

**DRAFT**

**EDWARD HINES, JR.**

**VETERANS AFFAIRS HOSPITAL**

**HINES, ILLINOIS**

**ETHANOL-85 (E85) FUELING STATION EA**

Prepared for

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## **LIST OF ACRONYMS**

ARPA	Archeological Resources Protection Act
AST	Above Ground Storage Tank
AT/FP	Antiterrorism/Force Protection
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
E85	Ethanol 85 Fuel
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FFV	Flex Fuel Vehicle
NAAQS	National Primary and Secondary Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NFPA	National Fire Protection Agency
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PPA	Pollution Prevention Act

RCRA	Resource Conservation and Recovery Act
SF	Square Feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SPCC	Spill Prevention, Control and Countermeasure
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VA	U.S. Department of Veterans Affairs
VAMC	VA Medical Center
VHA	Veterans Health Administration



## **1.0 PURPOSE AND NEED**

### **1.1 INTRODUCTION**

In response to recent federal initiatives, the Department of Veterans Affairs (VA) is considering alternatives for reducing the intensity of fossil fuel use at its facilities. In accordance with these initiatives, the VA proposes to install and operate ethanol-85 (E85) fueling stations at many of its VA medical centers (VAMCs). The VAMCs have most of the flex-fuel vehicles (FFVs) that are used by VA personnel such as ambulances, cars, trucks and buses. In addition, VAMCs are often near or collocated with other regional VA facilities whose personnel would also have access to an E85 station once installed. The purpose of installing E85 fuel tanks at VAMC campuses is to support the existing VHA FFV fleets that are currently underutilized owing to lack of E85 availability, and to reduce the number of DOE waivers that are currently needed by the VA to comply with Section 701 [42 U.S.C. 6374(a)(3)(E)] of the Energy Policy Act of 2005 requiring federal fleets to replace petroleum use with alternative fuels. If FFVs are eventually phased out and replaced with hybrid vehicles, any E85 tank could be used for gasoline (E10) and almost all hybrid vehicles run on gasoline. There is some interest in fueling hybrids with E85 (Flex Fuel hybrids), but they are not widely available at this time.

The Veterans Health Administration (VHA) FY2009 Minor Construction budget included \$7 million for constructing alternative fuel stations. However, that amount was insufficient to adequately fund E85 fueling stations on all VAMC campuses. To facilitate their decision-making, the VA commissioned a study to identify optimal locations for constructing fueling stations within the limits of available funding. The results of this study gave priority to 92 facilities distributed among 44 states (Versar 2009).<sup>1</sup> To evaluate and address the potential environmental impacts of this action, a program-wide analysis has been prepared in accordance with the National Environmental Policy Act (NEPA). The *Program-wide Analysis of Environmental Impacts from E85 Alternative Fueling Facilities at Veterans Affairs Medical Centers throughout*

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<sup>1</sup> The VHA has acquired additional funding for the project since the 2009 study resulting in more sites being considered for E85 fueling stations than were initially identified. However, the total number of sites evaluated has not changed because some of the original candidate sites have been dropped after further consultation.

*the U.S.* examines the potential environmental impacts of installing and operating E85 fueling stations at VAMCs at the priority facilities; it is included as Appendix A of this site-specific EA.

## **1.2 BACKGROUND**

The program-wide analysis provides an overall assessment of impacts of the proposed action from a programmatic, or national, perspective and identifies the key regulatory requirements under which the NEPA process must be implemented. The program-wide analysis considers three technological alternatives for installing an E85 fueling station: (1) installation of an above ground storage tank (AST); (2) installation of an underground storage tank (UST); and (3) conversion of an existing UST to E85 fuel, as well as the No-action Alternative to not install E85 at any of the VAMCs. Given the scope of what is being proposed at each facility, the environmental resources at most VAMCs would be affected similarly, regardless of what technological alternative was used. However, for many resources, the alternatives may have different effects at the regional or local level, and these site-specific effects are addressed in each site-specific EA. In addition, each EA considers any alternative locations for siting the E85 fueling station at individual VAMCs.

This site-specific EA has been prepared in the same accord as the program-wide analysis, but it will focus on the environmental issues that are specific to the Edward Hines, Jr. VA Hospital surroundings and existing environmental resources beyond what is considered in the program-wide analysis. The Edward Hines, Jr. VA Hospital is located at 5000 South 5th Avenue, in Hines, Illinois, west of downtown Chicago and will herein be referred to as the Hines VAH. The focus of this EA is the potential effects of the Proposed Action on existing conditions related to cultural resources, aquatic resources, solid and hazardous materials and wastes, as well as terrestrial natural resources. It also identifies any mitigation that would be required to enable the installation of the E85 fueling station at the proposed site.

The Council on Environmental Quality (CEQ) develops implementation regulations and oversees the efforts of federal agencies as they implement their NEPA programs. CEQ issued NEPA implementation regulations in 1978, which are included in Title 40, Code of Federal Regulations

(CFR), Parts 1500-1508. This site-specific EA is tiered from the program-wide analysis and complies with the NEPA, CEQ regulations, and VA regulations for implementing the NEPA (38 CFR Part 26). It also addresses all applicable laws and regulations, including but not limited to the following:

- National Historic Preservation Act (NHPA)
- Archeological Resources Protection Act (ARPA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Endangered Species Act (ESA)
- Pollution Prevention Act (PPA)
- Resource Conservation and Recovery Act (RCRA)

The program-wide analysis is included as Appendix A of this site-specific EA. The draft site-specific EA will be made available to local, state, federal, and tribal government agencies for a 30-day comment review period to meet the intent of National Environmental Policy Act (NEPA) and 38 CFR 26.9. Agency coordination and scoping comments will be included in Appendix B of the Final EA.

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## **2.0 PROPOSED ACTION**

Under the Proposed Action, a 2,000 gallon E85 AST alternative fueling station would be constructed and operated at the Hines VAH campus. The Hines VAH is located 12 miles west of downtown Chicago on a 147-acre campus in Hines, Illinois (Figure 2-1). It is the largest VAH in the state of Illinois, providing primary, extended and specialty care to Veterans who primarily live in Cook, DuPage and Will Counties in Illinois. Figure 2-2 shows an aerial view of the VAH campus and surrounding area. The proposed E85 fueling station would be adjacent to Building 20, highlighted in Figure 2-3a, next to the existing UST fueling station near the southeastern corner of the campus. Figure 2-3b is an enlarged image of the area. Major improvements of infrastructure would not be required to accommodate access for vehicles or fuel delivery trucks, since the site is currently used for this purpose. The proximity to existing electrical power, required safety setbacks from buildings and property lines, and the VA Antiterrorism/Force Protection (AT/FP) requirements were considered during the site selection process. Preference was given to locating the E85 fueling station close to an existing fueling area.

