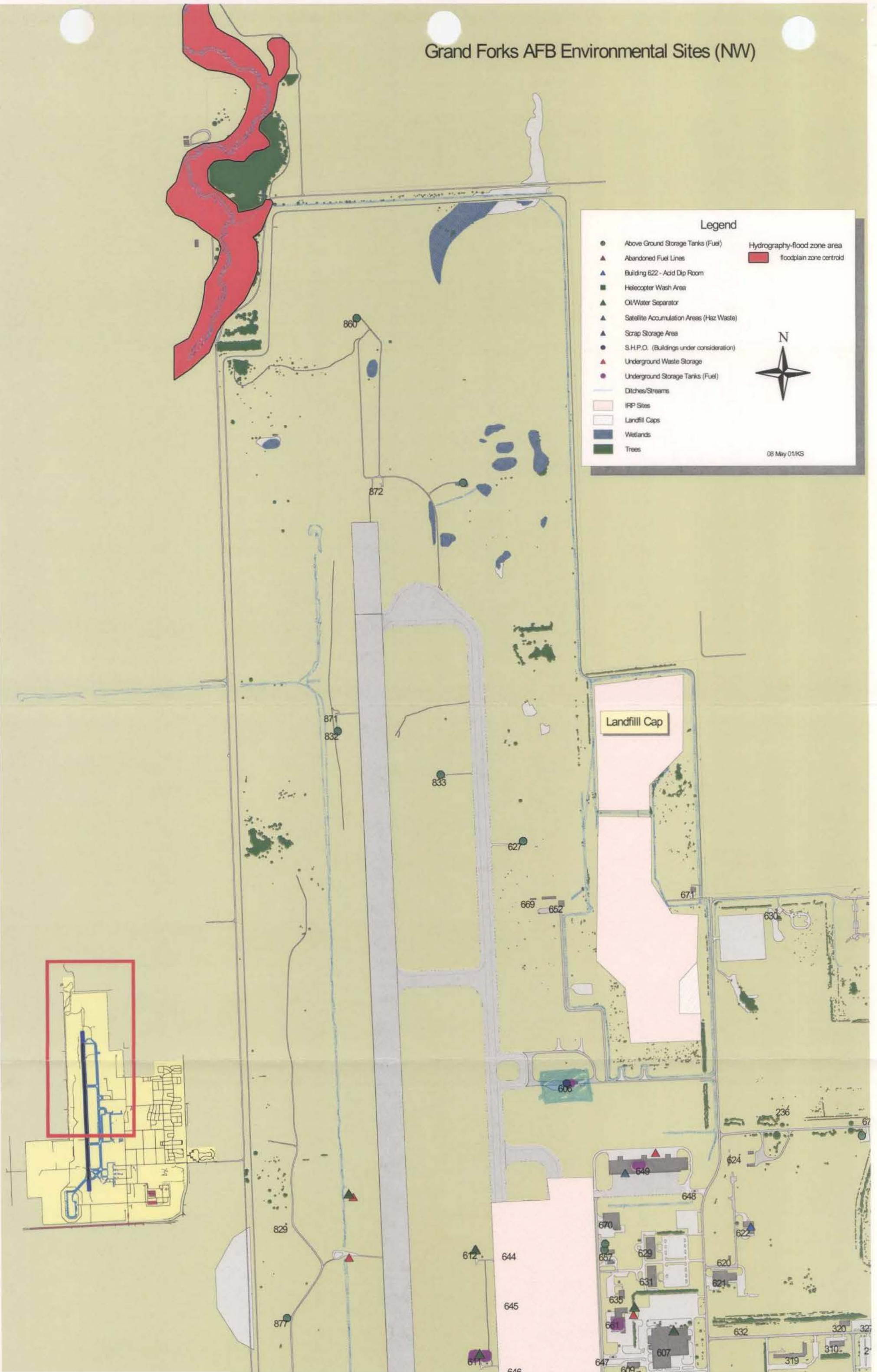
**Legend**

- Above Ground Storage Tanks (Fuel)
- ▲ Abandoned Fuel Lines
- ▲ Building 622 - Acid Dip Room
- Helicopter Wash Area
- ▲ Oil/Water Separator
- ▲ Satellite Accumulation Areas (Haz Waste)
- ▲ Scrap Storage Area
- S.H.P.O. (Buildings under consideration)
- ▲ Underground Waste Storage
- Underground Storage Tanks (Fuel)
- Ditches/Streams
- IRP Sites
- Landfill Caps
- Wetlands
- Trees