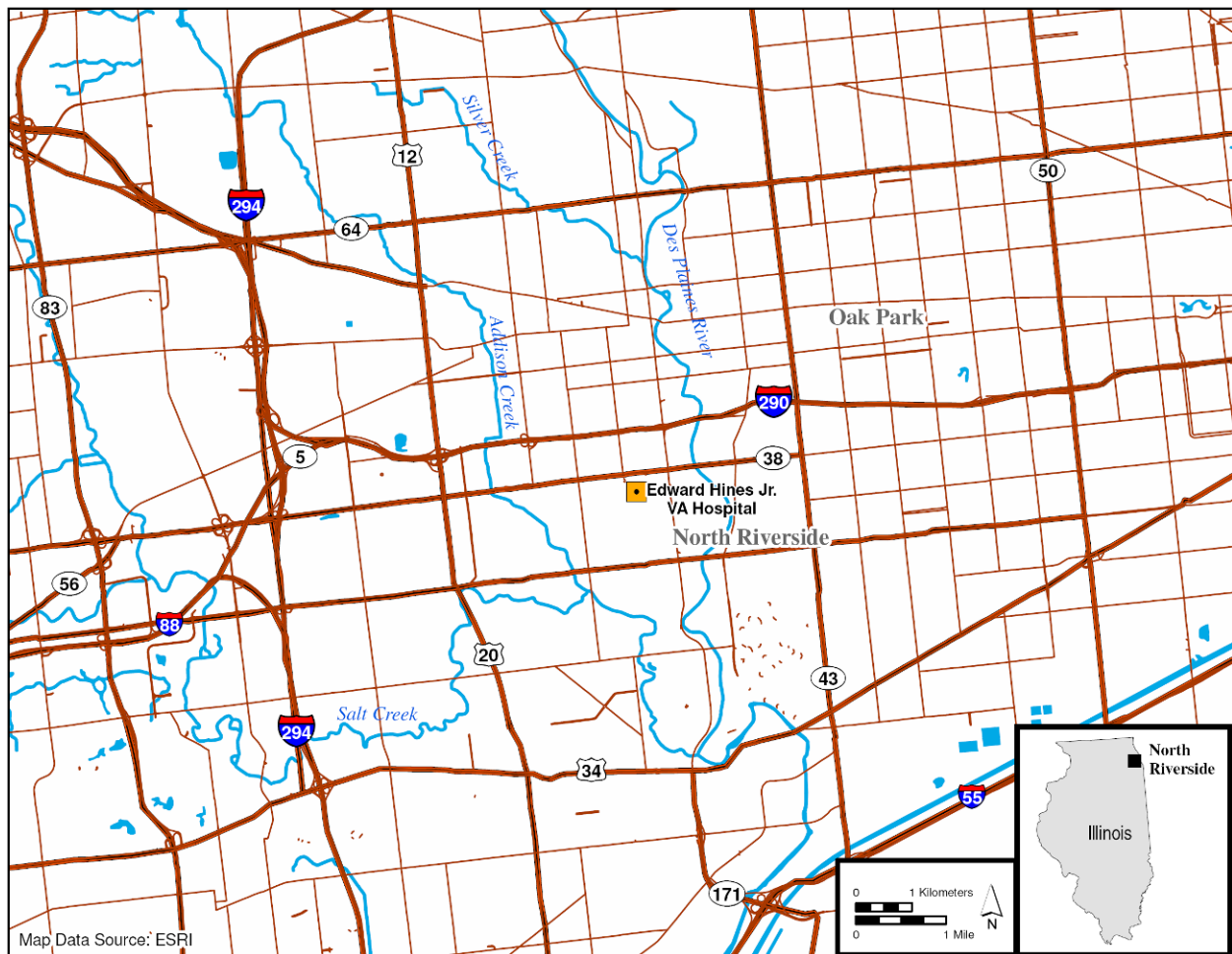


Figure 2-1. Regional map showing the general location of the Hines VAH

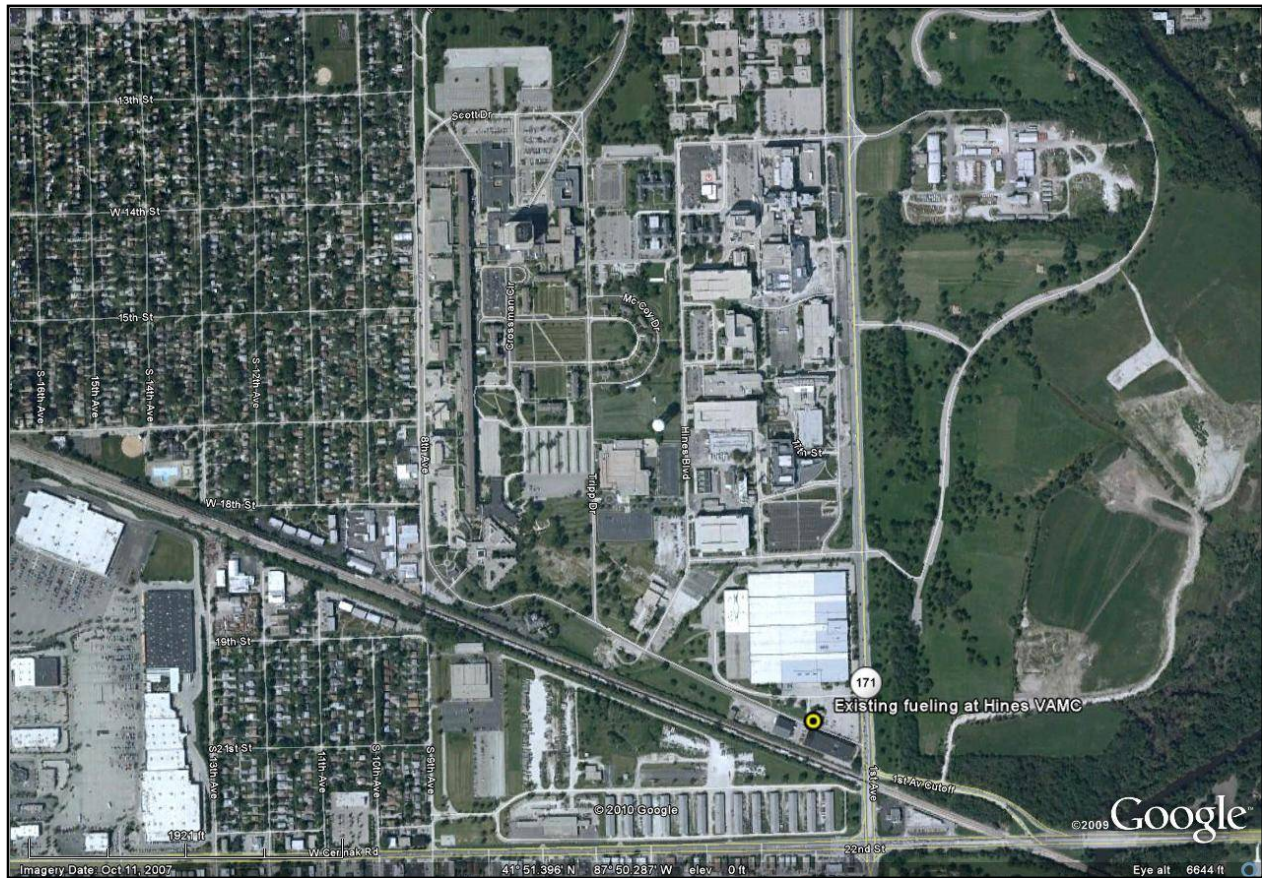


Figure 2-2. Aerial view of the Hines VAH campus and surrounding area highlighting location of the proposed E85 fueling area in the southeast corner of campus



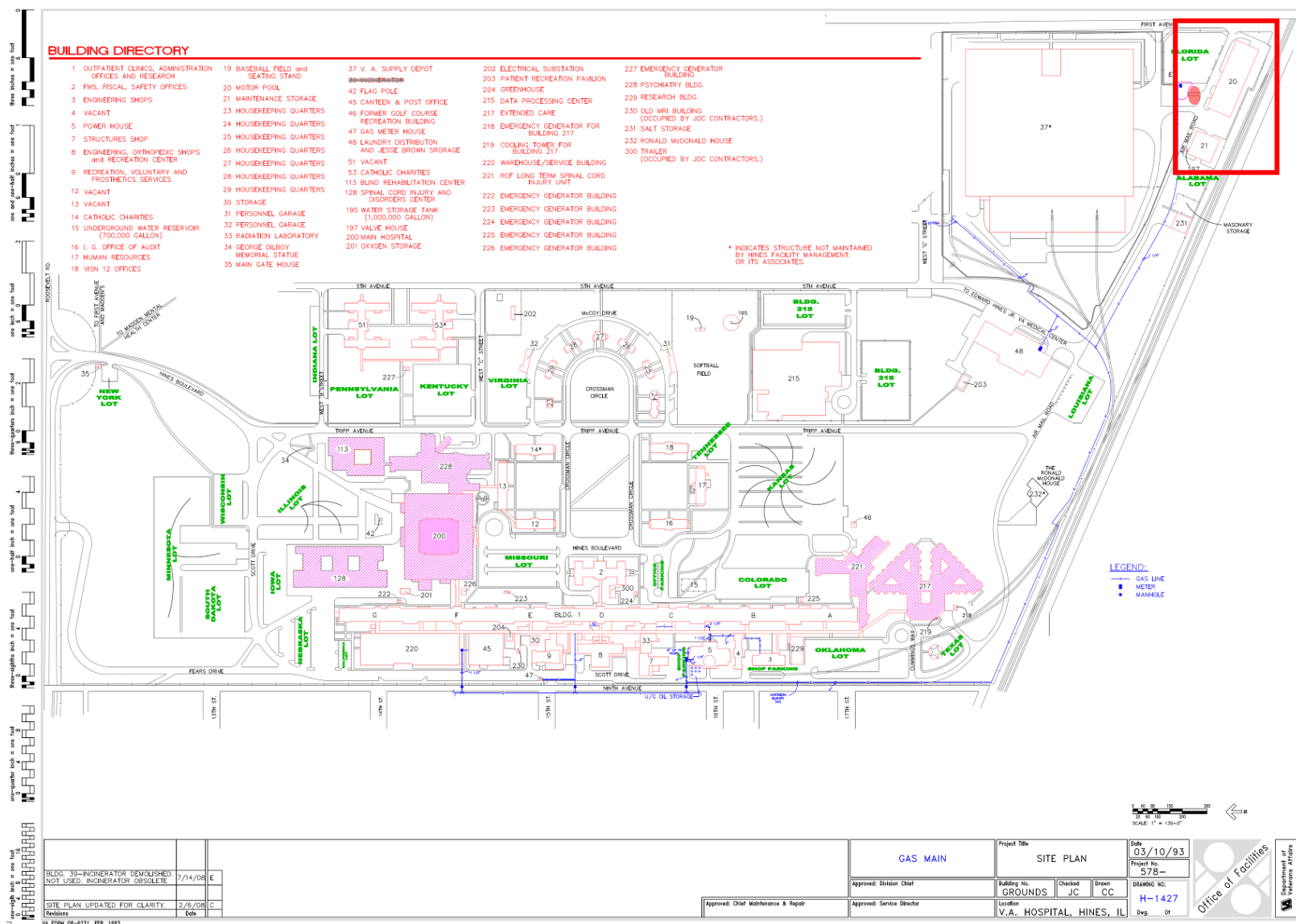


Figure 2-3a. Facility map of the Hines VAH. The proposed E85 fueling station would be located adjacent to Building 20 (highlighted area).



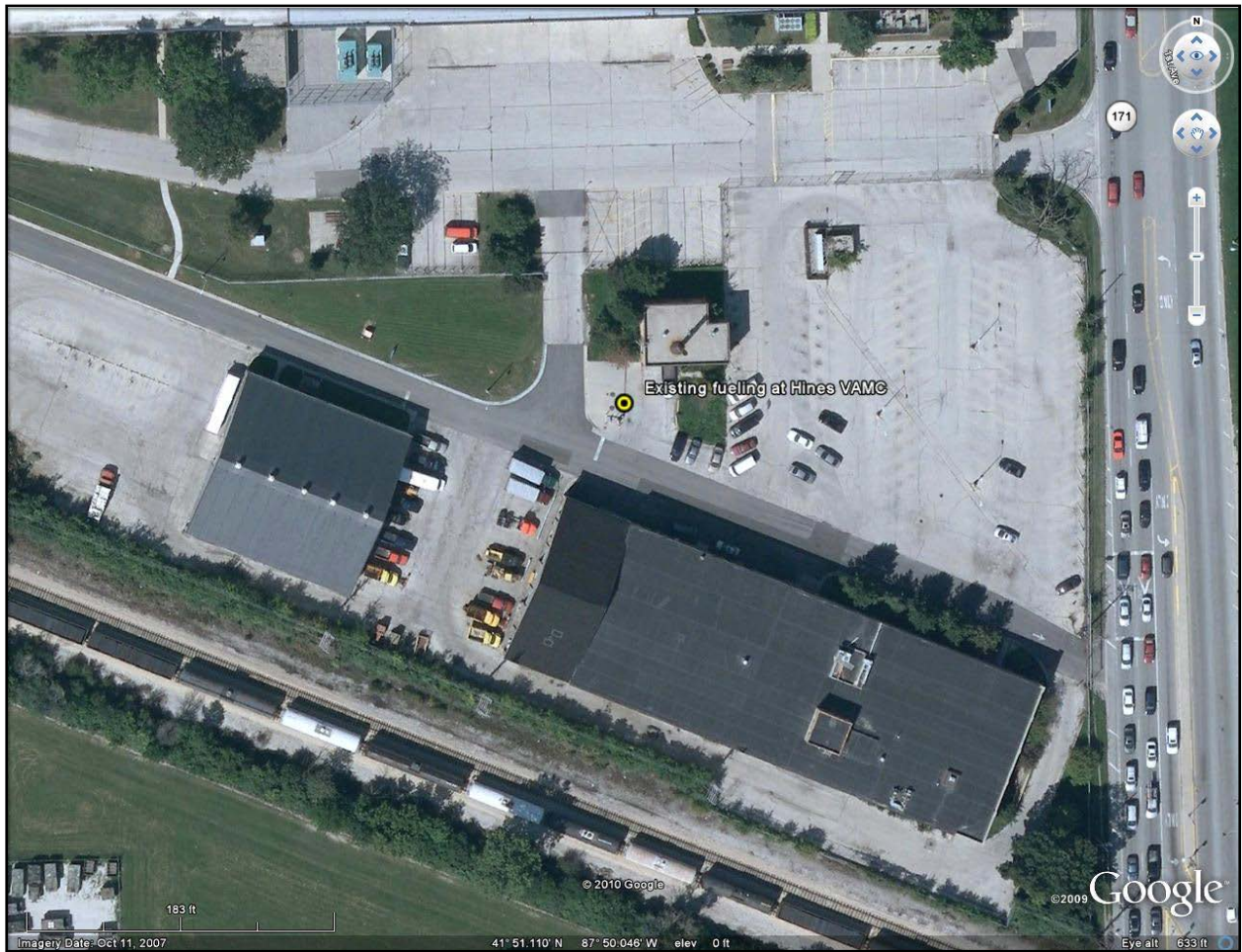


Figure 2-3b. Enlarged image of Building 20, the site of the current fueling area on the Hines VAH campus. The proposed E85 AST fueling area would be adjacent to the existing fueling area.