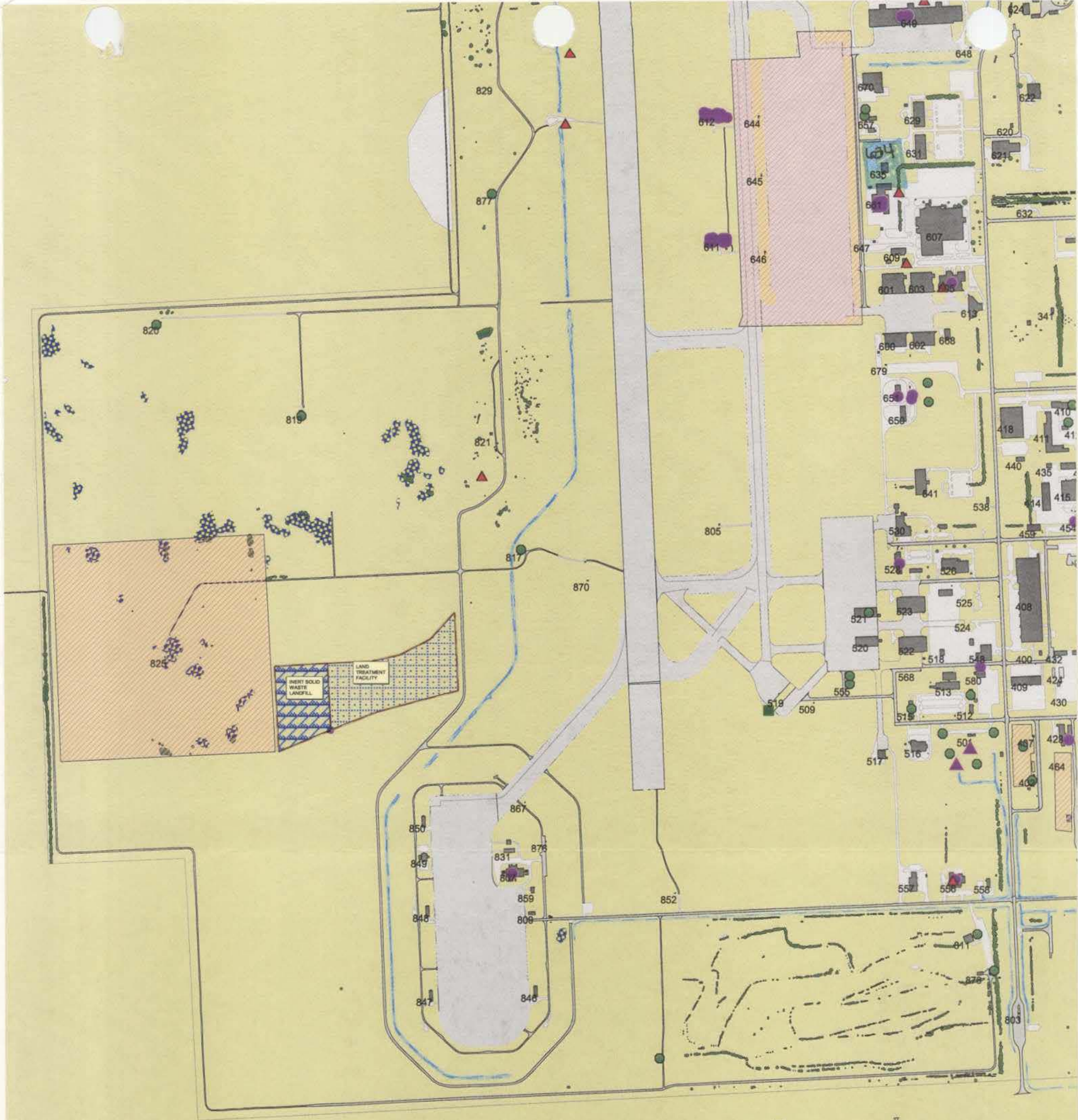
Hydrography-flood zone area  
floodplain zone centroid

N

08 May 01/KS







### Grand Forks AFB Environmental Sites (SW)

- Above Ground Storage Tanks (Fuel)
- ▲ Abandoned Fuel Lines
- ▲ Building 622 - Acid Dip Room
- Helicopter Wash Area
- ▲ Oil/Water Separator
- ▲ Satellite Accumulation Areas (Haz Waste)
- ▲ Scrap Storage Area
- S.H.P.O. (Buildings under consideration)
- ▲ Underground Waste Storage
- Underground Storage Tanks (Fuel)
- Ditches/Streams
- IRP Sites
- Landfill Caps
- Trees
- Wetlands
- Hydrography-flood zone area
- floodplain zone centroid