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## **3.0 ALTERNATIVES**

### **3.1 NO-ACTION ALTERNATIVE**

CEQ regulations prescribe analysis of the No-action Alternative, which serves as the benchmark against which the environmental, social, and economic effects of the Proposed Action and other reasonable alternatives can be evaluated. In this site-specific EA, the benchmark is not to install an alternative E85 fueling station on the Hines VAH campus. The No-action Alternative would not support the existing VHA FFV fleets that are currently underutilized owing to lack of E85 availability, nor would it reduce the number of VA waiver requests to DOE under Section 701 of EPACT 2005. It would also not help the VA to meet the sustainability goals of EO 13514 for federal agencies, which include using vehicles that reduce the agency's total consumption of petroleum products for fleets of motor vehicles by a minimum of 2% annually through the end of fiscal year 2020, compared to the baseline of fiscal year 2005.

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## **4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **4.1 NOISE**

#### **4.1.1 Affected Environment**

The potential impacts of noise associated with the construction and operation of an E85 fueling station are addressed in the program-wide analysis (Appendix A). The Hines VAH provides hospital and extended care for Veterans, and maintaining a serene environment for patients is important. Noise is generally regulated by a local ordinance that is established by a village, town, or city, or other local jurisdiction. Noise ordinances often relate to land use zoning with different maximum levels prescribed for residential, commercial, and industrial areas. Some noise ordinances impose restrictions by time with reduced noise levels during nighttime hours.

#### **4.1.2 Environmental Consequences**

##### **4.1.2.1 Proposed Action**

The various equipment options and related activities associated with the Proposed Action are expected to result in only minor increases in noise levels for the operation of an E85 fueling station. Short-term but measurable increases in noise levels are expected during construction. The relationship between noise level and distance from a vehicle were evaluated under a worst-case scenario in the program-wide analysis, and the traffic associated with the proposed fueling would not have a significant noise impact at any sensitive receptor. Additionally, the proposed fueling station at the Hines VAH would be located adjacent to an existing fueling area, which is away from any patient care buildings.

##### **4.1.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts due to noise under the No-action Alternative. All VA personnel that

currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.2 AESTHETICS AND VISUAL RESOURCES**

### **4.2.1 Affected Environment**

The significance of potential effects on aesthetics and visual resources is based on the level of sensitivity in the areas affected by the Proposed Action. Visual sensitivity is defined as the degree of public interest in a visual resource and the concern over potential adverse changes in the quality of that resource. The Hines VAH campus is in an urban setting with the hospital and other medical facilities located on maintained, landscaped grounds. Some VAMC campuses have historically significant buildings or structures that are currently listed, or are eligible for listing, on the National Register of Historic Places, or they may be recognized by state historical preservation agencies. Cultural and historical resources at the Hines VAH are discussed in Section 4.6.

### **4.2.2 Environmental Consequences**

#### **4.2.2.1 Proposed Action**

Effects on aesthetics and visual resources as a result of the Proposed Action are not anticipated at the Hines VAH. The campus currently has an existing fueling area on site and the proposed E85 station would be collocated within this area. The surrounding view-shed was considered when selecting the site for the fueling area. Constructing an enclosure or the planting of trees and shrubs around the periphery of the tank could offset any effects on aesthetics and visual resources at the selected site if needed, but such actions are not anticipated at this location.

#### **4.2.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts on aesthetics and visual resources under the No-action Alternative. All

VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.3 AIR QUALITY**

### **4.3.1 Affected Environment**

Federal law designates six air pollutants as criteria contaminants and requires special measures to limit their presence in the nation's air: sulfur dioxide; nitrogen dioxide; ozone; carbon monoxide; particulate matter (fine particles less than 2.5 microns in size as PM<sub>2.5</sub> and coarser particles up to 10 microns in size as PM<sub>10</sub>); and lead. The U.S. Environmental Protection Agency (EPA) sets the National Ambient Air Quality Standards (NAAQS) for air pollutants as required under the Clean Air Act (CAA), last amended in 1990 (40 CFR part 50). Parts of the country where the air quality standards are exceeded for one or more of the criteria pollutants are designated as non-attainment areas. The EPA requires each state government to adopt a State Implementation Plan (SIP) that prescribes control strategies to reduce air pollution in nonattainment areas and to evaluate periodically the effectiveness of the strategies prescribed in its SIP. The Hines VAH is located in Cook County, Illinois which is a non-attainment area for 8-hour ozone (Moderate) and PM<sub>2.5</sub> 1997 (Nonattainment).

### **4.3.2 Environmental Consequences**

#### **4.3.2.1 Proposed Action**

Potential emissions due to operation of E85 fueling stations are described in detail in the program-wide analysis. The CAA requires some gasoline dispensing facilities located in areas classified as extreme, severe, serious or moderate nonattainment of the 1-hour ozone standard, to have Stage II vapor recovery systems in place and operational depending on tank size and throughput requirements which vary by state. Since the majority of E85 fuel capable vehicles have onboard refueling vapor recovery systems installed, the U.S. EPA will allow states flexibility to exempt E85 refueling equipment from Stage II vapor recovery requirements, consistent with its December 12, 2006, memorandum (U.S. EPA 2006). However, the state

makes the final decision in their SIP. Air Emissions requirements for Illinois are listed in the Appendix of the program-wide analysis.

No significant effects on air quality are anticipated from the Proposed Action. The VA FFVs would need to access E85 whether or not it was available at the Hines VAH. Having the E85 station located on site would reduce the distance VA employees would need to travel to refuel. Since model year 2000, fuel tank venting has been controlled by onboard refueling vapor recovery devices installed in all cars running on E85 or gasoline. Evaporative emissions from fuel or vapor leaks are less prevalent due to ongoing improvements in leak-resistant materials and fittings.

#### **4.3.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts on air quality under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

### **4.4 SOCIOECONOMICS**

#### **4.4.1 Affected Environment**

The program-wide analysis defines socioeconomic aspects of the environment, including those pertaining to environmental justice and disproportionate risks to children, and identified laws and regulations affecting these resources. In brief, socioeconomic comprises the basic attributes and resources associated with the human environment, particularly population and economic activity. Economic activity typically encompasses employment, personal income, and economic growth. Factors that affect these fundamental socioeconomic components also influence other issues such as housing availability and the provision of public services.