## Grand Forks AFB Environmental Sites (SE)

- Above Ground Storage Tanks (Fuel)
- ▲ Abandoned Fuel Lines
- ▲ Building 622 - Acid Dip Room
- Helicopter Wash Area
- ▲ Oil/Water Separator
- ▲ Satellite Accumulation Areas (Haz Waste)
- ▲ Scrap Storage Area
- S.H.P.O. (Buildings under consideration)
- ▲ Underground Waste Storage
- Underground Storage Tanks (Fuel)
- Ditches/Streams
- IRP Sites
- Landfill Caps
- Trees
- Hydrography-flood zone area
- floodplain zone centroid



08 May 01/KS



**AIR FORCE BASE  
PUBLIC NOTIFICATION**

Grand Forks Air Force Base has proposed the installation of secondary above ground storage tank containment and the removal of underground storage tanks.

Environmental assessments have been conducted and a "finding of no significant impact has been determined for the actions".

Anyone who would like to view the support documents to these actions should contact the 319th Air Refueling Wing Public Affairs Office within the next 30 days at 747-5017.

(December 28, 2002)

**AFFIDAVIT OF PUBLICATION**

STATE OF NORTH DAKOTA }  
COUNTY OF GRAND FORKS } SS.

Peggy Brodeur of said State and County being first duly sworn, on oath says:

That { she } is { a representative of the GRAND FORKS HERALD, INC.,

publisher of the Grand Forks Herald, Morning Edition, a daily newspaper of general circulation, printed and published in the City of Grand Forks, in said County and State, and has been during the time hereinafter mentioned, and that the advertisement of

Air Force Base Public Notification  
a printed copy of which is hereto annexed, was printed and published in every copy of the following issues of said newspaper, for a period of \_\_\_\_\_ time (s) to wit:

12/28 Yr. 02 \_\_\_\_\_ Yr. \_\_\_\_\_  
\_\_\_\_ Yr. \_\_\_\_\_ Yr. \_\_\_\_\_  
\_\_\_\_ Yr. \_\_\_\_\_ Yr. \_\_\_\_\_  
\_\_\_\_ Yr. \_\_\_\_\_ Yr. \_\_\_\_\_

and that the full amount of the fee for the publication of the annexed notice inures solely to the benefit of the publishers of said newspaper; that no agreement or understanding for a division thereof has been made with any other person and that no part thereof has been agreed to be paid to any person whomsoever and the amount of said fee is \$ 9.66;

That said newspaper was, at the time of the aforesaid publication, the duly elected and qualified Official Newspaper within said County, and qualified in accordance with the law of the State of North Dakota to do legal printing in said County and State.

Publication Fee \$ 9.66

Subscribed and sworn to before me this 31 day of

Dec A.D. 02

Elaine Fawcett  
Notary Public, Grand Forks, ND

# DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 319TH AIR REFUELING WING (AMC)  
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA



13 February 2002

MEMORANDUM FOR 319 CES/CEVC

FROM: 319 ARW/JA

SUBJECT: Legal Review - Permanently Close Unnecessary Underground Storage Tanks

1. I reviewed the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) to permanently close four (4) unnecessary underground storage tanks (USTs) on Grand Forks Air Force Base. The EA and FONSI are legally sufficient. I recommend that the Environmental Management Flight Chief sign the FONSI at TAB 1.
2. Based upon my legal review, the EA meets the requirements of AFI 32-7061, *The Environmental Impact Analysis Process*. The EA contains the need for the proposal, alternatives to the proposal, environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted for EA preparation. The project is necessary to comply with NDAC 33-24-08-61.
3. The EA attached to the FONSI satisfies the level of analysis required to determine that there is minimal impact to the affected environment. Additionally, the public was properly notified via a public notice in the *Grand Forks Herald* on December 28, 2002. No comments were received and none are anticipated.
4. If you have any questions about these comments, please contact me at 7-3606.

A handwritten signature in black ink, reading "Mark W. Hanson".

MARK W. HANSON, GS-12, DAF  
Chief, General Law

I concur.

A handwritten signature in black ink, reading "Barr D. Younger, Jr.".

BARR D. YOUNKER, JR., Lt Col, USAF  
Staff Judge Advocate