The Hines VAH is located in Hines, Illinois. Hines is an unincorporated community in Cook County, Illinois. Cook County is the second most populous county in the United States after Los



Angeles County. The county has 5,294,664 residents, which is 43.3% of all Illinois residents. Cook County's population is larger than that of 29 individual U.S. states and the combined populations of the seven smallest US states. There are over 130 incorporated municipalities in Cook County, the largest of which is the county seat, Chicago, which makes up approximately 54% of the population of the county. The county is divided into 30 different townships. Geographically the county is the fifth largest in Illinois by land area and shares the state's Lake Michigan shoreline with Lake County ([http://en.wikipedia.org/wiki/Cook\\_County,\\_Illinois](http://en.wikipedia.org/wiki/Cook_County,_Illinois)) The Hines VAH facility occupies a campus that is generally set apart from the surrounding community, and is adjacent to the County Millers Meadows Forest Preserve and residential areas.

#### **4.4.2 Environmental Consequences**

##### **4.4.2.1 Proposed Action**

The installation and operation of a 2,000 gallon E85 AST alternative fueling station at the Hines VAH likely would not significantly impact socioeconomic conditions in the surrounding area. If anything, employment and economic conditions within the region of influence would realize short-term, beneficial effects from the additional labor needed to construct the E85 fueling station and install a two tank 2,000 gallon each E85 AST. The benefits would be short-term as existing facilities management personnel would be responsible for maintaining the E85 fueling station once it is operational; the addition of full-time personnel at the VAH is not anticipated. Because of its location and enclosed campus-like setting, the addition of an E85 fueling station to the VAH likely would not adversely affect minority or low-income populations, nor pose any additional environmental risk to the health and safety of children. In summary, no significant effects on socioeconomic conditions likely would result under the Proposed Action other than potentially short-term beneficial effects during the construction and installation of the E85 fueling station.

##### **4.4.2.2 No-action Alternative**

The installation and operation of at the Hines VAH would not occur; therefore, there would be no impacts on socioeconomics under the No-action Alternative. All VAH personnel that currently

operate FFVs would continue to use E85 fuel resources from offsite fueling stations. In addition, there would be no potentially short-term, beneficial effects on employment and economic conditions from the installation of E85 fueling stations.

## **4.5 TRANSPORTATION**

### **4.5.1 Affected Environment**

The Hines VAH is located on a campus that is convenient to the surrounding community. The campus has a network of roadways accessible through multiple entry points and parking areas distributed around the hospital and other medical facilities. The campus is located within easy access to I-290 and I-55. Campus facilities providing infrastructure support are set apart from other facilities. The VAMC currently maintains a fueling area, boiler plant, emergency generators and already receives regularly scheduled fuel deliveries.

### **4.5.2 Environmental Consequences**

#### **4.5.2.1 Proposed Action**

The installation and operation of the E85 fueling station requires adequate area for infrastructure and setbacks from buildings and other properties. The proposed site for the fueling station at the Hines VAH is appropriate for such use, and has adequate space for fueling FFVs as well as accommodating fuel delivery trucks. No effects on transportation or traffic patterns are anticipated including any additional influx of FFVs from other Federal fleets that might use the alternative fueling station. However, an Entry Control Point will need to be designated for entering and departing of refueling traffic.

#### **4.5.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts on transportation under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.6 CULTURAL AND HISTORICAL RESOURCES**

### **4.6.1 Affected Environment**

The program-wide analysis provides definitions of cultural and historical resources, and in general terms, describes the Federal and state regulatory frameworks that are responsible for managing and protecting these resources. As noted in the program-wide analysis, the National Historic Preservation Act of 1966 (NHPA) is the primary Federal law that implements regulations affecting cultural and historical resources, and encourages states to develop programs supporting historic preservation. The Illinois Historic Preservation Agency is the State Historic Preservation Office (SHPO) that is responsible for cultural and historical resources in the State of Illinois (<http://www.illinoishistory.gov/>).

As part of the review process for this site-specific EA, a consultation letter will be sent to the SHPO to ascertain whether there are any cultural and historical resources of concern in the vicinity of the proposed project area. The Hines VAH is located west of Chicago in a densely populated suburban area, where the campus is surrounded by residential communities and other city properties. The nearest property listed by the NRHP is the Haymarket Martyrs' Monument located approximately one mile southeast of the VAH campus. The locations of other culturally significant properties, as well as important archeological sites, will be identified pending SHPO review of the project.

Some VAMCs built in the early 20<sup>th</sup> Century have historically significant buildings or structures that are currently listed, or are eligible for listing, on the NRHP, or they may be recognized by the SHPO. Areas developed for facility infrastructure, such as boiler plants and storage areas, are usually set apart from hospital and other patient care buildings. Because of their reliance on emergency transportation and other transportation needs of hospital staff, many VAMCs already maintain their own fueling stations, which have existing ASTs and USTs. The Hines VAH currently provides conventional fueling services to its personnel through the use of USTs. The site proposed for installation of the E85 ASTs is in the vicinity of these existing fueling facilities near Building 20 located near the southeast corner of the campus.

## **4.6.2 Environmental Consequences**

### **4.6.2.1 Proposed Action**

The installation and operation of the two E85 ASTs at the Hines VAH likely would not significantly impact cultural and historical resources. The proposed location for the E85 AST is in an area of the VAH that is already used for facilities support and currently provides fueling services. At present, there are no known archeological resources in the vicinity of the project. Furthermore, the installation of an AST would result in minimal ground disturbance, thus lessening potential effects on archeological resources. Coordination with the SHPO will identify other buildings and structures at the Hines VAH that may be considered eligible for listing on the NRHP.

### **4.6.2.2 No-action Alternative**

The installation and operation of an E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts on cultural and historic resources under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.7 GEOLOGY AND SOILS**

### **4.7.1 Affected Environment**

The program-wide analysis provides a definition of geological resources including soils, and discussed how these resources are usually characterized. Geological resources typically consist of surface and subsurface materials and their inherent properties. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the suitability of the ground to support buildings and structures. With respect to construction, soils are typically described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use. Areas with predominantly wet or unstable soils (e.g., organic soils and certain clays and sands) were not considered for E85 tank installation because these areas could be in regulated wetlands or may not meet certain structural

engineering requirements for installing an AST. The area of the Hines VAH proposed for E85 AST installation is presently used to support facility engineering and grounds maintenance.

#### **4.7.2 Environmental Consequences**

##### **4.7.2.1 Proposed Action**

The installation and operation of an E85 fueling station at the Hines VAH likely would not significantly impact geological resources and soils. The installation of a two tank 2,000 gallon each E85 AST alternative fueling station would require a relatively minor amount of temporary excavation, which would follow state and local regulations and in accordance with best management practices (BMPs) for controlling sediment and erosion. All county, state, and local permits for earthwork and development would need to be obtained prior to construction at the facility. In addition, subsurface sampling and testing of soil materials may be required if the site of the tank installation has a history of contaminants or hazardous material use. Additional precautions for removal and disposal of soil may be necessary. Soil suspected of contamination must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.

##### **4.7.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts on geology and soils under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

### **4.8 GROUNDWATER AND WATER QUALITY**

#### **4.8.1 Affected Environment**

The program-wide analysis provides a definition of groundwater resources and water quality, and in general terms, described the state and federal regulatory authorities responsible for administering these resources. In Illinois, the Illinois Groundwater Protection Act (IGPA; P.A.

85-0863, 1987) responds to the need to manage groundwater by emphasizing a prevention-oriented process (see <http://www.develop.epa.state.il.us/water/groundwater/index.html>). The IGPA is a comprehensive law that relies upon a state and local partnership. Although the IGPA is directed toward protection of groundwater as a natural and public resource, special provisions target drinking water wells. The Hines VAH is located in a heavily populated region northwest of Chicago. Groundwater flow in vicinity of the VAH facility is likely towards Lake Michigan, about 10 miles directly east of the facility at its closest point.

## **4.8.2 Environmental Consequences**

### **4.8.2.1 Proposed Action**

The installation and operation of an E85 fueling station at the Hines VAH would not likely have significant effects on groundwater resources and water quality. As described in the program-wide analysis, potential effects on groundwater resources and water quality from an E85 AST are not likely as the site already has existing fueling facilities in an area that is used for similar purposes. Provided the E85 tank is sited properly and a state-certified Spill Prevention, Control and Countermeasure Plan (SPCC Plan) is followed, there would be no effects on groundwater resources and water quality.

### **4.8.2.2 No-action Alternative**

The installation and operation of a 2,000 gallon E85 AST alternative fueling station at the Hines VAH would not occur; therefore, there would be no impacts on groundwater and water quality under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.9 WETLANDS, FLOODPLAINS, AND SURFACE WATERS**

### **4.9.1 Affected Environment**

The program-wide analysis provides definitions of wetlands, floodplains and surface waters, and in general terms, described the state and federal regulatory authorities responsible for admini-

strating these resources. The Chicago District, U.S. Army Corps of Engineers is responsible for federal regulation of wetlands in this region, under Section 404 of the federal Clean Water Act. The Illinois Department of Natural Resources (IDNR) regulates activities in wetlands through authority from the Interagency Wetlands Policy Act of 1989 (IWPA) and peripheral authority through the state's Rivers, Lakes, and Streams Act (RLSA). According to National Wetland Inventory (NWI) mapping, there are no vegetated wetlands on the project site at the Hines VAH, but there is one small man-made pond located in the southern part of the facility (designated as PUBGx; Figure 4-1). According to floodplain maps issued by the Federal Emergency Management Agency (FEMA), the Hines VAH is outside of any area that would be inundated by a 100-year flood (Figure 4-2). Major surface water features in the vicinity of the Hines VAH include Lake Michigan, about 10 miles to the east of the facility. They also include the Des Plaines River, about 2,000 feet to the east of the facility. The Des Plaines is not only the longest stream within the Chicago region, but it is also of great historic importance. This river combines its flow with that of the Kankakee southwest of Joliet to create the Illinois River, a significant tributary of the Mississippi.

## **4.9.2 Environmental Consequences**

### **4.9.2.1 Proposed Action**

The installation and operation of a 2,000 gallon E85 AST alternative fueling station at the Hines VAH would not have significant effects on wetlands, floodplains, and surface water resources. None of these resources are on or proximate to the facility and the proposed location of the AST. Provided the two tank 2,000 gallon each E85 AST alternative fueling station is sited properly and a state-certified SPCC Plan is followed, there would be no adverse effects on these resources.

Although the proposed location for the AST is outside the 100-year floodplain, some flooding has been reported in the vicinity by facilities management. Appropriate precautions for ASTs located in areas subject to flooding would need to be followed given this possibility. Safeguards include anchoring or properly securing the tanks to prevent any movement if the area becomes flooded in accordance with the National Fire Protection Agency (NFPA) Section 23.14 guidelines for ASTs.

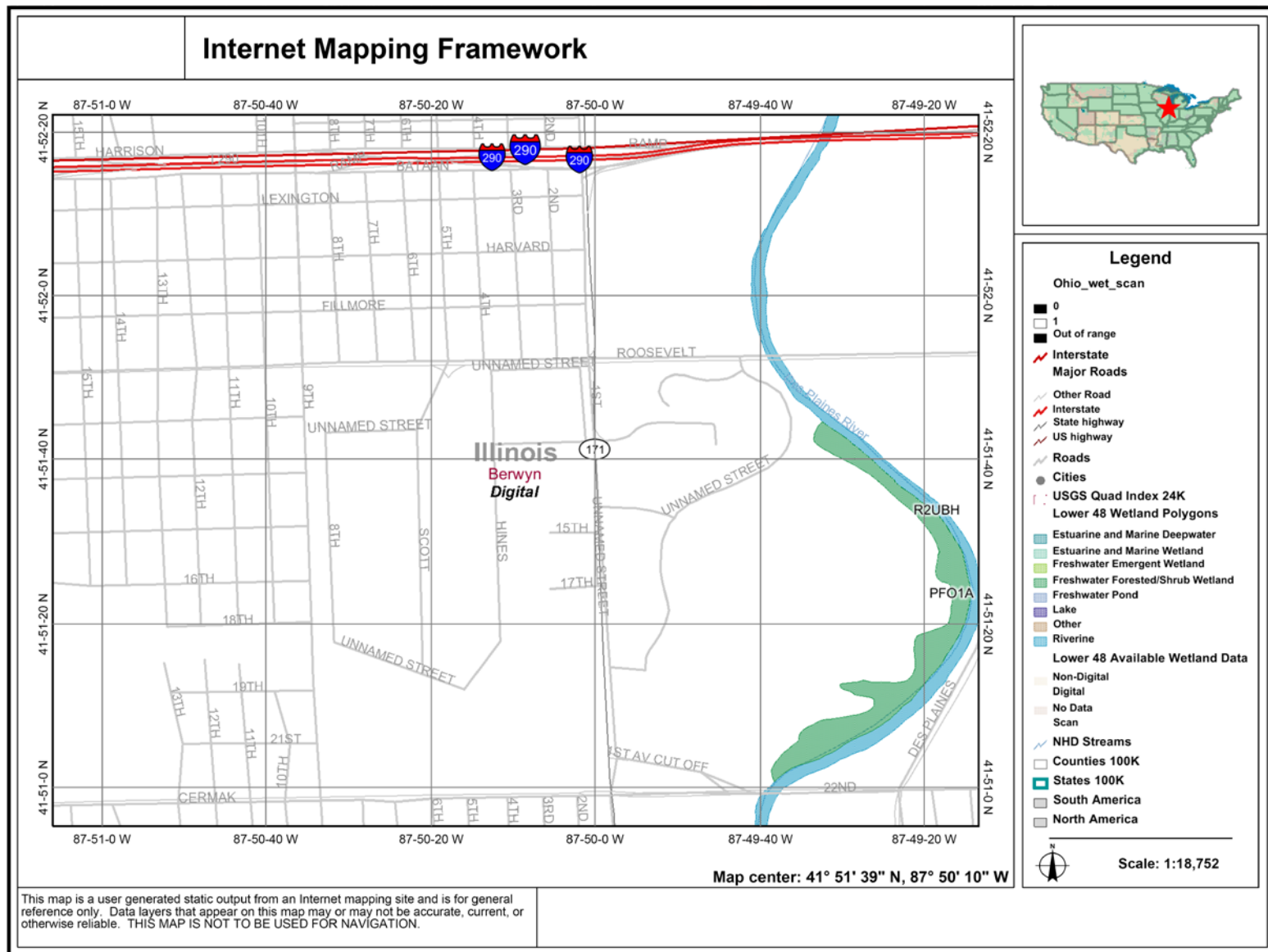


Figure 4-1. Mapped wetlands in the vicinity of the Hines VAH, IL facility, according to the U.S. Fish and Wildlife Service National Wetland Inventory mapping.



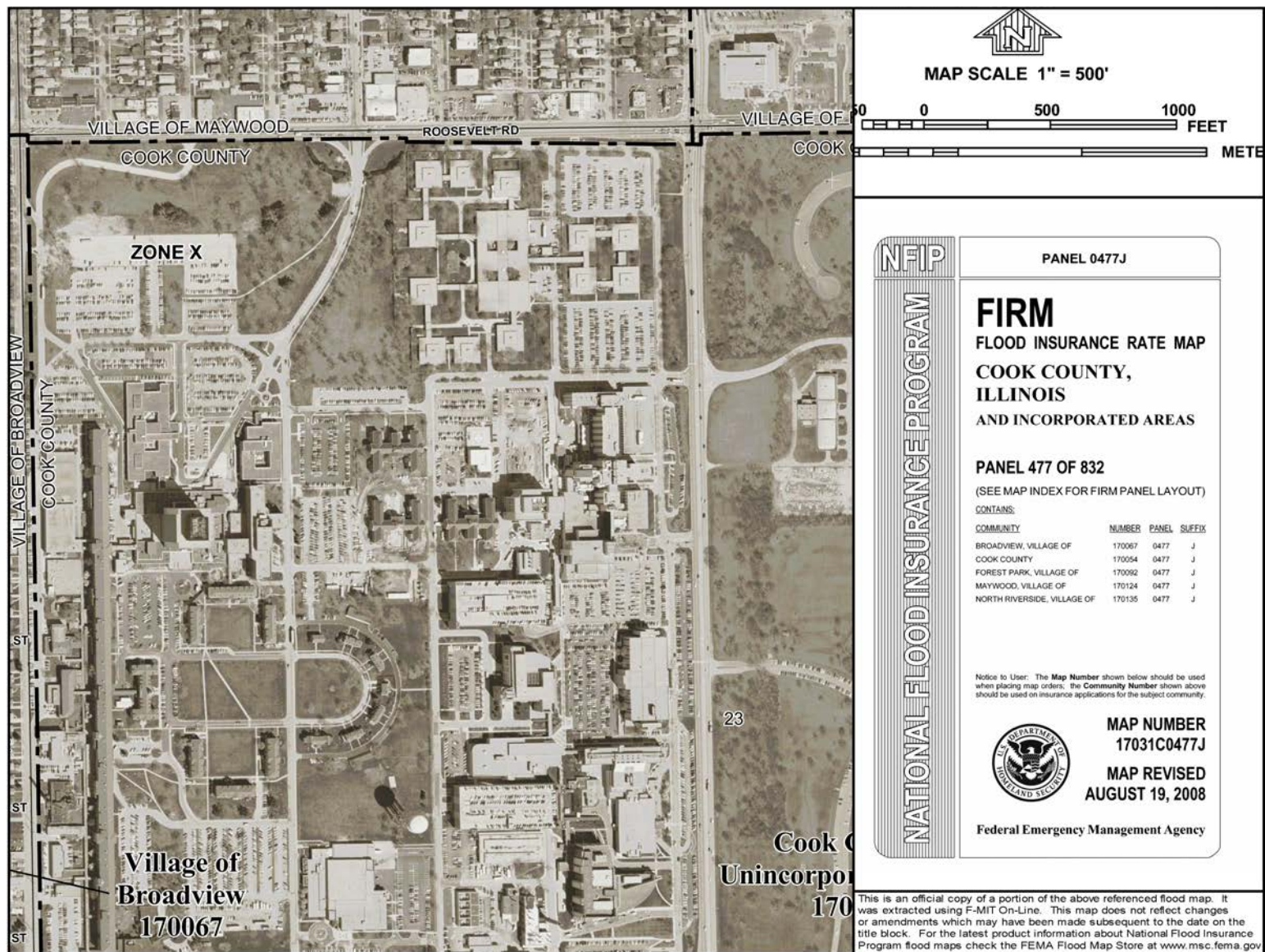


Figure 4-2. Mapped floodplains in the vicinity of the Hines VAH, IL facility (none), according to the Federal Emergency Management Agency.

#### **4.9.2.2 No-action Alternative**

The installation and operation of a 2,000 gallon E85 AST alternative fueling station at the Hines VAH would not occur; therefore, there would be no effects on wetlands, floodplains, or surface waters under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

### **4.10 VEGETATION AND LAND USE**

#### **4.10.1 Affected Environment**

The affected environment for vegetation consists of those areas potentially subject to ground disturbance as a result of the Proposed Action. The program-wide analysis provides a description of the general land use categories. Management plans and zoning regulations determine the type and extent of land use allowable in these specific areas and are often intended to protect specially designated or environmentally sensitive areas and sensitive noise receptors.

The Hines VAH is located in a relatively urban setting, consisting largely of man-made features such as buildings, parking lots, roads, lawns, etc. The majority of vegetation cover at the facility consists of maintained lawns and landscaped plantings of shrubs and trees. None of these individual trees appear to be of notable size. Most of the trees on the site are scattered throughout the facility, and are not concentrated into woodlots.

#### **4.10.2 Environmental Consequences**

##### **4.10.2.1 Proposed Action**

Under the Proposed Action, a 2,000 gallon E85 AST alternative fueling station would be constructed and operated in the vicinity of an existing developed operations area adjacent to Building 20 in the far southeastern corner of the Hines VAH. As described in the program-wide analysis, potential effects on vegetation and land use resources from E85 tank installation and operation are largely minimal because of the previously developed nature of these locations. Further, given the minimal footprint required for the 2,000 gallon AST fueling station, no

significant impact to the surrounding area vegetation and land cover is expected. No significant vegetation or land use impacts are anticipated at the Hines VAH, given that the area is currently developed and used for similar facility operations.

#### **4.10.2.2 No-action Alternative**

The installation and operation of a 2,000 gallon AST E85 fueling station at the Hines VAH would not occur; therefore, there would be no effects on land use or vegetation under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

### **4.11 WILDLIFE**

#### **4.11.1 Affected Environment**

The program-wide analysis provides a definition of wildlife resources, and in general terms, described the roles and regulations administered by Federal and state agencies responsible for the management of wildlife species. As part of this site-specific EA, the USFWS and the Illinois Department of Natural Resources were consulted to identify wildlife species that potentially could be affected by the installation and operation of an E85 fueling station at the Hines VAH. Nonetheless, wildlife resources at the Hines VAH are likely to be minimal because of its relatively urban setting. Wildlife at the site would most likely consist of species that are very adaptable to human-influenced environments (e.g., European starling; house sparrow; gray squirrel; white-footed mouse, etc.).

#### **4.11.2 Environmental Consequences**

##### **4.11.2.1 Proposed Action**

The installation and operation of an E85 fueling station at the Hines VAH would not have significant effects on wildlife resources. Although responses from the USFWS and the Illinois Department of Natural Resources are pending, it is unlikely that wildlife resources or their

habitats would be affected by the Proposed Action given the urban setting and very small size of the project.

## **4.12 THREATENED AND ENDANGERED SPECIES**

### **4.12.1 Affected Environment**

The program-wide analysis provides a definition of threatened and endangered species, and in general terms, described the roles and regulations administered by Federal and state agencies responsible for the management of these species. As part of this site-specific EA, the USFWS and the Illinois Department of Natural Resources were consulted to identify Federal and state-listed threatened and endangered species that potentially could be affected by the installation and operation of an E85 fueling station at the Hines VAH.

### **4.12.2 Environmental Consequences**

#### **4.12.2.1 Proposed Action**

The installation and operation of a 2,000 gallon AST E85 fueling station at the Hines VAH would not likely have significant impacts on threatened and endangered species. Although responses from the USFWS and the Illinois Department of Natural Resources are pending, it is unlikely that any threatened or endangered species or their habitats would be affected by the Proposed Action given the urban setting and the very small size of the project.

#### **4.12.2.2 No-action Alternative**

The installation and operation of a 2,000 gallon AST E85 fueling station at the Hines VAH would not occur; therefore, there would be no effects on threatened and endangered species under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.13 SOLID AND HAZARDOUS MATERIALS AND WASTES**

### **4.13.1 Affected Environment**

The program-wide analysis provides a general description of solid and hazardous materials and wastes that may be encountered on a VAH campus. Potential sources of hazardous materials and wastes that may be encountered at the facility include, but are not limited to, USTs and ASTs; use, storage, and disposal of medical waste; materials suspected to contain asbestos or lead; and known spills and releases. Most VAMC facilities already have petroleum USTs and ASTs as part of their existing fueling capabilities, or that contain diesel fuel for emergency generators or fuel oil for boilers to provide heat. The Hines VAH currently has UST fueling capabilities on site. Illinois regulations pertaining to USTs are summarized in the Appendix of the program-wide analysis.

### **4.13.2 Environmental Consequences**

#### **4.13.2.1 Proposed Action**

Federal and state regulations for petroleum ASTs are summarized in the Program-wide analysis. Impacts from hazardous materials and wastes at the Hines VAH are likely to be minimal providing that all appropriate state and federal regulations are followed. The proposed location of the E85 fueling station will need to be excavated to install the AST. Subsurface investigation may be needed to confirm that no contamination of the site has occurred. If contamination is suspected or discovered, then suspect soil would be field screened, segregated, sampled for disposal characterization, and disposed of appropriately following Illinois regulations. Provided the E85 tank is properly sited, state and federal regulations are followed, and a state-certified SPCC Plan is in place, then no significant impacts due to solid and hazardous materials or wastes are anticipated.

#### **4.13.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no impacts due to solid and hazardous materials or wastes under the No-action

Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

## **4.14 SAFETY**

### **4.14.1 Affected Environment**

Safety considerations associated with the installation of an E85 fueling station are addressed in the program-wide analysis. The safety standards for handling and storing E85 are the same as those for gasoline. The Hines VAH already maintains and operates fueling facilities, and therefore has procedures in place affecting safety at these facilities. The facility has an existing SPCC Plan, but the addition of a 2,000 gallon E85 AST alternative fueling station would require that it be amended.

The National Fire Protection Agency (NFPA) has two standards that apply to fuel ethanol blends: NFPA 30, "Flammable and Combustible Liquids Code," and NFPA 30A, "Automotive and Marine Service Station Code." These codes contain information on refueling facilities, storage, and handling requirements for all flammable and combustible liquids (DOE 2006). NFPA assigns ethanol fuels, including E100 and E85, to the same class as gasoline. Minimum NFPA safety setbacks for ASTs are highlighted in Table 3.3 of the program-wide analysis (Appendix A).

### **4.14.2 Environmental Consequences**

#### **4.14.2.1 Proposed Action**

Under the Proposed Action, the Hines VAH would have to amend its current SPCC Plan. The amendment would have to be done within six months, and certified by a professional engineer. Recent regulations will allow a facility to self certify a SPCC Plan providing: 1) it does not exceed 10,000 gallons of aboveground storage capacity; 2) no tank is bigger than 5,000 gallons; 3) no spill is greater than 1,000 gallons; or 4) no two spills exceeding 42 gallons have occurred within 12 months (Tier 1 certification). The facility can complete the Tier 1

checklist and self certify both the plan and amendments if it meets the Tier 1 criteria. Providing all state and federal AST regulations are followed, and the facility SPCC Plan is amended no significant effects on safety are expected.

#### **4.14.2.2 No-action Alternative**

The installation and operation of E85 fueling station at the Hines VAH would not occur; therefore, there would be no effects on safety under the No-action Alternative. All VA personnel that currently operate FFVs at the facility would continue to use E85 fuel resources from offsite fueling stations.

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## **5.0 CUMMULATIVE EFFECTS**

### **5.1 CUMMULATIVE EFFECTS SUMMARY**

The program-wide analysis provides a definition of cumulative effects; a general description of past, present, and reasonably foreseeable actions relevant to cumulative effects; and a broad analysis of cumulative impacts between those actions and the Proposed Action. Potential mitigation measures to offset and cumulative impacts at the Hines VAH are described below.

### **5.2 MITIGATION SUMMARY**

Effects on historic and cultural resources from the Proposed Action require review by the SHPO. Therefore, the assessment of potential effects on archeological and architectural resources is pending. Given the proposed location of the fueling station adjacent to an existing fueling area, the small footprint required for an AST, and minimal ground disturbance resulting from its installation, it is unlikely that cultural or historical resources would be affected.

With the addition of a two tank 2,000 gallon each E85 AST alternative fueling station, the Hines VAH SPCC plan would have be amended. The amendment would have to be done within six months, and certified by a professional engineer, or be self certified if the facility meets the specified criteria for self certification.

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## **7.0 REFERENCES**

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Versar, Inc. 2010. Program-wide Analysis of Environmental Impacts from E85 Alternative Fueling Facilities at Veterans Affairs Medical Centers throughout the U.S. Prepared for Department of Veterans Affairs Veterans Health Administration, under contract no. VA-776-09-RQ-0066, by Versar, Inc., Columbia, MD.

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**APPENDIX A**  
**PROGRAM-WIDE ANALYSIS OF**  
**ENVIRONMENTAL IMPACTS FROM E85**  
**ALTERNATIVE FUELING FACILITIES AT**  
**VETERAN AFFAIRS MEDICAL CENTERS THROUGHOUT THE U.S.**

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**APPENDIX B**  
**AGENCY COORDINATION AND SCOPING COMMENTS**  
**[PENDING]**

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